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

says that "the aerosol-forming material can be wicked into contact with the electrical resistance heater."

Do you see that?

A. Yes.

Q. And if you go to paragraph 418, you reproduce the language of some of the dependent claims.

Do you see that?

A. Yes.

Q. If I understand what you're saying here in 418, I believe your opinion is that as long as the absorbent material is in proximity with the heater, the claim limitation "wick into contact" is necessarily met; is that right?

A. Yes.

Q. And then you go on to explain your opinion why you believe that the RJR Ruyan product has the heater -- withdraw that.

You go on to explain your opinion why the RJR Ruyan device has a -- an absorbent material in proximity to the

heater, right?

A. In proximity to at least one resistance heater, yes.

Q. So your opinion, Mr. Fox, is that because the metal mesh of the Reynolds Ruyan device is in proximity to the heater, it therefore must wick liquid into contact with the heater, right?

A. In the context of the claims of the patent '123.

Q. Yes?

A. Yes. In context of the claims of the patent '123.

Q. In paragraph 422 of your report, you describe your belief as to how the liquid in the RJR Ruyan device would flow, correct?

A. Yes.

Q. And you note underneath the picture in paragraph 422 that "this is not described in detail in the RJR Ruyan report," right?

A. Yes, correct.

Q. You're providing your

interpretation of how a POSA would understand how the liquid enters the heater chamber, right?

A. Yes. A POSA studying these documents, the RJR report, they would understand liquid entered the heater chamber through several holes in the cavity.

Q. So if you turn to the next page 185 of your report, there is two more pictures at the top of the page?

A. Yes.

Q. And you have -- on the right-hand picture, there is a white, I think what you described as a shell with a hole in with a red arrow pointing to it.

Do you see that?

A. Yes.

Q. And that is your belief as to where the liquid would enter the heater chamber in this RJR Ruyan device?

A. It would enter through holes in that white compartment and in the mesh. That's one of the holes shown on the

right-hand view on page 105.

Q. And then right under the picture, you note that when the user draws on the device, the liquid that's in the mesh is carried by the airflow through the holes and to the heater, right?

A. Carried partly by the airflow, party by other means such as gravity, but yes, carried to the heater.

Q. Mr. Fox, what is the temperature inside that heater chamber during operation of the Reynolds Ruyan device?

A. I do not know that information.

Q. Do you know what the area is -- I'm sorry. Withdraw that.

What is the volume of that heater chamber in the RJR Ruyan device?

A. I do not have an exact figure. I can make an approximation. Would that be useful?

Q. Sure.

A. Approximately one centimeter cubed.

Q. When the user draws on the

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?

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 to vaporize a significant amount of aerosol

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

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.