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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte HARROLD GLENN ANIJS and RONALD HEISTEK

Appeal 2019-000500
Application 13/525,786
Technology Center 1700

Before GEORGE C. BEST, N. WHITNEY WILSON, and JANE E. INGLESE, *Administrative Patent Judges*.

INGLESE, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellant requests our review under 35 U.S.C. § 134(a) of the Examiner's decision to finally reject claims 18–21, 25, and 26.[1, 2] We have jurisdiction over this appeal under 35 U.S.C. § 6(b).

We AFFIRM.

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[1] We use the word "Appellant" to refer to "applicant" as defined in 37 C.F.R. § 1.42. Appellant identifies Olam International Limited as the real party in interest. Appeal Brief filed February 20, 2018 ("Appeal Br.") at 3.

[2] Although claims 1, 4, 6, 8, 10–15, and 17–27 were rejected in the Final Office Action entered August 10, 2017 ("Final Act."), Appellant cancelled claims 1, 4, 6, 8, 10–15, 17, 22–24, and 27 in an amendment filed February 20, 2018, and the Examiner confirmed entry of the amendments in an Advisory Action entered March 21, 2018.

STATEMENT OF THE CASE

Appellant claims a method of producing a high-brightness cocoa powder. Appeal Br. 3–4. Independent claim 18 illustrates the subject matter on appeal and is reproduced below with contested language italicized:

> 18. A method of producing a high-brightness cocoa powder, comprising *the following steps in the following order*:
>
> pre-heating de-shelled cocoa beans;
>
> sterilizing the de-shelled cocoa beans at a temperature of between 90–110°C;
>
> cooling the sterilized, de-shelled cocoa beans with water;
>
> *after cooling the sterilized, de-shelled cocoa beans, alkalizing the cooled, de-shelled cocoa beans* in an alkalizing mixture comprising the de-shelled cocoa beans, alkali and water, at an alkalization temperature of from about 50°C to about 85°C, wherein essentially no steam and a minimal amount of air is used during the alkalizing step, wherein the alkalized, de-shelled cocoa beans have a moisture content of 18–30%;
>
> roasting the alkalized, de-shelled cocoa beans; and
>
> processing the roasted, de-shelled cocoa beans into cocoa powder;
>
> wherein *the sterilizing, cooling and alkalizing are adjusted to produce a high-brightness cocoa powder having color values of L less than 16, of C greater than 22, of H from about 35 to about 55, and of a from about 15.93 to about 16.98 as determined according to CIE 1976 color standards*; and a pH of greater than 7.0.

Appeal Br. 23 (Claims Appendix) (emphasis added).

The Examiner maintains the following rejections in the Examiner's Answer entered August 28, 2018 ("Ans.") (Ans. 30; *see also* Advisory Action entered March 21, 2018, pg. 2):

I. Claims 18 and 21 under 35 U.S.C. § 103(a) as unpatentable over RD 363032,[3] in view of Smith,[4] Kajiwara,[5] Van Der Meer,[6] and Kattenberg;[7]

II. Claims 18 and 21 under 35 U.S.C. § 103(a) as unpatentable over RD 363032 in view of Smith, Van Der Meer, Kattenberg and Wissgott,[8]

III. IV. Claims 19, 20, 25, and 26 under 35 U.S.C. § 103(a) as unpatentable over RD 363032 in view of Shore,[9] Smith, Wiant,[10] Van Der Meer, and Kattenberg; and

IV. Claims 19, 20, 25, and 26 under 35 U.S.C. § 103(a) as unpatentable over RD 363032 in view of Shore, Smith, Van Der Meer, Kattenberg, and Raboud.[11]

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[3] *Description of the Process of Producing Alkalized and Sterilized Cocoa Beans and Their Derived Products (Cocoa Powder and Cocoa Flour) From Raw Cocoa Beans*, Research Disclosure data base number 363032 (1994) (as translated by FLS, Inc.) (hereinafter "RD 363032").
[4] Smith, US 3,615,668, issued October 26, 1971.
[5] Kajiwara, et al., JP H 09–98681, published April 12, 1994 (hereinafter "Kajiwara").
[6] Van Der Meer, WO 2006/008627 A1, published January 26, 2006.
[7] Kattenberg, US 4,704,292, issued November 3, 1987.
[8] Wissgott, US 4,784,866, issued November 15, 1988.
[9] Shore et al., US 3,700,468, issued October 24, 1972.
[10] Wiant et al., US 5,009,917, issued April 23, 1991 (hereinafter "Wiant").
[11] Raboud et al, US 4,349,579, issued September 14, 1982 (hereinafter "Raboud").

DISCUSSION

Upon consideration of the evidence relied upon in this appeal and each of Appellant's contentions, we affirm the Examiner's rejections of claims 18–21, 25, and 26 under 35 U.S.C. § 103(a), for the reasons set forth in the Final Action, the Answer, and below.

We review appealed rejections for reversible error based on the arguments and evidence the appellant provides for each issue the appellant identifies. 37 C.F.R. § 41.37(c)(1)(iv); *Ex parte Frye*, 94 USPQ2d 1072, 1075 (BPAI 2010) (precedential) (cited with approval in *In re Jung*, 637 F.3d 1356, 1365 (Fed. Cir. 2011)) (explaining that even if the Examiner had failed to make a prima facie case, "it has long been the Board's practice to require an applicant to identify the alleged error in the examiner's rejections.").

Rejection I: claims 18 and 21 under 35 U.S.C. § 103(a) as unpatentable over RD 363032 in view of Smith,[12] Kajiwara, Meer, and Kattenberg

Appellant argues claims 18 and 21 as a group on the basis of claim 18, to which we accordingly limit our discussion. Appeal Br. 10; C.F.R. § 41.37(c)(1)(iv).

RD 363032 discloses a process for producing "cocoa powder having a very wide range of colors, varying from dark brown to very red" that involves, in part, removing the shell from raw cocoa beans, sterilizing the shelled beans by heating them to a temperature of 80°C to 140°C for 20 to

[12] We need not address Smith for disposition of this appeal because Appellant does not present any arguments directed to this reference. *In re NuVasive, Inc.*, 841 F.3d 966, 974 (Fed. Cir. 2016) (The Board is "not required to address undisputed matters" or arguments about limitations with which it was never presented.).

90 minutes, and alkalizing the sterilized beans "as soon as possible" after the sterilization process. RD 363032 pp. 2–4. RD 363032 discloses that "[t]he reaction vessel for the alkalinization is preferably the same reaction vessel in which the product was sterilized so as to save time." RD 363032 pg. 3. RD 363032 discloses that the alkalization process involves adding an alkaline solution of potassium carbonate to the sterilized beans with intensive mixing, and RD 363032 indicates that "the temperature in the reaction vessel must be kept between 60 and 100°C" during alkalinization. *Id*.

The Examiner determines that "[w]hile the cooling step may occur during the alkalization step in RD 363032 since the alkalization temperature is lower than the temperature of the sterilized cocoa beans," the "transposition of process steps or the splitting of one step into two (e.g., separating the cooling step from the alkalization step [as recited in claim 18]), where the processes are substantially identical or equivalent in terms of function, manner and result," does not patentably distinguish the processes. Ans. 34.

Kajiwara discloses a method of producing alkalized cocoa powder that involves heating cocoa nibs in a reaction chamber with steam to raise the temperature of the nibs to 85°C, adding an alkali solution previously maintained at 85°C to the reaction chamber, and adding heated air to the reaction chamber while stirring the nibs to bring them "into good contact" with the air to maintain the temperature of the cocoa nibs at 75°C to 85°C. Kajiwara ¶¶ 10, 20, and 28–36. Kajiwara discloses that "the color tones differed depending on the temperature of the [alkali] treatment," and Kajiwara discloses that alkalizing at a temperature of 100°C or lower,

preferably 75°C to 85°C, results in a "desirable reddish brown color [tone]." *Id.* ¶¶ 11, 36.

Van Der Meer discloses a process for producing cocoa powder from alkalized cocoa nibs that results in a more attractive and intense red color, and a brighter red color. Van Der Meer, 1, ll. 10–12, 2, ll. 12–15, 5, ll. 25–26, and 9, ll. 25–27. Van Der Meer describes an exemplary alkalization process that involves mixing cocoa nibs with an alkali solution, heating the mixture with steam, and mixing the wetted cocoa nibs for 45 minutes at a temperature of 96°C–99°C "to completely absorb the alkali solution and to simultaneously sterilize the mixture." Van Der Meer, 8, ll. 1–12.

Kattenberg discloses treating intermediate products used to produce cocoa powder with a solution of a hydroxide or carbonate of sodium or potassium (i.e., alkalizing) to produce a deeper more attractive color. Kattenberg, col. 1, ll. 15–25. Kattenberg discloses that cocoa powder that is not treated with alkali (natural process cocoa powder) has a tan to light-brown color, while slightly alkalized cocoa powder has a light brown to red-brown color. *Id.* at col. 1, ll. 25–31. Kattenberg further discloses that medium processed cocoa powder has an intense red-brown to red color, and intensely processed cocoa powder has a very intense red-brown to deep red color. *Id.* at col. 1, ll. 31–35.

Based on these disclosures, the Examiner determines that "the color and brightness of the cocoa powder are variables that can be modified by adjusting the intensity of alkalization of the cocoa," and the color and brightness therefore "would have been considered a result effective variable by one having ordinary skill in the art at the time the invention was made." Final Act. 10. The Examiner concludes that "[i]t would have been obvious

to one of ordinary skill in the art at the time the invention was made to optimize the L, C, H, and b [*sic*: a] values of alkalized cocoa through routine experimentation to obtain a cocoa powder of desirable color and attractiveness." *Id.*

Appellant argues that "[e]ach of RD363032, Kajiwara and [Van Der Meer] explicitly teach away from cooling the cocoa nibs between the sterilization and the alkalization steps." Appeal Br. 12. Appellant argues that although RD 363032 teaches that cocoa nibs may be alkalized at a temperature lower than the temperature of the nibs immediately after sterilization, "nothing in RD 363032 teaches cooling the cocoa nibs before the alkalization process" as recited in claim 18. *Id* (citing RD 363032 ¶ 8). Appellant argues that RD 363032 explicitly teaches away from such cooling by disclosing that after sterilization, the cocoa nibs are alkalized as soon as possible, preferably in the same reactor in which they were sterilized, to save time. *Id* (citing RD 363032 ¶¶ 5–6). Appellant argues that Kajiwara teaches against cooling cocoa beans between sterilization and alkalization steps because Kajiwara discloses "preheating an alkali solution to 85°C when adding it to cocoa beans at 85°C so that there is no difference in the temperature of the cocoa bean prior to combining it with the alkali solution." Appeal Br. 13–14 (citing Kajiwara ¶¶ 8, 30–31). Appellant argues that Van Der Meer discloses a simultaneous sterilization and alkalization step, and, therefore, "there is no temperature difference of cocoa bean between sterilization and alkalization processes." Appeal Br. 14 (citing Van Der Meer 3, ll. 13–19, 8, ll. 10–12). Appellant argues that these teachings of RD 363032, Kajiwara, and Van Der Meer "constitute a general understanding in

the art . . . that there are several disadvantages of cooling the cocoa nibs between the sterilization step and the alkalization step." Appeal Br. 14.

Appellant's arguments are unpersuasive of reversible error in the Examiner's rejection, however, for reasons that follow.

It is well-established that "mere disclosure of alternative designs does not teach away." *In re Fulton*, 391 F.3d 1195, 1201 (Fed. Cir. 2004*); see also Meiresonne v. Google, Inc.*, 849 F.3d 1379, 1382 (Fed. Cir. 2017) ("A reference that 'merely expresses a general preference for an alternative invention but does not criticize, discredit, or otherwise discourage investigation into' the claimed invention does not teach away." (quoting *Galderma Labs., L.P. v. Tolmar, Inc.*, 737 F.3d 731, 738 (Fed. Cir. 2013))). Rather, teaching away requires "clear discouragement" from implementing a technical feature. *In re Ethicon, Inc.*, 844 F.3d 1344, 1351 (Fed. Cir. 2017).

Although RD 363032 may not disclose a dedicated step of cooling shelled cocoa beans after sterilization and before alkalization, we find no disclosure in RD 363032 that criticizes, discredits, or otherwise would have discouraged one of ordinary skill in the art from cooling cocoa nibs after sterilization and before alkalization, or disclosure of any disadvantages of doing so, and Appellant does not identify any such disclosures in RD 363032. Appeal Br. 12–14. Furthermore, as the Examiner points out (Ans. 35), claim 18 does not specify any particular degree to which the recited de-shelled cocoa beans must be cooled after sterilization, and, accordingly, claim 18 encompasses *any* degree of cooling. One of ordinary skill in the art would have understood that some degree of cooling—however slight—would occur during the time after the sterilization process disclosed in RD 363032 is completed and before the alkalization process begins, even if

alkalization starts "as soon as possible" following sterilization.

Turning to Kajiwara and Van Der Meer, as discussed above, Kajiwara discloses alkalizing cocoa nibs by first heating the nibs to 85°C in a reaction chamber, and then adding an alkali solution maintained at a temperature of 85°C to the reaction chamber. We find no disclosure in Kajiwara of sterilizing the cocoa nibs before this alkalization process, and, consequently, find no disclosure that criticizes, discredits, or otherwise would have discouraged one of ordinary skill in the art from cooling cocoa nibs following sterilization and before alkalization, or of any disadvantages of doing so. Although Van Der Meer discloses a simultaneous sterilization and alkalization process, we similarly find no disclosure in this reference that criticizes, discredits, or otherwise would have discouraged one of ordinary skill in the art from cooling cocoa nibs following sterilization and before alkalization, or of any disadvantages of doing so.

Accordingly, contrary to Appellant's arguments, RD 363032, Kajiwara, and Van Der Meer, alone or in combination, do not teach away from cooling cocoa nibs following sterilization and before alkalization, as recited in claim 18. Nor do the teachings of the references "constitute a general understanding in the art . . . that there are several disadvantages of cooling the cocoa nibs between the sterilization step and the alkalization step" as Appellant asserts. Appeal Br. 14.

Moreover, as discussed above, the Examiner finds that transposition of process steps, or splitting one process step into two, such as separating cooling from alkalization in the method disclosed in RD 363032, where the original and modified process steps are substantially identical or equivalent in terms of function, manner and result, does not patentably distinguish the

original and modified process steps. Although Appellant argues that "the Examiner provides no evidence to support that a process in which the de-shelled cocoa beans are cooled with water after sterilization, and alkalized after cooling the sterilized, de-shelled cocoa beans, as required in the independent claims, is equivalent in terms of either of function, manner[, or] result" to the process disclosed in RD 363032 (Reply Br. 7), "[t]here is nothing in the instant record which indicates that the particular order of steps [recited in claim 18] produces results differing in any way from those which would be brought about if another order of steps were followed." *In re Hampel*, 162 F.2d 483, 485–86 (CCPA 1947); *see also In re Burhans*, 154 F.2d 690, 692 (CCPA 1946) ("Appellant contends that the references taken singly or together do not teach his characteristic four steps which are new in the art and which are necessary to obtain the desired result. There is no merit in the point here in the absence of any proof in the record that the order of performing the steps produces any new and unexpected results."); *In re Gibson*, 39 F.2d 975, 976 (CCPA 1930) ("It is conceded that the patent to McIntyre discloses the same constituents used in substantially the same proportions. The only claimed difference between appellant and McIntyre is the process or order in which the constituents are put together. . . . We think the proper sequence of adding the three ingredients to obtain the most satisfactory mixture of three constituents is within the expected skill and judgment of a mechanic and such choice of sequence does not involve invention in making a mix of the constituents named in McIntyre.") (quotation marks omitted).

Under the principles of *Burhans* and *Gibson* set forth above, the order of performing the known process steps recited in claim 18 of sterilizing,

cooling, and alkalizing de-shelled cocoa beans in a process for producing cocoa powder does not impart patentability to the process steps, absent a showing of the criticality of the recited order of the steps, such as a showing that the recited order produces unexpected results. On the record before us, Appellant does not point to a direct comparison between cooling de-shelled cocoa beans after sterilization and before alkalization as recited in claim 18, and the process disclosed in RD 363032. Appeal Br. 10–17. Appellant, therefore, does not demonstrate that cooling de-shelled cocoa beans before alkalization produces results that would have been unexpected relative to results achieved with the process disclosed in RD 363032.

Nonetheless, Appellant argues that "the result of the claimed process is not equivalent to the result of the process disclosed in RD363032 at least for the reason that the alkalized cocoa nibs obtained from the claimed process have different color properties than those obtained from the process disclosed in RD363032," based on the Examiner's finding in the Answer that "RD363032 does not disclose a specific cocoa powder having color values of L less than about 16 . . . as presently claimed." Reply Br. 7 (citing Ans. 38).

Although cocoa powder produced according to the process disclosed in RD 363032 may have a different L value than cocoa powder produced according to the method recited in claim 18, Appellant does not provide any evidence establishing that the difference in L values can be attributed to when cooling de-shelled cocoa beans occurs in the respective processes relative to alkalization of the beans, due to numerous other differences in the processes disclosed in RD 363032 and recited in claim 18. In other words, a cause-and-effect relationship between when de-shelled cocoa beans are

cooled relative to when they are alkalized and the L value of cocoa powder ultimately produced is lost in multiple unfixed variables. *In re Dunn*, 349 F.2d 433, 439 (CCPA 1965) ("The cause and effect sought to be proven is lost here in the welter of unfixed variables."). Accordingly, on the record before, Appellant does not provide persuasive evidence demonstrating the criticality of the order of the process steps recited in claim 18.

Appellant argues that the Declaration of inventor Ronald Heistek filed November 18, 2016 ("the Heistek Declaration") provides evidence of how one of ordinary skill in the art would have understood the disclosures of RD 363032. Appeal Br. 12–13. Appellant argues that the Heistek Declaration explains that "[p]ersons skilled in the art of cocoa production would not understand RD363032 to disclose a process for producing a cocoa powder that includes sterilizing cocoa beans, cooling the sterilized beans and alkalizing the cooled beans." Appeal Br. 13 (citing Heistek Decl. ¶¶ 5–10). Appellant argues that the Heistek Declaration "provides cogent reasoning for this position" by indicating that persons skilled in the art of cocoa production would not have cooled sterilized cocoa beans prior to alkalization because lowering the temperature between sterilization and alkalization adds an additional step and time to the process, lowering the temperature can introduce loss of sterilization, and the loss of energy from the cooled beans results in decreased activity during alkalization. Appeal Br. 13 (citing Heistek Decl. ¶ 9). Appellant argues that the Examiner "has committed reversible procedural error" by failing to address the Heistek Declaration. Appeal Br. 13.

We point out initially that the Examiner explains in the Answer that the Examiner addressed the Heistek Declaration at paragraphs 147–154 of

the January 20, 2017, Office Action. Ans. 34. In addition, as discussed above, any difference between the order of process steps recited in claim 18 and disclosed in RD 363032 does not impart patentability absent a persuasive showing of unexpected results, which Appellant does not provide on the record before us. Appeal Br. 10–17.

Furthermore, although the Heistek Declaration may provide "cogent reasoning," neither the Declarant nor Appellant provides any objective evidence corroborating the Declarant's conclusory assertions that lowering the temperature between sterilization and alkalization "can" introduce loss of sterilization, and that loss of energy from the cooled beans results in "decreased" activity during alkalization. Appeal Br. 10–17; Heistek Decl. ¶¶ 5–17. In particular, neither the Declarant nor Appellant provides any objective evidence demonstrating that such purported loss of sterilization, or decreased activity during alkalization, would be detrimental to a process for producing cocoa powder as disclosed in RD 363032. Appeal Br. 10–17. Moreover, as discussed above, claim 1 encompasses *any* degree of cooling before alkalizing, and neither Appellant nor the Declarant provides any showing that a very slight degree of cooling, as encompassed by claim 1, would result in any loss of sterilization, or decreased activity during alkalization.

Moreover, although the Declarant asserts that one of ordinary skill in the art would not have cooled sterilized cocoa beans prior to alkalization because lowering the temperature between sterilization and alkalization adds an additional step and time to a process for producing cocoa powder, such additional time alone would not have discouraged one of ordinary skill in the art seeking to produce cocoa powder from cooling sterilized cocoa beans

before alkalization. *See In re Farrenkopf*, 713 F.2d 714, 718 (Fed. Cir. 1983) ("[A]dditional expense associated with the addition of inhibitors would not discourage one of ordinary skill in the art.").

The uncorroborated opinions provided in the Heistek Declaration are, therefore, of limited probative value. *Velander v. Garner*, 348 F.3d 1359, 1371 (Fed. Cir. 2003) ("In giving more weight to prior publications than to subsequent conclusory statements by experts, the Board acted well within [its] discretion."); *Yorkey v. Diab*, 601 F.3d 1279, 1284 (Fed. Cir. 2010) (The Board has discretion to give more weight to one item of evidence over another "unless no reasonable trier of fact could have done so.").

Appellant argues that "the combination of cited references fails to provide a roadmap of determining conditions used in processing cocoa nibs to obtain cocoa powder with the claimed values of L, C, H and a." Appeal Br. 17. Appellant argues that Wissgot and Wiant each disclose that as a cocoa product is darkened, its brightness is reduced significantly, and neither reference discloses cocoa powder with a C (brightness) value above 18. Appeal Br. 16 (citing Spec. ¶¶ 5–6 (discussing Wissgot and Wiant) and Heistek Decl. ¶ 15). Appellant argues that the Heistek Declaration explains that "while alkalizations typically result in darker cocoa powders, such processes also make the resultant cocoa powders duller, i.e., they reduce the brightness or C color value of the resultant cocoa powders," demonstrating that it would not have been obvious "how to adjust processing parameters to achieve an alkalized dark, but bright cocoa powder." Appeal Br. 16 (citing Heistek Decl. ¶¶ 11–17). Appellant argues that the Examiner's "conclusion that 'it would have been obvious to one of ordinary skill in the art at the time the invention was made to optimize the L, C, H and a values of alkalized

cocoa through routine experimentation to obtain a cocoa powder of desirable color and attractiveness,'" is, therefore, "factually and legally incorrect." Appeal Br. 17.

As discussed above, however, Van Der Meer discloses that alkalizing cocoa nibs during production of cocoa powder imparts a brighter and more intense red color to the cocoa powder. As also discussed above, Kattenberg discloses that the degree of alkalization performed during preparation of cocoa powder affects the intensity and redness of the cocoa powder produced, with greater alkalization resulting in a more intense and deeper red color. Wissgott discloses a process for alkalizing cocoa that "enable[s] a wide range of colours to be obtained therefrom." Wissgott, col. 1, ll. 6–9. Wissgott discloses that the "colour of the cocoa may be selected by varying any of the parameters of the alkalization reaction, namely the alkali content, the water content, the alkalization and evaporation temperature and the alkalization time." Wissgott, col. 2, ll. 13–18. Wiant discloses a process for alkalizing cocoa material that produces "intensely or deep black or red colors." Wiant, col. 2, ll. 29–40. Wiant discloses that "[p]roper selection of [alkalization] reaction conditions . . . can lead to the production of either deep-black or deep red cocoa powder." Wiant, col. 2, ll. 65–68.

These disclosures in Van Der Meer, Kattenberg, Wissgott, and Wiant evidence that there was a recognition in the art at the time of Appellant's invention that alkalization conditions affect the color of cocoa powder, and the color's brightness and intensity. Alkalization conditions are, therefore, result-effective variables. *In re Applied Materials, Inc.*, 692 F.3d 1289, 1297 (Fed. Cir. 2012) ("A recognition in the prior art that a property is affected by the variable is sufficient to find the variable result-effective.").

One of ordinary skill in the art seeking to produce cocoa powder according to the process disclosed in RD 363032, involving sterilizing, cooling, and alkalizing de-shelled cocoa beans, reasonably would have been led by the disclosures discussed above in Van Der Meer and Kattenberg to adjust the conditions used during alkalization to impart a desired color with an appealing intensity and brightness to the cocoa powder, and would have arrived at a desired color, brightness, and intensity, such as a high-brightness cocoa powder having L, C, H, and a values within the ranges recited in claim 18, through nothing more than routine adjustment of the alkalization conditions. *In re Boesch*, 617 F.2d 272, 276 (CCPA 1980) ("[D]iscovery of an optimum value of a result effective variable in a known process is ordinarily within the skill of the art."); *In re Aller*, 220 F.2d 454, 456 (CCPA 1955) ("[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation.").

A reference submitted as an Appendix to the Heistek Declaration—*Encapsulated and Powdered Foods*—further supports this position by indicating that it was within the level of ordinary skill in the art at the time of Appellant's invention to determine a unique combination of alkalization process parameters that would produce a desired cocoa powder color profile.[13] Specifically, the reference indicates that color formation in cocoa powder depends upon "the kind of bean, degree of fermentation," and the alkalization process parameters, including the "type and amount of alkali,

[13] Charles Onwulata, *Encapsulated and Powdered Foods Double Coated Particles (Food, Science and Technology)*, Chapter 17, 451–464, CRC Taylor & Francis Group, (2005) ("Onwulata").

time, temperature, moisture, amount of oxygen, as well as the type of equipment." Onwulata, 463–464. The reference goes on to state that "[t]he processor of alkalized cocoa powders will use his experience to determine which unique combination with result in the desired color profiles." *Id*. at 464.

Accordingly, although the applied prior art references do not *explicitly* disclose particular alkalization conditions that result in L, C, H, and a values recited in claim 18, and may disclose cocoa powders having L, C, H, and a values that differ from those recited in the claim, there was a recognition in the art that alkalization conditions could be adjusted to achieve a desired color having an appealing intensity and brightness, and one of ordinary skill in the art seeking to produce a high-brightness cocoa powder, therefore, would have adjusted alkalization conditions to achieve a desired color, brightness, and intensity, such as a color having a combination of L, C, H, and a values recited in claim 18, through routine experimentation within the level of ordinary skill in the art. *Applied Materials*, 692 F.3d at 1297; *Boesch*, 617 F.2d at 276; *Aller*, 220 F.2d at 456. Contrary to Appellant's arguments, the Examiner's conclusion that it would have been obvious to one of ordinary skill in the art at the time of Appellant's invention to optimize the L, C, H, and a values of alkalized cocoa through routine experimentation to obtain a cocoa powder of desirable color and attractiveness is, therefore, based on supported factual findings, and is not "legally incorrect." Appeal Br. 17.

Although the Heistek Declaration indicates that "[w]hile alkalizations typically result in darker cocoa powders, such processes also make the resultant cocoa powders duller, i.e., they reduce the brightness or C color

value of the resultant cocoa powders," neither Appellant nor the Declarant addresses the disclosures in Van Der Meer, Kattenberg, Wissgott, Wiant, and Onwulata discussed above indicating that while alkalization conditions affect the color of cocoa powder, and the color's brightness and intensity, one of ordinary skill in the art nonetheless could have adjusted the conditions to achieve a desired color, brightness, and intensity, through routine experimentation. Heistek Decl., ¶ 12. By failing to address these particular disclosures in Van Der Meer, Kattenberg, Wissgott, Wiant, and Onwulata, the Declarant does not take into consideration the state of the art as a whole at the time of Appellant's invention. We, therefore, accord little weight to the opinion provided in the Declaration.

Finally, Appellant faults the Examiner for referring to our decision entered February 22, 2018 in parent application 11/867974 in the Examiner's Answer, arguing that because the present application is a divisional of the parent application, "a determination of the unpatentability of the product claims of parent application, as a matter of law, cannot support a determination of unpatentability of the method claims of the current application." Reply Br. 2–3.

The Examiner indicates in the Answer, however, that our decision in the parent application supports the position that, based on the disclosures of Van Der Meer and Kattenberg discussed above, "it would have been within the bounds of routine experimentation, such as manipulating processing conditions (duration, temperature, and strength/concentration of the alkali agent), as well as the skill level of one of ordinary skill in the art, to produce a cocoa powder with a very wide range of colors, ranging from dark brown to very red." Ans. 40–41. As discussed above, the Examiner's position is

based on sound factual findings grounded in prior art of record in the current appeal. Furthermore, although restriction may be required between two or more independent and distinct inventions claimed in a single application, each such invention may nonetheless be unapatentable over one or more common prior art references. *See, e.g.*, M.P.E.P. § 801.01.

Considering the totality of the record in this appeal, a preponderance of the evidence weighs in favor of the Examiner's conclusion of obviousness. We, accordingly, sustain the Examiner's rejection of claims 18 and 21 under 35 U.S.C. § 103(a) as unpatentable over RD 363032 in view of Smith, Kajiwara, Van Der Meer, and Kattenberg.

Rejection II: claims 18 and 21 under 35 U.S.C. § 103(a) as unpatentable over RD 363032 in view of Smith, Wissgott, Van Der Van Der Meer, and Kattenberg

Appellant points out that this rejection differs from Rejection I by relying on Wissgott as an applied prior art reference rather than Kajiwara, and argue that Wissgot discloses that intense alkalization results in darkening with reduced brightness of cocoa powder, and, therefore, shows that it was not apparent in the art how to process cocoa beans to achieve an alkalized, high brightness cocoa powder. Appeal Br. 17–18.

As discussed above, however, one of ordinary skill in the art seeking to produce cocoa powder according to the process disclosed in RD 363032, involving sterilizing, cooling, and alkalizing de-shelled cocoa beans, reasonably would have been led by the disclosures discussed above in Van Der Meer and Wissgott to adjust the conditions used during alkalization to impart a desired color with an appealing intensity and brightness to the cocoa powder, and would have arrived at a desired color, brightness, and

intensity, such as a high-brightness cocoa powder having L, C, H, and a values within the ranges recited in claim 18, through nothing more than routine adjustment of the alkalization conditions. *Boesch*, 617 F.2d at 276; *Aller*, 220 F.2d at 456.

We, accordingly, sustain the Examiner's rejection of claims 18 and 21 under 35 U.S.C. § 103(a) as unpatentable over RD 363032 in view of Smith, Wissgott, Van Der Meer, and Kattenberg.

Rejections III–VI

To address these rejections, Appellant relies on the arguments made for Rejections I and II (discussed above), and argue that the additional prior art references applied in these rejections fail to cure the deficiencies of the prior art applied in Rejections I and II. Appeal Br. 19–21. Because we are unpersuaded of reversible error in Rejections I and II for the reasons discussed above, Appellant's position as to these rejections is also inadequate to support reversal.

CONCLUSION

Claims	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
18, 21	103(a)	RD 363032 363032, Smith, Kajiwara, Van Der Van Der Meer, Kattenberg	18, 21	
18, 21	103(a)	RD 363032 363032, Smith, Kajiwara, Van Der Van Der Meer, Kattenberg	18, 21	

Claims	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
19, 20, 25, 26	103(a)	RD 363032 363032, Shore, Smith, Wiant, Van Der Van Der Meer, Kattenberg	19, 20, 25, 26	
19, 20, 25, 26	103(a)	RD 363032 363032, Shore, Smith, Raboud, Van Der Van Der Meer, Kattenberg	19, 20, 25, 26	
Overall Outcome			18–21, 25, 26	

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED