

THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 17

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte AHMAD MORADI-ARAGHI

Appeal No. 94-3134
Application 07/848,884¹

ON BRIEF

Before METZ and GARRIS, Administrative Patent Judges and
McKELVEY, Senior Administrative Patent Judge.

GARRIS, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on an appeal from the final rejection of claims 1 through 28 which are all of the claims in the application.

¹ Application for patent filed March 10, 1992. According to applicant, the application is a continuation-in-part of Application 07/580,066, filed September 10, 1990, now Patent No. 5,179,136, granted January 12, 1993.

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The subject matter on appeal relates to a composition comprising (1) hexamethylenetetramine, (2) aminobenzoic acid or phenol, (3) a water soluble acrylamide-containing polymer, and (4) water. This appealed subject matter is adequately illustrated by independent claim 1 which reads as follows:

1. A composition comprising (1) hexamethylene-tetramine; (2) a crosslinking component selected from the group consisting of a water dispersible aminobenzoic acid compound and phenol; (3) a water soluble acrylamide-containing polymer; and (4) water.

The references relied upon by the examiner as evidence of obviousness are:

Mumallah et al. (Mumallah)	4,799,548	Jan. 24, 1989
Moradi-Araghi et al. (Moradi-Araghi)	5,043,364 (filed Mar. 15, 1990)	Aug. 27, 1991

All of the claims on appeal stand rejected under 35 USC § 103 as being unpatentable over Moradi-Araghi in view of Mumallah.

OPINION

The comments in the last sentence on page 4 and the first sentence on page 5 of the Answer suggest that the examiner may

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now consider the above noted rejection to be improper with respect to claims 23, 24 and 26. However, since the record is not clear on this matter, we will treat the final rejection of these claims as before us and hereby formally reverse it. The examiner's decision to reject claims 23, 24 and 26 over Moradi-Araghi and Mumallah is erroneous. As correctly argued by the appellant in the sentence bridging pages 3 and 4 of the Brief and conceded by the examiner in the penultimate sentence on page 4 of the Answer, these references contain no teaching or suggestion of aminobenzoic acid which is required by each of the claims under consideration.

However, for the reasons which follow, we will sustain the rejection before us as applied against claims 1 through 22, 25, 27 and 28.²

We agree with the examiner's ultimate conclusion that it would have been obvious for one with ordinary skill in the art to replace the aldehyde of Mumallah's gel-forming composition with an aldehyde-generating compound such as the here claimed

² Because they have not been separately argued, dependent claims 2 through 22, 27 and 28 will stand or fall with independent claims 1 and 25. See 37 CFR § 1.192(c).

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hexa-methylenetetramine in light of the teaching in Moradi-Araghi of using either an aldehyde or an aldehyde-generating compound in a gel-forming composition. That is, an artisan with ordinary skill would have found in this teaching of Moradi-Araghi motivation for, and a reasonable expectation of success in, using hexamethylenetetramine as an aldehyde-generating compound in place of the aldehyde of Mumallah's composition. In re O'Farrell, 853 F.2d 894, 904, 7 USPQ2d 1673, 1681 (Fed. Cir. 1988). The composition and method resulting from the substitution in question would fully correspond the composition and method defined by appealed independent claims 1 and 25 respectively.

The appellant seems to believe that it would not have been obvious to combine the applied references in the above discussed manner because "Moradi-Araghi specifically discloses that an aldehyde-generating compound must be used in a composition which contains a furan derivative in order to be useful" (Brief, page 4). We do not agree. In the first place, we find no explicit teaching in this reference, and the appellant points to none, that an aldehyde-generating compound such as

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hexamethylene-tetramine "must" be used in conjunction with a furan derivative. Secondly, even if the appellant were correct, it would still be proper to conclude that Moradi-Araghi would have suggested replacing Mumallah's aldehyde with a combination of an aldehyde-generating compound such as hexamethylenetetramine and a furan derivative. In this latter regard, we here clarify that the appealed claims under consideration do not exclude the presence of a furan derivative.

The appellant also argues that "[t]he Examiner was in error in rejecting claims 1-28 under 35 USC § 103 over Moradi-Araghi and Mumallah..., even if combinable, because the invention demonstrates unexpected results" (Brief, page 6). This argument

is further developed by the appellant on page 7 of the Brief in the following manner:

As discussed above, appellant discovered that two aldehyde-generating compounds, glyoxal and 1,3,5-trioxane, did not react with phenol to form a useful composition. See, specification, pages 18-22, Examples IV-V. Wishing not to be bound by theory,

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these results indicate that the Moradi-Araghi disclosure is a compelling suggestion that an aldehyde-generating compound must react with a furan derivative to produce an aldehyde which can in turn be used with phenol, as in Mumallah et al, to produce a useful gelling composition. Appellant therefore respectfully submits that a useful gelling composition can be produced by using hexamethylenetetramine, an aldehyde-generating compound, with phenol or an aminobenzoic acid is an unexpected or surprising result.

Contrary to the appellant's position, the record before us does not evince that the invention defined by the claims under consideration exhibits unexpected results. The fact that the aldehyde-generator hexamethylenetetramine effects a gelling result (at least when used in combination with a furan derivative) is expressly taught by Moradi-Araghi and thus would have been expected rather unexpected at the time the here claimed invention was made. Moreover, Examples IV-V of the subject specification do not support the appellant's unexpected-results position because the formaldehyde precursors tested therein in fact produced a gel-formation response at least under certain conditions. In particular, Table IV of Example IV shows that the formaldehyde-precursor

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glyoxal produced very thick or thick gels at 200EF for the first nineteen days of aging time, and it is disclosed in Example V that the formaldehyde-precursor 1,3,5-trioxane "produces gels with measurable tongue lengths [albeit] only after a long period of time" and that "this system might have limited application at 200EF" (specification, page 21). Finally, the appellant's unexpected-results position is undermined by the fact that the claims being reviewed are so broad as to include the furan derivatives of Moradi-Araghi and the gel-forming conditions of specification Examples IV and V. In re Dill, 604 F.2d 1356, 1361, 202 USPQ 805, 808 (CCPA 1979) (evidence to rebut prima facie case of obviousness must be commensurate in scope with claims).

In light of the foregoing, we consider that the evidence of record on balance weighs most heavily in favor of an obviousness conclusion. We shall, therefore, sustain the examiner's § 103 rejection of claims 1 through 22, 25, 27 and 28 as being unpatentable over Moradi-Araghi in view of Mumallah.

The decision of the examiner is affirmed-in-part.

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

AFFIRMED-IN-PART

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ANDREW H. METZ))
Administrative Patent Judge)	
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)	BOARD OF PATENT
BRADLEY R. GARRIS)	
Administrative Patent Judge)	APPEALS AND
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)	INTERFERENCES
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