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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
15/110,418	07/08/2016	Kyle William VON HASSELN	USA.1168-2	1191
22514	7590	10/14/2020	EXAMINER	
3D Systems, Inc. 3D Systems, Inc. 333 Three D Systems Circle Rock Hill, SC 29730			TRAN, LIEN THUY	
			ART UNIT	PAPER NUMBER
			1793	
			MAIL DATE	DELIVERY MODE
			10/14/2020	PAPER

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte KYLE WILLIAM VON HASSELN,
ELIZABETH MARISHA VON HASSELN,
DEREK X. WILLIAMS, and ROBERT RICHARD GALE

Appeal 2019-006243
Application 15/110,418
Technology Center 1700

Before BEVERLY A. FRANKLIN, CHRISTOPHER C. KENNEDY, and
JANE E. INGLESE *Administrative Patent Judges*.

INGLESE, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellant¹ requests review under 35 U.S.C. § 134(a) of the
Examiner’s final rejection of claims 1–17.² We have jurisdiction under 35
U.S.C. § 6(b).

We AFFIRM.

¹ We use the word “Appellant” to refer to the “applicant” as defined in 37
C.F.R. § 1.42. Appellant identifies 3D Systems, Inc. as the real party in
interest. Appeal Brief filed April 25, 2019 (“Appeal Br.”) at 3.

² Final Office Action entered October 2, 2018 (“Final Act.”) at 1.

CLAIMED SUBJECT MATTER

Appellant claims a method for making an edible component. Appeal Br. 3. Claim 1, the sole pending independent claim, illustrates the subject matter on appeal, and reads as follows:

1. A method for making an edible component comprising:
depositing successive layers of a food material according to digital data that describes the edible component; and
applying to one or more regions of each of the successive layers of food material one or more edible binders that bond the food material at said one or more regions to form said edible component,
wherein the food material comprises 25–75% by weight polysaccharide and 25–75% by weight monosaccharide and/or disaccharide, based on the total weight of the food material.

Appeal Br. 30 (Claims App.) (emphasis added).

REJECTIONS

The Examiner maintains the rejection of claims 1–17 under 35 U.S.C. § 103(a) as unpatentable over Lai³ in view of Yang,⁴ Dolan,⁵ Guthrie,⁶ and Emsing⁷ (Rejection I) in the Examiner’s Answer entered June 21, 2019 (“Ans.”). The Examiner also maintains the provisional rejection of claims 1–17 for nonstatutory double patenting over claims 1–6, 8, 9, and 13–22 of copending patent application number 14/151,672 (Rejection II).

³ US 2008/0260918 A1, published October 23, 2008.

⁴ US 6,280,784 B1, issued August 28, 2001.

⁵ US H1620, issued December 3, 1996.

⁶ US 2011/0293781 A1, published December 1, 2011.

⁷ US 6,783,790 B1, issued August 31, 2004.

FACTUAL FINDINGS AND ANALYSIS

Upon consideration of the evidence relied upon in this appeal and each of Appellant's timely contentions,⁸ we affirm the Examiner's rejections of claims 1–17, for reasons set forth in the Final Action, the Answer, and below.

We review appealed rejections for reversible error based on the arguments and evidence that Appellant provides for each issue that 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

We first address the Examiner's rejection of claims 1–17 under 35 U.S.C. § 103(a) as unpatentable over Lai in view of Yang, Dolan, Guthrie, and Emsing. Appellant presents arguments directed to independent claim 1, and also separately argues claims 2, 3, 4–10, and 16, which each depend from claim 1. Appeal Br. 6–28. We, therefore, separately address claims 1–3, 4–10, and 16, and the remaining claims on appeal stand or fall with claim 1. 37 C.F.R. § 41.37(c)(1)(iv).

⁸ We do not consider any new argument Appellant raises in the Reply Brief that Appellant could have raised in the Appeal Brief. 37 C.F.R. § 41.37(c)(1)(iv); 37 C.F.R. § 41.41(b)(2) (arguments raised for the first time in the Reply Brief that could have been raised in the Appeal Brief will not be considered by the Board unless good cause is shown).

Claims 1, 11–15, and 17

Claim 1 requires the recited method of making an edible component to comprise depositing, according to digital data that describes the edible component, successive layers of a food material comprising 25–75% by weight polysaccharide and 25–75% by weight monosaccharide and/or disaccharide, based on the total weight of the food material, and applying to one or more regions of each of the successive layers of food material one or more edible binders.

Lai discloses a method of manufacturing a three-dimensional food product based on a design created by a customer using computer-aided design software. Lai, Abstract, ¶¶ 1, 8–13, 35. Lai discloses that the method involves applying successive layers of edible powder onto a workpiece according to the data generated by the design software, and using an inkjet printer head to spray an edible binder onto each powder layer. Lai ¶¶ 22–24, Fig. 1. Lai discloses removing unattached powder material from around the workpiece after completion of the workpiece. Lai ¶ 31, Fig. 1. Appellant does not dispute the Examiner’s finding that Lai thus discloses the method steps recited in claim 1. *Compare* Final Act. 2, *with* Appeal Br. 4–20.

Lai discloses that the particles of edible powder may have different sizes, and may play different roles according to their composition, such as filler, stabilizer, fortifier or binding promoter, and special adhesive. Lai ¶ 33. Lai discloses that suitable edible powders include gypsum powder, flour, glutinous rice flour, corn starch, chocolate powder, and other edible powders. *Id.* Appellant does not dispute the Examiner’s finding that corn starch as disclosed in Lai is a polysaccharide, as recited in claim 1.

Compare Final Act. 2, *with* Appeal Br. 4–20. The Examiner finds that Lai

does not disclose the amount of specific types of edible powder, including corn starch (polysaccharide), used during Lai's method. Final Act. 3. The Examiner determines, however, that one of ordinary skill in the art would have determined, through routine experimentation, a suitable amount of corn starch (polysaccharide) to use in Lai's process, depending on the three-dimensional food product being built. Final Act. 4.

The Examiner finds that Lai also does not disclose that suitable edible powders for use in Lai's method include monosaccharides and/or disaccharides, and the Examiner relies on Yang, Dolan, and Guthrie for suggesting use of such sugars as edible powder material in Lai's method. Final Act. 3–6.

Yang discloses producing a complex-shaped three-dimensional food object from a food composition using a layer-by-layer manufacturing method. Yang col. 1, ll. 5–16. Yang discloses that the food composition includes an edible powder body building material, such as “powders of meat, vegetable, fruit, flour, starch, vitamin, sugar, salt, peppers, flavor, supplementary materials, and combinations thereof.” Yang col. 4, ll. 26–31, 50–54.

Dolan discloses a dry chocolate-flavored beverage mix including about 40% to about 60% particulate sugar, such as granulated or powdered sugar. Dolan col. 3, ll. 15–20. Dolan discloses that “[i]n addition to the added particulate sugar in the dry beverage mix, other natural or artificial sweeteners can also be incorporated therein.” Dolan col. 3, ll. 21–23.

Guthrie discloses a co-dried mixture of milk solids, sugar, and cocoa solids, which Guthrie refers to as “chocolate crumb.” Guthrie ¶¶ 3, 17. Guthrie explains that the chocolate crumb is mixed with cocoa butter to form

milk chocolate. Guthrie ¶ 3. Guthrie discloses that the sugar included in the chocolate crumb is preferably sucrose (disaccharide), and may be substituted in whole or in part with other sugars, such as glucose or fructose (monosaccharides). Guthrie ¶ 21. Guthrie discloses that part of the sugar may also be substituted with a reduced or non-caloric sugar substitute. Guthrie ¶ 21.

In view of these disclosures in Lai, Yang, Dolan, and Guthrie, the Examiner concludes that because Lai and Yang both disclose creating three-dimensional food products using edible powder materials, and because Lai discloses numerous exemplary powders and teaches that “other edible powders” may be used to create a three-dimensional food product, while Yang teaches numerous differing types of powder materials that can be used to create such products, including powdered sugar, it would have been obvious to one of ordinary skill in the art to use one or more sweetening agents as the “other edible powders” in Lai’s method, such as powdered (or confectionary) sugar (disaccharide) as disclosed in Dolan, and/or glucose or fructose (monosaccharides) as disclosed in Guthrie. Final Act. 4–6. The Examiner further concludes that one of ordinary skill in the art would have determined a suitable amount of powdered (or confectionary) sugar (disaccharide) and/or glucose or fructose (monosaccharides), such as an amount as recited in claim 1, to use when creating a particular three-dimensional product using Lai’s method, depending on the product being made and the degree of sweetness desired. *Id.*

Appellant argues that the Examiner’s rationale for combining Lai with Yang, Dolan, and Guthrie is based on the underlying assumption “that any food material, in any combination, can be easily and successfully . . . used in

the methods of Lai and Yang,” and is also based the assumption that because Dolan and Guthrie “teach food products that use mono-, di-, and polysaccharides, any mono-, di-, and polysaccharide in any combination and amount can be used in the methods of Lai and Yang.” Appeal Br. 7–9. Appellant argues that one of ordinary skill in the art would have found these assumptions to be false because the ordinarily skilled artisan would have understood that monosaccharides, disaccharides, and polysaccharides as recited in claim 1 have “dramatically different” molecular weights, melting points, solubilities, and other physical properties that would “lead to products having different physical and structural properties.” Appeal Br. 10–11.

Appellant appears to misapprehend the Examiner’s rationale for combining the relied-upon disclosures of Lai, Yang, Dolan, and Guthrie. On the record before us, the Examiner does not explicitly or implicitly take the position that “any food material, in any combination, can be easily and successfully be used in the methods of Lai and Yang.” Rather, the Examiner relies on Lai’s disclosure of using various edible powder materials having different purposes, such as filler, stabilizer, fortifier or binding promoter, or special adhesive, in Lai’s method. Final Act. 2. The Examiner also relies on Lai’s disclosure of numerous exemplary edible powders suitable for use in Lai’s method, including corn starch (polysaccharide), and Lai’s explicit indication that “other edible powders” may be used. *Id.* The Examiner relies on Yang’s disclosure that differing types of edible powder materials can be used to successfully create three-dimensional food products, including powdered sugar, and Dolan and Guthrie’s disclosure that powdered (or confectionary) sugar (disaccharide) and glucose or fructose

(monosaccharides) are conventional sweeteners used to produce dry, particulate food products. Final Act. 3.

In view of these disclosures in Lai, Yang, Dolan, and Guthrie, the Examiner concludes that it would have been obvious to one of ordinary skill in the art to use one or more sweetening agents as the “other edible powders” in Lai’s method, such as powdered (or confectionary) sugar (disaccharide) as disclosed in Yang and Dolan, and/or glucose or fructose (monosaccharides) as disclosed in Guthrie, and the Examiner determines that the ordinarily skilled artisan would have arrived, through routine experimentation, at suitable amounts of corn starch (polysaccharide) and sweetening agents to use in Lai’s method, depending on the particular product being produced, and the degree of sweetness desired. Final Act. 4–6.

Thus, contrary to Appellant’s arguments, the Examiner’s proposed combination of Lai, Yang, Dolan, and Guthrie is not based on using any food material, in any combination, in Lai’s method, but instead is based on using sweetening agents that are known in the art to be suitable for producing particulate food products, in view of Lai’s disclosure that “other edible powders,” beyond those exemplified in the reference, may be used in Lai’s method. Nor is the Examiner’s rejection based on using any amount of such sweetening agents or any amount of corn starch (polysaccharide) in Lai’s method, but, rather, is based on using amounts of sweetening agents that would provide a desired degree of sweetness, and using an amount corn starch (polysaccharide) that would provide desired structural characteristics, which one of ordinary skill in the art could have determined through routine experimentation. *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.”); *In re Kulling*, 897 F.2d 1147, 1149 (Fed. Cir. 1990) (finding no clear error in the Board’s finding that the amount of eluent to be used in the washing sequence was a matter of routine optimization in the pertinent art where the reference fails to provide any numerical quantities.).

Furthermore, even if monosaccharides, disaccharides, and polysaccharides as recited in claim 1 have “dramatically different” molecular weights, melting points, solubilities, and other physical properties, which would “lead to products having different physical and structural properties” as Appellant argues, Appellant does not direct us to any objective evidence establishing that corn starch (polysaccharide) as disclosed in Lai, powdered (or confectionary) sugar (disaccharide) as disclosed in Yang and Dolan, and glucose or fructose (monosaccharides) as disclosed in Guthrie, could not be used in Lai’s method in amounts readily determined by one of ordinary skill in the art through routine experimentation to successfully produce a satisfactory three-dimensional food product.

Appellant argues that “among the undefined, broad choices allegedly provided by Lai and Yang,” the Examiner does not identify a direction or teaching in Lai, Yang, Dolan, and/or Guthrie “regarding why the specific choices made in Applicant’s claims would be made by a person of ordinary skill in the art without knowledge of Applicant’s disclosure.” Appeal Br. 11–12 (emphasis omitted). Appellant argues that contrary to the Examiner’s position, Lai, Yang, Dolan, and Guthrie “provide no guidance whatsoever

regarding the selection of the specific materials and amounts recited in Applicant's claims." Appeal Br. 12 (emphasis omitted).

One of ordinary skill in the art seeking to produce a three-dimensional food product using a layer-by-layer manufacturing process as disclosed in Lai, however, would have found it obvious to utilize one or more of any of the edible powder materials suggested by Lai, Yang, Dolan, and Guthrie as suitable for producing particulate food products, including corn starch (polysaccharide) as disclosed in Lai, powdered (or confectionary) sugar (disaccharide) as disclosed in Yang and Dolan, and/or glucose or fructose (monosaccharides) as disclosed in Guthrie. The disclosure in these references of a multitude of edible powder materials, and combinations thereof, for producing food products does not render any particular powder material, or combination of powder materials, less obvious, because these references are available for all they would have suggested to one of ordinary skill in the art at the time of Appellant's invention. *Merck & Co., Inc. v. Biocraft Labs., Inc.*, 874 F.2d 804, 807 (Fed. Cir. 1989) ("That the '813 patent discloses a multitude of effective combinations does not render any particular formulation less obvious. This is especially true because the claimed composition is used for the identical purpose."); *In re Susi*, 440 F.2d 442, 445 (CCPA 1971) (obviousness rejection affirmed where the genus of the prior art was "huge, but it undeniably include[d] at least some of the compounds recited in appellant's generic claims and [was] of a class of chemicals to be used for the same purpose as appellant's additives").

As discussed above, the ordinarily skilled artisan would have arrived at suitable amounts of corn starch (polysaccharide), powdered (or confectionary) sugar (disaccharide), and/or glucose or fructose

(monosaccharides) to include in a three-dimensional food product produced using Lai's method that would impart desired structural characteristics, and a desired level of sweetness, such as amounts of these materials as recited in claim 1, through nothing more than routine experimentation.

Appellant argues that "it is especially unlikely in culinary science, where even a modest deviation from an established . . . method can dramatically affect the final product, that a skilled artisan would readily make a three-dimensional food product, as recited in Claim 1, especially without undue experimentation, based on picking and choosing individual ingredients from three entirely different types of foods: a drink mix, [and] a crumb" as disclosed in Dolan and Guthrie, respectively. Appeal Br. 13. Appellant argues that these products "have very different physical properties from one another," and "[t]he skilled artisan would not look generally to a beverage mix, [or] a crumb product . . . to solve the structural problems of creating a three-dimensional object." Appeal Br. 17. Appellant argues that Dolan and Guthrie do not "provide any guidance that randomly selecting individual ingredients from each will predictably form three-dimensional objects using the Lai powder-binder method." *Id.*

As discussed above, however, Lai broadly discloses that "other edible powders" can be used to produce a three-dimensional food product using Lai's method, in addition to various exemplary edible powders specifically mentioned in the reference. We find no disclosure in Lai indicating that particular types of edible powders could not be used in Lai's method. Rather, Lai broadly discloses that the particles of edible powder used in Lai's method may have different sizes, and may play different roles according to their compositions. Lai ¶ 33. Appellant does not direct us to

any evidence establishing that powdered (or confectionary) sugar (disaccharide) as disclosed in Yang and Dolan, and/or glucose or fructose (monosaccharides) as disclosed in Guthrie, could not be used successfully in Lai’s method to create a satisfactory three-dimensional food product. *In re Kubin*, 561 F.3d 1351, 1360 (Fed. Cir. 2009) (emphasis omitted) (citing *In re O’Farrell*, 853 F.2d 894, 903–04 (Fed. Cir. 1988) (“[o]bviousness does not require absolute predictability of success . . . all that is required is a reasonable expectation of success.”)).

We further point out that it is well-established that “new recipes or formulas for cooking food” that “involve the addition or elimination of common ingredients, or for treating them in ways which differ from the former practice,” do not amount to a patentable invention “merely because it is not disclosed that, in the constantly developing art of preparing food, no one else ever did the particular thing upon which the applicant asserts his right to a patent.” *In re Levin*, 178 F.2d 945, 948 (CCPA 1949). “In all such cases, there is nothing patentable unless the applicant by a proper showing further establishes a coaction or cooperative relationship between the selected ingredients which produces a new, unexpected, and useful function.” *Id.* On the record before us, Appellant does not establish “a coaction or cooperative relationship” between polysaccharide, monosaccharide, and/or disaccharide as recited in claim 1 that produces a new, unexpected, and useful function.” *Levin*, 178 F.2d at 948.

Appellant argues that “the skilled artisan would not combine the method of Lai with that of Yang, because . . . [t]he skilled artisan will recognize that the methods of forming an item via the Lai powder on binder method are fundamentally different from and teach away from the Yang

fluidic extrusion method.” Appeal Br. 14 (emphasis omitted). Appellant argues that “Lai’s formula is a powder, whereas Yang’s formula is a fluidic paste,” and “the art alone provides no evidence” that the “entirely different food materials having entirely different physical properties” used Yang’s fluidic extrusion method “is compatible with the fundamentally different pow[d]er-binder method of Lai.” Appeal Br. 14–17.

As discussed above, however, Appellant does not dispute the Examiner’s finding that Lai discloses the process steps recited in claim 1. The Examiner’s rejection is not based on modifying Yang’s method to arrive at the method of claim 1. Rather, the Examiner’s reliance on Yang is based on Yang’s disclosure of differing types of edible powder materials that can be used to successfully create three-dimensional food products, including powdered sugar. Final Act. 3–6. Therefore, regardless of whether Yang’s method is “fundamentally different” from Lai’s method, the combined disclosures Lai, Yang, Dolan, and Guthrie nonetheless would have suggested the method for making an edible component recited in claim 1, for the reasons discussed above.

Appellant argues that Dolan and Guthrie are non-analogous art because they are not “directed to 3D printing of food components via powdered food material and a binder,” and are not reasonably pertinent to the structural problems of creating a three-dimensional object. Appeal Br. 18. Appellant argues that one of ordinary skill in the art would not have looked to individual ingredients in a beverage mix as disclosed in Dolan or a crumb recipe as disclosed in Guthrie “when trying to solve the structural problems presented in the Lai-powder-binder method, because these food

materials have dramatically different physical properties and purposes from those in Lai.” *Id.*

A reference is analogous art if it is either in the field of the inventors’ endeavor, or is reasonably pertinent to the particular problem with which the inventors were concerned. *In re Kahn*, 441 F.3d 977, 987 (Fed. Cir. 2006). “A reference is reasonably pertinent if, even though it may be in a different field from that of the inventor’s endeavor, it is one which, because of the matter with which it deals, logically would have commended itself to an inventor’s attention in considering his problem.” *In re Clay*, 966 F.2d 656, 659 (Fed. Cir. 1992).

One of ordinary skill in the art seeking to produce a three-dimensional food product using a layer-by-layer manufacturing process reasonably would have looked to Dolan and Guthrie’s disclosures of suitable particulate sweetening agents for producing food products. One of ordinary skill in the art, therefore, would have understood Dolan and Guthrie to be reasonably pertinent to the particular problem with which the inventors were concerned—production of a three-dimensional food product comprising polysaccharide and monosaccharide and/or disaccharide in a layer-by-layer manufacturing process. Spec. ¶¶ 19, 58, 105, 106, 108. Contrary to Appellant’s arguments, Dolan and Guthrie, therefore, are not non-analogous art.

Appellant’s arguments thus do not identify reversible error in the Examiner’s rejection of claim 1, and claims 11–15 and 17, which each depend from claim 1, under 35 U.S.C. § 103(a), which we accordingly sustain.

Claim 2

Claim 2 depends from claim 1 and recites that the polysaccharide comprises a starch or modified starch.

As discussed above in connection with our discussion of claim 1, Lai discloses that suitable edible powders for use in Lai's method include corn starch. Lai ¶ 33.

Appellant presents numerous arguments for claim 2 that are the same as arguments that Appellant presents for claim 1. Appeal Br. 19–20. Because these arguments do not identify reversible error in the Examiner's rejection of claim 1 for the reasons discussed above, the arguments also do not identify reversible error in the Examiner's rejection of claim 2 for the same reasons.

In addition, Appellant also argues that the Examiner's rejection of claim 2 is based on "modifying the powder of Lai with the corn starch solution/slurry of Yang," which would render Lai "unsatisfactory for its intended purpose and/or change the principle of operation of Lai, because Lai's method requires the food material to be a powder." Appeal Br. 20.

Appellant appears to misapprehend the Examiner's rejection of claim 2, however, which is based on the Examiner's finding that "Lai et al disclose the powder material includes corn starch which is a polysaccharide," and is not based on "modifying the powder of Lai with the corn starch solution/slurry of Yang" as Appellant argues. Final Act. 2. Because Appellant's argument does not address the rejection of claim 2 as actually presented by the Examiner, including the Examiner's finding that Yang discloses that suitable edible powders for use in Lai's method include corn

starch, Appellant's argument does not identify reversible error in the Examiner's rejection, which we accordingly sustain.

Claim 3

Claim 1 recites that the food material comprises, in part, polysaccharide; claim 2 depends from claim 1 and recites that the polysaccharide comprises a starch or modified starch; and claim 3 depends from claim 2 and recites that the modified starch is a modified food starch.

The Examiner determines that "it would have been an obvious matter of choice to use modified starch" as an edible powder in Lai's method in view of Lai's disclosure that suitable edible powders for use in Lai's method include corn starch. Final Act. 4.

Appellant argues that the Examiner's determination that "it would have been an obvious matter of choice to use modified starch" is not supported by basic food chemistry because "modified starch is produced by chemically modifying starch to change its physical properties," and the Examiner does not provide "evidence supporting the assertion that modified starch is merely a design choice." Appeal Br. 21–22.

When claims 1, 2, and 3 are read together, however, the polysaccharide included in the food material of claim 1 may *optionally* comprise modified food starch as recited in claim 3, due to the recitation in claim 2 that the polysaccharide comprises a starch *or* modified starch. *SkinMedica, Inc. v. Histogen Inc.*, 727 F.3d 1187, 1199– 1200 (Fed. Cir. 2013) ("The disjunctive 'or' plainly designates that a series describes alternatives."). Claim 3 as we have interpreted it, therefore, does not further limit the method of claim 1. Consequently, due to the optional nature of the

modified food starch recited in claim 3, Appellant's arguments do not identify reversible error in the Examiner's rejection.

Nonetheless, we point out that Dolan discloses that suitable ingredients for use in Dolan's dry beverage mix include modified and unmodified food starches, which evidences the conventional nature of using modified food starch in particulate food products, and supports the Examiner's conclusion of obviousness. Dolan col. 4, l. 62–col. 5, l. 10.

We, accordingly, sustain the Examiner's rejection of claim 3 under 35 U.S.C. § 103(a).

Claim 4

Claim 4 depends from claim 1 and recites that the polysaccharide comprises maltodextrin.

As discussed above, Dolan discloses that natural or artificial sweeteners can be included in the dry chocolate-flavored beverage mix described in the reference, and Guthrie discloses that part of the sugar included in the co-dried mixture of milk solids, sugar, and cocoa solids described in the reference (“chocolate crumb”) may be substituted with a reduced or non-caloric sugar substitute. Dolan col. 3, ll. 15–23; Guthrie ¶¶ 3, 17, 21.

Emsing discloses a process for making a high solids confectionary product, and discloses that sugar substitutes and sugar replacements, such as maltodextrins, can be used as sweetening agents in the confectionary product. Emsing col. 4, ll. 17–19; col. 6, ll. 39–44.

In view of these disclosures in Dolan, Guthrie, and Emsing, the Examiner concludes that it would have been obvious to use maltodextrin as an edible powder in Lai's method. Final Act. 4.

Appellant presents arguments for claim 4 that are the same as arguments that Appellant presents for claim 1. Appeal Br. 22–24. Because these arguments do not identify reversible error in the Examiner’s rejection of claim 1 for the reasons discussed above, the arguments also do not identify reversible error in the Examiner’s rejection of claim 4 for the same reasons.

In particular, Lai’s disclosure that “other edible powders” can be used to produce a three-dimensional food product according to Lai’s method, in addition to various specifically delineated exemplary edible powders, and disclosure of using edible powders that play different roles according to their compositions, would have suggested that edible powders beyond those specifically mentioned in the reference could be used to produce food products having desired characteristics. Accordingly, one of ordinary skill in the art seeking to produce a food product using Lai’s method would have selected and combined various conventional food powders to create a product having the desired flavor, texture, and appearance. For example, one of ordinary skill in the art seeking to produce a sweet product using Lai’s method would have used one or more powdered sweeteners in the method to impart a sweet flavor. Dolan’s disclosure of using artificial sweeteners in combination with a particulate sugar, such as powdered sugar, in a dry beverage mix, Guthrie’s disclosure of replacing sugar with a sugar substitute in a dried “chocolate crumb,” and Emsing’s disclosure of using maltodextrin as a sweetening agent in a confectionary product, reasonably would have suggested use of maltodextrin as an edible powder in Lai’s method to produce a sweet product.

We, accordingly, sustain the Examiner's rejection of claim 4 under 35 U.S.C. § 103(a).

Claims 5–9

Appellant presents arguments for claims 5–9 that are the same as arguments that Appellant presents for claim 1. Appeal Br. 24–25. Because these arguments do not identify reversible error in the Examiner's rejection of claim 1 for the reasons discussed above, the arguments also do not identify reversible error in the Examiner's rejection of claims 5–9 for the same reasons.

We, accordingly, sustain the Examiner's rejection of claims 5–9 under 35 U.S.C. § 103(a).

Claim 10

Claim 10 depends from claim 1 and recites that the edible component exhibits a flexural strength between about 0.5 MPa and about 2.0 MPa, when measured according to ASTM D790.

The Examiner determines that “Lai in view of the combination of reference discloses the same method which is used on same materials; thus, it is expected the product obtained would have the same flexural strength in absence of evidence showing otherwise.” Final Act. 11.

Appellant argues that “the composition of Lai, as modified, is dramatically different from Lai as originally disclosed. Therefore any statements as to flexural strength of Lai as modified, is highly speculative and lacks any supporting evidence.” Appeal Br. 26. Appellant argues that the flexural strength of a food product “is highly dependent upon the particular food material types and ratios used” in the product. Appeal Br. 26–27. Appellant argues that the food products disclosed in Lai, Yang,

Dolan, and Guthrie all display very different flexural strengths, and, consequently, “the combination of cited references would not inherently possess the flexural strength described in Claim 10 merely because of similar food materials being present as evidenced by the cited references.”
Appeal Br. 27.

As discussed above, however, the combined disclosures of Lai, Yang, Dolan, and Guthrie would have suggested a method for making a three-dimensional food product (edible component) according to the steps recited in claim 1 using the food materials recited in the claim. The Examiner, therefore, has a reasonable basis for finding that such a three-dimensional food product (edible component) would have a flexural strength as recited in claim 10, and the burden shifts to Appellant to show otherwise. *In re Best*, 562 F.2d 1252, 1255 (CCPA 1977) (“Where, as here, the claimed and prior art products are identical or substantially identical, or are produced by identical or substantially identical processes, the PTO can require an applicant to prove that the prior art products do not necessarily or inherently possess the characteristics of his claimed product. Whether the rejection is based on ‘inherency’ under 35 U.S.C. § 102, on ‘prima facie obviousness’ under 35 U.S.C. § 103, jointly or alternatively, the burden of proof is the same, and its fairness is evidenced by the PTO’s inability to manufacture products or to obtain and compare prior art products.”).

On the record before us, Appellant does not meet this burden because Appellant does demonstrate through factual evidence that a three-dimensional food product (edible component) produced as suggested by a combination of the relied-upon disclosures of Lai, Yang, Dolan, and Guthrie would not have a flexural strength as recited in claim 10.

The fact that Appellant recognized that such a three-dimensional food product (edible component) exhibits a flexural strength as recited in claim 10 does not impart patentability to the method of claim 10, because production of a three-dimensional food product (edible component) exhibiting such a flexural strength would have naturally flowed from the suggestion stemming from a combination of the relied-upon disclosures of Lai, Yang, Dolan, and Guthrie of producing such a three-dimensional food product. *PAR Pharm., Inc. v. TWI Pharm., Inc.*, 773 F.3d 1186, 1195 (Fed. Cir. 2014) (concept of inherency, when applied to obviousness, is present “when the limitation at issue is the ‘natural result’ of the combination of prior art elements”); *In re Oelrich*, 666 F.2d 578, 581 (CCPA 1981) (explaining that it has long been settled that in the context of obviousness, the “mere recitation of a newly discovered function or property, inherently possessed by things in the prior art, does not distinguish a claim drawn to those things from the prior art.”).

We, accordingly, sustain the Examiner’s rejection of claim 10 under 35 U.S.C. § 103(a).

Claim 16

Claim 16 depends from claim 1 and recites that the unbound food material supports the edible component during formation of the edible component.

As discussed above, Lai discloses a method of manufacturing a three-dimensional food product by applying successive layers of edible powder onto a workpiece, spraying an edible binder onto each powder layer, and removing unattached powder material from around the workpiece after completion of the workpiece. Lai ¶¶ 22–24, 31, Fig. 1.

The Examiner finds that “[s]ince unbound food material is used and being bound by spraying binder [in Lai’s method], the feature of claim 16 is inherent.” Final Act. 2.

Appellant argues that “the Final Office Action has not provided any discussion or rationales concerning dependent Claim 16 as to how the cited references can be combined to form an edible component where unbound food material supports the edible component during formation of the edible component.” Appeal Br. 28.

Appellant appears to have overlooked the Examiner’s finding that Lai inherently discloses the features of claim 16; consequently, because Appellant does not address the Examiner’s basis for rejecting claim 16, Appellant does not identify reversible error in the Examiner’s rejection of this claim. We add that because Lai discloses that unattached powder material is removed from around the workpiece after completion of the workpiece, the unattached powder would be present during formation of the workpiece, and, therefore, would function to support the workpiece during its formation, as recited in claim 16.

We, accordingly, sustain the Examiner’s rejection of claim 16 under 35 U.S.C. § 103(a).

Rejection II

We decline to reach the Examiner’s provisional rejection of claims 1–17 for nonstatutory double patenting over claims 1–6, 8, 9, and 13–22 of copending patent application number 14/151,672 because “at least some of the claims relied upon in the provisional obviousness-type double patenting rejection[] on appeal either clearly are, or may be, different in language or status from the claims originally relied upon when these rejections were

initially made by the Examiner.” *Ex parte Jerg*, Appeal No. 2011-000044 (BPAI April 13, 2012) (informative) (“Panels have the flexibility to reach or not reach provisional obviousness-type double-patenting rejections.”) (citing *Ex parte Moncla*, Appeal No. 2009-006448 (BPAI June 22, 2010) (precedential)).

CONCLUSION

Claims	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
1-17	103(a)	Lai, Yang, Dolan, Guthrie, Emsing	1-17	
1-17	N/A	Nonstatutory Double Patenting ⁹	1-17	
Overall Outcome			1-17	

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

⁹ As discussed above, we do not reach this provisional rejection.