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Transcript of W. Andrew Fennell

Date: May 25, 2022

Case: Simpson Strong-Tie Company Inc -v- Columbia Insurance Company (PTAB)

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Columbia EX2037
Simpson Strong-Tie Company Inc. v. Columbia Insurance Company
PGR2024-00050
Transcript of the May 25, 2022 Deposition of Mr. Fennell

Transcript of W. Andrew Fennell
Conducted on May 25, 2022

1 (1 to 4)

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1 UNITED STATES PATENT AND TRADEMARK OFFICE	1 A P P E A R A N C E S	
2 -----	2	
3 BEFORE THE PATENT TRIAL AND APPEAL BOARD	3 ON BEHALF OF THE PETITIONER, SIMPSON STRONG-TIE	
4 -----	4 COMPANY INC.:	
5 SIMPSON STRONG-TIE COMPANY INC.,	5 JOHN HIGGINS, ESQUIRE	
6 Petitioner,	6 MICHELLE K. HOLOUBEK, ESQUIRE	
7 v.	7 STERNE, KESSLER, GOLDSTEIN & FOX, PLLC	
8 COLUMBIA INSURANCE COMPANY,	8 1100 New York Avenue Northwest, Suite 600	
9 Patent Owner.	9 Washington, D.C. 20005	
10 -----	10 (202) 371-2600	
11 Case PGR2021-00109	11	
12 Patent No. 11,021,867	12 ON BEHALF OF THE PATENT OWNER, COLUMBIA	
13 -----	13 INSURANCE COMPANY:	
14	14 JOHN SCHROEDER, ESQUIRE	
15 Deposition of W. ANDREW FENNELL	15 STINSON LLP	
16 Conducted Virtually	16 7700 Forsyth Boulevard, Suite 1100	
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2 virtually.	2	
3	3 EXAMINATION OF W. ANDREW FENNELL PAGE	
4	4 By Mr. Schroeder 5, 136	
5	5 By Mr. Higgins 133	
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9	9 E X H I B I T S	
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11	11 FENNELL EXHIBIT PAGE	
12	12 (None.)	
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21 Pursuant to notice, before Daniel Long, Notary	21	
22 Public in and for the State of California.	22	

5 1 PROCEEDINGS 2 Whereupon, 3 W. ANDREW FENNELL, 4 being first duly sworn or affirmed to testify to 5 the truth, the whole truth, and nothing but the 6 truth, was examined and testified as follows: 7 MR. SCHROEDER: Real quick, before we get 8 into any questioning, I just have one housekeeping 9 item. Pursuant to 37 CFR 42.53(f)(2), I just want 10 to make sure that the parties are in agreement 11 that we're waiving the requirement for the court 12 reporter to be in the presence of Mr. Fennell. 13 MR. HIGGINS: We confirm. 14 MR. SCHROEDER: All right. Not a problem. 15 All right. Thank you. 16 EXAMINATION BY COUNSEL FOR THE PATENT OWNER, 17 COLUMBIA INSURANCE COMPANY 18 BY MR. SCHROEDER: 19 Q Mr. Fennell, can you please state your 20 name for the record? 21 A Yes. It's William Andrew Fennell, F, for 22 foxtrot, -E-N-N-E-L-L.	7 1 me know. 2 And then one thing I will ask, though, is 3 that if there's anything that I ask that you don't 4 understand my question or need it rephrased, 5 anything like that, will you let me know? 6 A I will. 7 Q And can I kind of assume that if you do 8 answer a question, that you understood the 9 question? 10 A Yes. 11 Q All right. That's fair. 12 And you've submitted an expert report in 13 this proceeding; is that correct? 14 A Yes. 15 Q And do you have that expert report in 16 front of you today? 17 A I do. 18 Q All right. Is it paper or electronic? 19 A I have an electronic one and a clean paper 20 copy. 21 Q Okay. Both are fine. I just wanted to 22 double-check.
6 1 Q And today you are testifying as an expert 2 in a post-grant review proceeding on behalf of 3 Simpson Strong-Tie Company; is that correct? 4 A Yes. 5 Q And I know that you've at least been an 6 expert for them once before; is that correct? 7 A Yes. 8 Q And, in fact, I deposed you probably about 9 two years ago in a related matter, correct? 10 A I recall. 11 Q Yes. All right. Based on that you've had 12 depositions before, I'm assuming that you're 13 somewhat familiar with depositions. But just kind 14 of as a, you know, little bit of an understanding 15 between us, I'm going to try to go approximately 16 an hour or so between breaks, but if for any 17 reason you need a break in between then, please 18 just ask. I'm not really trying to make this an 19 endurance test. It will actually be more of an 20 endurance test on our part because it's going to 21 get a little bit into the evening. And so, you 22 know, if you do need to take a break, please let	8 1 And can you verify for me that the 2 declaration that you have is Exhibit 1003 in this 3 proceeding? 4 A It is. 5 Q And today, you know, whenever I ask you to 6 look at your declaration, will you understand that 7 I'm asking you to look at Exhibit 1003? 8 A I will. 9 Q All right. Thank you. 10 And then you understand that this 11 proceeding regards the validity of U.S. Patent 12 11,021,867, correct? 13 A Yes. 14 Q And if I were to refer to that as the '867 15 patent today, would you understand that that's 16 what I'm referring to, is that patent number? 17 A Yes. 18 Q If you would look through your 19 declaration, I kind of want to walk through it, if 20 you wouldn't mind, at least the beginning portions 21 of it. And the first portions, you have an 22 introduction, correct, paragraphs 1 through 3?

9 1 And that includes your hourly rate, correct? 2 A For consulting, yes. 3 Q All right. And is that your correct 4 hourly rate for this matter? 5 A It is. I charge more for testimony time. 6 Q How much do you charge for testimony time? 7 A \$500 an hour. 8 Q And then the next section, paragraphs 4 9 and 5 -- and I can show this on my screen in case 10 it helps the court reporter. But paragraphs 4 11 through 5 includes the summary of your opinions; 12 is that correct? 13 A It does. 14 Q And just verifying, what you're seeing on 15 the screen, that is accurate as far as what you 16 would have in front of you? 17 A It is. This might be a good place, 18 Counselor, just to note that I spotted a clerical 19 error in the table within paragraph 5. 20 Q And what is that clerical error, if you 21 could please state it? 22 A Certainly. As we go through the body of	11 1 everything else is correct with the version you 2 have. 3 Q And then moving down to paragraph 7, you 4 state your current employer or position is with -- 5 you're the principal engineer and president of 6 Engineered Research Group, Inc. What is 7 Engineered Research Group, Inc.? 8 A We are a construction consulting firm 9 headquartered in California. We do quite a bit of 10 forensic work, failure analysis. But anything to 11 do with construction consulting, whether it's new 12 design all the way through to decommissioning, if 13 it's within our wheelhouse, that's what we 14 typically work on. 15 Q How many employees does Engineered 16 Research Group, Inc., have? 17 A I believe it's nine or ten currently. 18 Q And then paragraph 8, it states that you 19 have a bachelor's degree in civil engineering; is 20 that correct? 21 A Yes. 22 Q Moving on. I'm going to skip to paragraph
10 1 my report and we go section by section, you'll see 2 that there's a portion where I discuss Timony and 3 anticipation in some detail, and that missed out 4 on a line item in this summary table here. 5 Q And that would have been Ground 4; is that 6 correct? 7 A Yes. 4 through 5. 8 Q Okay. And then the other grounds would 9 have been what's currently listed in this table, I 10 believe, as Ground 5, correct? 11 A Yes. That all just slipped down one 12 number. 13 Q Okay. And then paragraph 6, you state 14 that you have submitted your CV as an exhibit, 15 correct? 16 A Yes. 17 Q And as far as you're aware, is your CV 18 accurate and current? 19 A Ish. There's a couple of extra speaking 20 engagements, a few extra deposition and trial 21 listings that are on the current-day version. But 22 all of the registrations and experience and	12 1 11. In paragraph 11, you have a list of materials 2 considered; is that correct? 3 A Yes. 4 Q And one question I have for you -- and I 5 know that this would have been after you submitted 6 your declaration -- have you reviewed the 7 institution decision in this matter? 8 A Briefly passed my eyes over it, but not in 9 any real detail, Counselor. 10 Q And similarly, I understand that this 11 would have been after the declaration was 12 submitted, have you reviewed the patent owner's 13 preliminary response or any of the exhibits that 14 the patent owner -- that were attached to the 15 patent owner's preliminary response? 16 MR. HIGGINS: Objection, form. 17 MR. SCHROEDER: I'll stop -- well, I'll 18 back up, actually. 19 Q Have you reviewed the patent owner's 20 preliminary response in this matter? 21 A That same cursory review, Counselor. I've 22 seen it. I know it's part of our files now, but

13 1 not in any detail. 2 Q Similarly, have you reviewed any of the 3 exhibits that were attached or submitted with that 4 preliminary response? 5 A Again, not in any detail. 6 Q And then one last question kind of on this 7 line of questioning. Have you reviewed the 8 certificate of correction for the '867 patent? 9 A I believe I did. 10 Q And when would you have reviewed that 11 certificate of correction? 12 A Somewhere here in the last few weeks. I'd 13 really need to see that document, Counselor, and 14 refresh my memory and whatnot. As I said, it's 15 far from a clear recollection right this second. 16 Q All right. I'm going to try to find it 17 real quick, and I'll pull it up just to see if it 18 jogs your recollection on anything. Give me just 19 two seconds to try to pull it up for you. And I 20 will share my screen with you real quick to see if 21 it refreshes your recollection. 22 Do you see the certificate of correction	15 1 exhibits that were submitted with the petition, 2 correct? 3 A Yes. 4 Q Did you review any other materials in 5 putting together your declaration? 6 A Well, these are the ones I'm relying on 7 for this report. You know, it's hard always to 8 fit your entire lifetime and experience and 9 technical library into one of these tables. So I 10 think anything that I'm actually relying on for 11 the basis of my opinion today we'll find within 12 this table, if that answers your question. 13 Q That does. 14 And one question I have is, the materials 15 in this table, did you find these materials, or 16 were they provided to you? 17 A Probably it's a combination. Some of them 18 were shared to me by counsel for Simpson and 19 others we located ourselves. We being my firm, 20 sorry. 21 Q Do you recall which materials were 22 provided versus which materials were -- that your
14 1 at this moment? 2 A I do. 3 Q And you understand that this certificate 4 of correction effectively changes the claim 5 language as identified in the certificate of 6 correction? 7 MR. HIGGINS: Objection, scope. 8 A Yes, sir. I do recognize that that 9 changes things. However, my analysis in my report 10 here was based on the original filings and the 11 original language. So I'm afraid that's all I can 12 help you with today, is what was within the four 13 corners of that original document. 14 Q Understood. And so as you're here today, 15 you're not prepared to give any testimony 16 regarding how the certificate of correction would 17 have changed your opinion? Is that my 18 understanding? 19 A Not at this time, Counselor. 20 Q Sorry. Just trying to get back to your 21 declaration. 22 And then your declaration includes the	16 1 firm found? 2 A No. Not definitive, Counselor. I mean, I 3 could probably start separating the table into 4 yes, no, and likelies, but -- 5 Q I'll go ahead and move on because I don't 6 think that's a critical issue. 7 Moving on. Paragraph 15, you have a level 8 of ordinary skill listed; is that correct? 9 A Yes. 10 Q And one question I have is that your 11 definition of the level of ordinary skill, you 12 include -- actually, could you read your 13 description for me? It'll be easier. 14 A Certainly. Paragraph 15 gives the 15 definition that I'm operating with of a POSITA. A 16 person of ordinary skill in the art at the time of 17 the earliest claimed filing date of the '867 18 patent would have an education background of or 19 practical experience providing an equivalent to a 20 Bachelor of Science in mechanical engineering, 21 structural engineering or a related/equivalent 22 field, and at least four years of work experience

17 1 in construction connector design, slash, 2 development. 3 Q And one question I have regarding this 4 definition, you identify related, slash, 5 equivalent fields. Would you consider civil 6 engineering to be a related or equivalent field? 7 A Yes. 8 Q And one other thing I notice that you 9 identified is a POSITA or a PHOSITA -- I don't 10 recall exactly which version you used, but if 11 either of those terms get used today, would you 12 understand that to be referring to a person of 13 ordinary skill in the art? 14 A Yes, yes. 15 Q And then following your definition of the 16 level of ordinary skill in the art, you have a 17 section entitled claim construction; is that 18 correct? 19 A Yes. 20 Q And in particular, in paragraph 18 that 21 kind of spans page 8 and 9 of your declaration, 22 you have listed constructions from a prior	19 1 term rigidly fixed, correct? It uses fixed by 2 itself; is that correct? 3 MR. HIGGINS: Objection, form. 4 Q Let me rephrase that question. 5 Does the '867 patent use the claim term 6 rigidly fixed? 7 A No. You're correct. It says fixed. 8 Q And it's your position, though, that 9 rigidly fixed and fixed have the same 10 construction; is that correct? 11 A Yes. 12 Q Now, my understanding of the way that you 13 drafted your declaration is that you're presenting 14 the constructions from the prior proceeding. But 15 it doesn't actually state whether or not you agree 16 with those constructions. And -- 17 MR. HIGGINS: Objection, form. 18 MR. SCHROEDER: Well, I haven't gotten to 19 my question yet. I was kind of explaining my 20 question a little bit beforehand. 21 Q But what I wanted to ask you is, do you 22 agree with the construction of extending through
18 1 post-grant review proceeding; is that correct? 2 A I did. 3 Q And that prior post-grant review 4 proceeding is PGR2019-00063, correct? 5 A Yes. 6 Q And which terms did you identify as having 7 been construed during that proceeding? 8 A Well, they're tabulated here in this 9 report. So if you look at 17A, under the first 10 bullet point at the bottom of page 8, it says, 11 extend through. That's a term that has now been 12 construed, and the definition that I'm working 13 with is written out there in report form. 14 If you were to pop down to page 9, the 15 next page, you would see three other bullet points 16 at the top there. Another construed term is, 17 configured to extend through, and then, extending 18 from, and finally, rigidly fixed, provided a 19 definition that I've adopted for the purpose of 20 this report. 21 Q And the claim language at issue in the 22 current patent, the '867 patent, does not use the	20 1 that you have in this first bullet point of 2 paragraph 18? 3 A I do. 4 Q And then similarly, do you agree with the 5 construction of configured to extend through that 6 you have in the second bullet point in paragraph 7 18? 8 A I do. 9 Q And then similarly, do you agree with the 10 construction of extending from that you have 11 included in the third bullet point of 12 paragraph 18? 13 A I do. 14 Q And we just mentioned that the term 15 actually in the claim -- or in the claims is fixed 16 rather than rigidly fixed. But do you believe 17 that the construction for rigidly fixed that's 18 listed in Bullet Point 4 of paragraph 18 is the 19 correct construction for the word fixed? 20 A I do. 21 Q Moving on past this first group of 22 constructions, you have a construction for the

21 1 word planar; is that correct? 2 A Yes. 3 Q And planar is found in Claim 2; is that 4 correct? 5 A Yes. 6 Q Could you please read for me your 7 construction of planar as you have it in -- I 8 believe it's paragraph 20. 9 A Claim 2 recites that each of the first and 10 second extension flanges are planar. A POSITA 11 would have understood that the term plane 12 constitutes a two-dimensional construct having no 13 thickness. According to the specification of the 14 '867 patent, the hanger described therein is made 15 of sheet metal, which necessarily has a dimension 16 of thickness. As a piece of sheet metal cannot 17 exist solely within a plane, a POSITA would have 18 interpreted the word planar in Claim 2 as 19 requiring that a surface of the plane is 20 coincident -- sorry, a surface of the flange is 21 coincident with a plane, not the entire flange 22 itself. So in my opinion, the proper construction	23 1 plane of interest or a lower surface. Yeah, it's 2 -- a surface is a plane. And some of these 3 three-dimensional pieces of sheet metal that we're 4 talking about, even if it's a flat piece of metal, 5 it will have an upper surface and a lower surface 6 that define planes. There's even a sketch later 7 on that illustrates my point in this report that 8 shows that you can actually create planes that are 9 perpendicular to a piece of sheet metal and still 10 be planar to it. 11 Q So backing up a little bit. You talked 12 about a plane as being defined by two points in 13 space, correct? 14 A Yes. 15 Q Would a plane actually be defined by three 16 or more points in space? 17 A If they're on the same plane, if they're 18 on that same two-dimensional plane, so just -- I 19 really should have been talking about the line 20 that joins those two points, Counselor. So if you 21 had a midpoint of the line, then it's very likely 22 on the same plane.
22 1 of the term planar is having a surface coincident 2 with a plane. 3 Q So my first question based off of this 4 construction is, does the term planar have a 5 definition that's different than the term plane? 6 A Well, I think it's easier just to stay 7 with the words that we've just read into the 8 record here, that planar -- or plane is a 9 two-dimensional construct. Any two points that 10 have been connected with a straight line help 11 define a plane in two dimensions. So I think 12 that's probably the best way to proceed with how I 13 think of planar. 14 Q And you list in this definition that 15 you've given that it has a surface coincident with 16 a plane. Is it any surface of the object, or is 17 it a specific surface of the object? 18 MR. HIGGINS: Objection, form. 19 A Well, that's where I was looking in the 20 specifications for that level of detailed 21 information, Counselor, that -- you know, whether 22 it's the upper surface that is coincident with the	24 1 Q So one question I have is, based on your 2 definition of planar, would a baseball be planar? 3 A You could define a surface of the outside 4 of a baseball that is in two dimensions, it 5 becomes -- that's the surface, but I'm really 6 thinking of a quite flat object here in my mind 7 when I'm defining plane. 8 Q All right. Maybe the next question is, 9 let's say you were to take a baseball, which is a 10 solid object, and cut it in half so you've got 11 basically two hemispheres. And so each hemisphere 12 -- and let's just talk about one of them. You 13 know, one hemisphere of that cut-in-half baseball 14 would have a flat surface; is that correct? 15 A At least one, yes. 16 Q And so would that half of a baseball, that 17 hemisphere of a baseball be considered planar? 18 A Well, you could define a surface of the 19 cut object that would meet my definition of 20 planar. 21 Q But would the object itself be considered 22 planar to you?

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25 1 MR. HIGGINS: Objection, form. 2 A Only the two-dimensional representation of 3 that surface. The second you develop any real 4 thickness to the object or a third dimension, then 5 you've lost that planar definition that I'm trying 6 to establish. 7 Q So the actual technology that we're 8 talking about uses sheet metal, correct? 9 A Yes. 10 Q And sheet metal, let's say an unstamped 11 piece of sheet metal, would be a flat sheet, 12 correct? 13 A Yes. It still has a thickness, but yes, 14 it's a flat sheet of sheet metal. 15 Q Would you consider that flat sheet of 16 sheet metal to be planar? 17 A If we pointed to a specific surface of it, 18 yes. 19 Q But if we did not point to a specific 20 surface of it, you would not? 21 A No. It would be open to interpretation 22 and perhaps even confusing.	27 1 that term flange, as it's used in the '867 patent, 2 mean to a person having ordinary skill in the art? 3 MR. HIGGINS: Objection, scope. 4 A I think it's easier as we go through each 5 section here, Counselor, that if it varies from 6 one analysis to the next, I'll point out any 7 subtleties to you. 8 Q Well, I'm trying to understand what the 9 properties of a flange are. Because those 10 properties for that term should be the same 11 regardless of what piece of prior art we're 12 looking at. And so I'm just kind of trying to 13 understand, you know, what properties come to mind 14 when the word flange is used. 15 And so I guess my first question is, can 16 the flange have a bend to it? 17 A Yes. That's -- yeah, what I'm trying to 18 figure out how to communicate to you here is that 19 the flanges are a part of objects that connect, 20 and they might take any shape that is required to 21 achieve connections here. So they don't 22 necessarily need to be of -- flatish. They can
26 1 Q And the only constructions that you 2 provided in your declaration were the four 3 constructions included -- or from the prior 4 proceeding and then planar, correct? I want to 5 make sure I'm not missing any. 6 A In the definition section of this report, 7 if planar was under B -- no, that's correct, yes. 8 Thank you. 9 Q And in particular, you have not defined 10 the term flange; is that correct? 11 A That's correct. 12 Q And does the '867 patent use the word 13 flange within the claims? 14 A Yes. 15 Q And in that the '867 patent includes the 16 word flange within the planes, that means you 17 would have had to apply that term in your opinion, 18 correct? 19 MR. HIGGINS: Objection, form. 20 A Yes. At different times of the analysis, 21 I have used the term flange and flanges. 22 Q So I want to ask a question. What does	28 1 have bends. So as I said, as we go through each 2 analysis section of the report and I refer to 3 flange, I'll make sure we're pointing at the right 4 areas of the object in defining flanges. But for 5 me, they're just really any component of the 6 element that is helping with the connections. 7 Q Are you aware of any instance in which 8 you've heard the word flange to be used to 9 describe a component with a 90-degree bend such 10 that that component would have an L-shaped cross 11 section? 12 MR. HIGGINS: Objection, form. Objection, 13 scope. 14 A Yeah, I'm not sure I can help you at this 15 time, unless we actually get into the details. I 16 suspect we'll come across an example in Tsukamoto 17 later in the day. 18 Q Well, I'm actually asking not really in 19 reference to the prior art and what you're 20 identifying as a flange in the prior art, but more 21 of how that term is used in the art in general. 22 And so I'm asking, basically, have you used the

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29 1 word flange outside the context of this litigation 2 -- or this proceeding to describe a component that 3 would have a 90-degree bend to it? 4 MR. HIGGINS: Objection, scope. 5 A I don't think so. I think everything that 6 I've interpreted and explained is written out here 7 quite nicely. I'm not sure I can help you beyond 8 that, Counselor. 9 Q And in your declaration -- and we can get 10 to it later, but you have -- have you identified 11 any components of any of the prior art that have a 12 90-degree bend as being a flange? 13 A I believe when we get to Tsukamoto, that 14 when we define and discuss the -- what is the 15 extension flange, that that portion of the hanger 16 has some bends in it. 17 Q And so what I'm asking is, while you 18 identify Tsukamoto in this instance as being a 19 flange, even though it has -- or having flanges 20 with 90-degree bends, have you, prior to your 21 declaration or this proceeding, ever used the word 22 flange to describe something that had a 90-degree	31 1 a section -- Sections E, F, and -- I think it's 2 probably just E and F that include basically a 3 recitation of concepts of patent law; is that 4 correct? 5 A It is. 6 Q And these recitations of patent law, were 7 they provided to you by counsel? 8 A Yes-ish. I mean, at some point I have to 9 put it into words that my brain will understand, 10 Counselor, so this is the engineer's -- well, the 11 POSITA's working version of the definition. But 12 yes, it likely emanated from counsel's office. 13 Q And you don't purport to be an expert on 14 actual patent law; is that correct? 15 A I am here today in the role as a POSITA. 16 I feel well and qualified for that role, and 17 that's how I've written this report for you. 18 Q Right. And so you're here as a technical 19 expert to explain the technology, correct? 20 A That's correct. 21 Q All right. And you're not here as an 22 expert on patent law?
30 1 bend? 2 MR. HIGGINS: Objection, form. 3 A Almost certainly. Flanges are useful not 4 only for their connecting properties, but also, 5 the second you introduce a bend out of plane, like 6 you're suggesting 90 degrees, quite a bit of 7 additional strength, out-of-plane stiffness is 8 developed. It can be very useful. Beyond just 9 for its attachment properties, but also for 10 strengthening and stiffening, there may also be 11 reasons of workmanship that it improves. So I've 12 almost certainly referred to flanges as non-flat 13 elements before that have 90 degrees introduced 14 into them. 15 Q Are you aware of any literature that uses 16 the word flange to describe something that's got a 17 90-degree bend? 18 MR. HIGGINS: Objection, scope. 19 A I could almost certainly lay my hands on 20 some if I went digging around for it in the 21 future. 22 Q So moving on in your declaration, you have	32 1 A I don't -- yeah, I'm not a lawyer. 2 Q And then moving on in your declaration, 3 you have a technology background; is that correct? 4 A Yes. 5 Q And within this technology background, you 6 first discuss the joist hangers in the aggregate, 7 correct? 8 A I do. 9 Q And that would be paragraphs 32 through 10 approximately 35? 11 A Yes. 12 Q And then starting at paragraph 36, you 13 start describing some of the prior art hangers; is 14 that correct? 15 MR. HIGGINS: Objection, form. 16 A Well, really it's specifically talking 17 about hangers that have extension portions that 18 have had some sort of eccentricity between the 19 connections back at the wall or element to the 20 bucket portion, channel-shaped buckets that are 21 away from the wall. 22 Q And I'm probably going to skip ahead a

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33 1 little bit and ask you -- because you identify 2 them a little bit, some of these items, up front 3 right here in paragraph 37 through I guess 4 probably 39. And then later on, you discuss them 5 in a little bit more detail, correct? 6 A I do, yeah. 7 Q And so paragraph 41 -- actually, I'm going 8 to come back to paragraph 41 in a few minutes. 9 But so paragraph 42 here, though, I want to ask 10 about -- actually, I do want to ask about 11 paragraph 41. 12 Paragraph 41 refers to Allan; is that 13 correct? 14 A It does. 15 Q And just asking, is Allan a reference that 16 you use in any of your grounds? 17 A No. No, Allan was just simply there to 18 illustrate the point listed above, that the 19 concept of having hangers that need to penetrate 20 through a layer of sheathing is not a new concept. 21 Q And paragraph 42, you discuss Rice; is 22 that correct?	35 1 you have listed is U.S. Patent Number 4,422,792 to 2 Gilb; is that correct? 3 A There might be an extra 4 in there, but 4 yes. It's Exhibit 1035 to this action. 5 Q All right. And I'm going to stop sharing 6 the screen right now, just because I will actually 7 be asking you to look -- and do you have this 8 reference in front of you? 9 MR. HIGGINS: Objection, form. 10 Q Do you have Exhibit 1035 available? 11 A I do. I have an electronic copy in front 12 of me. 13 Q And, if you would, please look at that, 14 and I have some questions regarding it. 15 A Fire away. 16 Q Give me a second. I'm trying to get it 17 open as well. 18 The first question I have for you is, what 19 is the title of this reference? And you'll be 20 able to find the title on the first page next to 21 the number 54. 22 A Yes. It's called a gusset metal ledger
34 1 A Yes. Again, similar objective of 2 demonstrating hangers and connectors that need to 3 deal with a layer of sheathing in the way that it 4 has to pass through, extend through. 5 Q And once again, Rice is not a reference 6 that you actually are using in any of the 7 combinations in any of the grounds that you're 8 asserting? 9 A No. 10 Q And I'm going to skip Section D real 11 quick, and I'm also -- and then you have a 12 description of the claimed invention; is that 13 correct? 14 A I do. 15 Q And after the description of the claimed 16 invention, you have an overview of the prosecution 17 history, correct? 18 A I do. 19 Q Which is then followed by an overview of 20 the prior art? 21 A Yes. 22 Q And so this first piece of prior art that	36 1 hanger. 2 Q What is a ledger hanger? 3 A It is a hanger that, in this case, is 4 configured to be attached to a ledger. 5 Q And how does a ledger hanger work? 6 A Well, you start with a ledger, which is 7 attached to a wall or a beam or an element, a 8 vertical element, typically, and then the hanger 9 relies upon the ledger for support to the wall 10 beyond. There are any number of ways that the 11 hanger achieves that connection. 12 Q Is the ledger considered part of the 13 hanger itself? 14 MR. HIGGINS: Objection, form. 15 MR. SCHROEDER: Let me rephrase it. 16 Q Is the ledger considered part of the 17 hanger? 18 A No. The ledger is going to be up to the 19 designer to provide that component and make sure 20 that it's fit for its intended design function. 21 Q Are ledger hangers commonly used today? 22 MR. HIGGINS: Objection, form.

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37 1 Q And by today, just like, are they commonly 2 used in current day, not necessarily specifically 3 today, May 25th. 4 A Yes. It really depends on the design 5 situation. There's nothing in the code, for 6 example, that prohibits us engineers from using -- 7 POSITAs from using ledgers incorporated with 8 hangers. 9 Q And in particular, this Gilb '792 10 reference -- and do you mind if I call it Gilb 11 '792? Would you understand that to be referring 12 to Exhibit 1035? 13 A Oh, I will, yes. 14 Q So Gilb '792 uses -- specifically if you 15 look at FIG. 1 -- a metal -- I guess I'd call it 16 an angle ledger; is that correct? 17 A Yes. 18 Q And would you have a better term for that 19 than the metal ledger hanger or metal ledger that 20 I used a second ago? 21 A No. That's fine. 22 Q Okay. And so this metal ledger hanger	39 1 calls for a configuration where a metal ledger is 2 appropriate, then it gets detailed in. 3 Q What type of situations would a metal 4 ledger be appropriate? 5 MR. HIGGINS: Objection, form. 6 A There are just so many different ways we 7 could use them, Counselor. Ledgers come in all 8 different shapes and materials. As long as 9 they're positively attached to the wall element 10 and provide all of the required strength and other 11 design competing -- design requirements, that 12 might be durability or thermal, cost. Could be 13 other reasons why you'd select a particular 14 material to configure as a ledger. 15 Q If you look at the specification of the 16 Gilb '792 patent, and in particular, I want to 17 draw you to Column 1. And the first paragraph, 18 actually, of Column 1, can you read that for me? 19 A Sure. It says, background of the 20 invention. Two alternatives are generally used 21 for providing the ledger support at the roof line, 22 parentheses, and in some cases floor lines, around
38 1 that is shown in FIG. 1, are ledgers like this 2 commonly used today? 3 MR. HIGGINS: Objection, form. 4 Q Today of course being current day, not 5 necessarily May 25th. 6 A It's a perfectly acceptable solution for a 7 design problem to stick a metal ledger on a wall 8 and introduce the hanger. 9 Q Do you have any experience personally 10 using ledgers? 11 A Yes. 12 Q And do you have any experience personally 13 using metal angle ledgers, such as the one shown 14 in FIG. 1? 15 A I do. 16 Q Can you describe instances where you've 17 seen a metal angle ledger such as what's shown in 18 FIG. 1? 19 A They're used in warehouses quite 20 frequently, typically once you get into metal 21 buildings. I know I've used them in refrigerated 22 warehouses. You know, if the design situation	40 1 the inside perimeter of buildings and/or at 2 internal concrete or masonry walls. These are 3 either wood ledgers, such as 4-by-14s, or metal 4 ledgers, such as angle or U-shaped, both attached 5 to the concrete or masonry wall by means of anchor 6 bolts. 7 Q And so this paragraph mentions the use on 8 concrete or masonry walls, correct? 9 A It does. 10 Q Are you aware of the '867 patent 11 discussing the use of this ledger and hanger 12 system on any other type of construction? 13 MR. HIGGINS: Objection, form. 14 THE REPORTER: I'm sorry. Can I get your 15 objection again? 16 THE WITNESS: Say again. 17 THE REPORTER: Can I get your objection 18 again? 19 MR. HIGGINS: Form. 20 THE REPORTER: Thank you. 21 Q Do you recall what the question was, or do 22 you need that question repeated?

41 1 A Feel free to repeat it for me. 2 Q All right. And apologies if I don't 3 repeat it verbatim. Maybe I'll fix the form issue 4 that counsel objected to. 5 You've reviewed all of the Gilb '792 6 reference, correct? 7 MR. HIGGINS: Objection, form. 8 Q Have you reviewed the entirety of the Gilb 9 '792 reference? 10 A I did at the time I drafted the report. 11 Q From your review of the Gilb '792 12 reference, do you recall this reference discussing 13 any other application for the ledgers being 14 described, other than concrete or masonry walls? 15 A Not explicitly in this specification. 16 However, I don't see any reason why someone with 17 common sense couldn't use this, and, in fact, I 18 have for my motivations discussed later, but yeah, 19 I don't think explicitly they're talking about 20 anything other than concrete walls right now, 21 masonry walls. 22 Q Do you recall any specific instance --	43 1 follows: Lines 1:5 through 12 also discuss that 2 -- like the actual location where it's used on 3 these walls; is that correct?) 4 A If we're back live, yes, it does. 5 Q And what are those locations that are 6 identified? 7 A Although we're talking in a general sense 8 here, they're either at the roof line to provide 9 connections between roof-level members and a wall, 10 a perimeter wall, or you could be at lower levels 11 providing attachments between lower-level framing 12 elements, such as floors, to a perimeter wall. 13 But -- 14 Q What about -- I'm sorry. I thought you 15 were done. Can you go ahead and complete your 16 answer? And then I'll follow up. 17 A Yeah, no, the thought that was forming 18 slowly in the brain there was, this is all just 19 talking about things in a diaphragm or element 20 nature. But there's so many different ways you 21 could also have ledgers that are at these 22 locations that -- they might be for mechanical
42 1 actually, strike that. 2 Lines 1:5 through 12 also discuss that -- 3 like the actual location where it's used on these 4 walls; is that correct? 5 A It does, yes. 6 Q And what are those locations? 7 MR. HIGGINS: Sorry to interrupt. I just 8 want to say we're at one hour. 9 MR. SCHROEDER: All right. 10 MR. HIGGINS: Just in the next -- keep -- 11 sorry to interrupt. 12 MR. SCHROEDER: No, that's fine. I've got 13 probably, I don't know, maybe five to ten more 14 questions before wrapping up and moving on to the 15 next reference, so yeah. We'll just finish those 16 and then we'll take a break. 17 MR. HIGGINS: Thank you, Counsel. 18 MR. SCHROEDER: So can I ask Daniel to 19 actually re-read my last question, though? 20 Because I forgot what it was. 21 THE REPORTER: Stand by. 22 (The reporter played the record as	44 1 equipment or stairs and some other type of 2 detailing that requires connection between 3 elements and walls. 4 But that was the thought there. Carry on. 5 Q Well, so my question is -- my next 6 question is, what about these ledgers would make 7 them compatible for both roof line applications 8 and floor line applications? 9 A Well, nothing in particular, other than 10 perhaps sequencing. I don't want to speculate, 11 but it makes it easier if someone builds the 12 masonry or concrete wall first and then, you know, 13 post-installation application, the ledger is 14 bolted on from the outside. But that's why it 15 doesn't really limit what the wall surface beyond 16 ultimately is, is it's really about the connection 17 and the sequencing that really matters. 18 Q And can these ledgers be installed 19 anywhere on the wall? 20 A Ideally, according to the plans. But yes, 21 there's no real limitation about whether they are 22 low down or up high.

45 1 Q Does the Gilb '792 patent discuss the use 2 of sheathing at all? 3 A Not explicitly in the written document 4 here. 5 Q Does it discuss the use of drywall? 6 A Not explicitly. 7 Q And then the last question I have is, how 8 is the vertical downward load applied to the 9 joist? How is that -- or let me back up. 10 So a joist, when it's installed, would 11 provide a vertical downward load, correct? 12 A It can. 13 Q And that load -- if I were to look at the 14 image in, let's say, FIG. 7 of the Gilb '792 15 patent, where would the downward force be applied 16 to the hanger as it's shown in FIG. 7? 17 MR. HIGGINS: Objection, form. 18 A Well, it's a load path, which needs to be 19 carefully thought out. The actual hanger itself 20 is bearing weight in the channel portion and would 21 be sitting on the upper surface of 13 in FIG. 7. 22 Q Yeah. And that's actually 13 prime,	47 1 in front of us? 2 A Right. Well, under each load case, it 3 will be reacted at the wall by the attachments 4 provided by the designer. In this case, there are 5 some screw elements, number 62, that are passing 6 through the ledger into the wall beyond. And then 7 there's a top -- this would be a good use of the 8 word flange -- for the hanger that also provides 9 some vertical support for the imposed loads. 10 Q And as you actually look at FIG. 5 above 11 it, there's a couple of holes in what you identify 12 as a top flange, correct? I believe they're 13 6 prime. 14 A Yes. 15 Q And what would those holes be for? 16 MR. HIGGINS: Objection, form. 17 A In this example, they would be for 18 attachments to secure that top flange of metal to 19 the ledger below, whether they be self-drilling 20 screws, if it's a metal ledger. This FIG. 5 also 21 provides a good illustration from above of how 22 those fasteners 62 pass through the vertical leg
46 1 correct? 2 A 13 prime, yeah. Forgive me. 3 Q No problem. 4 A And then as far as you're chasing the load 5 back through the entire assembly now, it's really 6 up to the designer to make sure that the ledger 7 and the connection to the wall is compatible with 8 the imposed loads from whatever is ending up in 9 this bucket, as far as up lifts, downward loads. 10 You'd need to make sure that the fasteners on 11 FIG. 7, such as 62, have enough holding power as 12 it goes through into the wall beyond. If you can 13 take advantage of the top-mounted part of the 14 connection, 8 prime, yeah, it really -- it becomes 15 a design exercise, then, for the PHOSITA or the 16 engineer of record. 17 Q And just showing FIG. 7 -- and I'll go 18 ahead and show my screen just so that we can kind 19 of see it, but I think that you have it in front 20 of you as well. 21 Can you describe that load path that you 22 were describing, just in terms of FIG. 7 as it is	48 1 of the ledger into the wall beyond. 2 MR. SCHROEDER: I think this would 3 probably be a good time to take that first break. 4 How much time do you need? 5 MR. HIGGINS: 15 minutes. 6 MR. SCHROEDER: Okay. That is fine. You 7 want to try and come back at 5:10 my time, I guess 8 probably 6:10 yours? 9 MR. HIGGINS: That works for us. 10 MR. SCHROEDER: All right. 11 THE WITNESS: 10 minutes past the hour 12 then. 13 MR. SCHROEDER: Yeah. I'm not going to 14 try to calculate your time. Sorry. 15 THE WITNESS: It's upside down. 16 MR. SCHROEDER: All right. 17 (Whereupon, a recess was taken.) 18 THE REPORTER: All set, Counsel. You can 19 continue. 20 BY MR. SCHROEDER: 21 Q Welcome back. Quick question, over the 22 course of the break, did you confer with anybody?

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49 1 A No. 2 Q Okay. So returning back to your 3 declaration, Exhibit 1003. Starting at 4 paragraph 57, you have a discussion regarding 5 Timony; is that correct? 6 A I do. 7 Q And if you could -- do you have Timony 8 available to you? 9 A I do. 10 Q And Timony is, if I'm correct, 11 Exhibit 1008; is that correct? 12 A It is. 13 Q And I'm assuming you're looking at it 14 currently, correct? 15 A Yes. 16 Q All right. If you could -- line 54 has a 17 title. Can you read that title for me? 18 A Hanger for insulated concrete system and 19 method of installation thereof and method of 20 installing a retrofit hanger in an insulated 21 concrete. 22 Q And if you could, read the first two	51 1 installing a hanger in an installed -- insulated 2 concrete system. In yet another of its aspects, 3 the present invention relates to a method of 4 installing a retrofit hanger in an insulated 5 concrete system. 6 Q And so between this field of invention and 7 the abstract that you read just a minute ago and 8 the title, it repeatedly refers to using the 9 hanger being disclosed in an insulated concrete 10 system; is that correct? 11 A It does. 12 Q And it also refers to that insulated 13 concrete system as a composite wall; is that 14 correct? 15 MR. HIGGINS: Objection, form. 16 Q Going back to the abstract, the first two 17 lines. 18 A Yes. It's a wall that is composite, in 19 that it has a core element here, in which case it 20 says a structural core, but then it also has 21 layers of sheathing on it, foam sheathing. 22 Q And if you were to go to paragraph 31 of
50 1 sentences of the abstract. 2 A There is described a hanger for hanging an 3 object from a composite wall. The composite wall 4 has a concrete core, a foam outer wall, and a 5 second outer wall. 6 Q And similarly, if you could, go to -- I 7 believe it's paragraph 2 of the specification. 8 And actually starting with paragraph 1, what is 9 paragraph 1? 10 MR. HIGGINS: Objection, form. 11 Q Does paragraph 1 provide a title -- or a 12 heading, I guess? 13 A Yes. It says, field of the invention. 14 Q And then paragraph 2 describes that field 15 of the invention, correct? 16 A It does. 17 Q And could you read that field of invention 18 for me? 19 A In one of its aspects, the present 20 invention relates to a hanger for an insulated 21 concrete system. In another of its aspects, the 22 present invention relates to a method of	52 1 Timony -- and do you mind if I call this reference 2 Timony? 3 A That's fine. 4 Q All right. So could you please go to 5 paragraph 31 of Timony as well? 6 A Yes. 7 Q And does paragraph 31 of Timony describe 8 how the composite wall is formed? 9 A Well, yes and no. Yes, there's some 10 specifics there. It does go on to say that -- 11 midway through paragraph 31, that the type of foam 12 is not particularly restricted and is within the 13 purview of a person skilled in the art. 14 Q Well, let's start, actually, right before 15 that. Starting with about halfway through the 16 paragraph, composite wall 110. Can you read that 17 sentence for me? 18 A Sure. It says, the composite wall 110 is 19 formed using a pair of outer walls 115a and 115b, 20 at least one of which, and preferably is not 21 particularly restricted -- I'm sorry. Using a 22 pair of outer walls 115a and 115b, at least one of

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53 1 which, and preferably both of which, are formed of 2 rigid foam. 3 Q And then the next sentence discusses the 4 type of foam, correct? And you can go ahead and 5 read that. 6 A Yeah. It says, the type of foam is not 7 particularly restricted and is within the purview 8 of a person skilled in the art. 9 Q And the following sentence actually 10 identifies various foam materials; would that be 11 correct? 12 A Yes. Yeah, the rigid foam may be a 13 polyurethane foam, a phenolic foam, or a 14 polyethylene foam. Preferably, the rigid foam is 15 polystyrene foam. Foam wall 115 may be an 16 integral structure or may be formed from foam 17 panels. 18 Q And in describing the composite walls, 19 does Timony describe any other type of composite 20 wall other than concrete core composite walls? 21 A No. It breaks the concrete down into two 22 main types. There's the walls that are cast with	55 1 Q And is the first version what's shown in 2 FIGS. 1 through 7? 3 A Yes. 4 Q And how would you describe this version? 5 And to be honest, I'm probably -- that 6 probably is too broad of a question. Let me 7 rephrase it. 8 With respect to this version, would you 9 describe this version as a new construction 10 version? 11 MR. HIGGINS: Objection, form. 12 A It would be easier in new construction to 13 cast and place the embedded plates that are shown 14 on, say, FIG. 2. To be able to get those into the 15 wall core, it's easier when the concrete -- to set 16 the plates prior to the concrete arriving. Not to 17 say that it couldn't be done afterwards with 18 enough epoxy and creativity. So it's more likely 19 to be used in a new construction application, the 20 embodiment shown in FIGS. 1 through 7. 21 Q And in particular, that's how it's 22 described in the specification, is it not?
54 1 the hanger elements introduced, and then there's 2 the retrofit embodiments where the hangers appear 3 after the foam core -- after the concrete core is 4 already in place. 5 Q All right. And I'm going to ask you about 6 that in just a minute. But just focusing on the 7 composite wall, does it describe any composite 8 walls other than composite walls that have a 9 concrete core? 10 A Not explicitly. 11 Q And then I think that you were just 12 discussing this, but if we were to look at the 13 figures of the patent and starting like with FIGS. 14 basically 1 through -- I believe it is FIG. 7, 15 would those be one type of embodiment of the 16 hanger invention that's disclosed? 17 MR. HIGGINS: Objection, form. 18 MR. SCHROEDER: I'll rephrase that. 19 Q A minute ago, you mentioned that there 20 were two versions of this hanger; is that correct? 21 A In my mind, they break down into two major 22 versions, yes.	56 1 A Yes. 2 Q And then there's a second version of the 3 hanger, and that would be what's shown in FIGS. 8 4 and 9, correct? 5 A Yes. 6 Q And would you refer to these, this 7 embodiment, as being a retrofit hanger? 8 A Yes. That's what the document describes 9 it to. But it's -- post-construction, it's -- in 10 this case, the wall core is in place and will have 11 whatever strength properties it needs so that the 12 hanger attachments could do their job. 13 Q And then going back to your declaration, 14 the next reference that you identify at 15 paragraph 61 is Tsukamoto. And I'm going to share 16 my screen real quick so that the court reporter 17 can see the actual spelling of that. 18 And Tsukamoto is Exhibit 1009, correct? 19 A Yes. 20 Q And you have Tsukamoto available to you 21 today, correct? 22 A I do.

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57 1 Q I'm going to go ahead and stop sharing my 2 screen just because I want to look at Tsukamoto. 3 If you could, I guess, make Tsukamoto available so 4 that you can look at it, I have some questions. 5 A I have it now. 6 Q All right. And apparently I didn't have 7 it actually open yet. Give me one second. 8 And Tsukamoto is a Japanese reference, 9 correct? 10 A It is. 11 Q And Exhibit 1009 includes a translation, 12 correct? 13 A Yes. 14 Q And for the purposes of discussing 15 Tsukamoto, I'm going to only be referring to the 16 English translation. Is that fair? 17 A That works very well. 18 Q So on page 2 of the English translation 19 towards the top, and it kind of continues from 20 page 1, I think -- well, no. I think it's 21 actually just at the top of page 2. But it lists 22 a number of deficiencies in prior art hangers; is	59 1 surfaces of the foundations and also effort and 2 materials to fit the beam hangers into respective 3 notches, resulting in high cost; C, the girder 4 tends to rot; and D, the portion that overlies the 5 base is small and may not provide sufficient 6 strength. 7 Q All right. So of these items, Item 8 Number A relates directly to the use of hangers on 9 foundations, correct? 10 A Well, they're saying that's one of the 11 problems that they're trying to identify with this 12 invention, that they're trying to resolve. 13 Q And Item B also addresses a problem of 14 using conventional hangers on foundations; is that 15 correct? 16 A If you're using the conventional S-shaped 17 hangers, yes. 18 Q And Problem Number C that's listed here, a 19 girder tends to rot, would that be a problem that 20 you would have of using a conventional hanger on 21 wood frame walls? 22 MR. HIGGINS: Objection, form.
58 1 that correct? 2 MR. HIGGINS: Objection, form. 3 Q Backing up a little. At the very bottom 4 of page 1 of the English translation, do you see 5 the Roman Numeral II? 6 A I do. 7 Q And what is the heading that's listed at 8 Roman Numeral II? 9 A It says, prior art and problems thereof. 10 Q And then on the next page, it's got -- or 11 it has a sentence followed by four numerically -- 12 or not numerically, but alphabetically itemized 13 lists; is that correct? 14 A It does, yeah. 15 Q And can you read this first sentence and 16 then go ahead and read that first itemized list -- 17 or that first item? 18 A It says, conventionally presented, these 19 types of beam hangers are configured in a 20 substantially S-shaped cross section. And thus, 21 A, they are influenced by the thickness of 22 foundations; B, they require notches on side	60 1 A Hypothetically, you can get girders to rot 2 anywhere in buildings. 3 Q Is the rotting of a girder, though, a 4 primary concern for hangers on wood frame walls? 5 A It easily can be. In context, we're 6 talking about S-shaped hangers used on foundation 7 walls in the text of this document. But yes, in a 8 very generic and hypothetical sense, girder decay 9 is -- particularly at the ends where they connect 10 to walls, is a frequent problem. 11 Q But in general, would you agree that 12 Tsukamoto is trying to identify problems with 13 using conventional S-shaped hangers on foundation 14 walls? 15 MR. HIGGINS: Objection, form. 16 A Look, I mean, these words speak for 17 themselves. They're defining their perceived 18 problems. They've identified foundations and 19 S-shaped hangers. I don't disagree with what 20 they've written there. 21 Q And moving on to page 3, there's a 22 Section C where it states, advantages of the

1 device. Do you see that? 2 A I do. 3 Q And in particular, the first sentence, can 4 you read that sentence to me? 5 A Sure. It says, Reference Numeral 8 is a 6 foundation. 7 Q And so this is discussing Reference 8 Numeral 8 with relationship to the figures, 9 correct? 10 MR. HIGGINS: Objection, form. 11 Q So if we go to the figures, the Item 12 Number 8 would be a foundation; is that correct? 13 A I see a rectangular element on FIG. 6, 14 page 6, that has 8 attached to it. The only 15 problem is if that's a foundation element. 16 Q Would you have any dispute that that's a 17 foundation element being shown in the figure? 18 A No. It just could be any wall element, in 19 my opinion. But here in the text, they're calling 20 it out as a foundation. 21 Q And then going back to page 3, there's a 22 list of results, correct, right below that	1 the record? 2 MR. SCHROEDER: We can. As long as you 3 can get back on the record quickly, it doesn't 4 matter. 5 THE REPORTER: Gotcha. 6 (Whereupon, a recess was taken.) 7 BY MR. SCHROEDER: 8 Q And I was asking if you had Bundy 9 available to you today. 10 A I do. 11 Q And if you could, go ahead and look at 12 Bundy. And if you're looking at Bundy, could you 13 go to Column 2, lines 20 through 24? 14 A Yes. 15 Q And can you read that sentence that starts 16 at paragraph 2, line 20? 17 A The drywall can simply be applied to the 18 front face of the supporting member, completing 19 [sic] covering and shielding it, and the joist 20 hanger can then be attached by driving long screws 21 directly through the drywall and into the 22 supporting structural member. Excuse me.
1 Heading C? Like the next paragraph, basically? 2 A Yes. 3 Q And again, those results reference the use 4 of this hanger on foundation walls, correct? 5 A Yes. 6 Q Going back to your declaration. The next 7 prior art reference that you discuss is in 8 paragraph 64, U.S. Patent Number 9,394,680 to 9 Bundy. And that's Exhibit 1007; is that correct? 10 A It is. 11 Q And would you understand, if I just call 12 it Bundy, that this is the reference I would be 13 discussing? 14 A I will. 15 Q And do you have Bundy available to you 16 today? 17 A I do. 18 THE WITNESS: Can you give me just one 19 minute to step away for a second? I'll literally 20 be back in less than a minute. 21 MR. SCHROEDER: Okay. 22 THE REPORTER: Would you like to go off	1 Q And my question that I'm going to ask is, 2 for Bundy, is every description of Bundy's use 3 having the drywall inserted on the wall -- or 4 installed on the wall first? 5 MR. HIGGINS: Objection, form. 6 MR. SCHROEDER: Let me rephrase that 7 question. 8 Q Does Bundy require drywall to be installed 9 prior to the hanger? 10 A Generally, yes. 11 Q Is there any discussion in Bundy about 12 installing the hanger first and then installing 13 the drywall? 14 A Not that I'm aware of. It's -- no, it 15 appears as if the drywall needs to be installed 16 first. Although I can inherently envision ways to 17 sequence it differently, explicitly it appears 18 that the drywall comes first. 19 Q If you go back to your declaration -- I 20 would like to actually have you go back to 21 paragraph 41 of your declaration. 22 A Okay.

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65 1 Q And at paragraph 41, the first sentence of 2 the paragraph, it reads, in addition to the above 3 documents that explicitly illustrate hanger 4 components extending through sheathing. 5 Do you see that? 6 A I do. 7 Q And so at this point in your declaration, 8 you had discussed Gilb; is that correct? 9 A You may have to help me here because the 10 next reference I see in paragraph 41 was to Allan. 11 Q Right. But this is talking about the 12 above reference. So like paragraph 37, you're 13 discussing Gilb '792, correct? 14 A Yes, yes. 15 Q And so my question is -- I might have 16 already asked this for Gilb, but does Gilb 17 disclose the use of sheathing? 18 A Not explicitly. 19 Q And given that Gilb does not explicitly 20 disclose the use of sheathing, does Gilb 21 explicitly disclose extending any component of the 22 hanger through sheathing?	67 1 component extending through sheathing; is that 2 correct? 3 MR. HIGGINS: Objection, form. 4 A Yeah, no, I'd just be amplifying my 5 previous points, Counselor. 6 Q All right. Moving on in your declaration 7 to -- give me a second. I'll give you the 8 paragraph number. It would be paragraph 67. 9 And in paragraph 67 -- or starting on 10 paragraph 67, you have a section discussing why 11 you believe the limitation, each extension flange 12 lying in an extension flange plane, of Claims 1 13 through 15 are indefinite; is that correct? 14 A I do. 15 Q Did you attempt to construe or offer a 16 construction for the limitation, each extension 17 flange lying in an extension flange plane? 18 MR. HIGGINS: Objection, form. 19 A Well, over the next few pages, it lays out 20 my thought process on this, Counselor. And I 21 suppose I could just read the whole thing in here, 22 if we have to. But it really comes down to these
66 1 A Well, I think we're talking about two 2 different things here. So answering your question 3 about extending through sheathing, Gilb does not. 4 My use of Gilb in this section was simply to say 5 that it had the extension portion that would, in 6 my opinion, serve as an ideal place to put 7 sheathing in that void space. So yeah, in the 8 extension portion, I see opportunity that was 9 obvious to put sheathing in that zone, so we would 10 be, you know, extending through it. 11 Q But Gilb does not actually disclose that, 12 correct? 13 A Not explicitly. 14 MR. HIGGINS: Objection to form. 15 Q Similar question. Does Tsukamoto disclose 16 the use of sheathing? 17 A It's similar. It's not explicitly 18 mentioned. It has the same extension portion 19 features that I found attractive that make it 20 readily adaptable for sheathing. 21 Q And Tsukamoto, because it doesn't disclose 22 sheathing, it does not explicitly disclose any	68 1 imaginary planes that I interpreted from reading 2 the claims, that there was a base plane 3 established as well as an extension flange plane. 4 I've construed these terms and described them as a 5 basis for why I believe the claim is open to 6 interpretation and is therefore indefinite. 7 Q And are you aware that the institution 8 decision construed the limitation? 9 MR. HIGGINS: Objection, scope. 10 A Yeah, I'm only really prepared to discuss 11 what I've written in the declaration. 12 Q Well, that was my next question, is that 13 what you wrote is not responsive, necessarily, to 14 the construction that the PTAB provided; is that 15 correct? 16 MR. HIGGINS: Objection, draw legal 17 conclusion. 18 Q Well, you didn't consider that 19 construction; is that correct? 20 MR. HIGGINS: Objection, form. 21 A If asked to, I will do that additional 22 analysis, but I'm not prepared to discuss it

69 1 today. 2 Q Right. And so your declaration, as it 3 stands now, was prior to that construction, 4 correct? 5 A Yes. 6 Q Now, a second ago, you mentioned that you 7 used the word imaginary to describe the extension 8 flange plane; is that correct? 9 A I did. 10 Q And I believe you state that as well in 11 paragraph 68, correct? 12 A Yes. 13 Q And the extension flange plane is not a 14 physical object, correct? 15 MR. HIGGINS: Objection, form. 16 A It only exists in two dimensions. 17 Q And -- 18 A (Indiscernible.) Carry on. 19 Q And in addition to -- and if you look at 20 Exhibit 1001 -- and Exhibit 1001 is the '867 21 patent, correct? 22 A It is.	71 1 part of this extension flange. There's the inner 2 surface, the outer surface, and that's where -- 3 these paragraphs go through and list each of the 4 parts I find problematic. 5 Q If you could go to FIG. 1 -- or no, 6 actually FIG. 7. Let's go to FIG. 7. And let me 7 know when you're there. 8 A Yes. They even have an excerpt of it in 9 the declaration within paragraph 70. 10 Q And which -- well, first of all, what is 11 FIG. 7? 12 MR. HIGGINS: Objection, form. 13 Q Would you agree with me that FIG. 7 is a 14 top-down view of a hanger? 15 A Yes. 16 Q And in FIG. 7, can you identify which item 17 is the extension flange? 18 A Well, it's the element 60. 19 Q And there's two of those, correct? 20 A There are. When viewed from the top on 21 FIG. 7, you can see each one of those extension 22 flanges.
70 1 Q And that's the patent that's at issue, 2 correct? 3 A It is. 4 Q And so if you look at Claim 1, does it 5 describe the extension flange plane as being 6 perpendicular to any other planes? 7 MR. HIGGINS: Objection, form. 8 Q In particular, does Claim 1 recite that 9 the extension flange plane is perpendicular to the 10 base plane? 11 A It does actually say that the extension 12 flange planes being generally perpendicular to the 13 base plane. I think that was your question. I 14 found that language, but that's not really the 15 basis of my opinion within this section. 16 Q In your opinion within this section, did 17 you consider this additional description of the 18 extension flange plane? 19 MR. HIGGINS: Objection, form. 20 A I guess that's where the confusion comes 21 in. It's like, which one? There are so many 22 particular planes that you could point to as being	72 1 Q And from the top-down view, item 48 would 2 be the channel portion; is that correct? Just 3 generally that item 48. 4 MR. HIGGINS: Objection, form. 5 Q Actually, it might be generally item 44, 6 but 48 would be the back of the channel-shaped 7 portion; is that correct? 8 MR. HIGGINS: Objection, form. 9 A Yes. It's the piece of sheet metal that 10 creates the back of the bucket. 11 Q And then kind of this part that has 66 and 12 74, would those be the portion of the hanger that 13 would be referred to as the connection portion? 14 A Yes. 15 Q And in particular, 66 would be what's 16 referred to as the back flange, correct? 17 A Yes. 18 Q And would you agree that the extension 19 flange 60 is generally flat from the top view? 20 MR. HIGGINS: Objection, form. 21 Q And you're looking down at an edge of it. 22 MR. HIGGINS: Objection, form.

73 1 A You know, that's really part of the 2 problem, and we describe it -- you know, I've 3 written it in here that with 3D objects like this, 4 at some point practicality and constructability -- 5 these bends have to occur at some point in the -- 6 in this case sheet metal, so there are these radii 7 that appear. But, you know, of the flange, as it 8 passes through the sheathing, quite a bit of it is 9 flatish and has surfaces, indeed has planes. 10 Q And would you agree that as -- you know, 11 once you get past the bend, because there is a 12 bend, since it's the same piece of metal -- but 13 once you get past the bend, that extension flange 14 60 extends in a straight direction from 48 until 15 it gets to that next bend where it turns into 66? 16 MR. HIGGINS: Objection, form. 17 A Yes. 18 Q And then a few minutes ago, you were 19 talking about how that flange 60 would have a 20 couple of different surfaces, correct? 21 A Indeed. 22 Q And FIG. 5 is a side view of one of these	75 1 Q And we're talking probably in the 2 magnitude of a thousand times larger? 3 MR. HIGGINS: Objection, form. 4 A I haven't done the math. 5 Q But it would be considerably larger? 6 MR. HIGGINS: Objection, form. 7 A Yes. 8 Q And taking this view in FIG. 7, we just 9 discussed a second ago that there is a surface 10 that's facing towards us, correct? 11 A Yes. 12 Q And would that surface be in the plane? 13 MR. HIGGINS: Objection, form. 14 A Well, it's in a plane, that surface. And 15 that's really my point, is that in the 16 specification, they're trying to describe the 17 extension flange laying in the extension flange 18 plane. I don't know which plane you're talking 19 about. 20 Q But you agree that this surface that we're 21 looking at head-on right now would be lying in a 22 plane, correct?
74 1 hangers, correct? 2 A It is. 3 Q And so the side view, we have a surface 4 that's kind of facing us, correct? 5 MR. HIGGINS: Objection, form. 6 Q The side view, you have a surface that's 7 facing us, where you currently have 60 showing on 8 it? 9 A Right. That would be a surface of the 10 extension portion. 11 Q And that surface would be considerably 12 larger than the surface of the top edge if you 13 were looking at it looking down in FIG. 7, 14 correct? 15 MR. HIGGINS: Objection, form. 16 Q In terms of surface area, that surface is 17 much larger than the top-down edge? 18 A Strictly speaking -- 19 MR. HIGGINS: Objection, form. 20 A -- in a quantitative -- or I mean, sorry, 21 qualitative way, yes. Edge surface represents 22 less area than the projected side surface.	76 1 MR. HIGGINS: Objection, form. 2 A As I mentioned before, it's laying in a 3 plane. As a POSITA, my whole opinion here is that 4 it's open to interpretation and is indefinite. So 5 I'm not sure how else to help you, Counselor. 6 Q Well, I'm just asking, it's laying in a 7 plane? 8 MR. HIGGINS: Objection, asked and 9 answered. 10 MR. SCHROEDER: All right. Well, I was 11 just trying to clarify. 12 Q So on the opposite side of this extension 13 flange 60, facing away from us, there would be 14 another surface, correct? 15 A Yes. Another surface, another plane. 16 Q And in theory, you know, assuming that the 17 piece of sheet metal is, you know, cut, you know, 18 perfect or has, you know, square cuts to it, that 19 surface area of that surface would be exactly the 20 same as what we're looking at from the view in 21 FIG. 5, correct? 22 MR. HIGGINS: Objection, form.

77 1 A I guess if I'm following your theoretical 2 here, yes, it would show up as a cross-sectional 3 shape on FIG. 7. 4 Q Well, I'm not asking about the 5 cross-sectional shape on FIG. 7. I'm saying if we 6 were to rotate the view that we see of this 7 extension flange, also acknowledging that there 8 might be a component in the way, i.e., another 9 extension flange, but if we were to turn it, 10 there's a surface opposite of what we're currently 11 seeing, correct? 12 MR. HIGGINS: Objection, form. 13 A I'm sorry if it's lack of caffeine. Which 14 figure are you referring to again? 15 Q FIG. 5. So FIG. 5 we're seeing -- let's 16 call it the front of the extension flange. And on 17 the other side of that extension flange, there 18 would be another surface, correct? 19 MR. HIGGINS: Objection, form. 20 A Yeah. But you're going to come to the -- 21 if 60 is written on the closest face surface to 22 us, then you have the first of the inner surfaces	79 1 A Yes. In this hypothetical, yes, they 2 would be parallel to each other. 3 Q And in particular, the surfaces that we're 4 discussing right now are what you're calling an 5 outer surface in paragraph 70 and an inner surface 6 in paragraph 70, correct? 7 MR. HIGGINS: Objection, form. 8 Q And in particular, you have an annotated 9 FIG. 7 that I'm looking at on page 35 of your 10 declaration. 11 A Yes. That's where I've used the words 12 inner surface and outer surface. 13 Q And what we've been discussing the last 14 couple minutes -- or at least what I've been 15 trying to discuss the last couple minutes is what 16 you're calling an inner surface or an outer 17 surface? 18 MR. HIGGINS: Objection, form. 19 A Yes. 20 Q And the inner surface would lie in the 21 plane, correct? 22 A Yes. It's in a plane.
78 1 just beyond that. 2 Q Right. And so on the other side of this 3 flange, there's another surface with the exact 4 same surface area, correct? Roughly the exact 5 same -- 6 MR. HIGGINS: Objection, form. 7 Q -- assuming that the cuts are straight -- 8 you know, goes through it straight. 9 A In this hypothetical theory, yes. 10 Q And that surface would also lie in the 11 plane, correct? 12 MR. HIGGINS: Objection, form. 13 A Yes. And that's -- again, that's what my 14 problem is. It's lying in yet another plane that 15 I can -- 16 Q And these two planes -- sorry. Sorry, I 17 didn't mean to interrupt you. 18 These two planes that we just discussed, 19 the one that you're looking at the current surface 20 and the opposite side of it, would those two 21 planes be parallel to each other? 22 MR. HIGGINS: Objection, form.	80 1 Q And the outer surface would lie in a 2 plane, correct? 3 MR. HIGGINS: Objection, form. 4 A Yes. 5 Q And those two planes would be parallel to 6 each other, correct? 7 A Again, yes. 8 Q And would both of those planes be 9 perpendicular to the base plane? 10 A Generally. I can see how they would be 11 described as perpendicular, yes. 12 MR. HIGGINS: Counsel, we are approaching 13 the one-hour mark, just -- 14 MR. SCHROEDER: I have a few more 15 questions in this line of questioning, then we'll 16 take a break. 17 Q Moving to paragraph 72. You discuss how 18 -- actually, give me a second. 19 You discuss that there's also a third 20 imaginary plane, correct? 21 A Yes. 22 Q And that third imaginary plane would be

81 1 similar to -- would be parallel to the other two 2 imaginary planes, correct? 3 MR. HIGGINS: Objection, form. 4 A Yes. It's just written there in 5 paragraph 72. 6 Q And this third imaginary plane would also 7 be perpendicular to the base plane, correct? 8 A Yeah. Again, following this logic. 9 MR. SCHROEDER: I believe now is a good 10 time for a break. 11 (Whereupon, a recess was taken.) 12 THE REPORTER: Now back on the record. 13 BY MR. SCHROEDER: 14 Q Welcome back. Just asking, did you have 15 any discussions with anyone over the break? 16 A I did not. 17 Q Skipping forward in your declaration to 18 around paragraph 88. You provide an opinion 19 regarding Claims 5 and 17 and whether they lack 20 written description support; is that correct? 21 A I do. 22 Q And what I want to ask is, does the '867	83 1 Q So you would recognize, though, that a 2 wall assembly could be constructed of 2-by-6 wood 3 studs, correct? 4 A Yes. 5 Q And you would understand what putting them 6 on a 24-inch center would be, correct? 7 A Yes. 8 Q And you would understand how to attach two 9 layers of 5/8-inch Type X gypsum, correct? 10 MR. HIGGINS: Objection, form. 11 A Again, yes and no. I mean, there are so 12 many different ways you could attach gypsum to 13 studs. The orientation of the gypsum, for 14 example, the fasteners used, et cetera. So in its 15 most generic sense, yes, something could be done 16 that looks like typical construction, but from 17 what we're given here, it's just very, very 18 conceptual. 19 Q And in the blueprint for a building, would 20 it be common to identify a wall according to the 21 size of studs used, how far centers are spaced, 22 and then the material used to cover the walls?
82 1 patent provide any description as to how to 2 construct a wall assembly? 3 A Yes, yes. There are assembly information 4 in the text. 5 Q And in particular, around Column 11, lines 6 45 through 66, there's a description of a specific 7 assembly that was tested, correct? 8 A It does, yes. 9 Q And starting at Column 11, line 45, can 10 you read the first sentence for me? 11 A In an independent test performed by an 12 outside firm, the truss hanger was installed as 13 part of a wall assembly including 2-by-6 wood 14 studs, 24 inches on center, with two layers of 15 5/8-inch Type X gypsum attached to each side. 16 Q And as a person of skill in the art, would 17 you recognize how to construct that wall assembly 18 that is discussed? 19 MR. HIGGINS: Objection, form. 20 A Well, I know what each of those bits are, 21 but as far as constructing them into an assembly, 22 you'd need a lot more information than given.	84 1 MR. HIGGINS: Objection, scope. 2 Objection, form. 3 A Generally, yeah, the drawings and the 4 specifications, maybe even the subcontracts would 5 contain necessary information for achieving what 6 the designer intended. 7 Q And this paragraph also discusses filling 8 the cavities with mineral wool insulation; is that 9 correct? 10 MR. HIGGINS: Objection, form. 11 Q It's around line 52, if that helps. 12 MR. HIGGINS: Objection, form. 13 A It simply states, the cavities in the wall 14 were filled with mineral wool insulation. 15 Q As a person of skill in the art, would you 16 recognize a wood stud wall with two layers of 17 5/8-inch Type X gypsum attached on each side as 18 meeting a two-hour fire code rating? 19 MR. HIGGINS: Objection, form. 20 A You'd need a lot more information to why 21 they're qualified for one of the building-code 22 recognized assemblies rated as two hours, as an

85 1 assembly or one of the proprietary ones listed in 2 things like the Gypsum Association manuals. You'd 3 really need to know the size of spacing -- size 4 and spacing of fasteners, orientation of 5 Sheetrock, et cetera. 6 Q If you could, go to paragraph 43 of your 7 declaration. 8 Are you there? 9 A I am now. 10 Q Do you agree that the use of two layers of 11 5/8-inch sheathing was a well-known fire-rated 12 construction? 13 MR. HIGGINS: Objection, form. 14 MR. SCHROEDER: Let me rephrase that. 15 Q Did you give an opinion in your 16 declaration that the use of two layers of 5/8-inch 17 sheathing is a well-known fire-rated construction? 18 A Yes. 19 MR. HIGGINS: Objection, form. 20 A Particularly if you refer to the table 21 referenced in paragraph 43 where you'll get each 22 of the specifications. I even go on to describe	87 1 A It's the American Society for Testing of 2 Materials. 3 Q And is ASTM E814 something that could be 4 found by a person of skill in the art? 5 A Yes. 6 Q And would that be a standard procedure 7 that would be recognized by a person of skill in 8 the art? 9 MR. HIGGINS: Objection, form. 10 A Well, you can find that testing protocol. 11 You go to the ASTM website and pay money, and you 12 can download a version of the testing protocol. 13 Q And you could do the same thing with ASTM 14 E119, correct? 15 MR. HIGGINS: Objection, form. 16 A Yes. I could go to the website and buy 17 that standard. 18 Q Do you have any reason to believe that 19 this test was not -- this test that's being 20 described in paragraph 11, starting at line 45 21 going through 60 -- was not performed? 22 MR. HIGGINS: Objection, form.
86 1 how the base layer is placed vertically, 2 et cetera. That was all my point before was, was 3 that you need more than just the generic hints 4 that you were giving me to answer your question. 5 This here -- yes, typically you need two layers of 6 5/8ths to enter into the two-hour ratings on wood 7 frame walls. 8 Q And going back to Exhibit 1001, Column 11, 9 this paragraph starting at paragraph 45. This 10 discusses an independent test being performed by 11 an outside firm, correct? 12 A It did. 13 Q And in particular, it identifies testing 14 that was performed according to ASTM E814 and ASTM 15 E119, correct? 16 MR. HIGGINS: Objection, form. 17 Q Does it reference those? 18 A That's what it says. 19 MR. HIGGINS: Objection, form. 20 Q Are you familiar with ASTM? 21 A I am. 22 Q What does ASTM stand for?	88 1 A Oh, I have no reason to doubt that 2 somebody did a test somewhere. That's really the 3 extent of what I can learn from this. 4 Q Do you have any reason to doubt that if 5 the test was performed pursuant to ASTM E814 and 6 ASTM E119 that would have not passed the two-hour 7 fire rating? 8 MR. HIGGINS: Objection, form. 9 A I have no information to know one way or 10 the other, other than their statement here. 11 Q Would you be able -- would a person of 12 skill in the art be able to have this test 13 performed on any hanger that they wanted to? 14 MR. HIGGINS: Objection, form. 15 MR. SCHROEDER: Let me rephrase that. 16 Q Would there be anything that would prevent 17 a person of skill in the art from replicating this 18 test with other hangers? 19 MR. HIGGINS: Objection, form. 20 A Well, from a practical standpoint, what 21 happens with fire testing with walls is that the 22 results are nearly always closely guarded and

89 1 maybe even proprietary. The fire tests that I've 2 been part of in the past are -- there's nearly 3 always nondisclosure agreements and other 4 information that's not going to be made widely 5 public afterwards. I'd really need to see the 6 test reporting, photographs of test specimens, to 7 be able to, as you are asking in your 8 hypothetical, replicate this test. Given the 9 information of what the other folks did, where 10 they did it, how they did it, where they sourced 11 their materials, criteria were at the time 12 environmentally, I could recreate it. But there's 13 a lot of moving parts here that you'd need to get 14 in front of you. 15 Q If someone were to want -- if Simpson were 16 to want to advertise that they have a hanger that 17 meets a two-hour fire rating for a wall assembly, 18 would they be able to develop a test where they 19 perform the ASTM E814 and ASTM E119 procedures? 20 MR. HIGGINS: Objection, form. Objection, 21 scope. Objection, speculation. 22 A It's a big hypothetical, but yes, these	91 1 A Yeah, no, it's -- suffice to say, I have 2 experience with these tests, and they are wood 3 frame walls with Sheetrock and assemblies that 4 replicated as-built situations in the field and to 5 determine their actual fire resistance and compare 6 that with the record drawings at the time. 7 Q Moving on in your declaration. Give me a 8 second. I'm just trying to find my spot back in 9 your declaration. 10 Starting on page 45 of your declaration, 11 you give an opinion as to that certain claims 12 would be obvious over Gilb '792 in view of Bundy; 13 is that correct? 14 A Yes. 15 Q And in particular, in your declaration, 16 you seem to -- and I'm going to skip forward to 17 probably page 50, but you have images of the 18 embodiment of FIGS. 6 and 7, and I think also you 19 have FIG. 5 as well in there. Is that correct? 20 FIG. 5 would be on the next page. 21 MR. HIGGINS: Objection, form. 22 A That's correct.
90 1 testing standards are available so that folks can 2 conduct tests in a standard way. As far as 3 getting the required durability out of the test, 4 again, that's all described in the standard. It's 5 possible. 6 Q And you mentioned that you've witnessed 7 these fire rating tests previously? 8 A I have. 9 Q When would that have been? 10 MR. HIGGINS: Objection, form. 11 A It was a number of them during the last 20 12 years. 13 Q Do you recall any of them specifically? 14 MR. HIGGINS: Objection, form. 15 A I do. 16 Q Can you describe the circumstances of one 17 of the fire rating tests that you participated in 18 previously? And you don't have to give who the 19 company was, but just whatever information you can 20 disclose. 21 MR. HIGGINS: Objection, scope. 22 Objection, form.	92 1 Q And really that was more to set up my next 2 question, is, is the embodiment that's shown in 3 FIGS. 5 through 7 the embodiment that you based 4 your opinions on in your declaration? 5 MR. HIGGINS: Objection, form. 6 A Well, for the purposes of annotating 7 specific points, yes, I've relied on 5 and 7. 8 However, I'm using the entire body of art to 9 inform me. 10 Q And when you say you're using the entire 11 body of art, how is it informing you? Were you 12 using any other embodiments? 13 A Well, all of these hangers -- you know, 14 generalizing, there's three parts to them. 15 There's the connection portion, there's the 16 extension portion, and then the channel bucket 17 portion. And I find these features in each of the 18 cited artwork. And so what else I found 19 attractive and obvious to me was that -- plenty of 20 opportunity to use these hangers in the presence 21 of sheathing as well, that I can get my two layers 22 of sheathing, Bundy style, threaded through the

93 1 extension portion. 2 Q Going to paragraphs 94 and 95, I'd like to 3 understand what exactly is the modifications that 4 you're making to Gilb. So can you please 5 describe, how are you modifying Gilb in view of 6 Bundy? 7 MR. HIGGINS: Objection, 8 mischaracterization. 9 A If you look at page 62, it's -- within 10 paragraph 127 there's an annotated image of FIG. 7 11 showing the sheathing. 12 Q Okay. 13 A And so in previous paragraphs, it 14 described how the extension portion passes through 15 the sheathing, extends through the sheathing, and 16 attaches to the back wall. Once I've got that -- 17 what they're referring to as a base, but it's 18 actually the back flange, I'm not even sure you 19 really need that hanger in the modification, 20 Counselor. But whether the hanger is there or 21 not, the fasteners that we referred to earlier as 22 62 attach the back face of the extension portion	95 1 MR. HIGGINS: Objection, 2 mischaracterization. 3 MR. SCHROEDER: I don't know if it's a 4 mischaracterization when I'm asking if he's 5 modifying it. I'm asking if. 6 A No. No, I'm using the same conceptual 7 techniques as shown in FIG. 5 -- I'm sorry, FIG. 7 8 here. 9 Q So you're using -- 10 A I'm sorry. I wasn't quite finished. 11 Q Oh, sorry. Please. I'm sorry. 12 A You're all right. 13 As I mentioned earlier, there's this -- 14 between product and designers, at some point it's 15 very much up to the designer to provide the ledger 16 support. So that L-shaped angle that's shown 17 there at the wall, you know, that's designer's 18 choice. So I'm thinking of that a little bit 19 separately than the rest of the hanger. But your 20 question, in essence, was am I modifying it, and 21 no, I don't need to. 22 Q And so the combinations that you're
94 1 to the wall. It leaves -- you then have to slot 2 the Sheetrock around the vertical faces of the 3 extension portions. You know, for the design to 4 work, the Sheetrock needs to be attached in the 5 tested assembly method to achieve the ratings, any 6 additional detailing that needs to be put in from 7 a means and method standpoint for the detailing of 8 the Sheetrock, the fire-rated Sheetrock, is put 9 in. But this simply allows the hanger -- the 10 channel to exist beyond the sheathing zone and 11 with the sheathing to exist within the extension 12 zone. 13 Q So there's kind of a lot to unpack there. 14 Let me start with, are you modifying the size of 15 any portion of this hanger as we look at it in 16 FIG. 7? 17 MR. HIGGINS: Objection, form. 18 A I'm allowing Bundy to teach the thickness 19 of the sheathing zone to be two layers of 5/8ths 20 sheathing, in this case Type X drywall. 21 Q Are you modifying the method in which this 22 hanger is attaching to the wall, though?	96 1 presenting include that ledger, correct? 2 MR. HIGGINS: Objection, form. 3 A It does. As I mentioned earlier, however, 4 though, there's all sorts of choices there. So 5 it's really up to the designer how to configure a 6 ledger to receive this hanger. 7 Q Going back to paragraph 94. 8 A Okay. 9 Q You identify that it would have been 10 obvious to size the spacing between Gilb's stirrup 11 members 11 and 12 and base 36 to accommodate two 12 layers of 5/8-inch-thick sheathing according to 13 the size preference described by Bundy. 14 Do you see that? 15 A Yes. 16 Q Why would a person of skill in the art 17 want the space to be capable of receiving those 18 two sheets of drywall? 19 A Well, as described earlier, there are 20 places where designers can look to get recipes for 21 rated construction, in this case, fire-rated 22 construction. Usually in the toolbox of what's

97 1 there, a single layer of 5/8ths will only really 2 get you into the one-hour range of protection. 3 You really need a second layer of 5/8ths 4 configured correctly to get that second hour of 5 rated protection. So when you talk about two 6 hours, you know, we're nearly always minimally 7 talking about two layers of 5/8ths. 8 Q And so the purpose of optimizing that 9 spacing is to meet fire rating requirements; is 10 that a correct summation of it? 11 MR. HIGGINS: Objection, form. 12 A Yes. In multi-residential timber 13 construction, the required ratings at various 14 common walls, property walls, bearing walls are 15 nearly always either a one-hour or a two-hour 16 durability, fire. 17 Q I'm going to jump forward to paragraph 18 138. And let me know when you're there. 19 A I am there. 20 Q And paragraph 138 is -- actually, if you 21 scroll up or go forward -- or backwards just a 22 page to page 65 -- in reference to Claim 7; is	99 1 there. 2 Q Yes. If you could -- do you have Bundy 3 still available? 4 A I do. 5 Q Can you please either open it or bring it 6 up where you can go to specifically this section 7 of Bundy that you cited? And let me know when 8 you're ready. 9 A I'm there. 10 Q Could you please read for me Column 4, 11 lines 39 through 46? Or at least that sentence 12 starting at line 39. 13 A Sure. The first and second back plate 14 members 9 preferably are formed with fastener 15 openings 26 near the first and second top edges. 16 Although the back plate members 9 are shown as 17 splayed outward in opposite directions, they could 18 both be bent inward to face each other between the 19 first and second side members 11, or they could 20 both be bent in the same direction, either left or 21 right. 22 Q In that section that you just read, does
98 1 that correct? 2 A Yes. 3 Q And so for Claim 7, in addition to any 4 addition -- or any modification regarding the 5 spacing, we're also adding a back flange; is that 6 correct? 7 MR. HIGGINS: Objection, form. 8 Q Or, I'm sorry, not a back flange, a stop. 9 And that's what you're discussing in 138, I 10 believe, correct? 11 MR. HIGGINS: Objection, form. 12 A Yes. As cited there, Bundy discloses that 13 the back plate members of the channel portion 14 could be bent inwards, and therefore serving as a 15 stop for the member that is seated in the channel. 16 And I see that when I am looking at the Gilb '792 17 in view of Bundy, that that would be an obvious 18 change to make. 19 Q And now Bundy -- or first of all, in 20 paragraph 138 here, you identify a portion of 21 Exhibit 1007, which is Bundy, correct? 22 A I did. I made a cite to the literature	100 1 it provide any reason as to why it would be bent 2 in one direction or another? 3 A I guess it's really specifier preference. 4 I don't see anything written specifically or 5 explicitly as to which direction to bend these. 6 Q And it doesn't identify any reason why you 7 would bend it one way or the other, correct? 8 MR. HIGGINS: Objection, form. 9 A That's what I was just trying to say. 10 Q Going back to your declaration. Starting 11 on about page 79, you provide an opinion regarding 12 Timony; is that correct? 13 A I do. This was the section that was 14 skipped with the clerical error back in that table 15 we talked about earlier. 16 Q And in particular, this section you are 17 relying on an anticipation theory, correct? 18 MR. HIGGINS: Objection, form. 19 A Yes. I go through and describe all of the 20 places I see claim language in Timony. 21 Q And I'm going to skip forward just for the 22 purposes of asking this next question. But on

101 1 page 81 in particular, you have shown an image of 2 FIG. 8, correct? 3 A I have. 4 Q And FIG. 8 is the version of Timony that 5 is referred to as using -- or as being a retrofit, 6 correct? 7 A Yes. 8 Q And so my question is, is this retrofit 9 version of Timony what you are relying on in your 10 declaration for anticipation? 11 MR. HIGGINS: Objection, form. 12 A It's really -- again, as I was mentioning 13 before, without sounding too general, it's the 14 entire document and all of the figures because 15 they do -- the numbering, for example, skips 16 around, and I've described this in the 17 declaration, Counselor, how, you know, it's much 18 -- it's a very clear story to follow as far as the 19 connection, the extensions, and the U-shaped 20 channel. If you follow it all the way through 21 from FIG. 1 through to the final ones, it's really 22 the retrofit embodiment that I find it attractive	103 1 that have to be assembled, correct? 2 MR. HIGGINS: Objection, scope. 3 Objection, form. 4 A Well, at that instant of purchase, yes, 5 they are separate. 6 Q If you go to Exhibit 1008, which is Timony 7 -- and actually I'm going to ask, do you still 8 have Timony available? 9 A Yes. 10 Q And if you're looking at Timony, could you 11 please go to paragraph 42? 12 A I am there. 13 Q And paragraph 42 explains -- first of all, 14 actually, give me a second. I might want you to 15 look at a different paragraph. 16 Actually, can you look at paragraph 49? 17 A Okay. 18 Q My notes were wrong. 19 And if you could, read what paragraph -- 20 or can you read paragraph 49 to me? 21 A Sure. To install retrofit bracket 195, a 22 portion of foam wall 215b sized and shaped to
102 1 that I can adapt the sheathing to change out what 2 would be foam on that wall to the two layers of 3 fire-rated Sheetrock, space it, per Bundy, to make 4 it two layers of 5/8ths, and then have that hanger 5 and the joist, and even with stops outside of the 6 sheathing zone. It's really five -- the later 7 figures that show how that works in modified 8 concept. 9 Q All right. My first question is, looking 10 at FIG. 8 here, would you agree that it's showing 11 three separate pieces of this hanger? 12 MR. HIGGINS: Objection, form. 13 A Well, I guess that's that whole fixed 14 thought. And at the time of installation, once 15 the joist is dropped into the hanger there and all 16 the fasteners are put in place, it becomes one 17 assembly. But yes, there are two separate 18 extension portions as well as the U-shaped 19 channel. 20 Q And when this hanger would be purchased 21 off the shelf, it would be three separate 22 components, correct? It would be three pieces	104 1 accommodate retaining portion 203 is cut away at a 2 desired hanging position. Retaining portion 203 3 is then fastened to concrete core 250. Generally, 4 fastening of retaining portion 203 to concrete 5 core 250 will require that holes be drilled in 6 concrete core. 7 Q And can you keep reading? 8 A Yeah. As I was saying, generally, 9 fastening of retaining portion 203 to concrete 10 core 250 will require that holes be drilled in 11 concrete core 250 corresponding to the retaining 12 apertures 207a and 207b. Retaining portion 203 is 13 then put in position adjacent concrete core 250 so 14 that the retaining apertures align with the 15 drilled holes -- I left out the part numbers there 16 -- concrete securing means 209a and 209b are then 17 forced through retaining apertures 207a and 207b 18 to secure the retaining portion 203 to the 19 concrete core 250. 20 Q All right. And so the paragraph that you 21 just read explains how the retaining portions 203 22 are fastened to the concrete core, correct?

105 1 A Yes. 2 Q And in particular, the foam was cut out, 3 correct? 4 A Yes. 5 Q And then the retaining portion 203 is 6 inserted into the hole and fastened to the wall, 7 correct? 8 A Yes. 9 Q And this would be done prior to attaching 10 support 265, correct? 11 A Yes. 12 Q If you could, continue reading now 13 paragraph 50. 14 A Support 265 is positioned between hanging 15 ends 260a and 260b of retrofits 230a and 230b so 16 that one or more apertures 270 align with one or 17 more corresponding apertures 275. Object 238 is 18 positioned within support 265 either before or 19 after it's positioned between retrofits 230a and 20 230b. In an alternate embodiment, support 265 may 21 be secured to a single plate 230. Securing means 22 280 are inserted through the aligned apertures to	107 1 into 265. So you really need to get whatever the 2 wall surface is going to be -- in my mind it's a 3 wood frame wall; I'm attaching 203 to that wall 4 beyond with fasteners -- appropriate size. I've 5 had to nibble out a 203-shaped hole in the 6 sheathing layers, foam if you're going strictly 7 Timony, or it's two layers of 5/8ths drywall in my 8 modification. So fastened through the sheathing 9 into the wall with 203, then I'm coming along with 10 U-shaped 265. I'm positioning 238 with some 11 temporary means of support, lining up the holes, 12 and sending the fasteners through, through both 13 the plies of metal into the joist member 238 or 14 beam or whatever it is. 15 Q So is the object 138 part of the hanger -- 16 or 238 in this case, the object 238 part of the 17 hanger? 18 A No. But it's sequenced in such a way that 19 the positioning, the alignment of the extension 20 plate and the hanger plate needs to be 21 coincidental with the installation of 238. It's 22 all going to be composite. It's all going to be
106 1 secure plate 230 to support 265. 2 Q And then can you read the next sentence? 3 A Sure. Preferably, securing means 280 are 4 further forced into the object 238, thereby 5 securing retrofit plate 230, support 265, and 6 object 238 to each other. The number and type of 7 securing means 280 used is not particularly 8 restricted and is within the purview of a person 9 skilled in the art. Suitable securing means 280 10 includes screws and nails. 11 Q So I have a few questions here. When in 12 the construction process is 265 secured to 230 -- 13 or I mean 203? 14 MR. HIGGINS: Objection, form. 15 Q Actually -- yes. 16 MR. HIGGINS: Objection, form. 17 Q Does it say when that support 265 is 18 secured to the retaining portion -- or let me 19 rephrase that, because I butchered this. 20 Does it state when support 265 is secured 21 to retrofit plates 230a and 230b? 22 A It needs to happen before 238 is placed	108 1 part of a structure a few minutes later. But -- 2 Q Is the securing means part of the hanger? 3 A Yes. 4 Q So the nail is part of the hanger? 5 A In this case, yes. 6 Q And preferably, the securing means is 7 actually embedding into object 238, correct? 8 MR. HIGGINS: Objection, form. 9 A That is typical, yes. 10 Q How wide are joists, typically? 11 MR. HIGGINS: Objection, form. 12 A They're usually -- inch and a half is a 13 standard width. Would be a nominal two-inch joist 14 width. They also come in three-bys, which -- you 15 know, in their dressed timber size is three and a 16 half inches wide. But it really depends on what 17 type of joist you're talking about. You can have 18 truss joists. You'd really have to pin it down a 19 little bit. But most folks are initially going to 20 think solid-sawn timber joists, two-by or 21 three-by. 22 Q And so the retrofit plates 230a and 230b

109 1 would have to have at least an inch and a half 2 between them, correct? 3 A Yes. 4 Q On standard wall framing, how thick is the 5 stud? 6 MR. HIGGINS: Objection, form. 7 A Like the -- 8 Q I'm talking light wood framing. 9 MR. HIGGINS: Objection, form. 10 A Well, there's a dimension that represents 11 the depth of the joist, which would -- the 12 thickness of the wall from front to back, but then 13 there's also the width of the joist -- stud from 14 side to side. So common wall framing sizes are 15 two-by-four, two-by-six, two-by-eight, 16 three-by-four, three-by-six, three-by-eight. 17 Those are nominal numbers. The actual dressed 18 timber sizes are different. All of that is 19 tabulated in your timber design documents. 20 Q Moving on in your declaration. At 21 paragraph 188, you have an image of FIG. 8. It's 22 actually on, I guess, page 88.	111 1 intersection there where it forms like a miter. 2 So I'm looking at the extension flange as if it, 3 you know, has a mitered end to it where it abuts 4 the attachment portion 203a, if you follow what I 5 was trying to say there, Counselor. I said it 6 badly. 7 Q And, question. Is this a bent piece of 8 metal? 9 A Yes. 10 Q And with a bent piece of metal, is there 11 going to be some type of radius, even a small 12 radius of that bend? 13 A Likely, yes. 14 Q And that would be a small radius both on 15 the inside and the outside, correct? 16 A Yes. 17 MR. HIGGINS: Counsel, we're approaching 18 the one-hour mark. 19 MR. SCHROEDER: All right. It might be a 20 good time to go ahead and take a break. 21 (Whereupon, a recess was taken.) 22 THE REPORTER: Now back on the record.
110 1 MR. HIGGINS: Objection, form. 2 Q Can you go to that figure on page 188 -- 3 or not on page 188. It's getting late. Sorry. 4 Can you go to that figure on page 88? 5 A Yes. 6 Q Looking at this figure, which portion -- 7 and we're going to talk about 203a. That's the 8 retrofit plate that's closest to us, correct? 9 A Yes. 10 Q All right. Discussing this plate 203a, 11 which portion of the plate is the extension 12 flange? 13 A Well, it's both of those surfaces that 14 have been shaded red in the figure. So the one 15 closest to the reader shows the inside face of the 16 extension flange, and so it will be -- you know, 17 the red will extend to that inside corner. But if 18 you were looking on the exact opposite side of 19 that, not shown, what you see beyond -- you can 20 see the shaded portion. That extension flange 21 goes, again, through the sheathing all the way 22 back to that back corner. So there's a shared	112 1 BY MR. SCHROEDER: 2 Q Welcome back. 3 If you could, skip forward in your 4 declaration to paragraph 194, which I believe is 5 at page 90. 6 A Yes. 7 Q Right above paragraph 194, we have an 8 excerpt of the claim limitation that you're 9 discussing, right? 10 A Yes. 11 Q And could you read that claim limitation 12 for me? 13 A Yes. The back flange and the 14 channel-shaped portion defining a sheath space and 15 shaped to receive the sheathing therein so that 16 the channel-shaped portion is located on one side 17 of the sheathing and the back flange is located on 18 the opposite side of the sheathing when the hanger 19 and sheathing are installed on the wall. 20 Q So what does it mean to receive something? 21 MR. HIGGINS: Objection, form. 22 Q As it's used in this claim limitation.

113 1 MR. HIGGINS: Objection, form. 2 A I simply mean it to be installed. 3 Q And does it matter the order in which 4 things are installed? 5 MR. HIGGINS: Objection, form. 6 A On a very detailed level, yes, it does. 7 As I was describing earlier with the Sheetrock 8 rated assemblies, sheets have to be installed 9 vertically at the base layer and then horizontally 10 at the face layer, so there's an ordering and a 11 sequencing that occurs there. As we've talked 12 about in the adaptation of Timony here, we need to 13 align the holes and install the fasteners with the 14 joist positioned, probably with some means of 15 temporary support. So your overall question about 16 it, does the order matter, yes, it does. It just 17 really depends on what exactly you're talking 18 about. 19 Q And for a physical item to be able to 20 receive another physical item, does there have to 21 be a space bigger than the item being received? 22 MR. HIGGINS: Objection, form.	115 1 making to the Timony retrofit hanger in order -- 2 in your combinations listed here? 3 A Working backwards, I've adapted the 4 sheathing space to be the two layers of 5/8ths 5 disclosed and taught by Bundy. And then I'm 6 adopting the retrofit configuration for the 7 extension portions and how they attach to the 8 wall, in this case a wood-framed wall. I'm also 9 recognizing elsewhere in the literature here that 10 the U-shaped portion that receives the joist, I'm 11 keeping that outside of the sheathing zone. I 12 describe in the text here how I think there's a 13 drafting anomaly or a line was left out that it 14 was unclear as to where the back of the channel 15 actually terminates. I'm, in my modification, 16 terminating the channel at the face of the 17 sheathing, the outer face, so that the channel and 18 the joist are all outboard of the sheathing. The 19 only thing that penetrates the sheathing is the 20 little connection pieces. 21 Q So trying to unpack that a little bit so 22 that -- just to talk about the items a little bit
114 1 A Generally, there needs to be some 2 constructability required, Counselor. I mean, 3 again, it's a very open-ended question you ask, 4 and to my engineer brain, it just starts cycling 5 around. So you need a little bit of room to fit 6 things in without having to trim the member down 7 necessarily. A tight fit is good, but not 8 necessary. It really depends on what component 9 we're talking about again. But generally, things 10 need to be slightly larger to receive things that 11 are slightly smaller. 12 Q Moving on in your declaration. I'm trying 13 to figure out what page it's on, particularly 14 where it starts, but give me one second. 15 Starting on page 97, I believe, you have 16 opinions regarding that the claims of the '867 17 patent would have been obvious over Timony in view 18 of Bundy; is that correct? 19 A It is. 20 Q What specific modifications are you making 21 to the Bundy -- or I mean, excuse me. It's 22 getting late. What specific modifications are you	116 1 individually that you just mentioned, and probably 2 working backwards a little. When you're talking 3 about leaving the -- I think support 265 outside 4 the sheathing, is that what you are referencing in 5 -- let me find the paragraph number -- actually, 6 can you find that paragraph number? Or if you 7 look, can you find that as well? I'll see if I 8 find it first. 9 A Yeah. It's on page 96. 10 Q All right. 11 A And what I have there is an annotated 12 FIG. 9 where the red shading captures the exposed 13 portion of the channel shape outboard of the 14 sheathing zone. 15 Q All right. I knew it was there, and I 16 kept looking past it, so okay, thank you. 17 So that's the last item you discussed, is 18 making sure -- that channel-shaped portion. And 19 you addressed that as being a drafting anomaly; is 20 that correct? 21 A Yeah. That's when I look at the artwork 22 for Timony. The fact that it shows a continuing

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117 1 through the hatched zone back to the wall, I don't 2 think that was the intent, and it's certainly not 3 necessary for this hanger to work. Once those 4 holes get lined up, that -- those things will be 5 spiked together. 6 Q You also, I believe, mentioned -- and I 7 don't want to put words in your mouth, but that 8 you adjusted how the hanger was attached to the 9 wall; is that correct? 10 MR. HIGGINS: Objection, form. 11 A Not in this one here, no. If you went 12 forward to the annotated sketches on page 94, 13 there's an exploded detail there within paragraph 14 199, and it shows the extension portions with the 15 attachment plates. The only modification I've 16 made there is that I'm using two layers of 5/8ths 17 drywall instead of the insulating foam and using a 18 wood wall beyond. 19 Q Okay. And so you're not modifying the 20 plate 203a or 203b, correct? 21 A No. 22 Q And to use these on a wood frame wall, are	119 1 Q Can you read paragraph 217 for me? 2 A While Timony does not explicitly disclose 3 the bracket 195 shown in FIGS. 8 and 9, also 4 include a stop configured to engage the end of the 5 structural component, Timony discloses in another 6 embodiment a retrofit plate 130 further comprising 7 an outer projection 185, ellipsis, extending at 8 substantially a 90-degree angle from plate 130, 9 and when plate 130 is in a hanging position, abuts 10 an exterior surface of outer wall 115a, Exhibit 11 1008, paragraph 40. Timony further discloses that 12 an outer projection 185 may project from either 13 face of plate 130, outer or inner face, by 14 punching out a portion of plate 130, Exhibit 1008, 15 paragraph 40. 16 Q All right. Going to Exhibit 108 [sic]. 17 Does -- 18 A 1008? 19 Q 1008. Does Timony refer to plate 130 as 20 being a retrofit plate? 21 A No. It's still showing it within the 22 detailing of the cast-in-place original
118 1 you modifying how the hanger is secured to that 2 wood frame wall in any way? 3 MR. HIGGINS: Objection, form. 4 A The attachment screws are just going to 5 have to go into solid wood. So behind each -- 6 behind each of the attachment plates will need to 7 be a framing member. 8 Q And what would be the reason why you would 9 want to use -- you mentioned that you would be 10 using two sheets of 5/8-inch sheathing. What 11 would be the reason for that? 12 MR. HIGGINS: Objection, form. 13 Q Or what would be the motivation for 14 wanting to use two 5/8-inch pieces of sheathing? 15 MR. HIGGINS: Objection, form. 16 A Again, that's to achieve a two-hour fire 17 rating from one of the listed assemblies. Two 18 layers of 5/8ths nailed with the right fasteners 19 with the right spacing with the right detailing. 20 Q Going to paragraph 217. 21 Are you there? 22 A I am.	120 1 construction plate. 2 Q And is there any discussion of adding 3 these outer projections 185 to the retrofit plate 4 230a or 230b? 5 MR. HIGGINS: Objection, form. 6 A Not explicitly. 7 Q What would be the purpose of these outer 8 projections 185 in this plate 130? 9 A In all likelihood, they're used as guides 10 to help set the depth of the embedment plate to 11 flush it out with the outer surface of the 12 sheathing zone. 13 Q Could a joist be butted directly up 14 against the sheathing 115 of Timony? 15 A It could. 16 Q In fact, if you go to paragraph -- if you 17 go to the FIG. 4 that you include on page 102, 18 that's what's shown, correct? 19 A That is correct. 20 Q Moving on to page 113, you provide 21 opinions regarding Tsukamoto; is that correct? 22 A I do.

121 1 Q And starting at paragraph 249, you discuss 2 motivations to combine Tsukamoto and Bundy, 3 correct? 4 A I do. 5 Q What modifications are being made to 6 Tsukamoto in view of Bundy? 7 A Well, the extension zone or the extension 8 flange that helps define the thickness of the 9 sheathing zone is being sized for, again, two 10 layers of 5/8ths Type X drywall, and I've shown 11 that on page 126 in annotated FIG. 3 from the 12 Tsukamoto exhibit. 13 Q Are you modifying the vertical plates 2D 14 or 3D in any way? 15 A 2D, 3D, no. No, I'm leaving those as is. 16 Q How is the hanger in Tsukamoto secured to 17 the wall? 18 A There's a top-mount plate 3A. There are 19 also -- no, that's it. It's just top-mounted. 20 Q And if you look at FIG. 6, is there any 21 additional method in which the hanger is connected 22 to the wall or the wall structure?	123 1 means connecting 2D to a top plate or 3D to a top 2 plate? 3 MR. HIGGINS: Objection, form. 4 A Not explicitly shown in this artwork or 5 this document. It lends itself to fasteners being 6 sent through there, but I have not at this time. 7 Q Going back to your declaration. At 8 paragraph 251 -- or I guess paragraphs 249 through 9 253, you're discussing the motivation to combine, 10 correct? 11 A Yes. 12 Q And in particular, in paragraph 251, you 13 discuss optimizing the space so that it can 14 receive two sheets of drywall; is that correct? 15 A Yes. 16 Q What is the purpose of modifying the space 17 to be capable of receiving two sheets of drywall? 18 A Again, it's take this existing hanger and 19 adapt it in a fairly obvious way to allow for wall 20 surfaces, in this case wall surfaces that generate 21 a two-hour fire rating. Two layers of 5/8ths, as 22 discussed earlier, gets us into various tables to
122 1 MR. HIGGINS: Objection, form. 2 A Well, FIG. 6 shows a through bolt 3 arrangement that could be installed to provide a 4 tension tie from one side of the connection to the 5 other. I've really been looking at it as -- like 6 FIG. 5, Counselor, that is directly above, as a 7 single-sided application. 8 Q Is there any connection means that pass 9 through plates 2D or 3D? 10 MR. HIGGINS: Objection, form. 11 A As I just mentioned, if you're using a 12 double-sided application of FIG. 6, that's an 13 option. But in my modified hanger, I'm not 14 relying on that at all. 15 Q And if you look at the top-down view of 16 FIG. 4, that bolt that you just described, that 17 through bolt, would not go through 2D or 3D, 18 though, correct? 19 MR. HIGGINS: Objection, scope. 20 A Yeah, I haven't discussed that in my 21 declaration. 22 Q So you haven't identified any connection	124 1 be able to prescribe two-hour rated assemblies. 2 Q And looking at FIG. 1, FIG. 1 shows a hole 3 2B prime and 3B prime, correct? 4 A FIG. 1, Exhibit 1009, yeah, shows holes 5 2B prime and 3B prime. 6 Q And those holes are present in 3B prime -- 7 or I mean in FIG. 2, correct, 3B prime and 8 2B prime? 9 A They are. 10 Q And FIG. 3 is a side view, so you don't 11 see those holes, correct? You can't tell whether 12 they're there or not? 13 A No. 14 Q And FIG. 4 shows basically almost like a 15 plus sign where those holes would be centered, 16 correct? 17 MR. HIGGINS: Objection, form. 18 A I mean, that's what you'd have to narrow 19 it down to as a POSITA. It does look like 20 drill-hole-here marks, but I'd be speculating. 21 Q If you could go back to your declaration 22 and paragraph 271. And let me know when you're

125 1 there. 2 A Oh, I'm there. It's a bit like snakes and 3 ladders, though, bouncing backwards and forwards, 4 but yeah. Keeping me awake. 5 Q Sorry. We're almost done. 6 A No, you're all right. Carry on. 7 Q If it makes you feel any better, it's 8 8 o'clock here and 9 o'clock in D.C. 9 A I shouldn't have given the illusion of 10 whining. My bad. 11 Q Can you identify which portions of 12 Tsukamoto you're identifying as the first 13 extension flange and the second extension flange? 14 MR. HIGGINS: Objection, form. Objection, 15 scope. 16 Q So in paragraph 271 -- I'm going to 17 rephrase it. In paragraph 271, you state that 18 Tsukamoto discloses an extension portion -- I'll 19 skip that. But there's, you know, including 2B, 20 3B, 2D prime, and 3D prime, includes first and 21 second extension flanges. And then you've got, 22 example, connection portion 2D prime, 3D prime,	127 1 other flange? 2 A Correct. And that bend out of plane, you 3 know, gives us quite a bit of stiffness. It also 4 helps us hold that shape of the inclined portion 5 as we pass through the sheathing. 6 Q And would you agree that 2B and 2D prime 7 are perpendicular to each other? 8 A Yes. 9 Q Would you agree that the portion labeled 10 as 3B extends from the portion labeled 3C to the 11 portion labeled 3A? 12 A Yes. 13 Q Does the flange 3B of Tsukamoto extend 14 perpendicular to the base plane? 15 MR. HIGGINS: Objection, form. 16 A That surface does not. However, if you 17 look at -- well, maybe you'll get there, but at 18 the annotated FIG. 3 on 131 shows the planar 19 surface that I thought was perpendicular to the 20 base plane. 21 Q And that planar surface that you're 22 referring to is 3D prime, correct?
126 1 and inclined portions 2B and 3B. 2 So my question is -- and I understand that 3 the first extension flange versus the second 4 extension flange, that's interchangeable. But 5 which portions make up one extension flange and 6 which portions make up the other extension flange? 7 A Easiest if you look at my annotated image 8 on page 132. If you look at that, it's part of 9 paragraph 284, the -- as you've described, there's 10 series of 2s and 3s. So if everything 2-based is 11 one side and everything 3-based is the other side 12 -- you know, we'll call that left and the first 13 and second. Each one of those portions that's 14 been colored green by me here, that's the 15 extension flange shape that gets you through the 16 sheathing zone so that everything to the left is 17 channel-shaped bucket and everything to the right 18 is connection portion at the wall. But the green 19 bits there color in the extension flange. 20 Q And so you're saying, for instance, 21 looking at this, that 2B and 2D prime would be one 22 flange and 3B and 3D prime together would be the	128 1 A Yes. 2 Q Does 3D prime extend from 3C prime to 3A? 3 A Not completely. 4 Q Moving on in your declaration to paragraph 5 277. Let me know when you're there. 6 A I'm there. Yes. 7 Q You describe how the connection plates in 8 the inclined portions have a surface that lies in 9 the plane, correct? 10 A Yes, I do. 11 Q Would you describe an angle iron as lying 12 in the plane? 13 MR. HIGGINS: Objection, form. Objection, 14 scope. 15 A No. I think I've laid it out here, 16 Counselor, about my issues with lying in the 17 plane. We didn't really get into depth where I 18 got to explain the myriads of different planes 19 that could meet the definition of lying in the 20 plane. But the detail -- the annotated detail is 21 part of paragraph 277; it's on the next page. It 22 actually shows the portion of the extension flange

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129 1 that I believe is perpendicular to the base plane. 2 Q And so in order to lie in the plane, just 3 a portion of something has to lie in that plane, 4 correct, not the whole flange? 5 A Well, it really depends on what the claim 6 language is purporting to say. I've presented my 7 opinion as to why I believe the claim language is 8 indefinite earlier. But here from a theoretical 9 portion, yeah, only part of the plane needs to be 10 lying in the plane. 11 Q Or only part of the component needs to lie 12 in the plane. I think you misstated that. 13 A Right. That's what I meant. Because I 14 think we're -- as described elsewhere here, we'd 15 be talking about what happens if those radii 16 corners -- any practical limitations that puts on 17 2D theory. 18 Q Moving on to paragraph 287. Can you read 19 paragraph 287 for me? 20 A Tsukamoto discloses that the first and 21 second extension flanges, e.g., connection plates 22 2D prime, 3D prime, include an upper free edge,	131 1 basically looking shotgun down that edge where 2 basically it's just that one point from the angle 3 we're looking at? 4 MR. HIGGINS: Objection, form. 5 A Here's part of my problem. Which page 6 exactly are you looking at, Counselor? 7 Q I am looking at page 133 of your 8 declaration. 9 A Ah, okay. There we go. 10 Q And, here, I will share the screen just so 11 that we are on the same page. And I'll go ahead 12 and blow it up even. 13 Right there. Do you see that image? 14 A I do. Thank you. 15 Q All right. And so what I'm asking is -- 16 what you are identifying as the upper free edge, 17 is what I'm looking at here where it's pointing 18 out, an arrow, and calling something an upper 19 edge. Am I looking shotgun down that upper free 20 edge where I'm just looking at basically the end 21 of that edge? 22 A Oh, I see what you're saying. Yeah, the
130 1 Exhibit 1009, FIG. 2. 2 Q And then continue. 3 A Particularly, the upper end of Tsukamoto's 4 inclined portions 2B, 3B are exposed, and 5 therefore, equate to an upper free edge. 6 Q My question is, does the flange 3A or the 7 component 3A extend from the edge of the component 8 3B? 9 MR. HIGGINS: Objection, scope. 10 Q Let me ask -- or rephrase this question -- 11 or back up a little bit. 12 So is the upper free edge that you're 13 discussing this point basically right where it 14 states, upper edge, and then an arrow is pointed 15 at it? 16 MR. HIGGINS: Objection, form. 17 A I think I've lost the plot here, 18 Counselor. So -- 19 Q All right. I'm trying to understand, in 20 this image that I'm looking at on page 130 [sic], 21 your annotated FIG. 4, where it's pointing at what 22 it's calling the upper edge and -- are we	132 1 edge would be coming out of the page at us. 2 Q And then my next question is, at that edge 3 that we're calling an upper -- or that you're 4 calling an upper free edge, is the portion 3B -- 5 actually, is portion 3A extending from the portion 6 3B at that edge? 7 MR. HIGGINS: Objection, form. 8 A Both yes and no. When you look at other 9 parts of this artwork -- and this is a fairly 10 basic line drawing here. As far as some of the 11 artwork we've appreciated today, this is towards 12 the lower end of quality. But there is some -- 13 there's a bent corner, there's some radii, there's 14 all sorts of things that -- I believe there's a 15 shared point there where they do actually contact. 16 It's more of the underside edge, sort of the 17 inside corner that's formed by all of that. If 18 you had a 3D isometric, it might show it. I stand 19 by the language I've got written there. I mean, 20 that's an upper edge. 21 MR. SCHROEDER: I have no further 22 questions.

133 1 MR. HIGGINS: Thank you, Counsel. We 2 would like to have a 30-minute break to determine 3 if we want to have redirect questions. 4 MR. SCHROEDER: You need 30 minutes? 5 MR. HIGGINS: Yes. 6 MR. SCHROEDER: All right. Come back at 7 8:55 my time, 9:55 yours? 8 MR. HIGGINS: Yep. Thank you, Counsel. 9 (Whereupon, a recess was taken.) 10 THE REPORTER: Now we're back on the 11 record. 12 You can go ahead, Counsel. 13 EXAMINATION BY COUNSEL FOR THE PETITIONER, 14 SIMPSON STRONG-TIE COMPANY INC. 15 BY MR. HIGGINS: 16 Q Mr. Fennell, we have a few questions to 17 ask you on redirect. 18 Generally, can a hanger used on a concrete 19 wall also be used on a wood frame wall? 20 A Yes. 21 Q Can you please refer to paragraph 99 of 22 your declaration on page 48, Exhibit 1003?	135 1 A Yeah, not necessarily. As I described 2 earlier with the other counsel, it's really those 3 fasteners number 62 that provide the wall 4 attachment. Any top-mounted portion is bonus. 5 Q Can a hanger in Gilb '792 carry a load 6 even if connected directly to the wall instead of 7 the ledger? 8 A Well, it would be passing through the 9 ledger as drawn, the metal ledger. If you omit 10 it, like we were talking hypothetically a minute 11 ago, yes, you could attach it directly to the wall 12 and yes, it could carry a load. 13 Q Could you please refer to pages 8 and 9 of 14 your declaration, paragraph 18? 15 A I am there. 16 Q And you see the bullet points of the claim 17 construction? 18 A Yes. 19 Q Counsel asked you whether you agreed with 20 constructions provided by the board, and you 21 replied, I do. Did you mean that you simply agree 22 that those were the constructions that you
134 1 A Okay. 2 Q You're at paragraph 99? 3 A I am. 4 Q Can you read the first sentence for me? 5 A In my opinion, a POSITA would have 6 understood that Gilb '792's hanger 7 prime could 7 be used for a variety of different wall types, 8 including for connecting a structural component to 9 a wall adapted to have sheathing mounted thereon. 10 Q Would a POSITA consider that the hanger of 11 Gilb '792 could be used for other wall types 12 beyond concrete and masonry? 13 A Yes. Anything you can bolt that hanger 14 section to is appropriate. That's really designer 15 choice. 16 Q Are there types of walls other than 17 concrete and masonry that ledgers are used on? 18 A Yes. Wood walls, adobe walls. 19 Q Does Gilb '792's hanger need to be mounted 20 to a ledger in order to operate as a hanger? 21 MR. SCHROEDER: Object to scope. 22 But you may answer.	136 1 adopted, or that those were the constructions that 2 you would have originally come up with? 3 A Oh, it's the former. I adopted it for the 4 purpose of this declaration. 5 MR. HIGGINS: Thank you. No further 6 questions. 7 MR. SCHROEDER: Can I ask a few follow-up 8 questions? 9 MR. HIGGINS: On recross? 10 MR. SCHROEDER: Yes. 11 RE-EXAMINATION BY COUNSEL FOR THE PATENT OWNER, 12 COLUMBIA INSURANCE COMPANY 13 BY MR. SCHROEDER: 14 Q So just a second ago, you identified that 15 -- for the purposes of paragraph 18, that you are 16 adopting these claim limitations -- or these claim 17 constructions from the prior -- sorry, let me 18 rephrase that. 19 Just a moment ago, you mentioned that with 20 respect to paragraph 18, that you are agreeing to 21 adopt these position -- these claim construction 22 positions from the prior post-grant review, but

137 1 that you don't necessarily agree with those claim 2 constructions. Is that my understanding? 3 MR. HIGGINS: Objection, form. 4 A No, that's not what I was trying to say or 5 intend to say. They seem perfectly reasonable 6 constructions, and I've adopted them for the 7 purpose of this declaration. 8 MR. SCHROEDER: No further questions. 9 MR. HIGGINS: No further questions. 10 MR. SCHROEDER: So I'm assuming we're off 11 record. 12 (Off the record at 10:03 p.m. EST.) 13 14 15 16 17 18 19 20 21 22	139 1 I further certify the inspection, reading and 2 signing of said deposition were not waived by 3 counsel for the respective parties and by the 4 witness. 5 6 I further certify that I am not related to any 7 of the parties to this action by blood or 8 marriage; I am not employed by or an attorney to 9 any of the parties to this action; and that I am 10 in no way interested, financially or otherwise, in 11 the outcome of this matter. 12 13 IN WITNESS WHEREOF, I have hereunto set my hand 14 this 1st day of June, 2022. 15 16  17 _____ 18 19 NOTARY PUBLIC IN AND 20 FOR THE STATE OF CALIFORNIA 21 22
138 1 C E R T I F I C A T E 2 3 I, DANIEL LONG, Notary Public within and for 4 the State of California, do hereby certify: 5 6 That W. ANDREW FENNELL, the witness whose 7 deposition is hereinbefore set forth, was duly 8 sworn by me before the commencement of such 9 deposition and that such deposition was taken 10 before me and is a true record of the testimony 11 given by such witness. 12 13 I further certify that the adverse party was 14 represented by counsel at the deposition. 15 16 I further certify that the deposition of 17 W. ANDREW FENNELL was conducted virtually on 18 Wednesday, May 25, 2022, commencing at 4:44 p.m. 19 and concluding at 10:03 p.m. 20 21 22	140 1 CERTIFICATE OF TRANSCRIBER 2 3 I, Catherine Galati, do hereby certify 4 that the foregoing transcript is a true and 5 correct record of the recorded proceedings; that 6 said proceedings were transcribed to the best of 7 my ability from the audio recording and supporting 8 information; and that I am neither counsel for, 9 related to, nor employed by any of the parties to 10 this case and have no interest, financial or 11 otherwise, in its outcome. 12 13 14 15  16 _____ 17 18 19 CATHERINE GALATI 20 21 22

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