

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(2) is not binding precedent of the Board.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. 22

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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Ex parte JOHN B. MILLER

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Appeal No. 1997-1676  
Application 08/255,010<sup>1</sup>

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ON BRIEF

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Before JOHN D. SMITH, PAK, and KRATZ, Administrative Patent  
Judges.

PAK, Administrative Patent Judge.

DECISION ON APPEAL

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<sup>1</sup> Application for patent filed June 7, 1994. According to  
appellant, this application is a continuation-in-part of  
Application 08/056,608, filed May 3, 1993; which is a  
continuation of Application 07/854,975, filed March 23, 1992.

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This is a decision on an appeal from the examiner's final rejection of claims 1 through 6 which are all of the claims pending in the application.

Claim 1 is representative of the subject matter on appeal and reads as follows:

1. A process for electrochemical treatment of a predetermined portion of a contaminated concrete structure having an exposed surface area and embedded steel reinforcement, wherein an electroconductive material is applied to said exposed surface area of the concrete to form a distributed electrode, a source of DC voltage is applied to said electroconductive material, as a positive terminal, and to said embedded steel reinforcement, as a negative terminal, and wherein said DC voltage is applied to impart a distributed current flow, of predetermined current density in relation to surface area of the steel reinforcement, between said applied electroconductive material and said embedded steel reinforcement, and wherein said DC voltage and said distributed current flow are continued until a predetermined current flow of at least about 500 ampere-hours of current per square meter of surface area of said embedded steel reinforcement has flowed between said terminals, and wherein said treatment is terminated as a function of said predetermined current flow in relation to the surface area of said embedded steel reinforcement, the improvement characterized by

(a) said electroconductive material being applied to only a predetermined fractional portion of the exposed surface area of said predetermined portion to be treated,

(b) said predetermined fractional portion being less than the entire exposed surface area of said predetermined portion to be treated,

(c) said distributed current flow being applied to said predetermined fractional portion at a current

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density which is in a ratio to said predetermined current  
density which is inversely proportional to the ratio of said  
predetermined fractional portion to the entire exposed  
surface area of said predetermined portion to be treated,

(d) said treatment being continued until said  
predetermined current flow has been reached with respect  
to the surface area of embedded steel reinforcement for the  
entire said predetermined portion to be treated, and

(e) said treatment being thereupon terminated as to  
the entire said predetermined portion to be treated.

The appealed claims stand rejected or stand provisionally  
rejected as follows:

- 1) Claims 1 through 6 under 35 U.S.C. § 102(b) as  
anticipated by the disclosure of Manning<sup>2</sup>;
- 2) Claims 1 through 6 under 35 U.S.C. § 103 as unpatentable  
over the disclosure of Manning;
- 3) Claims 1 through 6 under 35 U.S.C. § 101 as claiming the  
same invention as the claims of copending Application  
08/342,636; and
- 4) Claims 1 through 6 under the judicially created doctrine  
of obviousness-type double patenting over the claims of  
copending Application 08/342,636 in view of Manning.

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<sup>2</sup> Manning et al. (Manning), "Electrochemical Removal of  
Chloride Ions from Concrete: Initial Evaluation of the Pier  
S19 Field Trial," TRB, Jan. 1991.

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We have carefully reviewed the claims, specification and applied prior art, including all of the arguments and evidence advanced by the examiner and appellant in support of their respective positions. This review leads us to conclude that the examiner's rejections are not well founded. We will not sustain each of the foregoing rejections for those claim interpretation and reasons set forth in the Brief. We add the following primarily for emphasis.

In determining patentability of the claimed subject matter, all limitations, including the claim language "predetermined", in claim 1 must be considered. ***Cf. In re Geerdes***, 491 F.2d 1260, 1262, 180 USPQ 789, 791 (CCPA 1974). When the term "predetermined" in claim 1 is given its broadest **reasonable** interpretation **consistent** with pages 1 through 7 of the specification, we agree with appellant that it means "determined in advance". However, neither the claims of Application 08/342,636 nor the content of Manning describes determining a fractional area for the distribution of current flow in advance based on the total area to be treated as required by claim 1, steps (a) through (c). Accordingly, we are constrained to agree with appellant that the examiner has

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not established a ***prima facie*** case of anticipation under 35 U.S.C. § 102(b) or double patenting under 35 U.S.C. § 101.

Similarly, we agree with appellant that there is no suggestion or motivation to determine a fractional area for the distribution of current flow in advance based on the total area to be treated and distribute current flow only to the fractional portion of the total area to be treated at a current density which is inversely proportional to the ratio of the predetermined fractional portion to the total area to be treated as required by the claims on appeal. Although Manning states enhancement of an area in which the current has not been distributed, it does not recognize that the enhancement is caused by the so-called "spill over" effect as alleged by the examiner. In fact, as pointed out by appellant, Manning surmises that the enhancement may be attributed to "temperature effects" or "the result of a reduction of macrocell action in the column." See page 9. There simply is no evidence in the record to support a conclusion that one of ordinary skill in the art was aware of the so-called "spill over" phenomenon at the time of the

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invention. Accordingly, we are also constrained to agree with appellant that the examiner has not established a *prima facie* case of obviousness under 35 U.S.C. § 103 over the Manning disclosure or unpatentability under the judicially created doctrine of obviousness-type double patenting over the claims of Application 08/342,636 in view of Manning.

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In view of the foregoing, the decision of the examiner is reversed.

REVERSED

John D. Smith	)	
Administrative Patent Judge	)	
	)	
	)	
	)	BOARD OF PATENT
Chung K. Pak	)	APPEALS AND
Administrative Patent Judge	)	INTERFERENCES
	)	
	)	
Peter F. Kratz	)	
Administrative Patent Judge	)	

CKP:tdl

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SCHWEITZER CORNMAN & GROSS  
230 Park Avenue  
New York, NY 10169