



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

Table with 5 columns: APPLICATION NO., FILING DATE, FIRST NAMED INVENTOR, ATTORNEY DOCKET NO., CONFIRMATION NO.
13/152,334 06/03/2011 Jean Marie BRADY 69993 6676

21898 7590 12/02/2016
ROHM AND HAAS COMPANY
c/o The Dow Chemical Company
P.O. Box 1967
2040 Dow Center
Midland, MI 48641

Table with 1 column: EXAMINER

TATESURE, VINCENT

Table with 2 columns: ART UNIT, PAPER NUMBER

1786

Table with 2 columns: NOTIFICATION DATE, DELIVERY MODE

12/02/2016

ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

FFUIMPC@dow.com

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte JEAN MARIE BRADY

Appeal 2015-007161
Application 13/152,334
Technology Center 1700

Before CHUNG K. PAK, JEFFREY T. SMITH, and
WESLEY B. DERRICK, *Administrative Patent Judges*.

SMITH, *Administrative Patent Judge*.

DECISION ON APPEAL

This is an appeal under 35 U.S.C. § 134(a) from a final rejection of claims 1 through 11. We have jurisdiction under 35 U.S.C. § 6(b).

STATEMENT OF THE CASE

Appellant's invention is generally directed to an aqueous binder composition. App. Br. 3. Claim 1 illustrates the subject matter on appeal and is reproduced below:

1. An aqueous binder composition which is substantially free of nitrogen-containing Maillard reactants comprising one or more polymeric polyacid comprising copolymerized hypophosphite or its salts, the polymeric polyacid having a weight average molecular weight of from 1,000 to 500,000,

a carbohydrate component comprising a monosaccharide and/or disaccharide and one or more oligosaccharides having three or more saccharide groups, and a formula weight of up to 5,000, and

from 0.5 to 30 wt.%, based on total binder solids, of one or more bleaching agent,

wherein the ratio of OH groups in the carbohydrate component to carboxylic acid groups in the polymeric polyacid is from 10.0:1 to 0.2:1.

App. Br. 8, Claims Appendix (spacing added).

Appellant (*see generally* App. Br.) requests review of the Examiner's rejection of claims 1–11 under 35 U.S.C. § 103(a) as unpatentable over O'Brien-Bernini et al., (US 7,026,390 B2, issued April 11, 2006, hereinafter "O'Brien-Bernini") and Hansen et al., (US 2006/0111480 A1, published May 25, 2006, hereinafter "Hansen") in the Final Office Action entered July 31, 2014 ("Final Act."):

OPINION

After review of the respective positions provided by Appellant and the Examiner, we AFFIRM the Examiner's rejection under 35 U.S.C. § 103(a) of claims 1–11. We add the following.¹

To prevail in an appeal to this Board, an Appellant must adequately explain or identify reversible error in the Examiner's rejections. *See* 37 C.F.R. § 41.37(c)(1)(iv) (2012); *see also In re Jung*, 637 F.3d 1356, 1365–66 (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 appellant to identify the alleged error in the examiner's rejections); *In re*

¹ Appellant argues claims 1–11 together. *See generally* Appeal Brief. Therefore, we select claim 1 as representative, and claims 2–11 will stand or fall with claim 1. 37 C.F.R. § 41.37(c)(1)(iv) (2015).

Chapman, 595 F.3d 1330, 1338 (Fed. Cir. 2010), quoting *Shinseki v. Sanders*, 556 U.S. 396, 409 (2009) (“the burden of showing that the error is harmful normally falls upon the party attacking the agency’s determination.”).

The Examiner finds in essence that the combined disclosures of O’Brien-Bernini and Hansen would have suggested the aqueous binder composition recited in claim 1 to one of ordinary skill in the art at the time of the invention, thus rendering the claimed method obvious within the meaning of 35 U.S.C. § 103(a). Final Act. 6.

Appellant argues that O’Brien-Bernini fails to disclose a binder composition comprising a carbohydrate having a monosaccharide and/or disaccharide and one or more oligosaccharides having three or more saccharide groups with a molecular weight of up to 5,000 as required by claim 1. App. Br. 5. However, Appellant’s arguments are unpersuasive of reversible error because they are based on O’Brien-Bernini alone, and do not take into account what the combined disclosures of the applied prior art would have suggested to one of ordinary skill in the art at the time of the invention.

The Examiner correctly finds that O’Brien-Bernini discloses an aqueous binder composition comprising a hypophosphite-terminated polyacrylic acid; a phosphorus-containing catalyst, such as sodium hypophosphite, corresponding to the bleaching agent recited in claim 1 according to Appellant’s Specification;² and an extender. Final Act. 3–4; O’Brien-Bernini Abstract; col. 4, ll. 51–54; col. 5, ll. 49–62; col. 6, ll. 35–36. O’Brien-Bernini discloses that suitable extenders include

² Spec. 8, ll. 25–26.

polysaccharides, and further discloses that preferred polysaccharides include starch and pectin, and have a weight average molecular weight of less than 5,000. O'Brien-Bernini col. 6, ll. 42–47, 55–62.

The Examiner also correctly finds that Hansen discloses an aqueous binder composition comprising the reaction product of an alkanolamine with a carboxylic anhydride, and a carbohydrate. Final Act. 5; Hansen ¶¶ 9–11. Hansen discloses that suitable carbohydrates include starch and pectin, and discloses that the preferred carbohydrate is a commercially available glucose syrup that includes dextrose (a monosaccharide), maltose (a disaccharide), maltotriose (a trisaccharide), and higher sugars. Hansen ¶¶ 33, 35.

We agree with the Examiner that the combined disclosures of O'Brien-Bernini and Hansen would have suggested to one of ordinary skill in the art at the time of the invention that the carbohydrate component of Hansen's aqueous binder composition, such as the preferred carbohydrate including dextrose (a monosaccharide), maltose (a disaccharide), maltotriose (a trisaccharide), and higher sugars, would have been suitable for use as the polysaccharide extender in O'Brien-Bernini's aqueous binder composition. Final Act. 6. As discussed above, both references disclose aqueous binder compositions that include a polysaccharide or carbohydrate, and O'Brien-Bernini discloses that suitable polysaccharides include starch and pectin, while Hansen also discloses that suitable carbohydrates include starch and pectin. Implicit in the disclosure of common suitable carbohydrates in both references is an indication that the carbohydrate components are interchangeable, and one of ordinary skill in the art therefore reasonably would have understood that the carbohydrate component disclosed in Hansen would be suitable for use as the polysaccharide in O'Brien-Bernini's

aqueous binder. *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 417 (2007) (quoting *Sakraida v. Ag Pro, Inc.*, 425 U.S. 273, 282 (1976) (“[W]hen a patent ‘simply arranges old elements with each performing the same function it had been known to perform’ and yields no more than one would expect from such an arrangement, the combination is obvious.”); *In re Fout*, 675 F.2d 297, 301 (CCPA 1982) (“Express suggestion to substitute one equivalent for another need not be present to render such substitution obvious.”)).

Appellant further argues that O’Brien-Bernini and Hansen do not disclose or suggest a binder composition that is substantially free of nitrogen-containing Maillard reactants as recited in claim 1 because O’Brien-Bernini “directs one to use ammonia” in the binder composition, while Hansen discloses reaction of an alkanolamine with a carboxylic anhydride to produce a component of the binder composition, and discloses addition of a base to the binder to neutralize unreacted acid. App. Br. 4. Appellant contends that Hansen discloses numerous suitable alkanolamines, which include triethanolamine, and also discloses numerous suitable nitrogen-containing bases, which also include triethanolamine, but does not suggest selecting triethanolamine, which is not a Maillard reactant, from among those listed as suitable for both uses. App. Br. 4–5. Appellant contends that the combined disclosures of O’Brien-Bernini and Hansen therefore fail to provide one of ordinary skill in the art with a reasonable expectation of successfully arriving at the aqueous binder composition of their invention that is substantially free of nitrogen-containing Maillard reactants. App. Br. 5.

However, O'Brien-Bernini discloses that the binders "may optionally contain conventional additives such as . . . pH adjusters . . . In particular, pH adjusters, such as ammonium hydroxide may be used to raise the pH." O'Brien-Bernini col. 7, ll. 11–17. O'Brien-Bernini therefore does not require the inclusion of an ammonium hydroxide base in the binder composition, and makes clear that inclusion of a pH adjuster is optional. Similarly, Hansen discloses that a base *may* be added to the binder composition to improve its water solubility and dilutability and at least partially neutralize unreacted acid, and discloses that examples of suitable bases include ammonia and organic amines. Hansen ¶ 30. Thus, Hansen does not require the binder composition to include ammonia or an organic amine. Rather, Hansen's use of "may" indicates that addition of a base to the binder is optional, and if a base is included, ammonia and organic amines are merely examples of suitable bases. In addition, Hansen does not indicate that the binder composition comprises an alkanolamine, but instead discloses that the binder includes the *reaction product* of an alkanolamine with a carboxylic anhydride. Hansen ¶¶ 9–11.

Accordingly, the combined disclosures of O'Brien-Bernini and Hansen reasonably would have suggested an aqueous binder composition that is substantially free of nitrogen-containing Maillard reactants, and one of ordinary skill in the art would have had a reasonable expectation of successfully producing such a binder in view of the state of the art at the time of the 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 Kubin*, 561 F.3d 1351, 1360 (Fed. Cir. 2009) (“Obviousness does not require absolute predictability of success . . . all that is required is a reasonable expectation of success.”) (emphasis omitted, citing *In re O’Farrell*, 853 F.2d 894, 903–04 (Fed. Cir. 1988)).

Appellant further argues that results obtained for Examples 1, 2, 4, 4A, 4B, 4C, 4D, 6, 7, and 8–23 shown in Tables 2, 3, 5, 6, and 7 of the Specification demonstrate that binder compositions of the invention cure to yield superior low color density, which Appellant asserts would have been surprising. App. Br. 5–6. However, Appellant’s contention of unexpected results is not well-founded.

Appellant bears the burden of showing that the claimed invention imparts unexpected results that are reasonably commensurate with the scope of protection sought by the claims on appeal. *In re Klosak*, 455 F.2d 1077, 1080 (CCPA 1972) (“the burden of showing unexpected results rests on he who asserts them”); *In re Freeman*, 474 F.2d 1318, 1324 (CCPA 1973) (to show unexpected results, applicant must establish: “(1) that there actually is a difference between the results obtained through the claimed invention and those of the prior art, . . . and (2) that the difference actually obtained would not have been expected by one skilled in the art at the time of invention”) (citation omitted).

Appellant does not direct us to any statement in the Specification attesting to the unexpected nature of the results obtained for Examples 1, 2, 4, 4A, 4B, 4C, 4D, 6, 7, and 8–23 shown in Tables 2, 3, 5, 6, and 7, or to any other persuasive evidence or averment evincing that these results would have been unexpected by one of ordinary skill in the art at the time of the invention. App. Br. 5–6. Absent such evidence or averment, Appellant

cannot meet his burden. *See, e.g., In re Geisler*, 116 F.3d 1465, 1471 (Fed. Cir. 1997) (“Geisler made no such assertion [that results were unexpected] in his application. Nor did Geisler submit any such statement through other evidentiary submissions, such as an affidavit or declaration under Rule 132 . . . Instead, the only reference to unexpected results was a statement by Geisler’s counsel . . . that Geisler’s results were ‘surprising.’”).

Appellant also does not persuasively explain why the limited showing drawn to binder compositions containing only two different polymeric acid components (polyacrylic acid made with either 10% or 20% sodium hypophospite) and two different carbohydrate components (corn syrup having a dextrose equivalent value of either 42.5 or 63.8), and including a single bleaching agent (sodium hypophosphite) is reasonably commensurate with the scope of the claimed binder compositions, which are not limited to including only these particular components. App. Br. 5–6. *In re Grasselli*, 713 F.2d 731, 743 (Fed. Cir. 1983); *In re Clemens*, 622 F.2d 1029, 1035 (CCPA 1980).

Although Appellant argues that it “is reasonable to expect” that larger carbohydrate components and higher MW polymeric polyacids “would work as well” or “better” than those used in the relied-upon Examples (App. Br. 6), this unsupported argument highlights the apparent predictability of the relied-upon results presented in the Specification, and fails to demonstrate that the results are commensurate in scope with the claimed subject matter, or that they would have been unexpected. Appellant’s arguments to that effect cannot take the place of evidence. *In re De Blauwe*, 736 F.2d 699, 705 (Fed. Cir. 1984); *In re Greenfield*, 571 F.2d 1185, 1189 (CCPA 1978); *In re Pearson*, 494 F.2d 1399, 1405 (CCPA 1974).

Appeal 2015-007161
Application 13/152,334

Accordingly, the evidence of obviousness outweighs Appellant's showing of non-obviousness, and we accordingly sustain the Examiner's rejection of claims 1–11 under 35 U.S.C. § 103(a).

ORDER

For the reasons set forth above and in the Answer, the decision of the Examiner is affirmed.

TIME PERIOD

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).

AFFIRMED