

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. 22

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte HANG-CHANG BOBBY CHEN
and
EDWARD A. ROWE

Appeal No. 2004-0137
Application 10/073,321

HEARD: March 2, 2004

Before GARRIS, OWENS and TIMM, *Administrative Patent Judges*.
OWENS, *Administrative Patent Judge*.

DECISION ON APPEAL

This appeal is from the final rejection of claims 1-6, 10-12 and 14, and refusal to allow claim 13 as amended after final rejection. Claims 7-9, which are all of the other claims in the application, stand objected to but allowable if rewritten in independent form.

THE INVENTION

The appellants claim a method for cleaning an article using a composition comprising 1,1,2-trichloroethylene, benzotrifluoride, and a stabilizer for the trichloroethylene.

Claim 1 is illustrative:

1. A method of cleaning an article comprising contacting and thereby at least partly cleaning said article with a composition comprising

(1) about 20 weight% to about 80 weight% benzotrifluoride, (2) about 20 weight% to about 80 weight% 1,1,2-trichloroethylene, and (3) a stabilizer for said 1,1,2-trichloroethylene, said stabilizer being present in amount no greater than about 1 weight%.

THE REFERENCES

Patron	3,546,304	Dec. 8, 1970
Hisamoto et al. (Hisamoto)	4,578,209	Mar. 25, 1986

THE REJECTIONS

The claims stand rejected as follows: claim 14 under 35 U.S.C. § 112, first paragraph, written description requirement, and claims 1-6 and 10-13 under 35 U.S.C. § 103 as being unpatentable over Hisamoto in view of Patron.¹

¹A rejection of claims 12 and 14 under 35 U.S.C. § 112, second paragraph, is withdrawn in the examiner's answer (page 2).

OPINION

We reverse the aforementioned rejections.

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

A specification complies with the 35 U.S.C. § 112, first paragraph, written description requirement if it conveys with reasonable clarity to those skilled in the art that, as of the filing date sought, the inventor was in possession of the invention. See *Vas-Cath Inc. v. Mahurkar*, 935 F.2d 1555, 1563-64, 19 USPQ2d 1111, 1117 (Fed. Cir. 1991); *In re Kaslow*, 707 F.2d 1366, 1375, 217 USPQ 1089, 1096 (Fed. Cir. 1983); *In re Edwards*, 568 F.2d 1349, 1351-52, 196 USPQ 465, 467 (CCPA 1978); *In re Wertheim*, 541 F.2d 257, 262, 191 USPQ 90, 96 (CCPA 1976).

The examiner argues that the appellants' original specification fails to provide written descriptive support for a composition which is "substantially free of any other component" as required by claim 14 (answer, page 3). The examiner argues that the specification indicates that the composition can include about 20 wt% benzotrifluoride and about 20 wt% trichloroethylene (page 2) and, therefore, can contain other components, and that

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the specification states that the composition can include optional ingredients (page 3) (answer, pages 5-6).

The relevant inquiry, however, is not whether the composition can include components other than benzotrifluoride and trichloroethylene but, rather, whether the original specification indicates that the appellants were in possession of a composition which is substantially free of other components. Such a composition is disclosed in the tables on pages 4 and 5 of the original specification. Accordingly, we reverse the rejection under 35 U.S.C. § 112, first paragraph.

Rejection under 35 U.S.C. § 103

Hisamoto discloses a method for cleaning an article by contacting the article with a composition containing, as the main components, a halogenated hydrocarbon solvent, a fluorine-containing alcohol and an organic acid (col. 1, lines 45-48). The disclosed halogenated hydrocarbon solvents include trichloroethylene and benzotrifluoride, and Hisamoto teaches that the solvents can be used in admixture (col. 1, line 68 - col. 2, line 1; col. 2, lines 7 and 9).

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Patron discloses stabilizers for chlorinated hydrocarbons, particularly chlorinated aliphatic hydrocarbons such as trichloroethylene and perchloroethylene used as metal degreasing solvents, dry-cleaning solvents and oil- and fat-extraction solvents (col. 1, lines 18-27).

The examiner's rejection is based upon the *prima facie* obviousness, to one of ordinary skill in the art, of the selection of a mixture of trichloroethylene and benzotrifluoride from among Hisamoto's disclosed solvents. Such *prima facie* obviousness can be overcome by evidence of secondary considerations such as unexpected results. See *Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 1538, 218 USPQ 871, 879 (Fed. Cir. 1983).

The appellants state that a blend of trichloroethylene and benzotrifluoride unexpectedly dries faster than either of its components, and that the appellants have no explanation for this unusual phenomenon (specification, page 2). The appellants have provided a declaration by Edward A. Rowe, filed August 26, 2002 (paper no. 7), wherein Rowe states:

Based on my experiments conducted in conjunction with the making of the present invention, no azeotropic mixture of trichloroethylene and benzotrifluoride exists. In other words, our experiments did not reveal the formation of any azeotrope of trichloroethylene and benzotriflouride [sic], and this absence of any azeotrope makes it all the more surprising that certain mixtures of trichloroethylene and benzotrifluoride, i.e. mixtures in the range of 25:75 to 75:25, evaporate faster than either component by itself. [page 3]

* * *

If the ratio of the two components [trichloroethylene and benzotrifluoride] is outside the range of 20:80 to 80:20, the behavior of the two compounds is consistent with what would have been expected, i.e. the mixture evaporates slower than either component. [pages 3-4]

* * *

It is known that an azeotropic mixture will evaporate faster than each of the components independently. It is also known that mixtures of components which do not form an azeotrope evaporate more slowly than either component individually. It is therefore highly surprising that mixtures of trichloroethylene and benzotrifluoride, even though they do not form an azeotrope, nevertheless evaporate more quickly than either component by itself. [page 4]

The examiner argues that the evidence of unexpected results is not commensurate in scope with the claims because 1) the claims require a stabilizer, and it is unclear whether the trichloroethylene and benzotrifluoride in a mixture of

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trichloroethylene, benzotrifluoride and stabilizer would evaporate faster than either trichloroethylene or benzotrifluoride by itself, and 2) the claims are to a cleaning method, and the evidence does not include evaporation rates of the composition upon contacting or cleaning an article (answer, pages 8-9). By the evidence in the above-discussed declaration that mixtures of 20:80 to 80:20 by weight of trichloroethylene and benzotrifluoride unexpectedly evaporate faster than either component alone, however, the appellants have overcome the *prima facie* obviousness of selecting a mixture of trichloroethylene and benzotrifluoride from among Hisamoto's halogenated hydrocarbon solvents. Without evidence establishing the obviousness of that combination, there is no basis for a conclusion of obviousness of the claimed method. Accordingly, we reverse the rejection under 35 U.S.C. § 103.

DECISION

The rejections of claim 14 under 35 U.S.C. § 112, first paragraph, written description requirement, and claims 1-6

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and 10-13 under 35 U.S.C. § 103 over Hisamoto in view of Patron
are reversed.

REVERSED

BRADLEY R. GARRIS)	
Administrative Patent Judge)	
)	
)	
TERRY J. OWENS)	BOARD OF PATENT
Administrative Patent Judge)	APPEALS AND
)	INTERFERENCES
)	
)	
CATHERINE TIMM)	
Administrative Patent Judge)	

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Browdy and Neimark PLLC
Suite 300
624 Ninth Street
Washington, D.C. 20001-5303