```
Page 1
1
2
     UNITED STATES INTERNATIONAL TRADE COMMISSION
3
                    Washington, D.C.
            Investigation NO. 337-TA-1199
 5
6
     In the Matter of:
7
8
     CERTAIN TOBACCO HEATING ARTICLES
     and COMPONENTS THEREOF
9
10
11
12
           REMOTE VIDEOTAPED DEPOSITION
                        OF
13
                  STEWART M. FOX
14
15
             Friday, November 6, 2020
16
17
18
19
20
21
22
23
24
     Reported by:
     ANNETTE ARLEQUIN, CCR, RPR, CRR, CLR
25
     JOB NO. 186003
```

TSG Reporting - Worldwide 877-702-9580



Page 118 Page 119 1 S. Fox 1 S. Fox says that "the aerosol-forming material can 2 2 heater, right? be wicked into contact with the electrical 3 3 In proximity to at least one 4 resistance heater." 4 resistance heater, yes. Do you see that? 5 5 So your opinion, Mr. Fox, is that because the metal mesh of the Reynolds 6 A. Yes. 6 7 And if you go to paragraph 418, 7 Ruyan device is in proximity to the heater, you reproduce the language of some of the it therefore must wick liquid into contact 8 8 9 dependent claims. 9 with the heater, right? 10 10 In the context of the claims of Do you see that? Α. the patent '123. Yes. 11 Α. 11 12 Ο. If I understand what you're 12 Ο. Yes? 13 saying here in 418, I believe your opinion 13 Yes. In context of the claims of is that as long as the absorbent material 14 14 the patent '123. 15 15 is in proximity with the heater, the claim In paragraph 422 of your report, Ο. 16 limitation "wick into contact" is 16 you describe your belief as to how the 17 necessarily met; is that right? 17 liquid in the RJR Ruyan device would flow, correct? 18 18 Α. Yes. 19 And then you go on to explain 19 Α. Yes. 20 your opinion why you believe that the RJR 20 And you note underneath the Q. 21 Ruyan product has the heater -- withdraw 21 picture in paragraph 422 that "this is not 22 that 22 described in detail in the RJR Ruyan 23 You go on to explain your opinion 23 report, " right? 24 why the RJR Ruyan device has a -- an 24 Α. Yes, correct. 25 absorbent material in proximity to the 25 You're providing your Ο. Page 120 Page 121 1 S. Fox S. Fox 1 2 interpretation of how a POSA would 2 right-hand view on page 105. 3 understand how the liquid enters the heater 3 And then right under the picture, 4 you note that when the user draws on the chamber, right? 4 5 Yes. A POSA studying these 5 device, the liquid that's in the mesh is documents, the RJR report, they would carried by the airflow through the holes 6 6 7 7 understand liquid entered the heater and to the heater, right? 8 chamber through several holes in the 8 Carried partly by the airflow, 9 cavity. 9 party by other means such as gravity, but 10 So if you turn to the next page 10 yes, carried to the heater. 185 of your report, there is two more 11 11 Mr. Fox, what is the temperature 12 pictures at the top of the page? 12 inside that heater chamber during operation 13 Α. Yes. 13 of the Reynolds Ruyan device? And you have -- on the right-hand Α. 14 Q. 14 I do not know that information. 15 picture, there is a white, I think what you 15 Do you know what the area is --Ο. 16 described as a shell with a hole in with a 16 I'm sorry. Withdraw that. 17 17 red arrow pointing to it. What is the volume of that heater 18 Do you see that? 18 chamber in the RJR Ruyan device? 19 19 Yes. A. I do not have an exact figure. I Α. 20 And that is your belief as to 20 can make an approximation. Would that be 21 where the liquid would enter the heater 21 useful? 22 chamber in this RJR Ruyan device? 22 Ο. Sure. 23 23 It would enter through holes in Α. Approximately one centimeter 24 that white compartment and in the mesh. 24 cubed. When the user draws on the That's one of the holes shown on the 25 25 TSG Reporting - Worldwide <u>877-702-9580</u>



Page 122 Page 123

device, in your opinion, the liquid contained in the metal mesh is carried by airflow and you said by gravity into the heating chamber, right?

S. Fox

A. Yes.

- Q. So do you know what the vaporization temperature is in the liquid in the Reynolds Ruyan device?
 - A. Not exactly, no.
- Q. Have you seen a phase diagram for the liquid that is contained in the Reynolds Ruyan device?
- A. I've seen a phase diagram of similar liquids, propylene glycol, for example.
- Q. But you haven't seen a phase diagram of the exact mixture that you believe was contained in the Reynolds Ruyan device, right?
 - A. I have not.
- Q. You don't have any evidence,
 Mr. Fox, that any material in liquid phase
 makes it in contact with the heater in the
 Reynolds Ruyan device, correct?

A. Liquid must come into contact
with the heater in the Reynolds device to
produce an aerosol, which we have observed
being formed on the device we examined.

Q. Depending on the temperature of the heater coil, the temperature of the heating chamber, the volume of the heating chamber and the vaporization temperature of the liquid, it's entirely possible that no liquid ever makes it to the heating coil, it gets instantly vaporized within the heating chamber, right?

MR. O'DONOHUE: Objection. Mischaracterizes prior testimony.

A. Given the power in the battery, in the RJR report of the number of puffs that the battery lasts -- given the power stored in the battery, the size of the battery used in the Ruyan device, the number of puffs that a battery lasts written in the RJR report, it is extremely unlikely that the heater, the atomized element in the Ruyan device would be able

Page 124

 $$\rm S.\ Fox$$ without physical contact between the liquid and the heater.

- Q. That statement you just made is speculation, right, Mr. Fox?
- A. It's based on engineering judgment and many years of engineering knowledge.
- Q. You don't even know the temperature that the heater runs at.

How can you possibly say that there would be liquid going into contact with the heater?

You just speculating, right?

- A. No, it's not speculation. That's judgment based on the facts that I have around the size and the power of the heater and understanding of the energy needed to vaporize chemicals such as glycol.
- Q. You don't provide any calculations in your report to justify your speculation that liquid actually makes it into contact with the heater coil, correct?

A. I cite the report by Dr. Griffith that the most efficiency way to transfer

S. Fox

Page 125

to vaporize a significant amount of aerosol

energy to a liquid is to vaporize it through conduction. And based on the construction that I mentioned of the heat chamber, a person skilled in the art would understand that as shown in the RJR documents, the Ruyan e-cigar uses conductive heat to vaporize the liquid.

- Q. You didn't do any testing of the operation of the Reynolds Ruyan e-cigar to support your speculation that liquid actually makes it into contact with the heater coil, correct?
- A. We did testing which showed that the Ruyan device, similar to the RJR report, showed that the Ruyan device created significant amounts of aerosol, the amount of aerosol which could only be produced by conductive heat, and therefore the liquid will have contacted the heater.
- Q. And the two ways that you contend liquid would contact the heater is either through being carried by the airflow when the user takes a draw or by gravity, right?

 A. Yes.

way to transfer 25 A. Yes. TSG Reporting - Worldwide 877-702-9580

