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Paper 35
Date: March 31, 2021

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

RED DIAMOND, INC.,
Petitioner,

v.

SOUTHERN VISIONS, LLP,
Patent Owner.

IPR2020-00001
Patent 9,549,634 B2

Before CHRISTOPHER L. CRUMBLEY, JEFFREY W. ABRAHAM, and CHRISTOPHER C. KENNEDY, *Administrative Patent Judges*.

ABRAHAM, *Administrative Patent Judge*.

JUDGMENT
Final Written Decision
Granting In Part Patent Owner's Revised Motion to Amend
35 U.S.C. § 318

I. INTRODUCTION

Petitioner, Red Diamond, Inc., filed a Petition for *inter partes* review of claims 1, 5, 8, and 10–12 of U.S. Patent No. 9,549,634 B2 (Ex. 1001, "the '634 patent"). Paper 2 ("Pet."). Patent Owner, Southern Visions, LLP, did not file a Preliminary Response. On April 1, 2020, we instituted trial. Paper 6 ("Inst. Dec.").

Following institution, Patent Owner did not file a Response. Instead, Patent Owner filed a Motion to Amend requesting that we cancel claims 1, 5, 8, and 10–12, unconditionally consider its Motion to Amend, and enter proposed substitute claims 15–20. Paper 8 ("MTA") 1. Petitioner filed an opposition. Paper 11. Pursuant to Patent Owner's request (MTA 1) we issued Preliminary Guidance, explaining that Patent Owner had not shown a reasonable likelihood that it satisfied the statutory and regulatory requirements associated with a motion to amend, and that Petitioner had demonstrated a reasonable likelihood that the proposed substitute claims 15–19 were unpatentable, but had not demonstrated sufficiently that proposed substitute claim 20 was unpatentable. Paper 13 ("PG") 3, 12–13.

Patent Owner subsequently filed a Revised Motion to Amend requesting "that the Board cancel original claims 1, 5, 8 & 10–12, unconditionally consider this Motion, and enter [proposed substitute] claims 20–25." Paper 14 (Revised MTA) 1. Petitioner filed an Opposition to the Revised Motion to Amend (Paper 26 ("Opp.")), Patent Owner filed a Reply (Paper 30), and Petitioner filed a Sur-reply (Paper 32).

We held an oral argument on January 29, 2021. A copy of the transcript of that argument was entered into the record. Paper 34 ("Tr.").

We have jurisdiction under 35 U.S.C. § 6, and we issue this Final Written Decision under 35 U.S.C. § 318(a). For the reasons below, we grant Patent Owner's Revised Motion to Amend with respect to Patent Owner's request that we cancel original challenged claims 1, 5, 8, and 10–12, but we deny Patent Owner's Revised Motion to Amend with respect to Patent Owner's request that we enter proposed substitute claims 20–25.

A. RELATED MATTERS

The parties identify the following related district court matter: *Southern Visions, LLP v. Red Diamond, Inc.*, No. 2:18-cv-02039-RDP (N.D. Ala.). Pet. 8; Paper 4, 1. The parties also identify PGR2019-00045 involving related US Patent No. 10,071,852, IPR2019-01661 involving related US Patent No. 9,468,222, IPR2019-01662 involving related US Patent No. 9,725,232, and IPR2020-00001 involving related US Patent No. 9,549,634. Pet. 8; Paper 4, 1. Additionally, Patent Owner identifies related US Patent No. 10,093,480, US Patent No. 10,130,209, and US Application No. 16/166,862. Paper 4, 1.

B. THE '634 PATENT

The '634 patent, titled "Domestic Sweet Tea Brewing Product and Process," issued on January 24, 2017, and relates to products for brewing sweetened beverages such as tea and coffee. Ex. 1001, codes (45), (54), (57). The '634 patent states that prior art methods of brewing sweetened beverages, which include manually adding sugar to a beverage after it brews, result in "a lack of consistency from one batch of tea to the next" because, for example, "one usually does not have a scale to weigh out" the sweetener,

which results in variation of Brix level[1] among batches. Ex. 1001, 1:15–31. The '634 patent aims "to provide an accurate and consistent way of brewing sweetened tea." Ex. 1001, 2:37–38. To that end, the '634 patent discloses providing a sieve or filtering device "containing tea and sugar in a prescribed blended ratio for use in the brewing basket of a drip coffee machine to brew tea accurately and consistently." Ex. 1001, 2:48–51.

The '634 patent explains that the sieve or filtering device is water permeable and has a sieve size for retaining the tea and sugar particles. Ex. 1001, 3:1–4. The sieve can be placed in a brewing basket with hot water

> to steep the tea particles and sugar granules in hot water in the basket and extract tea and dissolve sugar in the water permeable sieve to produce a hot concentrated sweet tea solution. The concentrated sweet tea solution is added to water. In this manner, the tea is already effectively sweetened when it is added to the water.

Ex. 1001, 3:5–12.

The '634 patent attributes significance to the mesh size and particle size of the sweetener. For example, the patent discloses that "[p]referably, the size of the sugar granules is in the range of U.S. mesh sieve nos. 3–35; although, sugar granules the size of U.S. mesh sieve nos. 3 or larger will work successfully in the present invention." Ex. 1001, 3:33–36. The '634 patent explains the relationship between mesh number and particle size of the sugar, noting that the smaller the mesh number, the larger the granules of sugar are. Ex. 1001, 6:2–4. According to the '634 patent, "[i]t has been found . . . that an advantageous granule size for the sugar of the present

[1] "One degree Brix is one gram of sucrose in 100 grams of solution . . . . Brewed sweetened tea has a typical Brix level of 10½ to 11." Ex. 1001, 1:21–28.

invention is that retained by US sieve numbers 3–35." Ex. 1001, 6:7–10; *see also* Ex. 1001, 8:6–7 ("One reason the sugar works in the present invention is the granular size 35 or larger."). The use of larger granules of sugar allows the sugar to dissolve easier and better, and allows the hot water to flow around the granules at the same time as the tea is being extracted out of the tea particles, reducing two steps into one. Ex. 1001, 6:38–48. The '634 patent further indicates that "[t]he key is the heat. The heat in the brewing basket dissolves all the sugar." Ex. 1001, 8:10–12.

C. LEVEL OF ORDINARY SKILL IN THE ART

In the Institution Decision, we determined that "a person of ordinary skill in the art would have had sufficient experience and/or education in the food industry to possess an understanding of (1) sugar particle size as it pertains to brewed beverages and (2) sugar particle size screening." Inst. Dec. 7. We observed that this level of ordinary skill is consistent with the level of ordinary skill that we adopted in a related case that involves similar subject matter. *See Red Diamond, Inc. v. Southern Visions, LLP*, PGR2019-00045, Paper 9 at 6–8 (PTAB Oct. 15, 2019). We also asked the parties to expressly discuss the level of ordinary skill in the art in the remaining briefing if either party disagreed with our determination. Inst. Dec. 7–8.

For purposes of this Final Written Decision, we maintain our determination from the Institution Decision because neither party disputes the level of ordinary skill identified in the Institution Decision (*see* Revised MTA 7–8), and because we continue to find that the stated level of ordinary skill is consistent with the record.

II. MOTION TO AMEND

A. ORIGINAL CHALLENGED CLAIMS

As noted above, Patent Owner requests that we "unconditionally consider" the Revised Motion to Amend and cancel original claims 1, 5, 8, and 10–12. Revised MTA 1. Because Patent Owner has not indicated that our consideration of the Revised Motion to Amend is contingent on a determination that original challenged claims 1, 5, 8, and 10–12 are unpatentable, we grant Patent Owner's request to cancel original challenged claims 1, 5, 8, and 10–12. *See Lectrosonics, Inc. v. Zaxcom, Inc.*, IPR2018-01129, Paper 15 at 3 (PTAB Feb. 25, 2019) (precedential) ("*Lectrosonics*") ("A request to cancel claims will not be regarded as contingent."). The remaining issue before us is whether to grant the Revised Motion to Amend as to proposed substitute claims 20–25.

B. APPLICABLE LAW

In reviewing a motion to amend, we consider whether the motion meets the statutory and regulatory requirements set forth in 35 U.S.C. § 316(d) (2012) and 37 C.F.R. § 42.121 (2020). *See Lectrosonics*, Paper 15 at 4. That is, the patent owner must demonstrate the following: (1) the amendment proposes a reasonable number of substitute claims; (2) the amendment responds to a ground of unpatentability involved in the trial; (3) the amendment does not seek to enlarge the scope of the claims of the patent or introduce new subject matter; and (4) the proposed claims are

supported in the original disclosure of the patent. *See* 35 U.S.C. § 316(d) (2012); 37 C.F.R. § 42.121 (2019); *see also Lectrosonics*, Paper 15 at 4–8.

We also consider unpatentability. In that regard, a patent owner "does not bear the burden of persuasion to demonstrate the patentability of [the proposed] substitute claims." *Lectrosonics*, Paper 15 at 4 (citing *Aqua Prods., Inc. v. Matal*, 872 F.3d 1290, 1311 (Fed. Cir. 2017); *Bosch Auto. Serv. Sols. LLC v. Matal*, 878 F.3d 1027, 1040 (Fed. Cir. 2017)). "Rather, as a result of the current state of the law and [U.S. Patent and Trademark Office] rules and guidance, the burden of persuasion ordinarily will lie with the petitioner to show that any proposed substitute claims are unpatentable by a preponderance of the evidence." *Lectrosonics*, Paper 15 at 4.

C. PROPOSED SUBSTITUTE CLAIMS

Patent owner moves to replace original claims 1, 5, 8, and 10–12 with proposed substitute claims 20–25 as follows:

Table 1: Claim Correspondence						
Original	Cl. 1	Cl. 5	Cl. 8	Cl. 10	Cl. 11	Cl. 12
Substitute	Cl. 21	Cl. 22	Cl. 23	Cl. 24	Cl. 25	Cl. 20

Revised MTA 1.

The proposed substitute claims, with underlining indicating language added to, and strikethrough indicating language removed from, the original claims, are reproduced below. *See* Revised MTA, Appendix A (Listing of Proposed Substitute Claims).

> 20. A method for brewing ~~coffee~~ <u>sweetened tea</u> comprising:
>
> providing at least one <u>water permeable</u> sieve containing a prescribed blend of ~~coffee grounds~~ <u>tea particles</u> and sugar granules,

said sugar granules including granules having a size in the range of U.S. mesh sieve nos. 3-35,

said blend has a ratio of tea particles to said granules having a size in the range of U.S. mesh sieve nos. 3-35, in the range of 1:5-1:16, and

said sieve having openings which include openings smaller than the size of said sugar granules and said ~~coffee grounds~~ tea particles for retention of said granules and ~~grounds~~ particles;

steeping said sieve in water in a brewing basket of a commercial tea brewing machine, allowing the ~~coffee~~ tea particles and sugar granules to infuse and dissolve to produce a concentrated ~~coffee~~ sweet tea solution; and

mixing said concentrated ~~coffee~~ sweet tea solution with a proportioned amount of water~~, milk, or cream~~ in an urn of said commercial tea brewing machine to produce ~~a coffee~~ said sweetened tea for drinking wherein the sugar is more completely and consistently dissolved in comparison to the use of typical grocery store sugar in said at least one water permeable sieve.

21. A sweet tea brewing product for producing a concentrated sweet tea solution for mixing with a proportioned amount of water to make 3 gallon batches of sweet tea comprising:

at least one water permeable sieve for placement in a container;

tea particles and sugar granules contained in said at least one sieve which form a blend of tea particles and sugar granules in said at least one water permeable sieve;

wherein said sugar granules include granules having a size in the range of U.S. mesh sieve nos. 3-35;

wherein said blend has a blend ratio of said tea particles to said granules having a size in the range of U.S. mesh sieve nos. 3-35 in the range of 1:16 to 1:25;

said permeable sieve having openings being generally smaller than the size of said sugar granules and said tea particles for retention of said granules and particles; and

so that said tea particles and sugar granules are extracted and dissolved in said container during steeping in hot water whereby ~~a~~ said concentrated sweet tea solution is produced to be mixed with a proportioned amount of water for making said 3 gallon batches of sweet tea.

22. ~~The product of claim 1~~ A sweet tea brewing product for producing a concentrated sweet tea solution for mixing with a proportioned amount of water to make commercial-sized batches of sweet tea comprising:

at least one water permeable sieve for placement in a container;

tea particles and about 3 pounds of sugar granules contained in said at least one sieve;

wherein said sugar granules include granules having a size in the range of U.S. mesh sieve nos. 3-35;

wherein said at least one permeable sieve contains tea particles and ~~sugar~~ granules having a size in the range of U.S. mesh sieve nos. 3–35 in a blend ratio of 1:5 to 1:16;

said permeable sieve having openings being generally smaller than the size of said sugar granules and said tea particles for retention of said granules and particles; and

so that said tea particles and sugar granules are extracted and dissolved in said container during steeping in water whereby said concentrated sweet tea solution is produced to be mixed with said proportioned amount of water for making said sweet tea.

23. ~~The product of claim 5~~ A sweet tea brewing product for producing a concentrated sweet tea solution for mixing with a proportioned amount of water to make commercial-sized batches of sweet tea comprising:

at least one water permeable sieve for placement in a container;

tea particles and sugar granules contained in said at least one sieve;

wherein said sugar granules include granules having a size in the range of U.S. mesh sieve nos. 3-35;

wherein said at least one permeable sieve contains tea particles and said granules having a size in the range of U.S. mesh sieve nos. 3–35 in a blend ratio

wherein said blend ratio ~~of tea to sugar~~ is in the range of 1:~~5~~16 to 1:25;

said permeable sieve having openings being generally smaller than the size of said sugar granules and said tea particles for retention of said granules and particles; and

so that said tea particles and sugar granules are extracted and dissolved in said container during steeping in water whereby said concentrated sweet tea solution is produced to be mixed with said proportioned amount of water for making said sweet tea.

24. A method for brewing sweetened tea comprising:

providing at least one water permeable sieve containing a prescribed blend of tea particles and sugar granules in said at least one water permeable sieve,

said sugar granules including granules having a size in the range of U.S. mesh sieve nos. 3-35, ~~and~~

said blend having a ratio of said tea particles to said granules having a size in the range of U.S. mesh sieve nos. 3-35, in the range of 1:16-1:25, and

said sieve having openings smaller than the size of said sugar granules and said tea particles for retention of said granules and particles;

steeping said sieve in water in a brewing basket of a commercial iced tea brewing machine, allowing the tea particles

and sugar granules to infuse and dissolve to produce a concentrated sweet tea solution; and

mixing said concentrated sweet tea solution with a proportioned amount of water in an urn of said commercial iced tea brewing machine to produce a sweet tea for drinking wherein the sugar is–more completely and consistently dissolved in comparison to the use of typical grocery store sugar in said at least one water permeable sieve.

25. A sweet tea brewing product for producing a concentrated sweet tea solution for mixing with water to produce a sweet tea for drinking using a commercial iced tea brewing machine comprising:

at least one water permeable sieve;

tea particles and sugar granules contained in said at least one water permeable sieve, which form a blend of tea particles and sugar granules in said at least one water permeable sieve;

wherein said sugar granules include granules having a size in the range of U.S. mesh sieve nos. 3-35;

wherein said blend has a blend ratio of said tea particles to said granules having a size in the range of U.S. mesh sieve nos. 3-35 in the range of 1:5-1:16;

said permeable sieve having openings which include opening smaller than the size of said sugar granules and said tea particles for retention of said granules and particles; and

said tea particles and sugar granules producing ~~a~~ said concentrated sweet tea solution when steeped in water in said commercial iced tea brewing machine wherein said concentrated sweet solution may be mixed with a proportioned amount of water in said urn to produce sweet tea for drinking.

D. CHALLENGES TO PATENTABILIY

Petitioner contends the proposed substitute claims are unpatentable based on the following challenges:

Proposed Substitute Claims	35 U.S.C. §	Reference(s)/Basis
20, 24	112(b)	Indefiniteness
20, 24	112(a)	Enablement
20–25	103	Cooper[2], Thijssen[3], Chegodaev[4]

See generally Opp.

E. ANALYSIS

1. Patentability of Proposed Substitute Claims 20 and 24 - Indefiniteness

Proposed substitute claims 20 and 24 recite a sweet tea brewing product comprising a water permeable mesh sieve containing tea particles and sugar granules, wherein the sugar granules include granules having a size in the range of U.S. mesh sieve nos. 3–35 and the "sugar is more completely and consistently dissolved in comparison to the use of typical grocery store sugar in said at least one water permeable sieve." Revised MTA, Appendix A at 4, 6.

Petitioner argues that these proposed substitute claims are indefinite because "typical grocery store sugar" has at least three possible meanings. Petitioner first directs us to the Specification, which states: "*Typically*, the

[2] US 5,895,672, issued Apr. 20, 1999 (Ex. 1008).

[3] US 3,862,347, issued Jan. 21, 1975 (Ex. 1022).

[4] AU 2011100497 A4, published June 9, 2011 (Ex. 1006).

sugar found in grocery stores and restaurants are of a small particle and are retained in a mesh sieve the size of 45-120." Opp. 11 (quoting Ex. 1001, 5:67–6:2). Petitioner contends a second interpretation could be "any granular sugar product typically sold in grocery stores," including extra fine granulated ("EFG") sugar, Sugar in the Raw, and confectioner's sugar. Opp. 11. Finally, Petitioner contends the term could refer to EFG sugar because it is the largest volume of sugar sold in the grocery store. Opp. 11. Petitioner asserts, however, that this interpretation is "divorced from anything in the specifications – EFG sugar is never mentioned." Opp. 11–12. Petitioner also argues that testing by Mr. Coffield shows the grain size distribution in EFG sugar can vary widely. Opp. 12 (citing Ex. 1004, at pages 67–69 (Exhibit B)). According to Petitioner, "even if this interpretation were to be applied, a [person of ordinary skill in the art] would still be left without any informed choice as to which EFG sugars are 'typical' and which are not." Opp. 12. Further, Petitioner contends that "instead of using a numerical standard or some other well-defined parameter, the Patent Owner uses an intentionally ambiguous term requiring the public to risk infringement by guessing the definition of 'grocery store sugar' and also what is 'typical' for such sugar." Opp. 12.

Patent Owner argues EFG is synonymous with "typical grocery store sugar," and even if there are some differences between various EFG sugars, there is a standard specification and a "typical" analysis. Reply 4 (citing Ex. 2062, Ex. D; Ex. 2003, 24[5]). According to Patent Owner, "not only does

[5] Patent Owner cites to page 24, but we believe the correct citation is to page 42, as Patent Owner did not include page 24 of the Sucrose Guide as part of Exhibit 2003 and the chart Patent Owner refers to appears on page 42.

a [person of ordinary skill in the art] know what is typical EFG, a [person of ordinary skill in the art] can buy EFG sugar, ensure that it is on spec, and perform brew tests with it in order to determine the scope of the claims." Reply 4.

After considering the evidence of record, we are persuaded by Petitioner's argument that proposed substitute claims 20 and 24 are indefinite. We agree with Patent Owner that a person of ordinary skill in the art would understand "typical grocery store sugar" to refer to EFG sugar, as the evidence of record supports such a finding. For example, Petitioner's declarant, Mr. Coffield, testified that EFG is synonymous with grocery store sugar. Ex. 2029, 228:13–229:13.

It is undisputed that EFG sugar contains a distribution of particle sizes ranging from 20–100 mesh, including some particles within the range of 3–35 mesh as recited in the proposed substitute claims. Ex. 2062, Ex. D; Ex. 2003, 42; Ex. 1004, at pages 67–69 (Exhibit B). Evidence presented by Petitioner, however, suggests that the number of particles in EFG sugar falling in the range of U.S. mesh sieve nos. 3–35 can vary based on the brand of sugar. In particular, Petitioner's declarant Mr. Coffield, tested several different brands of EFG, and reported that the number of particles within 3-35 mesh varies from approximately 24% (Domino brand sugar) to 47% (Publix brand sugar). Ex. 1004, at pages 67–69; Opp. 12. Patent Owner does not contest Mr. Coffield's test results.

Instead, Patent Owner asserts there is a "standard" specification for EFG sugar. Reply 4. Patent Owner's standard, however, is a corporate product specification for the ASR Group, which operates under the Domino Sugar brand. Ex. 2062 ¶ 7, Ex. D. There is insufficient evidence on this

record that the corporate product specification for the ASR group is a "standard" for all EFG sugar, regardless of brand.

Patent Owner also contends there is a "typical" analysis for EFG sugar, which indicates that between 2–25% of the particles in EFG sugar can have a size in the range of U.S mesh sieve nos. 20–30. Ex. 2003, 42 (showing the "Typical Analysis" for "X-fine" granulated sugar). Even if we were to agree with Patent Owner that this shows a typical analysis for EFG sugar, it still presents a variance of up to 20% for particles having a size in the range of U.S. mesh sieve nos. 20 and 30. Ex. 2003, 42. Thus, the evidence of record suggests that the particle size distribution for EFG sugar, including the number of particles falling in the range of U.S. mesh sieve nos. 3–35, can vary among different EFG sugars. Thus, the term "typical grocery store sugar," "might mean several different things" in terms of the number of its particles having a size in the range of U.S. mesh sieve nos. 3–35, and "no informed and confident choice is available among the contending definitions." *HZNP Meds. LLC v. Actavis Labs UT*, 940 F.3d 680, 698 (Fed. Cir. 2019) (quoting *Media Rights Techs., Inc. v. Capital One Fin. Corp.*, 800 F.3d 1366, 1371 (Fed. Cir. 2015)); Opp. 9; Reply 4.

Proposed substitute claims 20 and 24 compare the dissolution of the claimed beverage brewing product against the dissolution of a product using typical grocery store sugar (i.e., EFG). Patent Owner explains that the size of the particles affects dissolution – namely that larger sugar is more advantageous – in the claimed invention. *See, e.g.*, Revised MTA 6; Ex. 1001, 6:7–10, 6:38–40. This suggests that an EFG sugar product having a greater percentage of large particles will dissolve "more completely" as compared to an EFG sugar product having a lower percentage of large

particles. As a result, using the dissolution properties of "typical grocery store sugar" as a comparator in the claims is problematic as there is a potential for inconsistent results based on which particular EFG sugar product is used. The potential for inconsistent results undermines Patent Owner's argument that these claims satisfy the definiteness requirement because a person of ordinary skill in the art "can buy EFG sugar . . . and perform brew tests with it in order to determine the scope of the claims." Reply 4.

Particle size is a critical factor for proposed substitute claims 20 and 24, which require a comparison of dissolution properties of the sugar used in the recited mesh pouch and typical grocery store sugar. Patent Owner contends "[t]here is an 'informed and confident' meaning for 'typical grocery store sugar' - *EFG sugar*." Reply 4. The evidence of record, however, shows the number of large particles (3–35 mesh) varies among EFG sugars. Ex. 2003, 42; Ex. 1004, at pages 61–63. In view of this, we find a person of ordinary skill in the art would not have understood "typical grocery store sugar" identifies sugar having particles of a particular size with sufficient specificity to allow the comparisons that proposed substitute claims 20 and 24 require. Accordingly, proposed substitute claims 20 and 24 are indefinite because they "fail[ ] to inform, with reasonable certainty, those skilled in the art about the scope of the invention." *Nautilus, Inc. v. Biosig Instruments, Inc.*, 572 U.S. 898, 901 (2014); *see* USPTO Memorandum on the Approach to Indefiniteness Under 35 U.S.C. § 112 in AIA Post-Grant Proceedings (Jan. 6, 2021); MPEP 2173.05(e) (9th ed., Rev. 08.2017, June 2020).

2. *Patentability of Proposed Substitute Claims 21–23 and 25 – Obviousness*

Petitioner contends proposed substitute claims 21–23 and 25 are unpatentable as obvious in view of some combination of Cooper, Chegodaev, Thijssen, and/or admitted prior art knowledge. Opp. 15.

a. Cooper (Ex. 1008)

Cooper discloses a system for preparing "high quality tea extract using espresso technology," and a method of producing "high quality, consistently reproducible tea extracts in a matter of seconds." Ex. 1008, code (57), 2:36–41. Cooper teaches that one embodiment of its system includes a tea extraction container comprised of a water-permeable material which allows fluid to flow through the body to produce a tea extract from a tea composition retained inside the container. Ex. 1008, 2:42–52, 6:8–12. Cooper also teaches that its tea extract system can include components, such as a sweetener, in addition to the tea composition. Ex. 1008, 3:11–20, 10:31–38. With regard to sweeteners, Cooper states:

> A sweetener used in a tea composition of the present invention can be any particle size which readily dissolves into a tea extract produced by the method of the present invention. A sweetener is typically of a particle size provided by a commercial vendor of the sweetener. For example, if the sweetener is sugar. commercial grade granulated sugar may be used.

Ex. 1008, 10:66–11:5.

b. Chegodaev (Ex. 1006)

Chegodaev is directed to "the combination of sugar (and/or sweetener) and tea together as a package in teabags." Ex. 1006, Abstract. Chegodaev explains that the tea and sugar can be encased in "the same material tea bags are packaged now," and includes white sugar and rock

sugar as examples of the types of sugar that can be used. Ex. 1006, 3, 5. Chegodaev also teaches the use of different "doses of sweetness" based on the amount of sugar added to each tea bag. Ex. 1006, 3.

c. Thijssen (Ex. 1022)

Thijssen "relates, in general, to the solvent extraction of soluble constituents from solid particles." Ex. 1022, 1:5–6. In particular, Thijssen "pertains to the extraction (leaching) of soluble components from sub-divided vegetable and/or animal material by the percolation of a solvent through a porous packed bed of the subdivided particles and, more specifically, the invention is concerned with the water extraction of roasted coffee soluble solids." Ex. 1022, 1:7–13.

Thijssen states that for purposes of its invention, the term "packed bed" refers to "an operation in which the solid particles are kept in relatively fixed position with respect to each other while the solvent flows through the porous bed of solid particles, whether or not the bed of solid particles remains stationary with respect to the containing vessel during the extraction." Ex. 1022, 2:11–18. Thijssen explains channeling, the non-uniform flow of solvent through the bed of solid particles, decreases the efficiency of the extraction operation. Ex. 1022, 2:46–50. Thijssen thus seeks to "enable[ ] a method of packed bed solid-liquid extraction in which channeling in the packed bed of solid particles is substantially completely eliminated." Ex. 1022, 3:16–19.

Thijssen further explains that that in conventional systems for extraction of soluble solids from coffee with hot water, "channeling appears to occur more markedly as the mean particle size of the coffee particles for extraction becomes smaller." Ex. 1022, 5:27–29. Thijssen states that as a

result, "the mean particle size of the roast and ground coffee to be extracted generally is between 0.5 – 3.0 millimeters (mm) (35 – 6 U.S. Standard Mesh)." Ex. 1022, 5:29–37.

d. Original Claims 1, 5, 8, and 11

In the Petition, Petitioner argued Cooper anticipates claims 1, 5, 8, and 11, and presented evidence in support of its argument. Pet. 29–33, 35, 39–47. Patent Owner did not submit a Preliminary Response addressing Petitioner's arguments and evidence. In the Institution Decision, we determined that Petitioner directed us to portions of Cooper that support its argument that Cooper anticipates claims 1, 5, 8, and 11. Inst. Dec. 15–17. Patent Owner did not file a Response addressing Petitioner's arguments and evidence or the determination in our Institution Decision.

Absent any argument or evidence to the contrary, we maintain the determination in our Institution Decision that Petitioner has directed us to portions of Cooper that support its argument that Cooper anticipates original claim 1. Inst. Dec. 15–17. As a result, we agree with and adopt Petitioner's arguments and evidence demonstrating that Cooper anticipates original claims 1, 5, 8, and 11. *See* Pet. 31–49.

In view of this, our analysis regarding the alleged obviousness of the subject matter of proposed claims 21–23 and 25 focuses on the subject matter Patent Owner added in the proposed substitute claims.

e. Proposed Substitute Claims 21 and 23

According to Petitioner, proposed substitute claims 21 and 23

> add just two limitations to the subject matter already established to be anticipated by Cooper: (i) making large batches of tea, i.e., 3 gallons (claim 21) and commercial size batches (claim 23); and (ii) incorporating a blend ratio of tea particles to sugar granules

> having a size in the range of U.S. mesh sieve nos. 3-35 in the range of 1:16 to 1:25.

Opp. 18–19.

With regard to making large batches of tea, Petitioner contends that "Cooper is readily scalable." Opp. 19. In this regard, Petitioner directs us to Cooper's statement that "[i]t is within the scope of the present invention, . . . that the amounts of ingredients within a given tea composition can be adjusted to provide a tea extraction system which produces two, three *or more* servings of tea extract per tea extraction container." Sur-reply 2 (quoting Ex. 1008, 11:9–14).

Petitioner also contends that Cooper and commercial iced tea brewers operate the same way, and argues that a person of ordinary skill in the art would have been motivated to make 3 gallon batches "in order to use standard sized and commonly available equipment." Opp. 19. Petitioner further notes that the '634 patent states "[a] commercial tea brewing urn typically holds at least 3 gallons of tea and has a brewing basket." Opp. 19 (quoting Ex. 1001, 1:32–33).

With regard to the claimed blend ratio of tea to sugar granules having a size in the range of U.S. mesh sieve nos. 3–35, Petitioner contends Cooper teaches using "commercial grade sugar." Opp. 20 (citing Ex. 1008, 11:2–5). Petitioner argues that "Standard Granulated" and "Medium Granulated" sugars are examples of commercial grade granulated sugar, and that Patent Owner and its declarant, Mr. Ebersole, acknowledge that these sugars would have been known to a person of ordinary skill in the art. Opp. 20–21 (citing Ex. 2062 ¶¶ 8–9, Exhibits A–B; Ex. 2059 ¶¶ 29, 36, 40, Ex. C; Ex. 2076 ¶ 51). Patent Owner also directs us to evidence from Mr. Ebersole demonstrating that the particles in these sugars "are almost entirely within

the range of U.S. mesh nos. 3–35." Opp. 20 (citing Ex. 2076 ¶ 51, Exhibit C). According to Petitioner, "[u]sing the 'typical' amount of 3oz of tea for 3lbs of sugar, the resulting blend ratio for a tea made with Standard Granulated and Medium Granulated sugar is 1:16." Opp. 21. In view of this, Petitioner contends that "[t]he claimed blend amounts to nothing more than using 'commercial grade granulated sugar,' as taught by Cooper, combined with the acknowledged prior art practice of using 1 ounce of tea to one pound of sugar in one gallon of sweetened beverage." Opp. 19.

Additionally, Petitioner argues that "[i]n scaling up Cooper, a [person of ordinary skill in the art] with knowledge of Thijssen would be motivated to use the same particle size range (U.S. mesh sieve nos. 6-35) identified by Thijssen" because "Thijssen teaches that using those sized particles will reduce channeling and promote extraction during commercial scale extraction." Opp. 19–20 (citing Ex. 1023 ¶ 115). Petitioner also argues that a person of ordinary skill in the art would have had a reasonable expectation of success in combining the teachings of Cooper and Thijssen because both references operate using liquid extraction of soluble solids. Opp. 20–21. Thus, according to Petitioner, it would have been "obvious to use a tea bag having sugar and tea (Cooper) where *all* the tea and sugar is in the range of U.S. mesh sieve nos. 6-35 as taught by Thijssen." Opp. 19 (citing Ex. 1023 ¶ 115). In view of the evidence regarding the particle size of commercial grade Standard Granulated and Medium Granulated sugar, Petitioner contends that "[a]pplying the ratio of 1 ounce of large leaf tea to 1 pound of sugar using either 'Standard Granulated' or 'Medium Granulated' sugar, where *all* the tea and sugar is in the range of U.S. mesh sieve nos. 6–35 as taught by Thijssen, yields the recited upper ratio of 1:16." Opp. 20.

Patent Owner argues that Cooper's statement regarding "commercial grade granulated sugar" is not "sufficiently specific" for purposes of anticipation, and, therefore, Cooper cannot anticipate the claimed invention. Reply 6. Patent Owner also argues that no prior art discloses the claimed ratios. Reply 10. Patent Owner further argues that Cooper teaches away from Petitioner's proposed combination because Cooper discloses that "micro-contamination of storage tanks and tea dispensers [for] bulk amounts of a single type of tea . . . is problematic in many restaurants" and that Cooper's invention "eliminate[s] the need for large tea storage tanks and tea dispensers." Reply 9 (quoting Ex. 1008, 1:27–32; 2:29–31). Patent Owner contends that Cooper discloses using, at most, 21 grams of sweetener, which is far less than the amounts recited in the proposed substitute claims. Revised MTA 10. Patent Owner also argues that "increasing the total amount of sugar is more than a 'mere scaling up.'" Revised MTA 12.

With regard to Thijssen, Patent Owner argues that Thijssen is not analogous art. Reply 7. In particular, Patent Owner contends that Thijssen is not from the same field of endeavor as the '634 patent because Thijssen is directed to the industrial production of unsweetened instant coffee powder, whereas the '634 patent is directed to brewing sweetened tea in restaurants. Reply 7. Additionally, Patent Owner contends that Thijssen involves the use of a packed bed, whereas commercial iced tea brewing (ITB) machines do not. Reply 7.

Patent Owner also contends that Thijssen is not reasonably pertinent to the problem the inventors were trying to solve because the inventors were facing the problem of dissolving sugar, not extraction of flavor from tea or coffee. Reply 7–8. According to Patent Owner, "the pertinence of mesh 6-

35 coffee particles in a high-pressure, high-heat, packed bed industrial instant coffee system, to the problem of sugar dissolution in a restaurant ITB machine, is far-fetched." Reply 8. In this regard, Patent Owner argues that "even if properly combined, Thijssen discloses mesh 6–35 coffee, not mesh 3–35 sugar, and so it would teach that the product to be extracted (i.e., the **tea**) is mesh 6-35, **not the sugar**." Reply 10.

Patent Owner also argues that Thijssen is non-enabling. Reply 8. In particular, Patent Owner argues that Thijssen lacks details about how the prior art systems used coffee particles in the 6–35 range. Reply 8. According to Patent Owner, "Thijssen only describes use of particles having a mean size of 1mm, and it is not evident that the 6–35 range will work with Thijssen." Reply 8. Patent Owner also argues "Thijssen's teaching in reference to coffee particles frustrates the purpose of the combination and is impossible." Reply 8. According to Patent Owner, Thijssen teaches compaction, high pressure, and very high heat, and "[r]emoving these features frustrates the purpose of Thijssen; and these features are impossible to achieve with a commercial ITB machine." Reply 8–9.

Additionally, Patent Owner argues that Thijssen teaches away from the use of particles in the 6–35 mesh range because it discusses the 6–35 mesh range in the context of prior art systems which it improved upon. Reply 9. According to Patent Owner, instead of teaching a wide range of particle sizes, Thijssen teaches towards the use of 1mm coffee particles. Reply 9. Patent Owner also argues Thijssen teaches away from using ITB machines, because a person of ordinary skill in the art would have read Thijssen as requiring a packed bed and would have known ITB machines

cannot maintain a packed bed and do not involve the uniform flow of water. Reply 9.

After considering the parties' respective positions, we find Petitioner has demonstrated sufficiently that the cited art teaches or suggests the additional limitations in proposed substitute claims 21 and 23. It is undisputed that the industry standard for brewing commercial tea is approximately one pound of sugar per gallon of tea, and that commercial tea brewing machines have a capacity of three gallons. Ex. 1001, 1:17–19; 1:32–33; *see* Revised MTA 5; Opp. 19. These undisputed facts undermine Patent Owner's argument that increasing the amount of sugar, as recited in the proposed substitute claims, "is more than a 'mere scaling up.'" Revised MTA 12. In view of the foregoing, we agree with Petitioner that the requirements of making "3 gallon batches" and "commercial-sized batches" of sweet tea in proposed substitute claims 21 and 23, respectively, involve the use of "standard sized and commonly available equipment" to make sweet tea. Opp. 19.

We are also persuaded by Petitioner's argument that Cooper is scalable. Opp. 19; Sur-reply 2. Although Cooper discloses a system and method that can be used to produce single servings of a tea beverage, its teachings are not limited to small serving sizes. Rather, Cooper expressly teaches that "[i]t is within the scope of the present invention . . . that the amounts of ingredients within a given tea composition can be adjusted to provide a tea extraction system which produces two, three, or more servings of tea extract per tea extraction container." Ex. 1008, 11:9–14. We thus disagree with Patent Owner's argument that Cooper teaches away from Petitioner's proposed combination. Reply 9. We recognize that Cooper

discusses the prior art problem of micro-contamination in the bulk storage tanks commonly used in restaurants, as well as Cooper's statement that it eliminates the need for large tea storage tanks. Ex. 1008, 1:27–32, 2:29–31. These disclosures in Cooper, however, do not "criticize, discredit, or otherwise discourage" the solution presented in the '634 patent, especially in view of Cooper's broad statement that its system and method can be used to prepare any number of servings per tea extraction container. *In re Fulton*, 391 F.3d 1195, 1201 (Fed. Cir. 2004); Ex. 1008, 11:9–14.

Additionally, Cooper discloses the combination of tea and sweeteners in its pouch, and expressly states that "if the sweetener is sugar, commercial grade granulated sugar may be used." Ex. 1008, 10:66–11:5. Patent Owner argues that this disclosure lacks sufficient specificity for purposes of anticipation (Reply 6), but Petitioner's challenge is based on alleged obviousness, not anticipation. It undisputed that as of the filing date of the '634 patent, a person of ordinary skill in the art would have understood Standard Granulated and Medium Granulated sugar to be commercial grade sugars. Opp. 19–20; Revised MTA 4; Ex. 2062 ¶ 9, Exhibits A–B; Ex. 2059 ¶ 40; Ex. 2076 ¶ 51. Petitioner also directs us to testimony from Patent Owner's declarant, Mr. Ebersole, that demonstrates a person of ordinary skill in the art would have known that Standard Granulated and Medium Granulated sugar have particle sizes falling within the claimed range of mesh sizes. Ex. 2076 ¶¶ 51, 66; Opp. 20.

Finally, the '634 patent states that a typical method for brewing sweet tea involves the use of a 1 quarter ounce tea bag to make four cups of iced tea, which equates to one ounce of tea per gallon. Ex. 1001, 1:57–65; Opp. 6. As discussed above, the '634 patent states that the industry standard

for sweet tea is one pound (i.e., 16 ounces) of sugar per gallon of tea. Ex. 1001, 1:17–20. As Petitioner argues, these disclosures suggest that a person of ordinary skill in the art would have understood that a typical gallon of sweet tea will include 1 ounce of tea and 16 ounces of sugar, a 1:16 ratio of tea to sugar. *See* Opp. 6, 21 ("Using the 'typical' amount of 3oz of tea for 3lbs of sugar, the resulting blend ratio for a tea made with Standard Granulated and Medium Granulated sugar is 1:16."). Patent Owner offers nothing to sufficiently contest this determination.

Furthermore, Cooper teaches using commercial grade granulated sugar in its products (Ex. 1008, 11:2–5), and Mr. Ebersole's testimony demonstrates that a person of ordinary skill in the art would have known that Standard Grade and Medium Grade sugars are commercial grade granulated sugars and that the particles in Standard Granulated and Medium Granulated sugars "are almost entirely within the range of U.S. mesh nos. 3–35" (Ex. 2076 ¶ 51). The evidence of record thus supports Petitioner's assertion that following the typical industry practice of using 1 ounce of tea particles and 1 pound of sugar per gallon of tea, and using a commercial grade granulated sugar (as taught by Cooper) such as Standard Granulated or Medium Granulated sugar (which are known to be "almost entirely within the range of U.S. mesh nos. 3–35"), would yield a product having a blend ratio of tea particles to sugar granules having a size in the range of U.S. mesh sieve nos. 3–35 in the range of 1:16–1:25, as recited in proposed substitute claims 21 and 23. Opp. 20–21; Ex. 1008, 11:2–5; Ex. 1001, 17–20, 57–65.

In view of the foregoing, we find Petitioner has established sufficiently that the teachings of Cooper, considered in view of admitted prior art sweetening practices, teaches or suggests all of the limitations of

proposed substitute claims 21 and 23. Petitioner has presented evidence demonstrating sufficiently that Cooper teaches the use of sugar having particle sizes falling "almost entirely" within the range of mesh 3–35, that following typical industry practices using such sugar would result in the claimed blend ratio of tea to sugar having a size in the range of mesh 3–35, and that a person of ordinary skill in the art would have had reason to brew commercial-sized batches of tea, with a reasonable expectation of success in doing so, as Cooper allows.

Although we do not consider it necessary, Petitioner also relies on Thijssen in arguing the subject matter of proposed substitute claims 21 and 23 would have been obvious. Opp. 24. Thijssen teaches that channeling, defined as the non-uniform flow of solvent through a bed of solid particles, "decreases the efficiency of the extraction operation." Ex. 1022, 2:47–50. Thijssen states that "[c]hanneling is a major deterrent to efficient packed bed extraction operations and the prior art is replete with theories and possible methods for overcoming or avoiding the problem." Ex. 1022, 2:61–64. In this regard, Thijssen teaches "channeling appears to occur more markedly as the mean particle size of the coffee particles for extraction becomes smaller," and, as a result, in conventional extraction systems "the mean particle size of the roast and ground coffee to be extracted generally is between 0.5 – 3.0 millimeters (mm) (35 – 6 U.S. Standard Mesh)." Ex. 1022, 5:27–37. These disclosures support Petitioner's argument that a person of ordinary skill in the art "with knowledge of Thijssen would be motivated to use the same particle size range (U.S. mesh sieve nos. 6–35) identified by Thijssen" because "Thijssen teaches that using those sized particles will reduce channeling and promote extraction during commercial

scale extraction." Opp. 19–20. Furthermore, for the same reasons discussed above regarding Cooper, the evidence of record demonstrates that following the typical industry practice of using 1 ounce of tea particles and 1 pound of sugar per gallon of tea, using either "Standard Granulated" or "Medium Granulated" sugar (as Cooper suggest), where the particles are in the range of U.S. mesh sieve nos. 6–35 (as Thijssen suggests), would yield a product having a blend ratio of tea particles to sugar granules having a size in the range of U.S. mesh sieve nos. 3–35 in the range of 1:16–1:25, as recited in proposed substitute claims 21 and 23. Opp. 20–21; Ex. 1008, 11:2–5; Ex. 1001, 17–20, 57–65.

We disagree with Patent Owner's contention that "even if properly combined, Thijssen discloses mesh 6-35 coffee, not mesh 3-35 sugar, and so it would teach that the product to be extracted (i.e., the **tea**) is mesh 6-35, **not the sugar**." Reply 10. Cooper teaches a blend of tea and sugar particles. Ex. 1008, 10:66–11:8. Thijssen discloses the benefits of using particles of certain size during extraction of a beverage product. Ex. 1022, 5:27–37. Because "[a] person of ordinary skill is also a person of ordinary creativity, not an automaton" (*KSR Int'l Co. v. Teleflex, Inc.*, 550 U.S. 398, 421 (2007)), we consider the combined teachings of Cooper and Thijssen to support a finding that a person of ordinary skill in the art would have had reason to "use a tea bag having sugar and tea (Cooper) where ***all*** the tea and sugar is in the range of U.S. mesh sieve nos. 6–35 as taught by Thijssen," as Petitioner argues. Opp. 19.

We also disagree with Patent Owner's assertion that Thijssen is not analogous art. Reply 7. "A reference qualifies as prior art for an obviousness determination under § 103 only when it is analogous to the

claimed invention." *In re Klein*, 647 F.3d 1343, 1348 (Fed. Cir. 2011). "Two separate tests define the scope of analogous prior art: (1) whether the art is from the same field of endeavor, regardless of the problem addressed and, (2) if the reference is not within the field of the inventor's endeavor, whether the reference still is reasonably pertinent to the particular problem with which the inventor is involved." *In re Bigio*, 381 F.3d 1320, 1325 (Fed. Cir. 2004). Even if we were to agree with Patent Owner that Thijssen is not from the same field of endeavor because, *inter alia*, it involves the use of a packed bed, we still find Thijssen to be analogous art because it is reasonably pertinent to the problem with which the inventors were involved.

The '634 patent teaches that "[t]he larger sugar granules allow the water to flow around it at the same time you are extracting tea from the tea in the blend." Ex. 1001, 8:13–15. This indicates that among the problems "with which the inventor[s were] involved" were extraction of flavor from tea and the flow of water around the particles involved in the tea brewing process. Thijssen likewise addresses the flow of solvent through solid particles during extraction. *See, e.g.*, Ex. 1022, 2:46–48. In view of this, we find Thijssen is "reasonably pertinent to the particular problem with which the inventor[s were] involved." *Bigio*, 381 F. 3d at 1325.

As to Patent Owner's arguments regarding Thijssen being non-enabling and frustrating the purpose of the proposed combination, we note that our reviewing court has stated that "[e]ven if a reference discloses an inoperative device, it is prior art for all that it teaches." *Beckman Instruments, Inc. v. LKB Produkter AB*, 892 F. 2d 1547, 1551 (Fed. Cir. 1989). For purposes of its obviousness analysis, Petitioner relies on Thijssen's disclosure that using particles within a certain size range provides

certain benefits during extraction. Opp. 19–21. Petitioner does not seek to incorporate Thijssen's entire system or method into Cooper's brewing system or methods, as Patent Owner seems to argue. Nor does Petitioner have to demonstrate that Thijssen's entire system could be incorporated into Cooper's, as "[t]he test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference . . . . Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art." *In re Keller*, 642 F. 2d 413, 425 (CCPA 1981).

Patent Owner's teaching away arguments regarding Thijssen are not well-founded. Reply 9. Proposed substitute claims 21 and 23 do not require the tea to be brewed in a commercial tea brewing machine at all, let alone one having any specific configuration.[6] All that the proposed substitute claims require is brewing of large batches. This undermines Patent Owner's argument that Thijssen teaches away from using an ITB machine that cannot maintain a packed bed, as Thijssen purportedly requires. Reply 9. Furthermore, we disagree that Thijssen's disclosure of using 1mm coffee particles constitutes a teaching away from its disclosure of a broader range of particle sizes used in conventional system, a range that includes 1mm. Ex. 1023, 5:29–37 (disclosing the use of particle sizes between 0.5 – 3.0 mm corresponding to U.S. mesh 35–6). We discern nothing in Thijssen as "criticiz[ing], discredit[ing], or otherwise discourage[ing]" the use of

[6] Proposed substitute claim 25 recites using a commercial iced tea brewing machine, but does not otherwise limit that term or specify using a machine with a particular configuration.

particles in the mesh range disclosed as part of the conventional extraction processes. *Fulton*, 391 F. 3d at 1201.

In view of the foregoing, we find Petitioner has established sufficiently that the teachings of Cooper, considered in view of admitted prior art sweetening practices and Thijssen, teaches or suggests all of the limitations of proposed substitute claims 21 and 23. Petitioner has presented evidence demonstrating sufficiently that Cooper teaches the use of sugar having particles falling within the range of mesh 3–35, that Thijssen teaches the use of particles in the range of 6–35 mesh, that following typical industry practices using such sugar would result in the claimed blend ratio of tea to sugar having a size in the range of mesh 3–35, and that a person of ordinary skill in the art would have had reason to brew commercial-sized batches of tea, as Cooper allows.

Accordingly, we find Petitioner has demonstrated sufficiently (1) that the combined teachings of Cooper and conventional prior art sweetening practices, either alone or in combination with the teachings of Thijssen, teach or suggest all of the limitations of proposed substitute claims 21 and 23, (2) that a person of ordinary skill in the art would have had reason to combine the teachings of these references, and (3) that a person of ordinary skill in the art would have had a reasonable expectation of successfully achieving the claimed invention. [7] Opp. 18–21; Sur-reply 2–3.

[7] This statement, and the similar statements made with regard to proposed substitute claims 22 and 25, do not constitute our final determination on obviousness. Our final determination is made below in view of all of the *Graham* factors, including objective indicia of non-obviousness. *See, e.g.*, *WBIP, LLC v. Kohler Co.*, 829 F. 3d 1317, 1328 (Fed. Cir. 2016) ("[T]he

f. Proposed Substitute Claim 22

Proposed substitute claim 22 adds the limitations of making commercial size batches of sweet tea using a sieve containing tea particles and "about 3 pounds of sugar granules," wherein the sieve "contains tea particles and sugar granules having a size in the range of U.S. mesh sieve nos. 3–35 in a blend ratio of 1:5 to 1:16." Revised MTA, Appendix A at 2.

Petitioner contends that "making commercial sized 3 gallon batches using 3 pounds of sugar is nothing more than a recital of the admitted prior practice of using one pound of sugar per gallon in commercial tea brewing machines." Opp. 23. With regard to the claimed tea to sugar ratio of 1:5 to 1:16, Petitioner directs us to Cooper's discussion of using 1 to 4 grams of black tea with 1 to 6 grams of sweetener, which results in a tea to sugar ratio of 1:6. Opp. 23 (citing Ex. 1008, 11:29–44). Petitioner also notes that the upper endpoint (1:16) for proposed substitute claim 22 is the same as the lower endpoint for proposed substitute claim 21, thus the same obviousness analysis applies as with proposed substitute claim 21. Opp. 23.

Patent Owner does not specifically address Petitioner's arguments regarding proposed substitute claim 22. Instead, Patent Owner relies on the same arguments discussed above in connection with proposed substitute claims 21 and 23 for all of the proposed substitute claims.

We are persuaded by Petitioner's arguments regarding the additional limitations in proposed substitute claim 22. It is undisputed that the industry standard for brewing commercial tea is approximately one pound of sugar

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strength of *each* of the *Graham* factors must be weighed in every case and must be weighed en route to the final determination of obviousness or non-obviousness.").

per gallon of tea, and that commercial tea brewing machines have a capacity of three gallons. Ex. 1001, 1:17–19; 1:32–33; *see* Revised MTA 5; Opp. 23. Additionally, Cooper discloses a preferred embodiment using about 1 to 4 grams of tea with about 1 to 6 grams of a sweetener. Ex. 1008, 11:29–44. We thus agree that Cooper at least suggests a tea to sugar ratio falling within the claimed range.

For these reasons, as well as those discussed above with regard to proposed substitute claims 21 and 23, we find Petitioner has demonstrated sufficiently (1) that the combined teachings of Cooper and conventional prior art sweetening practices, either alone or in combination with the teachings of Thijssen, teach or suggest all of the limitations of proposed substitute claim 22, (2) that a person of ordinary skill in the art would have had reason to combine the teachings of these references, and (3) that a person of ordinary skill in the art would have had a reasonable expectation of successfully achieving the claimed invention. Opp. 18–21, 23–24; Sur-reply 2–3.

g. Proposed Substitute Claim 25

Proposed substitute claim 25 adds the limitations of "using a commercial iced tea brewing machine," and using a sieve containing tea particles and sugar granules, wherein the sieve "contains tea particles and sugar granules having a size in the range of U.S. mesh sieve nos. 3–35 in a blend ratio of 1:5 to 1:16." Revised MTA, Appendix A at 5.

Petitioner notes that "the recited feature of steeping in a commercial iced tea brewing machine merely recites the admitted inherent function of a typical commercial tea brewer." Opp. 24 (citing Ex. 1001, 1:32–36). With regard to the claimed tea to sugar ratio, Petitioner contends the same

obviousness analysis set forth for proposed substitute claims 21–23 applies to proposed substitute claim 25.

Patent Owner does not specifically address Petitioner's arguments regarding proposed substitute claim 25. Instead, Petitioner relies on the same arguments discussed above in connection with proposed substitute claims 21 and 23 for all of the proposed substitute claims.

We are persuaded by Petitioner's arguments regarding the additional limitations in proposed substitute claim 25. For these reasons, as well as those discussed above with regard to proposed substitute claims 21–23, we find Petitioner has demonstrated sufficiently (1) that the combined teachings of Cooper and conventional prior art sweetening practices, either alone or in combination with the teachings of Thijssen, teach or suggest all of the limitations of proposed substitute claim 25, (2) that a person of ordinary skill in the art would have had reason to combine the teachings of these references, and (3) that a person of ordinary skill in the art would have had a reasonable expectation of successfully achieving the claimed invention. Opp. 18–21, 24; Sur-reply 2–3.

h. Objective Evidence of Non-Obviousness

Patent Owner contends that objective evidence supports a finding of non-obviousness of the proposed substitute claims.[8] Revised MTA 18–24; Reply 11. In particular, Patent Owner contends the claimed invention satisfied a long felt but unmet need, achieved significant commercial

[8] Patent Owner presents objective indicia of non-obviousness for all of the proposed substitute claims. Our analysis, however, focuses on proposed substitute claims 21–23 and 25 in view of our previous findings that the remaining proposed substitute claims are unpatentable based on grounds other than obviousness.

success, was copied and praised by Petitioner, was the subject of skepticism, and produced unexpected results. Revised MTA 20–24.

According to Patent Owner, restaurants have "long desired ways to reliably and consistently produce sweet tea, and no product sufficiently met this need." Revised MTA 18–19 (citing Ex. 2001 ¶¶ 18–20; Ex. 2027 ¶ 76; Ex. 2043 ¶¶ 4–6; Ex. 2044, 1:14–48; Ex. 2045, 2:63–3:1; Ex. 2048 ¶ 4; Ex. 2056 ¶¶ 6–9; Ex. 2057 ¶¶ 10–13; Ex. 2065 ¶ 6; Ex. 2077, 135:9–137:9). Patent Owner argues that "a history of patents devoted to attempting to solve the problem is powerful evidence of long felt but unmet need," and that "[t]he claimed inventions meet this long felt need because they reliably produce sweet tea without the need for complex machinery or manual measuring and agitation of granulated sugar, as performed in the prior art." Revised MTA 19 (emphasis omitted).

Patent Owner argues that sales of its "Sweet Brew" product demonstrate "significant commercial success," and that "[w]ith only two competitors, Patent Owner's market share is high." Revised MTA 19–20 (citing Ex. 2028 ¶¶ 44–47; Ex. 2041 ¶¶ 6–9; Ex. 2050 ¶¶ 9–15; Ex. 2053 ¶ 6); *see also* Reply 10 (referring to Adam Stewart's testimony about the commercial success of the Sweet Brew product). Patent Owner contends that "all or substantially all of Patent Owner's sales have been for a product that has a ratio from 1:9.5 to 1:15 of tea to mesh 3-35 sugar" and that it "would not enjoy commercial success without products reading on the claims." Revised MTA 20 (citing Ex. 2064 ¶¶ 11–33). In this regard, Patent Owner states that "Adam Stewart testified . . . that 'nearly all' of Patent Owner's **Sweet Brew** (Ex. 2064 at ¶ 8)) sales fall within the scope of Claims 20, 22 & 25." Reply 11.

According to Patent Owner, it "experienced skepticism as they began to sell their product, and the market required demonstration that the product *actually worked*." Revised MTA 21 (citing Ex. 2028 ¶¶ 41–42; Ex. 2056 ¶¶ 7–8; Ex. 2057 ¶ 11).

With regard to copying, Patent Owner contends it had a meeting with Petitioner during which Patent Owner "demonstrated the product and left some for review." Revised MTA 20. Patent Owner further contends that "[a]dditional products with Petitioner's tea were prepared and delivered to Petitioner." Revised MTA 20. According to Patent Owner, Petitioner subsequently "decided to move in another direction" and "slavishly copied" the claimed invention. Revised MTA 20 (quoting Ex. 2028 ¶¶ 25). Patent Owner asserts that Petitioner praised Patent Owner's invention based on statements Petitioner made about its own "copycat product." Revised MTA 20–21 (citing Ex. 2054, Exhibit A). Patent Owner also asserts that others agreed with Petitioner's praise. Revised MTA 21 (citing Ex. 2042 ¶¶ 6–7; Ex. 2043 ¶ 7).

Patent Owner further argues that its "[t]est results brewing large granule sugar and sugar blend **not only** show that 'large sugar' works better than EFG for the claimed weight ranges, **but also** that the large sugar can produce commercially viable sweet tea *without agitation*." Revised MTA 22.

Patent Owner contends it should be entitled to "a nexus *presumption* because the 'evidence is tied to a specific product and that product embodies the claimed features, and is coextensive with them.'" Revised MTA 22–23 (quoting *Fox Factory, Inc. v. SRAM, LLC*, 944 F.3d 1366, 1373 (Fed. Cir. 2019)). According to Patent Owner, "its product has relatively few features

– it is a mesh bag containing loose tea and sugar" and "the claims directly relate to the actual product sold by Patent Owner that embodies the substitute claims." Revised MTA 23. Patent Owner further argues that even with no presumption, its evidence of long felt need, commercial success, copying, praise, unexpected results, and skepticism all relate to "large amounts of large sugar inside a mesh bag for use in an ITB machine." Revised MTA 23.

Petitioner argues that Patent Owner sells a variety of products and there is no evidence that they are all covered by the proposed substitute claims. Opp. 25. Petitioner further argues that "neither the total market or the actual volume of [Patent Owner's] sales of products covered by the claims has been established with any particularity." Sur-reply 12. As a result, Petitioner argues there is no evidence establishing the required nexus between the claimed subject matter and sales data, and thus Patent Owner has not made a showing of commercial success. Sur-reply 12; Opp. 25. Petitioner also contends there is no evidence of copying and challenges Patent Owner's evidence of long-felt need. Opp. 25.

We first note that Adam Stewart testified that "nearly all" of Patent Owner's sales have been for a product that has a ratio from 1:9.5 to 1:15 of tea to mesh 3–35 sugar. Ex. 2064 ¶ 21. Proposed substitute claims 21 and 23, however, recite a ratio of tea to mesh 3–35 sugar from 1:16–1:25. Similarly, claim 22 requires the use of 3 pounds of sugar granules. Revised MTA, Appendix A at 2. Adam Stewart testified that "[m]ost of [Patent Owner's] sales of its Sweet Brew product have been for products that contain between 1.25 pounds and 3.75 pounds of sugar. Products containing 3 pounds, 2.75 pounds, 2.5 pounds, 1.5 pounds, and 1.25 pounds are the

most popular." Ex. 2064 ¶ 19. This evidence suggests that Patent Owner sells a variety of Sweet Brew products with varying weights of sugar. Patent Owner, however, does not present evidence tying its objective indicia of non-obviousness to any particular product containing a specific amount of sugar, specified by weight. As a result, we disagree that Patent Owner is entitled to a nexus presumption for proposed substitute claims 21–23. *See Fox Factory*, 944 F.3d 1366.

Even if we were to assume a sufficient nexus, we still find Patent Owner's evidence regarding commercial success to be unpersuasive. Patent Owner provides sales data and contends that its market share is "high." Revised MTA 21. Generally, sales figures, in the absence of a defined market, are inadequate to establish commercial success. *Cf. Ex parte Jellá*, 90 USPQ 2d 1009, 1012 (BPAI 2008) (precedential) ("[G]ross sales figures do not show commercial success absent evidence as to market share . . . or as to the time period during which the product was sold, or as to what sales would normally be expected in the market."). According to the Federal Circuit, "the more probative evidence of commercial success relates to whether the sales represent 'a substantial quantity in th[e] market.'" *In re Applied Materials, Inc.*, 692 F.3d 1289, 1300 (Fed. Cir. 2012) (quoting *In re Huang*, 100 F.3d 135, 140 (Fed. Cir. 1996)). Patent Owner's statement that its market share is "high" does not help define the relevant market or make clear what it believes to be its portion of the relevant market.

With regard to copying, Patent Owner alleges copying based on the meeting between Patent Owner and Petitioner. Revised MTA 22. "Copying requires duplication of features of the patentee's work based on access to that work, lest all infringement be mistakenly treated as copying." *Institut*

Pasteur & Universite Pierre Et Marie Curie v. Focarino, 738 F.3d 1337, 1347–48 (Fed. Cir. 2013). "Evidence of copying may include internal documents, direct evidence such as photos of patented features or disassembly of products, or access and similarity to a patented product." *Liqwid, Inc. v. L'Oreal USA, Inc.*, 941 F.3d 1133, 1137 (Fed. Cir. 2019). Patent Owner does not support its assertions of copying with any such evidence, including evidence demonstrating sufficiently the similarity of Petitioner's product to a product falling within the scope of proposed substitute claims 21–23 or 25.

Nor does Patent Owner support its assertions of praise with sufficient evidence. First, we note one of Patent Owner's praise arguments relies on its copying arguments discussed above, and we find it unpersuasive for the same reasons. Patent Owner also argues that "[o]thers agree" with Petitioner's praise. Revised MTA 21 (citing Ex. 2042 ¶¶ 6, 7; Ex. 2043 ¶ 7). Patent Owner fails to present any substantive discussion of the evidence purportedly supporting this statement in the Revised Motion to Amend. Instead, Patent Owner simply directs us to review the exhibits on our own, in violation of our rules on incorporation by reference. 37 C.F.R. § 42.6(3). Nevertheless, our review of the exhibits indicate that they contain complementary statements from Iain Prentice and Stephen H. Pottinger. Ex. 2042; Ex. 2043. These statements, however, do not relate the product to features of proposed substitute claims 21–23 or 25. *Cf. Power-One, Inc. v. Artesyn Techs., Inc.*, 599 F.3d 1343, 1352 (Fed. Cir. 2010) (finding evidence of praise persuasive where the party "presented evidence of praise in the industry that specifically related to features of the patented invention, linking that industry praise with the patented invention").

As to alleged skepticism, Patent Owner cites only the anecdotal declaration testimony of Adam Stewart (a named inventor and co-owner of Southern Visions) that one of Patent Owner's customers was concerned that tea produced by the product would not be sufficiently sweet, as well as testimony from two customers expressing skepticism that Patent Owner's product would consistently produce a consistent sweet brewed tea. Revised MTA 21 (citing Ex. 2028 ¶¶ 41–42; Ex. 2056 ¶¶ 7–8; Ex. 2057 ¶ 11). Even accepting the testimony as accurate, these citations do not relate the product to proposed substitute claims 21–23 or 25.

i. Conclusion Regarding Obviousness of Proposed Substitute Claims 21–23 and 25

We have reviewed Petitioner's arguments and evidence regarding the purported obviousness of the subject matter of proposed substitute claims 21–23 and 25, and Patent Owner's responsive arguments and proffered evidence, including evidence of objective indicia. Although we consider some of Patent Owner's evidence of objective indicia to have some persuasive value, on balance, in view of the strength of the evidence in favor of obviousness for proposed substitute claims 21–23 and 25, and the deficiencies in the evidence relied on as supporting the contended objective indicia of patentability, we determine that Petitioner has established by a preponderance of the evidence that proposed substitute claims 21–23 and 25 are unpatentable as obvious.

III. CONCLUSION

For the reasons discussed above, Petitioner has shown by a preponderance of evidence that the proposed substitute claims 20–25 are

unpatentable. The table below summarizes our conclusions as to Patent Owner's Revised Motion to Amend the claims:

Motion to Amend Outcome	**Claim(s)**
Original Claims Cancelled by Amendment	1, 5, 8, 10–12
Substitute Claims Proposed in the Amendment	20–25
Substitute Claims: Motion to Amend Granted	
Substitute Claims: Motion to Amend Denied	20–25
Substitute Claims: Not Reached	

IV. ORDER

It is hereby:

ORDERED that Patent Owner's Revised Motion to Amend is granted with respect to Patent Owner's request to cancel claims 1, 5, 8, 10, 11, and 12 of the '634 patent;

FURTHER ORDERED that Patent Owner's Revised Motion to Amend is *denied* with respect to Patent Owner's request to enter proposed substitute claims 20–25; and

FURTHER ORDERED that parties to this proceeding seeking judicial review of our decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

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