

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte ALI RIHAN
and EMERSON KEITH COLYER,
APPELLANTS

Appeal 2008-2936
Application 09/965,423¹
Technology Center 1700

Decided: June 18, 2008

Before THOMAS A. WALTZ, CAROL A. SPIEGEL, and
MARK NAGUMO, *Administrative Patent Judges*.

NAGUMO, *Administrative Patent Judge*.

DECISION ON APPEAL

¹ Application 09/965,423 was filed 27 September 2001, titled *Fast Drying Clearcoat Refinish Composition* ("423 Specification," cited as "Spec."). The real party in interest is listed as BASF Corporation. (Appeal Brief under 37 C.F.R. § 41.37, filed 4 October 2004 ("Br."), at 1.)

A. Introduction

Ali Rihan and Emerson Keith Colyer (“Rihan”) appeal under 35 U.S.C. § 134(a) from the final rejection of claims 1-25, which are all of the pending claims. We have jurisdiction under 35 U.S.C. § 6. We AFFIRM-IN-PART.

The subject matter on appeal relates to a clearcoat refinish composition that is said to dry quickly. The composition requires, *inter alia*, “an hydroxyl-functional acrylic polymer . . . [having] a number average molecular weight of at least about 5000” that is “polymerized using at least about 45% by weight of a cycloaliphatic monomer, based on the total weight of monomers polymerized.” (Claims App., Br. 15, Claim 1.)

The Examiner has maintained the following rejections²:

- A. Claims 1-22 stand rejected under 35 U.S.C. § 102(b) in view of Rink³ (Ans. 3-7);
- B. Claims 16 and 22-25 stand rejected under 35 U.S.C. § 103(a) in view of the combined teachings of Rink and Röckrath⁴ (Ans. 7-9); and
- C. Claims 1-3, 5-21, and 23-25 stand rejected under 35 U.S.C. § 103(a) in view of the combined teachings of Rink and Das⁵ (Ans. 9-10).

² Examiner's Answer mailed 31 July 2007 ("Ans.").

³ Heinz-Peter Rink and Michael Brünemann, *Coating Composition Based on a Hydroxyl Group-Containing Polyacrylate Resin and its use in Processes for Producing a Multicoat Finish*, U.S. Patent 5,759,631 (1998).

⁴ Ulrike Röckrath *et al.*, *Process for the Production of a Two-Coat Finish on a Substrate Surface*, U.S. Patent 5,716,678 (1998).

Representative claim 1 reads:

A refinish composition comprising

(a) an hydroxyl-functional acrylic polymer, wherein the acrylic polymer has a number average molecular weight of at least about 5000 and is polymerized using at least about 45% by weight of a cycloaliphatic monomer, based on the total weight of monomers polymerized,

(b) at least one film-forming polymer different from the acrylic polymer of (a), and

(c) optionally, at least one curing agent for the acrylic polymer of (a) and/or the film-forming polymer of (b),

wherein the acrylic polymer of (a) is from about 5% up to about 60% by weight of the combined weight of the acrylic polymer of (a) and the film-forming polymer or polymers of (b)

and further wherein the refinish composition is a refinish clearcoat composition.

(Claims App., Br. 15.)

B. Discussion

According to the 423 Specification, “[u]nlike the original finish coating compositions, which are typically cured at temperatures of 110°C [~230°F] or higher, automotive refinish coatings must be formulated as either thermoplastic compositions or thermosetting compositions that cure at relatively low temperatures because many components of a finished vehicle cannot withstand high temperature bakes.” (Spec. 1, ¶ 3.) The 423 Specification states further that “[i]n many thermosetting automotive refinish clearcoat compositions the curing agent reacts with the main resin or

⁵ Suryya K. Das *et al.*, *Polyisocyanate Cured Ultradurable Glossy Coating Compositions*, WO 97/22646 (1997)

polymer at room temperatures within a reasonable amount of time without heating or with heating at low temperatures of perhaps up to 150°F [~66° C].” (Id. at 2, ¶ 4.) According to the working examples in the 423 Specification, parts coated with the inventive clearcoat compositions were cured at 71° C (~160°F) for 15 minutes. (E.g., Spec. 19, ¶ 44.)

Rink

The Examiner rejects claims 1-22 under § 102(b) in view of Rink. In particular, the Examiner finds that Rink describes a composition comprising a hydroxy-functional acrylic monomer having a molecular weight of at least about 5000, as well as the remaining components required by claim 1. (Ans. 3-5.)

Rihan objects that Rink does not describe a hydroxyl-functional polymer having a number average molecular weight of at least about 5000, polymerized from at least about 45 weight percent of a cycloaliphatic monomer with sufficient clarity and detail to establish that the claimed compositions existed in the prior art. (Br. 8.)

Rink describes component (A) of a coating composition as a polyacrylate resin containing hydroxyl groups. Among the components of the polyacrylate resin is, *inter alia*, “(a) a cycloaliphatic ester of methacrylic acid and/or acrylic acid, or a mixture of such monomers.” Rink (1:11-12.) Component (A) is said to be obtainable by polymerizing “from 5 to 80% by weight of component (a)” with the remaining components of the polymer. (Id. at 2:12-14.) The resulting polyacrylate resin is said to have a number-average molecular weight of from 1000 to 5000. (Id. at 2:20-21.) In

preferred embodiments, component (a) is present at 5 to 30% by weight.

(*Id.* at 2:60-62.)

A prior art range which overlaps, but is not wholly included *within*, a claimed range *generally* does not anticipate the claimed range. *See, e.g., Atofina v. Great Lakes Chemical Corp.*, 441 F.3d 991 (Fed. Cir. 2006) ((1) prior art temperature range of 100°C to 500°C does not anticipate claimed range of 330°C to 450°C (*id.* at 999) and (2) prior art range of 0.001 to 1% oxygen to methylene chloride molar ratio does not anticipate range of 0.1% to 5.0% oxygen to methylene chloride molar ratio (*id.* at 1000)).

The Examiner's rejection of the claims for anticipation under 35 U.S.C. § 102(b) is foreclosed, in the absence of some more specific teaching, by the Federal Circuit's decision in *Atofina*. Just as the ranges in *Atofina* were not anticipated by the prior art, so it is here.

No embodiment described by Rink has been shown to include all of the limitation of the claims on appeal. Nor has the Examiner directed our attention to any credible evidence or "blazemarks" that would have directed the ordinary worker in the art to the particular subject matter covered by Rihan's claims.

As the CCPA instructed several decades ago:

It is to be noted that rejections under 35 U.S.C. § 103 are proper where the subject matter claimed "is not *identically* disclosed or described" (emphasis ours) in "the prior art," indicating that rejections under 35 U.S.C. § 102 are proper only when the claimed subject matter *is* identically disclosed or described in "the prior art." Thus, for the instant rejection under 35 U.S.C. § 102(e) to have been proper, the Flynn reference must clearly and unequivocally disclose the claimed compound or direct those skilled in the art to the compound without *any* need for

picking, choosing, and combining various disclosures not directly related to each other by the teachings of the cited reference.

In re Arkley, 455 F.2d 586, 587 (CCPA 1972).

Accordingly, the rejection under § 102(b) in view of Rink is REVERSED.

Röckrath and Rink

The Examiner rejects claim 16 and 22-25 under § 103(a) in view of the combined teachings of Röckrath and Rink.⁶

Claim 16 reads:

A method of refinishing a substrate, comprising steps of:

- (a) applying to a desired area of the substrate a layer of a refinish basecoat composition:
- (b) allowing the applied layer of basecoat composition to dry; and
- (c) applying over the layer of basecoat composition a refinish clearcoat composition comprising (i) an hydroxyl-functional acrylic polymer, wherein the acrylic polymer has a number average molecular weight of at least about 5000 and is polymerized using at least about 45% by weight of a

⁶ Claims 1-16 and 22-25 were finally rejected under 35 U.S.C. § 103(a) in the Office action mailed 6 May 2004. In the Answer (Ans. 7-9), the Examiner only maintained the rejection of claims 16 and 22-25. Dependent claims 24 and 25 depend from independent method claim 16, while dependent claims 22 and 23 depend from independent composition claim 1. Although the Examiner was requested to clarify and/or correct the rejection ("Order Returning Undocketed Appeal to Examiner," mailed 10 July 2007, at 3), the Examiner did not do so. However, inclusion of claim 1, at least, in the § 103 rejection over Röckrath and Rink would not change the outcome of our decision.

cycloaliphatic monomer, based on the total weight of monomers polymerized, (ii) at least one film-forming polymer different from the acrylic polymer of (i) wherein the acrylic polymer of (i) is from about 5% up to about 60% by weight of the combined weight of the acrylic polymer of (i) and the film forming polymer or polymers of (ii), and optionally, (iii) at least one curing agent reactive with the acrylic polymer of (i) and/or the film-forming polymer of (ii).

(Claims App., Br. 19; emphasis added.)

Notably, steps (a) and (c) of the method recited in claim 16 requires that the recited coats be “refinish” compositions, while composition claims 22 and 23 cover “refinish” compositions. As already observed, the 423 Specification characterizes refinish compositions as low temperature (up to “about” 150° F) curing compositions. (Spec. 2, ¶ 4.) Rihan’s examples, discussed *infra*, cure “refinish compositions” at 160° F.” Consistently, the excerpt from the article, *Coatings*, from the Encyclopedia of Polymer Science and Engineering Supp. Vol. 118-119, of record and provided by Rihan in the Evidence Appendix to its Brief, states at 118, “[t]he other broad class of refinish coatings is cross-linking coatings, called enamels in the trade. In the United States, enamels are cured at ambient temperatures; in Europe, curing is commonly carried out at temperatures of 60-75° C [140 -167° F].”

The Examiner finds that Röckrath teaches a clear coat composition and a method of coating that meets all the limitations of claims 16 and 22-25, but for the additional film-forming polymer (ii) that is different from the hydroxyl containing acrylic polymer. (Ans. 7-9.) The Examiner argues that it would have been obvious to add additional film forming polymer resin as taught by Rink “for almost identical composition of

Rockrath” in order to obtain improved film properties. (Ans. 9; emphasis omitted.)

Although the Examiner is correct that all the steps of the process recited in claim 16 are described by Röckrath ((a) applying a layer of basecoat; (b) allowing the basecoat layer to dry; and (c) applying a clearcoat), the Examiner is not correct that Röckrath teaches using the materials recited in the claimed process or incorporated into the claimed compositions. First, as Rihan points out (Br. 10-11), neither the basecoat nor the top coat are “refinish compositions” as required by Rihan’s claims. On the contrary, Röckrath states that the two coat finishes are “baked under the baking conditions currently employed in the production-line finishing of cars (30 minutes at 130° C. or 20 minutes at 140° C.).” (Röckrath 7:24-29.) Second, Röckrath component (c) contains from 28 to 85% by weight of aliphatic or cycloaliphatic esters of methacrylic acid (Röckrath 2:24-29), whereas the claimed subject matter requires at least about 45% by weight of a cycloaliphatic monomer. Nor has the Examiner directed our attention to any credible evidence that the introduction of polymer (ii), which the Examiner finds is described by Rink⁷, to the blends taught by Röckrath, would have lowered the curing temperature of the Röckrath compositions to the range defined by the 423 Specification as characteristic of a “refinish composition” as required by these claims.

The rejection of claims 16 and 22-25 under § 103 in view of the combined teachings of Röckrath and Rink is therefore REVERSED.

⁷ Ans. paragraph bridging 4-5. As Rihan has not disputed this finding, we consider further argument waived. 37 C.F.R. § 41.37(c)(1)(vii).

Das and Rink

The Examiner rejects claims 1-3, 5-21, and 23-25 under § 103(a) in view of the combined teachings of Das and Rink. In particular, the Examiner finds that Das describes a clear coat finish composition meeting all the limitations of claim 1 but for the additional film forming polymer (b), about which the Examiner concedes that Das is “silent.” (Ans. 9-10.) As in the preceding rejection, the Examiner concludes that it would have been obvious to use such polymers taught by Ring in the clear coat compositions taught by Das. (*Id.* at 10.)

Rihan argues that Das is not directed to low-temperature curing refinish compositions, citing Das at page 10, lines 1-10, as teaching “a cure temperature of 160-350°F [71-177°C], well above feasible refinish curing temperatures.” (Br. 13.). However, the full text of Das at page 11, lines 1-10 reads:

After application of the top coat over the base coat, the coated substrate is heated to cure the coating layers. In the curing operation, solvents are driven off and the film-forming materials of the clear coat and the base coat are each crosslinked. The heating or curing operation is usually carried out at a temperature of *about* 160-350°F (71-177° C). If needed, however, *lower* or higher temperatures may be used as necessary to activate crosslinking mechanisms.”

(Das at 11:4-6; emphasis added.) Thus, Das teaches clear-coat compositions that may be cured at temperatures lower than 160°F. Moreover, Rihan has not come forward with credible evidence supporting its argument that the entire range is “well above feasible refinish curing temperatures.” Indeed, the *Coatings* article introduced by Rihan to the record and cited in the Evidence Appendix of its Appeal Brief indicates that refinish curing is

commonly carried out at temperatures of 60-75° C, i.e., 140-167°F. Thus, the weight of the evidence indicates that the lower end of the range of curing temperatures disclosed by Rihan as suitable for its clear coat compositions *is* within the range recognized for refinish compositions.

Rihan argues further that Das at page 4 teaches that its film forming composition is entirely made of the acrylic solution polymer (60-90%) and the polyisocyanate crosslinking agent (10-40%). (Br. 13.) According to Rihan, this teaching leads one away from adding any further film forming polymer. (*Id.*) However, regarding the amounts of both the acrylic solution polymer and the polyisocyanate crosslinking agent, Das states, “[t]hese weight percentages are based upon the total resin solids weight of a [hydroxyl-containing acrylic solution polymer/polyisocyanate crosslinking agent] in the film-forming composition. The “total resin solids weight” does not exclude—and indeed admits—the presence of other resins, including film forming polymers. Rihan has not come forward with any other probative evidence regarding what the ordinary worker would have reasonably understood Das to teach.

In reaching this conclusion, it has not escaped our notice that the examples in Das do not include other film forming polymers, and that the curing temperatures are at the high end of the disclosed range, well above the range recited in Rihan’s claims. The teachings of a reference are not, however, limited to its examples. *Merck & Co. Inc. v. Biocraft Laboratories Inc.*, 874 F.2d 804, 807 (Fed. Cir. 1989) (“in a section 103 inquiry, ‘the fact that a specific [embodiment] is taught to be preferred is not controlling, since all disclosures of the prior art, including unpreferred embodiments,

must be considered.” (quoting *In re Lamberti*, 545 F.2d 747, 750 (CCPA 1976)).

Finally, Rihan argues that the “vague rationale” offered by the Examiner's motivation to add the additional polymers taught by Rink to the compositions described by Das is insufficient to constitute legal motivation. (Br. 13.) On the present record, however, Rihan has not challenged the Examiner’s findings regarding Rink’s teachings as to the second polymer or the reasons for adding the second polymer. Nor has Rihan challenged the Examiner’s finding that the compositions taught by Das are “almost identical” to those taught by Rink (Final Rejection⁸ 7; Ans. 10), other than to argue that Das does not teach refinish compositions. If it is known to add a material to a composition to obtain certain properties, there is a reasonable expectation to add that material to similar compositions, and particularly to “almost identical” compositions, to obtain similar properties. The reasonable expectation of success is all that is required for a prima facie case of obviousness, *In re O’Farrell*, 853 F.2d 894, 904 (Fed. Cir. 1988).

Accordingly, the rejection over Das and Rink is AFFIRMED.

C. Summary

In view of the record and the foregoing considerations, it is:

ORDERED that the rejection of claims 1-22 under 35 U.S.C. § 102(b) in view of Rink is REVERSED;

⁸ Office Action mailed 6 May 2004 (“Final Rejection”).

2008-2936
Application 09/965,423

FURTHER ORDERED that the rejection of claims 16 and 22-25 under 35 U.S.C. § 103(a) in view of the combined teachings of Rink and Röckrath is REVERSED;

FURTHER ORDERED that the rejection of claims 1-3, 5-21, and 23-25 under 35 U.S.C. § 103(a) in view of the combined teachings of Rink and Das is AFFIRMED.

FURTHER ORDERED that 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-IN-PART

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