

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. 28

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte JOHN W. BURGHER, DENNIS F. DONG and RICHARD E. LOFTFIELD

Appeal No. 1999-1387
Application No. 08/593,507

ON BRIEF

Before GARRIS, OWENS and WALTZ, Administrative Patent Judges.
WALTZ, Administrative Patent Judge.

DECISION ON APPEAL

This is a decision on an appeal from the examiner's final rejection of claims 1 through 12 and 19 through 29.¹ Claims 13 through 18, the only other claims pending in this application, stand withdrawn from further consideration by the examiner as directed to a nonelected invention (see the Brief, page 5). We have jurisdiction pursuant to 35 U.S.C. § 134.

¹There were no amendments submitted by appellants after the second final rejection in this application (see the final rejection dated Feb. 27, 1998, Paper No. 18; see the Answer, page 2).

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According to appellants, the invention is directed to a grid anode for cathodic protection of a steel reinforced concrete structure where the anode is formed of multiple valve metal strips including multiple electric current-carrying metal strips consisting of a valve metal (Brief, page 6). A copy of illustrative independent claim 1 is attached as an Appendix to this decision.

The examiner has relied upon the following references as evidence of obviousness:

Taki	4,997,492	Mar. 05, 1991
Mussinelli ² (Mussinelli '934)	5,062,934	Nov. 05, 1991
Watkins (GB '912) (published British specification)	896,912	May 23, 1962

Appellants rely upon the following references as evidence for non-obviousness (e.g., see the Brief, pages 9-11):³

Mussinelli (Mussinelli '502)	5,104,502	Apr. 14, 1992
Bennett et al. (Bennett '961)	5,423,961	Jun. 13, 1995

²The actual name of the patentee for this listed reference is "Mussinellil." However, it appears that this is incorrect (see Mussinelli '502 *infra*). Since appellants and the examiner both refer to this document as Mussinelli, we adopt this same nomenclature for uniformity.

³A discussion of the other reference cited by appellants as evidence of non-obviousness is unnecessary to this decision (see the Brief, page 11).

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Claims 1-12 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Mussinelli '934 in view of GB '912 (Answer, page 3). Claims 19-29 stand rejected under 35 U.S.C. § 103(a) as unpatentable over Mussinelli '934 in view of GB '912 and Taki (Answer, page 5).⁴ We reverse the examiner's rejections on appeal essentially for the reasons set forth on pages 9-11 of the Brief and the reasons set forth below.

OPINION

All of the claims require that the grid electrode have nodes "present in the amount of less than 100 nodes per square meter" (e.g., see claims 1 and 19 on appeal). The examiner finds that Mussinelli '934 discloses a grid anode which is exemplified as having 16 nodes per square meter, thus meeting the requirement set forth in the claims on appeal (Answer, page 3). Neither GB '912 nor Taki was applied by the examiner for any teaching of the number of nodes (see the Answer, pages 4 and 5).

As correctly argued by appellants (Brief, page 9), Mussinelli '934 teaches several times that the number of nodes per square meter of the anode should be between 2000 and 7000 (e.g., see the

⁴The reference to Paige, U.S. Patent No. 3,907,659, has been withdrawn by the examiner (see the Letter dated Mar. 16, 1999, Paper No. 27).

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abstract and claims 1, 10 and 16). Furthermore, Mussinelli '934 teaches that the prior art has "only 500 to 2,000 nodes per square meter which means the anode is greatly expanded." See col. 2, ll. 8-10, underlining added. Additionally, Mussinelli '502, cited by appellants (Brief, page 9), teaches that the prior art, which has 500 to 2,000 nodes per square meter, is "subject to easy breakage resulting in areas of no current density where rebars are unprotected" (col. 2, ll. 15-19). Mussinelli '502 also teaches that the nodes per square meter of concrete surface is at least 200 (col. 2, ll. 50-52). Finally, Bennett '961 discloses a network of strands "most always interconnected by from about 500 to about 2000 nodes per square meter of the mesh." Bennett '961 further teaches that "less than about 500 of the interconnecting nodes per square meter of the mesh may provide for insufficient redundancy in the mesh." See col. 10, ll. 45-54. Of course, sufficient redundancy is the key aspect of the prior art use of mesh or a grid structure (see Bennett '961, col. 5, ll. 12-17).

In the face of all of this evidence leading away from the claimed number of nodes per square meter, the examiner admits that "portions of the Mussinelli ['934] disclosure do set forth an anode grid of 2000 to 7000 nodes per square meter" but relies on Figure 1 of this reference as showing less than 100 nodes per square meter,

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explaining that a "reasonable interpretation can be that both values are suitable." Answer, page 6. We disagree.

We determine that a reasonable interpretation of Figure 1 of Mussinelli '934, consistent with the rest of the disclosure and the plain language of the patent, would be that Figure 1 shows several lengths of the "grid," which consists of a plurality of valve metal strips, each of the strips having voids and nodes, i.e., 2000 to 7000 nodes per square meter. See col. 5, ll. 26-29, along with the language from claim 1 at col. 5, l. 65-col. 6, l. 2. Therefore, as disclosed in col. 5 and Figure 1, each grid has a length of 250 mm, with each grid consisting of expanded metal strips with voids and nodes (see also Figures 2 and 3).

For the foregoing reasons, we determine that the examiner has not established a *prima facie* case of obviousness in view of the reference evidence. Accordingly, the rejections on appeal are reversed.

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The decision of the examiner is reversed.

REVERSED

BRADLEY R. GARRIS)	
Administrative Patent Judge)	
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)	BOARD OF PATENT
TERRY J. OWENS)	APPEALS
Administrative Patent Judge)	AND
)	INTERFERENCES
)	
)	
)	
THOMAS A. WALTZ)	
Administrative Patent Judge)	

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APPENDIX

1. A grid electrode for cathodic protection in a steel reinforced concrete structure comprising a plurality of valve metal strips spaced apart, said strips forming nodes at the intersections of said strips, said nodes being present in the amount of less than 100 nodes per square meter, said strips being electrically connected at the intersections thereof to form a grid, and said grid electrode further comprising a plurality of electric current-carrying metal members consisting of a valve metal spaced apart and extending across at least two valve metal strips.

