UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

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Ex parte UNILEVER HOME & PERSONAL CARE USA

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Appeal 2008-0227
Reexamination Control 90/006,992
Patent 6,475,977[1]
Technology Center 3900

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Decided: May 05, 2008

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Before TEDDY S. GRON, ADRIENE LEPIANE HANLON, and CAROL A. SPIEGEL, *Administrative Patent Judges*.

HANLON, *Administrative Patent Judge*.

DECISION ON APPEAL

A. STATEMENT OF THE CASE

The Appellant appeals from the rejection of claims 1, 2, and 4-44, all of the claims subject to reexamination.[2] 35 U.S.C. §§ 134 and 306. We have jurisdiction under 35 U.S.C § 6(b). We AFFIRM.

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[1] Patent 6,475,977 issued to Pfeiffer on November 5, 2002.

[2] The Appellant cancelled claim 3 in an amendment filed November 30, 2006, in response to the Final Office Action. In an Advisory Action mailed February 21, 2007, the Examiner indicated that the proposed amendment would be entered for purposes of appeal.

The Examiner finally rejected claims 1, 2, and 4-44 under 35 U.S.C. § 103(a) as being unpatentable over the combination of Canadian Patent 1,112,534 issued November 17, 1981 (534 patent), WO 99/58633 published November 18, 1999 (WO 633), and U.S. Patent 5,230,822 issued on July 27, 1993 to Kamel (Kamel). Final 6-10.[3]

The Examiner also finally rejected claims 31 and 37-39 under 35 U.S.C. § 112, first paragraph, as failing to comply with the written description requirement.[4] Final 10-11.

B. ISSUES

Whether the Appellant has shown that the Examiner erred in rejecting claims 1, 2, and 4-44 under 35 U.S.C. § 103(a) as being unpatentable over the combination of the 534 patent, WO 633, and Kamel.

Whether the Appellant has shown that the Examiner erred in rejecting claims 31 and 37-39 under 35 U.S.C. § 112, first paragraph, based on the written description requirement.

C. FINDINGS OF FACT

The following findings of fact are believed to be supported by a preponderance of the evidence. Additional findings of fact as necessary appear in the Analysis portion of the opinion.

1. Appellant's invention

The Appellant's invention is directed to a water soluble sachet comprising a dishwashing composition for use in a dishwashing machine. Pfeiffer 1:6-9.

[3] Final Office Action mailed September 28, 2006.
[4] Claims 23-44 were added during the reexamination proceeding.

Claims 1, 6, 31, and 34 are representative of the issues necessary to resolve this appeal.[5] They read as follows:

> 1. A water soluble sachet comprising a dishwashing composition wherein the dishwashing composition is an aqueous gel and comprises an encapsulated bleach.
>
> 6. A water soluble sachet comprising a dishwashing composition having:
>
> (a) a polymer having a weight average molecular weight of greater than about 2,000 and comprising a positive charge; and
>
> (b) a water soluble polymer that reduces phosphate scale formation, a compound that reduces carbonate scale formation, or both
>
> wherein the dishwashing composition is an aqueous gel.
>
> 31. The water soluble sachet according to claim 1 wherein the gel does not require solid dispersed particle to thicken.
>
> 34. The water soluble sachet according to claim 33 wherein the cross-linked anionic polymer comprises a cross-linked polyacrylic acid.

The Appellant defines "gel" as meaning any liquid having a viscosity of greater than about 100 cps and less than about 45,000 cps, measured at a shear rate of 1/s at ambient temperature. Pfeiffer 3:42-45.

According to the Appellant's Specification:

> The components of the dishwashing composition of this invention are limited only to the extent that they may be combined to make a gel having the above-described viscosities and that they do not degrade the structural properties of the film sachet forming materials to an extent where the dishwashing properties of the dishwashing composition are compromised.

[5] 37 C.F.R. § 41.37(c)(1)(vii) (2007).

> Typically, such components include water, thickening agent, bleach, buffering agent and builder. Water typically makes up the balance.

Pfeiffer 5:9-18.

The Appellant discloses that the dishwashing composition may be thickened using cross-linked anionic polymers. Illustrative examples include cross-linked polyacrylic acid-type thickening agents sold by B. F. Goodrich under their Carbopol trademark. Pfeiffer 13:41-45.

2. 534 patent

The 534 patent discloses a detergent article consisting essentially of a packet made of a water-soluble or water-dispersible film that encloses a paste-form detergent composition formulated for use in an automatic dishwasher. 534 patent 5:16-20.

According to the 534 patent, the term "paste" is intended to encompass paste, gel, and viscous liquid detergent compositions having a minimum viscosity of at least about 1000 centipoise, preferably at least about 2000 centipoise. 534 patent 5:27-6:2.

In order to provide satisfactory pasty compositions, up to about 60% of a solvent, solubilizing material, or suspending agent may be included. 534 patent 22:12-14. Water may be used in this context and forms the continuous phase of a concentrated dispersion. 534 patent 22:18-20.

The 534 patent discloses that it is desirable to include a viscosity control agent or a thixotropic agent to provide a suitable product form. For example, aqueous solutions or dispersions may be thickened or made thixotropic with conventional agents such as methylcellulose,

carboxymethylcellulose, starch, polyvinylpyrrolidone, gelatin, and colloidal silica. 534 patent 22:21-27.

Example IV describes a "gel-form" detergent composition for use in automatic dishwashers that includes 32.0% silicate solids and 39.1 % by weight "Waters and minors." The composition is said to be contained in a water-soluble packet. 534 patent 31:2-14.

The detergent composition disclosed in the 534 patent may also contain additional components that are often found in automatic dishwashing detergent compositions. 534 patent 5:2-11; see also 534 patent 21:17-29.

3. WO 633

WO 633 discloses a detergent composition containing a water soluble cationic or amphoteric polymer that reduces spotting and filming on glassware cleaned in an automatic dishwashing machine. WO 633 at 5:23-27.

WO 633 discloses that particularly useful cationic polymers are copolymers of diallyldimethylammonium salt and hydroxyethylcellulose. WO 633 at 16:24-26. These polymers are said to have molecular weights greater than 1,000,000. WO 633 at 16:34-17:2.

The cationic or amphoteric polymers may be used in conjunction with conventional detergent ingredients, such as oxygen bleaching systems and antiscalants. WO 366 at 17:25-32.

An oxygen bleaching agent may be encapsulated in a paraffin wax material. WO 366 at 22:33-23:5.

WO 633 also discloses that scale formation on dishes and machine parts can be a significant problem. It can arise from a number of sources,

but primarily it results from precipitation of alkaline earth metal carbonates, phosphates, or silicates. To reduce this problem, antiscalants may be incorporated into the detergent composition. WO 633 at 38:9-15.

WO 633 discloses that the dishwashing composition may be formulated as an aqueous liquid or gel. WO 633 at 43:5-7.

4. Kamel

The invention disclosed in Kamel comprises an encapsulated solid core particle suitable for use in household and industrial cleaning products. The core materials include bleach and bleach catalysts. Without encapsulation, these materials are said to be unstable in a liquid environment. Kamel 3:30-36; see also Kamel 4:45-53.

Paraffin wax is said to be a suitable coating material for encapsulating the core particles. Kamel 7:29-34.

The wax encapsulated particles of the invention may be incorporated into a variety of powder and liquid cleaning compositions, such as automatic dishwashing machine detergents. Kamel 15:14-18.

Wax encapsulated chlorine bleach is said to be especially suitable for automatic dishwashing liquid or gel detergent products where the encapsulated particles will be present in an amount of 0.1 to 20% by weight of the composition. Kamel 15:28-32.

Example IV examines the ability of encapsulated bleach to prevent spots on glassware washed in an automatic dishwashing machine. According to Example IV, glassware washed in an automatic dishwashing machine without bleach was heavily spotted. However, a reduction in the

number of spots was observed on glassware when a dishwashing composition comprising encapsulated bleach was used. Kamel 24:59-25:31.

Kamel also discloses that thickeners are often desirable for liquid cleaning compositions. Kamel 21:3-4.

Kamel discloses that cross-linked acrylic acid polymers manufactured by B. F. Goodrich and sold under the trade name "Carbopol" have been found to be effective for producing clear gels, and Carbopol 940 and 617 are particularly preferred for maintaining high viscosity with excellent chlorine stability over extended periods. Kamel 21:32-38.

D. PRINCIPLES OF LAW

A claimed invention is not patentable if the subject matter of the invention would have been obvious to a person having ordinary skill in the art at the time the invention was made. 35 U.S.C. § 103(a); *KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct. 1727 (2007); *Graham v. John Deere Co.*, 383 U.S. 1 (1966).

Facts relevant to a determination of obviousness include (1) the scope and content of the prior art, (2) any differences between the claimed invention and the prior art, (3) the level of skill in the art, and (4) any relevant objective evidence of obviousness or non-obviousness. *KSR*, 127 S. Ct. at 1734; *Graham*, 383 U.S. at 17-18.

The question under 35 U.S.C. § 103 is not merely what the references expressly teach, but what they would have suggested to one of ordinary skill in the art at the time the invention was made. All disclosures of the prior art, including unpreferred embodiments, must be considered. *In re Lamberti*, 545 F.2d 747, 750 (CCPA 1976).

One of ordinary skill in the art is presumed to have skills apart from what the prior art references expressly disclose. *See In re Sovish*, 769 F.2d 738, 743 (Fed. Cir. 1985). A person of ordinary skill is also a person of ordinary creativity, not an automaton. *KSR*, 127 S. Ct. at 1742.

The test for determining compliance with the written description requirement of 35 U.S.C. § 112, first paragraph, is whether the disclosure of the application, as originally filed, reasonably conveys to one of ordinary skill in the art that the inventor had possession at that time of the later claimed subject mater. The invention need not be described identically or literally for the application to satisfy the written description requirement of 35 U.S.C. § 112, first paragraph. *In re Kaslow*, 707 F.2d 1366, 1375 (Fed. Cir. 1983). Nevertheless, the description must be sufficiently clear that one of ordinary skill in the art would have recognized from the disclosure that the applicant invented the later claimed subject matter. *In re Wertheim*, 541 F.2d 257, 262 (CCPA 1976).

E. ANALYSIS

1. Rejection under 35 U.S.C. § 112, first paragraph

According to the Examiner, the original disclosure of the Pfeiffer patent does not disclose that the composition of the claims excludes solid particle thickeners. Final 11; Ans. 10.[6]

In response, the Appellant does not argue that the original disclosure of the Pfeiffer patent provides literal support for the language of claim 31. Rather, the Appellant directs the Examiner's attention to column 13, lines 41-49 and Examples 1-9 of the Pfeiffer patent. The Appellant argues that

[6] Examiner's Answer mailed June 23, 2007.

these portions of the Pfeiffer patent disclose thickeners that are water soluble and thus contends that the disclosed gels are not required to be thickened with solid particles. Br. 17-18.[7]

According to the original disclosure, thickeners that may be used in the invention include cross-linked anionic polymers. Illustrative examples include cross-linked polyacrylic acid-type thickening agents sold by B. F. Goodrich sold under their Carbopol trademark. See Pfeiffer 13:41-46. Carbopol 627, 980, and 941 were used to thicken the detergent compositions described in Examples 1-9. See Pfeiffer 16:26-50.

The original disclosure of the Pfeiffer patent does not disclose that cross-linked anionic polymers such as Carbopol 627, 980, and 941 are water soluble, and the Appellant has not directed us to any evidence establishing that these polymers are in fact water soluble. Similarly, the Appellant has not directed us to any evidence establishing that the disclosed gels, thickened using cross-linked anionic polymers such as Carbopol polymers, are free of particulates. *Rohm and Haas Co. v. Brotech Corp.*, 127 F.3d 1089, 1092 (Fed. Cir. 1997) (nothing in the rules or in jurisprudence requires the fact finder to credit unsupported or conclusory assertions); *In re Schulze*, 346 F.2d 600, 602 (CCPA 1965) (argument in the brief does not take the place of evidence in the record).

For these reasons, the Appellant has failed to establish that the original disclosure of the Pfeiffer patent provides written description support for a gel that does not require solid dispersed particles to thicken.

[7] Appeal Brief filed June 8, 2007.

2. Rejection under 35 U.S.C. § 103(a)

The Examiner found that the 534 patent discloses an article for cleaning tableware and cookware in an automatic dishwasher consisting essentially of a water-soluble packet that encloses a paste-form automatic dishwasher detergent composition. The Examiner found that the term "paste" as defined in the 534 patent encompasses paste, gel, and viscous liquid detergent compositions having a minimum viscosity of at least about 1000 centipoise, preferably at least about 2000 centipoise. The Examiner found that the disclosed detergent composition may include water as a solvent in an amount of up to about 60%, and water may form the continuous phase of a concentrated dispersion. The Examiner found that aqueous solutions or dispersions may be thickened or made thixotropic with conventional agents such as methylcellulose, carboxymethylcellulose, starch, polyvinylpyrrolidone, gelatin, and colloidal silica. Final 6-7; Ans. 5-6.

The Appellant argues that the 534 patent discloses a paste-form detergent composition, not an aqueous gel as claimed. The Appellant recognizes that water may be used as a solvent in the detergent compositions disclosed in the 534 patent. However, the Appellant argues that when water is used as a solvent the continuous phase of a concentrated dispersion is formed, not an aqueous gel as defined in the present invention. For support, the Appellant points to the gel-form detergent composition described in Example IV of the 534 patent containing 32.0% by weight silicate solids and 19.8% by weight sodium tripolyphosphate. Br. 13-14.

Further, referring to Example IV, the Appellant argues that the 534 patent requires solid dispersed particles to thicken the detergent composition. Br. 16. The Appellant argues that the concentrated dispersion in Example IV would be putty-like whereas gels are well defined to be flowable/thixotropic materials, i.e., jelly-like materials. Br. 11, 15.

The Appellant defines "gel" in the Specification as meaning any liquid having a viscosity of greater than about 100 centipoise and less than about 45,000 centipoise, measured at a shear rate of 1/s at ambient temperature. Pfeiffer 3:42-45.

The 534 patent discloses a "paste-form" detergent composition. The 534 patent discloses that the term "paste" is intended to encompass paste, *gel*, and viscous liquid detergent compositions having a minimum viscosity of at least about 1000 centipoise, preferably at least about 2000 centipoise. 534 patent 5:27-6:2. Example IV in the 534 patent describes a "gel-form" detergent composition containing 39.1% by weight "Waters and minors." 534 patent 31:2-10.

The Appellant has failed to explain why the definition of "gel" provided in the Appellant's Specification excludes a concentrated dispersion or the "gel-form" detergent composition disclosed in Example IV of the 534 patent. The Appellant has also failed to direct us to any evidence establishing that the "gel-form" detergent composition described in Example IV would be putty-like. *Rohm and Haas*, 127 F.3d at 1092; *Schulze*, 346 F.2d at 602.

Furthermore, the teachings of the 534 patent are not limited to the detergent composition described in the examples. The 534 patent discloses

that aqueous solutions or dispersions may be thickened or made thixotropic using other agents, such as gelatin, starch, and polyvinylpyrrolidone. 534 patent 22:23-27. The Appellant has not shown that aqueous solutions or dispersions thickened with these agents would not be expected to be "jelly-like."

Based on the record before us, we find that the "paste" disclosed in the 534 patent includes an "aqueous gel" within the scope of claim 1. *See In re Yamamoto*, 740 F.2d 1569, 1571 (Fed. Cir. 1984) (during reexamination claims are to be given their broadest reasonable interpretation consistent with the specification).

Next, the Appellant argues that the preferred thickeners employed in the gels of the claimed invention are not suggested for use in a water soluble sachet by the references relied on by the Examiner. Br. 17. The Appellant also argues that WO 633 does not suggest that an aqueous gel is suitable for use in a water-soluble sachet and when comprising, for example, a water soluble polymer for reducing phosphate scale formation as well as an encapsulated bleach. Br. 16.

A rejection premised upon a proper combination of references cannot be overcome by attacking the references individually. *In re Keller*, 642 F.2d 413, 426 (CCPA 1981).

According to the Appellant's Specification, preferred thickeners are Carbopol 934, 940, 941, 980, and 981. Pfeiffer 13:45-46; see also claim 34 (reciting that the polymeric thickener comprises a cross-linked polyacrylic acid).

The Examiner relied on Kamel to establish that cross-linked polyacrylic acid polymeric thickeners were known to be useful in detergent compositions. Ans. 8. Specifically, Kamel discloses that cross-linked acrylic acid polymers, such as those sold under the trade name "Carbopol," are effective for producing clear gels, and Carbopol 940 and 617 are particularly preferred for maintaining high viscosity with excellent chlorine stability over extended periods. Kamel 21:32-38.

The Examiner relied on WO 633 to establish that it is known to combine cationic or amphoteric polymers with conventional detergent ingredients, such as oxygen bleaching systems and antiscalants, in an aqueous gel. Ans. 7.

The Examiner concluded that the claimed water soluble sachet would have been obvious to one of ordinary skill in the art in view of the combined teachings of the 534 patent, WO 633, and Kamel. The Examiner also concluded that the combined teachings of the 534 patent, WO 633, and Kamel would have provided a reasonable expectation of success. Ans. 9. Significantly, the Appellant has failed to demonstrate that any of the Examiner's findings of fact or conclusions of law is erroneous.

For the reasons set forth above, the Appellant has not shown that the Examiner erred in rejecting claims 1, 2, and 4-44 under 35 U.S.C. § 103(a) as being unpatentable over the combination of the 534 patent, WO 633, and Kamel.

F. DECISION

The rejection of claims 1, 2, and 4-44 under 35 U.S.C. § 103(a) as being unpatentable over the combination of the 534 patent, WO 633, and Kamel is affirmed.

The rejection of claims 31 and 37-39 under 35 U.S.C. § 112, first paragraph, based on the written description requirement is affirmed.

AFFIRMED

MAT

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