UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Case IPR2024-00224

Patent No. 9,457,487 B2

PROVISUR TECHNOLOGIES, INC.,

Petitioner,

v.

TEXTOR MASCHINENBAU, GMBH,

Patent Owner.

Oral Deposition of

CHARLES REINHOLTZ, Ph.D.

Friday, August 23, 2024

8:58 a.m.

Reported by Lisa A. Knight, RDR, CRR, RSA

DIGITAL EVIDENCE GROUP

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Provisur EX1045
U.S. Patent No. 9,457,487

Pursuant to Notice, the oral deposition of CHARLES REINHOLTZ, Ph.D., was conducted on behalf of the Petitioner at the location of Erise IP, 717 17th Street, Suite 1400, Denver, Colorado, beginning at 8:58 a.m., on Friday, August 23, 2024, reported stenographically by Lisa A. Knight, Realtime Diplomate Reporter, Certified Realtime Reporter, and Realtime Systems Administrator.

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I N D E X

CHARLES REINHOLTZ, Ph.D.

August 23, 2024

EXAMINATION OF CHARLES REINHOLTZ, Ph.D.:

BY MR. FELDHAKE 8

DEPOSITION EXHIBITS

CHARLES REINHOLTZ, Ph.D.

August 23, 2024

NUMBER	DESCRIPTION	MARKED
Exhibit 1035	U.S. Patent No. 7,621,109 (Momich), No Bates	213
Exhibit 1036	U.S. Patent No. 3,517,605 (Hursch), No Bates	220

DEPOSITION EXHIBITS

(PREVIOUSLY MARKED)

NUMBER	DESCRIPTION	MARKED
Exhibit 1003	Declaration of John M. Collins, Ph.D., in Support of Petition for Inter Partes Review of U.S. Patent No. 9,457,487, No Bates	62
Exhibit 1004	Japanese Unexamined Patent Publication Hei No. 6-117905, Satoshi Konishi, No Bates	116
Exhibit 1006	U.S. Patent No. 9,296,120 (McLaughlin et al.), No Bates	108
Exhibit 1012	U.S. Patent Publication No. 2010/0275789 A1 (Lee et al.), No Bates	163

DEPOSITION EXHIBITS

(PREVIOUSLY MARKED)

NUMBER	DESCRIPTION	MARKED
Exhibit 1016	U.S. Patent No. 6,201,218 (Chandler et al.), No Bates	205
Exhibit 2006	Declaration of Professor Charles Reinholtz, Ph.D., in Support of Patent Owner's Response to Inter Partes View of U.S. Patent No. 9,457,487, No Bates	116
Exhibit 2014	Deposition of John M. Collins, Ph.D., June 21, 2024, No Bates	271

*STENOGRAPHER'S NOTE: All quotations from exhibits are reflected in the manner in which they were read into the record and do not necessarily indicate an exact quote from the document.

PROCEEDINGS

(August 23, 2024, at 8:58 a.m.)

CHARLES REINHOLTZ, Ph.D.,

having been first duly sworn to state the whole truth, testified as follows:

EXAMINATION

BY MR. FELDHAKE:

Q. Good morning, Dr. Reinholtz.

A. Good morning.

MR. FELDHAKE: I'll make my appearance. My name is Mitch Feldhake. I'm here on behalf of petitioner Provisur Technologies, Inc.; and also on a Zoom with me right now is Mike Babbitt, who is also counsel for petitioner.

Patent owner, would you like to make an appearance?

MR. HART: Sure.

Paul Hart with Erise IP for patent owner, Textor.

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BY MR. FELDHAKE:

Q. Okay. Good morning, again, Dr. Reinholtz.

A. Good morning.

Q. Can you please state your full name for the record.

A. Charles Frederick Reinholtz.

Q. Is there any reason you might not be able to provide full and truthful testimony today?

A. No, there's no reason I can't be truthful.

I do want to say that I've had cataract surgery, and so my vision -- I'm still in an adjustment period, and I have some treatments still to go, and so you may see me switching grasses, and it may take me a little bit longer.

I apologize for that, but I'll do the best I can. I don't think it will be a big issue, but just so you know.

Q. Totally fine. I appreciate the

heads up. If you need any accommodations during this because of that, just let me know.

A. Okay. Thank you.

Q. Do you understand that you're here today to provide testimony in connection with a proceeding in the U.S. Patent and Trademark Office, Patent Trial and Appeal Board, called an Inter Partes Review?

A. I do, yes.

Q. And you understand that your testimony relates to the declaration you submitted in IPR 2024-00224 regarding U.S. Patent No. 9,457,487?

A. I know it's the '487 patent, I don't recognize all of the numbers. I don't have them memorized, but that sounds correct.

Q. All right. Thank you.

If I refer to the "'487 patent" today, will you understand what I'm referring to?

A. Yes.

Q. Okay. And you understand that this is an IPR between Textor Maschinenbau, GmbH, and Provisur Technologies, Inc.; is that correct?

A. Yes.

Q. And if I refer to Textor Maschinenbau, GmbH, as "Textor" or "patent owner," do you understand who I'm referring to?

A. I do, yes.

Q. I might also sometimes refer to them as "Weber," but I will try to keep that to a minimum. Sometimes I get the parties a little mixed up.

A. I'm comfortable with the term "Weber" as well. So I think I can respond to that.

Q. Okay. Thank you.

And if I refer to Provisur Technologies, Inc., as "Provisur" or "petitioner," do you understand what I'm

referring to?

A. I do, yes.

Q. Have you been asked to perform any work for patent owner in relation to the District Court proceedings involving the '487 patent?

A. No.

Q. Have you read any materials, such as briefs, motions, or orders, from the District Court proceedings?

A. I cannot think of any. If it's not in my List of Materials Reviewed, then I haven't.

Q. Okay. How many times have you had your deposition taken before, Dr. Reinholtz?

A. On the order of 50.

Q. And how many times have you had your deposition taken in connection with proceedings between Provisur and Weber or Textor?

A. At least once. It may be more

than that, but I can only clearly recall one.

Q. Okay. And so you've done this before, but I'll just run through some basics.

So you understand that today I will be asking questions. And unless your counsel instructs you not to answer, then you'll be providing answers. Correct?

A. Correct.

Q. And if you don't understand any of my questions today, please just let me know, and I'll try to clarify or rephrase.

Does that sound good?

A. Yes.

Q. Okay. And I'll take a break approximately every hour. If you need breaks more often, please let me know. I just ask that you answer any pending questions before we go on a break.

A. Yes. That's correct. I will.

Q. Okay. Thank you.

What did you do to prepare for

today's deposition?

A. I would say everything I've done related to the case is preparation for the deposition today.

So I began some time ago reviewing patents -- I think in the spring -- '487 patent prior art; and, more recently, in the last few days -- or yesterday, I met with counsel.

Q. And who were the people that you met with yesterday?

A. With Paul, who's here with us this morning, and also with Sten Larson, not the full time but part of the time yesterday.

Q. Approximately how many hours did you meet with counsel yesterday?

A. Maybe five hours of discussion with the patent, maybe five-and-a-half.

Q. And did you review your declaration yesterday?

A. In part, yes. I didn't read every word of it yesterday, but I have reread

it in the last few days.

Q. Did you review any other exhibits yesterday?

A. Yes.

Q. Do you recall what those exhibits were?

A. Again, I didn't review the exhibits in full, but I know -- I looked at parts of Konishi, parts of McLaughlin, parts of Lee. There are a few Lindee patents -- at least one of the Lindee patents.

Probably some other material I'm not recalling, but nothing that I reviewed word by word through the entire document. Bits and pieces of documents.

Q. Okay. Did you review any of the briefs that had been submitted in this proceeding?

A. Are you asking me specifically yesterday did I review?

Q. Well, let's start with yesterday, and then I'll expand it.

So yesterday, did you review any of the briefs that have been submitted in this proceeding?

A. And by "briefs," do you include -- so maybe this is a legal understanding -- do you include, for example, the Petition for Review? Is that -- would you consider that a brief?

Q. Yeah, so when I say "briefs," I guess for the purpose of this proceeding, I should be using the term "paper."

So a petition is a paper. The patent owner response is a paper. So I'll rephrase the question and use the word "paper."

A. Yes.

I don't recall specifically which ones, but I did review pieces, again, of at least the patent owner response, probably the petition itself, although I can't recall specifically what I may have looked at there.

I may have reviewed pieces of Dr. Collins' declaration. Probably likely those -- at least those things.

Q. Have you ever reviewed the decision on institution in this proceeding?

A. I have, yes.

Q. Did you review that yesterday?

A. I don't recall looking at that yesterday.

Q. Are you aware that Textor submitted other declarations in this proceeding?

A. I can't think of any.

So you might refresh my memory, but I'm not thinking of any at the moment.

Q. Do you know if a Dr. Meyer submitted a declaration in this proceeding?

A. That sounds familiar, but I can't specifically recall.

Q. Do you know if a Dr. Leathers -- I believe it's Leathers, not Leather, but either Leather or Leathers -- submitted a

declaration in this proceeding?

A. I don't recall seeing that. It's possible I've seen it, but I don't recall.

Q. Are you aware if a Dr. Kindler submitted a declaration in this proceeding?

A. That does not sound familiar, but I just don't recall.

Q. So if Dr. Meyer, Dr. Kindler, and Dr. Leathers submitted declarations -- scratch that.

If Dr. Meyer, Dr. Kindler, and Dr. Leathers had reports that were submitted in this proceeding, is it safe to say you have no opinions on the contents of those reports?

A. (Document[s] reviewed.)

I can't recall having any opinions. If they're embedded in my declaration, I've just forgotten. And maybe we'll come across those.

But I don't recall providing

any opinions related to any of those three people or the reports or declarations that they submitted.

Q. In section 2 of your declaration, which is you're Overview and Materials Considered, you do not discuss a report by Dr. Leathers, Dr. Kindler, or Dr. Meyer; correct?

A. (Document[s] reviewed.)

And I have a binder in front of me. I'm not sure if this is a binder I have provided or this is one that was brought in by the counsel here.

MR. HART: I can clarify that, for the record.

This is a binder of clean copies of a number of documents, including Dr. Reinholtz's declaration, some of the prior art references. We have a clean copy of the Collins' declaration.

This is just for Dr. Reinholtz

to be able to reference during the deposition today.

A. If you could just please repeat that question, just to make sure I'm answering your specific question.

BY MR. FELDHAKE:

Q. In section 2 of your declaration, which is your Overview and Materials Considered, you do not discuss a report by Dr. Leather, Dr. Kindler, or Dr. Meyer; correct?

A. That's correct.

Q. Okay. And we just briefly discussed a binder that you have in front of you right now.

Did you have any hand in assembling the contents of that binder?

A. I requested to have certain clean documents available. I did not physically print these. They were printed here yesterday for me.

Q. Okay. So did you request that

counsel prepare the specific documents that are in the binder in front of you?

A. Yes.

Q. Do you have any specific knowledge about any of Weber's slicing products?

A. I have inspected in a previous case a number of different Weber products. I don't have a clear memory. That's been several years ago.

But, yes, I have inspected both in a Weber training or design facility and also in a -- I believe it was in a Tyson meat processing plant, but in an industrial setting.

Q. Do you recall where, geographically, the industrial setting was?

A. It was in the Kansas City area. Beyond that, I can't recall.

Q. Do you recall which Weber slicing products you have inspected before?

A. No.

Q. Do you recall if you've inspected a weSLICE 9500?

A. No.

Q. Do you have any specific knowledge about any of the Textor's slicing products?

A. I've certainly seen documentation, but I can't specifically recall.

Q. Was the documentation that you've seen regarding Textor's slicing products provided to you in connection with this IPR?

A. I just don't recall if I even have seen any. I don't remember. Perhaps there's information in my declaration that I've forgotten, but I don't recall.

Q. Do you recall ever seeing a Textor slicing product in person?

A. I probably have trouble distinguishing between Weber and Textor. So I can't really distinguish between the two.

I've seen slicers with Weber and Textor. I'm not quite sure if I've seen both or what even the difference is between those.

Q. Understood.

Can you please turn to -- actually, before I get to this. So just to be clear for the record, you have not taken any notes or written anything in the contents of the binder that's in front of you; is that correct?

A. That's correct.

Q. Okay. Thank you.

Can you please turn to paragraph 28 of your report.

Are you there?

A. I am, yes.

Q. Here, you describe the alleged benefits of the '487 patent; is that correct?

A. I think 28 is, yes, part of the description of the benefits of the '487 patent.

Q. And in paragraph 28, you alleged the '487 patent describes a removable conveyor that facilitates a space-saving structure; is that correct?

A. (Document[s] reviewed.)

That's correct.

Q. How does the '487 patent facilitate a space-saving structure, in your opinion?

A. My understanding of the prior art compared to the invention of the '487 patent, the prior art required placing a portion of the conveyer unit -- and it's described in the '487 patent -- but moving it next to the slicer and then having to remove the belts.

And so I understand that there was a real estate required to make that -- to make that disassembly and reassembly. And so this invention eliminates the need to have that adjacent -- the assembly adjacent to the slicer.

Q. There's nothing in the claims of the '487 patent that teaches space-saving structure; correct?

MR. HART: Object to form.

A. I'll look at the '487 patent claims.

Here's where I'm going to do a change of optics, make it a little easier to read this.

(Document[s] reviewed.)

So I'll answer by saying that I just -- just scanning through the claims -- I'd be happy to read them in detail -- but I don't see the word "space-saving."

For example, I do see some things in the claims about configuring the motor to be underneath the drive, underneath the conveyer, and I do see some dimensions that indicate relative sizes.

But I think, more importantly, the Background of the Invention talks about this -- getting to the question you were

asking -- "It is known" -- and I'm reading now from the specification column 1, line 58 -- "It is known from the prior art to make possible such a removal in that the conveyors are suspended" -- is the language the patent uses, my commentary -- "at one side of an apparatus." And then it talks about the very huge belt racks that are required for cleaning.

So I think the claims are all directed at an invention that gets away from that.

So while it's not explicitly stated, I think it's certainly an objective of the claimed invention to save space.

BY MR. FELDHAKE:

Q. Okay. So you would agree that the claims of the '487 patent do not explicitly state a space-saving structure; right?

MR. HART: Object to form.

A. (Document[s] reviewed.)

I do not see those words in the claims. But there are 24 claims, and I have not read through every word this morning. And I don't recall it being in there.

BY MR. FELDHAKE:

Q. Earlier I asked you -- I asked you a series of questions about how the '487 patent facilitates a space-saving structure. But I'm going to focus on my first question and your first answer.

So I asked: How does the '487 patent facilitate a space-saving structure, in your opinion?

And you said that your understanding of the prior art was that the invention of the '487 patent eliminates the need to have an adjacent assembly to the slicer.

Does that sound familiar to you?

A. I can't recall the exact words I used, and I don't know whether you were

paraphrasing. But I think the passage that I started in column 1, line 58, and then all the way through column 2, line 16, really are directed at the space-saving benefits of this invention.

Q. Konishi is prior art to the '487 patent; right?

A. It is, yes.

Q. And Konishi teaches a removable conveyer belt that does not require the adjacent space to remove the conveyer belt; right?

MR. HART: Object to form.

A. I just don't recall in Konishi whether there's any discussion about adjacent space.

BY MR. FELDHAKE:

Q. Do you recall how the conveyer belt is removed in Konishi?

A. Well, the full removal is not described in Konishi, only lifting the conveyer off once it's been unlatched.

I think there has to be a latching mechanism in Konishi, and a person of skill in the art would understand that.

So Konishi describes, once that conveyor is unlatched, how it can be lifted out. So the series of motions. I don't recall beyond that whether there's any discussion of space-saving in the patent.

Q. So you would agree that a person of ordinary skill in the art reviewing Konishi would understand that there was a latching mechanism in Konishi?

Is that your opinion?

A. I believe a person of skill in the art would understand that in implementing the invention of Konishi, it would -- the conveyer assembly would be required to be latched in place due to the forces that are at play and the vibrations. It just wouldn't function as a weigh conveyer without being latched.

Q. And a person of ordinary skill

in the art would have also been aware of toolless latching systems; right?

A. Well, I'm not sure of that, no. I don't agree with that.

I think that toolless is clearly an important invention of the '487 patent.

Q. So is it your opinion that before 2012, a person of ordinary skill in the art would not have been aware of toolless latching systems?

MR. HART: Object to form.

A. In this field of art, I have not seen a reference that describes a toolless latching system that I can recall. Perhaps you can point me to something you'd like me to consider, but I don't recall seeing that.

BY MR. FELDHAKE:

Q. In paragraph 28 -- turning back to paragraph 28 of your report -- you allege that the '487 patent describes a removable

conveyor that facilitates easy cleaning; right?

A. Yes, one of the features of the invention of the '487 patent is easy cleaning.

And there are some citations in these paragraphs that I haven't gone to yet, but I think there's probably an additional description of this in the '487 patent, column 2, lines 20 to 25; column 2, lines 48; and then on to column 3, line 9, that we can look at, if you'd like.

Q. We'll get to those.

But going back to the previous line of questions that we were on. Are you aware of any toolless latching systems that existed before 2012?

MR. HART: Object to form.

A. In this field of art, I have not -- I do not recall seeing a reference that described a toolless latching system.

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BY MR. FELDHAKE:

Q. So regardless of the field of art, were you aware of toolless latching systems before the year 2012?

MR. HART: Object to form.

A. That's a really broad question. I've seen a lot of equipment over my 40-plus years of practice as a mechanical engineer.

I may have in some other field, where something may be latched without a tool. I don't think it relates to the invention of the '487 patent and the conveyer systems that are at issue here.

BY MR. FELDHAKE:

Q. What do you think is the field of art for the '487 patent?

A. (Document[s] reviewed.)

Of course, in the patent examination process, the patent examiner provides detailed information about the field that is searched, or the fields that are

searched, to look -- to find relevant prior art.

And I don't know the codes that are used here, but I think that would give us further information about the field.

Generally this is about conveying systems and slicing systems where there is a significant concern about contamination, as often is the case in food processing, especially processing meats or cheeses.

And so the idea of being able to clean the equipment in an efficient way is really the focus, in my opinion, of the invention, and having a conveyor that can be easily cleaned.

Q. Konishi teaches a removable conveyor that can be easily cleaned; right?

A. Konishi teaches a conveyer.

Again, in my opinion, there's a description of a portion of the removal process. We don't see how Konishi is latched

in place. It's just silent as to that issue.

But I do believe -- let me review Konishi a bit.

(Document[s] reviewed.)

Konishi, in the Summary of the Invention, under Purpose, does mention efficient cleaning work, such as showering. It doesn't relate that directly to -- so it talks about it being waterproofing the drive structure and conveyer drive motor -- let me read what Konishi says.

"To simplify the structure of the subframe containing the conveyer belt to make it easier to remove from the frame and also to simplify the waterproof structure for the weight detector and conveyer drive motor in order to perform reliable and efficient cleaning work, such as showering."

That's the stated purpose of Konishi.

Q. So Konishi teaches a removable conveyer that can be easily cleaned; right?

A. (Document[s] reviewed.)

Well, I wouldn't paraphrase it. I think the words of the patent are important.

And so it says -- first of all, it doesn't describe here cleaning when it's removed. It describes showering -- work, such as showering, which implies to me it can be cleaned in place and waterproof.

And it says "to make it easier to remove." It doesn't say "easy to remove" from the frame.

So I think sticking with the statement of purpose is probably better than trying to paraphrase and suggest some more specific purpose.

Q. So you don't think that Konishi teaches cleaning its removable conveyer belt after it's been removed?

Is that your opinion?

A. (Document[s] reviewed.)

I would not say that's my

opinion.

I read the Purpose, and it doesn't describe removing it to clean it. There may be other passages. You're welcome to point me to those or I could review the patent and take some time to do that.

But I don't see that in the stated purpose. And I don't think I recall that being in the claims of the patent.

(Document[s] reviewed.)

Q. Do you believe that a person of ordinary skill in the art reviewing Konishi would understand that Konishi's conveyer belt could be cleaned after removal?

MR. HART: Object to form.

A. Yeah, I see no reason it could not be cleaned after removal. That seems just common sense to me. I'm not sure that Konishi states that as the intent of the invention.

BY MR. FELDHAKE:

Q. Do you believe it is easier to

clean a conveyer belt when it is installed in the machine or when it has been removed from the machine?

MR. HART: Object to form.

A. Well, I think it depends somewhat on the specifics of the application.

Konishi is teaching a weigh conveyer. And I think the intent -- the focused intent is to move candy -- to convey candy, which is probably -- creates different cleaning requirements than, for example, processing meat.

And so whether it would be easier to do when the assembly is part of the machine or whether it would be easier to do it when it's removed I think depends on the extent of cleaning that's required.

So specifically with respect to Konishi, I don't know at this point. I'd have to give it more thought, and I'd have to review Konishi more to see what else -- other information there might be. I just haven't

considered that.

BY MR. FELDHAKE:

Q. So sitting here today, you have no opinion regarding whether Konishi's removable conveyer belt would be easier to clean when it is removed from or installed in the machine?

Is that correct?

A. Well, first of all, Konishi teaches the removal of the -- not just the conveyer belt but the structure of the subframe containing the conveyer belt.

I just would have to give it more thought and review Konishi more to see if there's any specific teaching that it's easier to clean the belt once it's removed -- once the assembly is removed or once the belt -- I think that was your question, is that once the belt is removed.

I think it could be either. And there may be -- there may be a description in Konishi that gives us guidance

on that, but I don't recall it off the top of my head.

Q. Do you believe that the field of art for the '487 patent is limited to conveyors in slicers?

MR. HART: Object to form.

A. I haven't been asked to provide an opinion on that specific question.

Some of the claims of the patent clearly relate to slicers. And so I would say -- I don't have an opinion whether it's limited to that. But certainly slicers are covered by the claims in the description of the patent.

BY MR. FELDHAKE:

Q. In your declaration, you didn't provide any opinion that the claims of the '487 patent were limited to slicers; right?

A. I believe that's correct; yes.

Q. How does the '487 patent facilitate easy cleaning?

MR. HART: Object to form.

A. (Document[s] reviewed.)

So I think we can turn to material that I've cited in my declaration for an answer to that.

I've already reviewed the material that talks about the prior art that's in column 1 and column 2 and the disadvantages of the prior art.

In column 2, starting at line 20, it says, "It is a feature of the invention to provide an apparatus of the initially named kind which does not have the mentioned disadvantages and which, in particular, makes a cleaning possible which is as simple as possible with the space-spacing and inexpensive manner of construction." And then it goes on to describe further how that's done.

And then later, starting in that same column, there's a long description that goes on into column 3 that talks about mounting the mechanical interface.

(Document[s] reviewed.)

In column 3, it talks about hygienic and functional accommodation of a plurality of drives. So this has to do with a multi-drive belt system.

So I think there's a good description in support in the patent for simple -- simplifying as much as possible the cleaning and disinfecting operations.

BY MR. FELDHAKE:

Q. How is the cleaning process simplified in the '487 patent?

A. I think the entire patent speaks to that. There are a number of embodiments shown.

And the claims describe -- again, with processing meat, there's a significant concern with contamination. The decontamination cleaning process takes place daily or, in some cases, more frequently.

And the entire patent speaks to how to make the cleaning and disinfecting

process as simple as possible.

Q. In paragraph 28, you also allege that the '487 patent describes a removable conveyer that facilitates inexpensive construction; right?

A. Yes.

Q. How does the '487 patent facilitate inexpensive construction?

MR. HART: Object to form.

A. I think, again, the entire patent speaks to that. The preferred embodiments describe simple ways of being able to toollessly unlatch and latch the conveyer assembly into place.

I think the passage I just cited, starting in column 2, specifically says "an inexpensive manner of construction."

And the whole patent really speaks to a simple construction -- simple, inexpensive construction. Simplified cleaning operations.

///

BY MR. FELDHAKE:

Q. Does the '487 patent specifically describe how it is inexpensive?

MR. HART: Object to form.

A. I would have to take time to review the entire patent to see what specific descriptions are in here regarding expense or cost.

But I think a person of skill in the art would look at the preferred embodiments and the figures and see some very simple constructions -- simple, yet, in my view, ingenious, that weren't known in the prior art to be able to latch and unlatch and easily remove the conveyer assembly.

BY MR. FELDHAKE:

Q. Can you point me to something in the figures that represents an inexpensive construction?

A. I'm hesitant to focus on one thing because I think the entire patent clearly speaks to this statement in the

Summary of the Invention regarding inexpensive manner of construction.

But I think it's also possible to look at the figures -- for example, Figure 14A and -B -- and see a very simple way of being able to latch and unlatch the conveyer assembly and to be able to tighten and slacken the belt to facilitate easy removal.

I think there are many, many examples. I think the entire patent speaks to that. But I think we can look at particular figures and see examples as well.

BY MR. FELDHAKE:

Q. So is it your opinion that the latching and unlatching of the conveyer assembly is what makes it inexpensive?

MR. HART: Object to form.

A. I think it's the entire design of the various embodiments, including the latching and unlatching assembly.

///

BY MR. FELDHAKE:

Q. When forming the opinions reflected in your report, did you understand that latching and unlatching and toolless removal were synonymous?

A. No.

Q. Can you please turn to paragraph 36 of Konishi and review it. And let me know once you're done reviewing it.

A. (Document[s] reviewed.)

Okay. I've reviewed it.

Q. Paragraph 36 of Konishi describes removing the conveyer belt unit before cleaning; correct?

A. (Document[s] reviewed.)

Not quite.

36 describes removing the conveyer belt 14...

(Document[s] reviewed.)

Q. Is that the end of your answer?

A. Yes.

Q. Okay. Paragraph 36 says that

the subframe has already been removed from hooks 25F and 25R; right?

A. Yes, that's described above. That's correct.

Q. So the cleaning happens after the subframe 12 has been removed from the machine; correct?

A. (Document[s] reviewed.)

Yes. It says once the subframe has been -- already been removed, then the belt -- the conveyer belt can be removed and subjected to predetermined cleaning by showering.

So, yes, I think it can be taken out of the machine, removed from the machine, and cleaned by showering or some other technique.

Q. So the idea of space-saving and easily cleanable, removable conveyer belt units were known before the '487 patent; right?

MR. HART: Object to form.

A. (Document[s] reviewed.)

I don't see any description here of space-saving, at least not in the material that I'm reviewing at the moment.

Certainly taking belts out of the machine and cleaning them was known prior to the '487 patent.

BY MR. FELDHAKE:

Q. Okay. So I'll break that down into one question: The idea of easily cleanable, removable conveyer belt units was known before the '487 patent; right?

A. (Document[s] reviewed.)

Again, I think Konishi and the purpose of the invention on the first page of the patent talks about making it easier to remove from the frame and to simplify waterproofing.

I don't think Konishi ever says it's easy -- the words you use, "easy to remove and clean." There are clearly operations that have to take place that

aren't described in the patent.

The unlatching and latching requirement to remove and reinstall the conveyer assembly into its working configuration are not discussed here. But that would be essential in a conveyer of this type.

Q. The same benefits of space-saving described in the '487 patent are also recognized by Konishi; right?

A. You'll have to point me to a passage or allow me to review this. I don't recall there being a specific discussion that is comparable to the discussion in the '487 patent.

Q. Well, you said that the space-saving benefit in the '487 patent is because you don't have to have the adjacent space to remove the conveyer belt units; right?

A. That's part of the reason.

Q. What are the other reasons?

A. I think they're, again, described quite clearly in the material at least I've partially cited and described here.

So in addition to what you said, the '487 patent in column 1 talks about the -- so even assuming the belts can be easily removed, there's also a space -- and don't take up -- in the process of doing that, you don't take up much space near the machine.

There's also the issue that's described in the second full sentence in the paragraph I reviewed before. It starts on line 62 of column 1. And it says, "The disadvantage of such a procedure is that very huge belt racks are required as the width of the belt conveyer increases."

So I think that's another reason that if you're going to clean the belts, you need belt racks to hold the belts. And those get larger and larger as the

machine -- length of the conveyer increases.

Q. Nothing in Konishi requires a large conveyer belt; right?

A. (Document[s] reviewed.)

Now we're talking about relative dimensions. And I don't see any -- I don't recall any passage in Konishi saying that large conveyer belts are required.

So I think I would agree that to my recollection, there's no disclosure in Konishi that the conveyer belts must be large.

Q. And Konishi teaches that its entire conveyer belt unit can be removed; right?

A. (Document[s] reviewed.)

I just want to make sure that we're using the words that Konishi uses. And what Konishi describes is -- for example, Figure 8 is a schematic side view of main parts -- main parts, not all the parts but main parts for explaining the attachment and

detachment state of the subframe.

So the subframe carries the conveyer belts. So it's the subframe and the conveyer belts. And the main parts of how to attach and detach those are illustrated in Figure 8.

Q. Now I'd like to focus your attention to the '487 patent, if you want to flip to that.

A. Okay. Okay. I'm on the cover page.

Q. Great. That's where I'd like to start.

So the '487 patent invention generally describes a removable conveyer belt unit. Would you agree with that?

A. Yes.

Q. And the title of the patent is Removable Conveyer. Would you agree with that?

MR. HART: Object to form.

A. The full title is High

Performance Slicing Apparatus with at Least One Removable Conveyer Belt Unit.

BY MR. FELDHAKE:

Q. Okay. I appreciate the full answer there.

The abstract of the '487 patent describes a removable conveyer belt unit. Would you agree with that?

A. Yes.

Q. And each claim of the '487 patent requires a removable conveyer belt unit. Would you agree with that?

A. (Document[s] reviewed.)

Yes, I agree with that.

Q. Do you believe that the disclosure in the '487 patent could be used in machines other than slicers?

MR. HART: Object to form.

A. I do think the general teaching of the '487 patent could be applied to other conveying systems that do not necessarily have a slicer.

I don't see that -- except for the specific claims that require a slicer, but I haven't really been asked to consider whether the slicer is a required aspect of the invention.

BY MR. FELDHAKE:

Q. I'd like to direct your attention to column 1, line 50 -- lines 50 through 53.

Would you agree that before the '487 patent, it was known that supply belts were customarily greatly contaminated during operation?

A. Yes.

Q. Would you agree that before the '487 patent, it was known that transport belts were customarily greatly contaminated during operation?

A. Yes.

And the passage you're referring me to does say "during the operation of a slicing apparatus." And

clearly slicing, in particular meat slicing, has significant contamination concerns.

So I think there are similar concerns in conveyors that are used to convey food products in general, but it's critical with meat slicing in particular -- slicing machines.

Q. What is the basis for that opinion?

A. Well, first of all, the passage you just asked me to read says that explicitly.

It says, "In practice, both the supply belts (in particular, the traction belts) and the transport-away belts (in particular, the portioning belts) are customarily greatly contaminated during the operation of a slicing apparatus."

And then it goes on to talk about cleaning daily or several times a day.

Q. So I would agree that that sentence indicates that hygiene is important

in the slicing industry. But that sentence doesn't preclude that hygiene isn't important in other food industries; right?

A. Correct. Hygiene in food processing is always a primary concern, maybe the most important concern. Broadly, safety and hygiene is certainly high on the list, if not at the top of the list, of any food-handling equipment.

But clearly -- and I refer to the patent, but I've also had experience dealing with handling food products. And I understand that handling perishable foods -- meat, in particular -- requires a very high level of diligence in keeping the machines clean. And we see in the news the consequences of a machine that isn't well cleaned.

Q. We've been going for about an hour. I have a few more questions before I wrap up this section, but if you want a break now, we can.

A. If you have a natural break point and have a few more questions, I'm okay with that.

Q. Yeah. I think hopefully only about five more minutes. So we can keep going.

A. Okay.

Q. Do you agree that some forms of removable conveyer belts were known in the art before the '487 patent?

And, for example, I would point you to column 1, line 58.

A. (Document[s] reviewed.)

Yes. Removable conveyors were known in the prior art.

Q. And do you agree that the, quote, simple removal of conveyer belt units was previously known?

MR. HART: Object to form.

A. Yeah, this sentence specifically talks about the removal of the conveyors and doesn't say that that is

necessarily simple. But it does say that in this respect, the conveyors -- I'm sorry -- I went too far. Let me read the entire sentence, because I think this is important to answer your question.

"It is known from the prior art to make possible such a removal in that the conveyors are suspended at one side of the apparatus frame to achieve simple removal of the belt."

So the frame is being removed such that the removal of the belt or band is simple. It doesn't say that the removal of the conveyer assembly is necessarily simple or the entire operation is simple in the prior art.

BY MR. FELDHAKE:

Q. Okay. If I could point you to column 2, lines 1 through 2. This also says that conveyors that could be removed simply, including the respective conveying means, were known in the prior art. Right?

A. (Document[s] reviewed.)

Yes, that's what it says. I agree with that.

Q. Okay. What were the advantages of these types of removable conveyer belt units?

A. Are you asking me specifically about the prior art that's being discussed here?

Q. Yes. And I'll rephrase the question so that that is clear.

What were the advantages of the types of removable conveyer belt units disclosed in columns 1, line 58 through column 2, line 2, of the '487 patent?

MR. HART: Object to form.

A. (Document[s] reviewed.)

I think there, it's describing the advantages of -- simplicity is obviously an advantage if you can achieve the same result in a simpler way by, for example, removing an assembly and having belts that

are removed simply. Those are certainly advantages.

But after what you just cited, it talks then about the disadvantages of those prior art systems that are overcome by the invention of the '487 patent.

BY MR. FELDHAKE:

Q. Right. So I'll ask you about the disadvantages after we cover the advantages.

So in your experience, can you describe the advantages to me of the types of removable conveyer belt units disclosed in columns 1, line 58, through column 2, line 2, of '487 patent?

MR. HART: Object to form.

A. Yeah, that also describes -- what you just cited doesn't just talk about the advantages; it talks about the disadvantages.

It says, "The disadvantage of such a procedure is that very huge belts are

required." So there are disadvantages embedded in the material you're citing as the advantages.

And then I would answer your question generally. If you can make something simpler for an operator and achieve the same result, that clearly is a benefit to that or an advantage to that.

BY MR. FELDHAKE:

Q. So you would agree that before the '487 patent, it was known to design conveyer belt units that made it simpler for an operator and achieve the same result; right?

MR. HART: Object to form.

A. Yeah, I think the result I was referring to -- if you can simplify an operation and achieve the same end result, meaning the belts are -- and the entire device is hygienically cleaned, that simpler and achieving that same end result is clearly an advantage.

But the way it was done in the prior art clearly has some significant disadvantages as well. And so it's not -- certainly not as simple as it could be in the prior art, removing the conveyer assembly.

MR. FELDHAKE: Okay. I think we can take a break now and go off the record.

(Recess: 10:06 a.m. to 10:17 a.m.)

BY MR. FELDHAKE:

Q. Do you have a copy of Dr. Collins' report with you?

A. I do, yes.

It's called a "declaration." But yes, I have it.

Q. Yes. "Declaration." Thank you.

Have you reviewed this document in its entirety before?

A. Yes.

Q. When was the last time you

reviewed this document in its entirety?

A. I can give you a ballpark idea. So probably shortly within the several weeks preceding July 2nd, 2024. So early in -- maybe early in June. Could be before that. I just don't quite recall, but sometime in that time frame, I would guess.

Q. Okay. Did you review this document in its entirety yesterday?

A. No.

Q. Can you please turn to paragraph 36, which is the first paragraph in the State of the Relevant Art section.

A. Of which report or declaration?

Q. Exhibit 1003, Dr. Collins' declaration.

(Previously marked Deposition Exhibit 1003, Declaration of John M. Collins, Ph.D., in Support of Petition for Inter Partes Review of U.S. Patent No. 9,457,487, No Bates,

was tendered to the witness.)

A. Okay. Paragraph 38?

Q. 36.

A. 36. Thank you.

Okay. I'm there.

Q. Did you review each piece of prior art that is cited in this section?

A. (Document[s] reviewed.)

I think I did. Yes, I believe so.

Q. Do you recall if you reviewed each piece of prior art cited in this section in its entirety?

A. I can say with certainty that I reviewed Konishi, McLaughlin, and Lee in their entirety. I cannot say that with certainty about Rosso, Exhibit 1010.

I think I also reviewed Julian, Exhibit 1013, in its entirety, but I'm not as certain about that.

Q. Is Dr. Collins' description of the state of the relevant art accurate in

your opinion?

A. (Document[s] reviewed.)

I'm stuck on the first sentence. So there seems to be a grammatical problem with this sentence. He says -- I'm starting on paragraph 36. He says, "The prior art record shows conveyance systems were well-developed in the food-processing industry for a long time, and well by 2014."

I'm not sure what he means by that.

Q. The "well by 2014"?

A. Correct.

It seems like maybe there's something missing there?

Q. Do you think maybe it was the word "developed"? He meant "well-developed," like he said well-developed previously?

MR. HART: Object to form.

A. I'm not sure what he was getting at here.

BY MR. FELDHAKE:

Q. Okay.

A. (Document[s] reviewed.)

Yeah, I am not certain if I would fully agree with the sentence. He says -- and this is in paragraph 36, the sixth line down. It starts a new sentence.

"The record illustrates that a general desire to increase throughput and efficiency while making cleaning and maintenance easier was the driver of change and development in the industry."

I'm not sure I can agree that that's the driver. There are many different drivers.

And so certainly it's -- these are important considerations. They're drivers. I don't disagree with that. It's the word "the" that I'm not certain that I would agree with.

(Document[s] reviewed.)

I don't think I have any strong disagreements with the remainder of that.

I think he -- giving some very brief examples of teachings of the prior art seems okay.

Q. Do you agree with Dr. Collins, that conveyer belt units have been used in slicers since the 1980s?

MR. HART: Object to form.

A. (Document[s] reviewed.)

Can you point me to where he says that? I don't see his statement to that effect here.

BY MR. FELDHAKE:

Q. The second sentence of paragraph 36. And I'll re-ask the question.

Do you agree with Dr. Collins, that conveyer belt units have been used in slicers since the 1980s?

MR. HART: Same objection.

A. Yeah, I don't think he says that here, so I don't think I can agree that that's what he's saying.

That sentence says, "Dating back to the 1980s, food-processing equipment

used conveyors to transfer food product."

I think your question had the word "slicers" embedded in it. So I don't disagree that "slicers" and "conveying" may have been known then, but that's not what he says.

BY MR. FELDHAKE:

Q. Okay. Then do you agree with Dr. Collins, that conveyer belt units have been used in the food industry since the 1980s?

A. I think that's a fair statement, yes.

Q. Can you please turn to paragraph 39 of Dr. Collins' report, Exhibit 1003.

A. Okay. I'm at the beginning of paragraph 39.

Q. Do you agree with Dr. Collins, that removable conveyer belt units were known in the food-processing industry before 2012?

A. (Document[s] reviewed.)

I think that first sentence, I agree with. It's a little confusing because the caption -- the title of this section is specifically Food-Slicing Machines.

But I agree with the first sentence of paragraph 39.

Q. So you would agree with Dr. Collins, that removable conveyer belt units were known in the food-processing industry before 2012; correct?

A. (Document[s] reviewed.)

The last part of that sentence seems to me to be unsupported.

So he says -- the last part -- there's a comma after the year 2012, and it says "and have used many methods for removing conveyer belts." The word "many" is a bit of a concern. He provides a couple of examples.

Konishi clearly is not a food-slicing machine, but it does have a removable conveyor belt. So I think there

are a few issues with what he's saying here.

Q. I didn't ask you about that part of the sentence, though, just to be clear. My question didn't refer to that. So I'll re-ask the question, just so we're clear.

Would you agree with Dr. Collins, that removable conveyer belt units were known in the food-processing industry before 2012?

A. I do, yes.

Q. And would you agree with Dr. Collins, that Konishi and McLaughlin were two examples of removable conveyer belt units known in the food-processing industry before 2012?

A. Yes, I think it's correct to say Konishi and McLaughlin taught removable conveyer assemblies.

In my opinion, both would require latching mechanisms that aren't disclosed in the patents. They're not full

disclosures of the operating machines.

But those are examples of food-processing equipment that had removable conveyer units; I do agree with that.

Q. Can you please turn to paragraph 71 of Dr. Collins' report, Exhibit 1003.

A. Okay. I'm there.

Q. Your declaration doesn't provide any opinion disagreeing with Dr. Collins that Konishi discloses all of the elements of claim 1; right?

A. My declaration is based on the modified claims where claim 1 would be rewritten to include the requirement of toolless removal and installation into an operating configuration.

And so my declaration really addresses the toolless -- primarily the toolless removal and installation requirement.

I don't specifically disagree

with the original claim 9 -- I'm sorry -- claim 1 analysis and the elements that are described here.

Q. Do you agree with Dr. Collins, that independent claim 1 was anticipated by Konishi?

MR. HART: Object to form.

A. I haven't been asked to consider that, and I haven't provided an opinion. I really had focused on toolless removal and installation.

And so I just don't have an opinion. I'd like more time to think about it if I was going to provide an opinion on that.

BY MR. FELDHAKE:

Q. Can you tell me what from independent claim 1 is missing from Konishi?

MR. HART: Object to form.

Object to relevance. Object to foundation.

A. Again, I have not analyzed

this, and I'm not going to do an analysis on the fly. I've been asked to consider the claim as amended, with the requirements of claim 16. And that's the analysis I've provided.

BY MR. FELDHAKE:

Q. What is the claim number of the claim that you've provided opinions regarding?

MR. HART: Object to form.

A. (Document[s] reviewed.)

Again, I have been asked to analyze claim 1, as amended, to include toolless removal and installation; in other words, as amended to include the requirements of claim 16.

How you want to label that may take the number of a new claim. I didn't consider that. I just analyzed the requirement of claim 16 in light of the other aspects of claim 1 and treated those together. So I didn't try to parse it out as

some original claim 1.

BY MR. FELDHAKE:

Q. So your opinions don't relate to the claim as a whole; they only relate to the elements of claim 16? Is that correct?

MR. HART: Object to form.

A. No.

If you incorporate the requirements of claim 16 into claim 1, that is the claim, as a whole. All the requirements of claim 1 are there.

And then the requirement that's not met by any of the prior art of record that I've seen is the requirements of toolless removal and installation.

BY MR. FELDHAKE:

Q. So you have provided opinions on the requirements of claim 1 then? Is that right?

I'm just trying to understand. I'm being totally transparent. I just want to know if you believe that you provided

opinions regarding the requirements of claim 1 or if you didn't.

A. I did, with the amendment of the addition of the requirements of claim 16.

Q. Okay. So then you do have opinions about the requirements of claim 1 with the additions of requirements of claim 16; right?

A. Correct.

Q. So you should be able to answer questions about elements of claim 1; correct?

MR. HART: Object to form.

A. Again, my focus was on the requirement -- the amended claim that requires toolless removal and installation into an operating state. And that is not present in any of the prior art. I did not focus on the other limitations.

It's well-known that a patent claim is not -- a claim patent requires all of the elements. And so the claim 16 addition to claim 1 is just not found in the

prior art. And that's really the focus of my analysis.

BY MR. FELDHAKE:

Q. So you didn't provide any opinions that the elements of claim 1 are not found in the prior art; right?

MR. HART: Object to form.

A. Yeah, again, I treated claim 1 as amended. And those requirements are not found in the prior art.

BY MR. FELDHAKE:

Q. I'll ask my question again, because I don't believe you answered it: You didn't provide any opinions that the elements of claim 1 are not found in the prior art; right?

MR. HART: Object to form.

A. Again, my answer is the same: That I analyzed claim 1 with the amendments of -- including the requirements of claim 16. And those -- all those limitations are not found in the prior art.

BY MR. FELDHAKE:

Q. Would you agree that some of those limitations are found in the prior art?

MR. HART: Object to form.

A. Yeah, I haven't been asked to consider the other limitations. Again, I was focused on the toolless removal and installation requirement.

BY MR. FELDHAKE:

Q. So you didn't consider the other limitations of the amended claim besides the toolless limitation; right?

A. I didn't analyze the other claim limitations. I focused on the toolless removal and installation requirement.

Q. So sitting here today, have you formed any opinion that any elements of claim 1 are missing from Konishi?

MR. HART: Object to form.

Objection; lack of relevance.

Objection; lack of foundation.

A. Yes, again, my analysis of

claim 1 included the limitations in claim 16. And those limitations are not found in Konishi or any of the other prior art.

BY MR. FELDHAKE:

Q. Sitting here today, have you formed any opinion that any of the elements of claim 1 are missing from McLaughlin?

MR. HART: Same objections.

A. Yes, again, the toolless removal and installation requirement that claim 16 adds are not found in McLaughlin.

BY MR. FELDHAKE:

Q. But you don't have any opinion that any of the elements of claim 1 are missing from McLaughlin; right?

MR. HART: Same objections.

A. Yeah, and, again, I analyzed claim 1 as amended. I did not consider the original claim 1 in isolation.

BY MR. FELDHAKE:

Q. Dr. Reinholtz, I don't think you're answering my question, so I'll re-ask

it.

You don't have an opinion that any of the elements of claim 1 are missing from McLaughlin; right?

MR. HART: Same objections.

A. I considered claim 1 as amended. So claim 1 includes the requirement of a toolless installation and removal. And that is not found in Konishi or McLaughlin or any of the other prior art.

BY MR. FELDHAKE:

Q. Okay. So you considered claim 1 as amended; right?

A. That's correct.

Q. You did not consider claim 1 as unamended; right?

A. I would use the word -- I did not analyze the other limitations of the claim. I focused on the requirements of -- that are added by the amended claim or the amended -- the addition of claim 16 to amend claim 1.

Q. Okay. I think we're getting there. I just want to be clear, though.

You did not analyze any of the limitations of claim 1 that are not added by claim 16; correct?

MR. HART: Object to form.

A. Maybe there's a terminology issue here. I don't know legally, but my understanding is that once a claim is amended, it includes all of the requirements.

And so 16 -- the 16 -- claim 16 limitations become part of claim 1. And I wouldn't consider those to be distinct from other limitations. It's just one of the requirements. And it's not found in the prior art.

BY MR. FELDHAKE:

Q. Did you provide any opinion that "a removable conveyer belt unit having at least one track and a base" is missing from the prior art?

A. (Document[s] reviewed.)

MR. HART: Object to form.

A. I just didn't provide an opinion with respect to either Konishi or McLaughlin regarding that limitation of the amended claim 1.

BY MR. FELDHAKE:

Q. Did you provide any opinion that "a substructure having a mount coupled to the base" is missing from the prior art?

A. No, I didn't analyze that limitation. So I provided no opinion with respect to that limitation.

Q. Did you provide any opinion that "a drive coupled to the conveyer belt by a drive belt, the conveyer belt unit is configured to be cancelled by relaxing the drive belt and is configured to be established by tautening the drive belt with the relaxing and tautening of the drive belt, each being provided by relative movement between the drive and the conveyer belt unit" is missing from the prior art?

A. Well, it's certainly missing from most of the prior art. But I didn't provide a specific opinion regarding Konishi or McLaughlin, which I think are the two references we are discussing here.

Q. What is the basis of your opinion that that's missing from the prior art?

A. Well, the prior art that's cited by Dr. Collins and in the petition don't include -- all include "a drive coupled to a conveyer belt by a drive belt," for just one. I can think of a number of examples.

So I think -- you're asking what sounds like broad questions. At one point you seemed to be focused on either Konishi or McLaughlin. Now you're asking questions about the prior art, as a whole.

And, again, I haven't done an analysis of this. But, I mean, just superficially, there are a number of limitations that are not found in Lee, for

example, or other references.

Q. Did you provide any opinion that "a drive coupled to the conveyer belt unit by a drive belt, the conveyer belt unit is configured to be cancelled by relaxing the drive belt and is configured to be established by tautening the drive belt with the relaxing and tautening of the drive belt, each being provided by a relative movement between the drive and the conveyer belt unit" is missing from Konishi?

A. No, I provided no opinion on that.

Q. Did you provide any opinion that "a drive belt coupled to the conveyer belt unit by a drive belt, the conveyer belt unit is configured to be cancelled by relaxing the drive belt and is configured to be established by tautening the drive belt with the relaxing and tautening of the drive belt, each being provided by a relative movement between the drive and the conveyer

belt unit" is missing from McLaughlin?

A. I did not provide an opinion regarding that limitation.

Just a fine point here, that you misread the limitation and added an extra "belt" to the limitation.

But I think to answer your question broadly: I provided no opinion regarding this limitation with respect to McLaughlin.

Q. And by "this limitation," do you mean the limitation of claim 1 that begins with "a drive" and ends with "the conveyer belt unit"?

A. Yes.

Q. Thank you.

Your opinion in this case is about the lack of reason to combine the prior art and the weight disclosed by the '487 patent claims; is that accurate?

MR. HART: Object to form.

A. It's certainly part of my

opinion, that there would not be motivation to combine. That's true.

BY MR. FELDHAKE:

Q. You didn't provide an opinion that a person of ordinary skill in the art would not have had a reasonable expectation of success in combining the prior art; right?

MR. HART: Object to form.

A. Yeah, that's a very broad question. So let's, if we could, focus on which prior art we're talking about.

And allow me to review my report -- or my declaration while we're doing that.

(Document[s] reviewed.)

I don't have any specific sections that discuss the -- why there would not be success in combining the prior art. But I do, for example, describe how both Konishi and McLaughlin teach away from conveyors that are heavy enough that they can be secured by their own weight, which is

Dr. Collins' theory. They clearly can't. And I think he admitted that in his deposition.

And so combining those doesn't get you the toolless, latchless system that would be required to meet the limitations of the '487 patent.

I also talk about Lee. Lee is not used in any direct way in combinations, but Lee is clearly, for example, a lot different. And there's no disclosure of how that could even be combined. I don't think you could combine Lee's teachings with either, for example, Konishi or McLaughlin.

So I think I do address it, but I don't have any headings that specifically talk about that.

Q. Is it your understanding that a teaching away relates to a reasonable expectation of success in combining the prior art?

MR. HART: Object to form.

A. That may be a legal question.

If one reference teaches away from using another reference, that may haven been embedded in the teaching reasons why the combination wouldn't work.

I think it depends on the specific reference.

BY MR. FELDHAKE:

Q. I want to reach an agreement on how to refer to the claim that you're offering opinions on. So I just want to know what you're comfortable with.

Do you want me to call that "amended claim 16"? Do you want me to call it amended claim, I think, 25? I can look at the Motion to Amend.

I'll take whatever term you want to use so that we can have a -- you know, a discussion here that isn't too fumbly by the terminology.

A. I appreciate that.

So in paragraph 5 of my

declaration, I refer to these. I say, "I understand that the Motion to Amend noncontingently limits challenged claims 1 through 4, 6, 9, 10, 14, and 15 to include toolless removal/installation feature of claim 16. I understand that the motion also contingently limits challenged claim 22 to include the same toolless removal/ installation feature."

In my analysis, I used the claims as numbered in the patent, with the additional limitations of claim 16. So I think to relate it to my declaration, it probably is best to say whenever I talk about claim 1 of the '487 patent, I'm talking about the amended version of claim 1, because that's what I was asked to consider and analyze.

I know there is some renumbering that may take place or that has been proposed, but I have not considered that. So I'd be more comfortable with the

original claim numbers, understanding that those claims have been or are requested to be amended.

Q. Okay. So if I use the term "amended claim 1," would you understand that to include the limitations of claim 16?

A. I would, yes.

Q. Okay. Great.

Do you agree that all of the elements of amended claim 1 of the '487 patent were known in the prior art?

MR. HART: Object to form.

A. No.

BY MR. FELDHAKE:

Q. Which elements of amended claim 1 of the '487 patent are missing from the prior art?

MR. HART: Object to form. Lack of relevance. Lack of foundation.

A. (Document[s] reviewed.)

Amended claim 1 includes the

requirement "the apparatus, in accordance with claim 1, wherein the conveyer belt unit is configured to be removed and/or installed without tools."

I don't think there's any teaching in the prior art of a relevant conveying system that has -- meets this limitation, "configured to be removed and/or installed without tools."

BY MR. FELDHAKE:

Q. What do you believe is an irrelevant conveyor system?

A. Well, the only reference that I'm aware of that Dr. Collins or petitioners have cited that discusses toolless removal at all is -- and when I say "toolless removal and installation," I mean from the operating state to being removed from the machine, for example, for cleaning and then reinstalled back into the operating state.

The only reference that uses any language of that toolless type is the Lee

reference. And Lee is so clearly different. And also Lee has a number of ambiguities and errors in it that I think it -- that reference is -- I'm not sure I would use the word "relevant," but it certainly doesn't teach a combination. And there's no proposal of a combination that I've seen of Lee with other prior art references.

Q. Would you agree that a person of ordinary skill in the art would have been aware of Lee before the '487 patent?

MR. HART: Object to form.

A. I think it's likely that a person of skill in the art would be aware of Lee with some searching, perhaps. But I don't think it's unreasonable.

BY MR. FELDHAKE:

Q. And can you flip to Roman numeral III of Dr. Collins' report, which is the third page that includes its Table of Contents.

A. I'm with you. Okay.

Q. Do you see where Dr. Collins describes his second ground as obvious over Konishi and Lindee in light of the knowledge of a POSA?

A. I do.

Q. And you would agree that a POSA would have been aware of Lee before the '487 patent; right?

MR. HART: Object to form.

A. I think that is reasonable.

Yes, I think a person of skill in the art might be aware of Lee.

BY MR. FELDHAKE:

Q. And so a person of ordinary skill in the art would have been aware of the teachings of Lee when considering Konishi and Lindee; right?

A. I think that is fair, although, again, Lee contains errors and ambiguities that confuse, I think, the issue a bit, what is actually being disclosed there.

But I think a person would be

aware of that, would not be motivated in any way to combine those. And there's no proposal for a combination with Lee.

Q. Can you please turn to Figure 8 of Konishi.

A. Okay. I'm looking at Figure 8.

Q. What does Figure 8 of Konishi show?

MR. HART: Object to form.

A. Konishi tells us exactly what he believes it shows in this translation. In column -- I'm sorry -- below paragraph 47 on page 7 of the translation, there is a brief description of the drawings.

And Figure 8 is said to be, by Konishi, a schematic side view of main parts for explaining the attachment and detachment state of the subframe.

So clearly it is showing parts of the attachment and detachment state. And clearly Figure 8 shows a sequence of positions. Once the conveyer unit is

unlatched, it can be lifted out by certain motions of the conveyer unit.

That's what's shown in Figure 8.

BY MR. FELDHAKE:

Q. Can you tell me what paragraph of Konishi you were referring to there again?

A. I'm sorry. Yeah, if you'll turn to the translation of Konishi on page 7 -- so the page numbers are at the top of the pages. And it's the page just before the figures, in the right-hand column that has a heading that's in square brackets that says Brief Description of the Drawings.

And that's -- I was reading Konishi's description, as translated.

Q. Got it. Thank you.

Does Figure 8 of Konishi show a removable conveyer belt unit?

A. (Document[s] reviewed.)

It does show a removable conveyer belt unit. It doesn't -- it's

silent. It doesn't talk at all about the latching. So this is not -- and as the figure caption I just read I think makes clear, it's part of the removal process, but it doesn't disclose the full process needed to remove the conveyer belt assembly.

Q. Does Figure 8 of Konishi show a removable conveyer belt unit with two attachment points?

A. Yeah, to be maybe a bit more precise, Konishi talks about subframe 12, which is annotated in the center of the Konishi Figure 8 down below the conveyer when it's set onto -- the pins are set into the slots.

So from that point, Konishi describes -- after the conveyer has been unlatched or unfastened from the base, then this is how it would be removed from the supporting brackets, which are called 25F and 25R.

Q. So would you agree that

Figure 8 of Konishi shows a removable conveyer belt unit with two attachment points?

MR. HART: Object to form.

A. Again, I would say it shows the partial removal process.

So clearly it's removable, but it doesn't show the full process for how this would be removed. It shows part of the process.

BY MR. FELDHAKE:

Q. I understand your answer. And you're talking about the removal process. I'm just asking about the attachment points, whether or not the attachment points are in the figure.

So would you agree that Figure 8 of Konishi shows two attachment points for a removable conveyer belt unit?

A. (Document[s] reviewed.)

Yeah, it shows two attachment features that are pins that go into slots,

one on the left that is generally -- the pins are 26F and the slot is, I believe, 23F; and one on the right, that's 23R and 26R.

But, of course, there's also a connection to the drive system that, depending on how you want to interpret it, could be considered part of how the belt is attached overall. Certainly it's required to be taut in the driving configuration.

Q. Amended claim 1 added the toolless removal requirement; correct?

A. Generally speaking, yes.

I think the claim requires toolless removal or -- and/or installation. But I think we're talking about the same thing.

Q. Yes. I'll re-ask the question to cover that.

Amended claim 1 added the toolless installation or removal requirement; correct?

A. "And/or removal." So

configured to be removed and/or installed without tools; correct.

Q. And prior claim 1 did not have the requirement that it could be configured to be removed and/or installed without tools; correct?

A. You said "prior art"?

Q. Prior claim 1.

A. Prior claim 1?

The unamended claim 1 did not include this requirement from claim 16; that's correct.

Q. Can you please turn to paragraph 4 of Konishi.

A. Okay. I'm there.

Q. Do you see where Konishi states that "one of the problems to be solved by the invention is to maintain the functionality of the equipment in a stable and good condition"?

A. (Document[s] reviewed.)

You've cited to part of a

sentence in paragraph 4. It says, "In addition to maintaining the functionality of the equipment in a stable and good condition, it is desirable to be able to easily and efficiently perform various types of maintenance." And then it describes cleaning with water, inspection, and so forth. Other things.

Q. So you would agree that a person of ordinary skill in the art reviewing Konishi would interpret the disclosure to include a functional and stable machine; right?

MR. HART: Object to form.

A. (Document[s] reviewed.)

Well, this sentence talks about maintaining the functionality of the equipment in a stable and good condition. That doesn't mean that everything necessary to do that is disclosed in the remainder of the written description or the figures. Clearly, it isn't.

BY MR. FELDHAKE:

Q. Why do you say "Clearly, it isn't"?

A. I've devoted some effort to providing an analysis of Konishi's conveyer subframe and how it must be attached with something that latches it into place. There's no -- Konishi is completely silent on this requirement.

But a person of skill in the art would clearly understand that you're not going to operate Konishi's conveyer just resting on pins that are in slots and totally unsecured.

So Konishi just doesn't talk one way or the other about this latching, but I think it's a requirement.

Q. So it's your opinion that a person of ordinary skill in the art reviewing Konishi would understand that Konishi included a latch; right?

MR. HART: Object to form.

A. First -- I think it's also Dr. Collins' opinion that you would not leave conveyors, such as Konishi or McLaughlin, unsecured. There would be grave concerns about the ability to operate the conveyer and to obtain accurate weight measurements.

My opinion is that Konishi just doesn't disclose the latching. But a person of skill in the art would know that that would be -- some type of latching or securing of the conveyer subframe would be necessary for this to result in an operable machine.

BY MR. FELDHAKE:

Q. Is there anything in Dr. Collins' combination that required that the conveyer belt unit be a weigh conveyer?

MR. HART: Object to form.

A. Konishi is a weigh conveyer.

And so if you're going to combine it with something, you take the teachings of Konishi. I don't think what I said is restricted to a weigh conveyer.

Any conveyer in a food-processing operation of this type, you probably want to secure. But, in particular, Konishi is a weigh conveyer. And that's the reference that he uses. I don't think he says, "Let's remove the weighing requirement from Konishi."

BY MR. FELDHAKE:

Q. But he doesn't say, "Let's include the weighing requirement from Konishi"; right?

MR. HART: Object to form.

A. Yeah, I disagree with that in that he is using Konishi as the base reference, or in the case of his anticipation argument, the anticipation.

It is a weigh conveyer. And all the elements that are associated with that are part of Konishi. So I don't think that his silence on saying that it must be a weigh conveyer takes away from a person of ordinary skill's understanding that Konishi

teaches a weigh conveyer.

And that weigh conveyer substructure would need to be secured to the mounting points or in some other way secured.

BY MR. FELDHAKE:

Q. Is it your opinion that Konishi's teachings could only be applied to a weigh conveyer?

MR. HART: Object to form.

A. I would not frame it so narrowly.

I would just say that what we have is a reference as a weigh conveyer of Konishi. And the elements that are associated with that weigh conveyer are part of the invention.

BY MR. FELDHAKE:

Q. So you would agree that Konishi's teachings could be applied to any type of conveyer; right?

MR. HART: Object to form.

A. Yeah, I don't think I would

frame it this broadly. That's a hypothetical question.

If you -- and I haven't considered that, if it can be used on any type of weigh conveyer or any type of conveying system. Probably not. But I would need time to analyze that and some specifics about it.

BY MR. FELDHAKE:

Q. Would you agree that Konishi's teachings could be applied to a nonweighing conveyer?

MR. HART: Object to form.

A. I haven't considered that question, but there may be parts. I think it depends. Some parts of Konishi's teaching might be applied to a conveyer other than a weigh conveyer.

BY MR. FELDHAKE:

Q. Would you agree that Konishi's removal process could be applied to a nonweighing conveyer?

MR. HART: Object to form.

A. Again, Konishi doesn't describe the full removal process. Removal requires that -- a person of skill in the art would understand that removal requires that the subframe in Konishi must go from an operational state, which I believe requires a latching or securing device that's not disclosed.

And so I think maybe parts of Konishi could be applied to other types of conveyors.

BY MR. FELDHAKE:

Q. And is one of the parts of Konishi that could be applied to other types of conveyors Konishi's removal process?

A. Konishi does not describe the full removal process. So I think that question needs context.

No, you can't apply something that isn't fully disclosed.

Q. After reviewing Konishi, were

you able to understand how its removable conveyer was removed?

MR. HART: Object to form.

A. I don't know what Konishi used as a latching mechanism or if this were implemented what would be used as a latching mechanism or to keep the conveyer in place.

I understand -- once it is unlatched, I understand how Konishi describes it being removed. And I think I've described that pretty clearly in my own declaration.

BY MR. FELDHAKE:

Q. Would you agree that Konishi's removal process, once it has been unlatched, could be applied to a nonweighing conveyer?

MR. HART: Object to form.

Lack of foundation.

A. You're taking a -- what may be some small pieces of Konishi and I think trying to ask me if some of those small parts, in absence of the other requirements of Konishi and the claims of Konishi, could

be applied elsewhere.

I just haven't formed an opinion on that. If I saw specific examples and had time to analyze it, I would be happy to consider it.

BY MR. FELDHAKE:

Q. Is it your understanding that the elements of the claims of Konishi are required to implement any of the teachings of Konishi?

A. No.

Q. Is it your understanding that a person of ordinary skill in the art could not apply some of the teachings of Konishi without applying all of the teachings of Konishi?

A. I don't think so.

It's a hypothetical question, and I think it may depend on the particular application.

We're trying to take something from Konishi and apply it to some other

unnamed reference perhaps. And I just don't have an opinion on that.

Q. Can you turn to claim 3 of Konishi. And you can go ahead and review it. Let me know when you've reviewed it.

A. (Document[s] reviewed.)

Okay. I've reviewed it.

Q. Do you see at the bottom two lines of claim 3 where Konishi says that "thereby the tension of the above interlocking belt is made adjustable"?

A. Yes, I see that.

Q. And would you understand that that interlocking belt is the drive belt extending from the motor to the removable conveyer belt?

A. (Document[s] reviewed.)

Yes, I think that's a fair statement.

Q. So Konishi teaches that the drive belt -- strike that.

So Konishi teaches that the

drive belt for its removable conveyer belt unit has an adjustable tension; right?

A. It certainly has the potential to have that following claim 3, yes. And the description of how to do that, I think, is clear.

Q. The description is clear enough for a person of ordinary skill in the art to understand how to implement a drive belt with an adjustable tension; right?

A. In Konishi, yes.

Q. Okay. I'm going to turn to McLaughlin now, so if you want to pull that up whenever you're ready, which is Exhibit 1006 in these proceedings. U.S. Patent No. 9,296,120.

(Previously marked Deposition Exhibit 1006, U.S. Patent No. 9,296,120 (McLaughlin et al.), No Bates, was tendered to the witness.)

A. Okay. I'm on the cover page of

that exhibit.

Q. Did you review this document in preparation for your deposition today?

A. Again, I read it in full before I prepared my declaration. So, yes, everything I've done in this case is in preparation for the discussion we're having today.

Q. Okay. Can you please turn to Figure 2 of McLaughlin.

A. Okay. I'm on Figure 2.

Q. Can you please describe to me what you see in Figure 2 of McLaughlin.

MR. HART: Object to form.

Objection; relevance.

A. I think a good place to start is the inventor's own words in column 3, at the very top. The first line of column 3, line 1, McLaughlin describes Figure 2 as follows: "Figure 2 is an enlarged elevation view shown partly in cross-section taken from Figure 1."

BY MR. FELDHAKE:

Q. Does Figure 2 of McLaughlin show a removable conveyer belt unit?

A. Again, nowhere in McLaughlin is there a discussion of how this would be latched into place. We know the commercial embodiment of McLaughlin in the PowerMax slicers has -- this conveyor has a latching structure, which I think is essential. And I think that would be true also, of course, in Konishi.

I don't think you can just look at Figure 2 and say anything with that figure in isolation about the ability to remove the conveyer belt or the conveyer assembly. It would be hard to discern, just from looking at that figure.

Q. So is it your opinion that you would not be able to discern from Figure 2 that McLaughlin discloses a removable conveyer belt unit?

A. In the absence of any other

information, I think it would be very difficult.

Q. Very difficult or not possible?

A. It's a question I haven't considered.

It is a figure with a lot of detail. And we certainly don't know, looking just at Figure 2, anything about how the conveyer may be -- it has to be -- I know from the broader study of this patent and the art that it must be latched in place.

Whether it's removable, just looking at Figure 2, I don't think I would feel confident in saying it is, in the absence of other information.

Q. So is it your opinion that you would not understand Figure 2 of McLaughlin to disclose a removable conveyer belt unit?

A. In the absence of other information -- you're asking me just to look at Figure 2, in isolation. I would say I would not be comfortable. I haven't

considered this question. I would zoom in on this figure and see what other details I could discern.

But just looking at the figure as it's in front of me on the paper, I'm not comfortable saying that figure discloses anything that's removable, regardless of the latches, which we know are required.

Q. Dr. Reinholtz, you said twice that you haven't considered this question. But surely you've considered whether or not the prior art that petitioner relies on discloses elements of the claims; right?

MR. HART: Object to form.

A. That's, of course, a different question.

BY MR. FELDHAKE:

Q. Well, I think the question is: Does McLaughlin's Figure 2 disclose the removable conveyer belt unit as required by the claims of the '487 patent?

MR. HART: Object to form.

A. Yeah, that's a different question.

Maybe we need to go back. But you're asking me two different questions. One question, you talked about my understanding of the prior art.

But the question at hand that I have been answering is: Can you look at Figure 2 and, in the absence of any other information, say that that's -- with certainty that that's a removable conveyer belt?

I can say that it has to be latched in in some way. I think that's clear from the general art. But just in the absence of other information, in the absence of the written description in McLaughlin, there's no reason to understand this to be a removable conveyer.

BY MR. FELDHAKE:

Q. Okay. So after reviewing all of McLaughlin, would you understand that

Figure 2 discloses a removable conveyer belt unit?

MR. HART: Object to form. Foundation.

A. (Document[s] reviewed.)

I don't recall McLaughlin ever disclosing that, so perhaps you can point me to something. But my memory is that McLaughlin doesn't discuss the removable conveyer assembly.

BY MR. FELDHAKE:

Q. Does McLaughlin illustrate a removable conveyer assembly?

MR. HART: Object to form.

A. (Document[s] reviewed.)

I just don't think McLaughlin describes this in the written description as a removable conveyer assembly.

Maybe you can point me to a passage that will refresh my memory. But I don't think that's described. And I don't think you can look at the figure and say that

with certainty.

BY MR. FELDHAKE:

Q. So is it your opinion that a person of ordinary skill in the art reviewing Figure 2 would not understand that Figure 2 illustrates a removable conveyer belt unit?

A. Correct.

And, again, now I've gone back to just looking at Figure 2. But I don't see anywhere in the disclosure where it discusses this as being a removable conveyer belt. So I just don't think it's disclosed in McLaughlin.

MR. FELDHAKE: Okay. I've lost track of time, but I think we've hit an hour, so if you want to take a break.

THE DEPONENT: Okay.

MR. HART: Lunch is here.

MR. FELDHAKE: Let's go off the record.

(Recess: 11:31 a.m. to

12:01 p.m., at which time Sten Larson was present.)

MR. FELDHAKE: Just a moment of recordkeeping, to start. I would note for the record that Konishi is Exhibit 1004, and Dr. Reinholtz's declaration is Exhibit 2006.

(Previously marked Deposition Exhibit 1004, Japanese Unexamined Patent Publication Hei No. 6-117905, Satoshi Konishi, No Bates, was previously tendered to the witness.)

(Previously marked Deposition Exhibit 2006, Declaration of Professor Charles Reinholtz, Ph.D., in Support of Patent Owner's Response to Inter Partes View of U.S. Patent No. 9,457,487, No Bates, was previously tendered to the witness.)

BY MR. FELDHAKE:

Q. Dr. Reinholtz, before your involvement in this litigation between Provisur and Weber, had you ever heard of Provisur?

A. Well, of course, I mentioned earlier I worked on a previous case. And so in that litigation, yes, I did. And I may have before that; I just don't have a clear recollection.

Q. Before your involvement in the history of litigation between Provisur and Weber, had you ever heard of Weber before?

A. I am not certain. I think early -- when I first was retained in that earlier case, I wondered if Weber -- of course there's the well-known gas grill manufacturer -- grill manufacturer, Weber.

I don't think there's any connection between those. And so maybe I had in my mind conflated those. So I'm just not sure if I had or not.

Q. Before your involvement in the history of the litigation between Provisur and Weber, had you ever heard of Textor?

A. Again, I'm not sure.

Q. Before your involvement in the history of litigation between Provisur and Weber, had you ever seen a Weber slicer?

A. I doubt it. I don't think so.

I have been in a lot of manufacturing and some food-processing facilities, but I can't recall specifically.

Q. Before your involvement in the history of the litigation between Provisur and Weber, had you ever seen any Textor slicer?

A. It's possible. I just don't know.

Q. Have you ever designed a food-article slicing machine?

A. I worked with a master's student whose thesis was about a flying -- well, it wasn't a thesis, it was a master's

report, and it was dealing with a flying bread cutter. And by "flying cutter," it means you move the blade along with the product to be cut.

So I had done that work. And I was somewhat familiar with some of the food-cutting operations. But beyond that, I can't think of anything specific.

Q. Have you ever designed any other food-processing equipment?

A. I've done a lot of design work in my career. Some of it may have been related to food processing.

As you know, I've written a number papers, and I've published in textbooks. And generally that background is relevant to things like conveyors and drive systems. And so -- but I can't recall a specific design of food-processing equipment in my background. I may have; I just don't recall it.

Q. So is it your opinion that your

experience with conveyors and drive systems that don't relate to food-processing equipment are relevant to this case?

A. I guess I don't agree with the premise of your question, that they don't relate. I wouldn't take that position.

So you have my textbook on the table, I see. The design of components of systems certainly relate broadly to food-processing equipment. And so maybe I think the premise of your question, I can't agree with.

Q. Have you ever designed any conveyors that were not used in the food-processing industry?

A. Yes, I've been involved with projects that use conveyors. And perhaps I'm amending slightly my answer before.

I worked on a case a number of years ago involving clam -- processing clam canning equipment. And I did make some recommendations. I didn't -- for example,

I didn't do CAD layouts of modified equipment, but I made some recommendations to the company I was working for on how to improve the equipment.

And specifically there were some safety concerns. And I recommended some modifications. So I would view that as design work in the food-processing industry, even though I didn't actually have parts machined, for example.

So I may have missed your question. If I missed it, if you would please re-ask.

Q. I will re-ask the question, but before I get there: That experience related to clams that you just discussed, that was from a products liability case; right?

A. It was. That's correct.

Q. Have you ever designed any conveyors that were not used in the food-processing industry?

A. I have implemented and modified

-- rarely in design do we start with a blank sheet. We have components, such as belts, that are often stock items.

But I have specified the components for design of conveying systems to be used in, for example, automotive components.

Q. So is it your opinion that your experience with conveyors that were not used in the food-processing industry is relevant to the patents in this case?

A. Again, the premise of your question may not be quite on target.

So conveyers from a conveyer supplier or component supplier may be used in the automotive industry and the same components may be used in the food-processing industry. So I'm not sure I can draw a line between the experiences.

Q. You have experience with conveyors outside of the food-processing industry; right?

A. Yes.

Q. Is that experience relevant to this case?

A. Yes. All, I think, my career of experience is relevant. Component design, the theoretical and practical design of the kinds of components that go into conveyer systems and food-processing systems, it's all relevant.

Q. Have you ever designed a conveyer that was used in the food-processing industry?

A. I don't recall specific -- a specific experience where I was, for example, the lead designer of a conveying system for food processing.

As I said earlier, I did make some recommendations on design. And I don't even recall if it was specifically a conveyer system, but I know I made recommendations on the clam processing case.

But most of the components,

there's a lot of overlap. So I don't really see a reason to draw a distinction between -- it's relevant experience if it's a conveyer system. It doesn't necessarily have to be a food product. And there's probably even some debate about what constitutes a food product.

Q. There certainly is. I recall that from the last trial.

Do you recall what the design recommendations you made in the clam processing case were?

A. No.

Q. Do you recall they were related to safety?

A. Some of them certainly were related to safety. As you mentioned, it was a product liability case. A person was injured. And there was a desire to make sure that didn't happen again. Beyond that, I don't remember the details of my recommendations.

Q. Do you recall if those

recommendations were related to hygiene?

A. Well, everything in the food-processing industry that deals with equipment that handles the food and the equipment I was recommending may -- start again on that.

The equipment that I was making recommendations about was food-processing equipment. And so in every case, hygiene becomes an important issue. It's an unavoidable issue. Whether I specifically recommended some process to ensure hygiene, I don't recall.

Q. Okay. So now I'd like to ask you some general questions about your experience with conveyors and aspects of them that you were aware of.

Would you agree that conveyors were known before the '487 patent?

A. Yes.

Q. Were conveyors with conveyer belts known before the '487 patent?

A. Yes.

Q. Were conveyors that arranged the drive motor underneath the conveyer belt known in the art before the '487 patent?

A. It's not something I have considered. I would be surprised if it wasn't known and practiced, but I can't cite a specific example.

I'm sure if I studied that, I would be able to answer your question more specifically, but it's not a question that was relevant to my analysis.

Q. I see that you have Figure 2 of McLaughlin in front of you.

Would you agree that Figure 2 of McLaughlin shows a conveyer that arranges the drive motor underneath the conveyer belt?

MR. HART: Object to form.

A. (Document[s] reviewed.)

I don't think we can say, again, looking at Figure 2, whether -- we only -- Figure 2 is a side view of the

conveyer. And we see in Figure 2 -- I'm not sure if they're called out, but probably so, drive motors.

(Document[s] reviewed.)

Motor 250. So if you look at Figure 2, there's a call-out to a component called 250, which is a motor in the central weigh conveyer.

And we see that in this view, we could imagine that it's under -- below the conveyer belt. But I don't think from this one view we can say with certainty --

Q. And if you review Figure 2 and Figure 4 of McLaughlin, does that help clarify whether McLaughlin discloses a conveyer belt with a motor arranged underneath the conveyer belt?

A. (Document[s] reviewed.)

Yeah, I haven't studied this in detail. But just looking at it now, I think we can conclude from Figures 1, 2, and 4 that motor 250 is underneath the conveyer belt,

which is element -- a conveying surface to 10. So that should be a conveyer belt surface.

So I think -- yes, I think we can conclude, in combination, those figures do tell us that the motor is below the conveyer belt.

Q. Were conveyors that were used upstream of a slicing blade known in the art before the '487 patent?

A. Yes.

Q. Were conveyors that were used downstream of a slicing blade known in the art before the '487 patent?

A. Yes, I'm sure they were.

Q. Are there any challenges to using a conveyer belt unit upstream of a slicing blade as opposed to downstream of a slicing blade?

MR. HART: Object to form.

A. Upstream -- the term "upstream" and "downstream" opens a broad classification

of different potential conveyors.

You could have conveyors that are bringing loads of food product in, where an operator loads the food product or where the food product was automatically loaded.

Immediately before slicing, the conveyors used there -- sometimes it's referred to as "traction conveyors." And they do need to keep a -- at least in some cases need to keep a precise location of the food product along its path to be able to create a correct slice thickness.

I'm not sure that's a general answer, but there are certainly cases where the conveyors upstream and downstream perform different functions and have different characteristics.

BY MR. FELDHAKE:

Q. Would it be within the skill of a person of ordinary skill in the art to account for those different functions and different characteristics when designing an

upstream or downstream conveyer belt unit?

MR. HART: Object to form.

A. Again, it's a very broad hypothetical question. But I think generally a person of skill in the art would be familiar with requirements for the various conveying sections of the food product processing machine and would take those into account, or try to.

BY MR. FELDHAKE:

Q. Were conveyors with a conveyer length of less than 3 feet known in the art before the '487 patent?

A. I feel certain that they were, but I can't cite a specific example of that.

Q. Were conveyors with a conveyer length of less than 1 foot known in the art before the '487 patent?

A. Almost certainly, but I don't have a specific reference that I can cite to for that.

Q. Are there any specific design

challenges that you are aware of when faced with increasing or decreasing the length of a conveyer belt?

A. I can probably list a few.

The conveyer belts, as the length increases, the mass typically increases. And so then you begin dealing with larger structures; larger structures to support and drive those. But that's a broad generalization. I haven't really considered the differences in design depending on conveyer length.

Q. Would it be within the skill of a person of ordinary skill in the art to account for the challenges faced when designing a conveyer belt unit -- strike that. I'll get there.

A. Okay.

Q. Would it be within the skill of a person of ordinary skill in the art to design a conveyer belt unit of relatively long or relatively short length?

MR. HART: Object to form.

A. The term "relatively" is open to interpretation.

Longer -- short, very short conveyors, there are challenges in creating the drive system and making everything compact enough. And at some point, it requires probably extraordinary skill to achieve miniaturization.

Sometimes with very long conveyer belts, there are additional challenges of the flexibility of the belt and the weight of the structure that, again, may require significant design effort. It may not be a routine design for somebody with skill in the art.

So I think it depends a lot on the application.

BY MR. FELDHAKE:

Q. Were conveyors that used latches to secure the conveyer belt units known in the art before the '487 patent?

MR. HART: Object to form.

A. I think so.

I can't cite the specific example, but I would expect yes.

BY MR. FELDHAKE:

Q. Were conveyors that had a width of 3 feet known in the art before the '487 patent?

A. I don't know that.

Q. Before 2012, had you ever encountered any conveyors that had a width of approximately 3 feet?

A. That's a little different question, of course. Before, you said 3 feet, which I probably never measured to determine if it was exactly 3 feet.

Approximately 3 feet? Again, I'm not certain. Perhaps. I don't remember.

Q. Were conveyors that had a width of approximately 2 feet known in the art before the '487 patent?

A. I would expect yes, but I don't

have a specific knowledge of that.

Q. Were conveyors that used a plurality of straps to provide the conveying means of a conveyer belt known before the '487 patent?

A. Yes.

Q. Do you know what a locking pin is?

A. I can envision what a locking pin might be. I don't know that there is a precise definition in the mechanical arts for "locking pin," but a pin that serves to lock would be a locking pin.

Q. Can you generally describe what you envision a locking pin to be?

MR. HART: Object to form.

A. "A pin that locks" would be a locking pin.

BY MR. FELDHAKE:

Q. Would a locking pin require tools to lock or unlock?

MR. HART: Object to form.

A. It depends on the application.

BY MR. FELDHAKE:

Q. So some applications would not require a locking pin that require tools to lock; right?

MR. HART: Object to form.

Lacks foundation.

A. It's a broad, hypothetical question.

I haven't seen -- in this case, I haven't seen evidence of a locking pin that doesn't require tools.

BY MR. FELDHAKE:

Q. Were locking pins known in the art before the '487 patent?

A. Again, in the context of a locking pin being a pin that locks, I don't think I've seen any analysis by Dr. Collins, for example, that this was known. So I don't think there's been any evidence presented in the case.

I think something that could be

a locking pin in a conveyer -- food conveyer application was probably known. But, again, I don't have specific knowledge of that.

Q. Were conveyors that were removed with tools known before 2012?

MR. HART: Object to form.

A. Yes. Certainly.

BY MR. FELDHAKE:

Q. And can you give me an example of how those conveyors would have been removed using tools?

MR. HART: Object to form.

A. Well, there can be lots of different examples. I think your question didn't restrict conveying to food processing industry.

Broadly, conveyors have a number of ways of being mounted and secured. It could be bolted into place. It could have latches that capture portions of the structure of the conveyer assembly. It could be any number of things that would require a

tool to be able to remove and install the conveyer.

Most conveyors require tools. The vast majority of them require tools.

BY MR. FELDHAKE:

Q. So were conveyers that were removed without tools known before 2012?

A. The only example I see of any kind of a conveyer that is described as being removable without tools is the Lee reference.

I don't think that -- there's no suggestion that there's a combination that includes Lee that would create a toolless removal system. But Lee does describe a vertical conveyor that -- he recommends the use of attachment mechanisms but I think suggests that you could do it without tools. You could install it and remove it without tools.

Q. What further analysis do you think Dr. Collins needed to do to suggest a combination that included Lee to create a

toolless removal system?

MR. HART: Object to form.

Lacks relevance. Lacks foundation.

A. I don't think there's any analysis Dr. Collins could have done that would -- he didn't suggest a combination that included Lee. I don't think there's -- I don't think he thought that that was a relevant reference to use in combination or he would have done that.

I don't think there's any analysis he could do that would demonstrate the use of a toolless conveyer -- integrate Lee into the other prior art that is more on target with the patent, the '487 patent.

BY MR. FELDHAKE:

Q. Is it your opinion that no portion of Lee could have been integrated with the other prior art to the '487 patent?

MR. HART: Same objections.

A. I see no evidence of any specific way to integrate Lee's teachings

with the other prior art references.
BY MR. FELDHAKE:
Q. And that was not my question.
So I'll re-ask my question.
Is it your opinion that no portion of Lee could have been integrated with the other prior art to the '487 patent?
MR. HART: Same objections.
A. Yeah, I don't understand your question.
BY MR. FELDHAKE:
Q. What don't you understand about it?
A. Well, it ended with "to the '487 patent." Are we trying to use the '487 patent as a roadmap?
Q. You're right.
A. Maybe. I don't know. But I understand that's impermissible.
Q. Is it your opinion that no portion of Lee could have been integrated with the other prior art?

MR. HART: Same objections.

A. I haven't done that analysis. And I've seen no evidence that it could be.

BY MR. FELDHAKE:

Q. So sitting here today, you have no opinion whether any portion of Lee could have been integrated with the other prior art?

MR. HART: Object to form.

A. Yeah, I don't see any way to integrate the teachings of Lee with, for example, Konishi or McLaughlin.

BY MR. FELDHAKE:

Q. Do you doubt that a person of ordinary skill in the art would have known that a conveyer could be removed without tools?

A. Yeah, I don't think it was known in the art. I think the '487 patent introduces the idea of toolless removal and installation.

Q. What is your understanding of

the term "self-coupling" used in the context of mechanical devices?

A. It's a very broad question.

"Self-coupling" would be a -- "coupling" implies that there are multiple components that must be, in some way, brought together. Maybe not all degrees of freedom being constrained.

Self-coupling would be, then, the coupling occurring as a result of the elements of the components or subsystems being brought together. I'm trying to give you some kind of broad definition, but I don't think that's a term of the art.

So that would be my understanding, if somebody said "self-coupling." Without other guidance, I would probably interpret it in that way.

Q. Based on your understanding of the term "self-coupling" used in the context of mechanical devices, would you believe that a self-coupling object required tools to

couple with another object?

MR. HART: Object to form.

Relevance. Foundation.

A. Again, I think there's some issues with your question.

So you said self- -- I think you used the term "self-coupling object."

BY MR. FELDHAKE:

Q. (Nodded head up and down.)

A. Okay. I don't understand what that means.

Q. If I use the term "self-coupling connection," would that clarify? Or no?

A. No, it provides no additional clarity.

Q. What is your understanding of a self-coupling object used in the context of mechanical devices?

A. I don't think that term is used in the context of an object in mechanical devices. It's certainly not a common term

of the art.

Q. Do you know what is a latch?

A. Generally, a latch can take many forms. But I do know generally what a latch is, yes.

Q. Can you describe to me a few forms of a latch?

MR. HART: Object to form.

A. Sure.

Latches could be the latch on a garden gate that keeps it from blowing open, for example. And that can take many, many different forms. It could be something as complicated as a lock or a bolted connection. It could be a hasp. It could be members that move in a slot to prevent relative motion.

So I think, you know, it's a very broad question.

BY MR. FELDHAKE:

Q. Does a latch require tools to latch or unlatch?

MR. HART: Object to form.

A. Again, it's a very broad question.

In general, no, there are latches that do not require tools.

BY MR. FELDHAKE:

Q. And were latches known in the art before the '487 patent?

A. I don't think I've seen specific evidence of something I would call a "latch" being used in the prior art. I suspect there were latches used in this kind of equipment to open door panels, for example.

So I think latches were known and probably used, but I don't think there's been any specific example of that provided.

Q. Do you know what is a barrel latch?

A. Generally, yes.

Q. What is a barrel latch?

A. A barrel latch is typically a common component that you may see, for

example, on a screen door or a gate, where there is a cylindrical element often that has a projection off of it that makes it easy to manipulate by hand or with a tool.

And that cylindrical projection moves on one element of the gate, moves into a corresponding cylindrical opening on the other portion of the gate, and creates a constraint against motion.

Q. Does a barrel latch require tools to latch or unlatch?

A. I think it depends on the barrel latch. It may.

Q. So some barrel latches would not require tools to latch or unlatch; right?

A. That's certainly true, yes.

Q. Were barrel latches known in the art before the '487 patent?

A. I have not seen them presented in the art. I don't recall Dr. Collins citing to any barrel latches used in relevant art. But I'm sure they were known by people

who design food-processing equipment.

Q. Do you know what a detent fit is?

(Stenographer requested clarification.)

A. Yes. Again, it's a very broad mechanical term.

Q. What is a detent fit?

A. You used two different terms here.

Q. I'm sorry.

A. You said, in one case, a detent, I thought, or -- to our court reporter, I thought you said "detent." And then you just asked a question and said "detent fit."

Q. I'll start from the beginning --

A. Okay.

Q. -- so we can...

Do you know what is a detent fit?

A. Again, I don't think that's a term of the art. I think I know what would be generally described maybe by a detent fit. But "detent" is certainly a well-known term of the art.

"Detent fit" perhaps is certainly more specific and somewhat descriptive, but I'd have to maybe see some examples of what you consider to be a detent fit.

Q. What is a -- so now I'm going to switch to just using the word "detent," not "detent fit."

What is a detent?

A. A detent, or "de-TENT," as some people say -- is a mechanical interaction between components that causes a disruption in relative motion. It may not prevent but it helps to discourage relative motion between components sometimes at certain points in time.

Q. Does a detent require tools to

engage?

A. It depends.

Q. Do some detents not require tools to engage?

A. There are detents in mechanical devices that, without the use of tools as components, move relative to one another create a mechanical interference that discourages motion or prevents motion.

So detents can occur in a lot of different forms without tools or with tools.

Q. And were detents known in the art before the '487 patent?

A. It's a very broad question.

Again, I have not seen specific evidence that I can recall that there were prior art cited in this case that used detents.

I think a designer would know about detents that's designing this kind of equipment. So whether it was used or not,

I can't say with certainty.

Q. Do you know what is a freely removable object in the context of mechanical devices?

A. No.

Q. Okay. Do you know what a friction fit is, used in the context of mechanical devices?

A. Yes.

Q. What is a friction fit?

A. It is a fit between two components that creates sufficient mechanical forces between the elements to create a frictional resistance to prevent motion or to discourage motion of one element relative to the other.

Q. Does a friction fit require tools to engage?

A. A friction fit is not a device. A friction fit is a description of how components interact with each other.

Q. Are tools required to engage a

friction fit?

A. In some cases, yes. It depends.

Q. Some friction fits do not require tools to engage; right?

A. I haven't really been asked to consider that or seen any evidence related to that in this case. I think, broadly, in mechanical design, there are friction fits that don't require tools and some that do.

Q. Were friction fits known in the art before the '487 patent?

A. Again, I can't think of any citation to a friction fit connection in the prior art that's been cited. But a designer designing this kind of equipment would know about friction fits.

Q. Do you know what a quick-disconnect fastener is?

A. Yes. There are, again, many varieties of quick-disconnect fasteners or quick-disconnect couplings.

Q. What is a quick-disconnect fastener?

A. It is a fastener or connector that can be quickly disconnected and typically quickly reconnected.

Q. Does a quick-disconnect fastener require tools to disconnect?

A. It depends.

Q. Do some quick-disconnect fasteners not require tools to disconnect?

A. I haven't seen any evidence of that in the art that's being asserted in this case, but there are mechanical design quick-disconnect fasteners that do not require tools.

Q. Were quick-disconnect fasteners known in the art before the '487 patent?

A. Again, I have not seen evidence of that in the asserted prior art, but I think a designer would know about quick-disconnect couplings and fasteners.

Q. Do you know what is a

jackscrew?

A. Yes.

Q. What is a jackscrew?

A. A jackscrew is a threaded connection between two elements. And when the -- when the threading -- when the components are rotated, one component moves along the helical thread connection and creates a longer or a shorter combination of the two elements.

And the term "jackscrew" simply is using the elongation to create a force that could be used, for example, as a jack to lift up a component or to force friction between two components.

Q. Do jackscrews require tools to screw or unscrew?

A. It depends.

Q. Do some jackscrews not require tools to screw or unscrew?

A. It's certainly possible to create a jackscrew that has a -- for example,

a built-in handle that can be turned. But I can't think of a particular example.

I don't think it's necessary to have a tool to use a jackscrew. I think it can be done in a way that doesn't require a tool.

Q. Were jackscrews known in the art before the '487 patent?

A. Again, I haven't seen any evidence presented in this case of jackscrews being used. But a mechanical designer, a person with skill in the art, would probably be familiar with jackscrews. Maybe not -- and, again, with all these components, designers may not know these components by the names you're using, but I think they would be generally familiar. These are common mechanical devices.

Q. Do you know what is a thumbscrew?

A. Yes.

Q. What is a thumbscrew?

A. A thumbscrew is a screw that can typically be turned by hand, perhaps with a thumb. But I think, in general, a reference is one that has a surface that is able to be -- the screw elements can be rotated relative to each other with -- by use of a hand without use of a tool.

Q. So I think you anticipated my next question, but just to be clear: Some thumbscrews do not require tools to screw or unscrew; right?

A. I've seen no discussion of that in this case. I haven't really considered it before today. I'm not sure I understand why it's relevant.

But to answer your question: Most thumbscrews don't require a tool.

Q. Do you know what is a dampening mechanism?

A. I think that term is used in different mechanical fields and would invoke thoughts of different kinds of mechanisms.

But the idea of dampening is to take energy out of a system. And so dampening devices are well-known to a mechanical designer.

Q. So does a dampening mechanism compensate for vibrations in a system?

A. Well, "compensate" may be the wrong term.

A damper -- creating damping in a system will cause the vibration -- this is a very broad, general area of discussion. But generally adding damping to a system through, for example, the use of a damping mechanism or by putting the system in a fluid under water creates damping. And that reduces the time that vibration occurs.

It may not necessarily reduce the amplitude of initial vibration -- it depends a lot on the system -- but it removes energy.

And so when the system begins to vibrate, if you add damping to the system,

the oscillations/the vibrations die out more quickly.

Q. Okay. I want to make sure that I understand what you mean by "amplitude," just because I'm not an expert in this field.

Is the amplitude of a vibration the peak force of that vibration?

A. No.

Q. Can you explain to me what an amplitude is then?

Thank you.

A. Sure.

Well, amplitude could be described in force. So I think your understanding or your conjecture being a peak force, that's one example of your plotting, say, force between two components over time as they vibrate. And so force could be one.

But typically when we think about amplitude of a vibration, we think about the extent of motion of a component in a system.

And so if I operate any real equipment, like a food conveyer, there are imbalances that create vibration, and they make components in the system move. And the magnitude of the movement is the amplitude, typically.

Q. Okay. So the amplitude of a vibration, you said you think of that as the extent of motion.

So is the amplitude of a vibration measurable in distance units?

A. Typically yes.

Q. Okay. When would it not be measured in distance or length units?

A. Well, I think you made a correct conjecture, that it could be -- talking about how high the forces go. So the peak force could also be considered the amplitude. And it could apply to other elements as well.

So "amplitude" is a general term. It just means the magnitude.

Q. Okay. Thank you for educating me.

Can a dampening mechanism compensate for reactive forces in a system?

MR. HART: Object to form. Relevance. Foundation.

A. "Reactive forces."

Yeah, you may have to ask a series of other questions. I don't know what you're asking here.

BY MR. FELDHAKE:

Q. Do you have an understanding of the term "reactive forces"?

A. I would interpret "reactive forces" as the reaction, in other words, the force between two components in a system.

It might be the reaction with the ground, that a table sits on legs and it exerts a certain force on the ground; and the ground, we say, reacts to that by exerting a counterforce to support the leg of the table.

So that's typically what we

mean by that term.

Q. If I use the term "dynamic reactive force," would that lead you to a different understanding of the term?

A. "Dynamic" adds a requirement that there is a change in the reactive force.

And so, again, as the table -- the example, as the table sits here in front of us, any air current that strikes the table -- typing on a keyboard -- will create dynamic reaction forces, forces that change slightly in magnitudes of motion that change.

Many of those are ignored. And we think about -- like this table, we would probably tend to think about as a static system in an analysis.

Dynamic forces usually -- or dynamic reactions -- usually it's like moving equipment/machinery -- create more significant vibrations and therefore more larger dynamic effects.

So I don't know that there's a

black-and-white line between the two, but purely -- everything in truth -- it's like every real element in a machine has some flexibility, some compliance.

We tend to think of some elements being rigid bodies. For practical purposes, that works very well. But everything really has some dynamic -- every real thing has some dynamic reaction.

Q. Can a dampening mechanism compensate for dynamic reactive forces?

A. You're stringing together a lot of terms that are very general in their application and how a person of skill in the art would understand them.

I'm not -- again, I don't see any relevance here. But some -- it depends on how you interpret the language that you're using.

Q. Can a dampening mechanism compensate for dynamic loads?

A. You'll have to explain to me

what you mean by "compensate."

Q. So, before, when you were describing dampening mechanisms, you said that it would not -- a dampening mechanism would not necessarily reduce the amplitude, but it would reduce the time that the vibration would be, I guess, exhibited on the object.

So I am using "compensating" as a means of alluding to reducing the time that the dynamic load would cause change in the system.

MR. HART: Object to form. Relevance. Foundation.

A. Yeah, I think my answer before then answered your question. Right?

Over time, if you add damping to a system -- and I think you just said "dampening mechanism." That may imply some other things.

But damping -- in general, if we add damping to a system, then we reduce

the length -- typically reduce the length of time that it takes for a vibration to die out, or may reduce the magnitude of vibration to an input -- a single input over time. But it depends a lot on the system we're talking about.

BY MR. FELDHAKE:

Q. Just to be clear, I'm about to use the word "dampening mechanism," not just "dampening."

Were dampening mechanisms known in the art before the '487 patent?

MR. HART: Same objections.

A. Devices that created damping were known. I don't -- again, I don't recall any specific discussion. I haven't been asked to consider this. I don't think Dr. Collins has commented on it.

But a shock absorber, a gas spring, a strut that's used in a cover of a machine would be an example of something that provides damping, and, therefore, could be

construed as a damping mechanism.

And somebody skilled in mechanical design would be generally aware of devices that created damping.

BY MR. FELDHAKE:

Q. Do you have a copy of Lee with you?

A. I do.

Q. Okay. So I'd like you to turn to Exhibit 1012, which is U.S. Patent Publication No. 2010/0275789 to Lee.

(Previously marked Deposition Exhibit 1012, U.S. Patent Publication No. 2010/0275789 A1 (Lee et al.), No Bates, was tendered to the witness.)

A. I have it in front of me.

Q. And you've reviewed this document before; correct?

A. I have, yes.

Q. And I'm sorry I don't recall.

Did you say you've reviewed this document in its entirety before or just portions of it?

A. I'm pretty sure I've reviewed this cover to cover.

Q. Okay. And do you see that the publication date on the front of the patent is November 4th, 2010?

A. I do.

Q. Can you please turn to paragraph 33 of Lee.

A. Okay. I'm there.

Q. Do you see at the bottom of paragraph 33 where Lee says "the toaster is thus comprised of conveyors that are removable without requiring disassembly or tools"?

A. (Document[s] reviewed.)

Yes. That's not the end of the sentence. "...and which are adjustable even while the conveyors are being operated" is the remainder of that sentence.

I do see that.

Q. So would you agree that by November 4, 2010, it was known in the relevant art to remove a conveyer belt unit without tools?

MR. HART: Object to form.

A. I think in there -- Lee's vertical conveyer system, he clearly describes a device that has one -- well, let me say, too, that even the sentence we just read, I believe there are problems with this patent.

And so, for example, let me start with this, and then I'll get back to your question. You can re-ask it if you'd like.

But it says -- the sentence you began to read but didn't complete says "the toaster is thus comprised of conveyors that are both removable, without requiring disassembly or tools, and which are adjustable even while the conveyors are operating."

I question whether that is true, that they're adjustable while it's operating. I think there's some issues with the mechanics of what Lee describes here.

And so I'm also a little confused by "is thus comprised of conveyers that are both removable without requiring disassembly." I'm not sure how it's removable without requiring disassembly.

But I do see the passage you're talking about there.

MR. FELDHAKE: Before we dig too much into Lee, we've been going about an hour. Do you want to take a break or do you want to keep going?

THE DEPONENT: I'm good with the break.

MR. FELDHAKE: Okay. Let's go off the record.

(Recess: 1:02 p.m. to 1:10 p.m., at which time Sten Larson did not return.)

BY MR. FELDHAKE:

Q. Dr. Reinholtz, during any of the breaks today, have you discussed the substance of your testimony with your counsel?

A. No.

Q. So I asked a question before the break, and then you provided an answer. And you invited me to go back and re-ask my question. So, you know, I appreciate and I've heard your answer, but I'm going to go back and re-ask that question.

Would you agree that by November 4, 2010, it was known in the relevant art to remove a conveyer belt unit without tools?

A. Well, it was -- Lee certainly describes a toaster with a pair of conveyors that can be removed without tools. I think the question is: Is it relevant?

Because I don't see any way to combine this with the teachings of the other

prior art references. And I don't think there would be any motivation to do this.

And, as I've said, I think there are a number of issues with the disclosure in Lee that make me question some of the citations in the patent or in the application.

Q. Can you please turn to paragraph 48 of Lee.

A. Okay. I'm there.

Q. Do you see the last sentence where it says "the hold-down spring biases the conveyer assemblies and downward" -- sorry. Strike this. I'm going to reread it, and I will include the numbers, because it doesn't make sense without it.

Do you see in paragraph 48 of Lee where it says "the hold-down spring 100 biases the conveyor assemblies 40A and 40B downward and toward the mounting pins 38"?

A. I do, yes.

Q. So would you agree that by

November 4, 2010, it was known in the art to use hold-down springs to secure removable conveyer belt units?

A. In a vertical toaster assembly, yes, I agree.

Q. Is it relevant to your opinion --

A. I'm sorry to interrupt you, but I think you used the word "secure." And so I -- if I may amend my answer.

This doesn't teach that. It says the hold-down springs 100 biases -- hold-down spring biases. So you used the word "secure." It doesn't really teach secure. It teaches a biassing force.

Q. Okay. I'll re-ask the question using "bias."

Would you agree that by November 4, 2010, it was known in the art to use hold-down springs to bias a removable conveyer belt unit?

A. (Document[s] reviewed.)

In the vertical toaster conveyer assembly, yes, Lee teaches that.

Q. In your declaration, you don't allege that Lee is not relevant because it's a toaster; right?

MR. HART: Object to form.

A. I don't think I used the word -- I don't think I say it's not relevant. But I don't think it can be combined with the other prior art. I don't think there's motivation to do that. And I don't think a person of skill would consider Lee as a possible combination.

The teachings of Lee are just so different. The forces are so different that it's not relevant to, for example, Konishi or McLaughlin.

BY MR. FELDHAKE:

Q. So is it not relevant because it's a toaster or because of the orientation of the conveyors?

MR. HART: Object to form.

A. It's different. It's significantly different. The conveyer assemblies are both purely vertical. And the forces that are at play in Lee are significantly different in such a way that these could be held on by gravity in the frictional forces that are present. Everything is trying to hold the conveyer assemblies, these chain conveyer assemblies, on the mounting pins.

That's certainly not true in the devices of McLaughlin or Konishi.

BY MR. FELDHAKE:

Q. So you don't offer an opinion that Lee is not relevant because it's a toaster; right?

A. I offer the opinion that it wouldn't -- I don't know if I used the word "relevant."

I'm just saying: A person of skill in the art would not use the teachings of Lee in any combination. There's no

motivation. The devices are so different that there's not application of what Lee teaches to the other devices. And, furthermore, there's no suggestion of a combination of Lee with the other devices.

Q. Is it your understanding that it's required that there be a suggestion to combine references?

A. I think there has to be a motivation to combine references.

Q. In your declaration, you do not offer the opinion that a person of ordinary skill in the art would not use the teachings of Lee because it's a toaster; right?

MR. HART: Object to form.

A. I would say I offer the opinion because of the kind of toaster it is and how it operates, that you would not use the teachings of Lee.

BY MR. FELDHAKE:

Q. Is it because it's an industrial toaster and not, like, a

countertop toaster for your Pop-Tarts?

MR. HART: Object to form.

A. I don't think that is -- the fundamental issue has to do with the orientation of the conveyors being vertical and the forces that are at play in the device of Lee that always tend to hold the conveyors in place on the mounting pins, which just isn't true in the art that's been used as an attempt to invalidate the patent, the art used by Dr. Collins and the petitioners.

BY MR. FELDHAKE:

Q. Would you agree that by November 4, 2010, it was known in the art to have removable conveyer belt units that were not secured by anything other than gravity and friction?

A. I think it's correct that Lee teaches vertical conveyors that may use gravity and frictional forces and the significant weight of these chain conveyors to hold the conveyors in place. But then, of

course, Lee also suggests that springs or latches would also be useful to make sure that that is true.

So even in Lee, as much as the arrangement of the components tends to keep the conveyors in place by gravity, even at that, Lee suggests using other devices to make sure that it doesn't come out.

Q. You said that Lee suggests using other devices. But I don't see anywhere in Lee where it suggests using other devices. I only see where it discloses using other devices in alternative embodiments of.

So can you point me to where it suggests using those?

MR. HART: Object to form.

A. (Document[s] reviewed.)

Yeah, we may have some lawyer language issues here.

To me, Lee is teaching an alternate embodiment where the alternative is to use hold-down springs or latches in

addition to or to augment gravity.
I consider that to be a suggestion.
Your question implies you don't consider that to be a suggestion, and that these other elements could and probably should be used.
BY MR. FELDHAKE:
Q. Okay. So I won't impugn my reading onto you. I just want to be clear.
So it is your understanding that Lee -- I guess I'm having a little bit of ambiguity with the term "suggest," because I guess I don't know how strong a suggestion is.
You know, is it encouraging? Is it recommending? Is it just kind of nudging in that direction?
Can you help me understand how important you think Lee describes its biassing springs to be?
A. (Document[s] reviewed.)
I don't know that I can give

you a degree that satisfies your curiosity about this.

I would say it's clear that Lee discloses devices to help retain the conveyors in place. I consider that a suggestion, that this is something that a designer would consider, which is therefore a suggestion.

How strong a suggestion that is, I think is subject to interpretation. I think something to hold these down, not because of the frictional forces or the forces that are at play inherently in Lee but because somebody may grab the handle, for example, and try to lift it up and it isn't otherwise secured.

Securing mechanisms may be desirable there, but Lee clearly teaches the securing devices.

Q. Lee also makes it clear that it discloses an embodiment that doesn't require securing mechanisms; right?

MR. HART: Object to form.

A. I do think Lee describes an embodiment that doesn't require the use of anything other than gravity to hold these vertical conveyors in place. I agree with that.

BY MR. FELDHAKE:

Q. Can you turn to paragraph 47 of Lee. I'm sorry I can't remember if that was the one I already had you looking at.

No. I think we were on 48. So can you look at 47 now?

A. I can.

Q. Do you see at the top of that paragraph, Lee discloses that the removable conveyer assemblies are held in place solely by the weight of the conveyer assemblies?

A. (Document[s] reviewed.)

You left out part of the sentence that's maybe important here, but, yeah, I do see the language you said.

It also says "held in place and

the gears engaged to each other solely by the weight of the conveyer assemblies."

I have some concerns about the gears being engaged in the way Lee teaches this, but the language about weight is -- the weight of the conveyer assemblies themselves is there. I agree.

Q. And do you see where, in the next sentence, Lee says, "Alternate embodiments include the use of one or more hold-down springs and/or common barrel bolt latches to prevent the conveyer assemblies from being accidentally lifted out of position"?

A. I do.

And that's -- so, for one thing, that's an example of just one of the -- it appears to me this is not a very well-developed application. And there are a number of errors.

So it says "common barrel bolt latches not shown in the figures." And yet

I look at Figure 8 and I see component 102 perhaps.

"The barrel bolt" -- I am now reading from -- further down, column -- I'm sorry, paragraph 48 -- "the barrel bolt 102..." So it's clearly called out in at least Figure 8.

Q. Okay. So Figure 8 of Lee discloses a common barrel bolt latch; right?

Sorry. I'm going to correct that because I think I might have referred to the wrong figure.

I didn't. But I'll re-ask the question anyway.

A. Okay.

Q. Figure 8 of Lee discloses a common barrel bolt latch; right?

A. It discloses part of one. But there has to be a mating hole. And that hole would have to move if you're going to adjust this into different widths for different thicknesses of -- different thicknesses of

food product. And there's no disclosure about how to do that.

So we have half of basically what's described as the barrel bolt latch as shown as 102. But clearly it has to mate with something. And I don't think there's any disclosure of how that occurs.

Q. Okay. And you previously agreed that barrel bolt latches don't always require tools; right?

A. That's true.

Q. Looking at Figure 8 of Lee, do you believe Lee's barrel bolt latch requires tools?

A. What's pictured in Figure 8 looks like you grab it with your fingers. There's a knob, and you would rotate it and slide it back. But it's an inoperable device.

The barrel bolt latches have nothing to mate with on the other surface without providing holes that create an

adjustment. I just don't see any disclosure of that in Lee.

So I think Lee is intending to describe something relatively simple, but there's some disclosure that seems inconsistent to me how those barrel bolt latches would work.

And if I may go back. I didn't really finish answering your question. I think when you were referring to paragraph 47. This description here about the alternate embodiment, "use of one or more hold-down springs or common barrel bolt latches," it discusses how that would prevent the conveyer assemblies from being accidentally lifted out of position.

I certainly can see how somebody would grab the conveyer assembly and try to lift it out. And if you had some kind of a retaining mechanism, like a spring or a latch -- which isn't fully disclosed here in my opinion -- that would be helpful to

prevent somebody from just accidentally lifting this hot toaster conveyer assembly off.

So I do see the benefit of that. I think the sentence that follows that talks about the reactive forces created by friction. That's just a contradiction and I think incorrect.

I don't think there are reactive forces created by the friction of the food product against the platen 26 that will ever lift this conveyor assembly out of place. The forces are just so different than the references that you and Dr. Collins are using.

Q. In the last sentence of paragraph 47, do you see where Lee discusses reactive forces?

A. I do -- well, I see "reactive force" in the singular, not "forces." But yes.

Q. Would you agree that by

November 4, 2010, it was known in the art that conveying food could create a reactive force?

A. Anything that has weight creates -- or is pressed against another surface creates a reactive force.

What's incorrect about that sentence is that the reactive force created by the friction of the food product would cause the conveyor assembly to lift up off the mounting pins.

That's -- looking at the forces that are at play, I just don't see how that can be possible. And I think it's contradicted elsewhere in the patent.

Q. Have you ever designed a toaster with vertically oriented conveyors?

A. I have not designed an entire toaster with vertically oriented conveyer assemblies, no.

Q. So what is the basis for your opinion that Lee is wrong about the reactive

force it discloses?

A. Well, there is a reactive force. What's incorrect is that that reactive force can cause -- let me read exactly what Lee says.

Lee says, "hold-down springs and/or barrel bolt latches will also reduce the likelihood that a conveyer assembly 40A or 40B might lift itself up off the mounting pins due to the reactive force created by the friction of a food product against the platen."

It's that last part. There is not -- there is a reactive force, and it does create a friction. But the friction against the pins creates a greater holding force.

So I just don't see how, looking at the force -- forces at play in Lee, there's no way that that friction force can lift the conveyer assembly -- either conveyer assembly off of the pins.

And I think Lee -- I'm looking

for the reference to it, but Lee makes that clear when he describes what would really happen if you put too big of a piece of food product in there. It would jam the conveyer assembly, but it won't lift it off. It will just jam it. And that is -- it's in an early passage in the patent.

(Document[s] reviewed.)

Ah. I'm sorry. It took me a while to find it. It's hard, without being able to do a word search.

So if you turn to paragraph 32. Here's the contradiction -- no, actually this is talking about the actuator plates being vertical to prevent them from becoming cocked or jammed. I don't think this is the reference I was looking for.

But there is a reference to jamming of the food product and jamming the conveyer. And I am not seeing it.

Q. I can take your word for it.

A. Okay.

In one place, Lee talks about what would really happen, which is you put a food product in there that's too wide. It creates the reaction force that we've been talking about.

In other words, there's a friction against the platen. Friction there is inherently going to be low because it's a smooth aluminum or Teflon surface.

So that friction force has a corresponding counterforce. And that force does tend to raise the conveyer assemblies up. But it's the dynamic coefficient of friction which is always smaller than the static coefficient of friction times the normal force, that reactive force.

That same reactive force has to act at the pins. And at the pins, the coefficient of friction is higher and it's static. And so it creates a force that tends to keep the conveyors in place that's always stronger than the frictional drag force of

the product moving along the platen.

So I think earlier in the patent, where he says the conveyors can become jammed -- and I haven't found that, but I'm pretty confident it's in here -- I think that's what will happen, that ultimately the conveyors may just jam.

But I just don't think you can create a force that lifts the conveyer assemblies 40A and 40B up and off of the mounting pins; not in the way he's describing.

Maybe there's something else that he was thinking about, but it doesn't seem to be described in the patent.

Q. Okay. Can you turn to paragraph 85 of your report. And I'm also going to reference Dr. Collins' report, so if you want to have that ready too.

A. Okay.

Q. Let me know when you're ready.

A. I'm in my paragraph 85.

Q. And I'll start with paragraph 23 of Dr. Collins' report.

A. Okay.

Q. Okay. Looking at paragraph 85 of your report, do you see, after the first sentence, you have citations to paragraphs of Dr. Collins' report?

A. I do.

Q. And you are citing those paragraphs for the general support that Dr. Collins discussed Lee; is that fair?

A. Yes, I'm citing there -- let me state it in the way I would interpret it.

Q. Okay.

A. Dr. Collins does not use Lee as a reference in combination with other references, and I think so for a good reason. I think he's correct in not attempting to do that.

He cites only to Lee to suggest that there were -- there was one device that didn't require a latch or something to secure

the conveyors in place.

And I think what I'm citing to are the portions of his report where he generally makes this assertion that it was known through this one reference that you could have gravity securing a conveyer in place.

Q. Okay. So if you look at paragraph 23. Dr. Collins doesn't discuss Lee there; right?

A. (Document[s] reviewed.)

Are you sure you're trying refer me to paragraph 23?

Q. Yes, because it's the citation at the end of your string cite on paragraph 85.

I'm trying to get to the fact that I think this might have been an incorrect citation, so --

A. Oh. Okay. I think you may have found a typo.

I agree, because 23 doesn't

seem like the relevant --

Q. Do you think that could have been 223, because it comes after 172?

A. Let's take a look.

Q. Okay.

A. (Document[s] reviewed.)

Yes, that should be -- thank you for catching that error. I hadn't noticed that before. That should be 223.

Q. No problem. We all make typos.

A. There are a couple of other ones. I don't think they're substantive.

Q. Okay.

A. Here, it would nice to have the correct number. So it is 223, yes.

Q. Okay. All right. Thank you.

Looking at Dr. Collins' paragraph 223, the first sentence, Dr. Collins says, "A POSA would have had a reasonable expectation of success when adding a latch like that disclosed in Lee to the McLaughlin," which ironically I think also

might have been a typo.

Do you see that?

A. I see he says "to the McLaughlin," but it should say "to the McLaughlin reference."

Is that what you think it should be?

Q. Either "to McLaughlin" or "to the McLaughlin reference." One of the two.

A. Okay. But we agree we're talking about McLaughlin here.

Q. Yes.

And we're talking about paragraph 223?

A. Okay. Got it. Yep.

Q. And there, Dr. Collins does say that you would have a reasonable expectation of success of adding a latch like that disclosed in Lee to McLaughlin; right?

A. He says it. But then he doesn't provide any description of how this might be done or any -- he doesn't recognize

that there's an issue with the latch that's shown in Lee when the adjustment mechanism -- so I think there are some issues here. But he does say that there would be reasonable expectation of success.

Q. Well, he says "adding a latch like that disclosed in Lee," not "adding Lee's latch." Right?

A. He says it, but he never describes how that could be implemented in McLaughlin.

Q. So do you disagree with Dr. Collins, that using latches to secure devices would have been well-known even at the undergrad level and potentially used in undergrad design exercises and an obvious design choice?

MR. HART: Objection.

Relevance. Foundation.

A. He does say that. And so I think, again, it depends on the context.

The question here really is

would you consider -- would a person of skill in the art look to Lee for a latch to secure -- like that disclosed -- at least partially disclosed in Lee. Would you look to that?

I think that's a different question than would you know about -- would an undergraduate student know about latches. Of course an undergraduate engineering student would know about latches. That doesn't mean you would combine Lee.

Again, I see no effort to combine the references. I just see a general disclosure that Lee has with a latch or a partial latch.

Q. Do you disagree with Dr. Collins, that implementing a latch system to hold a removable conveyer belt unit into place would have been well within the skill of a POSA at the relevant time and would involve the use of well-known components in a familiar manner?

A. I can say that Lee's attempt to implement a latch appears to fail. There's no way to make that system allow for the adjustments that are required.

In other words, the latch has to mate -- the barrel part of the latch has to mate with a corresponding hole in some other structure of the device.

And if you're going to adjust the device, move the conveyors in and out, then you need to have multiple holes or a way to adjust the holes. And I just don't see any disclosure in Lee of how that occurs.

And so, you know, I think Lee has conceptually suggested a latch could be used, but really hasn't described how to implement that latch.

Q. So do you think it would be beyond the skill of a POSA at the time of the relevant -- strike that.

Do you think it would be beyond the skill of a POSA as of 2011 to implement a

latch system to hold a removable conveyer belt unit in place?

MR. HART: Object to form. Relevance. Foundation.

A. Yeah, I think it depends on the particular application.

Again, Lee seems to have some trouble figuring out how to implement the latch. I presume Lee is a person of skill in the art. And maybe there's undisclosed information Lee had in mind of how this would occur, but I don't see it in the patent.

So, yeah, in some applications, depending on the application, I think an engineering student would have the skill to implement a latch, but I don't think that tells us that you would use what Lee discloses to modify McLaughlin, or I don't think there's really a suggestion of how you would do that.

BY MR. FELDHAKE:

Q. As of 2011, a POSA would have

been aware of other latches besides that disclosed in Lee; correct?

MR. HART: Object to form.

A. There are certainly other ways to implement a latch. And I think a person of skill in the art would be familiar with some of those.

BY MR. FELDHAKE:

Q. Do you think as of 2011, it would be beyond the skill of a person of ordinary skill in the art to implement a latch into McLaughlin's system?

A. Well, we know that the commercial embodiment of McLaughlin uses a tool to turn a screw or a nut or some other element to create that secure connection that is required in McLaughlin.

I see no evidence that there's a reason to use Lee's teaching. A person could, in some abstract way, maybe put a latch in a conveyer.

I don't think that tells us

that Lee's teachings can be used to modify McLaughlin or that you would be motivated to do that.

Q. So you're referencing Lee, but I'm not referencing Lee. I'm referencing the general knowledge of latches.

So do you think as of 2011, it would have been beyond the skill of a person of ordinary skill in the art to implement a latch into McLaughlin's system?

MR. HART: Object to form.

A. When you say "implement a latch into McLaughlin's system," what do you mean by that?

BY MR. FELDHAKE:

Q. A latch to secure McLaughlin's removable conveyer belt unit.

A. Well, again, we know that the designers of the equipment that were based on the McLaughlin reference chose not to use a latch. It clearly wasn't obvious to do that.

How you would exactly implement

a latch is unclear to me. And Dr. Collins provides no guidance on how you would do that.

So in some abstract way, maybe it could be done, but there's no disclosure of how it could be done or why you would choose to do that. And there's good evidence that the designers of the actual equipment, based on McLaughlin, chose not to take that approach.

Q. Do you think as of 2011 it would have been beyond the skill of a POSA to implement a latch to secure a conveyer belt unit in McLaughlin?

MR. HART: Object to form.

A. I think it depends on the details of -- nobody has proposed a way to do this. Dr. Collins had an opportunity to propose how to do it. He didn't do that.

I don't see where you would put that latch. I mean, conceptually, again, it may be possible, but how you exactly do it is

just not disclosed. And I haven't tried to create a design that uses a latch in McLaughlin. I don't see any reason to do that.

McLaughlin's commercial embodiment uses a tool-based approach, which seems to be sufficient for the designers.

BY MR. FELDHAKE:

Q. Have you reviewed all commercial embodiments of the McLaughlin patent?

A. I do not know that. I have reviewed the manuals for PowerMax 3000 and 4000. And it has been represented to me that those are commercial embodiments of McLaughlin. And clearly those require tools to secure the conveyer down.

If there are other commercial embodiments, I don't know of those at this point.

Q. Would it change your opinions if you were aware that a commercial

embodiment of McLaughlin did not require tools to remove the conveyer belt?

MR. HART: Object to form. Lack of foundation.

A. I would have to see that to form an opinion.

BY MR. FELDHAKE:

Q. Do you think as of 2011 it would have been beyond the skill of a POSA to implement a latch to secure a conveyer belt unit in Konishi?

MR. HART: Object to form. Lack of foundation.

A. Again, the details here are important. How this would occur is not clear to me from the disclosure of Konishi.

And so I just haven't formed an opinion on that. I haven't seen any proposal for how it might be done. And I haven't formed an opinion on it.

BY MR. FELDHAKE:

Q. Well, that's fine.

I'm asking you, sitting here today, if you think as of 2011 it would have been beyond the skill of a POSA to implement a latch to secure a conveyer belt unit in Konishi?

MR. HART: Same objections.

A. Yeah, I'm not prepared -- this has not been proposed by Provisur or Dr. Collins. I am not prepared to sit here today and say either with respect to McLaughlin or Konishi what issues might arise in attempting to do this.

So this requires an analysis. And I think I deserve an opportunity to see more details about what you're conceptually proposing.

BY MR. FELDHAKE:

Q. You've repeatedly said that Dr. Collins did not propose a latch in McLaughlin. But we just reviewed paragraph 223, where he did propose that.

So do you have a response to

paragraph 223 of Dr. Collins' report?

MR. HART: Object to form.

Lacks foundation. Lacks relevance.

A. Again, Dr. Collins says there's a latch and says you could use it. He doesn't tell us how you would implement that. He doesn't use Lee in any combination with the other references. He simply says Lee has a latch. You'd know to use a latch.

In my understanding of the law, that's insufficient. I have not tried to create -- fill the gap here and try to create something that I could analyze. And so I'm just not prepared to provide an opinion without more information about this.

BY MR. FELDHAKE:

Q. Do you believe that Dr. Collins was required to describe an embodiment that included a latch?

MR. HART: Object to form.

A. I think in proposing -- well, first of all, Dr. Collins has not proposed a

combination using Lee.

Second, I think there is a requirement -- and I talk about the legal principles here in my report -- relevant legal principles.

So in paragraph 22, "I have been informed that a claim can be obvious in light of the single prior art reference or multiple prior art references. I understand that to prove that prior art, or a combination of prior art, renders a patent obvious. It is necessary to" -- and then I'll go into the bulleted list below this in a minute, but first of all, initially, there is no proposed combination that uses Lee, which is where Dr. Collins extracts this concept of a latch from.

But it's required to -- now I'll go to the bullet points -- "identify the particular reference that singly, or in combination, makes the patent obvious; specifically identify which elements of the

patent claim appear in each of the asserted references, and; explain why a person of ordinary skill in the art would have combined the references and how they would have done so to create the inventions claimed in the patent." And then there's, of course, requirements of motivation.

And so I just don't think Dr. Collins has provided any specificity about how you -- whether there -- he hasn't suggested there is a combination. And even if he had, there's no discussion of how this latch concept would be implemented.

Q. So is it your opinion that Dr. Collins did not show how to physically incorporate a latch like Lee's into Konishi?

MR. HART: Object to form.

A. Well, certainly he didn't provide an explanation of how this would be done for either Konishi or McLaughlin.

So, yes, it's certainly my opinion that he doesn't explain how to do

that or why you would do it.

BY MR. FELDHAKE:

Q. Do you have a copy of Chandler with you, which is Exhibit 1016?

A. No.

Q. Okay. So I am now handing you Exhibit 1016, which is a patent to Chandler, U.S. Patent No. 6,201,218.

(Previously marked Deposition Exhibit 1016, U.S. Patent No. 6,201,218 (Chandler et al.), No Bates, was tendered to the witness.)

Q. Have you seen this document before?

A. (Document[s] reviewed.)

I have seen it, yes. I believe so.

Q. Do you believe that you've reviewed this document in its entirety before?

A. I don't recall reviewing this

cover to cover. I did look at it, but I don't recall reviewing it from front to back.

Q. Do you see that the publication date on the front of the patent is March 13th, 2001?

A. I do.

Q. You did not address this document in your declaration; right?

A. My declaration is responding to Provisur and Dr. Collins.

And so with respect to this, claim 16 limitations that are added to the earlier claims, I don't believe he uses this as a reference. Certainly not in combination.

Q. Dr. Collins did discuss this in the General Background of the Art though; right?

I can point you to paragraph 36 of his report.

A. (Document[s] reviewed.)

Q. I might have to correct that. It might not be in 36. Give me one moment to tell you where it is.

A. I don't see it.

(Pause.)

Q. Paragraph 39.

A. Okay.

(Document[s] reviewed.)

Q. Dr. Collins addresses the Chandler reference in paragraph 39 of his report; right?

A. He addresses it in the sense that he gives a broad description at a very high level.

He says, "Chandler also discloses a removable conveyer belt unit and its benefits. Chandler is a food-cooking apparatus, and it teaches a mechanism that responds to manual pushing of the idler roller to shift the idler shaft between the drive position and a belt slack position that allows easy and quick installation or removal

of the endless belt." And then he cites Chandler, Exhibit 1016, abstract.

Q. Why did you not address Chandler in your declaration?

A. I don't think Chandler -- well, first of all, Dr. Collins does not use Chandler in any combination.

I don't see any discussion of how Chandler would be combined or incorporated with other references, so I didn't see a need to address Chandler and respond to what seems like a reasonable description that Dr. Collins provides of the invention of Chandler.

Q. Can you turn to column 2, line 43 of Chandler.

A. Okay. I'm there.

Q. Do you see where Chandler says, "A further object of the present invention is to provide a food-cooking apparatus having at least one conveyer belt assembly that is easily and quickly removable for cleaning

and/or maintenance purposes"?

A. I do see that passage, yes.

Q. So would you agree that as of March 13, 2001, it was known in the art that conveyer belt units could be removed quickly and easily to facilitate cleaning and maintenance?

MR. HART: Object to form.

Lacks foundation.

A. I would have to spend more time.

Dr. Collins doesn't provide an analysis of this. It doesn't say -- it doesn't convince me -- this passage doesn't convince me that it was known.

It does say that it's an object of the present invention to provide a food-cooking apparatus having at least one conveyer belt assembly that is easily and quickly removable for cleaning and/or maintenance purposes.

How this might relate to the

combinations that Dr. Collins proposes, I would need more time to think about. And I would need to see some specific proposal.

So it is an object of the invention. Whether it -- the invention succeeds in that object, I'd need to think more about or have more time to study.

BY MR. FELDHAKE:

Q. Can you turn to column 3, line 46.

A. Okay.

Q. And do you see where Chandler says, "The conveyer belt assembly, when coupled, is operable together with a cooking surface in the cooking of food products and when uncoupled is removable for cleaning and/or maintenance purposes"?

A. I see that.

Q. So would you agree that by March 13th, 2001, it was known in the art that removable conveyer belt units could be secured and removed for cleaning and/or

maintenance purposes?

MR. HART: Object to form.

Lack of foundation.

A. Yeah, I would just stick -- I think you inserted words that are not in the passage that you've pointed me to.

The conveyer belt assembly is releasable -- releasably coupled to the frame of the apparatus. I don't see some of the words you used.

So I think what we just read, I think I would agree that it was known in the art -- this passage was known, or at least this was the purported attempt of this invention.

I haven't seen any analysis of how this might be used in any combination. So what the meaning of this is, I think, needs more analysis.

BY MR. FELDHAKE:

Q. Okay. Now do you see the next sentence where it says, "The releasable

coupling means includes a bracket member that releasably couples the at least one conveyer belt assembly to the frame with a quick-connect/-disconnect fastener means"?

A. I do, yes.

Q. So would you agree that by March 13th, 2001, it was known in the art that removable conveyer belt units could be coupled using quick-disconnect or -connect fastener means?

MR. HART: Object to form. Lack of foundation. Lacks relevance.

A. (Document[s] reviewed.)

I agree that what you read is disclosed in this patent. Beyond that, I'm not prepared to provide an analysis on the fly of what was known or how this might have been used in some combination with other references.

It certainly hasn't been used to date in the references that are cited or the analysis provided by Dr. Collins.

BY MR. FELDHAKE:

Q. A person of ordinary skill in the art would have been aware of the Chandler reference by 2012; right?

A. Probably so.

Q. I am now handing you an exhibit that has not been marked in this proceeding yet. It will be marked as Exhibit 1035. This is U.S. Patent No. 7,621,109, Momich. M-o-m-i-c-h.

(Deposition Exhibit 1035, U.S. Patent No. 7,621,109 (Momich), No Bates, was marked for identification.)

Q. Have you seen this document before?

A. Not to my recollection.

Q. Do you see -- well, I can give you a few minutes to review, if you would like.

MR. FELDHAKE: And I'll note for the record that it is 2:06 p.m.

A. (Document[s] reviewed.)

Okay. I'm not going to have time to digest this reference in full. If you want to ask a question, I will do my best to provide an answer.

BY MR. FELDHAKE:

Q. I'll provide some targeted questions.

So do you see on the front page of the patent the publication date is November 24, 2009?

A. I do.

Q. Can you please turn to column 4, line 49.

A. Okay.

Q. Do you see where Momich generally discusses conveyors between lines 49 and 60 of column 4?

A. (Document[s] reviewed.)

No.

Q. If I could direct you to line 57.

Do you see a conveyer discussed there?

A. No -- oh, I do see it. I'm sorry. I was looking at 56. "Replaceable and/or interchangeable along carrier conveyer 50."

So I see the word "conveyer."

Q. Okay. And do you see where Momich says that "fasteners such as knurold bolts and/or toolless quick-release systems such as ball detent arrangements were known to those having ordinary skill in the art"?

A. I have never seen detent spelled like that. Looks like "detente" to me. Maybe that's a spelling that I'm just unfamiliar with. But I generally see the words -- reading that word d-e-t-e-n-t-e as detent.

I see the words that you just read. What the meaning of those is, I don't know.

Q. Would you agree that by

November 24, 2009, it was known in the art to use ball detent arrangements or other toolless quick-release systems?

MR. HART: Object to form. Lack of foundation. Lacks relevance.

A. I just haven't had an opportunity to review this reference.

I look at the summary of the invention, and it doesn't seem like it relates at all to this, to what you're describing.

So I would just need time to analyze it. And, again, this is being put in front of me for the first time. So I see the words you're saying. I think that's all I can say.

BY MR. FELDHAKE:

Q. Would you agree that by November 4th, 2009, knurold bolts were known in the art?

MR. HART: Same objections.

MR. FELDHAKE: And it's spelled

k-n-u-r-o-l-d.

A. I agree that the words "knurold bolt" are in the patent. It also says that they're shown in Figure 3. And I see no corresponding element in Figure 3 that would support this language.

BY MR. FELDHAKE:

Q. Do you agree that toolless quick-release systems were known in the art by November 24th, 2009?

MR. HART: Same objections.

A. Without reviewing this patent, I don't know what it teaches. So with respect to this patent, I don't know what it tells us about what was known in the art.

It certainly doesn't seem to know, for example, a knurold bolt, as far as I can tell.

BY MR. FELDHAKE:

Q. You don't have any reason to dispute that it was known in the art by November 24th, 2009, to use toolless

quick-release systems; right?

MR. HART: Object to form.

A. I think -- yeah, one reason to dispute it is because Dr. Collins has had a chance to analyze this art and doesn't describe toolless systems, doesn't describe a knurold bolt, as far as I recall.

Perhaps you can point me to something where he's done an analysis, but I don't see anything about detents or knurold bolts.

BY MR. FELDHAKE:

Q. He does discuss toolless quick-release systems though; right?

MR. HART: Object to form.

A. Well, we would probably have to look at his report. I don't think he addresses in any meaningful way how you would implement a toolless system. I think the first disclosure of that is in the '487 patent.

///

BY MR. FELDHAKE:

Q. So sitting here today, you believe that the first toolless quick-release system was disclosed in the '487 patent? Is that accurate?

A. In the context of the invention of the '486 [sic] patent and the claims, I think it's the first disclosure I have seen of the toolless system other than the Lee reference that seems in any -- well, Lee -- clearly it is a number of differences in how the forces are exerted. There's no combination with Lee.

Other than that, you're putting a new document in front me and asking me, in the negative, do I know it's not there?

It's not disclosed. I just can't say without studying the document.

BY MR. FELDHAKE:

Q. I'm going to hand you another document. This will be marked at Exhibit 1036 in this proceeding. This is

U.S. Patent No. 3,517,605 to Hursch, H-u-r-s-c-h.

(Deposition Exhibit 1036, U.S. Patent No. 3,517,605 (Hursch), No Bates, was marked for identification.)

Q. Have you ever seen this document before?

A. Not that I recall.

Q. Do you see that the date of filing is September 6th, 1968?

A. I do.

Q. Can you turn to column 3, line 75.

Do you see where --

A. Could you give me just a minute to look at this?

Q. Yes. Of course. Take your time.

MR. FELDHAKE: I'll note for the record that it's 2:16 p.m.

A. (Document[s] reviewed.)

Again, I'm not going to have time to review this reference, so I probably will not be able to answer any questions other than to the words that you read exist in the patent. But I'll do my best.

BY MR. FELDHAKE:

Q. Do you see in column 3, line 75, where Hursch discusses a freely removable conveyer section?

A. (Document[s] reviewed.)

Those words are in line 75. "The freely removable conveyer section 16 comprises an open box-like frame having a back 70, sides 72, and a top 74. Sides 72 have elongated bars which rotatably journal a pair of shafts comprising an upper idler shaft 76 and lower drive shaft 75. A typical suitable journal is illustrated in Figure 5."

I see words there.

Q. So based on your initial review of the patent, you don't have any reason to dispute a freely removable conveyer section

was known as of 1968; right?

MR. HART: Object to form.

Lacks relevance. Lacks foundation.

A. Yeah, without reviewing the patent, I have no reason to believe that there's a disclosure of how this works or -- I see the words. That's all I can say.

And so have I an opinion about the negative? Again, you're asking a lot of questions. Do I know it couldn't be there? No, I don't. But without reviewing the patent, I just can't say what it discloses. And so, of course, I can't have an opinion related to this.

MR. FELDHAKE: Okay. I think we've crept a little bit past an hour again. So do you want to take a break?

THE DEPONENT: Yes.

MR. FELDHAKE: Okay. We'll go off the record.

(Recess: 2:21 p.m. to

2:29 p.m.)

BY MR. FELDHAKE:

Q. Dr. Reinholtz, do you recall earlier that you testified about some of the various ways that were known to secure mechanical components, such as locking pins, latches, detents, et cetera?

A. There was a general discussion about that that I recall.

Q. Okay. Can you walk me through how a person of ordinary skill in the art would have gone about choosing how to secure a mechanical object?

MR. HART: Object to form.

Lacks foundation.

A. Yeah, you'll have to give me more specific examples.

BY MR. FELDHAKE:

Q. So I'm just thinking generally, in the art, objects need securing. And I would imagine when doing that design work, there are different reasons why a person of

ordinary skill in the art would have chosen one mechanical securing device over another.

So I'm asking, with your experience, why you would choose certain securing devices over others?

MR. HART: Same objections.

A. Could be based on cost, availability of components, familiarity of the designer with the technology that's available, a prior development of machines that use similar mechanisms. People tend to use what they're familiar with.

So there could be a lot of reasons a person makes a choice about -- a person of skill in the art makes a choice about what kind of a -- we're talking in such general, vague terms. I mean, there's just many reasons you might make a decision about a mechanical design choice like that.

BY MR. FELDHAKE:

Q. Okay. So I'll try to limit it some then, and we'll talk about some of the

specific examples we previously went through.

Can you describe to me the kind of situation when a person of ordinary skill in the art would use a locking pin?

MR. HART: Object to form.

Lacks foundation.

A. I think it's just too broad to say there's a typical situation. It's too broad of a question to provide a specific answer.

BY MR. FELDHAKE:

Q. Can you describe to me some of the benefits of a locking pin that would encourage a POSA to use one?

MR. HART: Same objections.

A. Could create a locking engagement; that would be a benefit, if you're trying to get something to lock.

BY MR. FELDHAKE:

Q. Were there any other benefits of locking pins that you were aware of?

MR. HART: Same objections.

A. It depends on the context.

BY MR. FELDHAKE:

Q. Can you elaborate?

MR. HART: Same objections.

A. If you ask a more specific question, I may be able to provide more elaboration.

BY MR. FELDHAKE:

Q. Can you provide three benefits of using locking pins?

MR. HART: Same objections.

A. Again, I think it depends on the context. They may be inexpensive. They may be convenient. They may be available in supply. They may be known to the designer.

And even the term "locking pin," I think, probably encompasses a really broad collection of elements. So, again, this question is -- it really lacks a context to be able to give any kind of a meaningful answer.

///

BY MR. FELDHAKE:

Q. Were there any known benefits of using a locking pin that would have made a locking pin desirable in a removable conveyer belt unit?

MR. HART: Same objections.

A. It depends on the context.

BY MR. FELDHAKE:

Q. What more context do you need?

A. What do -- the machine elements we're trying to lock together with the locking pin or fasten together, what do those machine elements look like?

Q. Were there any known benefits of using a locking pin that would have made a locking pin desirable to use in McLaughlin's removable conveyer belt unit?

MR. HART: Object to form.

A. Again, it depends on which elements we're specifically trying to lock together and where. I see no evidence that it would be desirable to use a locking pin.

BY MR. FELDHAKE:

Q. You said it would be desirable to use a locking pin because it could be inexpensive; right?

A. Could be. It might be more expensive.

Q. So I guess it could be readily available in the market or not readily available in the market; right?

A. Or readily available -- correct. Or it might be readily available in the designer's inventory or not readily available.

Q. Were there any known benefits of using a latch that would have made a latch desirable to use in McLaughlin's removable conveyer belt unit?

MR. HART: Object to form. Lack of foundation.

A. Again, it depends on the context of -- I see no evidence to support that there could be a benefit to it. And it

depends on the context of how you would go about implementing that.

I haven't provided an analysis of that.

BY MR. FELDHAKE:

Q. So is it your opinion that you have provided no analysis that it would be beneficial to use a latch in McLaughlin?

MR. HART: Object to form.

A. I don't think Dr. Collins has provided any description of how a latch -- how or why a latch would be used in McLaughlin. And I haven't attempted to respond to that. And I'd rather not try to do an analysis on a very open-ended, general series of questions sitting here, on the fly.

If you'd like to provide me with a context and more information, I'd be happy, probably outside of these proceedings, to provide an analysis.

BY MR. FELDHAKE:

Q. I asked you about your

analysis, and you referred to Dr. Collins' analysis. So I'd like to focus on your analysis.

Is it your opinion that you have provided no analysis that it would be beneficial to use a latch in McLaughlin?

MR. HART: Object to form.

A. (Document[s] reviewed.)

So I think I'm quite clear in paragraph 62 that -- I say, "As set forth below, based on the designs of these conveyer belt units" -- and I'm talking now about the conveyer belt units of Konishi and McLaughlin and their respective -- and the respective forces acting on them -- "a POSITA would not have been motivated to leave them unlatched, secured by their own weight."

And here, I think I'm using "unlatched" as a verb, that you want to latch it down. I don't describe methods for certainly securing it. There could be other ways than what I think you're maybe proposing

as -- but haven't defined as a latch. There are many different kinds of latches.

So I guess probably here I would say that I say "unlatch," but basically I am saying that a person of skill in the art would understand that Konishi and McLaughlin would need to be secured or latched, connected into place so that they couldn't move.

Based on Dr. Collins' conjecture that Collins' is removable in a certain way, it may dictate one type of securing device over another.

But there's been no -- there's no discussion by Dr. Collins of how that would be done. And I certainly haven't tried to provide an analysis responding to information he doesn't provide.

BY MR. FELDHAKE:

Q. Can you turn to paragraph 60 of your report.

A. Okay. I'm there.

Q. You included some free-body diagrams in your report; is that correct?

A. I did provide free-body diagrams in my report. That's correct.

Q. Do you know the speed at which one of these types of conveyer belts rotates?

A. There may be disclosure in the patents about certain speeds. I don't recall that. But I don't think my analysis is speed-dependent.

They clearly move. They have some velocity and acceleration characteristics. And so I don't think I needed to consider the parameter of speed.

And you said -- again, very vaguely -- "these types of systems." Are you asking me about Konishi and McLaughlin --

Q. Yes.

A. -- or -- okay.

I'm not sure that the speed is disclosed in either those it. Maybe, but I don't recall.

Q. Based on your years of experience in the conveying industry, do you know at approximately what speed these conveyer belts would rotate?

A. Some, in certain kinds of processes, move very quickly.

And so, again, these kinds, I would not restrict my understanding of that. These are horizontal conveyer belts.

I've worked -- and I didn't mention it, I don't think, in my background or in our discussion earlier, but I also worked in the cigarette-processing industry on research, trying to speed up.

Those are considered food-grade products. As much as I object to smoking, I did do some work in that area many years ago. And those machines move at many feet per second. So I don't think these inventions are restricted to a particular speed.

Q. Do you think cigarettes are

food product?

A. I do believe they're regulated by the FDA. And so, again, we could have maybe a dispute about what's a food product. But I think in terms of the handling of them and the sanitation, they are treated as food-grade products.

Q. Do you know how frequently belt jams occur on food-processing lines?

A. I think a lot of it depends on the context of the line.

Q. Do you know how frequently belt jams occur on meat-slicing lines?

A. It would be quite frequent if the conveyer assemblies were left unsecured, and they would clearly tend to jump out of -- like the ones in Konishi and McLaughlin. So securing them helps to ensure you have fewer jams.

But numerical values of that, I don't have that in mind. And I don't think that that's important to my analysis.

Q. Do you know with what force a drive belt is tensioned in one of Konishi or McLaughlin's removable conveyer belt units?

A. As far as I recall, the patents are not limited to a particular driving tension or product size. And so, again, I don't think that's relevant to my analysis.

Q. Is there an approximate range that those types of drive belts are typically tensioned?

A. It depends on the drive belt and the system. Above zero.

Q. I would hope.

A. That's not necessarily true. But there's usually preload applied in here in drive belts of this type.

Q. Let's look at paragraph 62 of your report.

Is it your opinion that a person of ordinary skill in the art reading Konishi would have understood that Konishi's removable conveyer belt unit was secured by

some type of mechanism?

A. There's no disclosure about how it would be secured in Konishi. Konishi's invention doesn't focus on that.

But in applications, such an arrangement would need to be secured in place.

Q. Is it your opinion that a person of ordinary skill in the art reading McLaughlin would have understood that McLaughlin's removable conveyer belt unit was secured?

A. Again, I think Dr. Collins agrees with my opinion here, that these belts -- structures that support the belts would need to be secured in place.

Q. And Konishi's conveyer belt unit could have been secured using a latch; right?

MR. HART: Object to form.

A. Some kind of a latching, securing device. It could have been secured

in a number of ways using tools. There's just no disclosure about that in Konishi, so we don't know. It certainly doesn't teach toolless disconnection.

BY MR. FELDHAKE:

Q. Yes, I understand that that's your position, but I just want to be clear.

Konishi's conveyer belt unit could have been secured using a latch; correct?

MR. HART: Object to form.

A. Something that creates a constraint is necessary. How that is done, we just don't have any information. But that it would have to be done. But whether it's something you might consider to be a latch in common vernacular or some other bolted connection, it has to be secured in some way to be functional.

How that's done, there's just no disclosure, and there's no discussion by Dr. Collins about how that would be done.

BY MR. FELDHAKE:

Q. But it could have been done with a latch; right?

MR. HART: Object to form.

A. I think it depends on the specifics of how you might approach it.

BY MR. FELDHAKE:

Q. Can you give me any reason why a latch would not work in Konishi's disclosure?

MR. HART: Object to form.

A. The latch might all -- depending on the type of latch would also be subjected to vibration, for example.

So we have the partial disclosure in Lee of a barrel latch. Barrel latches are subject to disengagement through the kind of vibration you see in a device like Konishi or McLaughlin.

And so, yeah, there are reasons you -- again, we haven't defined the scope of what is meant by a "latch."

I think of latch -- latching mostly as a verb. You're connecting it in in a secure way and not a particular piece of hardware. But certain types of latches may not be secure.

We also don't have guidance on the structure; where, in the structure, this might occur; how an operator might be able to get to the latch or what tools might be needed to open or loosen whatever is creating the latching. There may be sanitation issues with devices that have crevices.

There could be a number of reasons why something you think about -- I'll just take the example of Lee's partial disclosure of a barrel latch may not be suitable for use in Konishi, for example.

BY MR. FELDHAKE:

Q. You previously agreed that other types of latches were known in the art; correct?

A. There are other types of

latches, but what even falls under the heading of a latch is probably subjective.

I think we can all think of examples of latches, but the scope of that term, I don't think we have a clear definition of that.

Q. Could a person of ordinary skill in the art have understood that a locking pin could be used to secure Konishi's conveyer belt unit?

MR. HART: Object to form. Lacks foundation.

A. Again, I think it depends on the particulars.

BY MR. FELDHAKE:

Q. What particulars?

A. What the pin arrangement might look like; where it might be located; how it might affect the cleaning process; what tools an operator or maintenance person might need to implement it; where, in the device, could it be implemented.

There's just no information about that.

Q. Would it have been within the skill of a person of ordinary skill in the art to account for those particulars?

MR. HART: Same objections.

A. It depends.

BY MR. FELDHAKE:

Q. What does it depend on?

MR. HART: Same objections.

A. It, again, depends on the details, examples of which may be the particular arrangement of the securing device, whatever it may happen to be; how easy is that to clean? How resistant is that to the environment that these machines operate in?

And it may be impossible to implement some types of securing devices in a device like Konishi or McLaughlin in particular applications.

So what are we processing as

the material? We're processing caustic -- I think there are myriad of things that could affect what -- the dependence of the kind of securing device -- you need to use a securing device in Konishi or McLaughlin.

What you use to secure depends a lot on the details of the arrangement of the mechanical elements, and what you're processing, how you're cleaning it, how you're maintaining it, who you're using, what's the skill of the operators.

BY MR. FELDHAKE:

Q. Okay. So I've previously been using the term "latch" in my questions, which I understand has potentially led to an ambiguity in those. So I will rephrase them without referencing a "latch" and based off of what you just said.

So would a person of ordinary skill in the art, reading Konishi, have understood that Konishi's removable conveyer belt unit was secured?

A. Konishi doesn't disclose it being secured. But I think a person of skill in the art -- and Dr. Collins I think does recognize this as well, that this in application -- the patent is describing disclosing particular aspects of an invention.

And to implement this in practice, it would -- the conveyer would need to be secured. I think that's clear. I hope there's no dispute about that.

And so actually I lost track of your question at this point.

Q. That's all right. I'll re-ask it. And I'm going to see if I can just shorten it up.

Would a person of ordinary skill in the art, reading Konishi, have understood that Konishi's removable conveyer belt unit was secured?

A. They would understand that it would need to be secured in application.

Konishi doesn't teach the securing device mechanism or method, but it would need to be secured by something other than just the weight of the conveyer.

Q. Would a person of ordinary skill in the art, reading McLaughlin, have understood that McLaughlin's removable conveyer belt unit was secured?

A. I've let this pass a number of times, but I don't think in either McLaughlin or Konishi, in practice, these conveyors, as they're disclosed, are fully removable.

To remove, it has to be taken, in my opinion, from the operative state to being removed from the machine. And, for example, Konishi discloses a part of how that could happen but doesn't disclose how you would remove the latching or the securing mechanisms. McLaughlin doesn't disclose anything about removing it.

And so, you know, the context of your question is that these references

both disclose installation and removal -- at least I think you're trying to imply that. And I don't think they fully disclose that.

They only disclose -- at best, Konishi discloses a part of that process and not the whole process; and McLaughlin discloses none of it, as far as I recall.

Q. Okay. So I'll ask the original question: Would a person of ordinary skill in the art, reading McLaughlin, have understood that McLaughlin's conveyer belt unit was secured?

A. They would understand that it would have to be secured in application.

Q. Turn to paragraph 64 of your report.

A. Okay. I'm there.

Q. Here, you state that you assumed the center of gravity was the said weight vector W -- scratch this. I'm going to restart.

You assumed the center of

gravity of Konishi's conveyer belt unit; right?

A. Well, there clearly is a center of gravity of the unit. I assumed its location to be centered between -- generally centered between the -- my analysis doesn't depend on that.

I've given specific dimensions. And those might vary a little bit, but it would generally be towards the middle, I believe.

Q. Looking at McLaughlin on page 41, your analysis does depend on where the center of gravity is; right?

A. (Document[s] reviewed.)

I'm sorry. I'm catching back up with you. So could you point me to your paragraph again?

Q. It's paragraph 70, page 41. I'm looking at the free-body diagram of McLaughlin there.

A. Yeah, I think the same answer.

We know there's a center of gravity of this device. I probably have been conservative.

There's a lot of structure off to the left of where I've put it. And you also see in this picture at least the food product is a pretty significant element in this image on page 41 of my declaration.

So I think it would be in the general region, probably to the left, creating probably a worse situation. But anyway, the upshot is I don't think my analysis depends on where that is. It's the same analysis either way. Only dimensions change.

Q. But the values change if the center of gravity moves; right?

A. I have not provided any values.

Q. You're right. You didn't provide any numbers-based models for your McLaughlin analysis; right?

A. Correct.

There's no need to do that.

The analysis is complete without providing numbers. And it would be speculative for anybody to attempt to put numbers in here.

But I think the analysis -- the logic of the analysis stands. No numbers are needed to understand the analysis.

Q. Okay. So I want to focus on that -- those equations that are in paragraph 71 of your declaration.

What do T1 and T2 represent in this figure?

A. I've illustrated them in the figure, and I have described them in paragraph 70. A weight vector W is shown and an assumed center of gravity, vertical friction forces FL and FR, are shown -- I'm sorry. I said that incorrectly. Let me start again.

Vertical reaction forces FL and FR are shown at the ends, along with tension forces T1 and T2 from the preloaded belt. So T1 and T2 represent the tension in the belt.

And because the belt is being driven from right to left, the T2 value must be greater than the T1 value.

Q. In the equation in paragraph 71 of your declaration, why did you do T1 minus T2 as opposed to T2 minus T1?

A. Well, the first equation where I sum the moments, the T2 -- I'm taking the moments as positive, in a counterclockwise direction with respect to the center of the left-hand pulley; in other words, to the point where FL -- the center axis of the pulley were FL -- FL -- sub-L reaction forces -- or reaction force occurs.

And so in the equation, I've assumed here FR could be positive or negative, but I assume it's positive and going up initially. And that multiplies by d1 to create a positive moment about the left-hand pulley. The weight, though, creates a moment; tries to rotate the whole assembly in the opposite direction. So

that's negative.

T2 tries to rotate the entire assembly -- the belt, the pivot -- in a positive, clockwise -- I'm sorry -- counterclockwise direction. And T1 acts in the other direction to create a clockwise moment about the center of the -- that left-hand pulley. And that accounts for the signs of the terms in that equation.

And then the equation below, I think that you're pointing to, is just a manipulation of that to solve for the force vector FR, which clearly could be positive or negative.

Q. Would the values T1 and T2 be relatively similar in a real-world application of a drive belt?

A. Typically, no. The T2 is sometimes referred to as the taut -- as the taut side of the belt. And the side T1 is sometimes referred to as the slack side.

And in some applications, T1

may go to zero. You can't push a belt, so it can't go below zero. There's no negative force. In other words, those arrows can't reverse direction.

But I would expect T2 to be significantly larger than T1.

Q. Approximately how much larger would you assume T2 to be as compared to T1?

A. It depends on the particular situation and the details, but it's certainly larger. The relative magnitudes, I haven't tried to characterize that.

Q. Using your years of experience, approximately what magnitude would that be?

A. It could go as high as infinite. But, again, T1 -- it's possible that T1 can become -- the T1 side can become slack or almost slack. And so if T2 has a value of 10 newtons and T1 is .1 newtons, then you get a very large 100-to-1 ratio between those.

So it depends a lot -- it

depends on -- if the food product has just been dropped on, T2 will spike higher. As the food product accelerates and begins to move at the same velocity as the average velocity as the conveyer, T2 may drop down. So it depends on a lot of factors.

Q. Would it be within the skill of a person of ordinary skill in the art to design McLaughlin's conveyer belt unit such that T1 and T2 are within 3 newtons of each other?

A. It depends.

Q. On?

A. Scale of the system, the frictional coefficients, what the -- how much the meat is being accelerated when it first drops on.

And those will not be -- there's -- in any system like this, there's meaningful vibrational forces. And so T2 and T1 will not be constant. They will vary. As the system is running, they'll have a static

-- generally static component and they'll have a dynamic component.

Q. So I think you were talking about the difficulties that would be faced, whereas my question was a little bit different.

It's not asking what the difficulties that might be faced would be. It was asking if those would be within the skill of a person of ordinary skill in the art to account for. So I'll re-ask the question.

Would it be within the skill of a person of ordinary skill in the art to design McLaughlin's conveyer belt unit such that T1 and T2 are within 3 newtons of each other?

MR. HART: Object to form.

A. Again, I think it depends.

BY MR. FELDHAKE:

Q. On the skill of that person or on --

A. No. On the particulars of how this conveyer is implemented, what the scale is. How large the product being conveyed is.

Q. So you think that there's a world in which design McLaughlin is outside the skill of a person of ordinary skill in the art?

Is that your opinion?

MR. HART: Object to form.

A. No. I think that mischaracterizes what I said.

It depends on if you give me the details of how big this conveyor is and the other parameters for how it's being applied, then I can determine driving torques. And I can see for a large system, we may have very large differences in T1 and T2, in terms of the magnitude of the driving tension. For small systems, it would be less.

So I can't say a person skilled in the art would take any particular system

and be able to design it to achieve a 3-newton difference. I think that's a -- it requires more information about the system that's being designed.

BY MR. FELDHAKE:

Q. Dg is larger than d; right?

A. Most probably. Again, it depends on the details of the system.

So d sub-g is the distance to the center of gravity from the left-hand center of the left-hand pulley. And that center of gravity -- there is some structure threshold not disclosed or not shown in this particular figure that's more to the left.

So, again, I think it depends on the details of the implementation. Certainly in this figure, I've drawn it. I've used the dimensions that are disclosed in McLaughlin. I've just taken a figure.

And, in this case, I would expect the distance to the center of gravity to be greater than the diameter of the pulley

data.

Q. So in the model that you created for McLaughlin, d sub-g is larger than d; correct?

A. I would not call it a model.

This is taking the figure from McLaughlin, assuming a center-of-gravity location. I think I've placed it probably farther to the right than it is likely to be, based on the more -- the additional structure in McLaughlin.

But in this figure, dg, in appearance, is larger than d, the diameter of the pulley in appearance. That isn't to say those dimensions can't change. It depends on the scale of the system, the location of the product being weighed on the conveyer, and so forth.

Q. Why didn't you use any numbers to come to an answer using your equation?

A. It's not necessary or helpful.

Q. So knowing the weight of a

conveyer wouldn't be necessary or helpful?

A. If we wanted to determine at any instant of time the actual values of weight, then we need to know the weight. But to understand this analysis, that there are forces and torques that can lift this conveyer -- and this -- all of this discussion, I should say, is in the absence of the additional factor of vibration which is extremely important -- hard to characterize but an extremely important factor.

Dr. Collins, in his deposition, recognized that there's a significant concern even in the absence of the forces that I'm describing here, just with vibration; that the right-hand pin is going to jump out of its slot or rise up slightly in the slot.

And if that happens -- it almost certainly will happen just due to vibration. And if that happens, then the entire measurement unit becomes inoperable.

It just can't produce accurate measurements. You have to maintain contact there.

So I'm characterizing the forces that are at play due to weights and torques. And we can see that depending on the values, we certainly can have wide loads at the pin. And it can go negative, depending on the torques and the weight of the conveyer.

We know these conveyors -- weigh conveyors, everybody seems to agree that these have to be designed to be very lightweight. And that is the only way you can get an accurate weight measurement of the product.

And so we're dealing with a W weight of the conveyer that is intentionally kept light, or small, relative to the weight of the food product being measured.

Q. What do you consider to be lightweight?

A. Something that is small

relative to the weight of the product being weighed. And I don't mean less than.

I just mean the ratio of the weight of the entire unit can't be significantly greater than the weight of the product being weighed to get accurate measurements.

Q. What is the basis of that opinion?

A. Well, Dr. Collins said it. And I think any person of skill in the art would recognize that you have a load cell, which is the -- not shown in this picture. It's the element down below that everything sits on top of.

It's like stepping onto the bathroom scale. Anything you're wearing gets weighed. If you have a stack of meat in your hand, it gets weighed. And if your scale has one degree -- I'm sorry -- 1-pound increments, either it's 140 pounds or 141 pounds. And you have a stack of meat in

your hand that's half a pound, you're not going to be able to measure that accurately if you are 140 pounds.

You need to make the weight of the product being weighed significant in the scale of the entire weight measurement.

Q. Different scales have different tolerances for accuracy; right?

A. Different scales have different resolutions. That depends on -- these are probably all digital scales, but they have different resolutions. They can differentiate between two numbers but not anything in between. So that's a resolution.

And then when you say "tolerance," there's also -- I'm not sure maybe that's what you're asking about, so let me stop there and see if I've answered your question.

Q. I'm not sure I know what you mean by "resolution," so if you could explain that.

A. Sure. I'd be happy to.

So the resolution of a measuring device is the number of increments it can divide the measurement into. It depends both on the physical characteristics of the device but also on the electronics and computational elements that are used to measure.

And so if you have a scale -- I think -- if I go to -- so I think Dr. Collins addresses this very well in his deposition. If you turn to page 45, paragraph 63, Dr. Collins is asked the question: "Why does the weight of the conveying surface impact the system's ability to accurately measure food drafts?"

And his answer is: "Well, the answer is that the load cells typically have accuracies. And those accuracies oftentimes are expressed as a percent of the full load capacity. So if you had, say, a full load of 1,000 pounds and you had an accuracy of

1 percent" -- and that really relates to resolution; if you can resolve 1 percent, so 1 percent of 1,000 is 10. So if you could resolve only -- in 10-pound increments; in other words, what you weighed would either be 1,000 pounds or 990 pounds or 980 pounds. And anything in between that couldn't be resolved because of the resolution or accuracy of the scale.

And so -- I'm sorry; I interrupted my own reading of Dr. Collins. But he says, "So if you had, say, a full load of 1,000 pounds and you had an accuracy of 1 percent and you're trying to measure something that's say, a pound, that would be lost in the noise.

"So what you try to do is minimize the total weight" -- he says "total weight"; he means total weight of everything that sits on the load cell, the conveyer unit and all the structure that supports it -- "so that the accuracy is as high as possible."

And then the question following that is: "So the weight you want to minimize is to improve accuracy is the weight of all the mechanics, all the structure above the load cell; correct?"

And his answer is: "Yeah. What I typically refer to as 'dead weight.' You want to remove as much dead weight as you can."

Q. Could you turn to paragraph 67 of your report.

A. Okay.

Q. At the beginning of that, you say, "First, when belt tension is high, a moment can be created that causes the pin 23F to rise out of hook 25F."

Do you see that?

A. I do.

Q. What is a high belt tension?

A. Well, it would be a value of tension that would cause pin 23 to rise out of hook 25.

Q. Do you provide any value for what that high belt tension would be?

A. Again, I don't think it's helpful to try to speculate about numerical values.

This all depends on the scale, the size of the equipment. But we know that -- W in the figure on page 39, we know that the goal of a designer is to make that the dead weight, the minimum it can be.

There's no food product shown there, but that would be the weight of everything that's on top of the load cell absent the food product.

And this is a picture of the Konishi. So probably Konishi were weighing things, candy or confections or something that are probably pretty light. So you really need to make W very small.

And so if W was small, and you're driving this -- and especially if there are disturbances to the system that T2

jump, then the force on pin 23 is also going to jump.

So I don't think we need to provide numerical values to see that 23F has the tendency to lift up away from its mount. And that, again, is in the absence of probably what is a more serious concern, even is that we have vibration -- I shouldn't say "more serious," but both are concerns. Right?

We have the tension T2 trying to lift that pin up and we also have vibration that's trying to make it bounce out of its mounting structure.

And if it leaves contact with the mount or rises up at all, then the weighing unit is inoperable.

Q. Do you think it would not have been within the skill of a person of ordinary skill in the art to design Konishi's conveyer belt unit such that its weight allowed for accurate measurements and also secured the

conveyer belt unit?

A. No, no person of skill in the art would leave that belt unsecured. There's no way to make it a reliable measurement system without securing the pins in the slots or securing it in some way so that it can't vibrate and move.

Q. Can you turn to paragraph 4 of your report.

A. Okay. I'm there.

Q. Do you see where you say, "For the purposes of this declaration, I have been asked to assume that the priority date of the '487 patent is December 12, 2012"?

A. I do.

And I apologize. That's a typo. I didn't point it out at the beginning. I don't think it's a substantive error. I know that it's December 3rd. And I think I probably wrote "12." I was thinking 12/12/2012. So I'm off by nine days there. Sorry.

Q. Do you want to review the cover page of Mayer just to confirm that that date is right that you said?

I want you to get an accurate date on the record, so...

A. I know that there are a couple of dates that were mentioned, but I don't think there was any dispute about the December 3rd, 2012.

Q. I'm sorry. I was looking at the wrong date. Okay.

So I'll re-ask my question: So for the purposes of this declaration, have you assumed that the priority date of the '487 patent is December 3rd, 2012?

A. Yes -- let me just -- maybe I didn't listen to your question.

I've assumed that it's December 3rd, 2012. Is that what you asked?

Q. I believe it is.

A. Yes. Okay. I think that's correct.

I'm not aware of any part that came in the period between December 3rd and December 12th. So I don't know that it would matter, but it's just a typo in the report.

Q. Did you do your own analysis to establish the priority date of the '487 patent?

A. Well, I see on the cover page -- and I reviewed the patent cover to cover, of course -- I see Foreign Application Priority Date of December 3rd, 2012. And it's a German patent. And so I accept that as a priority date.

I don't think I looked beyond that. And I may have been advised that that was an agreed-to priority date. But, anyway, my analysis is based on generally this time frame of around December 3rd, 2012.

Q. Who asked to you assume that the priority date of the '487 patent was in December of 2012?

MR. HART: Object to form.

And I would advise the witness not to disclose any communications between the attorneys and yourself.

A. I don't recall. That may have come to me as a verbal suggestion.

But I see for myself the priority date of December 3rd. I probably didn't need to say that I have been asked to assume. It seems like a reasonable assumption.

BY MR. FELDHAKE:

Q. But it is an assumption; right?

A. Well, I see clearly from the face of the patent, there is a priority date of December 3rd, 2012. I do not see any earlier priority date.

And so if there is dispute about this, I can only imagine that the dispute would be that patent owners are trying to claim it's earlier rather than later.

So I just don't see any -- I

don't see any argument here about the December 3rd, 2012, priority date. If there's different information, I'm happy to consider it. I don't think it would affect my analysis.

Q. Can you turn to paragraph 21 of your report.

A. Okay. I'm there.

Q. Do you see at the end of paragraph 21 of your report you discuss secondary considerations?

A. I do.

Q. You didn't provide any opinions regarding secondary considerations; correct?

A. That's correct.

Q. Can we please turn to paragraph 56 of your report.

A. Okay.

Q. And I'm going to look at the part that's on page 34, so kind of the second half of the paragraph.

A. Okay.

(Document[s] reviewed.)

Okay. I'm generally through paragraph 56.

Q. Do you see where you cited Dr. Collins' deposition at page 30, line 7, through page 31, line 10?

A. I do, yes.

Q. And you characterize that excerpt of Dr. Collins' deposition to say that he confirmed that his obviousness opinion proposes "only" gravity and friction; right?

A. Yes. Correct.

Q. Do you have a copy of Dr. Collins' deposition?

A. No.

Q. I'm now handing you Exhibit 2014 of this proceeding, which is Dr. Collins' deposition taken on June 21 of 2024.

(Previously marked Deposition Exhibit 2014,

Deposition of John M. Collins, Ph.D., June 21, 2024, No Bates, was tendered to the witness.)

Q. And can you please turn to page 30 of Exhibit 2014.

A. Okay.

Q. Can you please point to me where Dr. Collins says that he only relied on gravity and friction for his obviousness combination?

A. (Document[s] reviewed.)

I think his whole testimony here is consistent with that.

He's asked the question: "Just to make sure I understand your opinion here, you believe it would have been obvious to leave McLaughlin's conveyer belt unit unsecured and held in place by gravity alone while it moves through food products; is that accurate?"

And his answer --

Q. Doesn't use the word "only";

right?

MR. HART: Please don't interrupt the witness while he's answering your question.

MR. FELDHAKE: I can read the transcript, so...

He can answer the question without reading me two pages of the transcript.

MR. HART: It's basic protocol in depositions. He's answering your question.

A. He's very clear on this. So he's asked the question: "Held in place by gravity alone."

And he corrects the premise and says no. He says -- actually, he didn't say "no." That's not a quote. He says, "And, actually, I probably should have augmented that a little bit because there is also friction."

So he's saying it's held in

place by gravity and friction. I can't see any other interpretation of this testimony.

BY MR. FELDHAKE:

Q. He doesn't say that it is "only gravity and friction," though; right?

MR. HART: Object to form.

A. No. I cite to his language. I think there's more I could have cited to here that clearly shows that he is saying gravity and friction hold this in place. There's further testimony.

Question, line 23, by Mr. Hart: "No other mechanical structures that are securing that in place; correct?"

And he says, "There aren't. There certainly could be, but there aren't as disclosed."

I think it's all consistent with gravity -- his opinion that gravity and friction are what holds McLaughlin's conveyer in place.

///

BY MR. FELDHAKE:

Q. He doesn't use the word "only" though; right?

A. Well, the question he's asked is "alone." I think that's synonymous with "only." And he answers no. He answers, "Actually, I probably should have augmented that because there is also friction."

I don't know how much closer you can get. He's saying there are two things: it's gravity and friction. And he's asked the question alone. He corrects the question by also introducing friction.

Those are the only components he talks about. That he doesn't say the word "alone" in his responses, I don't think my parenthetical comment confirming his obviousness opinion proposes only gravity and friction would be required to secure McLaughlin's conveyer belt unit for operation.

That seems like an absolutely

correct statement in light of this testimony.

Q. Okay. Let's turn to paragraph 23 of your report.

A. Okay. I'm there.

Q. And you say, "I have been informed that in considering obviousness, hindsight reasoning derived from the patent at issue may not be used."

Do you see that?

A. I do, yes.

Q. You don't allege that petitioner used hindsight reasoning; correct?

A. I don't know that I used that language.

But I would say that -- a suggestion that the knowledge of Lee somehow allows a person of skill in the art to look at Konishi or McLaughlin, I think that is a hindsight analysis.

It's an attempt to use the patent as a roadmap to find disparate elements in different references; not used in

combination but cited. To me, that is a hindsight analysis. But I may not say that explicitly in my response.

Q. Can we turn to paragraph 74 of your report.

A. Okay. I'm there.

Q. Actually one moment, before I -- I think I might have my sections mixed up. Just give me one moment.

(Pause.)

Okay. Actually, I'm not going to ask you any questions about that. Let's move on to something that I think is a little less tethered to your report.

So you understand that claim 16 has been cancelled in this proceeding; is that right?

MR. HART: Object to form.

A. I guess I don't know that.

My understanding is that the earlier claims have been amended to include claim 16, and, therefore, I don't know why

claim 16 would be separately necessary. But I don't know if I explicitly considered that.

The word "cancelled," I guess I'm not sure if I said that or even that I'm aware that it's been presented to the PTAB in that way. Maybe. I just don't know.

BY MR. FELDHAKE:

Q. You're aware that there's a Motion to Amend in this proceeding; right?

A. Correct.

Q. Have you reviewed that Motion to Amend?

A. No, I don't think I have reviewed that.

Q. Okay. I will now hand you Paper 13 from this proceeding, which is Patent Owner's Motion to Amend.

So do you believe that you have not seen this document before?

A. (Document[s] reviewed.)

I'm just not certain. I have accepted that the patent owners have proposed

amending the claim 1, 2 to 4, 6, 9, 10, 14, and 15.

I don't recall explicitly reviewing this, but I've seen a lot of documentation in this case, and it may be something that I have seen before.

Q. Can you turn to Appendix A, which is after page 23 -- a couple pages after page 23.

A. Yeah, I don't see any page numbers.

Q. Yeah, I know there's not any page numbers on the appendix. So if you flip kind of a few pages before that, there's page 23. I think is the last enumerated page.

A. Ah. That's helpful. Thank you. Okay. I see page 23. Yes.

Q. Appendix A should come not too far after that.

A. Okay. I see Appendix A. I'm with you.

Q. Okay. Do you see that claims 1 through 4 have been cancelled?

A. I do, yes.

Q. And do you see that claim 6 has been cancelled?

A. (Document[s] reviewed.)

MR. HART: I have a standing objection to any questioning on this Motion to Amend document that he has not opined on and does not know if he has ever seen before.

You can continue, if you want to use your time on this.

MR. FELDHAKE: I will use my time on it.

And I will also ask that you don't use any speaking objections that are contradictory to the trial practice guidance.

A. So coming back to your question. I understand -- I don't -- I'm not familiar -- at least this claim -- Appendix A

claim listing does not look familiar to me.

I interpret this, just at first review, as a request -- I don't know how the proceedings work exactly. I don't know that the patent owner can, without the consent of the board, cancel claims. So I generally would interpret this as a request, but I don't know the legal nuances here.

It looks like the request is -- or maybe it actually is cancelled -- 1 to 4. 6 appears to be cancelled. So I'm with you on at least what's described in this Appendix A claim listing.

BY MR. FELDHAKE:

Q. Okay. And does it appear that claims 9 through 10 are also cancelled?

MR. HART: Object to form. Lacks foundation. Lacks relevance.

A. It appears there's a request to cancel those claims, yes.

BY MR. FELDHAKE:

Q. If you flip to the next page.

Does it appear that claims 14 through 16 are cancelled?

MR. HART: Object to form.

Lacks foundation. Lacks relevance.

A. I don't know the proceedings and how this works. So it appears, again, at first glance, that there's a request to cancel these claims.

BY MR. FELDHAKE:

Q. If you turn to claim 25, which is a few pages later. Again, I don't have page numbers to refer to.

A. Okay. I see "Substitute for Claim 1," yes.

Q. And so is this the claim that we've generally been discussing today, where you have been opining that the limitation of toolless removal was added to claim 1?

MR. HART: Object to form.

Lacks foundation. Lacks relevance.

A. Yes, this appears to be -- I'm not comparing this word for word, but this

appears to be the claim 1 as it originally stood. And then my analysis is based on the underlying proposed, I assume, addition of claim -- the claim 16 limitation.

So this is what I believe -- without comparing word for word, I think this is exactly what I analyzed.

BY MR. FELDHAKE:

Q. You haven't provided any opinions as to whether claim 26 adds any patentable weight to claim 25; right?

MR. HART: Object to form. Lacks foundation.

A. (Document[s] reviewed.)

In my declaration, I can't recall saying that this added -- whatever the term you used -- patentable weight to claim 1.

BY MR. FELDHAKE:

Q. So sitting here today, you have no opinion about whether the additional limitations of claim 26 are not obvious;

right?

MR. HART: Object to form.

A. So clearly claim 25 and the requirement for configuring the conveyer belt unit to be removed and/or installed without tools, I don't see that in the prior art.

I don't think that's anticipated or obvious by the prior art, and therefore substitute claim 2 or new claim -- or proposed claim 26, of course, includes that limitation because it's the apparatus according to claim 1.

So that's clearly, again, not -- in my view not anticipated or rendered obvious by the prior art.

BY MR. FELDHAKE:

Q. Sitting here today, you don't have any opinion whether the limitation the conveyer belt unit as arranged -- strike that.

Sitting here today, you don't have any opinion whether the limitation the

conveyer belt unit is arranged in front of a cutting plane of the slicing apparatus viewed in the conveying direction is obvious; right?

MR. HART: Object to form.

A. (Document[s] reviewed.)

Well, it's certainly not taught, for example, by Konishi.

I don't take the limitations of a claim in isolation. And so I would say taken as a whole, I don't think this claim is anticipated or obvious.

MR. FELDHAKE: I have lost track of time again. I think we've been going about an hour.

Do you want a break?

THE DEPONENT: I think that would be a good idea.

MR. FELDHAKE: Okay. Let's go off the record.

(Recess: 3:47 p.m. to 3:55 p.m.)

///

BY MR. FELDHAKE:

Q. Dr. Reinholtz, what is your general understanding of what "teaching away" means?

MR. HART: Object to form.

A. (Document[s] reviewed.)

I think I have a pretty good citation here, a pretty good description that was provided to me by counsel.

So it says, in paragraph 24, "I am informed that a reference teaches away, for example, if, one, the combination would produce a seemingly inoperative device, or; two, the references leave the impression that the product would not have the property sought by the patentee.

"I am also informed, however, that the reference does not teach away if it merely expresses a general preference for an alternative invention but does not criticize, discredit, or otherwise discourage investigation into the invention claimed."

I think that's a good description.

BY MR. FELDHAKE:

Q. In your declaration, you do not allege that Konishi leaves the impression that the product would not have the properties sought by the patentee; right?

MR. HART: Object to form.

A. (Document[s] reviewed.)

Yeah, I think I probably focus more on item number 1, the combination in here. We're talking about Konishi alone, because Konishi doesn't teach the toolless removal. And clearly Konishi would need to be secured. And Konishi doesn't discuss that. There's no disclosure one way or the other.

And so I think that also demonstrates that that reference leaves the impression that the product would not have the property sought by the patentee; in other words, it wouldn't be operable. I'm sure the

patentee would want the device to be operable.

So maybe I don't directly say that, but I think it's probably true of Konishi.

BY MR. FELDHAKE:

Q. So I'm trying to understand the difference between point 1 and 2 that you make here. And I understood that your declaration targeted point 1.

And so I guess could you explain to me the difference between point 1 and point 2 here?

MR. HART: Object to form.

A. Yeah, I don't know that we need to divide these up. I think they can be thought about together.

If you don't secure a weigh conveyor, in particular, in place -- probably any production conveyer, if it's not secured, it's likely to cause a problem, but certainly in a weigh conveyor.

And so it would -- without securing Konishi or McLaughlin's conveyer, it wouldn't be a functioning device. It wouldn't be operative.

And I think along with that, that would leave the impression that the product -- in other words, if you built a machine according to Konishi and didn't secure the conveyer down, it certainly wouldn't have the property sought by the patentee, which would be a functional machine.

So I think there's overlap between those two in this case.

BY MR. FELDHAKE:

Q. Can you point me to where McLaughlin criticizes, discredits, or otherwise discourages investigation into a toolless removable conveyer?

A. (Document[s] reviewed.)

I don't think you'll see that in my declaration because McLaughlin doesn't

discuss removal or installation of the conveyer.

So there's no reason -- let me look at McLaughlin again, just to make sure I'm not overlooking something. But I just don't think -- I think the disclosure is silent about removal and installation and probably doesn't criticize the prior art in that regard.

(Document[s] reviewed.)

I would not say this is disparaging or criticizing the prior art to teach away. But the entire background of the invention talks about the prior art and talks about the importance of accurate weighing and not giving away -- the giveaway weight is the weight to ensure that the consumer gets at least what they pay for. There's always a margin of tolerance where the product is at least that heavy or heavier and never less than that.

And so having a conveyer that

is not secured would increase the giveaway weight, as one example.

So I don't think it's a direct criticism of the prior art, but clearly it relates to this idea that McLaughlin, in practice, needs to be secured.

Q. Can you point me to where Konishi criticizes, discredits, or otherwise discourages investigation into a toolless removable conveyer?

A. (Document[s] reviewed.)

I think there's a bit of a chain here that we need to connect. The proposal by Dr. Collins and Provisur is that Konishi and McLaughlin would have only weight and friction securing the conveyer. I wouldn't call that securing a conveyer, but that would be the only thing that would keep the conveyer in place.

Clearly the two patents at issue -- both Konishi and McLaughlin -- are directed at weigh conveyors that must use a

lightweight conveyer, and therefore clearly teach away from a conveyer that would have a mass that would help retain the conveyer in place.

So I don't think it's -- I think it's a -- taking Dr. Collins' proposal for how these references theoretically could operate, the patents do teach away from that, I think.

Q. Does Konishi criticize, discredit, or otherwise discourage investigation into a toolless removable conveyer?

MR. HART: Object to form.

A. Again, I think the -- there's no teaching of how to secure the conveyer in either Konishi or McLaughlin.

The theory that Dr. Collins proposes is that this would be done by weight, gravity, or friction, in combination, without any other securing mechanism.

Clearly Konishi teaches that

weight should be minimized and teaches away from a conveyer that would be heavy and the weight would hold it into place.

And so I do think there's a teaching away from at least what the proposal is for how -- conjecture for how these devices might be configured beyond what's actually disclosed in the patent.

BY MR. FELDHAKE:

Q. So you're talking about Dr. Collins' opinion. But I'm trying to just focus on Konishi and what Konishi discloses.

So can you point me to somewhere in Konishi where Konishi criticizes, discredits, or otherwise discourages investigation into a toolless removable conveyer?

MR. HART: Object to form.

A. Again, "toolless" implies that there is no securing mechanism in the analysis presented by Dr. Collins.

I can't divorce my response

from Dr. Collins from his opinions. Konishi and McLaughlin have to be secured in some other way besides weight. And Konishi clearly discusses the importance of lightweight for the conveyer.

So I think there's a clear teaching away from a conveyor that is so massive or heavy that it might be held/secured only by -- again, I'm reluctant to say "secured" but would be held in place only by weight.

And I'll be happy to point you to where Konishi discusses that. And it's in my declaration.

(Document[s] reviewed.)

So, for example, in paragraph 75, Konishi explains that "the subframe 12 should be simple and lightweight, thus making installation and removal from the frame easy."

Dr. Collins agreed that Konishi teaches that its conveyer belt should be

lightweight in order to facilitate easy removal and installation.

And I cite to Konishi, paragraph 13, for example. So let's look at paragraph 13.

(Document[s] reviewed.)

Yeah, I think I've cited exactly the -- in the middle of paragraph 13, it says, "The structure of the subframe side is made simple and lightweight, thus making installation and removal from the frame easy from both the structural and work standpoint."

BY MR. FELDHAKE:

Q. Are you done with your answer?

A. I think there's probably more than that. But I don't think there should be any dispute that both Konishi and McLaughlin should be lightweight. And that certainly is contrary to Dr. Collins' theory of how these conveyors are held in place.

Q. So, again, you're referring to

Dr. Collins' analysis, but I'm asking you about Konishi.

So in paragraph 13, can you tell me where Konishi criticizes, discredits, or otherwise discourages investigation into a toolless removable conveyer?

MR. HART: Object to form.

A. Yes. Again, Konishi teaches away from a system that is not lightweight. And I think that occurs in multiple places. And the concept of a toolless removal system where there's no retention mechanism clearly is contrary to that.

BY MR. FELDHAKE:

Q. So is it your opinion that you can't have a toolless removable conveyer that is also lightweight?

MR. HART: Object to form.

A. It's my opinion that Konishi must be secured and operation must be secured by something other than simply the weight of the conveyer assembly structure. And I think

Konishi makes it clear that the goal is to be lightweight.

That would definitely teach away from a system where the conveyer is not secured in some way to the frame.

BY MR. FELDHAKE:

Q. Is it your opinion that nowhere in Konishi does Konishi discuss a toolless removable conveyer?

A. (Document[s] reviewed.)

I don't think Konishi talks about disconnecting or uncoupling or unsecuring the conveyer in any way or the conveyer substructure.

So there's just an absence of disclosure of how those done. And certainly it would be as we see in the PowerMax products, could be secured in a way -- probably would be secured based on the teachings of the prior art in a way that uses tools.

Now once the conveyor simply is

decoupled -- in other words, no longer secured -- then I think Konishi teaches that it can be removed from that point without further use of tools.

But that doesn't say that it can be installed and removed into its operating configuration without the use of tools.

Q. Okay. So is it your opinion that Konishi does not discuss installing or removing into its operating configuration without the use of tools?

A. I think that's a correct statement.

And by "operational," I think it's clear in the '487 patent that that means in a condition ready to run and convey material and not just that it's set into place by gravity. That's not an operational state.

Q. So since Konishi does not discuss installing or removing its operating

configuration without the use of tools, it doesn't criticize that method; right?

MR. HART: Object to form.

A. It criticizes the use of weight. I think it criticizes a heavy weigh conveyer assembly. And that's contrary to the theories presented by Dr. Collins.

BY MR. FELDHAKE:

Q. But it does not criticize a toolless mechanism to secure its conveyer; right?

MR. HART: Object to form.

A. Again, I think somehow we're trying to divorce my analysis from Dr. Collins' theory of how this is rendered obvious or anticipated. And I just can't consider it in that way.

My response is to the way Dr. Collins believes these systems could be made to operate. And I disagree with that. And I think Konishi teaches away from what Dr. Collins is proposing.

BY MR. FELDHAKE:

Q. In paragraph 24, where you discuss teaching away, you don't say anything about the references being described by Dr. Collins or any other person; right?

MR. HART: Object to form.

A. Again, my analysis -- I don't see it there, but my analysis is based on the theories presented by Dr. Collins in responding to those.

BY MR. FELDHAKE:

Q. Is "lightweight" a relative term?

A. It is. It's relative to the weight of the product -- well, I'll begin my answer by saying that I'm thinking about these two references in particular: Konishi and McLaughlin.

And "lightweight" clearly must be relative to the weight of the product being weighed. I don't think there's any dispute about that.

Q. What is a ratio of the weight of the conveyer belt to the weight of a product that you would consider to be lightweight?

A. It has to do with the resolution of the measurement system and how much it weighs at full scale.

And so if you're -- if the product you're weighing -- I'll use Dr. Collins' example. If it's 1 percent of the weight of the total -- the total weight being registered and interpreted through the load cell, that would not be a lightweight conveying system.

Something -- a significant fraction, I don't think we need to put a precise number on it, but if the product being weighed was 20 percent or 50 percent, those would be more reasonable numbers to gain accurate weights through a load cell.

Q. Do you have an estimation of the product weight that McLaughlin would

weigh during its normal operation?

MR. HART: Object to form.

A. I don't recall McLaughlin providing any specific information about weight.

I think we can look at the scale of the images in McLaughlin and see the food product 201 that's being weighed and get some sense of it.

But, again, I don't think it's necessary to put numbers on this to understand, as Dr. Collins clearly did, that the entire conveyer assembly needs to be relatively light compared to the food product.

So absolute numbers then imply scale. And I don't think we have to apply a scale here. The conveyer assembly should be relatively light compared to what's being weighed.

BY MR. FELDHAKE:

Q. Can you turn to paragraph 75 of

your report.

A. Okay. I'm there.

Q. I'm looking at the last full sentence on the page. "Additionally, more workers could be necessary to comply with workplace guidance and regulation and the risk of dropping the conveyer and the harm caused increases along with the weight."

Do you see that?

A. I do.

Q. Do you know the standard workplace guidance for the amount of weight one person can carry?

A. I have reviewed the OSHA requirements in that regard, and it depends somewhat on -- as I recall, it depends somewhat on the particulars of the task being done. But I don't recall the precise numbers.

Q. Do you recall approximately what those OSHA numbers were?

A. I would be speculating.

I feel certain that it's something less than 100 pounds, probably significantly less than that for a single person to handle.

And then in an awkward geometry -- handling something of awkward geometry probably lowers that. And I haven't reviewed OSHA requirements for lifting in quite some time. They may have changed since I reviewed them.

So my memory is not clear on that, but OSHA does provide guidelines. And clearly if something is too heavy, then it requires multiple people to lift it or it requires some apparatus to lift it. And I think that's the point I'm trying to make here.

Q. So you didn't account for any workplace regulations, including OSHA regulations, when you formed the opinion reflected in paragraph 75 of your report; is that right?

MR. HART: Object to form.

A. Again, I'm responding to Dr. Collins, who also did not provide. He recognizes that making this lightweight is important. He didn't provide numbers.

I, again, don't think it's necessary. It seems like common sense that you'd like -- something that an operator must handle, that they have to handle it individually, the lighter it is, the better.

There's some maximum amount of weight. So that I don't cite a number I don't think undermines my opinion here at all.

BY MR. FELDHAKE:

Q. Can we look at paragraph 76. I will be looking at the portion that is on page 46.

A. Okay. I'm with you.

Q. Looking at the last sentence there, where you say, "It is hard to accurately weigh ounces of food product being

weighed along with hundreds of pounds of conveyer equipment."

Do you see that?

A. I do.

Q. Is it your opinion that it would require "hundreds of pounds of conveyer equipment" to secure a removable conveyor belt unit by weight alone?

A. No.

Q. Would it be less than hundreds of pounds?

A. It depends.

Q. Could it be less than hundreds of pounds?

A. I think it, again, depends upon the particular application.

I don't think a person of skill in the art would ever leave a weigh conveyer of this type unsecured to its mounting structure, regardless of the weight.

But Dr. Collins has opined that weight and friction hold these conveyors in

place. Certainly that would imply the heavier conveyors. I just don't think that's a reasonable solution to the problem.

Q. Okay. Can we look at paragraph 79 now. And I'll be looking at the figure that is excerpted there.

A. Okay.

Q. This is an excerpt of a PowerMax manual; right?

A. Yes. This figure is from -- the figure on page 47 is highlighted but taken from PowerMax 3000 manual, which is quite a hefty document. As I recall, 500 pages or so. But this is one excerpt from that.

Q. Can you generally describe to me what Illustration 43 of Exhibit 1030 shows?

A. Yes.

So I think we see -- this is from, again, the PowerMax 3000 manual. And we see a -- the left end of a conveyer that

has a slotted opening for a pin and a drive pulley associated with it. And this looks very much like the figure in the McLaughlin patent, where there's an angled slot on one end of the conveyer unit.

Q. Does Illustration 43 show a removable conveyer belt unit?

MR. HART: Object to form.

A. (Document[s] reviewed.)

I do think the intent of this manual is to describe a part of the removal process. The manual, of course, further describes the requirement of using a tool as shown in -- on page 48 and 49 of my report.

So, again, going from the installed state, where the machine is ready for operation, to the removed state in PowerMax systems, both of them obviously require a tool. And that's really what this section of my report is about.

BY MR. FELDHAKE:

Q. So would you agree that the

PowerMax 3000 manual shows a removable conveyer belt unit that requires a tool?

A. Yes. It also requires the conveyer structure to be secured against movement by something more than gravity.

But I do agree that it's a tool-based system for disconnecting or unsecuring the conveyer. And then after that, we see a lifting of one end of the conveyer to remove it.

Q. And the lifting of that end of the conveyer and then the subsequent pulling action would detention the drive belt; is that right?

A. (Document[s] reviewed.)

I don't comment on that here. And I don't remember, as I mentioned, the manuals -- both of these manuals are quite long documents. So I don't remember that discussion.

I think it's certainly possible that that's true, but I'd have to review the

manual again. If you'd like to let me do that, I'm happy to look at it.

But it certainly could be detentioned by moving that pivot, but I don't remember the specifics of the disclosure here. My focus was really more on the requirement of the tool.

Q. So if you look at step 15, which is on paragraph 81. Does that help provide some context to whether or not that lifting and pulling action would detention the belt?

MR. HART: Object to form.

A. (Document[s] reviewed.)

That actually seems to contradict the idea that you would -- so if it's in sequence -- and I'm not sure that it is here -- but the step 3 -- so the first step is, of course, taking the quarter-inch wrench and turning a jackscrew for this particular device to unlock the mounting studs. So that's the securing part.

And then step 2 is lifting the rear of the conveyer, which is the -- I think the red oval in my highlighting. And then it says unhook the -- unhook the drive belt -- let me start again.

Step 3 is unhook the drive belt from the drive pulley. So that happens before the bushing is -- then after that, you slide the drive bushings out of the mounting bracket.

So that seems to be the opposite order; that you must have some other way to detention the belt. But my recollection of the manual is that you do slide it over to loosen the belt. But this seems contrary to that.

So without looking back at the manual, I'm not certain if that's the way you remove tension from the drive belt and remove it or if there's some other mechanism that allows that.

///

BY MR. FELDHAKE:

Q. Okay. Are you aware of a Provisur product called the SX380?

A. Not off the top of my head, no.

Q. Have you provided any opinions about claim 22 of the '487 patent?

A. No, I don't provide any analysis of claim 22.

Q. So sitting here today, you have no opinion about whether claim 22 is not obvious; is that correct?

A. Well, claim 22 -- it is my understanding that it's proposed that that also include the toolless installation and/or removal requirement from claim 16.

So that would certainly not be obvious or anticipated. But, otherwise, I have no opinion.

Q. So sitting here today, you have no opinion about whether claim 22, as it appears in the '487 patent, is not obvious; is that correct?

A. I have not provided an opinion about the unmodified claim. That's true.

Q. Are you aware that there's a protective order in this case?

A. I think I signed a protective order. I am not quite sure of that, but I usually do.

Q. Do you believe you signed a protective order in this IPR?

A. I just don't have a memory of signing it. It's a fairly routine thing.

I certainly understand that there is intellectual property that needs to be kept confidential. And so even in the absence of a protective order, I'm pretty careful.

But I think I signed one, but I don't have an explicit memory of doing that.

Q. Okay. Did you review the decision on institution in this case?

A. I did, yes.

Q. Did you -- do you have any opinion about the decision on institution in this case?

MR. HART: Object to form.

A. Other than that I accept that the board decided that they would consider this petition further, I have no -- I have no opinion about the conclusions the board -- well, I have to be careful.

I don't think, at this point in the decision to institute, the board has come to any conclusion. They simply accept that the prior art is worth reviewing to determine the validity of the patent.

And so I have no opinion about the details of how they came to that conclusion.

MR. FELDHAKE: Okay. I think I'm done, but I want to review my notes.

THE DEPONENT: Okay.

MR. FELDHAKE: So if we could

take a break and go off the record. I'll probably take five, maybe ten minutes.

THE DEPONENT: Okay.

MR. FELDHAKE: But I'll try to be as quick as I can.

MR. HART: That would be great.

(Recess: 4:37 p.m. to 4:43 p.m.)

BY MR. FELDHAKE:

Q. Dr. Reinholtz, would you agree that in machines doing useful work, the forces associated with the principal function of the machine are usually known or assumed?

A. I think when we perform an -- I know you're looking at my textbook.

So when we perform an analysis of a machine, that certainly has to be true. If we want to calculate magnitudes and directions of forces, then yes, we need to know that.

Q. Okay. And then could you turn

to page 54 of your declaration -- yes. Sorry. Declaration.

A. Page 54?

Q. Page 54.

There's a figure there, free-body diagram, that I'd like to discuss.

A. Okay. I'm with you.

Q. Would you agree that for gears and mesh, the line of transmission of force is along the line of action which is always normal to contacting two surfaces as the teeth traverse the arc of action?

A. That's correct. Yes.

Q. And so how did you arrive at the line of action being directly in the positive X direction here?

A. It's a fair question.

So in the -- we're looking at a figure from the Lee reference. We do not know the shape of the gear teeth or we do not know quite how they -- how they mesh with each other, where the mesh occurs.

I will say that a typical pair of gear teeth in mesh has a pressure angle of the -- the most common is 14 1/2 degrees. And so if these were perfectly in line and meshed, that blue vector could be tilted up very slightly, and there could be a slight vertical component of force.

But Lee also teaches that the conveyor unit can be moved by moving the pins. And this figure only shows the one pin in green at the top, pin 38. And so -- but there's no disclosure about moving the gear 58 that I can find in Lee.

And so it really depends on where the gears are in mesh with each other, if they even stay in mesh at all through this adjustment motion. So I think there's some problems with the disclosure in Lee.

But in the most conventional case, if these gears were -- we don't know anything about the gear teeth. If they're made as standard involute 14-degree pressure

angle -- 14 1/2-degree pressure angle gear teeth, then there would be a slight component of that blue vector in the upward direction.

But there's just not sufficient disclosure in Lee to know how that mesh occurs. And so I assumed it was horizontal.

Q. Why did you assume it was horizontal as opposed to the standard 14 1/2 degrees?

A. Again, there's no disclosure about the shape of the gear teeth in Lee. We don't know what they look like. And so -- and we don't know where the mesh occurs.

What we do know is that this -- the top gear appears to be adjustable to the right and to the left with respect to the lower gear by moving those pins.

And so if we move it, for example, slightly to the right and lower it, which Konishi -- sorry -- which Lee doesn't tell us how that really occurs, but then the vector could point down slightly.

And so I think depending on how the mesh occurs, it could go in any -- it could go slightly vertical -- it could have a slight upward component or even a slight downward component.

I think it would be a relatively small factor in the operation of the machine. It's a -- even if it is in the most standard case of gears meshing, even if it is slightly upward, it's a very small component. It's only a 14 1/2-degree lift from the horizontal.

MR. FELDHAKE: Okay. I have no further questions. Thank you for your time today.

MR. HART: Nothing for me.

THE STENOGRAPHER: Counsel, please place on the stenographic record your transcript orders.

Thank you.

MR. FELDHAKE: I believe our team has been in contact with you

about the order.

THE STENOGRAPHER: Yes. You have ordered a rough draft, with an expedited final of three days.

MR. HART: We'll take a normal transcript. No rough. No rush.

THE STENOGRAPHER: Got it. Thank you.

(Time noted: 4:48 p.m.)

- - -

CERTIFICATE

I, LISA A. KNIGHT, Registered Diplomate Reporter and Certified Realtime Reporter, do hereby certify that prior to the commencement of the examination, CHARLES REINHOLTZ, Ph.D., was duly sworn by me to testify to the truth, the whole truth, and nothing but the truth.

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NCRA Certified Realtime Reporter
NCRA Realtime Systems Administrator

Dated: August 27, 2024

Charles Reinholtz, Ph.D., c/o
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Case: Provisur Technologies, Inc. v. Textor Maschinenbau, GmbH
Date of deposition: August 23, 2024
Deponent: Charles Reinholtz, Ph.D.

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