

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(2) is not binding precedent of the Board.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. 16

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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Ex parte JOHN C. ENGDAHL,  
GLENN F. KNOLL  
and WILLIAM L. ROGERS

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Appeal No. 1997-3434  
Application No. 08/307,075

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ON BRIEF

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Before HAIRSTON, BARRETT and HECKER, Administrative Patent  
Judges.

HAIRSTON, Administrative Patent Judge.

DECISION ON APPEAL

This is an appeal from the final rejection of claims 2<sup>1</sup>  
and 8 through 13. In an Amendment After Final (paper number  
8), claim 8 was amended. Claims 1 and 3 through 7 have been

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<sup>1</sup> Claim 2 depends from allowed claim 1.

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allowed.

The disclosed invention relates to a method of measuring the depth of interaction of an incident gamma ray within a scintillating crystal of a gamma ray imaging detector via the use of first and second arrays of photodiodes adjacent first and second surfaces, respectively, of the scintillating crystal.

Claim 8 is the only independent claim on appeal, and it reads as follows:

8. A method of measuring the depth of interaction of an incident gamma ray within a scintillating crystal of a gamma ray imaging detector, said interaction resulting in the generation of a plurality of scintillation photons, comprising the steps of:

providing a first array of photodiodes adjacent a first surface of said scintillating crystal so as to receive a first portion of said plurality of scintillation photons generated by said interaction;

providing a second array of photodiodes adjacent a second surface of said scintillating crystal opposite said first surface so as to receive a second portion of said plurality of scintillation photons generated by said interaction;

each of said photodiodes in said first and second arrays generating an electrical output signal proportional to the number of scintillation photons received; and

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calculating the depth of interaction of said incident gamma ray within said scintillating crystal as a function of the amplitudes of said electrical output signals generated by said first and second arrays of photodiodes.

The examiner has not relied on any references to reject the claims on appeal.

Claims 2 and 8 through 13 stand rejected under the first and second paragraphs of 35 U.S.C. § 112 because they are nonenabled and the scope and meaning thereof can not be ascertained because "the specification does not identify corresponding structure, material or acts (as appropriate)" for the claimed expression "circuitry . . . for measuring the depth of interaction of said incident gamma ray within said scintillating crystal" [claim 2], and the claimed expression "calculating the depth of interaction of said incident gamma ray within said scintillating crystal . . ." [claim 8] (Answer, pages 2 and 3).

Reference is made to the briefs and the answer for the respective positions of the appellants and the examiner.

#### OPINION

The indefiniteness and the lack of enablement rejections of claims 2 and 8 through 13 are reversed.

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At the outset, we note that appellants have incorporated by reference U.S. Patent No. 5,171,998 to Engdahl into the subject patent application, but not the publication by Gagnon. In the Background and Prior Art section of the subject application, appellants merely stated that "[a] detailed explanation of the importance of and the problems associated with the DOI [depth of interaction] is provided in 'Maximum Likelihood Positioning in the Scintillation Camera Using Depth of Interaction,' D. Gagnon et al., IEEE Transactions on Medical Imaging, Vol. 12, No. 1, March 1993, pp. 101-107" (Specification, page 4). A discussion of the admitted prior art in the disclosure is not the same as incorporation by reference into the application, and appellants are not relying on the publication for "essential material" set forth in the claims on appeal (Answer, page 4).

The examiner has relied on In re Donaldson, 16 F.3d 1189, 29 USPQ2d 1845 (Fed. Cir. 1994), to bolster the lack of enablement and the indefiniteness rejections (Answer, pages 4 and

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5). The examiner's reliance on Donaldson and the discussion thereof in MPEP § 2181 is in error because the same section of the MPEP clearly states that:

The *Donaldson* decision affects only the manner in which the scope of a "means or step plus function" limitation in accordance with 35 U.S.C. § 112, sixth paragraph, is interpreted during examination. *Donaldson* does not directly affect the manner in which any other section of the patent statutes is interpreted or applied<sup>[2]</sup>.

Thus, we agree with the appellants (Reply Brief, pages 2 and 3) that Donaldson is not pertinent to the facts before us on appeal.

Turning to the lack of enablement rejection, appellants argue (Brief, pages 6 and 7) that:

[T]he details of the computing circuitry are not necessary for an adequate disclosure or understanding of the invention. The invention pertains to the provision of the photodiode detector arrays and not to new computing circuitry. The calculation of DOI may in fact be carried out by conventional computing circuitry as was done in the Gagnon et al. article. Additionally, the '998 patent (which is properly incorporated by reference

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<sup>2</sup>In In re Dossel, 115 F.3d 942, 946, 42 USPQ2d 1881, 1884 (Fed. Cir. 1997), the Court stated that paragraph 6 of 35 U.S.C. § 112 does not itself implicate the requirements of paragraph 1 of 35 U.S.C. § 112.

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in the specification) demonstrates  
the propriety of representing conventional  
computing circuitry as a labeled box.  
See U.S. Patent No. 5,171,998, Fig. 1,  
circuit 40. . . .

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In view of appellants' admission in the specification that the calculating/measuring of depth of interaction (DOI) can be accomplished with conventional circuitry as disclosed by Gagnon, we agree with appellants that "corresponding structure, material or acts" are not needed in the disclosure for such conventional circuitry. The lack of enablement rejection is, therefore, reversed because "[t]he Answer presents no evidence that those skilled in the art would not be able to make and use the invention from the disclosure" (Reply Brief, page 2).

In response to the indefiniteness rejection, appellants argue (Brief, pages 8 and 9) that:

[C]laim 2 reasonably apprises those skilled in the art that its scope is limited to computing circuitry which receives electrical output signals from first and second arrays of photodiodes and measures depth of interaction of a scintillation event within a crystal in response to those signals. One skilled in the art would have no difficulty in determining whether a gamma ray imaging detector having computing circuitry is or is not within the scope of claim 2. Claim 2 is not limited to a particular computing circuit simply because such particulars are irrelevant to the invention.

With respect to claim 8, this claim . . . sets forth the specific parameters which are used to perform the claimed step and as such fully

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apprises those of skill in the art as to its scope.

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We agree with appellants' arguments. Accordingly, the indefiniteness rejection is reversed because the claims on appeal set out and circumscribe a particular area with a reasonable degree of precision and particularity when read in light of the application disclosure as they would be by one possessing ordinary skill in the art. In re Moore, 439 F.2d 1232, 1235, 169 USPQ 236, 238 (CCPA 1971).

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DECISION

The decision of the examiner rejecting claims 2 and 8 through 13 under the first and second paragraphs of 35 U.S.C.

§ 112 is reversed.

REVERSED

	)	
KENNETH W. HAIRSTON	)	)
Administrative Patent Judge	)	
	)	
	)	
	)	BOARD OF PATENT
LEE E. BARRETT	)	)
Administrative Patent Judge	)	APPEALS AND
	)	
	)	INTERFERENCES
	)	
STUART N. HECKER	)	
Administrative Patent Judge	)	

KWH:hh

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