

THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.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 HENRY F. GRAY

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Appeal No. 1996-1552  
Application 08/241,976<sup>1</sup>

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HEARD: October 5, 1999

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Before THOMAS, FLEMING and FRAHM, Administrative Patent Judges.

FRAHM, Administrative Patent Judge.

DECISION ON APPEAL

Appellant has appealed to the Board from the examiner's final rejection of claims 25 to 29.

Claims 1 to 24 have been canceled.<sup>2</sup> Thus, only claims 25 to 29 remain on appeal, with method claim

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<sup>1</sup> Application for patent filed May 12, 1994. According to appellant, the application is a division of Application 07/921,658 filed July 30, 1992, which is now U.S. Patent No. 5,359,256.

<sup>2</sup> Claims 1 to 24 were canceled as per appellant's amendment of May 12, 1994.

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29 being the sole independent claim on appeal.

The subject matter on appeal is directed to a method of producing a field emitter device. As indicated in the specification (page 3), a field emission current output can be controlled using the field emitter device formed with the method recited in claims 25 to 29 on appeal.

Representative independent method claim 29 is reproduced below:

29. A method of producing a field emitter device, comprising the steps of:

(a) forming a field effect transistor structure having a drain which that is without an external electrical contact; and

(b) monolithically forming an electron field emitter structure on the drain of the field effect transistor.

The following references are relied on by the examiner:

Spindt et al. (Spindt)	3,665,241	May 23, 1972
Gray et al. (Gray '507)	4,307,507	Dec. 29, 1981
Gray et al. (Gray '614)	4,578,614	Mar. 25, 1986
Calcaterra	5,268,648	Dec. 7, 1993

Ting, A., et al. (Ting), Field Effect Controlled Vacuum Field Emission Cathodes, TECHNICAL DIGEST OF IVMC '91, pp. 200-01 (August 22, 1991)

Gray, H.F., et al. (Gray), Film Edge Emitters: The Basis For A New Vacuum Transistor, IEDM '91, pp. 201-04 (1991)

Claim 29 stands rejected under 35 U.S.C. § 102(a) as being anticipated by Ting.

Claim 29 stands rejected under 35 U.S.C. § 102(e) as being anticipated by Calcaterra.

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Claim 25 stands rejected under 35 U.S.C. § 103. As evidence of obviousness, the examiner relies upon Ting in view of Gray '614.

Claim 26 stands rejected under 35 U.S.C. § 103. As evidence of obviousness, the examiner relies upon Ting in view of Spindt.

Claim 27 stands rejected under 35 U.S.C. § 103. As evidence of obviousness, the examiner relies upon Ting in view of Gray.

Claim 28 stands rejected under 35 U.S.C. § 103. As evidence of obviousness, the examiner relies upon Ting in view of Gray '507.

Rather than repeat the positions of appellant and the examiner, reference is made to the Brief and the Answer for the respective details thereof.<sup>3</sup>

#### OPINION

At the outset, we note our agreement with appellant (as admitted by appellant's representative at oral hearing) and the examiner that "[t]he only issue on appeal is whether due diligence has been shown in the applicant's declarations under 37 CFR § 1.131 from just prior to the publication of the Ting et al. article (August 22, 1991) or filing of the Calcaterra patent to the filing date of the parent of the current application [July 30, 1992] (i.e. through the entire critical period)." Answer, page 6; also see,

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<sup>3</sup> For purposes of this opinion, we refer to the amended Brief of July 18, 1995, simply as the Brief. We note that the non-compliant Brief submitted May 9, 1995, has not been entered.

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Brief, page 7. We further note our agreement with appellant (Brief, page 8) and the examiner (Answer, page 6) that the declarations of Mr. Root and of Mr. Gray are not necessary to a determination of due diligence in this case since these declarations pertain to acts occurring outside of the critical period, and that accordingly only the declaration of Mr. McDonnell is pertinent to showing diligence during the critical period (Brief, page 9; Answer, page 6). Thus, the sole issue on appeal before us is whether or not the declaration of Mr. McDonnell demonstrates due diligence during the critical period of August 22, 1991, through July 30, 1992.

Under 37 CFR § 131(b), appellant is required to demonstrate "due diligence" from prior to the effective date of the reference(s) to the filing of the application. See 37 CFR § 1.131(b) (1995). We note that "reasonable diligence is all that is required of the attorney" who in this case was Mr. McDonnell,<sup>4</sup> and that diligence is to be determined by the 'rule of reason' based on the particular facts of each case. Bey v. Kollonitsch, 806 F.2d 1024, 1028 n.9, 231 USPQ 967, 970 n.9 (Fed. Cir. 1986); Gould v. Schawlow and Townes, 363 F.2d 908, 921, 150 USPQ 634, 645 (CCPA 1966)("the presence or absence of reasonable diligence must necessarily be determined by the evidence adduced in each case").

In reaching our conclusion on the issue raised in this appeal, we have carefully considered Mr.

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<sup>4</sup> Bey v. Kollonitsch, 806 F.2d 1024, 1028, 231 USPQ 967, 970 (Fed. Cir. 1986)(emphasis in original). We note that although relevant case law discusses diligence under rule 131 both as "due diligence" and as "reasonable diligence," "the distinction between 'due diligence' and 'reasonable diligence' is at best a question of semantics." Gould v. Schawlow and Townes, 363 F.2d 908, 921 n.11, 150 USPQ 634, 645 n. 11 (CCPA 1966).

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McDonnell's declaration, the respective viewpoints of appellant (Brief, pages 7 to 15) and the examiner (Answer, pages 6 to 9), and all other evidence of record. In the instant case, we find the examiner's argument, that Mr. McDonnell's declaration evidences "numerous gaps in diligence" during the critical period (Answer, pages 7 to 9), to be unpersuasive. We agree with appellant (Brief, page 15) that the acts of Mr. McDonnell attested to in his declaration demonstrate reasonable diligence throughout the critical period, and we note our agreement with the appellant that the examiner failed until after the Brief to specify which and whose actions (from amongst Mr. Root, Mr. Gray, and Mr. McDonnell) constituted "numerous gaps in diligence" as referred to in the Advisory Actions of March 22, 1995, and April 25, 1995.

We find that the McDonnell declaration shows that Mr. McDonnell worked reasonably hard on the instant application in question during the continuous critical period of August 22, 1991, to July 30, 1992. Specifically, the McDonnell declaration (from pages 3 to 5 therein) shows that during the critical period Mr. McDonnell worked reasonably diligently on the instant application to resolve inventorship issues, review and evaluate the invention disclosure, supervise submission of the invention disclosure to the Invention Evaluation Board for approval, held meetings with various Navy employees to resolve overlaps in subject matter and inventorship, and supervised contracting out of the preparation of the patent application. Although the examiner cites three specific periods of time during the critical period as not having diligence (Answer, page 7), none of these time periods greatly exceeds one month. In



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ERIC FRAHM  
Administrative Patent Judge

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