

1 UNITED STATES PATENT AND TRADEMARK OFFICE
2 BEFORE THE PATENT TRIAL AND APPEAL BOARD

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4 HUNTER'S MANUFACTURING)
5 COMPANY, INC. d/b/a) IPR2023-00407
6 TENPOINT CROSSBOW)
7 TECHNOLOGIES,) U.S. Patent No.
8 Petitioner,) 9,354,015
9 vs.)
10 RAVIN CROSSBOWS, LLC,) Volume II
11 Patent Owner.)

12 - - -

13 Continued videoconference/videotaped
14 deposition of STEPHEN A. BATZER, Ph.D, P.E., a
15 witness herein, called by the Patent Owner for
16 Cross-Examination pursuant to 37 CFR Section
17 42.53, taken before me, the undersigned, Binnie
18 Denise Purser, a Registered Diplomate Reporter,
19 Certified Realtime Reporter and Notary Public in
20 and for the State of Ohio, pursuant to Notice
21 and agreement of counsel, on Wednesday, the 11th
22 day of October, 2023, commencing at 2:17 o'clock
23 p.m.

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25

1 APPEARANCES:

2

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I N D E X

CROSS-EXAMINATION BY MS. JELENCHICK 243

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1 P R O C E E D I N G S

2 - - -

3 THE VIDEOGRAPHER: Good afternoon.

4 This is the beginning of media number 1 in the
5 deposition of Stephen Batzer, in the matter of
6 Hunter's Manufacturing Company, Inc. versus
7 Ravin Crossbows, LLC, Case Number IPR2023-00407.

8 Today's date is October 11, 2023.

9 The time on the monitor is 2:17 p.m.

10 My name Elizabeth Gonzalez, and I am
11 the videographer.

12 The court reporter is Binnie Purser.

13 We are here with Huseby Global
14 Litigation.

15 Counsel, please introduce yourself,
16 after which the court reporter will swear in the
17 witness.

18 MS. JELENCHICK: Kadie Jelenchick of
19 Foley & Lardner LLP on behalf of Ravin
20 Crossbows, LLC, Patent Owner.

21 MR. SKERIOTIS: This is John
22 Skeriotis on behalf of Hunter's Manufacturing
23 Company, Inc. I am with the law firm of Emerson
24 Thomson Bennett.

25 THE REPORTER: Okay. Would you

1 raise your right hand?

2 STEPHEN A. BATZER, Ph.D, P.E.,
3 of lawful age, a witness herein, having been
4 first duly sworn, as hereinafter certified,
5 deposed and said as follows:

6 THE VIDEOGRAPHER: Counsel, you may
7 proceed.

8 MS. JELENCHICK: Thank you.

9 CROSS-EXAMINATION

10 BY MS. JELENCHICK:

11 Q. Welcome back, Dr. Batzer.

12 Do you have any documents in front of
13 you?

14 A. Yes. I have two documents. I have the
15 patent at issue, the '015, and I have my CV.

16 Q. You don't have your declaration in
17 front of you?

18 A. I do not.

19 Q. Since we were last together on August
20 24th of 2023 for the first part of your
21 deposition, have you consulted or conferred with
22 counsel regarding the substance of any of the
23 testimony that you have already given?

24 A. I have not.

25 Q. Let's talk about the Darlington

1 reference that you discuss in your declaration.

2 Darlington is Exhibit 1013.

3 A. Okay.

4 Q. I will share my screen with you.

5 A. Okay. Yes, I see the cover.

6 Q. You see that?

7 A. Yeah, the cover of the patent, February
8 10th, 2011, I think.

9 Q. The abstract of Darlington states, "The
10 invention is directed to a compound archery
11 crossbow wherein the power cables and the
12 bowstring remain substantially parallel allowing
13 the bowstring to be positioned for increased
14 power and accuracy of an arrow and/or wherein
15 the power stroke has been extended by
16 positioning the bowstring farther from the
17 string catch."

18 Did I read that correctly?

19 A. Yes.

20 Q. In your view, what factors are
21 important to ensuring the accuracy of the
22 crossbow?

23 A. The bowstring has to move such that the
24 center doesn't deviate from left to right.

25 There has to be some method of attaching -- or

1 of guiding the bow down the flight rail. You
2 don't want the crossbow to vibrate at the end,
3 which can disturb the shot.

4 There may be other factors, but those
5 immediately come to mind.

6 Q. Will you agree with me that it is
7 important to maintain proper balance between the
8 forces imparted on by the various mechanical
9 components of a crossbow?

10 A. Yes.

11 Q. For proper balance, does that include
12 the forces applied to the limbs, for example, by
13 the power cables?

14 A. I think so.

15 Q. Let's take a look at paragraph 46 of
16 Darlington.

17 A. Okay.

18 THE REPORTER: Could you increase
19 the size just a bit?

20 MS. JELENCHICK: Yes.

21 (Pause.)

22 THE WITNESS: Thank you.

23 BY MS. JELENCHICK:

24 Q. Will you please read paragraph 46 to
25 yourself, Dr. Batzer?

1 A. Yes.

2 Q. Let me know when you are finished.

3 (Pause.)

4 A. Done.

5 Q. Will you agree with me that Darlington
6 is saying that regardless of whether the
7 crossbow is in the cocked or undrawn position,
8 the power cables and the bowstring remain
9 substantially parallel to one another?

10 MR. SKERIOTIS: Objection.

11 THE WITNESS: In this paragraph
12 and in this instantiation, yes. This isn't the
13 only instantiation in this patent. I think from
14 Figures 13 forward, it shows a crossbow which
15 has the power cables go underneath the flight
16 rail, and so they are not substantially
17 parallel. Like in this instantiation, yes.

18 BY MS. JELENCHICK:

19 Q. And in your view, because having
20 substantially parallel power cables and a
21 bowstring, that is going to improve the accuracy
22 of the crossbow?

23 A. It can.

24 Q. Will you agree with me that accuracy is
25 one of the stated objectives of the Darlington

1 reference?

2 A. Yes.

3 Q. Do you agree with Darlington that
4 keeping the power cables and bowstrings
5 substantially parallel with the bowstring when
6 drawn causes the torque on the first axle
7 assembly 34A and the second axle assembly to be
8 effectively neutralized, which --

9 MR. SKERIOTIS: Objection.

10 BY MS. JELENCHICK:

11 Q. -- substantially eliminates twisting
12 forces on the limbs of the crossbow?

13 MR. SKERIOTIS: Objection,
14 foundation.

15 THE WITNESS: Theoretically, yes,
16 that seems to show -- a summation of forces
17 would seem to show that.

18 BY MS. JELENCHICK:

19 Q. Why did you preface your response with
20 "theoretically"?

21 A. Because when you make things, it
22 doesn't always turn out the way you expect. I
23 expect this to be true, but you would have to
24 make this in order to see if what you believe is
25 true.

1 **Q. You will agree with me that eliminating**
2 **these twisting forces will help improve the**
3 **accuracy of the crossbow, correct?**

4 A. Theoretically, yes.

5 **Q. What do you mean by that?**

6 A. Well, if you built it and you were to
7 shoot it and you were to get a 6-inch group at
8 75 yards, and then you were to change the design
9 such that they are not substantially parallel
10 and you were to still get a 6-inch group at 75
11 yards, then though it is theoretically true, it
12 wouldn't have a practical effect.

13 **Q. You think that --**

14 A. You see this all the time in
15 mechanisms. You know, if you -- if you bend a
16 rifle to its -- rifle barrel to its stock, it
17 should improve the accuracy, but that doesn't
18 mean it does.

19 **Q. In your view, is it important to build**
20 **a model of a particular reference to confirm**
21 **whether it operates in the way that the patent**
22 **reference discloses?**

23 A. I don't think you have to do that every
24 time. If I am a patent examiner, I am certainly
25 not going to do that.

1 And all things being equal, not having
2 torque is a good thing. But it may not have a
3 practical effect, that is all I am saying.

4 **Q. You didn't build any models associated**
5 **with the theoretical crossbow combinations that**
6 **you describe in your declaration, did you?**

7 A. I did not.

8 **Q. How do twisting forces impact the**
9 **accuracy of the crossbow?**

10 MR. SKERIOTIS: Objection,
11 foundation.

12 THE WITNESS: They may lead it to
13 get going out of time. I would think that would
14 principally be it.

15 If the bowstring is in time and it
16 moves without deviation of the center to the
17 flight rail, I am not sure that any twisting
18 forces are going to cause it to be less
19 accurate.

20 BY MS. JELENCHICK:

21 **Q. Why do you believe that to be the case?**

22 A. Because I don't see how the twisting of
23 the limbs is necessarily going to disturb the
24 flight of the arrow. So in this patent, while I
25 can look at that and say, you know, I don't want

1 to have twisting in my limbs, that doesn't sound
2 good, there isn't a because in there which
3 explains why this affects the accuracy. It is
4 giving it something which is self-evident, and I
5 am not sure that it is.

6 **Q. So you won't agree with me that the**
7 **twisting of the limbs is going to negatively**
8 **impact the accuracy of the crossbow?**

9 A. I am not going to agree or disagree.
10 It might. But I can't say that necessarily it
11 will. Because this could be -- you know, we see
12 in marketing where, "Oh, this has a better
13 engine because it is a Hemi." Chrysler doesn't
14 say, "Because. Let me tell you why a Hemi makes
15 this a better engine than not."

16 So he doesn't give an explanation in
17 there. And I haven't seen anything in the
18 literature on twisting of limbs affecting
19 accuracy.

20 **Q. So the last sentence of paragraph 44 of**
21 **Darlington states, "Eliminating those twisting**
22 **forces helps further improve the accuracy of the**
23 **crossbow 10."**

24 **Do you disagree with that statement?**

25 A. It may be true. I don't disagree with

1 it. And in fact, I am not -- you know,
2 twisting, I don't see what that -- what benefit
3 that provides to anything.

4 But I am not sure it is going to
5 deleteriously affect accuracy, particularly on
6 something -- you know, crossbows are not the
7 most accurate thing that was ever built anyway.
8 If you want accuracy, you get a rifle.

9 MR. SKERIOTIS: Ms. Jelenchick, if
10 you could, from now on, if you are going to
11 quote from the patent, can -- because we don't
12 have it in front of us, can you show it on the
13 screen, please?

14 MS. JELENCHICK: I am sharing my
15 screen. It is on the patent -- it is on the
16 screen.

17 MR. SKERIOTIS: Oh, I am sorry. I
18 thought you said paragraph 44.

19 MS. JELENCHICK: I said 46.

20 MR. SKERIOTIS: Okay.

21 BY MS. JELENCHICK:

22 Q. In what circumstances, Dr. Batzer, are
23 you claiming that Darlington teaches that its
24 power cables may be kept in a configuration
25 other than substantially parallel to the draw

1 string?

2 MR. SKERIOTIS: Objection, form.

3 THE WITNESS: As I recall in
4 this -- could we look at Figure 13 in this,
5 please, since you have it up? There we go.

6 Well, if you look there and further
7 in, the power cables are going underneath the
8 flight rail.

9 Therefore, they are not parallel
10 because they are not even straight.

11 BY MS. JELENCHICK:

12 Q. I asked you about the circumstances in
13 which the power cable -- the power cables are
14 not substantially parallel to the draw string.

15 A. Okay.

16 Q. So what circumstances is Darlington
17 offering that disclosure?

18 A. Well, the circumstances, later in the
19 patent, he says, "And here is another way to do
20 it," where he doesn't have it such that one is
21 above the flight rail and one is below the
22 flight rail so that you are having to shoot
23 through it. It is just a different way to do
24 it. These cannot be parallel.

25 Q. In your view, in Figure 13, the power

1 cables are not substantially parallel to the
2 draw string?

3 A. Right. If we go down a bit, I think
4 you can see it in profile, a side view. Not
5 there. There, I think. I think Figure 15 shows
6 that, where 108 is like a slider that has the
7 two power cables.

8 And I think Figure 16 or 17 has it as
9 well, where you can really see where it's --
10 it's a different way to do it. But that is --
11 Barnett makes -- or used to make crossbows like
12 that all the time.

13 Q. In your view, Figure 15 is disclosing
14 circumstances where Darlington has its power
15 cables and bowstring in a position other than
16 substantially parallel?

17 MR. SKERIOTIS: Objection to form.

18 THE WITNESS: Yeah. I thought
19 when I looked at that, that there was a dip,
20 that they were slightly V-shaped. I imagine
21 that you could make it such that they are. Even
22 if you go below, you could make it such that
23 they are substantially parallel. I think in a
24 circumstance like this, though, you are going to
25 introduce twisting into the limbs. You might be

1 able to balance it. It depends on how
2 sophisticated you were.

3 With the original instantiation where
4 you had the bowstring at the center, one cable
5 above, one cable below, that is an easy
6 balancing situation and you won't have any
7 twisting of limbs.

8 BY MS. JELENCHICK:

9 Q. Where in your declaration, if anywhere,
10 do you describe any disclosure in Darlington
11 that reflects a configuration where the power
12 cables and the bowstring are anything other than
13 substantially parallel?

14 MR. SKERIOTIS: Objection.

15 THE WITNESS: Yeah, I think I
16 made reference to the Darlington patent. The
17 patent speaks for itself.

18 So you were asking me about the
19 original way it was laid out. I am saying yes,
20 but it is laid out slightly differently later.

21 But I think that if you look at
22 Figure 15, as I reflect upon it, I think you
23 could get it.

24 Could you rotate 15 and then blow it
25 up so we can Zoom in on that? Okay. Yeah.

1 So we can see 108 is the point where
2 it goes through, and then 102A is where the
3 bowstring is, and then the other side, the
4 bottom of it is where the power cables are and
5 it goes downward.

6 So this is V-shaped with the power
7 cables underneath the bowstring.

8 But you could reconfigure this. You
9 could make that cam really kind of tall.

10 THE REPORTER: Did you say "tam"?

11 THE WITNESS: No. Cam, yeah, the
12 cam would have to be tall, such that you
13 wouldn't have, it is a non-planarity of the
14 power cables since they are going through that
15 slot 54.

16 BY MS. JELENCHICK:

17 Q. Let's look at paragraph 43, of
18 Darlington.

19 A. Okay.

20 Q. Paragraph 43 starts out by saying,
21 "Because the first power cable 28 and second
22 power cable 30 are substantially parallel to
23 each other and are anchored at the top and
24 bottom of the first cam 26 and the second cam
25 28, they can be provided a sufficient vertical

1 distance apart to allow the arrow to pass
2 between them. Accordingly, the first power
3 cable 28 and second power cable 30 do not have
4 to be deflected in a vertical direction to
5 remove them from the path of the arrow."

6 Did I state that correctly?

7 A. Yes, ma'am.

8 Q. Does this disclosure provide another
9 reason why Darlington wants to keep the power
10 cables substantially parallel to the plane of
11 rotation when the crossbow is drawn?

12 MR. SKERIOTIS: Objection,
13 foundation.

14 THE WITNESS: Yeah, I am not
15 sure.

16 BY MS. JELENCHICK:

17 Q. What aren't you sure about?

18 A. What you just asked me. I am not sure
19 if he is providing a second reason. He is
20 saying that they -- there is enough space there
21 to shoot between them. That is true. I think
22 we all know that.

23 Q. If the power cables are not
24 substantially parallel to the plane of rotation,
25 isn't the path of the arrow going to be blocked

1 by the power cable?

2 A. It depends on the amount of initial
3 clearance that you have.

4 So if the -- if you have an over/under
5 power cable arrangement, which is apparently the
6 preferred embodiment, if you were to have a
7 large amount of initial clearance, they don't
8 have to remain parallel.

9 THE REPORTER: They don't have to
10 what?

11 THE WITNESS: Remain parallel.
12 But remaining parallel is a goal of this patent
13 in order to diminish torque on the limbs.

14 BY MS. JELENCHICK:

15 Q. You will agree with me that maintaining
16 parallel configuration between the power cables
17 and the bowstring is a stated objective of the
18 Darlington reference, right?

19 A. Yes, ma'am.

20 Q. Would you agree with me, based on the
21 disclosure in paragraph 43, that at least
22 Darlington believes that the first power cable
23 28 and second power cable 30 need not be
24 deflected in the vertical direction for this
25 particular crossbow to function?

1 MR. SKERIOTIS: Objection.

2 THE WITNESS: Oh, I see. Let me
3 see if I can answer your question. I understand
4 you.

5 What he is saying is that it is
6 initially configured so that there is a
7 sufficient vertical distance in order to allow
8 the arrow to pass between the two cables. And
9 in that, he doesn't use, say, a helical take-up
10 journal.

11 He can do that, he can have an arrow
12 pass through it when the bowstring is cocked.
13 The offset between the plane of the bowstring
14 travel and the two power cables doesn't change,
15 and that is less than the distance described by
16 the vanes and the arrow, so there is no
17 interference.

18 BY MS. JELENCHICK:

19 Q. Darlington doesn't say anything about
20 helical take-up journals, does it?

21 A. Right, he does not, because he doesn't
22 use them.

23 Q. If we look at paragraph 204 of your
24 declaration.

25 A. Okay.

1 Q. In fact, in your declaration, you say,
2 "Thus, Darlington discloses each limitation of
3 claim 1 except that the power cable journals are
4 helical (extending in a direction perpendicular
5 to the draw string planes of rotation), and thus
6 that the power cables are displaced along the
7 respective axes away from the planes of rotation
8 as the cables wrap onto the helical journals."

9 A. Yes. I think that is true.

10 Q. So, first of all, you will agree with
11 me that Darlington does not disclose at least
12 these two elements of claim 1 of the '015
13 patent, correct?

14 MR. SKERIOTIS: Objection,
15 foundation.

16 THE WITNESS: Okay. The two
17 elements being the helical journal and
18 displacing away, correct?

19 BY MS. JELENCHICK:

20 Q. In your view, will adding helical
21 journals to Darlington cause the power cables to
22 be displaced either towards the cam's plane of
23 rotation or away from the plane of rotation?

24 A. It depends on how you set it up. If
25 you added helical take-up journals for the

1 cables which are above and below, you could have
2 them go either direction, depending upon the
3 offset and the travel during cocking and
4 discharge.

5 So Darlington just chose an offset from
6 the bowstring path sufficient, and then it
7 didn't change. If you were to add helical
8 take-up journals, you would have to make sure
9 the -- well, I guess, it would have to be at the
10 point at which they are at lowest, they are not
11 going to interfere with the vanes.

12 You could do it either direction,
13 depending on the height of the cam and power
14 cable take-up journal combination.

15 **Q. Regardless of which direction the**
16 **displacement occurs, it is going to disrupt the**
17 **substantially parallel relationship between the**
18 **power cables and the draw string of Darlington,**
19 **correct?**

20 A. No, I don't think so.

21 **Q. Why not?**

22 A. I think what -- what I think you would
23 do is you would have four helical take-up
24 journals, two at the top of each cam and two at
25 the bottom of each cam, such that as the cam --

1 I am sorry, as the power cable is wound about
2 the journal, it moves up or down, equivalently,
3 on each side of the crossbow, and then it
4 maintains its angular orientation.

5 Q. Where in your declaration, if anywhere,
6 do you discuss that modification to Darlington?

7 MR. SKERIOTIS: Object.

8 THE WITNESS: I think I talk
9 about incorporation of these and that is the way
10 that I would do it. I didn't sketch it out.

11 BY MS. JELENCHICK:

12 Q. Does the Norkus reference that you cite
13 to in your opinions disclose for helical take-up
14 journals?

15 A. I don't recall as I sit here. I think
16 I would have to look it over.

17 Q. How about the Parks reference that you
18 offered opinions on, does the Parks reference
19 disclose four helical take-up journals?

20 A. I don't recall as I sit here.

21 Q. Will you agree with me that adding
22 helical journals to Darlington will also cause
23 the power cables to be displaced either toward
24 or away from the draw string?

25 A. Yes, absolutely.

1 Q. Will you agree with me that adding
2 helical journals to Darlington will necessarily
3 cause the power cables to be displaced relative
4 to the plane of rotation and the draw string
5 when the crossbow is drawn?

6 A. Yes.

7 Q. Did you consider how this displacement
8 of the power cables would affect the twisting
9 forces on the limbs --

10 A. Yes.

11 Q. -- in offering your opinions?

12 A. Yes.

13 Q. Where in your declaration do you
14 discuss this?

15 A. I don't think that I do. But I looked
16 it over and I decided that this can be done and
17 that is why I am here to answer your questions
18 if it wasn't clear to you, that if you were to
19 just simply put a helical journal above and
20 below each cam, you would preserve all of the
21 benefit of the parallel cables in the first
22 instantiation.

23 And then for the second instantiation,
24 you would still get the benefit of having
25 greater than 270 degrees of rotation, but you

1 wouldn't have that parallel power cable system
2 which would reduce torque, but you didn't have
3 that anyway.

4 So this is just adding functionality to
5 either one of the two instantiations without
6 having the downside of disrupting the torque
7 that is input to the limbs.

8 Q. And you didn't think it important to
9 detail that in your declaration?

10 MR. SKERIOTIS: Objection.

11 THE WITNESS: I didn't do that.
12 Maybe perhaps I thought it was obvious.

13 But I am a POSA, and so some things
14 that are obvious to me are not obvious to other
15 people.

16 BY MS. JELENCHICK:

17 Q. So let's look back at your declaration,
18 in particular, paragraphs 204 through 207.

19 A. Okay.

20 Q. Nowhere in these paragraphs do you
21 discuss Darlington's stated objective of
22 maintaining substantial parallel between the
23 power cables and the draw string, do you?

24 A. I think that's correct. And I think he
25 talks a whole lot in his patent about -- or, you

1 know, patent or patent application for things,
2 and I just don't discuss every one of them. I
3 try to discuss the ones that I find to be most
4 relevant.

5 Q. And you don't think the introduction of
6 twisting forces on the limbs as a result of the
7 displacement of the power cables is worth
8 discussing when that displacement is the result
9 of your proposed combination?

10 MR. SKERIOTIS: Objection.

11 THE WITNESS: Oh, now, there is
12 no twisting as a result of what I have
13 introduced, and I have explained that to you.
14 And in fact, in one of his instantiations, he
15 has twisting. So perhaps that worked into my
16 calculus on this.

17 BY MS. JELENCHICK:

18 Q. Which reference are you referring to in
19 that response?

20 A. So in Figure 13 forward, how he showed
21 the two power cables going underneath the flight
22 rail, that introduces twisting.

23 And in the improvement that I have
24 indicated, where you have helical take-up
25 journals, and therefore, you can have a longer

1 power stroke, that is not going to introduce
2 twisting.

3 And that is why I am here, to explain
4 to you, to revise and extend the comments made
5 in my declaration.

6 **Q. Given your experience of crossbows and**
7 **the design of the same, will you agree with me**
8 **that even a minor change to a crossbow's**
9 **mechanical components can have significant**
10 **effects on the crossbow's function and**
11 **structural stability?**

12 A. It can.

13 **Q. Can you give me an example of a**
14 **possible change to the crossbow's mechanical**
15 **components that won't influence the crossbow's**
16 **function or structural stability?**

17 A. Sure. The Ravin R9 crossbow, late in
18 its development, had a safety tactile change
19 from a button to a lever. And that required
20 some compensatory changes in the form of a
21 fastener and some changes to the manual and some
22 changes to a housing. But there was no
23 substantive change to the function of the
24 crossbow.

25 **Q. How about if the pulleys or the cams**

1 are modified in some way, you will agree with me
2 that there will be an impact on the crossbow's
3 function, right?

4 MR. SKERIOTIS: Objection.

5 THE WITNESS: There would be no
6 way to do it unless you were changing the
7 function. Well, you could be changing the
8 aesthetics, I suppose.

9 BY MS. JELENCHICK:

10 Q. Can you predict the impact of the
11 modification?

12 MR. SKERIOTIS: Objection, calls
13 for speculation.

14 THE WITNESS: So that is an
15 incomplete hypothetical, but typically, yes, you
16 can. You make changes to the cams deliberately
17 for a reason, and you do calculations
18 beforehand, but then you build a prototype and
19 you test it to see if it had the effect that you
20 intended.

21 BY MS. JELENCHICK:

22 Q. If the pulleys or cams are modified in
23 some way, you will agree with me that there will
24 be impact on the crossbow's stability, right?

25 MR. SKERIOTIS: Objection,

1 foundation.

2 THE WITNESS: What do you mean by
3 "the crossbow's stability"?

4 BY MS. JELENCHICK:

5 Q. Well, it is important when you have a
6 crossbow, that it is stable, right?

7 A. Yeah, I am not sure how you mean
8 "stable" in this situation.

9 Q. What does "stable" mean to you?

10 A. Well, I am not the one who used the
11 term. So even if I tell you what I think, I
12 need to know what you think and the way you are
13 using it to make sure I accurately answer your
14 question.

15 Q. You tell me what "stable" means to you.

16 A. "Stable" means that something is not
17 going to tip over, is the traditional meaning of
18 stable. That the base is sufficient with
19 respect to the center of gravity, such that
20 perturbations caused by wind or vibration will
21 not cause it to overturn.

22 I don't have a way to use stability
23 with a crossbow.

24 Q. In your view, the concept of stability,
25 is that relevant to the field of crossbows?

1 MR. SKERIOTIS: Objection,
2 foundation.

3 THE WITNESS: It could be. I
4 just need -- well, I guess here is a way maybe
5 we can break this down.

6 What are the units of stability?

7 BY MS. JELENCHICK:

8 Q. Are you asking me a question?

9 A. Sure. You are asking me about the
10 stability of a crossbow, so I am asking you, in
11 what units? Are they in Newton-metres, or are
12 they in kilograms, or are they in ergs? I don't
13 know.

14 Q. In your declaration, you didn't discuss
15 how your proffered modifications to Darlington
16 would impact the crossbow's function, did you?

17 MR. SKERIOTIS: Objection.

18 THE WITNESS: I think it is all
19 in the context of being allowed to use a greater
20 power stroke, such that the velocity and kinetic
21 energy of the arrow is increased. I think
22 Darlington is the one that talks about using a
23 reverse draw, such that you have a longer draw,
24 but that is still limited by the cams.

25 So I may not -- I think I said in

1 there somewhere, this is beneficial in order to
2 increase the power of the crossbow.

3 BY MS. JELENCHICK:

4 Q. In your discussion of your proffered
5 Darlington combinations, you don't address in
6 any way whether the theoretical combination bow
7 would achieve or undermine Darlington's stated
8 objective on accuracy, do you?

9 MR. SKERIOTIS: Objection.

10 THE WITNESS: No. He has another
11 stated objective, which is power.

12 So I discussed that one. And then
13 here at my second deposition, I am discussing
14 how you are not sacrificing anything with
15 twisting of the limbs. You are just not.

16 BY MS. JELENCHICK:

17 Q. And in your view, you are not
18 introducing any twisting of the limbs because
19 your proffered theoretical bow incorporates four
20 helical take-up journals; is that right?

21 MR. SKERIOTIS: Objection.

22 THE WITNESS: Yes, that's
23 correct. You wouldn't be doing any twisting of
24 the limbs. You know, you could do the -- you
25 know, I could sketch it out and show you the

1 backdoor analysis, but all -- you have three
2 parallel forces, a central one, which isn't
3 going to cause any twisting because it is the
4 bowstring and that is at the center of twist, so
5 there is no offset. You would have two equal
6 and opposite offsets for the power cables which
7 are above and below.

8 Since they are tuned to have the same
9 amount of force, the summation of the torque
10 moment would simply be zero.

11 BY MS. JELENCHICK:

12 **Q. In your theoretical Darlington**
13 **combinations, if you used only two helical**
14 **take-up journals, would twisting of the limbs**
15 **result?**

16 MR. SKERIOTIS: Objection.

17 THE WITNESS: It would have to.
18 In fact, let me just do a sketch for a moment.

19 (Pause.)

20 THE WITNESS: It depends on
21 how -- you know, I am sure you can do it wrong.
22 I am sure you can introduce these things such
23 that you are getting twisting because you have
24 put the posts on opposite sides, one on the
25 right top and one on the left bottom. And then

1 that -- you would still have the power cables be
2 parallel, but they would no longer be parallel
3 to the bowstring. So that would be the wrong
4 way to do it.

5 If you were to put both the posts on
6 one side, one above and one below, say both on
7 the left bowstring, they would no longer be
8 parallel, but you -- then you would not
9 introduce any twisting to either limb set.
10 Because you would have balanced forces above and
11 below the bowstring.

12 BY MS. JELENCHICK:

13 Q. Is there anywhere in your declaration
14 where you discuss how many helical take-up
15 journals need to be added to your theoretical
16 Darlington combinations to meet the purported
17 claim limitations of claim 1 of the '015 patent?

18 MR. SKERIOTIS: Objection.

19 THE WITNESS: I doubt it. You
20 said combining these.

21 BY MS. JELENCHICK:

22 Q. In any of your Darlington proffered
23 combinations, do you discuss in any way how many
24 helical take-up journals you need to ensure
25 there is no twisting of the limbs?

1 MR. SKERIOTIS: Objection,
2 foundation.

3 THE WITNESS: No.

4 BY MS. JELENCHICK:

5 Q. Let's move to the Kempf '871 reference,
6 and that is Exhibit 1014.

7 A. Okay.

8 Q. I am going to share my screen with you.
9 On my screen, you should see paragraphs
10 218 and 219 of your declaration. Specifically,
11 I am going to direct your attention to paragraph
12 219 on the bottom --

13 A. Yeah, I don't --

14 Q. -- of page 86.

15 A. Yeah, I don't see your screen.

16 Q. You see that?

17 A. No, I don't see your screen. I saw it
18 before, but not this time. Ah, there we go.
19 Good.

20 Q. You see paragraph 219?

21 A. Yes, barely, because it is small.

22 Q. Okay. I will enlarge that for you. Is
23 that better?

24 A. Yes.

25 Q. In paragraph 219, you are stating that

1 "Kempf's pulley 28 and the cam 36 correspond to
2 the first and second string guides of claim 1";
3 is that correct?

4 A. Yes.

5 Q. Moving to paragraph 220, you then state
6 that "Each string guide has a draw string
7 journal (called outer track) 30 having a plane
8 of rotation (e.g., formed by the wound string
9 48) perpendicular to the respective axis of
10 rotation 34, 38."

11 Do you see that?

12 A. Yes.

13 Q. Your declaration doesn't identify any
14 structure that constitutes a draw string journal
15 apart from the outer track 30 of Kempf; is that
16 right?

17 A. I think that's correct.

18 THE REPORTER: I am sorry?

19 THE WITNESS: I think that's
20 correct. Right. As I recall, this is the one
21 where one is described and one is not. One
22 is -- it is -- I don't think these are -- it is
23 a good description or a good set of drawings in
24 Kempf.

25

1 BY MS. JELENCHICK:

2 Q. In support of your opinion in paragraph
3 220, you cite column 3, lines 57 through 59,
4 column 4, lines 13 through 19, and Figure 1; is
5 that right?

6 MR. SKERIOTIS: Objection.

7 THE WITNESS: Yes.

8 BY MS. JELENCHICK:

9 Q. Well, let's look at what these
10 citations say. So let's flip over to the Kempf
11 reference. Column 3, lines 57 through 59.

12 A. Okay. Okay.

13 Q. In my view of column 3, lines 57
14 through 59 states, "Coupled to the first limb
15 (24) is the first string guide, which in the
16 preferred embodiment is a pulley (28), having an
17 outer track (30) and an inner track (32)."

18 Do you share my view?

19 A. Yes, that is accurate.

20 Q. So this is -- this is the language of
21 Kempf that you were citing to for your
22 proposition in paragraph 220; is that right?

23 A. Yes.

24 Q. This section doesn't say anything about
25 a cam having an outer track or an inner track,

1 **does it?**

2 MR. SKERIOTIS: Objection,
3 **foundation.**

4 THE WITNESS: Correct. This is
5 **the pulley. So this is the left side, not the**
6 **right side.**

7 **BY MS. JELENCHICK:**

8 **Q. Now, let's look at column 4, lines 13**
9 **through 19. To me, that citation corresponds to**
10 **the sentence, "If desired, two synchronized cams**
11 **(not shown) may be used in place of the cam (36)**
12 **and pulley (28)."**

13 **Is that the statement you were relying**
14 **on for your opinion in paragraph 220?**

15 A. Yeah, I think we went all the way to
16 19. It was 4:13 through 19, so it was through
17 the end of that paragraph.

18 **Q. Okay. So in your citation, it was**
19 **referring to "If desired, two synchronized cams**
20 **(not shown) may be used in place of the cam (36)**
21 **and pulley (28). The cam (36) and pulley (28)**
22 **may be coupled to a bowstring (48) and, if**
23 **desired, one or more cables in any manner known**
24 **in the art, but the bowstring (48) is preferably**
25 **located, as shown in FIG. 1, forward of the**

1 points on the limbs (24) and (26) where the cam
2 (36) and pulley (28) are journaled to the limbs
3 (24) and (26);" is that right?

4 A. Yes.

5 Q. Okay. This section does not say
6 anything about the two synchronized cams having
7 an outer track (30) or an inner track (32), does
8 it?

9 A. No.

10 Q. Now let's look at Figure 1 of Kempf.
11 The cam is reference number 36 in Figure 1,
12 correct?

13 A. Yes.

14 Q. Is there any disclosure of cam 36
15 having an outer track 30 or an inner track 32?

16 A. It doesn't show that with numbers, no.
17 But we can look at that and we know
18 that there are grooves there to accept the
19 cables.

20 You can look at the bowstring 48 as it
21 goes to the pulley on the left and you can see
22 that the intercept is below the peak, which
23 means it is being [unintelligible] into a
24 groove --

25 THE REPORTER: Which means it is

1 what? I am sorry.

2 THE WITNESS: It is being
3 received into a groove. And that -- we know
4 that groove is there because it says that it is
5 in the specification.

6 And then that intercept, as it were,
7 below the peak of the curved perimeter of the
8 cam on the right, that is repeated. We can see
9 that it goes in. And that means that it is
10 going into a groove.

11 And I also believe in my
12 supplementary declaration, you can see how this
13 exact pulley -- no, wait, cam design is used on
14 a vertical bow, and it is even clearer there.

15 So even though there are no numbers
16 to show that there is a groove in the string
17 guide, the journal, we know that is the case,
18 not only -- that is because he mentions "in any
19 manner known in the art," words to that effect.

20 In no place has there ever been a cam
21 or a pulley without a perimeter such that it is
22 going to keep the flexible element from jumping
23 the track and then derailing.

24 MS. JELENCHICK: Move to strike as
25 nonresponsive and outside the scope of the

1 record, vis-a-vis the supplemental declaration.

2 MR. SKERIOTIS: Objection. He
3 answered your question.

4 BY MS. JELENCHICK:

5 Q. So it is your testimony that Kempf '871
6 doesn't expressly disclose any embodiment with
7 two outer tracks 30, but a person of ordinary
8 skill in the art would just understand that to
9 be the case; is that correct?

10 MR. SKERIOTIS: Objection.

11 THE WITNESS: Yes. A person with
12 any skill in the art, any.

13 BY MS. JELENCHICK:

14 Q. With any skill in the art?

15 A. Oh, absolutely. They are all made this
16 way.

17 As I said in my supplemental
18 declaration, cams are made this way everywhere
19 and always. They have to be. If he would make
20 that without a groove to accept the bowstring,
21 that would be a patentable invention on its own
22 and it would be used in other places, because
23 nobody has ever done it that way before.

24 Q. That is not a concept that you
25 discussed in any way in your original

1 declaration, is it?

2 A. I think I discussed it at least
3 somewhat. But I don't know quite how to respond
4 to this. I don't think you could ever find a
5 POSA who would say, "Oh, yeah, that cam, it
6 doesn't have a groove in it."

7 Q. But for that proposition, though, you
8 specifically cite to three instances of the
9 Kempf disclosure in paragraph 220, you don't
10 cite to any purported knowledge of the art, do
11 you?

12 MR. SKERIOTIS: Objection, form.

13 THE WITNESS: I think I cite to
14 the patent, the Kempf patent. I don't think I
15 say that every POSA will know until later, once
16 it was -- there was an allegation that there is
17 no groove there.

18 BY MS. JELENCHICK:

19 Q. You were trying to backfill an omission
20 from your original declaration, is that what you
21 are saying?

22 MR. SKERIOTIS: Objection.

23 THE WITNESS: I don't think of it
24 as an omission. I don't. I just have a hard
25 time grasping, you know, an allegation that

1 there is no groove there. It would be the only
2 one ever.

3 BY MS. JELENCHICK:

4 Q. In grounds 9 through 11 in your
5 declaration, which track to paragraphs 215
6 through 241, you are solely relying on Kempf
7 '871 and its outer track 30 and inner track 32
8 to purportedly meet the string guide in power
9 cable take-up journal elements of claim 1; is
10 that right?

11 MR. SKERIOTIS: Objection,
12 foundation.

13 THE WITNESS: I believe so.

14 BY MS. JELENCHICK:

15 Q. Let's look at Islas, which is Exhibit
16 1015.

17 In your view, Islas is not a reverse
18 draw crossbow, is it?

19 MR. SKERIOTIS: Objection,
20 foundation.

21 THE WITNESS: Can I see the cover
22 page of Islas, please?

23 Okay. Thank you. That has
24 reoriented me to it.

25 That is not a reverse draw crossbow,

1 correct.

2 BY MS. JELENCHICK:

3 Q. In your declaration, you contend that
4 it would be obvious to reconfigure Islas to be a
5 reverse draw crossbow in view of Darlington; is
6 that right?

7 THE WITNESS: Yes.

8 MR. SKERIOTIS: Objection,
9 foundation.

10 BY MS. JELENCHICK:

11 Q. Where, if anywhere, in your declaration
12 do you describe any specific changes that you
13 would make to Islas for such a reconfiguration?

14 MR. SKERIOTIS: Objection,
15 foundation.

16 THE WITNESS: Yeah, I don't think
17 that is my task. I think you are bolting a
18 concept from one onto another. And then if
19 there is anything fatal, we can discuss it. But
20 other than that, I just don't think you go
21 further than that.

22 BY MS. JELENCHICK:

23 Q. In Islas -- oh, were you finished? I
24 am sorry.

25 A. Yeah. And I don't think there is

1 anything fatal here.

2 Sorry, it was a conversational pause
3 and you jumped in.

4 Q. In Islas, will you agree with me that
5 the power cables are attached above and below
6 the draw string?

7 A. As it -- yes. On the outboard side.

8 Q. Will you also disagree with me that in
9 Islas, the draw string is attached to the top of
10 the stock at the release?

11 A. Yes. Are you saying that the bowstring
12 in Islas, at its centerpoint, is above the
13 flight rail? Correct?

14 Q. Yes. Do you agree with that?

15 A. Yes. That is the way that it is shown
16 there.

17 Q. Do you have a different understanding
18 of what Islas discloses, as it relates to the
19 configuration of the draw string?

20 A. Nope. That is what he shows and that
21 is what I think he is doing.

22 Q. If the Islas device were reconfigured
23 so that the draw string is attached down range
24 of the string guides in a released configuration
25 and translates to the up range of the string

1 guides when the device is drawn, wouldn't you
2 agree that the draw string would contact and
3 interfere with the top power cable during the
4 power stroke?

5 MR. SKERIOTIS: Objection,
6 foundation.

7 THE WITNESS: It would, depending
8 upon the configuration of it. I think you can
9 change the anchor points of the power cables 26
10 on that conceptual drawing, such that it won't
11 touch whatsoever.

12 If you would take the inboard anchor
13 points, which are along the centerline, move
14 them both forward, and then take the top one and
15 move it up a bit, you could easily, from that
16 drawing alone, make the reverse draw crossbow
17 such that it goes up above the flight rail and
18 there won't be any interference.

19 BY MS. JELENCHICK:

20 Q. If the draw string contacts and
21 interferes with the top power cable during the
22 power stroke, that is an extraordinarily
23 undesirable result, right?

24 A. Sure. Yeah, you can't have that.

25 Q. Why can't you have that?

1 A. Things can't be hitting each other. It
2 is going to cause friction. It is going to
3 cause the bow to damage itself.

4 **Q. But again, your declaration doesn't**
5 **specifically describe any additional**
6 **modifications that would be required to avoid**
7 **such an undesirable result in converting the**
8 **Islas device to a reverse draw crossbow, right?**

9 A. I think that is true. It is almost
10 unthinkable that you could just make a single
11 change and not make compensatory changes
12 elsewhere on the crossbow.

13 MR. SKERIOTIS: Ms. Jelenchick, I
14 have got we are over an hour. So I believe we
15 fulfilled the hour requirement.

16 MS. JELENCHICK: Okay. Well, thank
17 you for your time, Dr. Batzer.

18 THE VIDEOGRAPHER: Thank you. We are
19 going off the record at 3:19 p.m.

20 THE REPORTER: And excuse me, I
21 need you to put your orders on the record.

22 Ms. Jelenchick, do you want the rough
23 tonight?

24 MS. JELENCHICK: Sure.

25 THE REPORTER: And then I

1 understand the original is Friday?

2 MS. JELENCHICK: Yes.

3 THE REPORTER: Mr. Skeriotis, do
4 you want a copy?

5 MR. SKERIOTIS: I need it in no
6 expedited form. Whenever you get it done, just
7 send it over, please.

8 (Thereupon, a discussion was held off
9 the record.)

10 MR. SKERIOTIS: This VC2 virtual
11 media room, does anybody know what that is?
12 That is the one, two, three, four, fifth screen.

13 MS. JELENCHICK: That is my office.
14 That is a conference room in my office. There
15 was a possibility that Sarah was going to
16 participate today. And if she was, we were
17 going to be in the conference room. But because
18 she did not, I just stayed in my office. And I
19 couldn't figure out how to tell technology to
20 take it off without blowing up our whole deal.

21 MR. SKERIOTIS: Okay. Thank you.
22 I have nothing else.

23 (Thereupon, the S.A. Batzer, Ph.D.,
24 P.E., deposition was concluded at
25 3:20 o'clock p.m.)

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1 C E R T I F I C A T E

2

STATE OF OHIO,)
3) SS:
SUMMIT COUNTY,)

4

I, Binnie Denise Purser, a Registered
5 Diplomate Reporter, Certified Realtime Reporter
and Notary Public within and for the State of
6 Ohio, duly commissioned and qualified, do hereby
certify that the within-named witness, STEPHEN
7 A. BATZER, Ph.D, P.E., was by me first duly
sworn to testify the truth, the whole truth and
8 nothing but the truth in the cause aforesaid;
that the testimony then given by him was by me
9 reduced to Stenotypy in the presence of said
witness, afterwards prepared and produced by
10 means of Computer-Aided Transcription and that
the foregoing is a true and correct transcript
11 of the testimony so given by him as aforesaid.

I do further certify that this
12 deposition was taken at the time and place in
the foregoing caption specified, and was
13 completed without adjournment.

I do further certify that I am not a
14 relative, employee of or attorney for any party
or counsel, or otherwise financially interested
15 in this action.

I do further certify that I am not, nor
16 is the court reporting firm with which I am
affiliated, under a contract as defined in Civil
17 Rule 28(D).

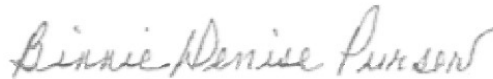
IN WITNESS WHEREOF, I have hereunto set
18 my hand and affixed my seal of office at Akron,
Ohio on this 12th day of October, 2023.

19

20

21

22



23

Binnie Denise Purser, RDR, CRR

24

My commission expires June 27, 2024.

25

1 CHANGES AND SIGNATURE

2 WITNESS NAME: Stephen A. Batzer, Ph.D., P.E., Vol. 2, 10/11/2023

3 PAGE LINE CHANGE REASON

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16 I, Stephen A. Batzer, Ph.D., P.E., Vol. 2, have read the foregoing
17 transcript and hereby affix my signature that same is
18 true and correct, except as noted above.

19

20 _____

21 Stephen A. Batzer, Ph.D., P.E., Vol. 2

22 Sworn to and Subscribed before me

23 _____, Notary Public.

24 This_____day of _____, 20____.

25 My Commission Expires:

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