

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

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* SAMUEL F. LIPRIE

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Appeal No. 2005-1078  
Application 09/681,303

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ON BRIEF

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Before WARREN, OWENS and DELMENDO, *Administrative Patent Judges*.

WARREN, *Administrative Patent Judge*.

*Decision on Appeal*

This is an appeal under 35 U.S.C. § 134 from the decision of the examiner finally rejecting claims 1 through 31, all of the claims in the application,

Claims 1, 4 and 7 illustrate appellant's invention of a flexible source wire for radiation treatment having a housing tube constructed from a material exhibiting little or no memory retention when bent, and are representative of the claims on appeal:<sup>1</sup>

1. A flexible source wire for radiation treatment of diseases within a body comprising:  
a flexible, hollow, elongated housing tube having a distal end and a proximal end, said housing tube constructed from a material exhibiting little or no memory retention when bent;  
a flexible backbone wire having a proximal end, said proximal end of said wire being disposed in said housing tube; and

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<sup>1</sup> We have considered the claims as presented in the supplemental examiner's answer mailed November 22, 2004, pursuant to the remand by the Board entered April 19, 2004.

a radiation source or sources provided within said housing tube, said proximal end of said flexible backbone wire being adjacent to said radiation source or sources.

4. The flexible source wire of claim 1, wherein said radioactive source is included within a thin walled-capsule.

7. The flexible source wire in accordance with claim 4 wherein at least one end of said capsule is rounded.

The references relied on by the examiner are:

Suthanthiran et al. (Suthanthiran)	5,163,896	Nov. 17, 1992
Ishibe et al. (Ishibe)	5,230,348	Jul. 27, 1993
Liprie (Liprie '781)	5,282,781	Feb. 1, 1994
Liprie (Liprie '300)	5,395,300	Mar. 7, 1995
Narciso, Jr. et al. (Narciso)	5,454,794	Oct. 3, 1995

The examiner has advanced the following grounds of rejection on appeal:<sup>2</sup>

claims 1 through 6, 9 through 15, 17 through 25 and 27 through 31 stand rejected under 35 U.S.C. § 102(b) as anticipated by Liprie '781 (answer, pages 4-5 and 7-9);

claims 7, 8, 16 and 26 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Liprie '781 as applied to claims 1 through 6, 9 through 15, 17 through 25 and 27 through 31, and further in view of either Suthanthiran or Liprie '300 (answer, pages 5-6 and 9-10);

claims 1 through 6, 9 through 15, 17 through 25 and 27 through 31 stand rejected under 35 U.S.C. § 103(a) as obvious over Liprie '781 in view of Narciso and/or Ishibe (answer, pages 6 and 10-11).

Appellant states that the appealed claims "stand or fall together" (brief, page 3). Thus, we decide this appeal based on appealed claims 1 and 7 as representative of the grounds of rejection. 37 CFR § 1.192(c)(7) (2003); *see also* 37 CFR § 41.37(c)(1)(vii) (effective September 13, 2004; 69 Fed. Reg. 49960 (August 12, 2004); 1286 Off. Gaz. Pat. Office 21 (September 7, 2004)).

We affirm.

Rather than reiterate the respective positions advanced by the examiner and appellant, we refer to the answer and to the brief for a complete exposition thereof.

#### *Opinion*

In order to consider the examiner's application of prior art to appealed claims 1 and 7 we must first interpret the language thereby by giving the claim terms their broadest reasonable

interpretation in light of the written description in the specification, including the drawings, as interpreted by one of ordinary skill in the art, and without reading into the claims any limitation or particular embodiment disclosed in the specification. *See, e.g., In re Morris*, 127 F.3d 1048, 1054-55, 44 USPQ2d 1023, 1027 (Fed. Cir. 1997); *In re Zletz*, 893 F.2d 319, 321-22, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989). In doing so, the terms in the appealed claims must be given their ordinary meaning unless another meaning is intended by appellant. *See, e.g., Morris*, 127 F.3d at 1055-56, 44 USPQ2d at 1029 (“It is the applicants’ burden to precisely define the invention, not the PTO’s. See 35 U.S.C. § 112 ¶ 2 [statute omitted.]”); *York Prods., Inc. v. Central Tractor Farm & Family Ctr.*, 99 F.3d 1568, 1572-73, 40 USPQ2d 1619, 1622 (Fed. Cir. 1996), and cases cited therein (a claim term will be given its ordinary meaning unless appellant discloses a novel use of that term); *Zletz, supra* (“During patent examination the pending claims must be interpreted as broadly as their terms reasonably allow. When the applicant states the meaning that the claim terms are intended to have, the claims are examined with that meaning, in order to achieve a complete exploration of the applicant’s invention and its relation to the prior art.”).

The principal issue in this appeal is the interpretation of the claim language “a material exhibiting little or no memory retention when bent” which modifies “a flexible, hollow, elongated housing tube” structure in appealed claim 1. The written description in the specification contains essentially the same language, e.g., “a flexible housing in the form of an elongated hollow tube constructed from a material such a [sic] Nitinol® or a titanium/nickel alloy which exhibits little or no memory retention when it is bent” (page 3, [0007]). In this respect, we further find that appellant discloses in the written description in the specification that “material such as Nitinol® as well as titanium/nickel alloy which exhibits little or no memory retention when bent have dissimilar welding properties than other metals,” and that “due to the characteristics of ‘little or no memory’ material such as Nitinol®, a titanium/nickel alloy etc., the ‘drawing down’ of the material illustrated in Liprie "781 [sic] is not possible” (page 4, [0009] and [0010]). We find that these latter disclosures involve the characteristics of the Nitinol® as

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<sup>2</sup> The examiner has withdrawn the ground of rejection under 35 U.S.C. § 112, second paragraph (answer, page 6).

well as titanium/nickel alloy preferred embodiments and do not characterize the properties of all of the materials that would fall within the subject claim language.

Thus, we find no definition in the specification for the term “no memory retention” and or the term “little . . . memory retention” wherein “little” is used as a term of degree. We determine that the term “memory retention” must be considered in the context of “flexible” materials which must have sufficient flexibility to traverse “a tortuous path in various arteries, veins, ducts or the like inside the body to reach the treatment site,” withstanding “the many bends” encountered in doing so “without breaking,” wherein the “length of the tube is generally greater than 100cm,” (specification, e.g., page 2, [0003], and page 5, [0015]; *see also* brief, page 12). Thus, it seems to us that the term “no memory retention” can reasonably be interpreted as any material, which can be a metal, that is capable of continuous flexibility under the conditions of use for the claimed flexible source wire which, of course, includes operating room and patient body temperatures.

The extent to which a material exhibits “little . . . memory retention” and is thus encompassed by the claims, depends, of course, on the definition of the term of degree “little.” In the absence of a definition in the specification for “little . . . memory retention” we must determine whether the term “little” can be given its ordinary meaning in context. *See Morris, supra; York Prods.*, 99 F.3d at 1572-73, 40 USPQ2d at 1622-23. The term “little” has the common dictionary meaning in context of “[s]mall in quantity or degree,” and the term “small” has the common dictionary meaning in context of “[l]imited in degree or scope.”<sup>3</sup> We find no guidance in these definitions which would lead one of ordinary skill in the art to the properties that a material can possess in exhibiting “little . . . memory retention.” We further find no disclosure in the written description in the specification which one of ordinary skill in this art could refer to in order to determine the extent of this limitation. *See Seattle Box Co., Inc. v. Industrial Crating & Packing, Inc.*, 731 F.2d 818, 826, 221 USPQ 568, 573-74 (Fed. Cir. 1984) (“Definiteness problems arise when words of degree are used. That some claim language may not be precise, however, does not automatically render a claim invalid. When a word of degree is

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<sup>3</sup> *See generally, The American Heritage Dictionary, Second College Edition* 736, 1154 (Boston, Houghton Mifflin Company, 1982); *Webster’s II New Riverside University Dictionary* 698-99 (Boston, The Riverside Publishing Company, 1984).

used . . . [it] must [be determined] whether the patent’s specification provides some standard for measuring that degree.”); *In re Mattison*, 509 F.2d 563, 564-65, 184 USPQ 484, 486 (CCPA 1975).

However, because a reasonable interpretation of “a material exhibiting little . . . memory retention” is any material, which can be a metal, that is capable of effective flexibility under the conditions of use for the claimed flexible source wire which, of course, includes operating room and patient body temperatures, for purposes of this appeal and to avoid piecemeal prosecution, we can *conditionally* so interpret the claim language in order to resolve prior art issues in this appeal without unsupported speculative assumptions, *cf. In re Steele*, 305 F.2d 859, 862-63, 134 USPQ 292, 295 (CCPA 1962); *Ex parte Saceman*, 27 USPQ2d 1472, 1474 (Bd. Pat. App. & Int. 1993), even though the claim language “little . . . memory retention” when considered in light of the written description in the specification raise issues of whether the appealed claims fail to set out and circumscribe a particular area with a reasonable degree of precision and particularity.<sup>4</sup> *See The Beachcombers, Int’l. v. WildeWood Creative Prods.*, 31 F.3d 1154, 1158, 31 USPQ2d 1653, 1656 (Fed. Cir. 1994), *citing Orthokinetics Inc v. Safety Travel Chairs Inc.*, 806 F.2d 1565, 1576, 1 USPQ2d 1081, 1088 (Fed. Cir. 1986); *In re Moore*, 439 F.2d 1232, 1235, 169 USPQ 236, 238 (CCPA 1971).

We further determine that the subject claim language reads on “a material” that exhibits “little or no memory retention when bent” at any point in time. *Cf. See Exxon Chemical Patents Inc. v. Lubrizol Corp.*, 64 F.3d 1553, 1555-58, 1558, 35 USPQ2d 1802-05, 1804 (Fed. Cir. 1995) (“The specification as a whole, and the claims in particular, contain no temporal limitation to the term ‘composition.’ . . . The composition of claim 1, once its ingredients are mixed, is a composition existing during manufacture that is being used to produce the end product. Consequently, as properly interpreted, Exxon’s claims are to a composition that contains the specified ingredients at any time from the moment at which the ingredients are mixed together. This interpretation of Exxon’s claims preserves their identify as product claims, and recognizes as a matter of chemistry that the composition exists from the moment created.”).

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<sup>4</sup> We suggest that the issue of whether the claim language “little . . . memory retention” satisfies the requirements of 35 U.S.C. § 112, second paragraph, be considered by the examiner upon further prosecution of the appealed claims subsequent to the disposition of this appeal.

We are mindful that appellant has used the term “shape memory” in argument with respect to metals encompassed by this claim language (brief, e.g., pages 8 and 12). We fail to find this term in the specification. We notice that the term “shape memory alloy” has the common scientific definition of “[a]n alloy that, after being deformed, can recover its original shape upon heating.”<sup>5</sup> This characteristic is temperature dependent and held by certain types of alloys, including the alloy Nitinol® and titanium/nickel alloys, hence the term.<sup>6</sup> However, we find no basis in the claim language or in the written description in the specification on which to read into the subject claim language the limitation that the broad term “a material” is limited to “shape-memory alloys” or the Nitinol® and titanium/nickel alloy preferred embodiments, or that the phrase “little or no memory retention when bent” is limited to the characteristics exhibited by “shape-memory alloys” or the Nitinol® and titanium/nickel alloy preferred embodiments. *See Morris, supra; Zletz, supra.*

Considering now the first ground of rejection, we have carefully reviewed the record on this appeal and based thereon find ourselves in agreement with the supported finding advanced by the examiner that as a matter of fact, *prima facie*, appealed claim 1 is anticipated by Liprie ‘781. Therefore, we again evaluate all of the evidence of anticipation and non-anticipation based on the record as a whole, giving due consideration to the weight of appellant’s arguments in the brief. *See generally, In re Spada*, 911 F.2d 705, 707 n.3, 15 USPQ2d 1655, 1657 n.3. (Fed. Cir. 1990).

Appellant contends that Liprie ‘781 is not anticipatory of claim 1 because the housing of the source wire thereof is constructed of stainless steel, tantalum or titanium which are not “shape memory material,” citing col. 6, ll. 24-29 (brief, page 8). The cited disclosure of Liprie ‘781 describes the securing of the radioactive source in the housing tube.

We cannot subscribe to appellant’s position. We find that the reference discloses that the stainless steel, titanium and tantalum metals for the thin and flexible housing are selected based

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<sup>5</sup> *See generally, McGraw-Hill Dictionary of Scientific and Technical Terms* 1806 (5th ed., Sybil P. Parker, ed., New York, McGraw-Hill, Inc. 1994).

<sup>6</sup> *See generally, Jeff Perkins, “Shape memory alloys,” 16 McGraw-Hill Encyclopedia of Science & Technology* 357-59 (7th ed., New York, McGraw-Hill, Inc. 1992); L. McDonald Schetky, “Shape-Memory Alloys,” *20 Kirk-Othmer Encyclopedia of Chemical Technology* 726-36 (3rd ed., New York, John Wiley & Sons, 1982).

on the criteria of, among others, flexibility and the capability to absorb stresses in order “to be driven through the very tight curves and bends encountered along the tortuous path” in reaching the desired location within a patient’s body (e.g., col. 5, ll. 54-62, 9, ll. 9-18, col. 15, ll. 46-56, **FIG. 7**, and col. 18, ll. 43-53). Thus, Liprie ‘781 provides substantial evidence for the position that as a matter of fact, the metals taught in Liprie ‘781 exhibit effective flexibility under the conditions of use for the claimed flexible source wire and thus fall within the limitation of “little . . . memory retention” of appealed claim 1 as we have conditionally interpreted this claim language above. Indeed, as the examiner, points out, it can reasonably be inferred from appellant’s argument that once bent, “the stainless steel [of the reference] would stay in the bent position” (answer, Page 8). We find no teachings in Liprie ‘781 which support appellant’s position that the claimed “little or no memory retention” limitation patentably distinguishes the metals of Liprie ‘781, and appellant has not relied on any evidence in the record in this respect. Accordingly, appellant’s unsupported position is thus entitled to little, if any, weight.

Appellant further contends with respect to the requirement for an encapsulated radiation source or sources in appealed claim 24 (see also appealed claim 4), that while Liprie ‘781 “does teach providing a radioactive source within a capsule, it does not teach placing that capsule material within a housing tube,” pointing to col. 4, ll. 10-24, of the reference on which the examiner relied (answer, pages 4 and 8-9). Appellant refers to van’t Hooft et al. (van’t Hooft<sup>7</sup>) as describing “a capsule holding a radioactive source, which is either simply welded to a sheared end of a drive cable” or otherwise attached to such a cable, contending that neither reference teaches the limitation of claim 24 (brief, pages 8-9). The examiner contends that “there is no indication within the passage [of Liprie ‘781] that the referenced prior art refers to only [van’t Hooft]” (answer, page 9).

Whether the teachings and inferences that one skilled in this art would have found in the disclosure of an applied reference would have placed this person in possession of the claimed invention, taking into account this person’s own knowledge of the particular art, is a question of fact. *See generally, In re Graves*, 69 F.3d 1147, 1152, 36 USPQ2d 1697, 1701 (Fed. Cir. 1995), and cases cited therein (a reference anticipates the claimed method if the step that is not

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<sup>7</sup> United States Patent 4,861,520, issued Aug. 29, 1989, of record.

disclosed therein “is within the knowledge of the skilled artisan.”); *In re Preda*, 401 F.2d 825, 826, 159 USPQ 342, 344 (CCPA 1968) (“[I]n considering the disclosure of a reference, it is proper to take into account not only specific teachings of the reference but also the inferences which one skilled in the art would reasonably be expected to draw therefrom.”).

We find that Liprie ‘781 acknowledges that “[i]n one conventional prior art assembly the core is placed inside a stainless steel capsule with an open end on one side and welded to the delivery wire or guide wire” (col. 4, ll. 10-13), and that van’t Hooft in fact teaches an encapsulated radioactive source in which a tubular body with a closed back and cavity containing the radioactive source is sealed with a plug, which as appellant points out, is then welded to a flexible cable (col. 4, ll. 20-29, **FIG. 1**). However, while the purpose of the encapsulation acknowledged by Liprie ‘781 was to convey the radioactive source through a body, one of skilled in this art, armed with the knowledge that radioactive sources can be encapsulated such as shown by the acknowledged prior art, would have recognized that the “generally cylindrical radioactive source or core” to be “encased within the tube” of the source wire of Liprie ‘781 (e.g., col. 5, l. 66, to col. 6, l. 1) can be encapsulated for handling prior to encasing within the tube, thus placing this person in possession of the claimed invention encompassed by appealed claim 24.

Accordingly, we have again considered the totality of the record before us, weighing all of the evidence of anticipation found in Liprie ‘781<sup>8</sup> with appellant’s countervailing arguments and evidence for non-anticipation in the brief, and based thereon, conclude that the claimed invention encompassed by appealed claims 1 through 6, 9 through 15, 17 through 25 and 27 through 31 would have been anticipated as a matter of fact under 35 U.S.C. § 102(b).

Our review of the record further leads us to agree with the supported conclusion advanced by the examiner that as a matter of law, *prima facie*, the claimed invention encompassed by appealed claim 7 would have been obvious over the combined teachings of

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<sup>8</sup> We have not considered either Narciso nor Ishibe with respect to this ground of rejection as argued by the examiner in response to appellants’ arguments (answer, pages 7-8). Indeed, reliance on a reference to support a ground of rejection that is not included in the statement of the rejection is clearly impermissible. See *In re Hoch*, 428 F.2d 1341, 1342 n. 3, 166 USPQ 406, 407 n.3 (CCPA 1970); cf. *Ex parte Raske*, 28 USPQ2d 1304, 1304-05 (Bd. Pat. App. & Int. 1993).

Liprie '781, Suthanthiran<sup>9</sup> and Liprie '300 to one of ordinary skill in this art at the time the claimed invention was made. Thus, we again evaluate all of the evidence of obviousness and nonobviousness based on the record as a whole, giving due consideration to the weight of appellant's arguments in the brief. *See generally, In re Oetiker*, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992); *In re Piasecki*, 745 F.2d 1468, 1472, 223 USPQ 785, 788 (Fed. Cir. 1984).

We find no argument in appellant's brief with respect to the combined teachings of Liprie '781 and '300 (brief, pages 9-10).<sup>10</sup> We agree with the examiner's finding (answer, pages 5 and 10) that Liprie '300 would have disclosed to one of ordinary skill in this art radioactive sources encapsulated in a rounded capsule for integration within a source wire (abstract, **FIG. 1** and col. 5). Thus, Liprie '300 combined with Liprie '781 provide substantial evidence in support of the examiner's position.

Accordingly, based on our consideration of the totality of the record before us, we have weighed the evidence of obviousness found in the combined teachings of Liprie '781, Suthanthiran, and Liprie '300 with appellant's countervailing evidence of and argument for nonobviousness and conclude that the claimed invention encompassed by appealed claims 7, 8, 16 and 26 would have been obvious as a matter of law under 35 U.S.C. § 103(a).

On the same record, we agree with the supported conclusion advanced by the examiner that as a matter of law, *prima facie*, the claimed invention encompassed by appealed claim 1 would have been obvious over the combined teachings of Liprie '781, Narciso and Ishibe<sup>11</sup> to one of ordinary skill in this art at the time the claimed invention was made. Thus, we again evaluate all of the evidence of obviousness and nonobviousness based on the record as a whole, giving due consideration to the weight of appellant's arguments in the brief. *See generally, Oetiker*, 977 F.2d at 1445, 24 USPQ2d at 1444; *Piasecki*, 745 F.2d at 1472, 223 USPQ at 788.

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<sup>9</sup> A discussion of Suthanthiran is not necessary to our decision. *See In re Kronig*, 539 F.2d 1300, 1302-04, 190 USPQ 425, 426-28 (CCPA 1976).

<sup>10</sup> This ground of rejection has been of record since the non-final Office action mailed August 13, 2002.

<sup>11</sup> A discussion of Ishibe is not necessary to our decision. *See In re Kronig*, 539 F.2d 1300, 1302-04, 190 USPQ 425, 426-28 (CCPA 1976).

We affirm this ground of rejection of claim 1 and the other claims here rejected under § 103(a) on the same basis that we affirmed the ground of rejection of these same claims under § 102(b) over Liprie '781 alone because it is well settled that “anticipation is the ultimate of obviousness.” See *In re Baxter Travenol Labs.*, 952 F.2d 388, 392, 21 USPQ2d 1281, 1284-85 (Fed Cir. 1991), citing *In re Fracalossi*, 681 F.2d 792, 794, 215 USPQ 569, 571 (CCPA 1982).

Furthermore, appellant submits that the examiner’s finding that Narciso would have taught the equivalence of Nitinol®, stainless steel and tantalum as “metals which have the tensile strength and memory to deflect and return to its original position” for use as deflecting wire **23** fir SLID catheter **10** (answer, page 6; Narciso, e.g., col. 3, ll. 32-39, **FIGs. 1** and **2a-c**, cols. 2-3), is “a broad generalization [which] is inappropriate” as the “focus should be on whether the metals are equivalent for the particular constructions taught by” claim 1 (brief, page 12). In this respect, appellant contends that

[i]t is well known in the industry that stainless steel source wire tends to fail not only through repeated traversal of the torturous regions of the body, but may also tend to kink or distort during single applications in particularly tortuous regions. By contrast, the shape-memory characteristics of the nickel and titanium alloy housing tube, and materials exhibiting little or no memory when bent, more generally, of the present claims lends a resiliency to the wire, permitting the wire to repeatedly and reliably traverse the torturous regions of the body without risk of such distortion and kinking. [Brief, page 12.]

We find no support in the record for appellant’s allegations that certain tendencies of stainless steel are “well known in the industry” and that “shape-memory” have superior properties thereto in the context of the claimed invention, and thus, such arguments are entitled to little, if any, weight. See *In re De Blauwe*, 736 F.2d 699, 705, 222 USPQ 191, 196 (Fed. Cir. 1984); *In re Payne*, 606 F.2d 303, 315, 203 USPQ 245, 256 (CCPA 1979); *In re Lindner*, 457 F.2d 506, 508, 173 USPQ 356, 358 (CCPA 1972). See *In re Lindner*, 457 F.2d 506, 508, 173 USPQ 356, 358 (CCPA 1972) (“This court has said . . . that mere lawyers’ arguments unsupported by factual evidence are insufficient to establish unexpected results. [Citations omitted.]”). Indeed, we interpreted appealed claim 1 above to encompass any metal that is capable of effective flexibility under the conditions of use for the claimed flexible source wire which, of course, includes operating room and patient body temperatures, and at any point in

time. Here, appellant has simply not established that claim 1 patentably distinguishes over the teachings of Liprie '781 alone or taken with Narciso.

Accordingly, based on our consideration of the totality of the record before us, we have weighed the evidence of obviousness found in the combined teachings of Liprie '781, Narciso and Ishibe with appellant's countervailing evidence of and argument for nonobviousness and conclude that the claimed invention encompassed by appealed claims 1 through 6, 9 through 15, 17 through 25 and 27 through 31 would have been obvious as a matter of law under 35 U.S.C. § 103(a).

The examiner's decision is affirmed.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a)(1)(iv) (effective September 13, 2004; 69 Fed. Reg. 49960 (August 12, 2004); 1286 Off. Gaz. Pat. Office 21 (September 7, 2004)).

*AFFIRMED*

CHARLES F. WARREN	)	
Administrative Patent Judge	)	
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	)	
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	)	
TERRY J. OWENS	)	BOARD OF PATENT
Administrative Patent Judge	)	APPEALS AND
	)	INTERFERENCES
	)	
	)	
ROMULO H. DELMENDO	)	
Administrative Patent Judge	)	

Appeal No. 2005-1078  
Application 09/681,303

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