UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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DR. SQUATCH LLC

Petitioner

v.

The Procter & Gamble Company

Patent Owner

Case IPR2024-01104

U.S. Patent No. 11,540,999

REPLY DECLARATION OF BOZENA B. MICHNIAK-KOHN, PHD

1. My name is Bozena B. Michniak-Kohn. I submitted a declaration in support of the Petition in this matter, and I now submit this declaration to reply to several assertions in the declaration of Robert Lochhead. The fact that I do not reply to each of Dr. Lochhead's assertions should not be interpretated as my agreement with those assertions, as I believe my previous declaration adequately addressed his opinions not discussed herein. In addition to the exhibits listed in my original declaration, in preparing this declaration I have also reviewed Dr. Lochhead's declaration (Ex. 2011) and the exhibits (Exs. 2012-2020) discussed therein.

Hardness

2. Dr. Lochhead opines that the challenged claims require hardness to be measured by using a non-standard, modified version of the standard ASTM D-1321 hardness test. I disagree. The only hardness test mentioned in the claims is "ASTM D-1321," which is also referenced in the specification. A person of ordinary skill in the art (POSA) reading those claims in view of the specification therefore would understand that the claims include the standard ASTM D-1321 test.

3. Dr. Lochhead states that he believes the claimed recitation of a hardness range "as measured by penetration with ASTM D-1321 needle" should not be understood to indicate the ASTM D-1321 standard, but a modification of that standard. Ex. 2011, 41. As a basis for his opinion. Dr. Lochhead focuses on language in the '999 Patent that "the total weight of the shaft and needle is 50±0.2 grams."

Ex. 2011, ¶25. But he omits the preceding language, which states that this is the weight to be used for "[p]eriodic calibration" to "confirm" that the equipment is in proper working order. Ex. 1001, 12:20-29. That "[p]eriodic calibration" section precedes a section identifying what needs to be confirmed "[a]t the time of use." *Id.*, 12:30-37. Those two sections would suggest to a POSA routine checking of equipment. Only after those two sections does the specification set forth the test. *Id.*, 12:38-67 ("Sample Preparation and Measurement"). Moreover, the "[p]eriodic calibration" comports with the ASTM D-1321 standard, which likewise requires that the "weight of the needle shall be 2.5 g" and the "weight of the plunger shall be 47.5 g," for a 50-g total weight of the needle assembly. Ex. 2018, 5. Although the ASTM D-1321 standard further describes using an additional 50-g weight during the test, a POSA would not read the '999 Patent to exclude that weight. Rather, a POSA would consult the details of the ASTM D-1321 standard identified by the '999 Patent to ensure compliance.

4. Dr. Lochhead further opines that the hardness range in the '999 Patent claims and the hardness ranges in Bianchi-518 do not overlap at all. Ex. 2011, ¶94. Dr. Lochhead did not provide any evidence in support of that position. I tested Dr. Lochhead's proposition by commissioning hardness testing of eight deodorants

using P&G's proposed test (Ex. A)[1] and the standard ASTM D-1321 test (Ex. 2018).[2] As can be seen from the testing, several deodorants tested had a hardness that fell within both (i) the claimed range using P&G's proposed test and (ii) the ranges disclosed in Bianchi-518 and Bianchi-254 using the standard ASTM D-1321 test. For example, the Old Spice and Sephora deodorant sticks fall within both ranges. Ex. 1078. Thus, Dr. Lochhead is incorrect that the ranges do not overlap at all.

5. Furthermore, the results for deodorants tested with the ASTM D-1321 standard were on average about 37 mm*10 higher than the results for the same deodorants tested with P&G's proposed modified version of the test. This provides an approximate conversion for the two tests. Subtracting 37 mm*10 from both endpoints of Bianchi-518's 70-140 mm*10 range (Ex. 1006, 6:22-29) yields a range of 33-103 mm*10. This range (33-103 mm*10) is thus approximately equivalent to Bianchi-518's 70-140 mm*10 range if Bianchi-518 had reported its range using P&G's proposed modified test instead of for ASTM D-1321. The 33-103 mm*10

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[1] The instructions for this test were taken from the specification of the '999 Patent (*see* Ex. 1001, 11:43-13:5) and put in a format that could be easily followed by the testing lab.

[2] These testing methods were provided to Petro-Lubricant Testing Laboratories, Inc. to conduct the tests. The lab is an ISO accredited testing lab (*see* https://www.petrolube.com/iso-iec-17025/). I spoke with the chief chemist of the lab (Joe Wintermute, who indicated that he has 40 years of experience in performing the ASTM D-1321 test), who performed the testing, to confirm that he would use the provided instructions for the tests and to confirm the test. The test report is Exhibit 1078, and photographs of the equipment and deodorants used for the testing are Exhibit 1079.

range still overlaps with the ’999 Patent’s claimed range of about 80-140 mm*10. Similarly, using this conversion, Bianchi-254’s reported range of 8 to 15 mm (80-150 mm*10) (Ex. 1008, [0026]) would be 4.3 to 11.3 mm (43-113 mm*10) using P&G’s proposed test, which likewise overlaps with the range in the ’999 Patent claims. This further rebuts Dr. Lochhead statement that the ranges do not overlap at all.

Controlling Hardness

6. Dr. Lochhead contends that the presence of aluminum and non-natural ingredients in the Bianchi references somehow negates the applicability of their hardness teachings to natural, aluminum-free deodorants. Ex. 2011, 44-45. I disagree. A POSA would have known how to vary the amount of structurant (e.g., beeswax) to alter hardness (more = harder; less = softer), irrespective of the presence or absence of aluminum or non-natural ingredients. *See* Ex. 1041, 2:64-68, 4:37-44 (explaining that a POSA could “easily” adjust waxes to achieve desired “soft[ness]” based on balancing known considerations, with “[h]igher levels of wax lead[ing] to lower wear rates, and lower levels of wax tend[ing] to give higher wear rates and a softer, less desirable structure”). Any differences with respect to these changes is merely one of degree (harder vs. softer), and not a new kind of unexpected result.

Stability

7. Dr. Lochhead appears to misinterpret Lesniak with respect to stability. Ex. 2011, 25-30. Lesniak teaches how to make stable compositions by including a secondary wax, such as castor wax, with a sufficiently high melting point. Ex. 1003, 1:39-54, 5:23-32, Table 2. Both of the compositions (nos. 8 and 11) tested by Lesniak that had such a wax passed the stability tests. *Id*.

8. Further, the stability at issue in Lesniak relates to stability at "high" temperatures, such as 49°C (120°F). *See* Ex. 1003, Table 2. Such high conditions are not a requirement to achieve a deodorant that is stable in normal conditions.

Magnesium Hydroxide

9. Lastly, Dr. Lochhead opines that a POSA would not have been motivated to add magnesium hydroxide as disclosed by Phinney to Lesniak's zinc-oxide compositions because Phinney uses water in its compositions. Ex. 2011, 35-36. A POSA would understand that the water-based vs. anhydrous distinction is not relevant, as a POSA would understand that magnesium hydroxide would still function as an antimicrobial in anhydrous compositions such as those disclosed by Lesniak. *See* Ex. 1072, 1-2, 5 (disclosing deodorants without added water and with zinc oxide and/or magnesium hydroxide). I also disagree with Dr. Lochhead's opinion that the concentration of zinc oxide in Lesniak's compositions is too high for a deodorant. For example, the '999 Patent itself states that its deodorants can

have up to 30% by weight of an antimicrobial, and that deodorants were known to contain ranges of zinc oxide that encompass the amount of zinc oxide in Lesniak's compositions. Ex. 1001, 7:7-19; *see* Ex. 1072, 1-2 (disclosing deodorants having "from 0.5 to 20%" zinc oxide). Moreover, Dr. Lochhead has not pointed to any evidence that suggests that such levels of antimicrobial would preclude the composition from functioning as a deodorant (nor can I imagine that such evidence exists given the available evidence to the contrary).

10. This declaration and my opinions herein are made to the best of my knowledge and understanding, and based on the material available to me, at the time of signing this declaration. I declare under penalty of perjury under the laws of the United States of America that all statements made of my own knowledge are true and that all statements made on information and belief are believed to be true. I understand that willful false statements and the like are punishable by fine or imprisonment, or both (18 U.S.C. 1001).

Date: July 24, 2025

/ Bozena Michniak-Kohn /
Bozena B. Michniak-Kohn, PhD

Exhibit A

Use a penetrometer and needle as called for in the ASTM D-1321 testing method.

Ensure the total weight of the shaft and needle is 50±0.2 grams.

Do not add any additional weight to the needle assembly during testing (i.e., do not use the additional 50 g weight described in the ASTM D-1321 standard).

Do not remove deodorants from original containers or melt them. On a deodorant stick that has been at an ambient temperature of between 22° C. and 26° C. for at least 24 hours, slice off top ½ inch of product to achieve a flat surface with a wire cutter drawn across the upper lip of the canister.

For the first sample to be tested, lubricate the needle by gently wiping with a lint-free tissue coated with a small amount of the product to be tested. This small amount is typically taken from the shaved top.

Place the canister in the appropriate location for the measurement. Locate the sample so the needle will penetrate the product 9-11 mm from the inside of the canister wall on the long axis.

Using the coarse and fine adjustments, align the height of the penetrometer mechanism head so that the point of the penetrating needle is just touching the surface of the sample.

A weak light at the side of the penetrometer which casts a shadow of the needle on the surface of the sample may be helpful in determining this contact. When a light area on the sample cannot be seen at the end of the tip of the needle's shadow, the needle height over the sample is correctly adjusted. The light should not be strong enough to heat or melt the sample surface. The needle should be just close enough to scratch the sample surface.

Perform the penetration measurement at this location by releasing the needle. Record the result.

Repeat at the other test point, i.e., at the other point 9-11 mm inside of the canister wall on the long axis.

To report results, units for penetration are tenths of a millimeter (1/10 mm=100 microns). For example, a result of 80 units is 80 mm*10 or 8 mm. Report the average results of at least 4 total measurements from 2 different sticks, report to the nearest tenth of a millimeter.