Paper No. 14

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

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Ex parte EDDY VOS

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Appeal No. 95-4089
Application 08/090,073[1]

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ON BRIEF

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Before: WILLIAM F. SMITH, Administrative Patent Judge, and FRED E. McKELVEY, Senior Administrative Patent Judge, and RICHARD E. SCHAFER, Administrative Patent Judge.

McKELVEY, Senior Administrative Patent Judge.

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[1] Application for patent filed July 19, 1993. Applicant claims the benefit of the filing date of PCT/US92/00250, filed January 21, 1992 and European Patent Application 91-870011.3, filed January 22, 1991. The real party in interest appears to be The Procter & Gamble Co.

Decision on appeal under 35 U.S.C. § 134

The appeal is from a decision of the Primary Examiner rejecting claims 1-12 and 15. We vacate the rejection made by the examiner and enter new grounds of rejection pursuant to 37 CFR § 1.196(b).

A. Findings of fact

The record supports the following findings by a preponderance of the evidence.

The invention

1. Applicant has discovered a cleaning composition for removal of limescale on limescale-containing bathroom-type stains (specification, page 2, second paragraph).

2. Prior to applicant's discovery, cleaning compositions are said to have contained phosphoric acid. But the use of phosphoric acid is said to have "become subject to discussions, in relation to environmental questions" (specification, page 1, last paragraph). Consistent with applicant's point of view, is Cook, U.S. Patent 5,008,030

(1991),[2] which tells us that certain "prior art compositions incorporate phosphate acids and consequently have associated problems concerning environmental safety" (col. 3, lines 20-23).

3. Applicant's cleaning compositions "comprise from 4% to 25% by weight of the total composition of maleic acid" (specification, page 3, third paragraph).

4. Applicant's cleaning compositions also "comprise a nonionic surfactant system" (page 4, first full paragraph). Apparently, nonionic surfactant systems are "more desirable" because anionic and cationic surfactants are said to "adversely affect the limescale removing capacity of maleic acid" (specification, page 4, second full paragraph). The nonionic surfactant comprise from 1% to 15% by weight of the cleaning composition (id.).

5. There is data described in the specification, which is apparently based on actual experimentation.[3] The data is said to show that (1) a cleaning composition

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[2] Cook is prior art under 35 U.S.C. § 102(e).

[3] Applicant submitted no declaration under 37 CFR § 1.132 to establish that experimental work described in the specification was actually conducted. However, the specification says experimental work was conduced. We decide the appeal on the basis that the data described in the specification is based on actual experiments.

containing at least maleic acid and a nonionic surfactant made by ethoxylating an undefined C_8-C_{12} alcohol performs better on a soap scum covered marble block (0.86 grams of marble block dissolved) than (2) a cleaning composition containing at least maleic acid and an anionic surfactant identified as coconut alkyl sulfate (only 0.60 grams of marble block dissolved) (specification, page 6, LSR/soap scum covered marble column for Compositions B and C).

The claims

6. Claim 1 is the broadest claim on appeal and reads (indentation and paragraph numbering added):

> An aqueous cleaning composition for hard surfaces comprising
>
> [1] from 1% to 15% by weight of the total composition of a nonionic surfactant or mixtures thereof,
>
> [2] from 4% to 25% by weight of the total composition of maleic acid,
>
> [3] said composition having a pH of from 1.0 to 4.0.

7. Claim 6 reads as follows:

A composition according to Claim 1 which is substantially free of anionic or cationic surfactant.

8. Claim 7 reads as follows:

A composition according to Claim 1 which is substantially free of phosphoric acid.

The examiner's rejection

9. The examiner has rejected all the claims as being unpatentable under 35 U.S.C. § 103 over Thomas, U.S. Patent 5,039,441 (1991)[4] and Heit, U.S. Patent 3,277,008 (1966).[5]

Thomas

10. Thomas describes cleaning compositions having a pH of 1 to 4 (col. 8, lines 36-37).

11. The compositions are said to be useful for cleaning bathtubs and other bathroom surfaces (col. 2, line 13).

12. The Thomas compositions contain:

[4] Thomas is prior art under 35 U.S.C. § 102(e).

[5] Heit is prior art under 35 U.S.C. § 102(b).

a. a surfactant inter alia selected from the group consisting of anionic, nonionic or cationic surfactants or mixtures thereof (col 2, lines 34-38);

b. phosphoric acid (col. 4, lines 9-11); and

c. a carboxylic acid (col. 3, line 52 through col. 4, line 8).

13. With respect to the carboxylic acid, Thomas says the following (col. 3, line 54 through col. 4, line 4) (discussion with respect to the number of carbon atoms and emphasis added):

> Various *** carboxylic acids can perform *** [the] function [of lowering the pH to 1 to 4] but those which have been found *** [effective] to remove soap scum and lime scale from bathroom surfaces best, while still not destabilizing the emulsion, are polycarboxylic acids, and of these the dicarboxylic acids are preferred. Of the dicarboxylic acids group, which includes those of 2 to 10 carbon atoms, from oxalic acid [2 carbon atoms] through sebacic acid [10 carbon atoms], [each of] suberic [8 carbon atoms], azelaic [9 carbon atoms] and sebacic acids [10 carbon atoms] are of lower solubilities and therefore are not as useful in the present emulsions as other dibasic [i.e., dicarboxylic] aliphatic fatty acids, all of which are preferably saturated and straight chained. Oxalic [2 carbon atoms] and malonic acids [3 carbon

> atoms], although useful as reducing agents too, may be too strong for delicate hard surface cleanings. Preferred such dibasic acids are those of the middle portion of the 2 to 10 carbon atom acid range, succinic [4 carbon atoms], glutaric [5 carbon atoms], adipic [6 carbon atoms] and pimelic acids [7 carbon atoms], especially the first three thereof, which fortunately are available commercially in mixture.

14. The saturated dicarboxylic acids mentioned in Finding 13 have the general formula:

$$HOOC(CH_2)_nCOOH,$$

where n varies from 0 (oxalic acid) to 8 (sebacic acid). Hence, the formula for glutaric acid [5 carbon atoms] is:

$$HOOC(CH_2)_3COOH.$$

See Wertheim, Organic Chemistry, page 249 (2d ed. 1948).

Heit

15. Heit describes composition which contains maleic acid which are said to be useful for removing scale from the jacket side of a glass-lined jacketed equipment (col. 1, lines 13-14). "Scale" includes "mineral and organic solids" deposited on glass surfaces from contact with water (col. 1, lines 21-23).

16. According to Heit, maleic acid "may be used alone or with inhibitors or in combination with other cleaning agents" (col. 1, lines 60-62).

17. An object of Heit's invention is to provide a composition useful for cleaning glass-coated metal objects (col. 1, lines 44-46). Cleaning the glass would include removing mineral and other deposits.

18. Further according to Heit, "maleic acid is preferred *** by reason of its low cost, abundant supply and low equivalent weight" (col. 2, lines 59-62).

The examiner's rationale

19. According to the examiner, maleic acid falls within the scope of the carboxylic acids described by Thomas.

20. The examiner notes that Thomas differs from the claimed invention in that it does not describe the use of maleic acid.

21. Heit, however, says that maleic acid is useful for removing scale from the glass side of a glass-lined metal equipment.

22. The examiner therefore reasons that a person having ordinary skill in the art would have found it obvious

to use the maleic acid of Heit as the carboxylic acid component of the cleaning composition of Thomas.

Applicant's rationale

23. According to applicant, the invention is "a selection invention" [whatever that might be] over Thomas.

24. Applicant says that Thomas "does not teach maleic acid" (Appeal Brief, page 2). To the extent that applicant means that Thomas does not explicitly describe the use of maleic acid, applicant is correct.

25. Moreover according to applicant, Thomas "teaches away from [the use of] unsaturated acids such as maleic [acid]" based on Thomas' expressed preference for saturated acids (Appeal Brief, page 2).

26. Apparently on the basis of experimental data described in the specification, applicant says that "nonionic detergent surfactants in combination with maleic acid are clearly superior limescale and soap scum removing compositions over other detergent surfactants in combination with maleic acid" (Appeal Brief, page 2). Applicant accordingly argues that the claimed invention would not have been obvious to a person having ordinary skill in the art.

Additional prior art

27. During the course of our review of the record in this case, two prior art documents have come to our attention.

Bechstedt

28. Mentioned in the specification of the application on appeal is German Patent Document DE 33 40 033.

29. According to the specification, the German Patent Document "describes a composition for the removal of limestone traces on laundry; these composition contain maleic acid and nonionic surfactants, as well as high amounts of phosphoric acids and urea" (specification, page 2).

30. Bechstedt, U.S. Patent 4,539,123 (1985),[6] is believed to be an English language equivalent of the German Patent Document.

31. Bechstedt describes a composition for softening fabrics stiffened by washing in hard water (col. 1, lines 7-9).

32. The composition is described as being made from:

[6] Bechstedt is prior art under 35 U.S.C. § 102(b).

a. 5 to 10 parts by weight of maleic acid;

b. 20 to 45 parts by weight of phosphoric acid;

c. 10 to 25 parts of urea; and

d. 1 to 10 parts of a nonionic surfactant.

33. Bechstedt does not tell us the pH of his cleaning composition. But the amounts of base (urea) and acid (maleic acid and phosphoric acid) described as being present in the composition are such that it would appear that there is more acid than base.

34. For example, we calculate that in Example 1 there are 0.43 moles of maleic acid (50/116); 1.43 moles of phosphoric acid ((165 x 0.85)/98); and 0.86 moles of urea (62.5/72). Hence, it is entirely plausible that the composition of Bechstedt has a low pH in the range of 1-4.[7]

Cook

35. The most relevant reference we have discovered is a reference cited by an examiner who conducted a PCT search

[7] Should there be further prosecution of the application, applicant can (1) make the compositions described in each of Examples 1 through 8 of Bechstedt, (2) measure the pH and (3) report the results to the examiner in a declaration under 37 CFR § 1.132.

in connection with an earlier PCT application filed by applicants. The reference is Cook, U.S. Patent 5,008,030 (1991).[8]

36. We are at a loss to understand why the examiner did not cite and apply Cook.

37. Cook describes "all-purpose liquid cleaning compositions for use on hard surfaces" (col. 1, lines 7-8) which are said to be "effective in removing soap scum *** [from] hard surfaces being cleaned" (col. 1, lines 9-11). The compositions are said to be "particularly suitable for cleaning hard surfaces such as *** glass and ceramic tile" (col. 3, lines 55-58). 38. According to Cook, his "compositions exhibit improved efficacy in removing soap scum and mineral deposits and, therefore, have particular utility in the cleaning of bathrooms and kitchens" (col. 3, lines 61-64).

39. Cook, like applicant, seeks to eliminate the use of phosphoric acid apparently based on environmental concerns (col. 3, lines 20-22).

[8] As noted earlier, Cook is prior art under 35 U.S.C. § 102(e).

40. The Cook compositions contain (col. 3, lines 40-52; emphasis added):

a. 0.5 to 4% by weight of a nonionic surfactant;

b. at least 0.1% by weight of a disinfectant compound;

c. 3 to 7% by weight of an organic acid selected from the group consisting of a lower aliphatic monocarboxylic acid, dicarboxylic acid and mixtures thereof; and

d. optionally, 0 to 2% of an acid stable cationic or anionic soil releasing agent.

41. The nonionic surfactants include those made from C_9-C_{11} alcohols ethoxylated with 6 ethoxyethylene radicals (col. 5, line 30).

42. According to Cook (col. 6, lines 27-53) (discussion with respect to the number of carbon atoms and emphasis added):

> The liquid cleaner of the present invention cleans soap scum soil and removes mineral deposits through the action of both the nonionic surfactant system and, additionally, at least one organic acid selected from the

group consisting of lower aliphatic monocarboxylic acids and dicarboxylic acids in an amount of about 3-7% by weight of the [cleaning] compositions. Representative members of the aliphatic acid include C_1-C_6 alkyl and alkenyl monobasic [i.e., monocarboxylic] acids and dibasic [i.e., dicarboxylic] acids such as glutaric acid [dicarboxylic acid with 5 carbon atoms], succinic acid [dicarboxylic acid with 4 carbon atoms], propionic acid [monocarboxylic acid with 3 carbon atoms], adipic acid [dicarboxylic acid with 6 carbon atoms], hydroxyacetic acid [monocarboxylic acid with 2 carbon atoms[9]] and mixtures thereof. Glutaric acid [dicarboxylic acid with 5 carbon atoms] is preferred, however, a mixture of the *** [dicarboxylic] acids, adipic, glutaric and succinic acids is easily available commercially[10] ***. The ratio of the acids in the foregoing mixture is adjusted to maximize water solubility of the mixture by employing glutaric acid, the most water-soluble of these three saturated aliphatic dibasic acids, as the major component. The organic acids provide moderate acidity to the cleaning compositions and thereby [are said to] enhance cleaning performance, particularly removal of soap scum from tiles and other hard surfaces, with very

[9] Hydroxyacetic acid also has a free hydroxy group. The formula for hydroxyacetic acid is $HOCH_2COOH$.

[10] One product would appear to be a composition sold under the designation DAGS. DAGS is further described in footnote 1 of Example 1 of Cook.

little damage to the grout between the tiles and with reduced irritation to the skin of the user.

43. The Cook compositions are described as having a pH of generally 2-4 (col. 3, lines 52-53).

44. Cook provides examples with[11] and without[12] cationic and/or anionic surfactants.

45. Cook differs from the subject matter of claim 1 in that Cook does not describe the use of maleic acid as one of the acids which can be used as the "lower aliphatic *** dicarboxylic acids" (col. 6, lines 31-32).

46. Cook further differs from the subject matter of claims 9 and 10 in that Cook does not describe a composition having a pH of 1.2.

Level of ordinary skill in the art

47. A person having ordinary skill in the art would have appreciated the concern explicitly addressed by Cook that the acid component should be readily soluble in water given

[11] See, e.g., Example 2, Formula B containing MDAEM.

[12] See,, e.g., Example 1 and Example 2, Formula A, which do not have either an anionic or cationic surfactant.

Cook's suggestion that glutaric acid is used to "maximize water solubility" of a mixture of acids (col. 6, line 42).

48. Cook's solubility concerns are mirrored by Thomas. Thomas says (col. 3, lines 62-63) that "suberic, azelaic and sebacic acids are of lower solubilities and therefore are not as useful ***."

49. In addition, a person having ordinary skill in the art would have been able to determine from standard texts the solubility of acids falling within the scope of those described by Cook as "lower aliphatic monocarboxylic acids and dicarboxylic acids ***."

50. Based on standard texts, a person having ordinary skill in the art would have appreciated the solubility in water of various acids to be the following:[13]

a. Malonic acid [3 carbon atoms] 138 parts in 100 parts of water at 16EC.

b. Succinic acid [4 carbon atoms] 6.8 parts in 100 parts of water at 20EC.

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[13] See, e.g., Wertheim, Organic Chemistry, page 249, Table 22 (2d ed. 1948); Kirk-Othmer, Encyclopedia of Chemical Technology, Vol. 14, page 772 (3d ed. 1981); and Stephen et al., Solubilities of Inorganic and Organic Compounds, Vol 1, Part 1, pages 387-389, 392-394, 412 and 451 (1063) (Copy of Stephen attached as an Appendix to this opinion).

c. Glutaric acid [5 carbon atoms] 63.9 parts in 100 parts of water at 20EC.

d. Adipic acid [6 carbon atoms] 1.44 parts in 100 parts of water at 15EC.

e. Maleic acid [4 carbon atoms and a double bond] 44.1 parts in 100 parts of water at 25EC.

51. Propionic acid [also known as propanoic acid], explicitly described by Cook (col. 6, line 36) is "completely water-soluble" (Wertheim, page 163; see also Stephen, supra n.13 at 389).

52. A person having ordinary skill in the art would have understood the Cook language "lower aliphatic *** acids" (col.6, line 31) to mean saturated and unsaturated acids having 1 to 6 carbon atoms. See, e.g., Kirk-Othmer, Encyclopedia of Chemical Technology, Vol. 7, page 614 (3d ed. 1979), which describes dicarboxylic acids having the formula:

$$HOOC(CH_2)_nCOOH$$

as "saturated, linear aliphatic *** dicarboxylic acids ***." Kirk-Othmer describes maleic acid as an unsaturated aliphatic dicarboxylic acid. Hence, an "aliphatic dicarboxylic acid"

includes acids with and without unsaturated bonds. Maleic acid is a cis-isomer form of a dicarboxylic acid having a double bond:[14]

HOOC|CH:CH|COOH.

53. A person having ordinary skill in the art would recognize that maleic acid has long been a readily available commercial product, often sold in the form of maleic anhydride (which upon mixing with water turns to maleic acid). See Heit, col. 2, line 59-61; Kirk-Othmer, Vol. 14, page 784.

54. A person having ordinary skill in the art would have recognized that the pH of an acid-containing cleaning composition could be in the range of 1 to 4 (Thomas, col. 8, lines 36-37).

55. A person having ordinary skill in the art would have recognized that the pH can be adjusted "to produce the desired pH in the emulsion, for greatest functional effectiveness, with safety" (Thomas, col. 4, lines 6-8).

56. Cook also reveals what a person having ordinary skill in the art would have appreciated with respect to adjustment of the pH (Cook, col. 7, lines 5-13):

[14] Wertheim, page 263.

> The pH of the acidic liquid detergent composition is adjusted to maximize the antimicrobial effect of the disinfecting agent while maintaining effective cleaning of soap scum and oily soils. Generally, the pH is from about 2-4, preferably about 2.5-3. In addition to providing efficient cleaning, this pH range is less damaging to the cleaned surface and less irritating to the skin than the commercially available acidic cleaners.

B. Discussion

1. Introduction

We start our analysis of the patentability of claims 1-12 and 15 over the prior art with two new grounds of rejection pursuant to 37 CFR § 1.196(b).

2. New ground of rejection based on Bechstedt

Claims 1-6 and 7-12 are rejected as anticipated under 35 U.S.C. § 102(b) by Bechstedt.

Bechstedt reads on claim 1 as follows:

> An aqueous (col. 2, line 35) cleaning composition for hard surfaces comprising from 1% to 15% by weight of the total composition of a nonionic surfactant or mixtures thereof (col. 2, lines 39-

42), from 4% to 25% by weight of the total composition of maleic acid (col. 2, lines 32-33), said composition having a pH of from 1.0 to 4.0.

Bechstedt does not explicitly describe a pH for his compositions. However, as noted in our Finding 34, there is a plausible basis for finding that the pH of the Bechstedt compositions is probably in the range of 1 to 4. Under the circumstances, including the fact that the Patent and Trademark Office has no laboratory in which to make compositions and test their pH, the burden is reasonably shifted to applicant to show that the compositions of Bechstedt do not have a pH in the range of 1 to 4. Compare In re Spada, 911 F.2d 705, 15 USPQ2d 1655 (Fed. Cir. 1990); In re Best, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977) (where the claimed and prior art products are identical or substantially identical, or are produced by identical or substantially identical processes, the PTO can require an applicant to prove that the prior art products do not necessarily or inherently possess the characteristics of his claimed product).

We have not overlooked the preamble language "cleaning composition for hard surfaces ***." Given that the Bechstedt composition contains all the ingredients called for by the claims, the Bechstedt composition would necessarily function to clean hard surfaces.

The limitations of claims 2-4 are likewise described by Bechstedt. See the citations in claim 1 reproduced above.

Claim 5 reads on Bechstedt as follows:

> A composition according to Claim 4 wherein the nonionic surfactant is a condensation product of ethylene oxide (col. 3, line 2) with an alcohol (col. 2, line 68), said alcohol having a straight alkyl chain comprising from 6 to about 22 carbon atoms (col. 3, lines 1-2), said condensation product having a degree of ethoxylation of from 5 to 12 (col. 3, lines 3-4).

With respect to claim 6, Bechstedt describes compositions which do not contain an anionic or cationic surfactant.

Since the Bechstedt compositions contain phosphoric acid, claim 7 has not been rejected as being anticipated by Bechstedt. We do not understand why the limitation of claim 7 does not appear in claim 1 given that one of applicant's

purposes was to develop cleaning compositions without phosphoric acid.

With respect to claims 8-10, see the discussion above dealing with claim 1.

With respect to claims 11-12, see Bechstedt, col. 3, line 1, describing alcohols with 12 carbon atoms and col. 3, line 3 describing 5-10 mols of ethylene oxide. While 6 is not described per se, the number of possibilities is so small that each of 6, 7, 8 and 9 is described within the meaning of 35 U.S.C. § 102(b) by the description of the range 5-10. Compare In re Schaumann, 572 F.2d 312, 316, 197 USPQ 5, 9 (CCPA 1978), reaffirming In re Petering, 301 F.2d 676, 133 USPQ 275 (CCPA 1962) (description of genus of 20 compounds held to describe all 20 compounds). Moreover, it should be noted that Bechstedt describes ethoxylation of nonyl phenol with 6 mols of ethylene oxide (col. 3, lines 30-32).

3. New ground of rejection based on Cook

Claims 1-12 and 15 are rejected under 35 U.S.C. § 103 as unpatentable over Cook when considered in light of the level of ordinary skill in the art as set out in Findings 47 through 56.

Cook differs from the subject matter of claim 1 in that Cook does not describe the use of maleic acid as one of the acids which can be used as one of the "lower aliphatic *** dicarboxylic acids" (col. 6, lines 31-32) (Finding 45). In our opinion, the subject matter of claim 1 as a whole would have been obvious notwithstanding the noted difference.

At the outset, we note that Cook limits the acids which can be used to those which are "lower aliphatic" acids. While "lower" is not defined per se, we note that Cook refers to representative acids having 1 to 6 carbon atoms (col. 6, line 34). Moreover, Cook specifically mentions alkenyl acids, which would be acids having a double bond, i.e., unsaturated as opposed to saturated acids. Important also is the emphasis Cook places on the acid being soluble in water (col. 6, line 42). Cook emphasizes solubility in the context of describing the use of a mixture of acids in which glutaric acid is used to "maximize water solubility of the mixture" (col. 6, line 42). The mixture also is said to contain adipic and succinic acids, neither of which is particularly soluble. Wertheim, page 249, Table 2. Thomas also expresses a concern for solubility, preferring acids which are more soluble.

A person having ordinary skill in the art would have recognized that maleic acid is more soluble in water (44.1 parts per 100 parts of water) than adipic acid (1.44 parts per 100 parts of water) or succinic acid (6.8 parts per 100 parts of water), two acids which Cook and Thomas find suitable. Likewise, we note that propionic acid described as suitable by Cook is "completely water-soluble" (Wertheim, page 163).

In view of the description that the acids are "lower" acids and the emphasis on solubility, we find that Cook essentially describes the use of acids (1) having 6 or less carbon atoms and (2) which are at least as soluble in water as adipic acid (i.e., > 1.44 parts per 100 parts of water).

Maleic acid is an acid which fits well into the acids described by Cook as being useful in his cleaning compositions. Moreover, maleic acid is readily available, mostly in the form of maleic anhydride which when mixed in water is converted to maleic acid.

In rendering our decision, we have not overlooked the Federal Circuit's holdings in In re Baird, 16 F.3d 380, 382, 29 USPQ2d 1550, 1552 (Fed. Cir. 1994) (fact that claimed compound may be encompassed by a disclosed generic formula

does not by itself render that compound obvious) and In re Jones, 958 F.2d 347, 350, 21 USPQ2d 1941, 1943 (Fed. Cir. 1992) (fact that claimed compound may be encompassed by an open-ended description of a genus does not by itself render that compound obvious). Unlike the facts in Baird and Jones, in this case there are factors described by Cook which suggest that maleic acid would be useful, i.e., the number of carbon atoms in the acid and the solubility requirements set out by Cook. Moreover, we note that Heit says that maleic acid is useful for removing mineral deposits from glass. See Findings 15 through 17.

When the prior art and level of ordinary skill are considered as a whole, we hold that it would have been prima facie obvious to a person having ordinary skill in the art to have used inter alia maleic acid as the lower aliphatic acid called for by Cook.

Claims 9 and 10 further differ from Cook in that Cook does not describe a pH of 1.2. In fact, Cook describes a pH of generally 2-4, preferably a pH of 2.5 to 3 (col. 7, lines 8-9). However, Cook's pH teaching must be viewed in context. Cook sought a pH less irritating to the skin. A pH of 2.5 to

3 is less irritating to skin that a pH of 1.2. There is nothing in Cook which says the pH cannot be 1.2 given that Cook says the pH is "[g]enerally from about 2-4" (col. 7, lines 8-9). Based on Thomas, one skilled in the art would have recognized that the pH of a cleaning composition could be as low as 1. Moreover, Thomas tells us that pH is adjusted to achieve the "greatest functional effectiveness with safety" (col. 4, lines 7-8). Where the user is wearing gloves, irritation to the skin may not be as much a concern and a lower pH would be acceptable. Accordingly, we find nothing unobvious about the use of a pH of 1.2. Certainly nothing in the record would establish that any unusual result is achieved with a pH of 1.2.

In rendering our decision, we have not overlooked the fact that the Cook compositions optionally may contain an anionic or cationic surfactant and that applicant's claim 6 calls for a composition substantially free of an anionic or cationic surfactant. However, Cook expressly makes the presence of an anionic or cationic surfactant optional and describes examples with and without those surfactants. Applicant has not established that a composition with maleic

acid and a nonionic surfactant has unusual properties vis-à-vis the same composition also containing an anionic or cationic surfactant.

In rendering our decision, we have not overlooked the "Experimental Data" described on pages 5 through 8 of applicant's specification.

Experimental Data (a) (pages 5-7) does not compare the closest prior art with the claimed subject matter. Compare In re Merchant, 575 F.2d 865, 869, 197 USPQ 785, 788 (CCPA 1978) (an applicant relying upon a comparative showing to rebut a prima facie case of obviousness must compare claimed invention with the closest prior art); In re DeBlauwe, 736 F.2d 699, 705, 222 USPQ 191, 196 (Fed. Cir. 1984) (same). Thus, Composition B (with maleic acid) has not been compared to similar compositions with the preferred dicarboxylic acids of Cook. The comparison of Composition B to Composition C is entitled to little, if any, weight given that Cook describes compositions without an anionic surfactant.

Experimental Data (b) (pages 7-8) is entitled to little, if any, weight given that neither applicant nor Cook describe cleaning compositions made solely from maleic acid.

Alternatively, if the "base composition" mentioned on page 7 is a cleaning composition containing ingredients other than the acid, we have not found in the specification any cogent description of the ingredients in the "base composition."

4. The examiner's rejection

We do not reach the examiner rejection based on Thomas and Heit. Our rationale based on Cook and the level of ordinary skill in the art is believed to be a stronger rejection. If it cannot be sustained, it necessarily follows that the examiner's rejection based on Thomas and Heit could not be sustained. On the other hand, if our new ground of rejection based on Cook and the level of ordinary skill in the art is correct, there is no need to reach the examiner's rejection based on Thomas and Heit.

Accordingly, we vacate the examiner's rejection based on Thomas and Heit on the basis that it has become moot.

C. Decision

The examiner's rejection based on Thomas and Heit is vacated.

Pursuant to 37 CFR § 1.196(b), claims 1-6 and 7-12 are rejected under 35 U.S.C. § 102(b) as anticipated by Bechstedt.

Pursuant to 37 CFR § 1.196(b), claims 1-12 and 15 are rejected under 35 U.S.C. § 103 over Cook when taken with the level of ordinary skill in the art as set out in Findings 47 through 56.

D. Time for taking action

This opinion contains a new ground of rejection pursuant to Rule 196(b) (37 CFR § 1.196(b), amended effective Dec. 1, 1997). See Notice of Final Rule, 62 Fed. Reg. 53131, 53197 (Oct. 10, 1997), reprinted in 1203 Off. Gaz. Pat. & Trademark Office 63, 122 (Oct. 21, 1997)).

Rule 196(b) provides that, "A new ground of rejection shall not be considered final for purposes of judicial review."

Rule 196(b) also provides that the applicant, **WITHIN TWO MONTHS FROM THE DATE OF ENTRY OF THIS DECISION**, must exercise one of the following two options with respect to the new ground of rejection to avoid termination of proceedings (§ 1.197(c)) as to the rejected claims:

> (1) Submit an appropriate amendment of the claims so rejected or a showing of facts relating to the claims so rejected, or both, and have the matter reconsidered by the examiner, in which event the application will be remanded to the examiner. . . .
>
> (2) Request that the application be reheard under § 1.197(b) by the Board of Patent Appeals and Interferences upon the same record. . . .

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

VACATED
(New grounds of rejection 37 CFR § 1.196(b))

WILLIAM F. SMITH,
Administrative Patent Judge

FRED E. McKELVEY, Senior Administrative Patent Judge	) BOARD OF PATENT) APPEALS AND) INTERFERENCES
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Appendix

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