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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte BRYAN JOSEPH GERMANN and PAUL STEPHEN DIMASCIO

Appeal 2019-003378
Application 14/796,498
Technology Center 1700

Before LINDA M. GAUDETTE, LILAN REN, and
MICHAEL G. McMANUS, *Administrative Patent Judges*.

McMANUS, *Administrative Patent Judge*.

DECISION ON APPEAL

Pursuant to 35 U.S.C. § 134(a), Appellant¹ seeks review of the Examiner's decision to reject claims 1–3 and 5–19. We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

¹ 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 General Electric Company. Appeal Br. 3.

CLAIMED SUBJECT MATTER

The present application generally relates to coating processes and coated components. Specification filed July 10, 2015 (“Spec.”) ¶ 1. The Specification teaches a coating process as follows:

a coating process includes applying a suspension to an operationally used surface, the suspension having one or more solvents, nano-materials, a plasticizer, a binder, and a dispersant suspending nano-materials within the suspension, applying heat to the suspension thereby removing liquids from the suspension, wherein solids are maintained on the surface after the applying of the heat, and sintering the solids on the surface to produce a coating.

Id. ¶ 4.

Claim 1 is illustrative of the subject matter on appeal and is reproduced below with certain limitations bolded for emphasis:

1. A coating process, comprising:

applying a suspension to an operationally-used surface, the suspension having one or more solvents, nano-materials, a plasticizer, a binder, and a dispersant suspending nano-materials within the suspension; wherein **the one or more solvents includes a higher-flash solvent and a lower-flash solvent, at a concentration, by weight of the entire suspension, of less than 10% being the higher-flash solvent and greater than 25% being the lower-flash solvent;**

applying heat to the suspension thereby removing liquids from the suspension, wherein solids are maintained on the operationally-used surface after the applying of the heat; and

sintering the solids on the operationally-used surface to produce a coating.

Appeal Brief dated Dec. 14, 2018 (“Appeal Br.”) 23 (Claims App.)
(emphasis added).

REFERENCES

The Examiner relies upon the following prior art:

Name	Reference	Date
Fitzgibbons et al. (“Fitzgibbons”)	US 5,626,923	May 6, 1997
Sangeeta	US 6,395,406 B1	May 28, 2002
Hasz et al. (“Hasz”)	US 6,497,758 B1	Dec. 24, 2002
Spaldon-Stewart et al. (“Spaldon”)	US 2003/0039755 A1	Feb. 27, 2003
Hazel et al. (“Hazel”)	US 2007/0141369 A1	Jun. 21, 2007
Boutwell et al. (“Boutwell”)	US 2009/0162674 A1	Jun. 25, 2009
Bhatia et al. (“Bhatia”)	US 2009/0274850 A1	Nov. 5, 2009
Kirby et al. (“Kirby”)	US 2011/0027558 A1	Feb. 3, 2011

REJECTIONS

The Examiner maintains the following rejections:

1. Claims 1, 3, 5–10, and 13–19 are rejected under 35 U.S.C. § 103 as being unpatentable over Kirby as informed by Boutwell. Final Action dated May 16, 2018 (“Final Act.”) 3–7.
2. Claim 2 is rejected under 35 U.S.C. § 103 as being unpatentable over Kirby in view of Bhatia. *Id.* at 7–8.
3. Claims 11 and 12 are rejected under 35 U.S.C. § 103 as being unpatentable over Kirby in view of Hazel. *Id.* at 8.
4. Claims 11 and 12 are rejected under 35 U.S.C. § 103 as being

- unpatentable over Kirby in view of Fitzgibbons. *Id.* at 8–9.
5. Claims 1–3, 5–8, 11, 13, and 17–19 are rejected under 35 U.S.C. § 103 as being unpatentable over Bhatia in view of Sangeeta and Hasz. *Id.* at 9–13.
 6. Claims 9 and 10 are rejected under 35 U.S.C. § 103 as being unpatentable over Bhatia in view of Sangeeta, Hasz, and Spaldon. *Id.* at 13.
 7. Claims 11 and 12 are rejected under 35 U.S.C. § 103 as being unpatentable over Bhatia in view of Sangeeta, Hasz, and Hazel. *Id.* at 14.
 8. Claims 11 and 12 are rejected under 35 U.S.C. § 103 as being unpatentable over Bhatia in view of Sangeeta, Hasz, and Fitzgibbons. *Id.* at 14–15.
 9. Claims 14–16 are rejected under 35 U.S.C. § 103 as being unpatentable over Bhatia in view of Sangeeta, Hasz, and Kirby. *Id.* at 15.

DISCUSSION

Rejection 1. The Examiner rejects claims 1, 3, 5–10, and 13–19 as obvious over Kirby as informed by Boutwell. Final Act. 3–7. In support of the rejection, the Examiner finds that Kirby teaches a coating process including applying a suspension to an operationally used surface where the suspension includes solvents, nanomaterials, a plasticizer, a binder, and a dispersant. *Id.* at 3. With regard to the “solvent” limitation, the Examiner finds that Kirby teaches “a mixture of solvents.” *Id.* at 4. The Examiner further finds that, in a mixture of two solvents, the solvents would inherently

possess different flash points, one higher and one lower. *Id.* The Examiner additionally finds that Kirby teaches that “the flash point of the solvent system is result effective as it may influence the drying conditions of the coating.” *Id.* (citing Kirby ¶ 63). The Examiner further determines that it would have been obvious “to have incorporated two solvents in amounts within the claimed range[s] since mixing two such high and low flash point solvents would allow for tailoring of the systems flash point for aiding and optimizing drying.” *Id.* In the Answer, the Examiner cites *In re Aller* for the proposition that “where 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.” Examiner’s Answer dated Jan. 25, 2019 (“Answer”) 4 (citing *In re Aller*, 220 F.2d 454, 456 (CCPA 1955)).

Appellant argues that the rejection is in error because Kirby does not teach or suggest the concentrations of the higher-flash and lower-flash solvents as claimed. Appeal Br. 13. Appellant contends that the Examiner has not provided adequate support for the proposed modification. *Id.* at 14.

The Examiner is correct that, “where 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 Aller*, 220 F.2d at 456. This rule does not control, however, where “the parameter was not recognized as ‘result-effective.’” *E.I. DuPont de Nemours & Co. v. Synvina C.V.*, 904 F.3d 996, 1006 (Fed. Cir. 2018) (citing *In re Applied Materials, Inc.*, 692 F.3d 1289, 1295 (Fed. Cir. 2012)). Here, the parameters at issue are the concentrations of the higher-flash and lower-flash solvents. Kirby lacks any teaching bearing upon these parameters and how they relate to drying conditions. The portion of Kirby relied upon by the Examiner

provides as follows: “[t]emperature variation can be used to control the drying rate, however, those skilled in the art will understand that that temperatures can be kept below the flash point of the organic solvent.” Kirby ¶ 63. This is inadequate to establish that the *concentrations* of the higher-flash and lower-flash solvents are result-effective variables. Nor has the Examiner established what “result” is sought nor how it would be affected by a particular variable. Accordingly, the general conditions of the claim have not been shown to be disclosed by Kirby. As a result, Appellant has shown error in the Examiner’s rejection of claims 1, 3, 5–10, and 13–19 over Kirby as informed by Boutwell.

Rejections 2–4. The Examiner rejects claims 2, 11, and 12 as obvious over Kirby in view of certain secondary references. Final Act. 7–9. Claims 2, 11, and 12 each depend from claim 1. Appeal Br. 23–25 (Claims App.). In support of each rejection, the Examiner relies upon “Kirby as applied to claim 1.” As we have found error in the Examiner’s rejection of claim 1, we determine that reliance on such rejection is erroneous.

Rejection 5. The Examiner rejects claims 1–3, 5–8, 11, 13, and 17–19 as obvious over Bhatia in view of Sangeeta and Hasz. Final Act. 9–13. In support of the rejection, the Examiner finds that Sangeeta teaches a composition including a mixture of solvents. *Id.* at 10. The Examiner finds that the solvents of such mixture would inherently possess different flash points. *Id.*

The Examiner additionally finds that Hasz teaches that “two solvent systems with one high flash solvent and one low flash solvent can aid drying

and provide enhanced leveling properties.” *Id.* (citing Hasz). The portion of Hasz cited by the Examiner provides that “[s]ometimes, a two-solvent system is preferred, in which one solvent flash-evaporates, while the other evaporates more slowly and provides leveling properties.” Hasz col. 4, ll. 15–17. The Examiner determines that one of skill in the art would have had reason to use the claimed concentrations of solvents as follows:

Although Bhatia in view of Sangeeta and Hasz do not explicitly teach an exemplary embodiment with relative amounts of higher and lower flash solvents, it would have been obvious . . . to have incorporated the two solvents in amounts within the claimed range since mixing two such high and low flash point solvents would allow for tailoring of the systems drying and leveling properties.

Final Act. 10–11. The Examiner reasons that “where 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.” *Id.* at 11 (quoting *In re Aller*, 220 F.2d 454, 456 (CCPA 1955)).

Appellant argues that the claims are not properly rejected over Bhatia in view of Sangeeta and Hasz. Appeal Br. 19–21. Appellant asserts that the cited references do not teach the claimed concentrations of higher-flash solvent and lower flash solvent and that the “Office Action merely provides a conclusory statement.” *Id.* at 20. Appellant, however, does little more than assert that the references do not teach the subject matter of the claims. *Id.* at 19–20. Further, Appellant does not provide any detailed argument regarding the Examiner’s application of *In re Aller* as to this rejection. These assertions, without more, are insufficient to show error in the rejection. *See* 37 CFR § 41.37(c)(1)(iv) (“[T]he brief shall contain . . . [t]he

arguments of appellant with respect to each ground of rejection, and the basis therefor, with citations of the statutes, regulations, authorities, and parts of the Record relied on. The arguments shall explain why the examiner erred as to each ground of rejection contested by appellant.”).

Appellant further asserts that the Office Action lacks “documentary evidence” but does not specify which of the Examiner’s findings is unsupported by adequate documentary evidence. Appeal Br. 20.

Appellant additionally contends that the Examiner has not adequately identified a reason why one of skill in the art would have combined the teachings of the prior art so as to arrive at the claimed process. *Id.* at 21. The Examiner sets forth a reason to combine the teachings of Bhatia, Sangeeta, and Hasz. Final Act. 10–11. More specifically, the Examiner determines that one of skill in the art would have combined the teachings of the cited references because “such a mixture would aid control over drying and provide enhanced leveling properties.” *Id.* at 10. Appellant does not show error in (or even discuss) the Examiner’s basis for combination.

In view of the foregoing, Appellant has not shown error in the rejection of claims 1–3, 5–8, 11, 13, and 17–19 as obvious over Bhatia in view of Sangeeta and Hasz.

Rejections 6–9. Claims 9–12 and 14–16 are rejected over Bhatia in view of Sangeeta and Hasz as well as certain additional references. Final Act. 13–15. These rejections appear not to be appealed. Appeal Br. 10. Accordingly, they are summarily sustained. *See* MPEP § 1205.02 (9th ed., Rev. Nov. 2013) (“If a ground of rejection stated by the examiner is not addressed in the appellant’s brief, appellant has waived any challenge to that

ground of rejection and the Board may summarily sustain it.”). To the extent that Appellant seeks to rely upon the arguments it presents with regard to Rejection 5, such arguments have not been found persuasive and are not indicative of reversible error.

CONCLUSION

The Examiner’s rejection of claims 1, 3, 5–10, and 13–19 as obvious over Kirby as informed by Boutwell is reversed. The Examiner’s rejection of claim 2 as obvious over Kirby in view of Bhatia is reversed. The Examiner’s rejection of claims 11 and 12 as obvious over Kirby in view of Hazel is reversed. The Examiner’s rejection of claims 11 and 12 as obvious over Kirby in view of Fitzgibbons is reversed.

The Examiner’s rejection of claims 1–3, 5–8, 11, 13, and 17–19 as obvious over Bhatia in view of Sangeeta and Hasz is affirmed. The Examiner’s rejection of claims 9 and 10 as obvious over Bhatia in view of Sangeeta, Hasz, and Spaldon is affirmed. The Examiner’s rejection of claims 11 and 12 as obvious over Bhatia in view of Sangeeta, Hasz, and Hazel is affirmed. The Examiner’s rejection of claims 11 and 12 as obvious over Bhatia in view of Sangeeta, Hasz, and Fitzgibbons is affirmed. The Examiner’s rejection of claims 14–16 as obvious over Bhatia in view of Sangeeta, Hasz, and Kirby is affirmed.

In summary:

Claims Rejected	35 U.S.C. §	Reference(s)/Basis	Affirmed	Reversed
1, 3, 5–10, 13–19	103	Kirby, Boutwell		1, 3, 5–10, 13–19
2	103	Kirby, Bhatia		2
11, 12	103	Kirby, Hazel		11, 12
11, 12	103	Kirby, Fitzgibbons		11, 12
1–3, 5–8, 11, 13, 17–19	103	Bhatia, Sangeeta, Hasz	1–3, 5–8, 11, 13, 17–19	
9, 10	103	Bhatia, Sangeeta, Hasz, Spaldon	9, 10	
11, 12	103	Bhatia, Sangeeta, Hasz, Hazel	11, 12	
11, 12	103	Bhatia, Sangeeta, Hasz, Fitzgibbons	11, 12	
14–16	103	Bhatia, Sangeeta, Hasz, Kirby	14–16	
Overall Outcome			1–3, 5–19	

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

AFFIRMED