

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. 15

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. 1999-1258
Application No. 08/854,332

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 refusal to allow claims 1 through 20 as amended subsequent to the final rejection (see the amendment dated Aug. 4, 1998, Paper No. 8, entered as per the Advisory Action dated Aug. 19, 1998, Paper No. 9, thus overcoming the final rejection under 35 U.S.C. § 112, paragraph 2). Claims 1-20 are the only claims pending in this application. We have jurisdiction pursuant to 35 U.S.C. § 134.

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According to appellants, the invention is directed to a metal anode useful in a galvanic or impressed current cathodic protection system for a steel reinforced concrete article which is a strip or ribbon having a plurality of louvers defining a plane or planes at the lateral extremities of said louvers (Brief, page 5). Illustrative independent claim 1 is reproduced below:

1. In a galvanic or impressed current cathodic protection system comprising a plurality of porous, metal anodes, the improvement wherein each of said anodes comprises a unitary, porous, metal strip comprising a plurality of louvers formed on a first plane of said metal strip having a largest area, said louvers having a lateral and a long dimension, and said louvers defining a second plane or both a second plane and a third plane at the lateral extremities of said louvers.

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

Warne	4,187,164	Feb. 05, 1980
Boulton et al. (Boulton)	4,204,939	May 27, 1980
Taki	4,997,492	Mar. 05, 1991
Bartholomew et al. (Bartholomew)	5,292,411	Mar. 08, 1994
Bennett et al. (Bennett)	5,423,961	Jun. 13, 1995

Herman et al., "Heat Treating of Titanium and Titanium Alloys," *Metals Handbook® Ninth Edition*, Vol. 4, Heat Treating, pp. 763-64 (Am. Society for Metals, Park, OH, 1981) (Hereinafter referred to as Metals Handbook).

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Claims 1-6, 8-11, 13-15 and 19 stand rejected under 35 U.S.C. § 103 as unpatentable over Bennett in view of Boulton and Warne (Answer, page 3).¹ Claim 7 stands rejected under 35 U.S.C. § 103 as unpatentable over the references noted above further in view of Taki (Answer, page 4). Claims 16-18 and 20 stand rejected under 35 U.S.C. § 103 as unpatentable over the references applied against claims 1-6, 8-11, 13-15 and 19, further in view of the Metals Handbook (Answer, page 5). Claims 1-7, 11 and 12 stand rejected under 35 U.S.C. § 103 as unpatentable over Bartholomew in view of Boulton and Warne (*id.*). We reverse all of the rejections on appeal for the reasons set forth below.

OPINION

All of the rejections on appeal have an evidentiary basis of Bennett or Bartholomew as primary references with Boulton and Warne applied as secondary references to show the obviousness of substituting louver anode strips in the system of the primary

¹The reference to Pulliainen, U.S. Patent No. 5,531,873, has been withdrawn by the examiner (Answer, page 3).

references (Answer, pages 4 and 6). Accordingly, we will limit our discussion to these references.²

The examiner finds that Bennett discloses a "conventional system" for protecting concrete with reinforcing bars comprising an anode strip of expanded mesh made from titanium metal with an electrocatalytically active coating (Answer, page 3). The examiner finds that the claimed subject matter differs from Bennett by requiring an anode strip having a plurality of louvers (*id.*). Accordingly, the examiner applies Boulton for the disclosure of "an anode of Ti with an electrocatalytically active coating" where the anode is in the form of a strip with louvers (*id.*). The examiner also applies Warne for the disclosure of a cathodic protection anode "[having] the general configuration of louvers." Answer, page 4. From these findings, the examiner concludes that it would have been obvious "for Bennett to adopt the louver anode strip of Boulton as its anode, because such an anode can be easily manufactured as discussed at col. 2, line 47 of Boulton." *Id.* The examiner also concludes that "louvers have wider openings than the apertures of a mesh to facilitate the

²The tertiary references to Taki and Metals Handbook were merely applied by the examiner to show limitations of various dependent claims (see the Answer, pages 4 and 5). Therefore these references do not remedy the deficiencies discussed *infra*.

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escape of gas that can accumulate at the anode" (*id.*). Finally, the examiner concludes that Warne's disclosure of a cathodic protection anode with a shape "similar" to louvers "enhances the obviousness" of using a louver anode in a cathodic protection system (*id.*). We disagree.

As correctly argued by appellants (Reply Brief, pages 2-3), the examiner's conclusion of obviousness is not based on a proper factual foundation since Boulton does not disclose or suggest that louver anodes can be "easily manufactured." As correctly quoted by appellants (*id.*), Boulton merely teaches that "louvres are conveniently produced from a sheet of film-forming metal" (col. 2, ll. 47-48, underlining added). Furthermore, the examiner's conclusion that "louvers have wider openings than the apertures of a mesh" (Answer, page 4) is not based on any facts on the record before us. Similarly, the examiner's conclusion that these "wider openings" facilitate the escape of gas has not been supported by any factual evidence on this record.

We must also agree with appellants (Brief, pages 10-13 and 22) that the examiner has not provided any convincing evidence or reasoning to support the proposed combination of Bennett and Boulton, i.e., there is no convincing reasoning or suggestion for substituting the louver anode strip of Boulton for the mesh anode

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disclosed by Bennett. *See In re Dembiczak*, 175 F.3d 994, 999, 50 USPQ2d 1614, 1617 (Fed. Cir. 1999). Bennett specifically teaches the use of a mesh anode with "a redundancy of current-carrying paths through the mesh which ensures effective current distribution throughout the mesh even in the event of possible breakage of a number of individual strands." Col. 5, ll. 13-17. Accordingly, substitution of a louver anode strip would contradict the advantages taught by Bennett for the mesh anode. Additionally, Boulton is directed to an electrolytic diaphragm cell of the filter press type for the electrolysis of brine to produce chlorine, hydrogen and sodium hydroxide (see col. 1, ll. 4-6 and 41-46). Although the examiner submits that cathodic protection is an electrolytic process, just as the electrolysis of brine by Boulton (Answer, paragraph bridging pages 7-8), the examiner has not shown any similarities in the processes of Boulton and Bennett that would have suggested the interchanging or substitution of anodes.

The examiner's citation of Warne does not remedy the deficiencies discussed above. The examiner has not shown how the disclosure of U- or V-shaped anodes in the cathodic protection system of Warne are of the "general configuration of louvers" or "with a shape similar to louvers" (Answer, page 4; see Fig. 4 of

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Warne). Furthermore, Warne teaches that the "geometrical shape of cathodic protection anodes is very important." Col. 2, ll. 37-38. Therefore the examiner must present evidence of a suggestion or reason for altering the U- or V-shaped anodes of Warne to the shape of louvers. See *Dembiczak, supra*. On this record, the examiner has not presented any such evidence.

The examiner has applied Bartholomew as a primary reference for its disclosure of a cathodic protection system comprising a sacrificial metal anode (zinc). See the Answer, page 6. However, the examiner applies Boulton and Warne in the same manner as discussed above (*id.*). Accordingly, we adopt our reasoning above for the determination that the examiner has failed to present convincing evidence or reasoning to support the proposed combination of references. See *Dembiczak, supra*.

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For the foregoing reasons, we determine that the examiner has not met the initial burden of establishing a *prima facie* case of obviousness in view of the reference evidence. Accordingly, we reverse all of the rejections on appeal.

The decision of the examiner is reversed.

REVERSED

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

TAW:hh

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ANDREW E. PIERCE
161 McCracken Dr.
Seneca, SC 29678