

The opinion in support of the decision being entered today is not binding precedent of the Board.

Paper 16

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte JAMES A. VAN VECHTEN, JAMES R. LUNDY,
ALAN K. WALLACE and CHRIS A. BELL

Appeal 97-1906
Application 08/163,084¹

Before: McKELVEY, Senior Administrative Patent Judge, and
SCHAFER and LEE, Administrative Patent Judges.

McKELVEY, Senior Administrative Patent Judge.

Decision on appeal under 35 U.S.C. § 134

The appeal is from a decision of the Primary Examiner rejecting claims 1-7. We reverse.

¹ Application for patent filed 6 December 1993. The real party in interest is the applicants.

A. Findings of fact

The record supports the following findings by a preponderance of the evidence.

1. With reference to Figs. 1(a) through 1(c) and 3 of the drawings, claim 1 reads (indentation, matter in brackets and paragraph numbers added):

Claim 1

A structural element [Fig. 1, item **10**; specification, page 9, line 5; Fig. 3, item **34**; specification, page 15, lines 17-18] for tensile and flexural strength reinforcement of a body of cast material [Fig. 3, item **32**; specification, page 15, line 16] that is exterior to said element, said element [**10, 34**] comprising

- [1] a substantially tubular rigid member [Fig. 1, item **12**; specification, page 9, line 6]
- [2] having an interior diameter greater than 4 mm,
- [3] an outer diameter not greater than 50 mm,
- [4] a wall thickness of 1 mm or at least 10% of the interior diameter, whichever is greater,
- [5] a ridged outer surface [Fig. 1, item **14**; specification, page 9, lines 10-11],
- [6] an unobstructed lumen, and
- [7] a tensile strength of at least 10 megaPascals or four times the tensile strength of the material being reinforced, whichever is greater.

2. The examiner rejected claims 1-7 as being unpatentable under 35 U.S.C. § 103 over Yee, U.S. Patent 4,627,212 (1986).

3. Yee describes a structural element [Fig. 1, item **10**] comprising a substantially tubular rigid member [Fig. 2, item **12**] containing a ridged inner surface [Fig. 2, item **30**; Fig. 3, items **56**, **58**, **60**].

4. Thus, a difference between the subject matter of claim 1 and Yee is that claim 1 requires "a ridged outer surface" whereas Yee describes "annular ridges **30** which are all of equal height or radial dimensions from the internal surfaces [of tubular rigid member **12**]" (col. 3, lines 43-45) (emphasis added).

5. The examiner acknowledges that Yee does not describe a ridged outer surface (Examiner's Answer, page 3).

6. In addressing the difference between claim 1 and Yee, the examiner notes (Examiner's Answer, page 3):

Yee does not disclose a tubular member having a ridged outer surface. Yee does disclose that the inner surface of the tubular member has ridges (see col. 4, lines 5-9) to obtain a wedging action and compression forces. Yee

also discloses that the tubular rigid member is used for reinforcing concrete structures. Therefore, it would have been obvious to one of ordinary skill in the art to have ridges on the inner or outer surface for the advantage of a wedging action and compression forces.

7. There is no suggestion, teaching, reason or motivation set forth in Yee for moving the inner ridges to become outer ridges.

8. The sole suggestion in the record for having ridges on the outer surface of the element is found in applicants' specification.

B. Discussion

In our opinion, nothing in Yee would suggest the presence on the Yee reinforcing element of ridges on the outer surface. The examiner has not provided sufficient prior art evidence to support his finding that one skilled in the art would have been motivated to place outer ridges on the Yee reinforcing element. Accordingly, the examiner's rejection is based on impermissible hindsight. In re McLaughlin, 443 F.2d 1392, 1395, 170 USPQ 209, 212 (CCPA 1971) (obviousness judgments are necessarily based on hindsight; so long as judgment takes into

Appeal 97-1906
Application 08/163,084

account only knowledge known in the art, there is no error).
Since claim 1 is the broadest claim, and it is not directed to
subject matter which would have been obvious over the prior
art, it necessarily follows that narrower claims 2-7 are
likewise not unpatentable over the prior art.

REVERSED.

_____)	
FRED E. McKELVEY, Senior)	
Administrative Patent Judge)	
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)	
_____)	
RICHARD E. SCHAFER)	BOARD OF PATENT
Administrative Patent Judge)	APPEALS AND
)	INTERFERENCES
)	
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Appeal 97-1906
Application 08/163,084

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