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UNITED STATES INTERNATIONAL TRADE COMMISSION  
Washington, D.C.  
Investigation NO. 337-TA-1199

In the Matter of:  
CERTAIN TOBACCO HEATING ARTICLES  
and COMPONENTS THEREOF

\_\_\_\_\_ /

REMOTE VIDEOTAPED DEPOSITION  
OF  
STEWART M. FOX  
Friday, November 6, 2020

Reported by:  
ANNETTE ARLEQUIN, CCR, RPR, CRR, CLR  
JOB NO. 186003

TSG Reporting - Worldwide 877-702-9580

RAI Strategic Holdings, Inc.  
Exhibit 2007  
Philip Morris Products, S.A. v. RAI Strategic Holdings, Inc.  
IPR2020-01602



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1 S. Fox  
2 says that "the aerosol-forming material can  
3 be wicked into contact with the electrical  
4 resistance heater."  
5 Do you see that?  
6 A. Yes.  
7 Q. And if you go to paragraph 418,  
8 you reproduce the language of some of the  
9 dependent claims.  
10 Do you see that?  
11 A. Yes.  
12 Q. If I understand what you're  
13 saying here in 418, I believe your opinion  
14 is that as long as the absorbent material  
15 is in proximity with the heater, the claim  
16 limitation "wick into contact" is  
17 necessarily met; is that right?  
18 A. Yes.  
19 Q. And then you go on to explain  
20 your opinion why you believe that the RJR  
21 Ruyan product has the heater -- withdraw  
22 that.  
23 You go on to explain your opinion  
24 why the RJR Ruyan device has a -- an  
25 absorbent material in proximity to the

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1 S. Fox  
2 interpretation of how a POSA would  
3 understand how the liquid enters the heater  
4 chamber, right?  
5 A. Yes. A POSA studying these  
6 documents, the RJR report, they would  
7 understand liquid entered the heater  
8 chamber through several holes in the  
9 cavity.  
10 Q. So if you turn to the next page  
11 185 of your report, there is two more  
12 pictures at the top of the page?  
13 A. Yes.  
14 Q. And you have -- on the right-hand  
15 picture, there is a white, I think what you  
16 described as a shell with a hole in with a  
17 red arrow pointing to it.  
18 Do you see that?  
19 A. Yes.  
20 Q. And that is your belief as to  
21 where the liquid would enter the heater  
22 chamber in this RJR Ruyan device?  
23 A. It would enter through holes in  
24 that white compartment and in the mesh.  
25 That's one of the holes shown on the

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1 S. Fox  
2 heater, right?  
3 A. In proximity to at least one  
4 resistance heater, yes.  
5 Q. So your opinion, Mr. Fox, is that  
6 because the metal mesh of the Reynolds  
7 Ruyan device is in proximity to the heater,  
8 it therefore must wick liquid into contact  
9 with the heater, right?  
10 A. In the context of the claims of  
11 the patent '123.  
12 Q. Yes?  
13 A. Yes. In context of the claims of  
14 the patent '123.  
15 Q. In paragraph 422 of your report,  
16 you describe your belief as to how the  
17 liquid in the RJR Ruyan device would flow,  
18 correct?  
19 A. Yes.  
20 Q. And you note underneath the  
21 picture in paragraph 422 that "this is not  
22 described in detail in the RJR Ruyan  
23 report," right?  
24 A. Yes, correct.  
25 Q. You're providing your

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1 S. Fox  
2 right-hand view on page 105.  
3 Q. And then right under the picture,  
4 you note that when the user draws on the  
5 device, the liquid that's in the mesh is  
6 carried by the airflow through the holes  
7 and to the heater, right?  
8 A. Carried partly by the airflow,  
9 partly by other means such as gravity, but  
10 yes, carried to the heater.  
11 Q. Mr. Fox, what is the temperature  
12 inside that heater chamber during operation  
13 of the Reynolds Ruyan device?  
14 A. I do not know that information.  
15 Q. Do you know what the area is --  
16 I'm sorry. Withdraw that.  
17 What is the volume of that heater  
18 chamber in the RJR Ruyan device?  
19 A. I do not have an exact figure. I  
20 can make an approximation. Would that be  
21 useful?  
22 Q. Sure.  
23 A. Approximately one centimeter  
24 cubed.  
25 Q. When the user draws on the

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1 S. Fox  
2 device, in your opinion, the liquid  
3 contained in the metal mesh is carried by  
4 airflow and you said by gravity into the  
5 heating chamber, right?  
6 A. Yes.  
7 Q. So do you know what the  
8 vaporization temperature is in the liquid  
9 in the Reynolds Ruyan device?  
10 A. Not exactly, no.  
11 Q. Have you seen a phase diagram for  
12 the liquid that is contained in the  
13 Reynolds Ruyan device?  
14 A. I've seen a phase diagram of  
15 similar liquids, propylene glycol, for  
16 example.  
17 Q. But you haven't seen a phase  
18 diagram of the exact mixture that you  
19 believe was contained in the Reynolds Ruyan  
20 device, right?  
21 A. I have not.  
22 Q. You don't have any evidence,  
23 Mr. Fox, that any material in liquid phase  
24 makes it in contact with the heater in the  
25 Reynolds Ruyan device, correct?

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1 S. Fox  
2 without physical contact between the liquid  
3 and the heater.  
4 Q. That statement you just made is  
5 speculation, right, Mr. Fox?  
6 A. It's based on engineering  
7 judgment and many years of engineering  
8 knowledge.  
9 Q. You don't even know the  
10 temperature that the heater runs at.  
11 How can you possibly say that  
12 there would be liquid going into contact  
13 with the heater?  
14 You just speculating, right?  
15 A. No, it's not speculation. That's  
16 judgment based on the facts that I have  
17 around the size and the power of the heater  
18 and understanding of the energy needed to  
19 vaporize chemicals such as glycol.  
20 Q. You don't provide any  
21 calculations in your report to justify your  
22 speculation that liquid actually makes it  
23 into contact with the heater coil, correct?  
24 A. I cite the report by Dr. Griffith  
25 that the most efficiency way to transfer

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1 S. Fox  
2 A. Liquid must come into contact  
3 with the heater in the Reynolds device to  
4 produce an aerosol, which we have observed  
5 being formed on the device we examined.  
6 Q. Depending on the temperature of  
7 the heater coil, the temperature of the  
8 heating chamber, the volume of the heating  
9 chamber and the vaporization temperature of  
10 the liquid, it's entirely possible that no  
11 liquid ever makes it to the heating coil,  
12 it gets instantly vaporized within the  
13 heating chamber, right?  
14 MR. O'DONOHUE: Objection.  
15 Mischaracterizes prior testimony.  
16 A. Given the power in the battery,  
17 in the RJR report of the number of puffs  
18 that the battery lasts -- given the power  
19 stored in the battery, the size of the  
20 battery used in the Ruyan device, the  
21 number of puffs that a battery lasts  
22 written in the RJR report, it is extremely  
23 unlikely that the heater, the atomized  
24 element in the Ruyan device would be able  
25 to vaporize a significant amount of aerosol

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1 S. Fox  
2 energy to a liquid is to vaporize it  
3 through conduction. And based on the  
4 construction that I mentioned of the heat  
5 chamber, a person skilled in the art would  
6 understand that as shown in the RJR  
7 documents, the Ruyan e-cigar uses  
8 conductive heat to vaporize the liquid.  
9 Q. You didn't do any testing of the  
10 operation of the Reynolds Ruyan e-cigar to  
11 support your speculation that liquid  
12 actually makes it into contact with the  
13 heater coil, correct?  
14 A. We did testing which showed that  
15 the Ruyan device, similar to the RJR  
16 report, showed that the Ruyan device  
17 created significant amounts of aerosol, the  
18 amount of aerosol which could only be  
19 produced by conductive heat, and therefore  
20 the liquid will have contacted the heater.  
21 Q. And the two ways that you contend  
22 liquid would contact the heater is either  
23 through being carried by the airflow when  
24 the user takes a draw or by gravity, right?  
25 A. Yes.