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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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*Ex parte* ESTHER VAN OMMEREN, GUISEPPE CORDA,  
JAN BAKKER, and CAROLINE DAHAN

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Appeal 2019-005793  
Application 14/821,235  
Technology Center 1700

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Before MAHSHID D. SAADAT, DONNA M. PRAISS, and  
BRIAN D. RANGE, *Administrative Patent Judges*.

RANGE, *Administrative Patent Judge*.

DECISION ON APPEAL  
STATEMENT OF THE CASE

Pursuant to 35 U.S.C. § 134(a), Appellant<sup>1</sup> appeals from the Examiner's decision to reject claims 1–8 and 10–17. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

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<sup>1</sup> We use the word “Appellant” to refer to “applicant” as defined in 37 C.F.R. § 1.42. Appellant identifies the real party in interest as Givaudan S.A. Appeal Br. 3.

CLAIMED SUBJECT MATTER<sup>2</sup>

Appellant describes the invention as relating to a replacement for cocoa that provides, for example, reduced off-taste. Spec. 1:12–2:7. Claims 1 and 10 are the two independent claims on appeal. Below, we reproduce claim 1 as illustrative:

1. A process for preparing a cocoa replacer, comprising the steps of
  - (a) addition of a raw material selected from the group consisting of roasted wheat, roasted barley, malted barley and mixtures thereof to a quantity of water at an initial temperature of at least 65°C in an evaporation vessel with mixing to form a mixture;
  - (b) maintaining said initial temperature in said evaporation vessel for at least 30 minutes to form an evaporated mixture;
  - (c) adding an additional quantity of water comprising from 25-40% of the total quantity of water used in the process to the evaporated mixture; and
  - (d) spray-drying the resulting mixture of step (c) to provide the cocoa replacer;wherein the quantity of water in step (a) is such that the weight of the raw material comprises from 12-22% of the total weight of the raw material and water.

Appeal Br. 32 (Claims App.).

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<sup>2</sup> In this Decision, we refer to the Final Office Action dated January 24, 2019 (“Final Act.”), the Appeal Brief filed April 25, 2019 (“Appeal Br.”), the Examiner’s Answer dated June 20, 2019 (“Ans.”), and the Reply Brief filed July 29, 2019 (“Reply Br.”).

## REFERENCES

The Examiner relies upon the prior art below in rejecting the claims on appeal:

<b>Name</b>	<b>Reference</b>	<b>Date</b>
Meinl	US 737,432	Aug. 25, 1903
Haak	US 4,062,979	Dec. 13, 1977
Bryan et al. ("Bryan")	US 4,356,209	Oct. 26, 1982
Ellis	US 5,114,730	May 19, 1992
Blondeel et al. ("Blondeel")	US 2009/0263556 A1	Oct. 22, 2009
Rao et al. ("Sambasiva") <sup>3</sup>	US 2009/0311376 A1	Dec. 17, 2009
Cheng et al. ("Cheng")	US 2012/0288587 A1	Nov. 15, 2012
Greiser	GB 190923765 A	Mar. 24, 1910
Chen	CN 101138601 A	Mar. 12, 2008
Traditional Medicinals, Healthy Cycle Tea, <a href="http://www.amazon.com/Traditional-Medicinals-Healthy-Cycle-Bags/dp/B000EJNL26/ref=cm_cr_arp_d_product_top?ie=UTF8&amp;th=1">www.amazon.com/Traditional-Medicinals-Healthy-Cycle-Bags/dp/B000EJNL26/ref=cm_cr_arp_d_product_top?ie=UTF8&amp;th=1</a> (last visited Aug. 16, 2017) ("TM").		

## REJECTIONS

The Examiner maintains the following rejections on appeal:

- A. Claims 1–8 and 10–17 under 35 U.S.C. § 112 as indefinite. Ans. 3.
- B. Claims 1–6 under 35 U.S.C. § 103 as obvious over Ellis in view of Bryan, Cheng, Blondeel, Haak, and Meinl. *Id.* at 5.
- C. Claim 7 under 35 U.S.C. § 103 as obvious over Ellis in view of Bryan, Cheng, Blondeel, Haak, Meinl, and Greiser. *Id.* at 13.

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<sup>3</sup> The Examiner refers to this reference as Sambasiva. Ans. 15. For consistency, we do the same.

- D. Claim 8 under 35 U.S.C. § 103 as obvious over Ellis in view of Bryan, Cheng, Blondeel, Haak, Meinl, Chen, and TM. *Id.* at 14.
- E. Claims 10–15 under 35 U.S.C. § 103 as obvious over Ellis in view of Bryan, Cheng, Blondeel, Haak, Meinl, and Sambasiva. *Id.* at 15.
- F. Claim 16 under 35 U.S.C. § 103 as obvious over Ellis in view of Bryan, Cheng, Blondeel, Haak, Meinl, Sambasiva, and Greiser. *Id.* at 17.
- G. Claim 17 under 35 U.S.C. § 103 as obvious over Bryan in view of Meinl, Ellis, Cheng, Blondeel, Haak, Sambasiva, Chen, and TM. *Id.* at 18.

#### OPINION

We review the appealed rejections for error based upon the issues identified by Appellant and in light of the arguments and evidence produced thereon. *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) (“[I]t has long been the Board’s practice to require an applicant to identify the alleged error in the examiner’s rejections.”). After considering the evidence presented in this Appeal and each of Appellant’s arguments, we are not persuaded that Appellant identifies reversible error except where we otherwise indicate below. Thus, where we affirm the Examiner’s rejections, we do so for the reasons expressed in the Final Office Action and the Answer. We add the following primarily for emphasis.

Rejection A, Indefiniteness. The Examiner rejects claims 1–8 and 10–17 under 35 U.S.C. § 112 as indefinite. Ans. 3. The Examiner determines that independent claims 1 and 10 are unclear because it is unclear how step

(c) can follow step (b) and because “the material” lacks an antecedent basis. Ans. 3–4. It appears that this aspect of the Examiner’s rejection relates to a version of claims prior to amendment. Appeal Br. 6–7; Reply Br. 4–5. We, thus, do not sustain this aspect of the rejection.

The Examiner also determines that the recitation “raw” is unclear. Ans. 4. Appellant argues that raw is defined in the Specification which states, “Cocoa replacers based on roasted wheat and malted and/or roasted barley (hereinafter ‘the raw materials’) are well known and readily available items of commerce.” Appeal Br. 6 (quoting Spec. 2:9–10). The Examiner does not respond to Appellant’s argument in the Answer. Based on the Specification, we agree with Appellant that the term “raw” is not unclear, and we do not sustain the Examiner’s indefiniteness rejection.

Rejections B–G, obviousness. Appellant does not present any substantively distinct arguments for claims other than claim 1. *See, e.g.*, Appeal Br. 25–31 (arguing for patentability of independent claim 10 for same reasons as claim 1 and arguing for patentability of dependent claims based on them depending from claim 1 or claim 10). Therefore, consistent with the provisions of 37 C.F.R. § 41.37(c)(1)(iv) (2013), we limit our discussion to claim 1, and all other claims on appeal stand or fall together with claim 1.

The Examiner rejects claim 1 under 35 U.S.C. § 103 as obvious over Ellis in view of Bryan, Cheng, Blondeel, Haak, and Meinl. Ans. 5. The Examiner finds Ellis teaches a process for making cocoa including adding raw material to water, cooking at a temperature of at least 65° C for at least thirty minutes, and spray-drying the solution. *Id.* (citing Ellis).

The Examiner finds Ellis does not discuss use of a cocoa replacer. The Examiner finds Bryan teaches, for example, toasted wheat as a cocoa replacer and determines that it would have been obvious to replace Ellis's starting material with a cocoa replacer because doing so would, for example, result in cost reduction. *Id.* at 6 (citing Bryan).

The Examiner finds the modified Ellis process does not teach the temperature of the water added to raw material in step (a). Ans. 7. The Examiner finds Cheng teaches use of roasted wheat to make spray dried foods and teaches adding raw material to water having an initial temperature of at least 65° C. *Id.* (citing Cheng). The Examiner determines that it would have been obvious to add hot water as taught by Cheng in modified Ellis's process because Cheng has a similar intended use and Cheng teaches a known way of heating the raw material. *Id.* at 7–8.

The Examiner finds Blondeel teaches a method of making spray dried food and teaches 12–22% by weight raw material. Ans. 8 (citing Blondeel). The Examiner finds it would have been obvious to use this quantity in modified Ellis because Blondeel teaches similar material and a similar process including a method of making spray dried food. *Id.* at 8–9.

The Examiner finds Haak teaches adding less water to grain makes it harder to spray dry. *Id.* at 9 (citing Haak). The Examiner determines that the amount of water needed for spray drying is a known result effective variable. *Id.* The Examiner thus determines that, in view of Haak, a person of ordinary skill would have optimized the amount of water in the modified Ellis process. *Id.*

The Examiner finds Meinl teaches other cocoa substitutes including roasted wheat products and roasted or malted barley. *Id.* at 10 (citing Meinl).

The Examiner finds it would have been obvious to use these alternative substitutes in the modified Ellis process because Meinel illustrates these substitutes as suitable for similar intended uses. *Id.* at 10–11.

Appellant argues there is no reason to modify Ellis with Bryan because Ellis relates to a process of making natural dark cocoa rather than a cocoa substitute and Bryan does not teach that its wheat germ could replace cocoa in a process that requires natural cocoa powder. Appeal Br. 10–11. Appellant’s argument is unpersuasive. Bryan generally teaches suitability of its wheat as a replacement in cocoa food products (Ans. 22; Bryan 1:6–20), and spray-dried cocoa powder is an example of such a cocoa food product. Indeed, Bryan suggests that its cocoa substitute can take on a powder form. *See also* Bryan 8:20–24 (teaching an “extended cocoa powder” comprising “defatted wheat germ”). Moreover, Cheng suggests that roasted wheat can be used to make a spray-dried food product. Ans. 7; Cheng ¶¶ 1, 23, 55–58. Cheng’s teaching is similar to those of Ellis, but Ellis spray-dries cocoa rather than wheat.

Appellant further argues that modification of Ellis with Bryan would impermissibly change Ellis’s principle of operation because Ellis requires natural cocoa powder to make natural red, black, or brown cocoa. Appeal Br. 11–12; Reply Br. 8–12. Replacing a cocoa with a cocoa substitute will, of course, change Ellis’s product in some respect. However, this is true nearly any time one prior art’s teaching is modified by another. Modification of the primary reference’s teachings does not necessarily make the references’ combined teachings non-obvious. Here, the Examiner finds Bryan teaches a cocoa substitute and thus determines that a person of skill in the art would have substituted Ellis’s cocoa with the Bryan cocoa substitute.

Ans. 22–23. Doing so would have merely been “predictable use of prior art elements according to their established functions.” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 417 (2007) (“if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond that person’s skill”).

Moreover, Bryan teaches that its use of a cocoa substitute results in, for example, satisfactory colors and cost savings. Bryan Abstract, 1:51–58. Even if a cocoa substitute has some disadvantages over pure cocoa, a person of skill in the art would have weighed these disadvantages against advantages such as cost savings. *Medichem, S.A. v. Rolabo, S.L.*, 437 F.3d 1157, 1165 (Fed. Cir. 2006) (“a given course of action often has simultaneous advantages and disadvantages, and this does not necessarily obviate motivation to combine”).

Appellant further argues that the Examiner’s combination of Ellis and Bryan requires substantial reconstruction of Ellis because Ellis includes process steps that are not recited by claim 1. Appeal Br. 13–14. As the Examiner notes, however, claim 1 is a “comprising” claim that does not forbid additional steps taught by the references. Ans. 24. Therefore, the rejection does not change Ellis’s principle of operation with respect to the additional steps taught by Ellis.

With regard to Cheng, Appellant argues that there would be no reason to further modify Ellis based on Cheng because Cheng describes a process with considerations irrelevant to Ellis’s process and unrelated to cocoa replacers. Appeal Br. 14–16; Reply Br. 13–14. Appellant’s argument is unpersuasive. The Examiner applies Cheng for teaching that roasted wheat

may be heated by adding preheated water. Ans. 7–8; 27–28. Ellis already teaches heating above 65° C, and a person of ordinary skill in the art reading Cheng would have understood that adding preheated water is an appropriate way to heat the product of Ellis as modified by Bryan. Ans. 7–8.

Moreover, the distinction between modified Ellis and claim 1 in relevant respect is merely whether water is added and then heated (as with Ellis) or whether, instead, water is heated prior to being added (as with claim 1 and Cheng). Appellant does not present persuasive evidence regarding criticality of the order of these steps; the selection of any order of performing process steps is *prima facie* obvious in the absence of new or unexpected results. *In re Burhans*, 154 F.2d 690, 692 (CCPA 1946). The reordering of steps here is merely “predictable use of prior art elements according to their established functions.” *KSR Int’l Co.*, 550 U.S. at 417.

With respect to Blondeel, Appellant argues that Blondeel is directed to cocoa-derived materials rather than a cocoa replacer and that a person of skill in the art, therefore, would not have applied Blondeel’s teaching regarding the amount of raw material in water to modified Ellis. Appeal Br. 17–18; Reply Br. 15. Appellant’s argument is unpersuasive because the Blondeel process is similar to the modified Ellis process. Ans. 28–30. A person of ordinary skill in the art desiring to practice the modified Ellis process would have to select some percent of solids for the spray drying process, and the Examiner’s determination that a person of ordinary skill in the art would have looked to Blondeel because it teaches percent solids for spray drying cocoa is well-reasoned. *Id.* Use of Blondeel’s percent solids would have been predictable use of prior art elements according to

established function. *KSR Int'l Co.*, 550 U.S. at 417. Appellant lacks persuasive evidence to the contrary.

Moreover, the Examiner finds Haak teaches that percent water is a result-effective variable for the spray-drying process (Ans. 9), and Appellant does not persuasively dispute this point. Based on Haak's teaching that spray drying results are impacted by percent water, a person of ordinary skill in the art would have known to adjust percent solids accordingly.

With respect to Haak, Appellant argues that Haak does not cure the alleged error that we address above. Appeal Br. 18–19. This argument is unpersuasive for the reasons explained above.

With respect to Meinl, Appellant argues that a person of skill in the art would not have combined Meinl's teachings with those of modified Ellis. In particular, Appellant argues that a person of skill in the art would not replace cocoa with Meinl's grains because Meinl mixes its grains with cocoa. Appeal Br. 19–20. This argument is unpersuasive because, as the Examiner explains, claim 1 permits the inclusion of other ingredients such as cocoa. Ans. 33–34. Moreover, Meinl teaches methods of making cocoa substitutes. *Id.* at 34; Meinl Title (“PROCESS OF MANUFACTURING COCOA SUBSTITUTES”). The preponderance of the evidence thus supports the Examiner's position that a person of skill in the art would have known to substitute Meinl's grains for cocoa.

Appellant also argues that Meinl does not disclose roasted barley or malted barley. Appeal Br. 20. Appellant, however, concedes that Meinl teaches roasted malted grain such as roasted malted barley. *Id.*; *see also* Meinl 1:28–48. Appellant argues that “roasted malted barley” is not “malted barley” (Appeal Br. 20), but roasted malted barley is one form of malted

barley. Ans. 34–35. Moreover, as the Examiner explains, Bryan teaches claim 1’s recited roasted wheat. *Id.* Claim 1 only requires addition of one of “roasted wheat, roasted barley, malted barley and mixtures thereof.” Appeal Br. 32 (Claims App.). Appellant’s argument is, thus, not persuasive of error.

Appellant argues that the Examiner’s combination of cited references would fail to yield predictable results and that a reasonable expectation of success is lacking. Appeal Br. 23–24; Reply Br. 8–12, 18. As explained above, the Examiner provides sound reasoning why a person of skill in the art would have had reason to predictably combine the teachings of each of the cited references. Appellant cites no persuasive evidence of any unpredictability about, for example, substituting a cocoa substitute for cocoa or following the references’ teaching concerning temperature or spray composition.

With respect to reasonable expectation of success, our reviewing court has emphasized that there is a distinction between a reasonable expectation of success and a reason to pursue the references’ teachings. *Intelligent Bio-Sys., Inc. v. Illumina Cambridge Ltd.*, 821 F.3d 1359, 1366–1368 (Fed. Cir. 2016). According to *Intelligent Bio-Systems*, reasonable expectation of success only looks to “likelihood of success in combining references to meet the limitations of the claimed invention.” *Id.* at 1367. Here, as explained above, the combined teachings of the prior art references indicate that a person of skill in the art could, for example, substitute Bryan’s cocoa replacer for cocoa in a spraying drying process. Ans. 11, 38–40. The recitations of claim 1 do not pose any technical hurdles that would have left a person of skill in the art unable to practice claim 1’s recitations. Claim 1

does not require that the end product cocoa replacer have specific desirable qualities.

Because Appellant’s arguments do not identify Examiner error, we sustain the Examiner’s rejections.

### CONCLUSION

In summary:

<b>Claims Rejected</b>	<b>35 U.S.C. §</b>	<b>Reference(s)/Basis</b>	<b>Affirmed</b>	<b>Reversed</b>
1–8, 10–17	112	Indefiniteness		1–8, 10–17
1–6	103	Ellis, Bryan, Cheng, Blondeel, Haak, Meinl	1–6	
7	103	Ellis, Bryan, Cheng, Blondeel, Haak, Meinl, Greiser	7	
8	103	Ellis, Bryan, Cheng, Blondeel, Haak, Meinl, Chen, TM	8	
10–15	103	Ellis, Bryan, Cheng, Blondeel, Haak, Meinl, Sambasiva	10–15	
16	103	Ellis, Bryan, Cheng, Blondeel, Haak, Meinl, Sambasiva, Greiser	16	
17	103	Bryan, Meinl, Ellis, Cheng, Blondeel, Haak, Sambasiva, Chen, TM	17	
<b>Overall Outcome</b>			1–8, 10–17	

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TIME PERIOD FOR RESPONSE

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

AFFIRMED