

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SAVANT TECHNOLOGIES LLC d/b/a GE LIGHTING, ELONG
INTERNATIONAL USA INC., and XIAMEN LONGSTAR LIGHTING
CO. LTD.,
Petitioner,

v.

FEIT ELECTRIC COMPANY, INC.,
Patent Owner.

IPR2025-00698
Patent 8,614,539

Record of Oral Hearing
Held: July 16, 2026

BEFORE: BENJAMIN D. M. WOOD, KEVIN W. CHERRY, and
SCOTT B. HOWARD, Administrative Patent Judges.

IPR2025-00698
Patent 8,614,539

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The above-entitled matter came on for hearing on July 16, 2026,
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P R O C E E D I N G S

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JUDGE CHERRY: Good afternoon. This is the hearing in IPR 2025-00698 involving Savant v. Feit Electric Company. Will the parties please make their appearances?

MR. BROWN: Andy Brown of Radulescu, LLP for Petitioners, and with me, I have Dr. David Radulescu, Lead Counsel.

DR. RADULESCU: Good afternoon, Your Honor.

JUDGE CHERRY: Good afternoon.

MR. MCMAHON: Good afternoon, Your Honors. Charles McMahon from Benesch for Patent Owner, Feit Electric.

JUDGE CHERRY: Good afternoon. Judge Wood and I are here in the courtroom, and, Judge Howard is remote. And we'll proceed with the Petitioner going first because they have the burden of proof. We have allotted one hour per side. The parties can reserve time that they need for rebuttal. And so, the Petitioner will go first, followed by the Patent Owner, followed by any rebuttal from the Petitioner, followed by any surrebuttal from the Patent Owner. How much time would you like to reserve -- would Petitioner like to reserve?

MR. BROWN: I'll reserve 20 minutes.

JUDGE CHERRY: Great. All right. So, we will put that on the clock. And you may begin when you're ready.

MR. BROWN: Good afternoon. We're here regarding the '539 patent, and cognizant of the fact that Petitioners have the burden of proof and that this proceeding will be decided on its own record, I still think that

1 it's useful to know that this is related to that other proceeding, and so I'll talk
2 about that a little bit as well.

3 As, I guess, maybe all but Judge Wood may remember, this is an
4 image of a typical blue-pumped white LED that would have existed in the
5 early 2000s. Highlighted in blue, there is the LED chip itself. The phosphor
6 over top of the LED chip is highlighted in yellow. And the way that that
7 would work is that the blue LED emits blue light which hits the phosphor,
8 and some of that light is converted to yellow light. The yellow and the blue
9 together appear white to our eyes.

10 The real heart of the alleged invention in the '539 patent, what is
11 added, is a titanium dioxide scattering layer, but the titanium dioxide
12 scattering layer was already known in the prior art. And one example of that
13 is the Krummacher reference, which is the primary reference in this
14 proceeding. And Krummacher, as you can see there, has an LED, again; a
15 phosphor layer; and over the phosphor layer, a titanium dioxide layer.

16 So, one thing that is different in the '539 patent relative to the '678
17 patent is in the '678 patent, you just have that structure, along with
18 improving an off-state white appearance. In the '539 patent, you also have
19 several limitations that are directed toward the average particle size and
20 whether it preferentially scatters or not. The image on the right there is
21 Figure 10 from the '539 patent, which shows for blue, green, and red, which
22 particle sizes, as indicated on the bottom, the relative scattering between
23 those particles.

24 Now, this figure from the '539 patent did not come from the
25 alleged inventors of the '539 patent. Instead, as you can see on the left,
26 DuPont marketing materials at the time contained that graph. And Professor

1 Doolittle goes into detail in his declaration to explain where that graph came
2 from exactly, because it's not measured. Where it came from was work done
3 in the '70s by DuPont scientists that eventually led to a mathematical model,
4 which this was graphed off of.

5 So, on the left where you see it says, diameter in microns, that
6 would be the diameter as mathematically put into the formula to determine
7 what the scattering would be. So, here we have independent Claim 1 of the
8 '539 patent. And there again, you see the three kind of physical elements.
9 The photoluminescence material, the phosphor is explicitly claimed, as is the
10 light scattering material. And then the blue LED that we've shown, although
11 it's not actually claimed, it's, I guess I'd say, implicit by the requirement, the
12 blue light having a wavelength of greater than or equal to 440 nanometers.

13 Same limitation found in the '678 patent. That implicitly requires a
14 blue LED, which is found in the prior art. The new material is in the
15 wherein clauses, where you see wherein the light scattering material has an
16 average particle size that is selected, such that the light scattering material
17 will scatter excitation light from a radiation source relatively more than the
18 light scattering material will scatter light generated by the at least one
19 photoluminescence material.

20 So, that, in fewer words, I guess, is saying that the particles need to
21 preferentially scatter blue light relative to the other colors of light. You have
22 a similar term at the very bottom here, where it's another wherein the light
23 scattering material, scatters the blue light at least twice as much as the light
24 generated by at least one photoluminescence material. And that limitation
25 essentially swallows the first one because whether something scatters
26 relatively more, if it's already scattering at least twice as much, then it must

1 scatter relatively more.

2 And we have two grounds here, one of which covers all of the
3 claims except for Claim 28, and that's Ground 1 and Ground 2. It's primarily
4 targeted at Claim 28, which requires a bulb-type lamp. And so, it has an
5 outer envelope, not just the LED with the covering on it. For both of these
6 grounds, we are making the same arguments that were made in the '678
7 proceedings.

8 So, again, we have Krummacher as a primary reference with
9 Shimizu providing the wavelength of blue light. And as we did for certain
10 claims in the '678 proceeding, Stokes is used to provide the preferential
11 scattering of blue light. For Ground 2, we again have similar to the '678
12 patent proceeding where we have Hussell, which is the envelope-type LED
13 lamp, along with Van Woudenberg, which, again, provides the wavelength
14 of blue light in a similar type of device. And then Krummacher and Stokes
15 are used to provide a layer of titanium dioxide on the outside of the
16 envelope. And again, all of this follows along closely with our arguments in
17 the '678 proceeding.

18 The person of ordinary skill in the art is undisputed and at least has
19 not been an issue that we've had to get into very much. Turning directly to
20 the -- it's IPR 2024-01357 and IPR 2025-00260. These are closely related
21 proceedings and compared to the still ongoing proceedings regarding the
22 '678 patent, those have been held up for motions to terminate based on the
23 alleged failure to name a real party in interest and alleged inconsistencies in
24 claim construction positions. Neither of those should be an issue here. The
25 real party in interest is not an issue because whereas LEDVANCE is the
26 party that's accused in the '678 proceeding of having not named an RPI,

1 LEDVANCE is not a Petitioner here because Patent Owner chose not to sue
2 LEDVANCE on the '539 patent.

3 In terms of indefiniteness, this was an issue that was raised in
4 Patent Owner's briefing. However, following the briefing, of course, in the
5 '678 proceeding, the similar argument made as a motion to terminate was
6 denied on the basis that, that power to terminate based on alleged
7 inconsistent claim construction positions was reserved for the director and
8 hasn't been delegated to the panel.

9 And I want to show side by side the '539 and '678 patent, just so
10 you can see how close these are. And Claim 1 of the '539 patent is, in all
11 respects, the same as the '678 patent, Claim 12, rewritten in independent
12 form. So, as you see here, they're both wavelength conversion components.
13 They both have a -- in the case of the '539 patent, it says at least one
14 photoluminescent material. The '678 patent says the photoluminescent
15 material is in the wavelength conversion layer, but again, the same
16 requirement of a titanium dioxide layer there. We have the -- oh, sorry, that
17 was the phosphor layer.

18 Going back to the photoluminescence material, that's the phosphor
19 that converts the blue light to yellow. They also have the light diffusing
20 layer with light scattering materials in both claims. And for Claim 11, you
21 can see that it has the further requirement of preferential scattering that
22 matches what we have in the '539 patent and what in the petition is labeled
23 as 1C.

24 If we go to the final limitation of the '539 patent, this is
25 preferentially scattering at least twice as much, and as you can see -- I'm
26 sorry, I'm not reading these very well. This is the 440 nanometer limitation

1 passing light, blue light, through the wavelength conversion component. It's
2 the same between the '539 patent, Claim 1 and '678 patent, Claim 1.

3 Now turning to the actual limitation I meant to refer to. This is the
4 scattering blue light, at least twice as much as the phosphor light. And here,
5 although it's not in Claim 1 of the '678 patent, it is in Claim 12, and so again,
6 the subject matter of Claim 1 of the '539 patent is essentially the same as
7 Claim 12 of the '678 patent. And I think it's important to note that because
8 Petitioner's arguments through these proceedings have been very
9 intentionally the same. We submitted the same prior art. We've made the
10 same arguments with minor adjustments for the difference between the
11 cases, but we've tried to keep things as similar or the same as possible.

12 And so again, as in the '678 case, we have this basic structure that
13 is completely undisputed, and that is Krummacher has the
14 photoluminescence material, the phosphor, it has the titanium dioxide layer,
15 and it has the blue LED. Those are the three physical elements of the claim
16 found in Krummacher. And so, one of the questions that was really a focus
17 in the '678 patent case proceeding and has not come up as much here, is
18 what the wavelength of blue light emitted by the blue LED, in a blue-
19 pumped white LED would be, and there are a number of prior art references.

20 Although Krummacher may not say what wavelength is emitted by
21 its blue LED, it does have a blue LED. And in every reference we've looked
22 at with a blue-pumped white LED, it's used a blue LED with a peak above
23 440 nanometers. And when we talked to Patent Owner's expert, Dr.
24 Schubert -- and this was from the '678 proceeding, although the transcript
25 was filed in the proceeding here -- and despite having asked him many,
26 many different ways, Dr. Schubert was unwilling to give an answer

1 regarding the actual wavelength of blue light that would be emitted by such
2 an LED.

3 And I think this is important because after this deposition, we
4 really never heard from Dr. Schubert again. He did not submit a declaration
5 supporting the Patent Owner response in this case. When we deposed him in
6 this case, he indicated that he probably had never read the institution
7 decision in this case, even before his deposition.

8 And so, in terms of the expert testimony, you have Professor
9 Doolittle providing essentially the same testimony as he did in the '678
10 patent. But here, Dr. Schubert, after his prior deposition, did not reappear to
11 rebut what was argued in this case or to address the institution decision.
12 And part of the reason why is, if we go to Dr. Schubert's textbook, and this
13 is one of the things we asked him about, it says very clearly in his textbook
14 that blue LEDs typically emitted light above 440 nanometers with peaks
15 between 455 and 490 nanometers. And he even gave one example of a blue-
16 pumped white LED, which you can see below the table there, with the blue
17 LED emitting around 450 or 460 nanometers within the claimed range.

18 So, there's some dispute about whether Petitioners are trying to
19 import an LED from the prior art from Shimizu into Krummacher. And I
20 think the answer is no, Krummacher already has a blue LED. It must emit at
21 some wavelength. Petitioner's position is that a person of ordinary skill in
22 the art would know what those wavelengths are, but if a person of ordinary
23 skill in the art didn't know, they would look to the prior art where uniformly,
24 blue LEDs used in these types of lamps, emit above 440 nanometers.

25 And the law is clear that we don't just look at bodily incorporation
26 or an overly mechanistic view of what obviousness is. Here, there's no

1 reason to pull an LED from somewhere else, when the primary reference
2 always -- already has it. And this was stated expressly in the petition,
3 whereas Patent Owner focuses on Krummacher suggesting the use of an
4 LED like that disclosed in Stokes and Shimizu.

5 From the context of the entire paragraph, I think it's very clear that
6 there wasn't the suggestion that you needed to swap the two. Instead, it says,
7 it would have been obvious to look to Stokes and Shimizu for details of the
8 conventional white light LED light source used in Krummacher. So, I
9 submit that's a very clear argument that a person of ordinary skill in the art
10 would look to the information in Stokes and Shimizu, not try to take a
11 portion of them and incorporate it somehow physically into Krummacher.

12 JUDGE WOOD: Counsel, didn't you argue in the petition that the
13 combination of the references Shimizu and Krummacher would be a simple
14 substitution?

15 MR. BROWN: It would be. These are off-the-shelf LEDs.

16 JUDGE WOOD: Well, what are you substituting, if not the LED?

17 MR. BROWN: So, this is an alternative argument, right?

18 JUDGE WOOD: Alternative argument.

19 MR. BROWN: The idea being that there is an LED there. I'm
20 going to keep on hitting this. There's an LED there. You would choose a
21 wavelength for that LED. It doesn't disclose one. It would need some
22 wavelength, but the reason why it doesn't say specifically, it doesn't need to
23 provide more details because a person of ordinary skill in the art would
24 know that detail because blue LEDs at this point in 2010 are conventional
25 and commodity off-the-shelf devices.

26 So, this is where we are going to turn a little bit to a new argument.

1 And although, as we were looking at '678 patent, Claims 11 and 12, those
2 had the same language with average particle size with a certain effect.
3 Nonetheless, with the '539 patent, we have a couple of slightly different
4 arguments regarding that limitation. And as we look at this, the facts
5 underlying Petitioner's arguments are essentially undisputed in that
6 Krummacher has both the blue LED and the titanium dioxide scattering
7 layer. And that the blue LEDs in the prior art emitted above 440
8 nanometers, the fact that preferential scattering of blue light happened below
9 one micron was very well known. It's a well-known physical phenomena.

10 And the ordinary level of skill, the dependent claims are all
11 undisputed. And essentially in this proceeding for the '539 patent, it's really
12 the average particle size is the only thing that the petition -- the Patent
13 Owners have pushed through the entire proceeding. And Patent Owner, the
14 focus of the two arguments are not on those facts, but on the construction of
15 the petition. And I'd say a naive reading of the petition where the argument
16 is that the petition didn't sufficiently choose between two options that were
17 presented as alternatives.

18 And also, that Stokes, the reference used to provide the chart, the
19 DuPont chart, or figure, I should say -- the DuPont figure -- doesn't actually
20 use the words 'average particle size.' And so, we've got in the prior art,
21 including Krummacher and Stokes, the disclosure of particles of a certain
22 size, including around the 150-nanometer mark where blue scattering is at its
23 maximum, relative to the scattering of other colors of light. And this, again,
24 was well known in the art, and it's not disputed by Patent Owner.

25 And you can see this very directly from the DuPont scattering
26 curves. And again, I'd point out here that the argument is that the '539 patent

1 claims average particle size. And you see on the right figure there from the
2 '539 patent, it says average particle size. If you look at the DuPont chart
3 from their commercial catalogs, as well as Stokes, oftentimes rather than
4 having a disclosure of average particle size, it just says diameter or a radius
5 or whatever the case may be, but obviously, you have the same exact data
6 being shown there.

7 And the reason why this comes up, and again, Professor Doolittle
8 spoke about this in detail when he was talking about Teal (PHONETIC) and
9 French (PHONETIC), but because this graph was based on modeling, in
10 other words, looking at a single theoretical particle and trying to figure out
11 what the scattering would be for that, in reality, this is a manufactured
12 -- titanium dioxide is a manufactured item that you purchase that is not
13 going to be in perfect spheres of a certain size. It's like if you order gravel,
14 you may order gravel of a certain size. That doesn't mean that every single
15 piece of gravel there is going to have that size. It's going to be roughly the
16 average.

17 And this is where Professor Doolittle, I think, in his focus on both
18 accuracy and precision, wanted it to be made clear that this graph should not
19 be taken as something that was measured from experiments in reality, but
20 that it is actually a model. And that's important because if you look at what
21 is described in the '539 patent has an average particle size, although having
22 an average particle size of a group of particles around 150 nanometers is
23 going to scatter blue light similar to 150-nanometer particles. On the other
24 hand, if you have a one nanometer particle and a 300 nanometer particle, the
25 average particle size is going to be 150 nanometers again. It's not going to
26 scatter light anything like the 150-nanometer particle.

1 And so that's where I think you see the distinction between the '539
2 patent's language and the language used in the DuPont material, as well as
3 Stokes. And now looking at -- and this figure comes from the petition on
4 page 34. It's an annotated figure from the petition, but this is intended to
5 show that the particular claimed range, whether it is the range that covers
6 relatively more, or whether it's the range that covers at least twice as much,
7 these are just ranges that center around roughly 150 nanometers. And in the
8 same way, the prior art, including Stokes, doesn't disclose just a single
9 range. It discloses a number of ranges that center around there. And that's
10 because, to the extent that these ranges have anything critical or special
11 about them all at all, it's that nearness to the 150-nanometer point. Not the
12 endpoints per se. It's an optimization problem, not a change in kind.

13 JUDGE CHERRY: Does the '539 patent have any disclosure
14 about how it measures the average particle size?

15 MR. BROWN: No, it does not. And I think in part, that's because
16 the '539 patent took the figure from DuPont without giving it attribution.
17 So, there's no real way -- it's kind of bolted on, if you will. So, Patent
18 Owner argues that the petition lacked particularity. And the reason they
19 -- the basis for that argument is that in the petition, especially with respect to
20 Element 1C, which is the relatively more limitation, we pointed out that
21 Krummacher -- within the range disclosed by Krummacher -- would meet
22 that functional limitation because it would preferentially scatter.

23 And it would also be met to the extent that the claim required that
24 particle size be chosen for that reason, that you would look to Stokes. Now,
25 we make a very similar argument with 1E, which is the, at least twice as
26 much, only there we cite slightly different portions of Stokes, because we're

1 pointing to where Stokes discloses at least twice as much, rather than the
2 portion where Stokes describes preferentially scattering in general. And so,
3 just side by side, the two theories we have here with Krummacher disclosing
4 the light scattering material with particles that, according to the Dupont
5 model, would preferentially scatter light. And then on the right, the
6 reference to Stokes and Stokes' disclosure of particle sizes chosen for that
7 reason.

8 In the preliminary response, the Patent Owner argued that the
9 petition lacked specificity, in particular because it did not pick one or the
10 other as between these two theories. In the institution decision, the
11 institution decision found that the -- preliminarily found, I guess, that the
12 petition clearly set out two theories for how the references teach that
13 limitation. And then in the Patent Owner response, we got again -- and
14 when you look at them, you've got to make sure that you're looking at the
15 right one because they are identical. You've got the same language in the
16 preliminary response as you have in the Patent Owner response.

17 And then once that was pointed out in the reply and the Patent
18 Owner's sur-reply, again, there's essentially the same argument again. And
19 Patent Owner says, Petitioners simply embrace the institution decision as if
20 it is set in stone. Petitioners are not relying on the institution decision as it's
21 set in stone. Petitioners are pointing out that the institution decision, at least
22 in Petitioner's view, was a well-reasoned decision, and there's been no
23 reason to change that because Patent Owner hasn't actually given a reason
24 why the institution decision was wrong.

25 Here we have the section of Stokes that discloses a particle size
26 range advantageous because it enhances the scattering of the radiation

1 source -- that is the LED -- while it decreases the amount of scattering of the
2 luminescent material radiation and the light emitted by the phosphor. And
3 Professor Doolittle provided testimony applying that principle from Stokes
4 to Krummacher's device. And his argument there, Patent Owner calls it
5 conclusory. I think it's -- one, it mirrors what is said in Stokes, and the other
6 is it's a very kind of straightforward, direct explanation, which is simply that
7 blue LED is a point light source that, if you remember when blue LEDs
8 became commercially available, they always made them as bright as
9 possible, but they're naturally very bright light sources from a single
10 location.

11 The phosphor is emitting from -- the entire phosphor and is already
12 more diffuse. And so, it makes sense that a person with ordinary skill in the
13 art would want to scatter the blue LED light that is more concentrated and
14 not scatter the light emitted by the phosphor as much. And that's kind of
15 consistent with the particle sizes that we see in the prior art.

16 And this is again where I'd say there's an overly mechanistic view
17 of the petition in the Patent Owner's response. Patent Owner argues that
18 Stokes, or has argued that Stokes, did not disclose any particle sizes at all,
19 and then that the passage Petitioner cited had no particle sizes at all. As the
20 Board pointed out in the institution decision, again the petition for Element
21 1E, which actually had at least twice as much term, provided more citations
22 to Stokes, but the portion that was cited in Stokes by the petition for this
23 element is the portion at the very top of column 7, where it talks about
24 preferential scattering and the preferential scattering of blue light, relative to
25 yellow, green, red, or white light.

26 And if you look at what follows that sentence in column 7, it

1 actually gets into some of the actual particle sizes that we have here. So, it
2 says the relative scattering power of 100 to 200 nanometer titanium dioxide
3 particles is above one for blue incident radiation, one is below one for green
4 and red incident radiation.

5 So, again, here we clearly have at least a particle size disclosed,
6 even if it doesn't in this paragraph say average particle size. In the
7 institution decision, the panel disagreed yet in the Patent Owner response,
8 we again have a very similar argument, except rather than no particle sizes at
9 all, it is now no specific particle sizes. But again, if you look at the section
10 that was cited and the context around it, it's clear that particle sizes are
11 disclosed there.

12 And here, if we look at Petitioner's reply, again, we point to what
13 the Board had said in the institution decision, what was cited in the petition,
14 and particularly we pointed out that from column 16, line 60 through column
15 7, line 8. So, in other words, the portion of Stokes that leads directly into the
16 portion that was cited by Petitioners actually says that first, it goes through
17 having a wavelength that is between -- sorry, a particle size that is between
18 one-third of the wavelength and one half of the wavelength. So, just another
19 way of that -- showing that same sort of preferential scattering that was
20 known in the art.

21 And it specifically says, thus the preferred mean particle diameter
22 is 100 to 300 nanometers, most preferably between 100 and 240 nanometers.
23 And especially if you look to the first line, again, it says the light scattering
24 particles may have a mean diameter, and it refers to D_{50} there.
25 And again, this is a more accurate way of saying average particle size in a
26 sense, because this is the notation that is actually used with particle science

1 in terms of particles that would be around a certain level, if not exactly there,
2 rather than just being a pure average.

3 So, that's essentially the arguments for Ground 1. If I move on to
4 Ground 2, we again have a very similar argument, with the slight difference
5 of this being the bulb embodiment, as opposed to not requiring a bulb. And
6 so, what we have here is we have Hussell, which is a white light LED that's
7 blue pumped, that has an envelope. We have a Krummacher, which is the
8 LED with a phosphor layer and a titanium dioxide layer that we're talking
9 about with Ground 1. And we also have Stokes again for preferential
10 scattering.

11 And it's Van Woudenberg that's providing the wavelength of blue
12 light emitted by that LED. And so, in this ground, we actually do have a
13 physical combination. Hussell is being used as the base reference, and
14 Krummacher is being used to put a layer on top of what's disclosed in
15 Hussell. And Professor Doolittle provided testimony on that, how it would
16 be something that a person of ordinary skill in the art would have done. And
17 in particular, the motivation for doing that is found in Krummacher itself,
18 because it would improve the off-white appearance, same as is done in
19 Krummacher. Even having the envelope doesn't change anything.

20 Now, Stokes and Van Woudenberg are -- much like Stokes and
21 Shimizu in Ground 1 -- are part of the combination, but they're not being
22 physically combined. Stokes is being used for the preferential scattering.
23 Van Woudenberg is being used for the wavelength of blue light. A person
24 of ordinary skill in the art would look to those for information, not for a
25 component that they could swap wholesale. And again, the reason for
26 adding Krummacher's layer to Hussell is expressed in Krummacher for

1 improving the off-state white appearance.

2 And then turning again, this is another issue that is similar between
3 the '678 proceeding -- the proceeding regarding the '678 patent and this
4 proceeding -- and that is the alleged evidence of secondary considerations,
5 secondary objective evidence of obviousness -- of non-obviousness. And
6 again, what we're looking at here is the alleged commercial success of the
7 products that Patent Owner sells today, which are, of course, built on much
8 more than just what is claimed in the patent here.

9 All that they point to for the connection is the fact that the
10 commercial products have a white off-state appearance. But there's no
11 evidence that they emit the right wavelength or what the diameter of the
12 particles are or any of the actual requirements of the claims. And so, there's
13 really no nexus between the commercial products and the claims of the
14 patent, even if you were to credit it, despite it being essentially all anecdotal
15 evidence with little value. Unless there are any questions, that's my opening
16 presentation.

17 JUDGE CHERRY: No questions from me.

18 JUDGE WOOD: No, thanks.

19 MR. BROWN: Thank you.

20 JUDGE CHERRY: Great. Thanks so much. How much time
21 would you like to reserve, Mr. McMahon?

22 MR. MCMAHON: Yes, please. Twenty minutes, please.

23 JUDGE CHERRY: Sure.

24 MR. MCMAHON: Before Your Honors entered the room, we had
25 a brief glitch with the technology. Hopefully --

26 JUDGE CHERRY: Take your time.

1 MR. MCMAHON: Hopefully, we resolved it. Seems we resolved
2 it. Excellent. Good afternoon, Your Honors. I first direct your attention to
3 our Slide 2, which is just a brief roadmap overview of the arguments,
4 beginning with the patent -- the '539 patent -- the claims and the solution,
5 and the benefits that it provides, and then going through the two grounds,
6 and ending with secondary indicia of non-obvious. Before we do that,
7 however, I'd like to talk a little bit -- well, I'd like to provide kind of an
8 overview of not only the invention, but also the arguments and some of the
9 deficiencies in the petition, and then I'll get into more of the details.

10 If you go ahead to Slide 4, you can see here this is the '539 patent
11 identifying some of the benefits that the claimed invention provides. Some
12 of these benefits are expressly recited in the claims. Some are results of the
13 features that are recited in the claims. The three main benefits are increasing
14 the efficiency by reducing the necessary quantities of photoluminescent
15 material required. Second, improving the color uniformity when the light is
16 on. And third, improving the white appearance of the filament when the
17 light is off.

18 Now, to accomplish that, the claims require a specific combination
19 of features. This particular average particle size, we'll talk more about that.
20 The blue light with particular wavelength requirement, we'll talk more about
21 that as well. And the requirement that, as a result of that average particle
22 size, that blue light is scattered at least twice as much as non-blue light.

23 Now, I'd like to pause here for a second and just remind the Board
24 of the Federal Circuit's and the -- actually, the Supreme Court's words in
25 KSR, that a patent claim is not proved obvious merely by demonstrating that
26 each of its elements was independently known in the prior art. That's KSR

1 550 U.S. 398 et 418. I'll come back to that briefly.

2 Now, I also want to emphasize that the '539 patent claims do stand
3 on their own. Much of what Petitioner has said to you this afternoon
4 invokes a separate proceeding directed to the '678 patent. The Board is very
5 familiar with that proceeding. The claims are somewhat similar, but they're
6 not the same. And we urge the Board to focus on the claims of the '539
7 patent for purposes of this proceeding.

8 In terms of the timeline, one point that was near the end of
9 Petitioner's presentation but has been emphasized throughout the briefing is
10 the 12-year gap, that there was a period of time in between when this patent
11 was developed and applied for and ultimately issued versus the more recent
12 activity when both, Feit Electric, the Patent Owner, and Petitioners have all
13 introduced white filament bulbs into the commercial marketplace.

14 And Petitioners urge that that shows that whatever's happening
15 recently actually has nothing to do with this invention and everything to do
16 with some unidentified something else that came in between. We submit
17 that it's a little bit different than that, that in fact, it took some time for the
18 market to recognize the value of this invention. It was not a Feit invention.
19 Feit Electric purchased these patents recognizing their value.

20 Previous owner apparently didn't have the resources to be able to
21 market them. Feit Electric did, but I'd point more to what the Petitioners
22 did. If this idea, this invention were so obvious, why didn't Petitioners come
23 forward earlier with their own products in the market? They waited until
24 Feit introduced our products and then copied us. And I'll come back to that
25 and some of the evidence that shows that in a little bit.

26 Now, I'd like to hit on -- preview three things -- three deficiencies

1 in the petition, and I'll come back to these in more detail later. The first is
2 that there's some inconsistent grounds in the -- inconsistencies in the
3 grounds and the challenge claims. For example, if you look at Slide 8, this
4 outline just lists the two different grounds, the references that are asserted,
5 and the claims that are challenged. And as you can see, Ground 1 covers a
6 lot of claims, 1 through 11, 18 to 20, 23 to 25. That's the three reference
7 ground combining Krummacher, Stokes, and Shimizu.

8 Ground 2 increases to three references -- Hussell, Krummacher,
9 Stokes, and Van Woudenberg -- but challenges only Claims 18 and 28. And
10 I highlight that because I'd like to point out to the Board that if the Board is
11 unconvinced by Ground 1, but convinced by Ground 2, then the natural
12 conclusion, at best, for Petitioners, would be canceling Claims 18 and 28,
13 but not Claims 19 to 20, 23 to 25, which depend from Claim 8, or Claims 1
14 through 11. So, there's a little bit of an inconsistency there in terms of the
15 relationship between the two grounds.

16 There also has been a shifting narrative, and Judge Wood, one of
17 your questions to Petitioners hit on this as well, that the petition was frankly
18 unclear about what its argument was and what parts of the asserted prior art
19 it was relying on to teach various things, including the importation of
20 teachings from Stokes and Shimizu into Krummacher. And Petitioner had
21 pointed out to the Board this morning, some language from the petition that
22 they say shows that they made this argument in the petition. I'll come back
23 to that, because if you look at it and read it in context, I think it says
24 something else.

25 Petitioners also said this morning that these two things were
26 alternative arguments, but they were never described as such in the petition

1 or in the reply after we raised this issue. In fact, what Petitioners said in
2 response to us identifying this deficiency in our response, in the reply, they
3 said, no, nothing is imported. Those three words appear frequently, and
4 you've seen them this morning. Nothing is imported. I'll come back to that.

5 And this morning, or I'm sorry, this afternoon, Petitioners blithely
6 referred to this deficiency as a mere construction of the petition. But we
7 remind the Board that the petition is everything in an inter partes review. It's
8 what gives the Board and the Patent Owner notice of what the arguments
9 are. It defines the scope for the remainder of the proceeding. So, what
10 Petitioners said in the petition is very important, and disputes about what
11 that petition meant and said and disclosed to the Board and disclosed to
12 Patent Owner, are very important.

13 Petitioners have also thrown out a few distractions. One
14 distraction, which you heard just this afternoon, sounded to me as an effort
15 to shift the burden of proof. Petitioners condemned Dr. Schubert, the expert
16 who testified on behalf of Patent Owner, for, "not reappearing" after
17 submitting his declaration. Of course, he had no obligation to reappear. He
18 said what he said, and there was no need for him to come back. The
19 suggestion that he should have come back and didn't and somehow failed in
20 some way is an effort to shift the burden to Patent Owner, which is
21 improper. The burden is with and remains with Petitioners.

22 The second distraction is something you did not hear about today,
23 but was a heavy emphasis of the reply brief, and that was frankly, a baseless
24 and ad hominem attack on Dr. Schubert and his credibility from two prior
25 proceedings. One District Court proceeding in which Dr. Schubert testified,
26 and another, a National Science Foundation investigation that found no

1 wrongdoing at all by anyone, including Dr. Schubert.

2 I point that out because it was a heavy emphasis of the reply brief.
3 It was the sole emphasis of Petitioner's cross-examination of Dr. Schubert,
4 and yet you didn't hear anything about that at all today. So, they've
5 apparently recognized that that wasn't gaining traction and cast it aside,, but
6 it was a distraction in the briefing, and one that we were required to address
7 in the surreply.

8 And then finally, in terms of deficiencies in the petition, we have a
9 new argument that was not presented in the petition. Recognizing the
10 deficiencies in their petition as to the disclosure of average particle size,
11 Petitioners in their reply brief and here to the Board today belatedly
12 presented a new argument, citing to a portion of the Stokes reference that the
13 petition did not cite for purposes of the average particle size limitation. I'll
14 come back to that in a little bit more detail.

15 Turning to the average particle size question in Grounds 1 and 2, I
16 direct the board to Slide 10. And before I get into the argument, I'd like to
17 address a question, Judge Cherry, that you asked of Petitioners, which is,
18 does the '539 patent identify any specific methodology for calculating or
19 determining average particle size. The '539 patent, by my count, refers to
20 average particle size 29 times, but does not provide any specific way of
21 calculating or determining that average particle size.

22 JUDGE CHERRY: Do you agree that a mean is an average?

23 MR. MCMAHON: Yes, we do not disagree with that.

24 JUDGE CHERRY: So, do you agree that a D50 indicate -- which
25 Stokes refers to as a mean particle size -- would be an average particle size?

26 MR. MCMAHON: Well, before I answer that, I'd like to point out

1 that that is the new argument. That is something that was not presented --

2 JUDGE CHERRY: It's in Stokes, right?

3 MR. MCMAHON: It is in Stokes. Stokes mentions that at the
4 bottom of column 6.

5 JUDGE CHERRY: Okay.

6 MR. MCMAHON: The petition did not cite Stokes or column 6
7 -- did not cite column 6 of Stokes for that argument at all. That's a new
8 argument that arose for the first time in the reply brief --

9 JUDGE CHERRY: Okay.

10 MR. MCMAHON: -- and we submit that the Board should not
11 consider it because of that.

12 JUDGE CHERRY: Okay, but it is in the reply brief?

13 MR. MCMAHON: It is in the reply brief, but it was -- it's
14 incumbent on the Petitioner to identify their arguments and the basis for
15 those arguments in the petition. They cited Stokes. They argued that Stokes
16 disclosed average particle size, but they did not cite that portion of Stokes
17 until the reply brief.

18 JUDGE HOWARD: But isn't this just an example of citing
19 additional evidence to support a theory that was already set out in the
20 petition? They're relying on Stokes for this, and all they've done is cite to
21 some of the portion of Stokes before -- that precedes the section they
22 actually did cite. That, to me, just strikes me, here's some more evidence
23 that we're putting in reply, which the Federal Circuit says is completely
24 allowable.

25 MR. MCMAHON: Judge Howard, I would agree with that if the
26 situation were one where Stokes says average particle size five different

1 times and Petitioners cited some of them and then cited the others in their
2 reply. That's not what happened. Petitioners didn't cite any disclosure in
3 Stokes of an average particle size in the petition. And in fact, that's part of
4 what created the confusion that we addressed in the response about what
5 they're even relying on for average particles.

6 JUDGE HOWARD: Well, they did go and cite the section of
7 Stokes that says the particle size is between -- sorry -- I believe between 100
8 and 200 nanometers. Is that correct?

9 MR. MCMAHON: That's correct. I believe you're quoting the --

10 JUDGE HOWARD: Okay.

11 MR. MCMAHON: -- quotes that come from column 7.

12 JUDGE HOWARD: That's from section 7 -- column 7 that they
13 cited. Now, you would agree with me, although it doesn't explicitly say the
14 average particle size, by definition, the average particle size has to be
15 between 100 and 200 nanometers. It can't be less and it can't be more,
16 because if all the particles fit within that range, the average has to be
17 somewhere in that range, correct?

18 MR. MCMAHON: Mathematically, Judge Howard, I agree with
19 you, but again, that's another argument that Petitioners did not present in
20 their petition.

21 JUDGE HOWARD: That would be something that a person of
22 ordinary skill in the art would have understood, that mathematics, from
23 looking at that column on that column 7 in Stokes?

24 MR. MCMAHON: I don't know that I have -- I can speak for
25 myself, but Judge Howard, I'll tell you, I am not one of ordinary skill in the
26 art. So, would one of ordinary skill in the art recognize that? I don't have

1 any reason to disagree with you on that.

2 JUDGE HOWARD: And you'd agree that a junior high student
3 who's studying about averages is going to understand that the average is
4 somewhere between the lowest particle size and the highest particle size?

5 MR. MCMAHON: I think mathematically what you're saying is
6 correct, but taken to its conclusion, what you're suggesting, Judge Howard,
7 is that the Petitioner can say whatever they want in the petition, and they can
8 show up here before the Board in person at the oral argument and say, well,
9 that's what we meant, or one of ordinary skill in the art would have
10 understood that. That's not the standard the Board or the Federal Circuit
11 have set for the burden that a Petitioner faces in presenting their arguments
12 fully and completely in the petition. Petitioners have not done that here.
13 Now, that's --

14 JUDGE HOWARD: Okay, thank you.

15 MR. MCMAHON: And thank you for the questions, Judge
16 Howard. That's speaking to Stokes, specifically, and the paragraph in Stokes
17 that the Petitioner did not address in the petition. More broadly, the petition
18 is not even clear about which teaching or even which reference it was
19 relying on for the teaching of the average particle size. The petition refers
20 repeatedly to Krummacher inversion in view of Stokes, but never presents a
21 single coherent theory as to what teaching it's relying on.

22 They point to Krummacher -- and here I refer to Slide 11. They
23 point to Krummacher as disclosing the claimed particle size range, but
24 Krummacher presents a vast range, ranging from 50 nanometers up to 1,000
25 nanometers, and those, I believe, are actually radii. So, the diameter would
26 be 100 up to 2,000 nanometers. And if you look at the figure from the

1 patent and from -- DuPont agrees, a large portion of those particle sizes
2 would not accomplish the goal that is presented by the '539 patent.

3 So, that's like presenting the haystack and saying the needle's in
4 there somewhere. Krummacher doesn't disclose that, but that's the argument
5 the petition made. Now, turning to Slide 12 in Stokes, we've largely covered
6 this already. The portions that they cited in the petition where they bear the
7 burden of establishing their arguments and proving unpatentability, they did
8 not cite to column 6 of Stokes.

9 So, the petition was both confusing and incomplete as to making
10 this argument. Which reference, which teaching, and they failed to cite the
11 one critical teaching that they now present to the Board today. I'd also point
12 out -- I don't have a transcript. I might have misheard it, but what I heard
13 Counsel to say is that section in column 6 of Stokes is "the more accurate"
14 way of describing or talking about average particle size. Well, if that's true,
15 why wasn't that in the petition? If that's the more accurate way of talking
16 about it, that seems like it should have been the centerpiece of the argument
17 presented in the petition. It was not.

18 Now, moving on to Ground 1. And particularly, the motivation to
19 combine. I direct the Board to Slide 13. And again, here I'm going to quote
20 KSR, the Supreme Court's words. It is not proved obvious merely by
21 demonstrating that each of its elements was independently known in the
22 prior art. That is what the petition has done here. At best, it has shown you
23 that each of the elements recited in the claims of the '539 patent was known
24 in the art, but that's not enough. The Petitioner, as the Supreme Court and
25 the Federal Circuit repeatedly have held, bears the burden of showing a
26 motivation to combine these different features.

1 And to do so, on that point, Petitioners have changed their story
2 through the evolution of this proceeding. In the petition, Petitioners argued
3 that a person of ordinary skill in the art would have been motivated to use a
4 blue light LED chip like that disclosed by Stokes and Shimizu in a
5 conventional white LED light source called for by Krummacher.

6 Dr. Doolittle made exactly the same assertion. Sorry, that the
7 quote that I mentioned just now was from the petition at page 31. Dr.
8 Doolittle made exactly the same assertion at paragraph 135 of his
9 declaration. That's Exhibit 1102. Now, beginning in the reply brief and to
10 the Board today, the Petitioners assert that nothing is imported, and just to
11 make clear that we're talking about the right thing here, I'd like to show the
12 Board those words. Nothing is imported. Those are their words.

13 And on the next slide, this is Petitioner's Slide 24, they quote a
14 paragraph from the petition and they bold certain text from that paragraph.
15 But the unbolded text is important to consider here. What the petition said
16 is, "A POSA would have been motivated to use a blue light LED chip like
17 that disclosed --"

18 JUDGE CHERRY: It doesn't mean exactly that. The law is clear
19 that we're not doing -- that bodily incorporation isn't an argument against
20 obviousness. Why are we talking about this? (INDISCERNIBLE) like that
21 disclosed. So, it doesn't mean the exact same chip. It means a chip like that,
22 with the same -- similar, that you, the person of ordinary skill in the art,
23 would know I could put in here. So, I'd look for something similar to that,
24 right?

25 MR. MCMAHON: Well, I hear what you're saying, Judge Cherry,
26 but I don't think what you've just articulated is their argument either, because

1 what they've said to you today, if I heard it correctly, was not that what we
2 meant was not exactly Shimizu and Stokes, but something like that. What
3 they're saying today is you don't need to substitute anything at all because
4 it's already there in Krummacher.

5 JUDGE CHERRY: Well, yes. Well, it is in Krummacher, but
6 they're specifying that you would then look to Stokes for what does this
7 mean? And so, here's a blue-white LED like that in these other references.
8 This is the wavelengths they operate at, and so a person of ordinary skill
9 would understand that that's what that meant. I mean, I don't understand. I
10 feel like we're parsing the petition to almost a nonsensical level where -- and
11 they've responded to this argument and they've explained, and they're
12 allowed to explain what they meant in the petition. The words aren't frozen
13 forever, and the law is not -- and KSR tells us to use a flexible approach to
14 obviousness. So, I mean, what you're arguing for is this extremely rigid
15 approach to obviousness. Why is that correct?

16 MR. MCMAHON: So, I'm going to disagree with the last part of
17 what you said, Judge Cherry. I don't think we're arguing for a rigid approach
18 to obviousness. What we're arguing for is holding Petitioners to what they
19 have said in the petition. And what the petition says is not Krummacher
20 already teaches this. If Krummacher already taught this, why would we
21 need Shimizu or Stokes at all? What the petition said is you do need them.
22 And if you read on to the next highlighted portion in our slide --

23 JUDGE CHERRY: But if they had said that a person of ordinary
24 skill understood that, you would have said, no, you need a reference that
25 shows this, you're applying the knowledge of a skilled artisan here, you need
26 a reference for that. So, they provided a reference that tells us what this

1 wavelength is. Why is that improper?

2 MR. MCMAHON: So, I'm just focusing on the 2nd highlighted
3 portion in our Slide 13 -- I'm sorry -- in our highlighted version of their
4 slide, I believe it's 24, where the petition wrote, doing so would have been
5 the simple substitution of one known element for another. Substitution is a
6 word that carries meaning here. That is how we read the petition. That's
7 how we argued in the response. That's the way they presented their
8 arguments to open this case.

9 JUDGE WOOD: Counsel, let me also point out the prior sentence
10 -- it would have been obvious to look for Stokes and Shimizu for details of
11 the conventional white light LED light source used in Krummacher. So,
12 isn't that the blue LED? Doesn't that say that they would look to Stokes and
13 Shimizu for details of Krummacher's blue LED?

14 MR. MCMAHON: Well, that is certainly one way to read these
15 words sitting here today, but if you look at the opening sentence and the
16 closing sentence of this paragraph, the first -- the opening sentence says to
17 use a blue light LED chip like that disclosed by Stokes and Shimizu. That's
18 not saying Krummacher already discloses this, and so let's look to Stokes
19 and Shimizu to understand what it means. That's the opening sentence.

20 JUDGE CHERRY: Well, I'm looking at page 29 of the petition. It
21 says, although Krummacher does not specify the wavelength of the blue
22 light emitted by its LED chip, a POSA would have understood it to include
23 blue light with a wavelength greater than 440 nanometers. In addition to
24 being a white light emitting LED, Krummacher discloses -- and then it talks
25 about Krummacher -- and then it says, Stokes and Shimizu -- moreover, a
26 white light LED containing a blue light LED chip would have been obvious

1 in view of Stokes and Shimizu.

2 This is page 30. Stokes and Shimizu both disclose white light
3 LED sources with the blue light LED chips, as discussed above with respect
4 to the state of the art. Shimizu provides wavelength charts for multiple blue
5 light LED chips, all of which show emission light within, including
6 wavelengths above 440 nanometers. Shimizu has -- then they talk about
7 Shimizu's disclosure. I mean, I don't think that the -- I mean, I don't see how
8 the petition is unclear. It explains exactly what the theory is, and what is
9 unclear about that?

10 MR. MCMAHON: Your Honor, with all due respect, what I hear
11 you saying today is that when we, the Patent Owner, read this petition
12 attacking our patent, we should have ignored the highlighted text and
13 pretended that they didn't say that you should use a different LED in
14 Krummacher and pretended that they didn't say that that would have been a
15 simple substitution. I don't think any Patent Owner is going to respond to a
16 petition in that way by ignoring parts of it. This was the argument that they
17 presented.

18 JUDGE CHERRY: I doubt that your reading comprehension is as
19 poor as you're contending, because this -- I've read -- you can't just look at
20 one sentence. We read the entire petition. I mean, it seems like they've laid
21 out this theory and they've -- and to the extent it was unclear, we addressed
22 this in the institution decision, which gave our reading of it. And then they
23 said in their reply what -- they clarified what -- they're allowed to clarify to
24 the extent that you don't understand. I mean, I don't know why we're still
25 talking about this, at this point.

26 MR. MCMAHON: Well, I don't want to spend a lot of time on an

1 argument that's clearly not gaining traction with the Board, but I'll just say
2 that as I understand their argument today, it requires us to ignore the
3 language that's highlighted in that paragraph. And I don't think that's a fair
4 way to expect a Patent Owner to read a petition. Unless the Board has any
5 other questions on that point, I can move on.

6 JUDGE CHERRY: Okay.

7 MR. MCMAHON: So, Petitioners also, despite the sudden
8 emphasis now on Stokes and the average particle size -- the mean or average
9 particle size -- in the petition itself at page 77, Petitioners admitted that
10 Stokes, "does not assign any particular significance to the disclosed ranges
11 other than that they are based on preferentially scattering the blue light." So,
12 it raises the question, why would -- and let me take a step back and talk
13 about what Krummacher and Stokes disclose, because they are very different
14 applications, but Petitioners would have the Board consider the entire field
15 of lighting to be one big library that anybody can have access to anything
16 within.

17 There has to be some motivation to take one of the vast array of
18 lighting disclosures and teachings, and pair it with something else, combine
19 it with something else. There is no such teaching here to take Krummacher,
20 which discloses a very large-scale lighting application, with Stokes and
21 Shimizu, which disclose a very different type of application, and put these
22 things together.

23 What they don't address is the two main questions of presenting a
24 motivation to combine -- the how and the why. How would these things
25 have been combined? And again, I'm reading the yellow highlighted words
26 here to suggest that there should be a substitution. How do you take

1 something from Stokes and Shimizu and import it into Krummacher?
2 Perhaps there is a way, but the burden is on Petitioners to explain that in the
3 petition. And if --

4 JUDGE WOOD: Let me just --

5 MR. MCMAHON: Go ahead, Judge.

6 JUDGE WOOD: If we read the petition as at least arguing as an
7 alternative, that Stokes and Shimizu are invoked not to substitute their blue
8 LEDs, but to describe Krummacher's blue LED, would that obviate these
9 arguments about combining Stokes and Shimizu with Krummacher? In
10 other words, we wouldn't be incorporating anything from Stokes and
11 Krummacher, other than information about Krummacher's already disclosed
12 blue LED, plus particle size for Krummacher's scattering layer. If we
13 interpreted it that way, would that obviate these arguments about combining
14 it that you're bringing up?

15 MR. MCMAHON: Let me make sure I understood the question,
16 Judge Wood. I'm sorry. Could you just repeat? What's the only thing that
17 you would be viewing the petition as using Stokes and Shimizu for?

18 JUDGE WOOD: Well, the information about the blue LED that
19 Krummacher discloses, plus particle size of the light scattering material.

20 MR. MCMAHON: I guess I'm struggling to understand exactly
21 what that means, because that's -- I'm trying to understand, is that a single
22 reference obviousness argument? Is that an anticipation argument? What
23 exactly are Stokes and Shimizu doing there, if they're not providing, as the
24 petition said, the LED to use in Krummacher? Are they clarifying what was
25 already in Krummacher? I'm not trying to be obtuse here. I'm trying to
26 understand what exactly that argument even means.

1 JUDGE WOOD: Yeah. I would understand, at least based on the
2 language we talked about a few minutes ago, that Stokes and Shimizu would
3 be relied on for providing the details of the blue LED that Krummacher
4 already discloses, because Krummacher is silent about the specific
5 parameters of its blue LED.

6 MR. MCMAHON: So --

7 JUDGE WOOD: But it does disclose a blue LED.

8 MR. MCMAHON: Okay, so I think I understand the question
9 now, Judge Wood. Thank you for clarifying. I think there are at least two
10 problems with that. One is that it's not just the blue LED upon which the
11 petition relies for Stokes and Shimizu. For example, the average particle
12 size would also be coming from Stokes, apparently, based on what we're
13 hearing today. So, there still has to be a motivation to combine these
14 references, even if you're not importing the LED itself into Krummacher.

15 And that raises the threshold question -- why would a person of
16 ordinary skill in the art even look to Stokes or Shimizu if they already have
17 Krummacher? What would drive them to say there's something more I can
18 learn from Stokes or Shimizu, if Krummacher already teaches -- according
19 to this hypothetical -- everything that one of ordinary skill in the art would
20 need to satisfy the claims?

21 It doesn't, for a couple of reasons. One, because as we already
22 talked about, there's the very vast range in Krummacher of particle sizes that
23 does not focus on any particular area, covers a lot of particle sizes that do
24 not accomplish the claimed goals and beyond. And so even if you set aside
25 the blue LED and the failure to specify the specific wavelength that the
26 examiner thought important in allowing these claims in the first place, why

1 would you go from Krummacher and look at Stokes or Shimizu?

2 Krummacher is a large-scale application lighting disclosure.

3 We address the quantum efficiency arguments in the response and
4 reply. Quantum efficiency is going to be particularly important when you're
5 talking about a large-scale lighting application, and yet the quantum
6 efficiency falls off significantly. You get less light from an LED the higher
7 the wavelength gets. And so, why would Krummacher specifically go to the
8 higher end of these wavelengths, if that doesn't make sense for
9 Krummacher's application.

10 So, I guess, tell me if I have failed to answer your question, but
11 what I'm trying to say is that Petitioners still bear the burden of explaining to
12 the Board and to Patent Owner why a person of ordinary skill in the art
13 would have selected these teachings among the many others that were out
14 there to anticipate or to render these claims obvious. And I connect the dot
15 back to the 12 years, because again, if this were as obvious as Petitioners
16 now assert that it is, why didn't anybody do it in that intervening time
17 period?

18 We've shown that this idea is commercially successful. Petitioners
19 themselves have shown that it's valuable by following Patent Owner, Feit
20 Electric into the market. They didn't think to do it anywhere in those 12
21 years. Maybe that's because it's not as obvious as they submit, to cherry-
22 pick teachings from Krummacher and Shimizu and Stokes, and arrive at this
23 invention. Again, as the Supreme Court said in KSR, it's not enough to
24 show that each of the claimed limitations was shown in the prior art. There
25 has to be a motivation to combine them.

26 JUDGE WOOD: All right. Thank you.

1 MR. MCMAHON: Hand in hand with the KSR quote is the idea
2 of hindsight bias. And we've cited in our briefing, the Federal Circuit's
3 Metalcraft of Mayville, Inc. v. Toro, Co. case. That's 848 F.3d 1358 et
4 1367, where the Federal Circuit held that we cannot allow hindsight bias to
5 be the thread that stitches together prior art patches into something that is the
6 claimed invention. We submit that that is exactly what Petitioners are doing
7 for the Board here.

8 With that, I'll move on briefly to Ground 2. And before I do, I
9 skipped over Slide 14. We've already covered this, but Slide 14 simply
10 identifies the different applications that are disclosed in Krummacher,
11 Shimizu, and Stokes. So, moving on to Ground 2, here it's an even bigger
12 problem in terms of motivation to combine. Here we need four references,
13 not just three. They're directing these at only two claims, 18 and 28, but
14 nowhere in the petition do they address a motivation for combining all four
15 of these references. At best, they repeat the same alleged motivation for
16 combining Krummacher and Stokes. There is nothing in the petition that
17 explains why one of ordinary skill in the art would reach to Hussell to
18 combine with these other disclosures. It's simply absent.

19 Well, I should say it's -- the four reference motivation to combine
20 is simply absent. At best, in Ground 4, there's some selective motivation to
21 combine references in pairs, but nothing that addresses why one of ordinary
22 skill in the art would do what Petitioners acknowledge is required to reach
23 into four different references to find all these teachings.

24 Again, back to KSR and the Federal Circuit's decision on hindsight
25 bias. That's what they're doing here. They're using the claims as a roadmap
26 to go back and find individual teachings in the prior art and then just cobble

1 them together with no motivation to combine, other than the conclusory
2 testimony of Dr. Doolittle. And that conclusory testimony is not enough, as
3 the Board has held. Give me just a moment.

4 Yes, in Xerox v. ByteMark, IPR 2022-624, Paper 9 et 15. That's
5 from August 24th, 2022, precedential decision. The Board rejected the
6 Petitioner's obviousness argument because, "We have reviewed this excerpt
7 from Dr. Jones' declaration and note that it merely repeats verbatim the
8 conclusory assertion for which it is offered to support." That's exactly what
9 we have here. The motivation to combine these references is simply Dr.
10 Dolittle repeating the same arguments that Petitioners have presented in the
11 petition.

12 JUDGE WOOD: I mean, I think you're reading that a little
13 broadly. I think the problem in that case was the fact that the expert witness
14 was filling a gap that wasn't taught by the prior art without any citation,
15 without any evidence. It wasn't just the fact that the expert repeated
16 verbatim what was in the petition.

17 MR. MCMAHON: Your Honor, I apologize if I -- and I certainly
18 did not intend to mislead the Board. I apologize if I've not connected the
19 dots squarely there, but if that case involved -- and you may be right that it
20 involved a missing limitation -- that the expert simply said was not -- would
21 have been obvious and was just parroting what the Petitioner said, fair
22 enough. But it is analogous to the extent that the Petitioner -- the expert here
23 is saying this would have been obvious, reaching the ultimate conclusion for
24 the Board, parroting what Petitioners have argued, and not offering anything
25 other than his own voice as evidence to support that conclusion. So, in that
26 sense, I'd submit that it is more or less the same thing as what the Board said

1 cannot be accepted in the Xerox case. Unless there are any other questions
2 about --

3 JUDGE HOWARD: But this is not like Xerox. For example, I'm
4 looking at petition, page 68, where they're talking about the reason to
5 combine, and they said a person would have combined with Stokes, and why
6 he cites Stokes' teaching as giving the reason for -- so he's citing references.
7 That's exactly what was missing from the Xerox case. There was no citation
8 to evidence. Here it is. Is there a particular argument that you're relying on
9 where you say there's not any citation of evidence?

10 MR. MCMAHON: So, I want to be clear, because I feel like we
11 might be talking past each other, Judge Howard. I apologize for the lack of
12 clarity. We're not saying that there's no evidence in the case, other than what
13 Dr. Doolittle submitted. And you're right, Dr. Doolittle -- or the petition
14 does quote, I believe, both Dr. Doolittle and Stokes, on page 68, but there's
15 nothing in that paragraph that provides a motivation to reach to Krummacher
16 or any other references. In other words, I don't see anything here that shows
17 evidence of a motivation to combine. Sure, Stokes --

18 JUDGE HOWARD: But it's giving the advantage of Stokes. The
19 lamp radiation output is rendered more uniform because a greater amount of
20 radiation source, radiation is scattered towards the luminescent material,
21 while a lesser amount of the luminescent material radiation that is emitted
22 downward towards the radiation source is scattered back towards the
23 luminescent material. It's saying, here's the advantage that you get from
24 using Stokes. It's citing Stokes to give that.

25 How is that not a reason to combine? Because you want to go and
26 take that advantage and have it in other LED devices. That, to me, seems

1 like exactly what KSR was talking about, and in one reference talking about
2 an advantage, and you want to combine it everywhere.

3 MR. MCMAHON: But again, we're starting with Krummacher
4 and as we've discussed today, it seems like Petitioners submit that almost the
5 entire claim is disclosed in Krummacher, if not all of it, but now we're
6 reaching to Stokes. Why? Why? And also --

7 JUDGE HOWARD: It's telling you, it's giving you the advantage
8 in Stokes. That's exactly what the Court said the Federal Circuit messed up
9 on in KSR. You don't need specific teaching, suggestions, or motivations.
10 You need a reason. You have an advantage in one. As the Supreme Court
11 made clear in KSR, if you have an advantage that comes in one reference, a
12 person skilled in the art is going to want to use it in others. I don't see how
13 that's not what's right here in front of me.

14 MR. MCMAHON: So, then I come back to the question of how.
15 The petition fails to explain how you take that teaching, even if you assume
16 that there is a motivation of why. How do you take that teaching from
17 Stokes and apply it in Krummacher? There's no explanation of how that is
18 to be accomplished and how the very different applications of Krummacher
19 and Stokes impact that. Not even a recognition of the fact that Krummacher
20 and Stokes have very different applications. I'm short on time here.

21 JUDGE HOWARD: I understand your point. Thank you.

22 MR. MCMAHON: If the Board would permit me, I'll just briefly
23 touch on secondary considerations cutting into my rebuttal time. So, turning
24 to Slide 20. This slide lists the various different secondary considerations
25 that we outlined in the petition. Petitioners have argued correctly that we
26 did not submit a claim chart establishing that Feit Electric's products practice

1 the claimed invention, and that's a fair point. However, we did submit claim
2 charts showing that Petitioner's products all practice --

3 JUDGE CHERRY: I --

4 MR. MCMAHON: -- the claimed invention.

5 JUDGE CHERRY: I did have a question about that, Mr.
6 McMahon. When I looked at those exhibits you cited, 1138, that was a
7 claim chart for the patent from the 1357 case, the '678 patent. Am I
8 incorrect about that?

9 MR. MCMAHON: Give me just a moment, Your Honor. So,
10 there are actually 3 exhibits -- 1137 -- and these are not exhibits that we
11 submitted. These are exhibits that Petitioner submitted -- 1137, 1138, And
12 1139.

13 JUDGE CHERRY: I don't know. I looked through all three of
14 them. They only seem to discuss the '678 patent.

15 MR. MCMAHON: I think you're right, Your Honor. I think we
16 later asserted the '539 patent, but these contentions were before.

17 JUDGE CHERRY: So, you haven't even mapped the Petitioner's
18 products?

19 MR. MCMAHON: That's correct. That's correct, but I'd still come
20 back to the point that we're talking about products here that we've accused of
21 infringement, and Petitioners have emphasized the 12 year time period. But
22 again, it's not like Petitioners or anyone else entered this space with this
23 invention before Feit Electric commercialized it.

24 JUDGE CHERRY: I mean, looking at your materials, it seemed
25 that that -- what was the innovation that really has been commercially
26 successful is these filament lamps. Not necessarily the off-white, off-state

1 white appearance of the claimed invention.

2 MR. MCMAHON: Well, I think the evidence specifically
3 addresses the off-white state. I mean, the off-white state was what most, if
4 not all, of the evidence we cited specifically pointed to, that the award from,
5 I believe it was Home Depot, specifically complimented the appearance, not
6 just the fact that there were filaments, but the appearance and the lack of a
7 yellow color on that filament.

8 JUDGE CHERRY: Okay. And for the copying, what evidence do
9 you have? Do you only have the claim charts as the evidence of copying the
10 infringement?

11 MR. MCMAHON: I believe that's what we cited in the briefing.
12 Correct.

13 JUDGE CHERRY: Okay. But you agree that cases say that
14 infringement isn't enough to show copying?

15 MR. MCMAHON: I agree infringement is not enough to show
16 copying. I think it does depend on the timing.

17 JUDGE CHERRY: And for the commercial success, the only
18 thing you have is the price premium? You don't have any information about
19 the sales figures or market shares, or anything like that?

20 MR. MCMAHON: We don't have sales volumes. That's correct,
21 Your Honor. What we're pointing to is that the identical product that you
22 can find on shelves next to each other in the same store, the white filament
23 bulb enjoys almost a 50 percent price premium over the yellow filament
24 bulb, which is what had been in the market before the introduction of the
25 white filament.

26 JUDGE CHERRY: But I could charge that amount and not sell

1 any, right?

2 MR. MCMAHON: In theory, yes. Although I think you'd find
3 that Home Depot probably is not in the market for selling -- offering
4 products at prices that don't sell.

5 JUDGE CHERRY: And is it only sold through Home Depot or is
6 it sold through other --

7 MR. MCMAHON: It's sold through others. That was the one that
8 we cited in the brief.

9 JUDGE CHERRY: So, we have that one retailer of the many that
10 sell the product, charges a different amount for it. That's the evidence of
11 commercial success?

12 MR. MCMAHON: Well, I hear what you're saying. There are
13 other retailers that also sell this product. Home Depot is obviously a very
14 well-known, very well-established, and very successful example of those
15 vendors, and they have chosen to sell at a more than a 35 percent premium
16 for this product. Yes, that's the evidence that we have in the briefing.

17 JUDGE CHERRY: Okay.

18 MR. MCMAHON: With that, I will reserve the remainder of my
19 time for surrebuttal.

20 JUDGE CHERRY: Great. Thanks so much. You have about
21 -- we'll give you 15 minutes. You'll have 15 minutes for rebuttal.

22 MR. MCMAHON: Thank you, Your Honor.

23 MR. BROWN: I'm happy to answer any questions, but otherwise,
24 Petitioners have no further argument.

25 JUDGE WOOD: Do you have any questions?

26 JUDGE CHERRY: I don't have any questions. Thank you very

1 much.

2 MR. MCMAHON: In that case, I'm not sure there's anything to
3 surrebut, but I will offer to answer any lingering questions the Board may
4 have.

5 JUDGE CHERRY: I don't have any questions.

6 JUDGE WOOD: I don't have any additional questions. Thank
7 you.

8 MR. MCMAHON: Thank you.

9 JUDGE CHERRY: Great. Thank you both for your very fine
10 presentations. And with that, the case is submitted. We're adjourned.

11 (Whereupon the above-entitled matter went off the record at 3:23
12 p.m.)

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