

UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE PATENT TRIAL AND APPEAL BOARD
AMERICAN NATIONAL MANUFACTURING INC.,

Petitioner,

vs.

SLEEP NUMBER CORPORATION, f/k/a
SELECT COMFORT CORPORATION,

Patent Owner.

CASE IPR2019-00514(Patent 5,904,172)

DEPOSITION OF ROBERT GIACHETTI, PhD, PE

VOLUME II

October 8, 2019

Chicago, Illinois

Reported by:

Diana G. Polk

Job no: 26064

1 DEPOSITION OF ROBERT GIACHETTI, PhD, PE VOLUME II
 2 DATE: October 8, 2019
 3 TIME: 9:00 a.m.
 4 LOCATION: Fox Rothschild LLP
 321 N. Clark Street,
 5 Suite 1600
 Chicago, Illinois
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1 I N D E X
 2 Witness: Page
 3 ROBERT GIACHETTI, PhD, PE
 4 Redirect Examination by Mr. Hare 294
 4 Recross-Examination by Ms. Nath 325
 5
 6 EXHIBITS
 7
 8 Giachetti Deposition:
 9
 10 Exhibit 6
 11 For Identification 325
 12
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1 (Witness sworn)
 2 ROBERT GIACHETTI, PhD, PE,
 3 called as a witness herein, having been first duly
 4 sworn, was examined and testified as follows:
 5 REDIRECT EXAMINATION (cont'd)
 6 BY MR. HARE:
 7 Q Good afternoon.
 8 MS. NATH: Or good morning.
 9 MR. HARE: Good morning. Sorry. Screwed that
 10 one up.
 11 BY MR. HARE:
 12 Q Yesterday we had talked about Exhibit 3
 13 which is a petition for IPR. Do you recall that?
 14 A Yes.
 15 Q Do you generally agree with the substance
 16 of that document?
 17 MS. NATH: Object to form.
 18 BY THE WITNESS:
 19 A Yeah. Generally speaking, yes.
 20 BY MR. HARE:
 21 Q Can you tell me if there's anything you
 22 don't agree with that you recall?
 23 A I don't recall.
 24 Q Thank you. Yesterday you also talked
 25 about, you know, potentially how you found prior art,

1 correct?
 2 A Yes.
 3 Q Can you tell me your general process for
 4 finding prior art.
 5 A Yeah. So I have someone that works at my
 6 direction. I sent him to look for prior art. I also
 7 did a prior art search myself using terms from the
 8 underlying technology that I understood and I searched
 9 basically the US Patent Office for that. I searched
 10 trade journals and things like that.
 11 Q There's a certain way of searching and
 12 engineering and doing research, correct?
 13 A Yes.
 14 Q Can you tell me about that, like, for
 15 example, you know, how a first year out of
 16 undergraduate school would go about researching to
 17 solve a problem?
 18 A Sure. So I think someone who's fresh out
 19 of the gates, they might just use Google or something
 20 like that and type in their keywords but the keywords
 21 are the part that's tricky and so what you do to
 22 generate those, and once you have them, then you can
 23 use Google or go to Google Patents or go to the US
 24 Patent Office to search. You want to look for the
 25 premise of the invention for the art you're looking at

1 and so that's what I did.
 2 Q One of the things you also talked about
 3 yesterday was secondary indicia of nonobviousness. Do
 4 you recall?
 5 A Yes.
 6 Q Does your report analyze those?
 7 A No. I had no evidence for secondary
 8 indicia that I had to work with so the other thing is
 9 that we're talking about a piece of hardware that's on
 10 the device that doesn't show up in marketing type
 11 things. This is something within an enclosure that's
 12 not like something you would advertise so I didn't
 13 look.
 14 Q Can you tell me if there was evidence out
 15 there you would have considered it and how you would
 16 have used it.
 17 MS. NATH: Object to form.
 18 BY THE WITNESS:
 19 A Yes. So if there was financial data
 20 presented or some sort of huge blip in sales that I
 21 found or was presented with, then I would look at that.
 22 BY MR. HARE:
 23 Q And as far as you know, that just doesn't
 24 exist, correct?
 25 A That's correct.

1 MS. NATH: Object to form.
 2 BY MR. HARE:
 3 Q One of the things that was raised
 4 yesterday was date of invention or possible date of
 5 around May 1996. Do you recall?
 6 A I recall that being mentioned yesterday.
 7 Q What if any -- strike that.
 8 Are you familiar with the concept of
 9 antedating?
 10 A I have a limited understanding of that.
 11 Q I'll represent to you that in certain
 12 periods in the system you can take your prior art date
 13 and move it back to the date of actual invention by
 14 presenting evidence.
 15 A Yes.
 16 Q Does that comport with your understanding
 17 of antedating?
 18 A Yes.
 19 Q So in this case there's a potential that
 20 the patent owner may attempt to move their date of
 21 invention back and I believe the date that was
 22 suggested yesterday was May 1996, do you recall?
 23 A Yes, I do.
 24 Q What difference would it make if they did
 25 establish a date of May '96 to your report?

1 A That wouldn't change my analysis. All of
 2 the prior art I reviewed came before that and the
 3 sources of literature that I used to support my
 4 analysis also came before that.
 5 Q You also understand that certain art that
 6 qualifies as 102(b). Do you understand the
 7 significance of that?
 8 A For anticipation?
 9 Q Yeah, or even for obviousness.
 10 A I think I do.
 11 Q Do you understand that you cannot antedate
 12 a reference that's a 102(b) that qualifies as 102(b)
 13 art?
 14 A Yes, I do.
 15 Q The art we looked at that's in your report
 16 so, for example, Shafer, which is Exhibit 6 to your
 17 deposition and also in the proceeding Exhibit 1007, you
 18 understand that qualifies under 102(b), correct?
 19 A Correct.
 20 Q And similarly Ramacier, for example,
 21 Exhibit 8 to your deposition, Exhibit 1014 in the
 22 proceeding, that also qualifies as 102(b) art?
 23 A Yes.
 24 Q And then same question for Vrzalik Exhibit
 25 10 to your deposition and Exhibit 1012 in the

1 proceeding, that also qualifies as 102(b) art?
 2 A Yes, I understand.
 3 Q Okay. I don't need to go through all of
 4 them, right?
 5 A Right. A lot of them are very old.
 6 Q One of the things -- another thing we
 7 talked about, you talked about with opposing counsel
 8 yesterday, was the claim constructions for pressure
 9 monitoring means PPM1, 2, and 3.
 10 A Correct.
 11 Q Can you explain that and try to explain in
 12 plain English what's the logic behind those three. And
 13 if you need to look at your report --
 14 A Yes, let me get that out.
 15 MR. HARE: Do you mind if he looks at this copy?
 16 MS. NATH: Object to form but, yes, go ahead. As
 17 long as there's no annotations on it, that's fine.
 18 MR. HARE: There's no annotations but there may
 19 be -- just let me double-check.
 20 MR. TUTTLE: There is none on mine.
 21 MS. NATH: Let's use Kevin's. It's more clean.
 22 And I'm going to flip through real quick.
 23 MR. HARE: You objected to form. What was the
 24 issue with that question? If you need to read it back
 25 --

1 proposing three separate ones?
 2 MR. HARE: Yeah.
 3 MS. NATH: If you can ask it that way then --
 4 MR. HARE: Go ahead.
 5 BY THE WITNESS:
 6 A So in the art you have to have, when you
 7 monitor the pressure you need a sensor and to connect
 8 that sensor you need a port and so there are a number
 9 of different places where the port could go but there's
 10 a functionality that it also must accomplish and that
 11 is measuring the pressure in the bladder. So there are
 12 several places where it could go and so in the first
 13 one, which is the most general one which is PMM1, that
 14 just defines that there's a port that is coupled to the
 15 interior of the valve enclosure assembly and so that
 16 means that this port could really have fluid
 17 communication -- I take that back -- the fluid
 18 communication part. So basically this allows you to
 19 put that port somewhere because it's coupled. Now,
 20 when you move on to PMM2 now PMM2 is more specific and
 21 puts that port on the enclosure that is then fluidly
 22 coupled to the interior of the enclosure, so PMM2 is
 23 more specific, and then finally PMM3 is also more
 24 specific in that now that port is positioned on the
 25 valve.

1 MS. NATH: Sure. Go ahead. Would you read it
 2 back for me.
 3 (Record read as requested:
 4 "Q Can you explain that and try to
 5 explain in plain English what's the
 6 logic behind those three. And if you
 7 need to look at your report --")
 8 MS. NATH: So it's compound and also vague, can
 9 you explain that, and by that I mean there was just
 10 no-- it was unclear to me what you were actually asking
 11 to explain.
 12 MR. HARE: Okay. Let me ask it again.
 13 BY MR. HARE:
 14 Q Can you explain PMM1, PMM2, PMM3, please.
 15 MS. NATH: Object to form. Go ahead.
 16 MR. HARE: What's the objection? And I'm still
 17 not sure what you're asking him to do. It's compound
 18 and I don't know what you mean by explain them.
 19 MR. HARE: Well, it's the terms that he used.
 20 MS. NATH: Are you asking him to explain their
 21 definitions or the idea of having three separate ones?
 22 I'm just not sure what he's explaining.
 23 MR. HARE: The logic behind the three separate
 24 ones.
 25 MS. NATH: Logic between? Logic behind him

1 BY MR. HARE:
 2 Q Would it be fair to summarize PMM1 as the
 3 broadest, this covers multiple preferred embodiments in
 4 the '172 patent?
 5 MS. NATH: Objection, leading.
 6 BY THE WITNESS:
 7 A That's right. Yesterday I called it the
 8 umbrella that the others are under so I think that's
 9 accurate.
 10 BY MR. HARE:
 11 Q And then PMM2 and 3 are just more specific
 12 embodiments, correct?
 13 A That's correct.
 14 MS. NATH: Objection, leading and compound.
 15 MR. TUTTLE: Other than my hand marking of EX 4
 16 on the front I do not see I have any marking.
 17 MS. NATH: Other than the annotation of the
 18 exhibit number on the front page, this appears to be
 19 the same unmarked version of what we used yesterday as
 20 Exhibit 4.
 21 BY MR. HARE:
 22 Q If you could turn your attention to
 23 Exhibit 4, which is the '172 patent, it's also Exhibit
 24 1001 in the proceeding. Could you just point out which
 25 figures cover which PMM versions.

1 MS. NATH: Objection, compound.
 2 BY THE WITNESS:
 3 A So on, let's see, Figures 3, 4, 6, 7, 8,
 4 9, those figures show the valve enclosure assembly and
 5 on those images there's a port visible on the enclosure
 6 so that would cover PMM1 and 2. Then I think in Figure
 7 1 you can see a port that looks like it is on the valve
 8 itself which does not appear in the other -- it does
 9 appear in Figure 9. Excuse me. So Figure 9 shows
 10 ports on the valve, the valves themselves, so that
 11 would be PMM3 and PMM1.
 12 BY MR. HARE:
 13 Q Moving on, yesterday you also talked about
 14 guides and stops, right?
 15 A That's right.
 16 MS. NATH: Objection, leading.
 17 MR. HARE: I don't believe that's an improper
 18 question. It's just a background question.
 19 MS. NATH: I retract that objection.
 20 BY MR. HARE:
 21 Q Can you try to explain to me in plain and
 22 ordinary English what are guides and stops.
 23 A So guides and stops limit the motion of
 24 something in a particular direction or limit the total
 25 travel in a particular direction so in this case the

1 guides allows movement in one plane in one dimension
 2 and the stops disallow that motion.
 3 MS. NATH: I apologize, I'm slow, but I'll object
 4 to that as asked and answered before that answer came.
 5 BY MR. HARE:
 6 Q One thing in the Gifft patent, which is
 7 Exhibit 4, I can turn your attention to the reference
 8 numeral 198.
 9 A Okay.
 10 Q 198 is referenced -- strike that.
 11 If you could turn your attention to
 12 column 5.
 13 A Yes.
 14 Q The paragraph starting at Line 34.
 15 A I see it.
 16 Q Just review that for me.
 17 A Okay.
 18 Q What is 198?
 19 A 198 is the solenoid stop. So that's on
 20 about Line 39.
 21 Q Do you see that in Figure 4? Do you see
 22 198 in Figure 4?
 23 A I see that in Figure 4 but it does not
 24 correspond to the description given in column 5. So I
 25 see that on the side there you can see it. There's a

1 tab in the large hole on the side of the valve
 2 enclosure portion.
 3 Q That's the stop, correct?
 4 A It could be a stop.
 5 Q If you look at 198 in Figure 8 --
 6 A Okay. I see that in Figure 8.
 7 Q There appears to be some -- it's not clear
 8 what that is, correct?
 9 A Right. So 198 --
 10 MS. NATH: Objection, leading.
 11 BY THE WITNESS:
 12 A In Figure 8 198 appears to be drawn to
 13 some portion in between the valve cartridge and the
 14 valve enclosure assembly.
 15 BY MR. HARE:
 16 Q How would one of ordinary skill in the art
 17 understand that, those two 198s?
 18 A Those two 198s in this case, I think that
 19 a person of ordinary skill in the art would use their
 20 engineering background and the text and just develop
 21 something on their own based on the text trying to
 22 incorporate both of these features as best they can.
 23 Q Yesterday you also talked about or were
 24 asked about, you know, often certain prior art
 25 references addressing particular problems. Do you

1 recall?
 2 A Yes.
 3 Q What's the relevance of that, if any?
 4 A It was not relevant to my analysis.
 5 Q Why?
 6 A Because I was looking for the
 7 functionality of the patents and how that functionality
 8 was accomplished.
 9 Q Yesterday you recall also talking about
 10 whether or not certain references talk about or
 11 disclose how to assemble them?
 12 A I recall that.
 13 Q What's the relevance of that if any?
 14 MS. NATH: I'm going to object to the
 15 characterization of the question, calls for a legal
 16 conclusion. Sorry.
 17 BY THE WITNESS:
 18 A So as an engineer when I look at a patent,
 19 the patent needs to teach how it works, otherwise, it's
 20 not doing what it's supposed to do and what you have in
 21 the patent is you have the images that show you how
 22 to-- how the parts are laid out and as an engineer
 23 usually those drawings are good enough to illustrate
 24 how to build something. If not, sometimes perhaps the
 25 patent itself is an assembly method and then you might

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