

The opinion in support of the decision being entered today was **not** written for publication and is **not** binding precedent of the Board.

Paper No. 28

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte VICTOR FUK-PONG MAN¹

Appeal No. 1997-3354²
Application No. 08/469,809

ON BRIEF

Before McKELVEY, *Senior Administrative Patent Judge*, and WALTZ and TIMM, *Administrative Patent Judges*.

TIMM, *Administrative Patent Judge*.

DECISION ON APPEAL

This is a decision on appeal under 35 U.S.C. § 134 from the Examiner's final rejection of claims 2, 4-9, 11-20. Several of these claims were amended, claim 7 was canceled, and claim 21 was added after the final rejection. See the amendment filed July 12, 1996, Paper No. 18, which was entered as

¹The real party of interest is Ecolab Inc.

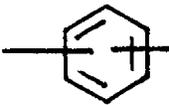
²Application for patent filed June 6, 1995, which is said to be a continuation of 08/200,631, filed February 23, 1994.

per the Advisory Action mailed August 8, 1996, Paper No. 21. The Examiner withdrew all grounds of rejection with respect to claims 11, 12, 16, 20, and 21 (Advisory Action). Therefore, this appeal is limited to claims 2, 4-6, 8, 9, 13-15 and 17-19.

BACKGROUND

Appellant's invention relates to an aqueous alkaline cleaner composition and a method for removing greasy soil containing lime-soaps from hard quarry or ceramic tile surfaces by applying the composition to the tile surfaces. Claim 13 is illustrative:

13. An aqueous alkaline cleaner composition for removing greasy soil containing lime-soaps from hard quarry or ceramic tile surfaces consisting essentially of:

(1) about 0.1-20 wt-% alkyl or alkylaryl  ethoxy carboxylates of the formula;



wherein R is a C₈ to C₂₂ alkyl group or R¹

in which R¹ is a C₄-C₁₆ alkyl group,

n is an integer of 1-20,

m is an integer of 1-3, and

X is hydrogen, sodium, potassium, lithium, ammonium, or an amine cation selected from monoethanolamine, diethanolamine and triethanolamine;

(2) about 1-20 wt% of a chelating agent selected from the group consisting of nitrilotriacetic acid, ethylenediamine tetraacetic acid, N-hydroxyethyl-ethylenediamine triacetic acid, and diethylenetriamine pentaacetic acid, and

(3) about 2-30 wt% of a source of alkalinity selected from the group consisting of monoethanolamine, diethanolamine, triethanolamine, potassium hydroxide, sodium hydroxide, ammonia, ammonium hydroxide and mixtures thereof.

Claims 2, 4-6, 8, 9, 13-15, and 17-19 stand rejected under 35 U.S.C. § 103 as being unpatentable over U.S. Patent 5,298,195 issued March 29, 1994 to Brumbaugh. We affirm primarily for the reasons advanced by the Examiner and add the following substantially for emphasis.

OPINION

Appellant divides the claims into two groups, one involving the composition claims and the other involving the method claims (Brief, page 4) and presents specific, substantive reasons for the separate patentability of each group (Brief, page 7). Therefore, we select claim 13 to represent the first group and claim 17 to represent the second group in accordance with 37 CFR § 1.192(c)(7)(1995).

The Composition

Claim 13 is directed to a composition consisting essentially of (1) about 0.1-20 weight percent of alkyl or alkylaryl ethoxy carboxylates of a particular formula, (2) about 1-20 weight percent of a chelating agent and (3) about 2-30 weight percent of a source of alkalinity.

We find that Brumbaugh describes aqueous liquid dishwashing compositions. In addition to water and surfactants, the compositions contain either an amido amine oxide or an alkyl ethoxylated carboxylate. Optionally, a number of other ingredients can be added including a source of alkalinity (col. 6, lines 57-62) and a chelating agent (sequestrant) (col. 7, lines 1-8). The composition containing the alkyl ethoxylated carboxylate is formulated to provide good detergency and foam stability at high water hardness levels (col. 2, lines 10-13).

We find that Brumbaugh describes preferred alkyl ethoxylated carboxylates within the genus of the claimed composition (col. 5, line 57 to col. 6, line 2). Furthermore, Brumbaugh describes formulating the composition so the three component mixture of surfactants and alkyl ethoxylated carboxylate represents 5 to 60 parts by weight of the total composition (col. 3, lines 27-31) and the alkyl ethoxylated carboxylate represents about 1 to about 30 percent of the three component mixture (col. 6, lines 24-26). Therefore, alkyl ethoxylated carboxylates would comprise from about 0.05 to 18 percent of the total composition. This range substantially overlaps the 0.1 to 20 weight percent range recited in the claim.

The preferred sources of alkalinity disclosed by Brumbaugh, i.e mono, di, and triethanolamines, are within the group recited in claim 13. Furthermore, Brumbaugh describes adding them in quantities of up to about 5 percent of the total composition, a range overlapping the range recited in the claim.

As acknowledged by Appellant, Brumbaugh also describes chelating agents (sequestrants) including those of the present invention (Brief, page 5; also see the specification at page 7, lines 2-8). Included are, for instance, salts of nitrilotriacetic acids and the salt of ethylenediamine tetraacetic acid (col. 7, lines 1-8). Brumbaugh indicates that the preferred sequestrant, citric acid, can be added up to a level of 10 percent (col. 7, lines 7-8).

Brumbaugh does not describe the workable levels for the other sequestrants. However, the workable level would have been obtainable through routine experimentation. We further note that the workable level is dependent on the amount of metallic ions to be subjected to sequestration. Based on the fact that one of ordinary skill in the art would have formulated the detergent to sequester generally the same amount of metallic ions no matter which of the described sequestrants were chosen, the workable levels of the other sequestrants would be expected to be similar to the level of up to 10 percent given for the preferred sequestrant. Therefore, the workable range for the chelating agents of Brumbaugh reasonably appears to overlap the range recited in claim 13.

Brumbaugh describes a composition containing all of the components of the composition recited in claim 13 in overlapping amounts. Brumbaugh also discloses the addition of two surfactants. However, as correctly pointed out by the Examiner, the use of the transition phrase “consisting essentially of” in the claim does not necessarily work to exclude the addition of these surfactants. “[T]he phrase ‘consisting essentially of’ limits the scope of a claim to the specified ingredients and those

that do not *materially* affect the *basic* and *novel* characteristic(s) of a composition.” *In re Herz*, 537 F.2d 549, 551-52, 190 USPQ 461, 463 (CCPA 1976). In the fact situation presented here, there is no convincing evidence nor convincing argument tending to show that the surfactants described in Brumbaugh modify the cleaning characteristics in a material way. Accordingly, claim 13 must be construed as open to the additional surfactants of Brumbaugh. Appellant argues that there is no suggestion or motivation to take away the two surfactants which Brumbaugh describes as required (Brief, page 8). However, since the claim is open to the inclusion of the surfactants, we agree with the Examiner that there need be no suggestion, reason, or motivation to remove the surfactants from the formulation.

Appellant points out that the specific examples of Brumbaugh do not mention chelating agents and a source alkalinity as specific ingredients and that the exemplified compositions only contain about 1 percent of additional optional ingredients (Brief, page 9). However, we note that the general description contained in Brumbaugh indicates which chelating agents and sources of alkalinity may be incorporated and provides guidelines as to the amounts. It is well settled that a prior art reference is relevant for all that it teaches to those of ordinary skill in the art. *In re Fritch*, 972 F.2d 1260, 1264, 23 USPQ2d 1780, 1782 (Fed. Cir. 1992). *See also Merck & Co v. Biocraft Labs.*, 874 F.2d 804, 807, 10 USPQ2d 1843, 1847 (Fed. Cir.), *cert. denied*, 493 U.S. 975 (1989)(A reference may be relied upon for all that it would have reasonably suggested to one having ordinary skill in the art,

including non-preferred embodiments); *Panduit Corp. v. Dennison Mfg. Co.*, 810 F.2d 1561, 1568, 1 USPQ2d 1593, 1597 (Fed. Cir.), *cert. denied*, 107 S.Ct. 2187 (1987)(In determining obviousness, a prior patent must be considered in its entirety). Here, the reference describes using all the ingredients claimed. As to the optimization of results, a patent will not be granted based upon the optimization of result effective variables when the optimization is obtained through routine experimentation unless there is a showing of unexpected results which properly rebuts the *prima facie* case of obviousness. *See In re Boesch*, 617 F.2d 272, 276, 205 USPQ 215, 219 (CCPA 1980). Note also *In re Woodruff*, 919 F.2d 1575, 1578, 16 USPQ2d 1934, 1936-37 (Fed. Cir. 1990), and *In re Aller*, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955).

Appellant also points out that the composition of Brumbaugh is a light-duty dishwashing detergent whereas the claimed invention is an aqueous alkaline cleaner composition for removing greasy soil containing lime-soaps from hard quarry or ceramic tile surfaces (Brief, pages 6 and 7). Appellant then argues that there is no suggestion or motivation in the Brumbaugh reference to prepare an aqueous alkaline cleaning composition for the purpose set forth in the claim (Brief, page 8). While Brumbaugh is motivated to make the cleaning composition for a somewhat different purpose, the reason, suggestion or motivation for preparing the composition need not be the same in order to establish obviousness. *In re Kemps*, 97 F.3d 1427, 1430, 40 USPQ2d 1309, 1311 (Fed. Cir, 1996). Furthermore, we note that claim 13 is directed to a composition. Whether the composition is used to clean dishes or tiles, the

composition will remain the same. In other words, the use does not change the composition.

Furthermore, if a patent were granted on the composition, those using it to wash dishes would infringe the patent just the same as those using it to clean tile. Therefore, the intended use cannot serve to make the claims to the composition patentable. *See In re Pearson*, 494 F.2d 1399, 1302, 181 USPQ 641, 644 (CCPA 1974)(Terms setting forth the intended use for an otherwise old composition do not differentiate the claimed composition from those known in the prior art).

The Method

Claim 17 is directed to a method for removing greasy soil containing lime-soaps from hard quarry or ceramic tile surfaces comprising applying to the surface a dilute aqueous alkaline cleaner of a particular composition. The composition differs from that recited in claim 13 in that the source of alkalinity is not limited to any particular compounds. The Examiner states in the rejection that “[a]lthough Brumbaugh does not specify removing greasy soil from hard quarry or ceramic tile surfaces, this intended use would have been well within the level of ordinary skill in the art because it is customary for liquid dishwashing detergents not to be limited to cleaning dishes alone but to cleaning pots, handwashable clothes, tables, kitchen/bathroom sinks and floors as well.” (Answer, page 4). Appellant notes that the Examiner has not supported this statement with any factual evidence and argues that “***the entire detergent industry would consist of only one product if this were true.***” (Brief, page 9).

However, Appellant does not directly challenge the veracity of the Examiner’s statement. Where, as

here, the Appellant has failed to directly challenge the truth of a fact the Examiner states is well known or “customary” and it is clear that Appellant has been apprised of such finding so as to have the opportunity to make such a challenge, the Examiner’s finding will be considered conclusive. *See In re Ahlert*, 424 F.2d 1088, 1091-92, 165 USPQ 418, 420-21 (CCPA 1970). Furthermore, we do not think Appellant could reasonably believe the Examiner’s assertion to be false. All three of the judges on this panel have used dishwashing detergent for multi-purpose cleaning such as for cleaning soil on counters and floors in the kitchen. The existence of other specialty cleaners on the market does not negate this fact. Sometimes, it has been simply more convenient to use the dishwashing product already at hand to adequately accomplish the task. Those who routinely or even periodically perform household cleaning would recognize the truth of the Examiner’s statement.

For the foregoing reasons and those set forth in the Answer, we conclude that the Examiner has established a *prima facie* case of obviousness with respect to claims 2, 4-6, 8, 9, 13-15, and 17-19.

Unexpected Results

Once a *prima facie* case of obviousness is established, the burden of coming forward with evidence and argument in rebuttal is shifted to appellants. *See In re Piasecki*, 745 F.2d 1468, 1472, 223 USPQ 785, 788 (Fed. Cir. 1984). Rebuttal may take the form of a comparison with the prior art showing that any differences are not merely normal expected variations but would be unexpected by those of ordinary skill in the art. *See In re Mayne*, 104 F.3d 1339, 1342, 41 USPQ2d

1451, 1454 (Fed. Cir. 1997); *In re Freeman*, 474 F.2d 1318, 1324, 177 USPQ 139, 143 (CCPA 1973). Appellant argues that superior effects over prior known surfactants is demonstrated at page 18 of the specification (Brief, page 11). In the present case, when we consider all the evidence as a whole we conclude that the *prima facie* case remains insufficiently rebutted for the following reasons.

Objective evidence of non-obviousness must be commensurate in scope with the claims. *In re Kulling*, 897 F.2d 1147, 1149, 14 USPQ2d 1056, 1058 (Fed Cir. 1990). Claim 13 encompasses compositions containing either alkyl or alkyl aryl ethoxy(1-20) carboxylates. The alkyl group can be any C₈ to C₂₂ alkyl group and the aryl group can be any C₄-C₁₆ aryl group. The data presented on pages 16-17 of the specification is limited to one C₉ aryl ethoxy(10) carboxylate. The test described on page 18 of the specification is limited to one C₁₂-C₁₄ alkyl polyethoxy(4) carboxylic acid composition and one C₉ alkylaryl polyethoxy(10) carboxylic acid composition. The limited showing does not suffice to show that the entire group of compositions within the claimed genus possess unexpected properties.

Furthermore, the test description on page 18 does not indicate whether alkalinity sources and chelating agents were included in any of the formulations. It is further unclear as to whether a chelating agent was present in any of the compositions listed in Table 2. We note that the labeling of the raw materials in Table 2 is insufficient for us to determine the identity of all the components.

The “difference in results” must be established as being between the claimed subject matter and the closest prior art. *In re Baxter Travenol Labs.*, 952 F.2d 388, 392, 21 USPQ2d 1281, 1285 (Fed. Cir. 1991). Brumbaugh teaches a composition containing alkyl ethoxy carboxylates. None of the comparative compositions contain alkyl ethoxy carboxylates. Therefore, Brumbaugh represents closer prior art than the tested compositions.

Furthermore, Appellant does not allege that results are unexpected. In order to establish unexpected results “it is not enough to show that results are obtained which differ from those obtained in the prior art: that difference must be shown to be an *unexpected* difference,” *In re Klosak*, 455 F.2d 1077, 1080, 173 USPQ 14, 16 (CCPA 1972), and mere improvement in results do not always suffice to show unexpected results (*see In re Soni*, 54 F.3d 746, 751, 34 USPQ2d 1684, 1688 (Fed. Cir. 1995) and *In re Longi*, 759 F.2d 887, 897, 225 USPQ 645, 651 (Fed. Cir. 1985)). In the present case, not all of the results even show an improvement. We note that on page 17, for removing soil baked at 300°F for 1.5 hours, the percent removal for OASIS 111-5 is listed as 30% while the listed removal percent for the comparative products in the second series is 35% and 50%.

After reviewing the totality of the evidence before us, it is our conclusion that, on balance, the evidence of nonobviousness fails to outweigh the evidence of obviousness discussed above and, accordingly, the subject matter of claims 2, 4-6, 8, 9, 13-15, and 17-19 would have been obvious to

one of ordinary skill in the art within the meaning of 35 U.S.C. § 103 at the time the Appellant's invention was made.

CONCLUSION

To summarize, the decision of the Examiner to reject claims 2, 4-6, 8, 9, 13-15, and 17-19 under 35 U.S.C. § 103 is affirmed.

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Ronald A. Daignault
Merchant & Gould, P.C.
P. O. Box 2903
Minneapolis, MN 55402-0903

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APJ TIMM

APJ WALTZ

APJ McKELVEY

DECISION: AFFIRMED

Prepared By: Cheryl

DRAFT TYPED: 16 Jan 01

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