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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Ex parte XIAOMANG WANG

Appeal 2011-010520
Application 11/677,453
Technology Center 1700

Before KAREN M. HASTINGS, GEORGE C. BEST, and
GRACE KARAFFA OBERMANN, *Administrative Patent Judges*.

OBERMANN, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellant seeks relief under 35 U.S.C. § 134 from the Examiner's final rejection of claims 1-17 as unpatentable under 35 U.S.C. § 103(a) over Brenneman (US 4,721,739, patented January 26, 1988). We have jurisdiction under 35 U.S.C. § 6(b).

We AFFIRM.

The independent claims are directed to an ink composition (claim 1) and a writing instrument containing an ink composition (claim 9). Appellant argues claims 1-17 as a group. App. Br. 3-6. We select claim 1 as representative of the group. Claims 2-17 stand or fall with claim 1. 37 C.F.R. § 41.37(c)(1)(vii).

Claim 1 reads as follows:

1. An ink composition comprising:

> at least one solvent;
>
> at least one colorant; and,
>
> at least one petroleum-based oil,
>
> wherein the petroleum-based oil is less than 50 weight percent (wt.%) soluble in the solvent.

The Examiner finds that Brenneman discloses an ink composition comprising from about 10 to about 40 wt.% solvent and from about 0.1 to 60 wt.% colorant. Ans. 3-4 (citing Brenneman 3:49-55). These ranges overlap or encompass the corresponding ranges disclosed in the Specification for the inventive ink composition, which typically comprises from about 20 to about 98 wt.% solvent and about 0.1 to about 45 wt.% colorant. Spec. paras. 5, 16. Brenneman and the Specification both disclose ethers, alcohols, and ketones as suitable solvents. Brenneman 7:45-51; Spec. para. 9. Brenneman and the Specification both disclose that any conventional colorant, e.g., carbon black, may be used in the composition. Brenneman 4:65; Spec. para. 12.

Claim 1 includes the open transitional term "comprising" and thus does not exclude additional components. For example, the Specification discloses that the inventive "ink compositions may optionally further comprise a resin and one or more additives." Spec. para. 7. Indeed, Brenneman and the Specification both contemplate the addition of the same resins, for example, terpene and hydrocarbon resins. *See* Ans. 4 (citing Brenneman 7:65-8:2); Spec. para. 23.

The final component specified in claim 1 is "petroleum-based oil[.]" Regarding that component, the Examiner finds that Brenneman discloses the

inclusion of a "plasticizer" that "may be a hydrocarbon such as paraffinic oil, aromatic or naphthenic oil." Ans. 4 (citing Brenneman 7:17-27). The plasticizer is included in an amount "from about 10 to about 35%" by weight. Brenneman 3:51-55. Paraffinic and naphthenic oils are identified in the Specification as "petroleum-based oil[s]" suitable for use in the inventive composition, wherein "[t]he oil typically comprises about 0.1 wt.% to about 15 wt.%" of the composition. Spec. ¶ [0022]. Thus, here again, the range disclosed in Brenneman overlaps the range disclosed in the Specification.

Where Brenneman expressly discloses that the plasticizer may comprise "petroleum-based oil (naphthenic oil) as claimed[,]" the Examiner concludes that it would have been obvious to include petroleum-based oil in Brenneman's ink composition, notwithstanding the fact that Brenneman "shows no example incorporating" such an oil. Ans. 4. The main point of contention on appeal is whether Brenneman suggests the inclusion of a petroleum-based oil that "is less than 50 weight percent (wt.%) soluble in the solvent" as specified in claim 1. *Compare* Ans. 4 *to* App. Br. 3-6.

The Examiner and Appellant both attempt to establish what Brenneman in fact suggests about the weight percent solubility of the plasticizer in the solvent. *Compare* Ans. 5(citing Brenneman 2:60-62; 3:32-38; 4:16-24) *to* Reply Br. 3 (citing Brenneman 6:3-6; 7:35-36). In our opinion, Brenneman is inconclusive on this point: The reference neither explains the significance (in terms of weight percent solubility) of the solvent being "at least compatible with the plasticizer to produce a uniformly disbursed composition" (Brenneman 3:32-38, upon which the Examiner relies) nor establishes that the plasticizer is fully, as opposed to partially,

"dissolved" in the solvent (Brenneman 7:35-36, upon which Appellant relies, disclosing that the solvent "functions to dissolve . . . the plasticizer").

While that ambiguity favors a conclusion that the reference fails to expressly disclose that the "petroleum-based oil is less that 50 weight percent (wt.%) soluble in the solvent" as specified in claim 1, a question remains whether the Examiner establishes an inherent disclosure of that property in Brenneman's composition. In this regard, the Examiner finds that, when a petroleum-based oil is chosen as the plasticizer, Brenneman discloses an ink composition that is substantially "the same as" the composition of claim 1 and would, therefore, inherently possess substantially the same "properties[,]" including the requisite solubility (50% by weight) of the plasticizer in the solvent. Ans. 5.

The record supports that finding. Brenneman describes an ink composition comprising the same solvent (for example, ethers), the same colorant (for example, carbon black), and the same petroleum-based oil (for example, naphthenic oil) as claim 1, in weight percent ranges that overlap or encompass the ranges disclosed in the Specification. *Compare* Brenneman 3:49-55 (weight percent ranges of colorant, solvent, and plasticizer in ink composition); 4:65 (carbon black as colorant); 7:45-51 (ethers as solvent); 7:17-27 (naphthenic oil as plasticizer) *to* Spec. paras. 5, 16, 22 (weight percent ranges of colorant, solvent, and petroleum-based oil in composition); para. 9 (alcohol as solvent); para. 12 (carbon black as colorant); para. 22 (naphthenic oil as petroleum-based oil).

On this record, the Examiner makes out a prima facie case that Brenneman discloses a composition that is substantially the same as the inventive composition and would, therefore, possess substantially the same

properties (including the specified solubility of the petroleum-based oil in the solvent). *See In re Peterson*, 315 F.3d 1325, 1329-30 (Fed. Cir. 2003) (a prior art reference which discloses a range encompassing or overlapping a claimed range is sufficient to establish a prima facie case of obviousness). Because the composition of claim 1 reasonably appears to be substantially the same as the composition disclosed in Brenneman, the burden shifts to Appellant to prove that Brenneman's composition does not inherently possess the same characteristics as the inventive composition, and in particular, the characteristic solubility of the oil as specified in claim 1. *See In re Spada*, 911 F.2d 705, 708 (Fed. Cir. 1990).

We thus turn to whether Appellant comes forward with evidence sufficient to rebut the prima facie case of obviousness. Appellant asserts:

> [W]hile Brenneman teaches [that] a variety of plasticizers and solvents are suitable for use in the disclosed ink composition, there is no teaching or suggestion in Brenneman to select a particular solvent-plasticizer combination so as to provide an ink composition that includes a plasticizer that is less than 50 weight percent soluble in the solvent, as claimed.

App. Br. 5 (emphasis omitted). That argument is unconvincing because Brenneman in fact contains an explicit suggestion to select a petroleum-based oil as the plasticizer in a composition that comprises the same solvents and the same colorants contemplated in claim 1. Brenneman 7:35-36; *see supra* (for identity of solvents and colorants).

Appellant further argues that "the interaction between the oil and the solvent (i.e., wherein the petroleum-based oil is less than 50 weight percent soluble in the solvent) is related to obtaining desired performance and preventing the problem of 'dry-out' addressed by the claimed invention." App. Br. 5 (citing Spec. paras. 1-2, describing dry out that "occurs because

the ink composition contained in a writing instrument can evaporate from an exposed writing point, and leave a solid residue behind"). Significantly, Appellant stops short of directing us to any disclosure in the Specification suggesting that the requisite solubility is the result of anything other than including in the composition a solvent, a colorant, and a petroleum-based oil in the weight percent ranges disclosed in the Specification. App. Br. 3-6; *see* Spec. para. 8 (describing the desired solubility of the oil then disclosing the preferred weight percent ranges of solvent); *see also* Spec. 21 (explaining that "[t]he selected oil(s) typically has the solubility property mentioned above relative to the ink composition solvent(s), but otherwise need not be limited"). Appellant thus fails to rebut the Examiner's finding that the inventive and prior art compositions are substantially identical and would, therefore, have substantially identical properties, including the solubility of the petroleum-based oil in the solvent. Ans. 5.

On this record, we agree with the Examiner that the solubility of the petroleum-based oil represents an inherent characteristic of the prior art composition that adds nothing of patentable consequence. *Cf. In re Kao*, 639 F.3d 1057, 1070 (Fed. Cir. 2011); *see In re Kubin*, 561 F.3d 1351, 1357 (Fed. Cir. 2009) ("[e]ven if no prior art of record explicitly discusses the [limitation], [applicant's] application itself instructs that [the limitation] is not an additional requirement imposed by the claims on the [claimed invention], but rather a property necessarily present in [the claimed invention]"); *King Pharms., Inc. v. Eon Labs, Inc.*, 616 F.3d 1267, 1275-76 (Fed. Cir. 2010) (stating that "merely discovering and claiming a new benefit of an old process cannot render the process again patentable" (citations omitted)).

Appellant's further argument that Brenneman fails "to recognize the problem of dry-out" is unconvincing. Reply Br. 5. For a prima facie case of obviousness to be established, the reference need not recognize the problem solved by Appellant. *In re Kemps*, 97 F.3d 1427, 1430 (Fed. Cir. 1996).

No persuasive argument or evidence as to error having been brought forward by the Appellant, we affirm the Examiner's rejection.

CONCLUSION

The rejection of claims 1-17 as unpatentable over Brenneman is AFFIRMED.

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

AFFIRMED

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