UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE PATENT TRIAL AND APPEAL BOARD
R.J. REYNOLDS VAPOR COMPANY, Petitioners

V.

FONTEM HOLDINGS 1 B.V., Patent Owner

Case **IPR2016-01268** Patent No. **8,365,742**

PATENT OWNER'S MOTION FOR OBSERVATIONS ON CROSS-EXAMINATION OF DR. ROBERT H. STURGES



Pursuant to the Board's Scheduling Order (Paper 11), Patent Owner Fontem Holdings 1 B.V. respectfully submits the following observations regarding the cross-examination testimony of Petitioner R.J. Reynolds Vapor Company's Reply declarant, Dr. Robert H. Sturges.

Patent Owner cross-examined Dr. Sturges on two occasions after filing its Opposition on April 4, 2017. Paper 24. On July 18, 2017, Patent Owner cross-examined Dr. Sturges regarding his reply declaration. Ex. 1027; Ex. 2030. Prior to that deposition, on May 10, 2017, Patent Owner cross-examined Dr. Sturges in IPR2016-01692, where the same prior art and a related patent is at issue. Ex. 2029. Patent Owner's observations address both depositions.

I. Airflow in Hon '043

1. In Exhibit 2030, on page 20, lines 11-14, when asked if a droplet could "enter the porous body and not be reabsorbed," Dr. Sturges testified that that is "not suggested" nor "expected given the teachings of [Hon] '043." This testimony is relevant to the Petition at 15-16, 24-26, and 34-35, the Opposition at 31-40 and 43-45, the Reply at 15-20, Exhibit 1015 ¶¶ 47-49 and pp. 32-35, Exhibit 1027 ¶¶ 33-43 and 54, and Exhibit 2015 ¶¶ 42-46, 76-79, and 91-94. The testimony is relevant because it shows that a skilled person would have understood: (1) that Hon '043's atomizer has an exit hole to allow atomized



droplets to exit without being reabsorbed by the porous body; and (2) that Hon '043 teaches away from placing a portion of the porous body "in the path of air" or substantially aligned with the run-through hole due to the risk that droplets ejected from the ejection holes would be reabsorbed instead of "further atomized."

- 2. In Exhibit 2030, on page 47, lines 1-14, Dr. Sturges testified that he did not know the purpose of the "arch space under the [bulge] section" that is shown on pages 13 and 14 of Exhibit 1027, which reproduce Figure 6 of Hon '043. This testimony is relevant to the Petition at 15-16, the Opposition at 31-42, the Reply at 15-20, Exhibit 1015 ¶¶ 47-49 and pages 32-33, Exhibit 1020 ¶¶ 12-13, Exhibit 1027 ¶¶ 34-45, and Exhibit 2015 ¶¶ 42-46 and 76-88. The testimony is relevant because it goes to the credibility and reliability of Dr. Sturges's testimony about the exit hole in Hon '043's atomizer.
- 3. In Exhibit 2030, on page 78, line 15 through page 79, line 18, Dr. Sturges testified that Hon '043 does not show any deformation of bulge 36 when it is inserted into the liquid supply. This testimony is relevant to the Petition at 15-16, the Opposition at 20-42, the Reply at 11-20, Exhibit 1015 ¶¶ 44-49 and pages 32-33, Exhibit 1020 ¶¶ 12-13, Exhibit 1027 ¶¶ 23-45, and Exhibit 2015 ¶¶ 42-46, 66-88, and 98-100. The testimony is relevant because it goes to the credibility and reliability of Dr. Sturges's opinions on the precision of Hon '043's drawings



regarding deformation of the porous body and the presence of an exit hole in the atomizer. Specifically, it demonstrates that Dr. Sturges understands Hon '043's figures do not precisely depict every element that a person of ordinary skill would understand to be present in an actual device.

- 4. In Exhibit 2030, on page 75, line 9 through page 76, line 20, Dr. Sturges testified that a person of ordinary skill would have understood that Hon '043's piezoelectric element 35 would have atomized more efficiently if ejected liquid droplets made direct contact with it. This testimony is relevant to the Petition at 18-19, the Opposition at 13-14 and 48-49, Exhibit 1027 ¶¶ 62-64, and Exhibit 2015 ¶¶ 98-100. The testimony is relevant because it shows a skilled person would have understood Hon '043 teaches focusing the ejection holes at the center of piezoelectric element 35 "to achieve the effect of strong ultrasonic atomization." Ex. 1003 at 11.
- 5. In Exhibit 2029, on page 87, line 6 through page 95, line 1, Dr. Sturges testified that prior to Hon '043, "dispersion of ejected liquid in atomizers were well known" and that a person of ordinary skill could modify a "plain atomizer opening" to modify the spray pattern. This testimony is relevant to the Opposition at 45-50, the Reply at 22-25, Exhibit 1027 ¶¶ 57-60, Exhibit 2015 ¶¶ 37 and 98, and Exhibit 2016 at 68:3-6. The testimony is relevant because it goes to



the credibility and reliability of Dr. Sturges's opinions regarding fluid flow and it demonstrates that a person of ordinary skill would have understood Hon '043's ejection hole is a plain-orifice atomizer.

- 6. In Exhibit 2030, on page 31, line 17 through page 33, line 8, Dr. Sturges testified that he did not know why Hon '043 discusses both short and long stream ejection holes or why one skilled in the art would choose one or the other. This testimony is relevant to the Opposition at 45-50, the Reply at 22-25, Exhibit 1027 ¶¶ 57-60, and Exhibit 2015 ¶¶ 37 and 98. The testimony is relevant because it goes to the credibility and reliability of Dr. Sturges's opinions regarding fluid flow.
- 7. In Exhibit 2029, on page 112, lines 12-17, Dr. Sturges testified that a person of ordinary skill would "certainly" have the knowledge of the Sabersky Fluid Flow book. In Exhibit 2029, on page 113, line 25 through page 115, line 4, Dr. Sturges testified that a person of ordinary skill would need to know "a great deal more than is discussed" in that book to model a diffusing wake. This testimony is relevant to Exhibit 1027 ¶¶ 56-60, Exhibit 1032, Exhibit 2016 at 92:20-93:20, and Exhibit 2033 at 170-171. The testimony is relevant is relevant because it goes to the credibility and reliability of Dr. Sturges's opinions on fluid flow. Specifically, Dr. Sturges relies on the content of page 171 of the Fluid Flow



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