

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(2) is not binding precedent of the Board.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. 36

UNITED STATES PATENT AND TRADEMARK OFFICE

---

BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

---

Ex parte GEORGE SCHWARTZKOPF and GEETHA SURENDRAN

---

Appeal No. 1996-2734  
Application No. 08/133,680

---

HEARD: December 07, 2000

---

Before KIMLIN, JOHN SMITH, and KRATZ, Administrative Patent  
Judges.

KRATZ, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on appeal from the examiner's refusal to allow claims 15-19 as amended after final rejection. Claims 13, 20 and 21, which are all of the remaining claims pending in this application have been indicated as being allowable by the examiner.

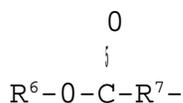
BACKGROUND

Appellants' invention relates to an alkaline-containing photoresist stripping composition that includes a specified

stripping solvent, a nucleophilic amine and a reducing agent selected from among a given list thereof (See, e.g., claim 15). As a result of the inclusion of about 0.1 to about 10% by weight of a reducing agent from the list provided in the total composition, appellants allege that the stripping composition is capable of reducing or inhibiting metal corrosion if and when the composition is used in removing certain photoresists from substrates containing metal (paragraph bridging pages 2 and 3 of the specification).

Appellants indicate that the patentability of dependent claims 18 and 19 stand or fall with claim 17 and that claims 15-17 should be considered separately (brief, page 4). However, appellants have not separately argued the patentability of dependent claims 16-19 with any reasonable degree of specificity. See 37 CFR § 1.192(c)(7) and (c)(8)(iv) (1995). Accordingly, dependent claims 16-19 stand or fall with claim 15. See *In re Nielson*, 816 F.2d 1567, 1571, 2 USPQ2d 1525, 1527 (Fed. Cir. 1987). Claim 15, the sole independent claim before us and the representative claim on which we decide this appeal, is reproduced below.

15. An alkaline-containing photoresist stripping composition comprising from about 50% to about 98% by weight of a stripping solvent having a solubility parameter of from about 8 to about 15, from about 1% to about 50% by weight of a nucleophilic amine and a reducing agent in an amount effective to inhibit or reduce metal corrosion when said stripping composition is employed to strip hardened or cross-linked photoresist from a substrate containing metal, said reducing agent being selected from the group consisting of ascorbic acid, an unsaturated ketone, uric acid, tetramisole, hydrazine and derivatives thereof, oximes, hydroquinone, gallic acid, 2,4,5-trihydroxybutyro-phenone, 3,5-di-tert-butyl-4-hydroxytoluene, 3-tert-butyl-4-hydroxyanisole, tocopherol, 6-hydroxy-2,5,7,8 -tetra- methylchroman-2-carboxylic acid, a thiol selected from compounds of the formula  $R^5SH$  where  $R^5$  is an organic radical selected from the group consisting of heterocyclic, dicarboxyalkyl, an amino substituted carboxyalkyl radical or a radical of the formula



where  $R^6$  and  $R^7$  are alkyl radicals; aldehydes and their derivatives.

The prior art references of record relied upon by the examiner in rejecting the appealed claims are:

Schwartzkopf	5,308,745	May 03, 1994 (filing date - November 06, 1992)
Bhatt et al. (Bhatt)	5,310,428	May 10, 1994 (filing date - December 22, 1992)

Claims 15-19 stand rejected under 35 U.S.C. § 103 as being unpatentable over Schwartzkopf in view of Bhatt. Claims 15-19 stand rejected under the judicially created doctrine of obviousness-type double patenting over claims 1-3, 5, 6, 8, 10, 11, 13 and 15 of Schwartzkopf (U.S. Patent No. 5,308,745) considered in view of Bhatt.

OPINION

We have given careful consideration to the evidence of record and to the respective positions articulated by appellants and the examiner. In so doing, we find ourselves in agreement with the examiner's conclusion that the applied references establishes the obviousness, within the meaning of 35 U.S.C.

§ 103, of the claimed subject matter. Accordingly, we will sustain the examiner's § 103 rejection. Likewise, we shall sustain the examiner's separate obviousness-type double patenting rejection. We add the following primarily for emphasis.

We start with the examiner's § 103 rejection of the appealed claims over Schwartzkopf in view of Bhatt. At the

outset, we consider appellants challenge to the prior art status of the applied references based on a submission under 37 CFR § 1.131 (brief, pages 10-13). Our review of that submission reveals that only one of the two named inventors for this application have signed the § 1.131 declaration and the record does not reflect that the sole signing inventor is a party that has been asserted to be, let alone found to be, qualified under 37 CFR §§ 1.42, 1.43, or 1.47 as is required by 37 CFR § 1.131 under such circumstances. Hence, we determine that the submission under 37 CFR § 1.131 is defective and insufficiently authenticated. As such, that declaration does not qualify as acceptable proof of alleged facts therein to be weighed against and possibly overcome the rebuttable presumption that the relied upon patents are available as prior art to the herein claimed subject matter by virtue of their filing dates.

Recognizing that the teachings of the applied references could be found to be art that is prior to and available in considering the patentability, under 35 U.S.C. § 103, of the

claimed subject matter on appeal herein, appellants urge that the applied references do not suggest the claimed composition. In this regard, we note that appellants do not dispute that Schwartzkopf describes an alkaline-containing photoresist stripper composition that includes a solvent and a nucleophilic amine that correspond in kind and amount to that required by

appellants' claim 15 (See page 4 of the brief and pages 6 and 7 of the answer). Thus, appellants arguments focus on the reducing agent component of the composition as the basis for the patentability of the claimed subject matter. We do not find those arguments convincing for reasons as follows.

We observe that appellants acknowledge that Schwartzkopf describes the addition of non-nitrogen containing weak acids to the stripper composition (brief, paragraph bridging pages 5 and 6). We note that the weak acid component is used in the composition of Schwartzkopf in amounts of about .05 to about 25%, by weight, (column 3, lines 15-22), an amount that corresponds to appellants' effective amount of reducing

agent.<sup>1</sup> Additionally, like the so called "reducing agent" of appellants, that weak acid component of the composition of Schwartzkopf is employed to prevent undesirable metal corrosion when the composition is used to strip certain photoresist films from a metal-containing substrate (column 1, lines 8-20 and column 2, lines 41-61). Our review of the teachings of Schwartzkopf regarding the weak acids

that may be employed in the composition reveals that various phenols including di- and tri-hydroxy benzenes are among the acids that may be employed (column 3, lines 1-22). Indeed, we find that the specifically listed resorcinol of Schwartzkopf is a positional isomer of hydroquinone, which is specifically recited in representative appealed claim 15 as a reducing agent. On this record, we find that at least some of the weak acids described by Schwartzkopf are so structurally similar to the compounds included as reducing agents in the appealed claims that, *prima facie*, the description of the acid

---

<sup>1</sup> Appealed claim 18, which ultimately depends from representative claim 15 makes it clear that appellants' "amount effective..." (claim 15) is inclusive of the about 0.1% to about 10% by weight range of claim 18.

materials of Schwartzkopf would have led one of ordinary skill in the art to select structurally similar materials such as hydroquinone, for example, for use therein. It is well settled that a *prima facie* case of obviousness rises from the motivation of one of ordinary skill in the art to use structurally similar compounds for like purposes with the expectation that compounds of similar structure will have similar properties. After all, both appellants and Schwartzkopf teach selecting and using their respective reducing agent and weak acid components so as to reduce the metal corrosive effects of their respective compositions.

Additionally, appellants have not convincingly refuted the examiner's implicit finding that one of ordinary skill in the art would have understood that the weak acids of Schwartzkopf are, in effect, reducing agents.<sup>2</sup> Concerning this matter, appellants have not established with objective evidence that the acids of Schwartzkopf would not act as

---

<sup>2</sup> See the definitions of acid and reduce at pages 8,9 and 500 of Grant & Hackh's Chemical Dictionary, 5th Ed. (1987), a copy of which is attached to this decision.

reducing agents, as would have presumptively been expected by one of ordinary skill in the art from this record. In this regard, it is significant that acids are included in appellant's list of reducing agents. Consequently, on this record, we find that the teachings of Schwartzkopf would have led one of ordinary skill in the art to the use of reducing agents that are embraced by claim 15 and in amounts corresponding to the claimed effective amount in the stripping composition with a reasonable expectation of success in so doing.

For the foregoing reasons, we find that the examiner has presented a *prima facie* case of obviousness based upon the teachings of the applied references. Determining patentability on the totality of the record, by a preponderance of evidence with due consideration to the persuasiveness of appellants' arguments, we conclude that the subject matter of the appealed claims would have been obvious to one of ordinary skill in the art within the meaning of § 103. See *In re Oetiker*, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992).

Accordingly, we shall sustain the examiner's § 103 rejection of claims 15-19.

In essentially lock step with their arguments regarding the § 103 rejection discussed above, appellants argue the examiner's obviousness-type double patenting rejection based on alleged differences between the herein claimed reducing agent and weak acid of Schwartzkopf (brief, pages 9 and 10). Appellants' viewpoint on this issue is consistent in that, in obviousness-type double patenting rejections, the analysis employed parallels the guidelines for analysis of a § 103 obviousness determination. *See In re Longi*, 759 F.2d 887, 892-93, 225 USPQ 645, 648 (Fed. Cir. 1985). Given that the claims at issue in the Schwartzkopf patent call for a composition which includes a solvent, nucleophilic amine and weak acid such as resorcinol (see, e.g. claims 1 and 5 of Schwartzkopf), we shall likewise affirm the examiner's rejection of claims 15-19 under the judicially created doctrine of obviousness-type double patenting for reasons that follow from those discussed above.

CONCLUSION

The decision of the examiner to reject claims 15-19 under 35 U.S.C. § 103 as being unpatentable over Schwartzkopf in view of Bhatt and to reject claims 15-19 under the judicially created doctrine of obviousness-type double patenting over claims 1-3, 5, 6, 8, 10, 11, 13 and 15 of Schwartzkopf (U.S. Patent No. 5,308,745) considered in view of Bhatt is affirmed.

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

AFFIRMED

EDWARD C. KIMLIN	)	
Administrative Patent Judge	)	
	)	
	)	
	)	
	)	BOARD OF PATENT
JOHN D. SMITH	)	APPEALS
Administrative Patent Judge	)	AND
	)	INTERFERENCES
	)	
	)	
	)	
PETER F. KRATZ	)	
Administrative Patent Judge	)	

Appeal No. 1996-2734  
Application No. 08/133,680

Page 12

George E. Repper  
Rothwell, Figg, Ernst & Kurz, P.C.  
555 13th Street, NW  
Suite 701-E  
Washington, DC 20004