

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opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.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. 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* BRUCE R. HAHN and DOUGLAS D. CALLANDER

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Appeal No. 96-0644  
Application No. 08/056,721<sup>1</sup>

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ON BRIEF

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Before JOHN D. SMITH, GARRIS and WALTZ, *Administrative Patent Judges*.

WALTZ, *Administrative Patent Judge*.

*DECISION ON APPEAL*

This is an appeal under 35 U.S.C. § 134 from the examiner's final rejection of claims 1 through 6 and 9 through 13, which are the only claims remaining in this application.

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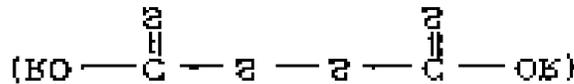
<sup>1</sup> Application for patent filed May 3, 1993.

According to appellants, the invention is directed to a method of forming domains of high density crosslinking in an elastomer, and an elastomeric matrix containing sites of such high density crosslinking (brief, page 2). Claims 1 and 6 are illustrative of the subject matter on appeal and are reproduced below:

1. A method for forming domains of high density crosslinking in an elastomer matrix comprising the steps of

- (a) treating textile fibers containing hydroxyl groups with a 5% to 50% aqueous solution of  $\text{RO}-\overset{\text{H}}{\underset{\text{S}}{\text{C}}}-\text{SX}$  X-OH wherein X represents a metallic cation, and converting said hydroxyl groups to their corresponding metal salt,
- (b) reacting said metal salt with carbon disulfide to convert said metal salt to a xanthate having the formula

wherein RO is the residue of said textile fiber,



- (c) causing the oxidative coupling of xanthate groups using an oxidizing agent to form disulfurdicarbothionate groups of the formula

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on the surface of said textile fibers  
to form a sulfur rich textile fiber,  
(d) mixing said sulfur rich textile fiber  
with uncured rubber, and

- (e) curing a mixture of said fiber and uncured rubber by conventional means to form high density crosslink sites in said rubber in the proximity of said fibers.

6. An elastomeric matrix comprising an elastomeric material having therein sites of high density crosslinking of said elastomer which correspond to the presence of textile fibers which have been surface treated with cure accelerator, wherein the highest degree of crosslinking of said elastomer occurs in the proximity of said fiber, and in which said elastomeric material is crosslinked to said textile fibers through said cure accelerator.

The examiner relies upon the following references as evidence of obviousness:

Boustany et al. (Boustany) 1974	3,836,412	Sept. 17,
Edwards et al. (Edwards) 1987	4,659,754	Apr. 21,

Claims 1-6 and 9-13 stand rejected under 35 U.S.C. § 103 as unpatentable over Edwards in view of Boustany (answer, page 3).<sup>2</sup> We reverse this rejection for reasons which follow.

*OPINION*

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<sup>2</sup> It should be noted that claims 11 and 12 improperly depend upon now cancelled claim 7. Upon the return of this application to the examiner, the improper dependency of claims 11 and 12 should be corrected. It is also noted that the formulas in claim 1, part (c), and claim 12 are incorrect as recited in the Appendix to appellants' brief. However, this error is harmless as we base our decision on the claims of record in this application.

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The method of appealed claim 1 requires three steps (steps (a), (b) and (c)) for bonding a curing accelerator to certain textile fibers before the fiber is mixed with rubber and cured (steps (d) and (e))(see the specification, page 4, lines 1-14). The elastomeric matrix product of appealed claim 6 requires high density crosslinking which corresponds to the presence of textile fibers which have been surface treated with cure accelerator.

The examiner cites Edwards for the disclosure of "fibers in rubber" (answer, page 3). The examiner further cites Boustany for the suggestion of "cellulose fibers in a rubber matrix" and "[f]iber orientation ... in the rubber matrix" (*Id.*). "It is well settled that the examiner bears the initial burden of presenting a *prima facie* case of obviousness based on the disclosures of the applied prior art references." *In re Oetiker*, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). Appellants argue that the art cited by the examiner does not teach or suggest the method steps claimed (brief, page 3, last sentence). We find that the examiner has failed to point out any disclosure or teaching of the claimed

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process steps by either Edwards or Boustany. In fact, the plasticizer taught by Edwards does not bond or adhere to the fiber as does the accelerator of appellants' method and product but "effectively leaves the fibre surfaces" during mixing of the fiber with the polymer (column 5, lines 19-26).

The examiner appears to conclude that the fiber orientation process suggested by Boustany (column 3, lines 43-63) would be "equivalent" for forming domains and the oriented product of Edwards would be the same as that presently claimed (answer, pages 3 and 4). However, the examiner presents no factual basis for supporting this conclusion. In fact, the process of Boustany pretreats fibers with a rubber latex, orients the fiber into the matrix, and then cures the resulting composite (column 19, lines 1-28). Therefore the surface of the fibers in Boustany could not have been surface treated with a cure accelerator, as required for the product of appealed claim 6.

"Where the legal conclusion [of obviousness] is not supported by facts it cannot stand." *In re Warner*, 379 F.2d 1011, 1017, 154 USPQ 173, 178 (CCPA 1967). For the foregoing

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reasons, we conclude that the examiner has not met the initial burden of presenting a case of *prima facie* obviousness.

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Accordingly, the rejection of claims 1-6 and 9-13 under  
35 U.S.C. § 103 as unpatentable over Edwards in view of  
Boustany is reversed.

*REVERSED*

JOHN D. SMITH	)	
Administrative Patent Judge	)	
	)	
	)	
	)	
	)	BOARD OF PATENT
BRADLEY R. GARRIS	)	APPEALS
Administrative Patent Judge	)	AND
	)	INTERFERENCES
	)	
	)	
THOMAS A. WALTZ	)	
Administrative Patent Judge	)	

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Patent & Trademark Dept.  
Dept. 823  
The Goodyear Tire & Rubber Co.  
Akron, OH 44316

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Application No. 08/056,721

**JENINE GILLIS**

Appeal No. 96-0644  
Serial No.

08/056,721

Judge WALTZ

Judge GARRIS

Judge JOHN D.

SMITH

Received: 05 Nov 98

Typed: 05 Nov 98

Revision: 16 Nov 98

DECISION: **REVERSED**

Send Reference(s): Yes No  
or Translation(s)

Panel Change: Yes No

3-Person Conf. Yes No

Remanded: Yes No

Brief or Heard

Group Art Unit: 1511

Index Sheet-2901 Rejection(s):

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Acts 2: \_\_\_\_\_

Palm: \_\_\_\_\_

Mailed:

Updated Monthly Disk (FOIA): \_\_\_\_\_

Updated Monthly Report: \_\_\_\_\_

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