

The opinion in support of the decision being entered today was not written for publication and is not binding precedent of the Board.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. 17

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte THOMAS A. SEDER

Appeal No. 1998-0873
Application 08/301,279¹

ON BRIEF

Before BARRETT, FLEMING, and HECKER, Administrative Patent Judges.

BARRETT, Administrative Patent Judge.

DECISION ON APPEAL

¹ Application for patent filed September 6, 1994, entitled "Serpentine Avionics Fluorescent Tube With Uniformity Of Luminance And Chromaticity," which is a continuation of Application 08/021,366, filed February 23, 1993, now abandoned.

Appeal No. 1998-0873
Application 08/301,279

This is a decision on appeal under 35 U.S.C. § 134 from the final rejection of claims 7-13. Claims 1-6 are canceled.

We reverse, but enter a new ground of rejection.

BACKGROUND

The disclosed invention is directed to a fluorescent tube having one or more "U" shaped bends, wherein the phosphor layer is produced by dragging a spray nozzle through the tube while phosphors are being pumped through a hose to the nozzle and out on to the inner surface of the tube.

Claim 7 is reproduced below.

7. A miniature fluorescent tube comprising;

a nonlinear tube having a first end and a second end and at least one "U" shaped portion there between; and,

a phosphor layer disposed in said tube by pumping phosphors through a hose coupled to a spray nozzle and dragging the hose and spray nozzle from said first end through said tube to said second end while phosphors are being pumped out the nozzle on to the tube.

The Examiner relies on the following prior art:

Mossel et al. (Mossel)	4,081,714	March 28, 1978
Muta	4,216,738	August 12, 1980

Appeal No. 1998-0873
Application 08/301,279

Young

4,337,414

June 29, 1982

Claims 7-13 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Mossel, Young, and Muta.

We refer to the Final Rejection (Paper No. 12) (pages referred to as "FR__") and the Examiner's Answer (Paper No. 16) (pages referred to as "EA__") for a statement of the Examiner's position, and to the Appeal Brief (Paper No. 15) (pages referred to as "Br__") for a statement of Appellant's arguments thereagainst.

OPINION

Obviousness

The Examiner's rejection attempts to show the obviousness of the process of forming the phosphor layer. As noted in the new ground of rejection, infra, such process-of-making limitations are not entitled to patentable weight in a product claim except to the extent they produce a different product. Nevertheless, since the rejection is not based on the product, we must consider the process limitations.

The Examiner finds that Mossel teaches the concept of spraying the inside of a linear tube with phosphor while

Appeal No. 1998-0873
Application 08/301,279

moving the nozzle with respect to the lamp envelope (FR2; EA4). However, Mossel does not teach spraying the inside of a tube with one or more "U" shaped bends. The Examiner finds that Young discloses (at col. 5, lines 67-68) that there should be a uniform coating of phosphor material (FR2-3; EA4). The Examiner finds (FR3; EA5) that Muta teaches an apparatus "to ensure a complete coating in a simple manner not only for straight pipes but for bent and curved pipes as well" (Muta, col. 2, lines 13-15). The Examiner essentially concludes that it would have been obvious to provide a uniform phosphor coating on a tube with one or more "U" bends in view of Young and to modify the tube spraying apparatus of Mossel in view of the teachings of Muta (FR3-4; EA5).

Appellant argues (Br3):

The references do not teach how to phosphor coat the inside of [the] lamp tube after it is bent into a nonlinear shape. Moreover, it does not even suggest the feasibility [sic] of modifying their approach to accomplish phosphor coating after the tube is bent. The Applicant believes that the sewer painting teachings of Muta do not suggest the modification or combination of the references to arrive at the claimed invention.

Appeal No. 1998-0873
Application 08/301,279

On balance, we agree with Appellant that there is no motivation to combine the references to arrive at the claimed process steps. The lamp references to Mossel and Young do not suggest the feasibility of coating a lamp tube with phosphor after it has been bent into a nonlinear shape by using a nozzle dragged through the tube. While Young discloses that the phosphor coating should be uniform, it contemplates only the two kinds of phosphor application processes disclosed as prior art by Appellant (col. 16, lines 1-17). Muta discloses painting large underground water pipes and there is no suggestion that the arrangement could be used in coating fluorescent tubes. Thus, the only apparent motivation for one of ordinary skill in the lamp art to look to the painting arrangement in Muta to coat a "U"-shaped fluorescent tube is found in Appellant's disclosure, the use of which is hindsight. "The mere fact that the prior art may be modified in the manner suggested by the Examiner does not make the modification obvious unless the prior art suggested the desirability of the modification." In re Fritch, 972 F.2d 1260, 1266, 23 USPQ2d 1780, 1783-84 (Fed. Cir. 1992), citing

Appeal No. 1998-0873
Application 08/301,279

In re Gordon, 733 F.2d 900, 902, 221 USPQ 1125, 1127 (Fed. Cir. 1984). Accordingly, we conclude that the Examiner has failed to establish a prima facie case of obviousness as to independent claims 7 and 10. The rejection of claims 7-13 is reversed.

New ground of rejection under 37 CFR § 1.196(b)

Claims 7, 10, and 11 are rejected under 35 U.S.C. § 102 as anticipated by Appellant's admitted prior art (APA) which states (specification, p. 3):

Another [prior art] method [for making serpentine fluorescent tubes] has been to bend uncoated tubes into a "U" shape and then apply the phosphors via the typical phosphor slurry flush coat method used for linear tubes. Success has been claimed for uniform application of phosphors to "U" shapes using the flush coat method, but "S" shaped or "M" shaped tubes have not been uniformly phosphor coated with the typical slurry deposition method.

The claims are in product-by-process format because they define the phosphor layer in a miniature fluorescent tube (claim 7) or lamp (claim 10) by the process of how the phosphor layer is applied. Product-by-process claims are treated differently for patentability purposes during ex parte examination in the USPTO than for infringement and

Appeal No. 1998-0873
Application 08/301,279

validity purposes during litigation. See Atlantic Thermoplastics Co. v. Faytex Corp., 970 F.2d 834, 846, 23 USPQ2d 1481, 1490-91 (Fed. Cir. 1992). The patentability of product-by-process claims is discussed in In re Thorpe, 777 F.2d 695, 697, 227 USPQ 964, 966 (Fed. Cir. 1985):

[E]ven though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself. [Citations omitted.]

The patentability of a product does not depend on its method of production. If the product in a product-by-process claim is the same as or obvious from a product of the prior art, the claim is unpatentable even though the prior product was made by a different process. [Citations omitted.]

Process limitations must be given weight to the extent they produce a different structure.

The question is whether the product is the same as or obvious over the prior art. In this case, the APA admits that "U"-shaped tubes have been uniformly coated by the slurry flush coat method. Thus, there is no structural difference in the phosphor layer applied by this prior art method versus Appellant's method. Claims 7, 10, and 11 are anticipated.

Appeal No. 1998-0873
Application 08/301,279

By contrast, the phosphor coated product produced by the other disclosed prior art process of heating a linear phosphor-coated tube to its working temperature and then bending it (specification, pp. 3-4), is not the same as the phosphor coated product produced by Appellant's claimed process of dragging a nozzle through the tube while pumping phosphors onto the tube because bending after coating causes the efficiency of the phosphors to be diminished and causes cracks in the phosphor coating, whereas Appellant's process does not create these problems. Thus, the structural properties of the phosphor layer are different and the product is different.

The APA states that a uniform coating has not been achieved with "S" shaped or "M" shaped tubes. Thus, the product of claims 8, 9, 12, and 13 is different from the APA because it impliedly has a more uniform coating than the APA.

CONCLUSION

The rejection of claims 7-13 is reversed.

A new ground of rejection is entered as to claims 7, 10, and 11 pursuant to 37 CFR § 1.196(b).

Appeal No. 1998-0873
Application 08/301,279

This decision contains a new ground of rejection pursuant to 37 CFR § 1.196(b) (amended effective Dec. 1, 1997, by final rule notice, 62 Fed. Reg. 53,131, 53,197 (Oct. 10, 1997), 1203 Off. Gaz. Pat. & Trademark Office 63, 122 (Oct. 21, 1997)). 37 CFR § 1.196(b) provides that, "[a] new ground of rejection shall not be considered final for purposes of judicial review."

37 CFR § 1.196(b) also provides that the appellant, WITHIN TWO MONTHS FROM THE DATE OF THE DECISION, must exercise one of the following two options with respect to the new ground of rejection to avoid termination of proceedings (37 CFR § 1.197(c)) as to the rejected claims:

(1) Submit an appropriate amendment of the claims so rejected or a showing of facts relating to the claims so rejected, or both, and have the matter reconsidered by the examiner, in which event the application will be remanded to the examiner. . . .

(2) Request that the application be reheard under § 1.197(b) by the Board of Patent Appeals and Interferences upon the same record. . . .

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a).

REVERSED - 37 CFR § 1.196(b)

Appeal No. 1998-0873
Application 08/301,279

	LEE E. BARRETT)	
	Administrative	Patent Judge)
)	
)	
)	
)	BOARD OF
PATENT			
	MICHAEL R. FLEMING)	APPEALS
	Administrative Patent Judge)	AND
)	INTERFERENCES
)	
)	
)	
	STUART N. HECKER)	
	Administrative Patent Judge)	

Appeal No. 1998-0873
Application 08/301,279

ROCKWELL INTERNATIONAL CORPORATION
Patent Dept., M/S 175-100
400 Collins Road, N.E.
Cedar Rapids, IA 52498