

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. 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* ALBRECHT DEMMIG,  
HANS-ULRICH DIETZE,  
HUBERTUS H<sup>3</sup>HNE,  
and  
SEBASTIAN BENENOWSKI

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Appeal No. 2001-2378  
Application No. 09/479,932

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HEARD: NOVEMBER 13, 2001

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Before ABRAMS, STAAB, and NASE, *Administrative Patent Judges*.  
STAAB, *Administrative Patent Judge*.

*DECISION ON APPEAL*

This is a decision on an appeal from the final rejection of claims 1-4, 6-12 and 14-17. Claim 13 has been canceled (see Paper No. 8). Dependent claims 5 and 18, the only other claims currently pending in the application, have been objected to by the examiner (see Paper No. 9) and apparently

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would be allowable if rewritten in independent form to include all of the limitations of the claims from which they depend.

Appellants' invention pertains to a structure for supporting a rail. Independent claims 1, 12 and 14, copies of which are found in the appendix to appellants' main brief, are illustrative of the appealed subject matter.

The sole reference applied in the final rejection is:  
Meier et al. (Meier)                      5,361,986                      Nov. 8,  
1994

Claims 1-4, 6, 8-12 and 14-17 stand rejected under 35 U.S.C. § 102(b) as being anticipated by Meier.<sup>1</sup>

Claim 7 stands rejected under 35 U.S.C. § 103 as being unpatentable over Meier.

*Appellants' Invention*

With reference to Figure 2, the appealed claims are directed to a "superstructure arrangement for a track" comprising, generally, a sleeper 10, a securing device 16 fastened to the sleeper, a rail 20 having a maximum

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<sup>1</sup>In the answer (page 3), the examiner inadvertently included canceled claim 13 in the statement of this rejection.

permissible stress level fastened to the securing device, and an intermediate layer 38 mounted between the securing device and the sleeper. The thrust of appellants' invention is to match the rigidity of the intermediate layer to the maximum permissible bending stress of the rail in order to reduce structure-borne sound while preventing said maximum permissible bending stress from being exceeded. As explained in the paragraph spanning pages 9 and 10 of the specification,

in accordance with the invention . . . it is provided that the intermediate layer 36, 38, 40 has in respect of its spring properties or rigidity a so-called kinked characteristic.<sup>[2]</sup> The intermediate layer 36, 38, 40 therefore has elastic or "soft" properties as long as the maximum permissible or presettable rail stress has not yet been reached. If this rail stress does prevail, the intermediate layer 36, 38, 40 is "hard", i.e., has a high rigidity, so that there is no further bending of the rail 18, 20, 26 and hence no increase in the rail stress.

The claims set forth the relationship between the rigidity of the intermediate layer and the maximum permissible stress of the rail in various ways. For example, independent claim 1

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<sup>2</sup>This characteristic is explained on page 8 of the specification and illustrated in the graph of Figure 6.

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requires that

the intermediate layer has a rigidity  $x$  such that at the maximum permissible stress in the rail by bending generated in response to wheel load, the intermediate layer has a substantially non-elastic property, so that further bending of the rail under additional load causes only insubstantial additional stress in said rail.

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Independent claim 12 sets forth that

said intermediate layer [is] elastic in response to forces up to a first amount and [is] rigid in response to forces greater than said first amount wherein said first amount is equal to about said maximum stress level [of the rail].

Independent claim 14 is somewhat different in that it refers

to the intermediate layer as a "decoupling means."  
Specifically,

claim 14 calls for

decoupling means mounted between said securing device and said sleeper for substantially decoupling said rail from said sleeper while substantially preventing stress in said rail from exceeding said maximum stress level.

*The Applied Prior Art*

Meier pertains to a support structure for a rail comprising,

generally, a bearing member 4, a support plate 3, a rail 1 fastened to the support plate, and an molded elastic part 5 mounted between the support plate and the bearing member. An objective of Meier is to provide a support structure for a rail

such that gauge widening does not occur in the rail track when railway cars travel over curved sections of the track. To this

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end, molded elastic part 5 is designed to compress in a way to compensate for the tendency of the rails on curved sections of track to move apart. In particular, the molded elastic part 5 of

the support structure is designed such that "when a load is applied to the track, a circular pivoting motion of the rail takes place about the common intersection (S). Due to the circular pivoting motion the rail head (1d) moves essentially only in the vertical direction" (abstract).

*The Examiner's Position*

In rejecting each of the independent claims as being anticipated by Meier, the examiner finds correspondence between the claimed "intermediate layer" (claims 1 and 12) and "decoupling means" (claim 14) and the molded elastic part 5 of Meier. More particularly, the examiner maintains that:

The intermediate layer of Meier has a level of elasticity at a certain range of application of force and is rigid in response to forces greater than such range. Regarding the maximum permissible stress, recited in claim 1, it is the examiner's position that the rail of Meier inherently has a maximum permissible stress level, which is the upper limit of said certain range of application of force.  
[Answer, page 3.]

Further enlightenment as to the examiner's position is found

on

pages 5 and 6 of the answer, wherein the examiner states:

. . . it should be noted that the expression "maximum permissible stress level" is a relative term, which is readable as any high level of force, which would include an extremely high level of force since a steel rail can withstand a very high level of force before failing. When such high level of force is applied to compress an elastic material such as intermediate layer 5 of Meier, the elastic material would certainly become more rigid or substantially rigid, as broadly recited in the instant claims.

. . . .

Regarding appellant's [sic, appellants'] argument directed to claim 14, it is the examiner's position that intermediate layer 5 (decoupling means) of Meier inherently provide[s] a certain level of decoupling between the rail securing device and the sleeper, and a certain ability to help preventing [sic, prevent] stress, as broadly recited in the claim. Furthermore, the relative terms "substantial" or "substantially" [do] not set forth any specific level to define over the prior art.

*Discussion*

First, to the extent the examiner's rejection is based on the proposition that the molded elastic part 5 of Meier displays relatively elastic or "soft" properties during one phase of its operation and relatively rigid or "hard" properties during another phase of its operation, we do not

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agree. Simply put, there is no basis in the Meier disclosure to support such a proposition.

Second, we do not agree with the examiner that the claim terminology that the rail has a "maximum permissible stress" (claim 1) or a "maximum stress level" (claims 12 and 14) are relative terms. In our view, this claim terminology requires the rail to have a well defined, measurable bending strength that one

of ordinary skill in the art would readily understand and be able to determine for a particular rail. Our view in this regard is supported by appellants' specification.<sup>3</sup>

Third, the examiner's position that the claimed relationship between the maximum stress level of the rail and the rigidity of the intermediate layer (claims 1 and 12) or function of the decoupling means (claim 15) are inherent characteristics of Meier is speculative. Meier does not disclose or teach either of these relationships. In fact, Meier does not even mention the maximum stress level of the rail. While it is possible that the elastic properties of part 5 of Meier might be related to the maximum stress level of the rail in the manner called for in the independent claims on appeal, we note that it is well settled that inherency may not be established by probabilities and possibilities, but must instead be "the natural result flowing from the operation as taught." See *In re Oelrich*, 666 F.2d 578, 581, 212 USPQ 323, 326 (CCPA 1981). In the present case, the disclosure of

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<sup>3</sup>See, for example, appellants' specification at page 4, lines 17-20; page 9, lines 10-13; page 10, lines 9-11; page 11, lines 9-11.

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Meier does not provide an adequate factual basis to establish that the natural result flowing from following the teachings of that reference would result in the claimed subject matter. Accordingly, we cannot sustain the examiner's anticipation rejection of claims 1-4, 6, 8-12 and 14-17.

Claim 7 stands rejected under 35 U.S.C. § 103 as being unpatentable over Meier, the examiner taking the position that it would have been obvious to one of ordinary skill in the art to have substituted a known rail for the rail of Meier. Even if true, the above discussed requirement of claim 1, from which claim 7 depends, concerning the relationship between the maximum permissible stress of the rail and the rigidity of the intermediate layer would not necessarily result, and there is no suggestion or teaching in Meier that would have suggested the claimed relationship. Thus, the § 103 rejection of claim 7 based on Meier also is not sustainable.

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*Conclusion*

The standing rejections under 35 U.S.C. § 102(b) and  
35 U.S.C. § 103 are reversed.

The decision of the examiner is reversed.

*REVERSED*

NEAL E. ABRAMS	)	
Administrative Patent Judge	)	
	)	
	)	
	)	BOARD OF PATENT
LAWRENCE J. STAAB	)	APPEALS AND
Administrative Patent Judge	)	INTERFERENCES
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	)	
	)	
JEFFREY V. NASE	)	
Administrative Patent Judge	)	

LJS:hh

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