



Board of Patent Appeals  
and Interferences

**Informative**

Opinion

The opinion in support of the decision being entered today is not binding precedent of the board

Paper 94

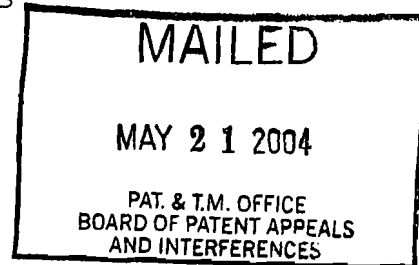
UNITED STATES PATENT AND TRADEMARK OFFICE

Filed 21 May 2004

BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

Ex parte ROBERT F. SHAW

Appeal 1997-3258  
Application 07/117,393<sup>1</sup>



Before: HARKCOM, Acting Chief Administrative Patent Judge, THOMAS and GARRIS, Administrative Patent Judges, MCKELVEY, Senior Administrative Patent Judge, and FLEMING, Administrative Patent Judge.

MCKELVEY, Senior Administrative Patent Judge.

DECISION ON APPEAL UNDER 35 U.S.C. § 134

**A. Introduction**

The application on appeal is before the board on remand from the U.S. Court of Appeals for the Federal Circuit. In re Shaw, Appeal 04-1037 (Fed. Cir. Dec. 18, 2003) (Paper 78; remand and mandate).

The panel which originally heard the appeal consisted of Judges Urynowicz, Thomas and Garris. Judge Urynowicz has retired. In view of significant issues raised by the appeal, the

---

<sup>1</sup> Application for patent filed 2 November 1987. The real party in interest is applicant, Dr. Robert F. Shaw (Supplemental Brief on Appeal, Paper 66, page 1). The application on appeal is said to be a continuation of application 06/295,929, filed 21 June 1981 (Papers 1-28), which is said to be a division of application 05/898,388, filed 20 April 1978.

Acting Chief Judge, acting on behalf of the Director, has designated a five-judge panel to decide the appeal on remand.<sup>2</sup>

## **B. Background**

Following a final rejection of all claims, inter alia, for failure to comply with the enablement requirement of 35 U.S.C. § 112, first paragraph (Paper 50, page 2), applicant appealed to the board (Paper 51). Upon initial consideration of the appeal, the original panel entered an order remanding the appeal to the examiner (Paper 69). Upon completing the remand, the appeal was forwarded to the board. The board in turn entered a final decision affirming the examiner's lack of enablement rejection (Paper 74). A request for rehearing (Paper 75) was denied (Paper 76).

Applicant timely filed a notice of appeal to the Federal Circuit (Paper 77). While the appeal was pending before the Federal Circuit, counsel for applicant and the Solicitor agreed that a remand would be appropriate. A document styled "Joint Motion to Remand" was presented to the Federal Circuit (Paper 78). The motion advised the Federal Circuit that "[t]he reason for the remand request is to allow for further factual development based on the record of this case within the USPTO, prior to any appeal to this Court." Joint Motion to Remand, id. at 1.

The Federal Circuit granted the motion, ordered a remand and entered its mandate (Paper 79). The appeal is now before us.

Following the remand, the Office of the Solicitor arranged with counsel for applicant to supply numerous documents, including various declarations. Those documents are mentioned, but for some unknown reason were not present in the application file wrapper at the time the appeal reached the Federal Circuit. We appreciate applicant's willingness to re-supply those

---

<sup>2</sup> Cf. Ex parte Tytgat, 225 USPQ 907 (Bd. App. 1985), where a five-judge panel was designated to hear an appeal involving an estoppel issue.

documents and they have been placed in the record [Papers 80-93 (all bearing a board receipt date of 15 March 2003)].<sup>3</sup>

**C. Findings of fact**

The record supports the following findings of fact by at least a preponderance of the evidence.<sup>4</sup>

Background of applicant's invention

1. According to the examiner (Paper 53, page 1), "[t]he summary of the invention contained in the brief [Paper 52] is correct."

2. We therefore rely in large measure on the summary of the invention contained in the brief (Paper 52), adding where appropriate statements from standard texts to define terms used by applicant.

3. During surgery, blood flows from many small blood vessels in severed tissue.

4. The blood flow may obscure a surgeon's vision.

5. Complex and lengthy procedures are said to be often used to stem the blood flow.

6. The use of hemostatic instrument, that is, one that stops any bleeding by cauterizing the tissue, reduces the need for elaborate and time consuming procedures to control the bleeding of incised tissue.

7. Instruments which provide cauterization may be designed using either (1) an electrosurgical technique (passing current through tissue) or (2) a thermal technique (elevating the working surface temperature).

8. An electrosurgical technique works by passing a substantial current through the tissue.

---

<sup>3</sup> A copy of the Contents of the application on appeal is attached as Appendix 1 to this opinion.

<sup>4</sup> In this appeal, the record consists of (1) the contents of the application on appeal, (2) the contents of the parent and grandparent files and (3) the contents of the file of Interference 100,775.

9. The current produces Joulean heating<sup>5</sup> within the tissue, thereby effecting hemostasis.

10. Electrosurgical techniques, especially monopolar techniques known in the mid-1970's, are said to have suffered from poor control of the current conduction path through the tissue and provided poor control over the amount of thermal energy deposited in the tissue.

11. These electrical techniques are said to have frequently created collateral tissue damage that interfered with healing.

12. In an instrument using a thermal technique to effect hemostasis, a working surface of the instrument is heated to a temperature well above body temperature, generally in a range of 100-600°C.

13. Thermal energy is then delivered to the tissue by conduction when the instrument contacts the tissue, causing cauterization of the tissue.

14. A drawback of thermal surgical instruments known in the mid-1970's is said to have been the difficulty in controlling the temperature across an entire working surface.

15. For example, in still air, a current flow through a heating element might provide a uniform temperature along the working surface of the instrument.

16. However, during use, varying portions of the working surface would contact tissue, imposing a non-uniform thermal load on the working surface that is said to have created uneven temperatures along the working surface.

17. While cooler portions of the working surface could be heated by increasing current flow through the heating element, the increased current flow is said to have resulted in

---

<sup>5</sup> "The energy lost by the charges during their passage through a resistor generates heat, i.e., it generates random microscopic motions of atoms. This conversion of electric energy into thermal energy in a resistor is called **Joule heating**." Ohanian, Physics, W. W. Norton & Co., Inc., pages 659-660 (1985).

overheating of hotter portions of the working surface, thereby inducing charring of the tissues and causing the tissues to stick to the instrument.

18. On the other hand, permitting the temperature of a portion of the working surface to fall too much during use is said to have resulted in inadequate cauterizing action, thereby endangering the patient with hematoma.

19. Prior to mid-1976, applicant is said to have worked to design and develop scalpels which provided a degree of temperature "autoregulation" -- which is said to have automatically maintained the temperature of the working surface relatively constant -- thus supposedly solving the above-described problems encountered with previously known resistively-heated scalpels.

20. Applicant, together with one David E. Stutz, obtained patents on several temperature autoregulating scalpels, which are said to describe the use of radio-frequency ("RF")<sup>6</sup> current heating of ferromagnetic materials. See, e.g., United States Patent 4,091,813, naming applicant and Stutz as inventors, and United States Patent 4,185,632, naming applicant as inventor, both of which are said to describe examples of autoregulating scalpels.

21. The devices described in the two patents are said to "autoregulate" their temperature by employing a skin depth

---

<sup>6</sup> "The entire frequency range of alternating voltage or current from 1 Hz [Hertz] to many megahertz can be considered in two broad groups: audio frequencies (AF) and radio frequencies (RF). Audio is a Latin word meaning 'I hear.' The audio range includes frequencies that can be heard in the form of sound waves by the human ear. This range of audible frequencies is approximately 16 to 16,000 Hz. \*\*\* Alternative current and voltage above the audio range provide RF variations, since electrical variations of high frequency can be transmitted by electromagnetic radio waves." Grob, Basic Electronics, McGraw-Hill Book Co., page 308 (5th ed. 1984).

effect observed in ferromagnetic materials<sup>7</sup> when such materials are heated above their Curie transition temperature<sup>8</sup> by constant current.

22. In particular, the devices described in the two patents are said to automatically maintain the heated portion, e.g., a scalpel blade, at a relatively constant temperature in the region of the Curie point of the ferromagnetic material used in the device, even when subjected to uneven cooling loads.

23. Both patents are said to describe examples of autoregulating devices that operate with a constant RF current.

24. The material through which RF current flows in the scalpels of the patents is said to be a solid layer of ferromagnetic material.

25. Characteristics of ferromagnetic materials change when they are heated to the Curie temperature.

---

<sup>7</sup> "Certain metallic materials possess a permanent magnetic moment in the absence of an external field, and manifest very large and permanent magnetizations. These are the characteristics of **ferromagnetism**, and they are displayed by the transition metals iron \*\*\*, cobalt, nickel, and some of the rare earth metals such as gadolinium (Gd)." Callister, Materials Science and Engineering, John Wiley & Sons, Inc., page 666 (4th ed. 1997).

<sup>8</sup> "[T]he maximum magnetization that a ferromagnetic material will retain after it has been removed from \*\*\* [an] external magnetic field depends on the temperature. The higher the temperature, the less the remaining magnetization. Above a certain critical temperature, called the **Curie temperature**, the magnetization disappears completely. For example, iron will not retain any magnetization if the temperature is in excess of 1043°C." Ohanian, Physics, W. W. Norton & Co., Inc., page 745 (1985).

26. If the scalpel is operated below the Curie temperature, the magnetic permeability<sup>9</sup> is said to be high and the RF current flow is said to be substantially confined to a very thin layer near the surface of the ferromagnetic material called the "skin depth."

27. Consequently, current flow through the skin depth is said to encounter a high resistance, resulting in the generation of Joulean heat and concomitant rise in the temperature of the scalpel.

28. Above the Curie temperature, because of the change in magnetic properties of the ferromagnetic material, (1) the magnetic permeability is low, (2) the skin depth increases, and (3) the same RF current is said to flow through a much thicker portion of the ferromagnetic material.

29. Because the same current flows through a greater cross-sectional area of the material, the current is said to (1) encounter less resistance, (2) generate less heat and (3) the scalpel temperature reaches a maximum and does not rise further.

30. The scalpel is said to "autoregulate" its temperature in a region around the Curie point of the ferromagnetic material used.

---

<sup>9</sup> "Hardened steel and certain alloys are relatively difficult to magnetize and are said to have a LOW PERMEABILITY \*\*\*.

\*\*\*

Conversely, substances that are relatively easy to magnetize--such as soft iron and annealed silicon steel--are said to have a HIGH PERMEABILITY." Basic Electricity, Bureau of Naval Personnel, Rate Training Manual, Navpers 10086-B, pages 19-20 (1969 edition).

"Permeability [ $\mu$ ] is a measure of the relative ability of a substance to conduct magnetic lines of force as compared with air. The permeability of air is taken as 1. Permeability is indicated as the ratio of the flux \*\*\* (gauss, B) to the intensity of the magnetizing force \*\*\*, indicated by H. Expressed mathematically,

$$\mu = \frac{B}{H}$$

Id. at pages 152-3.

Applicant's invention

31. In 1976, applicant is said to have conceived the invention described in the grandparent application as a way to allegedly enhance the autoregulation effect of the Curie point autoregulating heating devices described in previously mentioned United States Patents 4,091,813 and 4,185,632, discussed supra.

32. Enhancement is said to result from laminating

- (1) a high thermal and electrical conductivity, low magnetic permeability material (e.g., non-ferromagnetic laminae **21** in Fig. 2 of applicant's drawings) to
- (2) the layer of a low electrical conductivity, high magnetic permeability material of the devices described in the two patents (e.g., ferromagnetic laminae **25** in Fig. 2),

to form a "composite" structure (structure **13** in Fig. 2).

33. A preset RF current flow through the composite structure is said to cause Joulean heating which heats the structure supposedly in the manner described in the two patents.

34. However, the level of Joulean heating is a function of the resistivity within each layer and, consequently, the portion of the total RF current flowing through each layer (see Paper 1, specification, page 5, lines 1-16).

35. When the temperature of the composite structure is below the Curie temperature, the RF current flow is said to be substantially confined to a thin skin depth layer in the high resistance ferromagnetic material layer--supposedly in the same manner as the devices described in the two patents.

36. Joulean heating is said to result because of the high resistivity of the current flow.

37. As the temperature rises to and above the Curie temperature, the magnetic permeability of the ferromagnetic material is said to decrease to unity.

38. The same total RF current thus is said to flow in a thicker layer.



39. But, because the material used in the device used to practice the claimed invention is a composite, rather than a solid layer of ferromagnetic material, the skin depth expansion to a thicker layer is said to include the very low resistance non-ferromagnetic material in the current path.

40. Consequently, significantly less heat is said to be generated (and less power supposedly consumed) at high temperatures (above the Curie point) within the laminated structure than would be the case if the structure were a solid layer of ferromagnetic material, as in the devices described in the two patents.

41. When the temperature of the composite structure is reduced from (1) at, or above, to (2) below the Curie temperature, e.g., by an applied thermal load or a change in thermal environment, the resulting change in the magnetic permeability of, and decrease in the skin depth in, the ferromagnetic material layer is said to cause a reverse redistribution of the current between the layers to provide increased Joulean heating.

42. Thus, when the composite is exposed to external cooling, it is said that (1) the temperature drops, (2) the skin depth decreases (so that the current flows only in the low conductivity ferromagnetic layer) and (3) Joulean heating increases.

43. The increased Joulean heating continues until the temperature of the composite structure again rises to or above the Curie temperature, whereupon it is said that (1) the skin depth again increases (2) shunting more of the current through the higher conductivity, low magnetic permeability, layer so that (3) Joulean heating declines.

#### Claims on appeal

44. The claims on appeal are claims 8-14.

45. According to applicant, the claims stand or fall together (Paper 52, page 14).

46. Hence, we consider claim 8. 37 CFR § 1.192(c) (7) (2003).<sup>10</sup>

47. Claim 8 reads as follows (some indentation and matter in [brackets] ours) (Paper 36, pages 7-8; Paper 52, page 31):

A method of autoregulating elevated temperatures of a composite structure within a narrow [temperature] range between an upper limit and a lower limit in response to applied radio frequency electrical current,

said composite structure including a pair of layers of material and being subjected to varying cooling loads applied to various regions of the composite structure,

the method comprising the steps of:

[1] passing a portion of the radio frequency current through one of said layers [i.e., a "first" layer] defining a first conduction path having a Curie point transition in permeability at a temperature near the upper limit of the narrow temperature range<sup>11</sup>;

[2] passing another portion of the radio frequency current through the other of said layers [i.e., a "second" layer] which is laminated to said one layer [i.e., said first layer<sup>12</sup>] of material and in electrical contact therewith, said other layer [i.e., said second layer] of material defining a second conduction path, and said other layer [i.e., said second layer] having a lower effective magnetic permeability and a higher electrical and thermal conductivity than said one layer [i.e., first layer]; and

[3] providing more heating to those regions of the composite structure subjected to greater cooling loads than to regions subjected to lesser cooling loads wherein the relative portions of the radio frequency current flowing in

---

<sup>10</sup> In any event, we note that the basis upon which we decide the appeal is equally applicable to all claims apart from any additional limitations which may appear in claims 9-14.

<sup>11</sup> Strictly speaking, there is no antecedent in the claim for "narrow temperature range." We understand the language "narrow range" in the preamble to be a "narrow [temperature] range" and have so interpreted the claim.

<sup>12</sup> Strictly speaking, there is no antecedent in the claim for "said one layer" and "said other layer". Accordingly, throughout the claim and in brackets we have referred to a first layer and a second layer. We understand the first layer to be "said one layer" and we understand the second layer to be "said other layer".

each layer are altered as a function of the cooling load on and temperature of the composite material to maintain said composite structure at a temperature within said narrow [temperature] range.

48. According to applicant (Paper 52, pages 12-13), the claims are directed to a method of autoregulating elevated temperatures in a composite structure.

49. Broadly, and as set forth in claim 8, the supposedly novel method is said to involve (1) providing a composite structure having two conduction paths and (2) passing an RF current through the composite structure so that (a) a portion of the current flows through a conduction path [i.e., the first layer] having a Curie point transition in permeability at a temperature near the upper limit of the temperature range of the structure and (b) another portion of the current flows through a second conduction path [i.e., in the second layer] having a lower effective magnetic permeability and a higher electrical and thermal conductivity than the first conduction path.

50. The two paths are laminated in electrical contact.

Proceedings in the "grandparent" application

51. The application on appeal is said to be a continuation of application 06/295,929, filed 21 June 1981 ("**parent application**"), which in turn is said to be a division of application 05/898,388, filed 20 April 1978 ("**grandparent application**") (Paper 52, page 3).

52. There came a time during prosecution of the grandparent application when applicant copied claims 1, 9 and 10 of U.S. Patent 4,256,945 for the purpose of provoking an interference (grandparent, Paper 23, page 2).

Interference 100,775

53. On 13 November 1981, Interference 100,775 was declared between:

- a. Philip S. Carter and John F. Krumme [Carter and Krumme], the inventors named in U.S. Patent 4,256,945, granted 17 March 1981 based on an application filed on 31 August 1979, and
- b. Robert Francis Shaw [applicant], the inventor named in application 05/898,388, filed 20 April 1978.

(Interference Paper 1) (37 CFR §§ 1.201 and 1.207(b) (1981)):<sup>13</sup>

54. Since applicant had the earlier filing date, applicant was designated as senior party. 37 CFR § 1.257(a) (1981).

55. As declared, the interference involved two counts (Interference Paper 1, page 3).

56. The claims of the parties corresponded to the counts as follows:

<u>Count</u>	<u>Carter &amp; Krumme Patent</u>	<u>Shaw Application</u>
1	1	36
2	9	37

57. Several motions were filed during the motion period. 37 CFR § 1.231(a) (1981).

58. Two of those motions were as follows:

- a. Carter and Krumme upon discovering an error in the inventorship of the patent,
  - (1) on March 10, 1983, filed reissue application 06/474,090 containing claims directed to the sole invention of Krumme and
  - (2) moved to substitute the reissue application for the patent involved in the interference [Interference Papers 52 and 53] [37 CFR § 1.231(a)(3) (1981)].

---

<sup>13</sup> Since Interference 100,775 was declared on 13 November 1981, it was governed by the rules then in effect. 37 CFR § 1.201 et. seq. (1981). As will become apparent, interference practice under the 1981 rules was different than practice today [37 CFR § 1.601 et seq. (2003)].

b. Carter and Krumme also filed what was then referred to as a "motion to dissolve", maintaining in the language of that era that applicant Shaw did not have a right to make the claims which had been designated as corresponding to the counts<sup>14</sup> (Interference Paper 56). 37 CFR § 1.231(a)(1).

59. According to Carter and Krumme, applicant had no right to make the claims corresponding to the counts because applicant had not disclosed in the specification a requirement for a constant current source or any source that would have been operative with the device in "contention" (Interference Paper 56).

60. The motion to substitute the Krumme reissue application for the Carter and Krumme patent was treated as a motion to add the Krumme reissue application to the interference.

61. The motion to add the Krumme reissue patent was granted (Interference Paper 82, page 2).

62. The motion to dissolve was denied by the primary examiner (Interference Paper 82, Page 1; 37 CFR § 1.231(d) (1981)).

63. On January 16, 1984, the owner of the Carter and Krumme patent filed a disclaimer of claims 1-2, 4-5, 9 and 11 of the patent (Carter and Krumme Patent file, Paper 15).

64. A notice of disclaimer was published in the Official Gazette on 17 April 1984.

65. After the disclaimer, claims 3 and 6-8 remained in the Carter and Krumme patent.

66. As a result of activity during the motion period, including a decision on petition (Interference Paper 83), the interference was redeclared (37 CFR § 1.231(f) (1981); the

---

<sup>14</sup> Today the motion would be referred to as a preliminary motion for judgment based on a failure to comply with the enablement requirement of 35 U.S.C. § 112, first paragraph. 37 CFR § 1.633(a) (2003).

relation of the claims of the parties to the counts was as follows:<sup>15</sup>

<u>Count</u>	<u>Carter &amp; Krumme Patent</u>	<u>Krumme Reissue Application</u>	<u>Shaw Application</u>
1	1	1	36
2	9	9	37
3	10	None	38
4	2	2	39
5	6	None	42
6	11	11	43
7	24	None	40
8	25	None	41

67. In due course, the interference reached a final hearing stage. 37 CFR §§ 1.254 (briefs) and 1.256 (oral argument) (1981).

68. A dispositive issue considered by the board at final hearing was whether applicant Shaw had a "right to make" the application claims designated as corresponding to the counts, i.e., Shaw application claims 36-43.

69. The "right to make" issue resolved by the board in Interference 100,775 was whether applicant's specification contained an enabling disclosure for the subject matter of applicant's claims involved in the interference [Interference Paper 252; Paper 52, page 4, n\* ("The Board's decision refers only to failure to provide an enabling disclosure \*\*\*.")].

70. Applicant's claim 36, corresponding to Count 1 of Interference 100,775, reads as follows (some indentation and matter in [brackets] ours):

---

<sup>15</sup> Only one claim of an involved patent or application was designated as corresponding to a count under the 1981 rules. Today, more than one claim can be, and often is, designated as corresponding to a single count. 37 CFR § 1.611(c)(7) (2003).

An alternating-current electrically resistive heating element electrically coupled to a source of high frequency electric power,

said heating element having an electrical resistance which, at least over a certain range of temperatures, declines with increasing temperature,

and comprises:

[1] an electrically conductive non-magnetic substrate member of high thermal and high electrically conductive material and having over a least a portion of the surface thereof,

[2] a generally thin layer of a magnetic material having below its Curie temperature, a maximum relative permeability greater than 1 and above its Curie temperature a minimum relative permeability of substantially 1,

whereby when said heating element is electrically coupled to said source of high frequency electric power, an alternating current flows at said high frequency, causing Joule heating of said element,

said current being principally confined by said maximum permeability to said generally thin magnetic layer in accordance with the effect a temperatures below the Curie temperature of said magnetic layer,

said current spreading into said non-magnetic member as temperature rises to approach said Curie temperature and said relative permeability declines.

71. In the testimony period following a decision on motions [37 CFR § 1.231(d) (1981)], applicant was called as a witness and provided deposition testimony [37 CFR §§ 1.272 and 1.275 (1981)].

72. During Shaw's deposition testimony the following occurred (Interference Paper 182, page 387:11-15):

Q. Do you think that constant current was needed in this application for the laminated scalpel prior to the time you applied for a patent on April the 20th, 1978?

A. I knew that a relatively constant current was required for the operation of this invention, yes.

73. Lawrence O'Neill, whom the board characterized as a professional associate of Shaw (Interference Paper 252, page 7), also testified in support of Shaw's position that the Shaw specification was enabling (Interference 100,775 Paper 189, pages 001-063 (see in particular, e.g., 012:22 through 014:19).

74. A "final hearing" was held in Interference 100,775. 37 CFR § 1.256 (1981).

75. At final hearing, one issue was whether the specification of applicant's grandparent contained an enabling disclosure (Interference Paper 225, pages 113-118 [Carter and Krumme principal brief]; Paper 242, pages 63-66 [applicant's principal brief] and Paper 247, pages 32-33 [Carter and Krumme reply brief]).

76. In this respect, it should be noted that an issue of whether a party had an enabling disclosure was then considered to be "ancillary" to priority and therefore was an issue which could be considered by the board in rendering a final decision in a pre-1984 interference. 37 CFR § 1.258 (1981) ("relates to matters which have been determined to be ancillary to priority"); Gould v. Hellwarth, 472 F.2d 1383, 176 USPQ 515 (CCPA 1973) (senior party Gould's involved application held to be non-enabling and therefore Hellwarth entitled to "priority").

77. The board considered and resolved the enablement issue in favor of Carter and Krumme and against applicant (Interference 100,775, Paper 252, pages 6-10).

78. In considering the enablement issue, the board noted that O'Neill's "testimony is to the effect that Shaw's application discloses use of a constant current source to anyone reading it" (Interference 100,775, Paper 252, page 7).

79. Carter's testimony was said to be "to the effect that Shaw's application does not disclose the use of constant current" (Interference 100,775, Paper 252, page 8).

80. A reading of the board's opinion suggests that it credited the testimony of Carter over that of O'Neill (Interference 100,775, Paper 252, pages 6-8).



81. At final hearing, Shaw also maintained that the use of constant current was described and enabled in the grandparent application by virtue of an alleged "incorporation by reference" of the disclosure of two previously mentioned patents, i.e., United States Patents 4,091,813 and 4,185,632, mentioned above (Interference Paper 242, page 64-65).<sup>16</sup>

82. The board held that neither patent was incorporated by reference (Interference 100,775, Paper 252, page 9).

83. As a result of its consideration, the board held that Shaw had not sustained his burden<sup>17</sup> of establishing that his grandparent application contained an enabling disclosure of the use of a relatively constant current (Interference 100,775, Paper 252, page 8).

84. As a result of other decisions made at final hearing, Interference 100,775 was redeclared (Interference Paper 253); the final relation of the claims of the parties to the counts was as follows:

Count	Carter & Krumme Patent	Krumme Reissue Application	Shaw Application
1	None	1	36
2	None	9	37
3	10	None	38
4	None	2	39
5	6	22	42
6	None	11	43
7	None	24	40
8	None	25	41

---

<sup>16</sup> When the grandparent application was filed, the two patents had not yet issued. Reference is made (specification, page 1) to the two applications which ultimately matured into the two patents. An amendment was made to the specification after the two patents issued (Amendment E, Paper 29, page 1).

<sup>17</sup> Under precedent applicable to pre-1984 interferences, Shaw, as the "copier" of claims from the Carter & Krumme patent, had the burden of establishing that the Shaw specification contained an enabling disclosure of the copied claims. See, e.g., Snitzer v. Etzel, 531 F.2d 1062, 1065, 189 USPQ 415, 417 (CCPA 1976), cited by the board (Interference 100,775, Paper 252, page 7). Today the party challenging enablement would have the burden of proof. 37 CFR § 1.637(a) (2003).

85. In view of its holding that copied Shaw claims 36-43 were not supported by an enabling disclosure, the board entered an "award of priority" as to Counts 1-2 and 4-8 in favor<sup>18</sup> of Krumme (Interference 100,775, Paper 252, page 10).

86. The board awarded priority as to Count 3 in favor of Carter and Krumme (Interference 100,775, Paper 252, page 10).

Carter and Krumme patent

87. Whereas the board in Interference 100,775 held that applicant had not enabled the use of a relatively constant current (Interference Paper 252, page 8), it is readily apparent that the Carter and Krumme patent contains an extensive description of constant current and its significance.

88. For example, "a sixth object" of Carter and Krumme was to "provide a resistive heating element in which a high degree of temperature control can be achieved merely by energization with a constant-current alternating source operating typically in the frequency range from 8-20 MHz [megahertz]" (col. 2, lines 55-59).

89. Carter and Krumme go on to say that "[b]y energizing the heating element \*\*\* with a constant-current R.F. source, current is confined substantially entirely to the ferromagnetic surface layer until the temperature of the heating element rises into the region of the Curie temperature of the ferromagnetic material" (col. 2, line 67 to col. 3, line 4).

90. Carter and Krumme reveal that "[b]y selection of the materials and physical dimension of the heating element, the frequency and the constant current of the AC source, it is possible to achieve a high degree of temperature regulation in a narrow range around the Curie temperature of the ferromagnetic layer despite considerable changes in thermal load" (col. 3, lines 13-19).

---

<sup>18</sup> Since an interference is about who does not get a patent to the invention in issue, today a judgment will determine who lost, not who won.

91. With reference to Fig. 1, Carter and Krumme note that "R.F. source 3 might provide high frequency alternative current power typically in the range from 8-20 MHz, for example, and might desirably include constant current regulation for reasons that will appear from what follows" (col. 3, lines 58-63).

92. The patent explains that "[i]f, as suggested above, R.F. source 3 is provided with constant current regulation, then  $I^2R$  is a constant and the power absorbed by heating element 1 from R.F. source 3 is proportional to the resistant  $R$  of element 1 between the points of connection to the external circuit" (col. 4, lines 13-18).

93. Significantly, Carter and Krumme disclose that "[s]ince both current and frequency are constants, the power input to the heating element ( $P = I_2R$ ) is directly proportional to the resistance of the heating element as a function of temperature,  $R(T)$ " (col. 6, lines 48-51).

94. Carter and Krumme go on to explain the significance of constant current as follows (col. 7, lines 3-46) [material in brackets added]:

Consequently, the decline in resistance and power consumption which is experienced with a purely ferromagnetic heating element is greatly increased by the use of a non-magnetic, highly conductive core.

As ready noted, when current is held constant, power is proportional to the resistance of the heating element. Consequently, the maximum power and the minimum power which will be supplied to the heating element are proportional to the maximum and minimum resistance of the heating element. Since the ratio of maximum power to minimum power determines the range over which the heating element can adequately maintain constant temperature, this ratio and the corresponding ratio,  $R_{max}/R_{min}$  are significant indicia of performance. It can be shown that

$$\frac{R_{\max}}{R_{\min}} = \sqrt{\frac{\mu_{r\max}\sigma_{\min}}{\mu_{r\min}\sigma_{\max}}}$$

where  $\mu_r$  and  $\sigma$  represent the permeability and conductivity of the material as before [see col. 4, lines 60-62].

For ferromagnetic materials, the ratio  $\sigma_{\max}/\sigma_{\min}$  is sufficiently close to 1 such that to a good approximation,

$$\frac{R_{\max}}{R_{\min}} = \sqrt{\frac{\mu_{r\max}}{\mu_{r\min}}}$$

Since  $\mu_{r\max}$  has values which fall in the range from 100-600 for commercially available magnetic materials, and further since  $\mu_{r\min}$  (the value above  $T_c$ ) is approximately equal to 1, the ratio  $R_{\max}/R_{\min}$  has a range of values for ferromagnetic materials from approximately  $\sqrt{100}$  to  $\sqrt{600}$ , or approximately 10 to 25.

By the use of the composite construction according to the present invention, this modest ratio of resistances can be vastly increased by selection of the relative cross-sectional areas and conductivities of the non-magnetic member and its ferromagnetic surface layer. Through the choice of the Curie temperature by means of alternative ferromagnetic materials, the temperature at which regulation will take place is also variable.

#### Judicial review of the interference decision

95. Shaw timely sought judicial review under 35 U.S.C. § 146. Shaw v. Carter, Civil Action C 86 5575 (MHP) (N.D.Cal. filed 30 September 1986) (Interference Paper 254).

96. The interference record reveals that the civil action was ultimately dismissed (Interference 100,775 Paper 292, entered 8 August 2002).

Further proceedings in the Krumme reissue application

97. According to the records of the Patent and Trademark Office, a reissue patent was never issued to Krumme; rather the Krumme reissue application involved in Interference 100,775 went abandoned.<sup>19</sup>

Proceedings in application on appeal

The examiner's rejection

98. In the Examiner's Answer, the examiner states that all the claims are rejected under the first paragraph of 35 U.S.C. § 112 because the specification does not (1) contain an enabling disclosure or (2) set out the best mode (Paper 53).

99. With respect to lack of enablement, the examiner reasons, at least in part, are as follows (emphasis added):

The specification of the instant application is the same as the specification of [grand]parent application. The grandparent application was involved in Interference 100,775. The Board has determined that the specification of the grandparent application is inadequate under the first paragraph of 35 U.S.C. § 112. The basis for the Board's determination is that the apparatus described requires a constant current power supply to operate properly, but there is no clear disclosure of a constant current power supply in the specification. Because the method claims on appeal employ the structural invention that was inadequately disclosed in the grandparent case, the disclosure in the instant case is inadequate under 35 U.S.C. § 112 for the same reasons that the Board determined the grandparent specification to be inadequate.<sup>20</sup>

---

<sup>19</sup> The date the civil action was dismissed is not clear on the record. Nevertheless, at least as of 8 August 2002, the board became aware that the civil action had been dismissed (Interference Paper 292). By that date, the Carter patent issued in 1981 had expired and no reissue application could be issued. See In re Morgan, 990 F.2d 1230, 26 USPQ2d 1392 (Fed. Cir. 1993) (appeal involving reissue dismissed as moot where patent sought to be reissued had expired).

<sup>20</sup> Applicant must obtain the benefit under 35 U.S.C. § 120 of the filing date (20 April 1978) of the grandparent application to avoid the 35 U.S.C. § 102(e) effect of the Carter and Krumme patent based on an application filed 31 August 1979. Hence it is appropriate, in this case, to consider the sufficiency of the grandparent application.

Applicant's response to the examiner's rejection

100. During prosecution before the examiner and after a decision had been entered by the board in Interference 100,775, applicant presented numerous declarations under 37 CFR § 1.132 (2003).

101. The following individuals have signed declarations filed in this case:

- a. Applicant Shaw--testified in the interference (Paper 90, ¶ 2).
- b. Stutz--testified in the interference (Paper 82, ¶ 1).
- c. Eggers--testified in the interference (Paper 83, ¶ 1 and Paper 84, ¶1).
- d. O'Neill--testified in the interference (Paper 87, ¶ 1).
- e. Craig--testified in the interference (Interference Paper 173)
- f. Macovski--did not testify.<sup>21</sup>
- g. Ingle--did not testify.<sup>22</sup>
- h. Miller--did not testify.<sup>23</sup>

102. According to applicant, the "testimony" given in the declarations and accompanying exhibits demonstrates that the specification contains an enabling disclosure of the subject matter of the "method of use" claims on appeal.

---

<sup>21</sup> Macovski received a B.S.E.E. in 1950 and a Ph.D. in E.E. in 1968 and in 1987 appears to have been a professor at Stanford University (Paper 88). Macovski was theoretically available to testify in Interference 100,775.

<sup>22</sup> As of 1987, Ingle had 18 years experience in electrical engineering (Paper 89, ¶ 2). Theoretically, Ingle was available to testify in Interference 100,775.

<sup>23</sup> Miller is said to have been an employee of Raychem Corporation in 1966 (Paper 91, ¶ 2(d)). Raychem Corporation was initially a party to the § 146 civil action in which judicial review was sought of the board final decision in Interference 100,775. Theoretically, Miller was available to testify in Interference 100,775.

103. Further according to applicant, certain of these declarations establish that the specification of the grandparent application incorporates by reference United States Patents 4,091,813 and 4,185,632.

104. Applicant does not explain, and no reason is apparent on the record, why Macovski, Ingle or Miller could not have testified as witnesses during Interference 100,775.

Examiner's consideration of the declarations

105. Prior to appeal, the examiner had not indicated on the record his opinion on the merits of the declarations; in other words, it did not appear that the examiner had evaluated the declarations on the merits.

106. On appeal, the original panel entered an order remanding the application to the examiner so that the examiner might respond in a Supplemental Examiner's Answer to applicant's arguments based on the declarations (Paper 69).

107. In due course, the examiner filed a Supplemental Examiner's Answer containing his evaluation of the declarations (Paper 70).

108. As authorized by the original panel, applicant responded with a Reply to the Supplemental Examiner's Answer (Paper 71).

The Board's original merits decision

109. Following proceedings on remand to the examiner, the original panel entered a decision affirming the examiner's lack of enablement rejection (Paper 74).

110. The original panel indicated that "we have the same issue of enablement that was decided in \*\*\* [Interference 100,775] with respect to essentially the same claimed subject matter, and \*\*\* [applicant] is not entitled to be heard again with respect to the issue" (Paper 74, page 9).

111. The original panel found it unnecessary to reach or decide the lack of best mode rejection (Paper 74, page 9).

112. The original panel adhered to its decision on request for rehearing (Paper 76).

Proceedings on appeal to the Federal Circuit

113. Applicant timely filed an appeal to the Court of Appeals for the Federal Circuit (Paper 77).

114. As earlier indicated, applicant and the Solicitor asked for a remand "to allow for further factual development based on the record of this case within the USPTO, prior to any appeal to this Court." Joint Motion to Remand, page 1 (Paper 78).

**D. Discussion**

1. Summary of our rationale

Applicant is precluded from again litigating in this ex parte proceeding an issue which was resolved against him inter partes in Interference 100,775. The precise issue which applicant is precluded from re-litigating here is the enablement of the apparatus of the claims of the grandparent application which were involved, and corresponded to counts, in Interference 100,775

The claims on appeal call for a method for using at least the apparatus found to be non-enabled in Interference 100,775.

To the extent that the claims may include the use of other apparatus, it is nevertheless manifest that the claims would include the use of both enabled and non-enabled apparatus. The scope of any enabling apparatus disclosure cannot be commensurate in scope with the breadth of the method of use claims before us. Therefore, those claims are unpatentable for lack of enablement under the first paragraph of 35 U.S.C. § 112.

2. Issue preclusion

a.

Background

The Federal Circuit has held that a party, including an ex parte applicant, may be precluded from re-litigating an issue when:



- (1) the issue is identical to one decided in the first action,
- (2) the issue was actually litigated in the first action,
- (3) resolution of the issue was essential to a final judgment in the first action; and
- (4) plaintiff had a full and fair opportunity to litigate the issue in the first action.

In re Freeman, 30 F.3d 1459, 31 USPQ2d 1444 (Fed. Cir. 1994).  
See also Masco Corp. v. United States, 303 F.3d 1316, 1329, 64 USPQ2d 1182, 1190 (Fed. Cir. 2002); Medichem, S.A. v. Rolabo, S.L., 353 F.3d 928, 932, 69 USPQ2d 1283, 1286 (Fed. Cir. 2003). Applying the same standard, in EZ Loader Boat Trailers, Inc. v. Cox Trailers, Inc. 746 F.2d 375, 223 USPQ 1101 (7th Cir. 1984), the Seventh Circuit applied collateral estoppel to a decision of the Trademark Trial and Appeal Board which had been affirmed by the Federal Circuit.

The Supreme Court has indicated that res judicata can be based on a decision of an administrative agency, when the agency acts in a judicial capacity:

Occasionally courts have used language to the effect that res judicata principles do not apply to administrative proceedings, but such language is certainly too broad. When an administrative agency is acting in a judicial capacity and resolves disputed issues of fact properly before it which the parties have had an adequate opportunity to litigate, the courts have not hesitated to apply res judicata to enforce repose (citations and footnotes omitted).

United States v. Utah Construction & Mining Co., 384 U.S. 394, 421, 86 S.Ct. 1545, 1559-60 (1966). See also Astoria Federal Savings and Loan Ass'n. v. Solimino, 501 U.S. 104, 107, 111 S.Ct. 2166, 2169 (1991) ("We have long favored application of the common-law doctrine of collateral estoppel (as to issues) and res judicata (as to claims) to those determinations of administrative bodies that have attained finality.").

Application of issue preclusion is not appropriate where Congress has expressly or impliedly indicated that it intended otherwise. Id. at 108-110, 111 S.Ct. at 2170-71; Texas Instruments Inc. v. Cypress Semiconductor Corp., 90 F.3d 1558, 1568, 39 USPQ2d 1492, 1501 (Fed. Cir. 1996) (Congress has indicated that collateral estoppel does not attach to final decisions of the International Trade Commission in patent cases). We have been unable to locate a precedential decision of our reviewing court applying issue preclusion based solely on an unreviewed prior decision of an administrative agency. To be sure, there are non-precedential opinions which do. See, e.g.,

- (1) Flores v. Department of the Treasury, 25 Fed. App. 868 (Fed. Cir. 2001);
- (2) Coffey v. United States Postal Service, 10 Fed. App. 912 (Fed. Cir. 2001) and
- (3) Mercer v. Department of Health and Human Services, 4 Fed. App. 888 (Fed. Cir. 2001).<sup>24</sup>

The Federal Circuit and its predecessor court have approved the use of interference estoppel based on a prior inter partes board decision. See, e.g.,

- (1) In re Kroekel, 803 F.2d 705, 231 USPQ 640 (Fed. Cir. 1986);
- (2) Woods v. Tsuchiya, 754 F.2d 1571, 225 USPQ 11 (Fed. Cir.), cert. denied, 474 U.S. 825 (1985) and
- (3) Meitzner v. Mindick, 549 F.2d 775, 782, 193 USPQ 17, 22 (CCPA), cert. denied, 434 U.S. 854 (1977).

See also In re Deckler, 977 F.2d 1449, 24 USPQ2d 1448 (Fed. Cir. 1992). While the opinion in Deckler based estoppel on a board decision, we wish to point out that Deckler's assignee sought judicial review by civil action under 35 U.S.C. § 146, but -- as

---

<sup>24</sup> Since these opinions do not appear to announce any new principle of law, perhaps the Federal Circuit determined that there was no need to make the opinions precedential. See Federal Circuit Rule 47.6(b) (2001).

occurred in the present case -- the civil action was dismissed on stipulation of the parties.<sup>25</sup>

In view of principles announced by the Supreme Court and the Federal Circuit, we have no difficulty -- in an appropriate case -- applying "issue preclusion" against an applicant in an ex parte proceeding to bar that applicant from re-litigating ex parte an issue which was resolved against it inter partes in an interference proceeding before this board.

b.

Identical issue

The issue resolved against applicant in Interference 100,775 was the non-enablement of the apparatus claimed by applicant and involved in the interference, e.g., the apparatus of applicant's Claim 36 involved in the interference.

The issue is important and relevant in this appeal because the apparatus of applicant's Claim 36 --if enabled-- could be used to practice the method of the claims on appeal.

Hence, the precise issue which applicant is precluded from revisiting here is whether the apparatus of applicant's Claim 36 involved in Interference 100,775 is enabled.

c.

Non-enablement was actually litigated in Interference 100,775

The non-enablement of the apparatus of Claim 36 was raised, litigated and resolved in Interference 100,775.

Lack of enablement, under the then rubric "right to make" was properly raised by Carter and Krumme by way of a motion to dissolve (Interference 100,775 Papers 56 and 57). See also 37 CFR § 1.231(a)(1) (1981).

Following a decision by the examiner denying the motion, testimony was taken on lack of enablement. Non-enablement was properly raised at final hearing. At final hearing, the board

---

<sup>25</sup> See pages 3-4 of the "Brief and Supplemental Appendix for the Commissioner of Patent and Trademarks" filed in Deckler, Appeal 92-1110, on 9 April 1992.

determined that the apparatus of applicant's Claim 36 was not enabled (Interference Paper 252).

d.

Resolution of the issue was  
essential to the Board's decision

Resolution of the enablement of the specification of the grandparent application vis-a-vis the apparatus of applicant's Claim 36 was essential to the board's decision in Interference 100,775.

Had the board determined that applicant had sustained his burden of establishing enablement, it would not have entered judgment against applicant based on lack of enablement.

e.

Applicant had a full and fair opportunity  
to litigate the issue in Interference 100.775

Applicant had a full and fair opportunity to litigate enablement of the apparatus of applicant's Claim 36 in Interference 100,775. Certainly, there is no contention on this record that applicant did not.

Applicant had an opportunity to respond, and responded (Interference Paper 60), to the motion to dissolve filed by Carter and Krumme (Interference Paper 59). In fact, applicant prevailed before the examiner because the examiner denied the motion (Interference Paper 82, page 1). During the testimony period, applicant not only had an opportunity to present, but presented testimony in support of his position on enablement. Applicant also had an opportunity to cross-examine witnesses presented by Carter and Krumme.

Applicant filed a brief at final hearing (Interference Paper 242) where he addressed the enablement issue before the board at final hearing. Moreover, applicant was authorized to respond by brief to arguments made by Carter and Krumme in their brief.

f.

Does any exception apply?

The Freeman court, consistent with applicable Supreme Court precedent,<sup>26</sup> notes that there may be certain circumstances where it may not be appropriate to apply issue preclusion notwithstanding all four above-discussed elements of issue preclusion are established.

We proceed to an analysis of whether we should exercise our discretion not to apply issue preclusion here.<sup>27</sup>

(1)

Applicant here seems to maintain that the board got it wrong in Interference 100,775. Our answer is that applicant had an opportunity to seek judicial review and, in fact, did so by filing a civil action under 35 U.S.C. § 146. Ultimately the civil action was dismissed.<sup>28</sup> The time to have corrected errors allegedly made by the board in Interference 100,775 was during judicial review--not now when Carter and Krumme and their assignee are no longer parties.

(2)

The Freeman court addressed the availability of additional procedural opportunities in a second proceeding.

---

<sup>26</sup> See, e.g., Blonder-Tonque Laboratories, Inc. v. University of Illinois Foundation, 402 U.S. 313, 333, 351, 91 S.Ct. 1434, 1445, 1454 (1971); Parkline Hosiery Co., Inc. v. Shore, 439 U.S. 322, 332-333, 99 S.Ct. 645, 651-652 (1979); Montana v. United States, 440 U.S. 147, 163-165, 99 S.Ct. 970, 978-979 (1979).

<sup>27</sup> Parkline Hosiery Co. v. Shore, 439 U.S. at 332, 99 S.Ct. at 651 (granting trial courts broad discretion to determine when collateral estoppel should be applied); Blonder-Tonque, 402 U.S. at 335, 91 S.Ct. at 1445 (court in second litigation must decide in a principled way whether or not it is just and equitable to allow a plea of estoppel); In re Freeman, 30 F.3d at 1467, 31 USPQ2d at 1450 (a court is not without some discretion to decide whether a particular case is appropriate for application of issue preclusion).

<sup>28</sup> We do not know the precise conditions under which the civil action was dismissed. See Fed. R. Civ. P. 41. However, we know that when the civil action was dismissed, the interference was over and 35 U.S.C. § 135(a) required cancellation of applicant's claims involved in the interference. To that extent, dismissal necessarily had to be with prejudice as to applicant's involved claims.

One procedural opportunity in ex parte proceedings is a possibility of amendments to avoid rejections, including prior art and enablement rejections. Applicant exercised that opportunity at least to the extent of presenting method claims whereas the interference involved apparatus claims.

Applicant in response to the addition of the Krumme reissue to the interference could have asked for a method count and theoretically could have put in issue in the interference a method count. Applicant did not do so. We wish to make clear that our issue preclusion holding here is not in any way based on what motions applicant might have filed, but did not file, in Interference 100,775. Under the interference rules applicable at the time of Interference 100,775, a senior party (like applicant) was not to be "estopped" by a failure to move when the interference was decided on an "ancillary" issue (which Interference 100,775 was). 37 CFR § 1.257(b) (1981). Rather, our issue preclusion is based solely on what was decided, i.e., the enablement of applicant's claimed apparatus was properly put in issue and it was determined in a final decision that applicant's claimed apparatus was not enabled.

No amendment which was, or might have been, made after the interference and in the application on appeal could have changed the "fact" that a final determination was made in Interference 100,775 that applicant's claimed apparatus was non-enabled. Since applicant's method claims cover the use of that non-enabled apparatus, it necessarily follows that applicant's method claims encompass subject matter which is non-enabled even if we are to assume arguendo that they also may include subject matter which might be enabled.

There is another observation we believe is worth noting. To the extent that applicant could have presented in the application on appeal method claims which would not have included the use of the apparatus held non-enabled in Interference 100,775, applicant did not attempt to do so. Hence, neither the examiner nor this

board have any occasion to determine whether narrower and different claims might have been patentable.

(3)

The Seventh Circuit in EZ Loader considered whether certain facts "lessen significantly \*\*\* [EZ Loader's] burden of proof on the issue of likelihood of confusion \*\*\*" thereby making issue preclusion inappropriate. 746 F.2d at 379, 223 USPQ at 1104. According, we consider whether there is any difference in the burden of proof in this case which might be a basis for exercising discretion not to apply issue preclusion.

In Interference 100,775, applicant had a burden of establishing by clear and convincing evidence that its specification was enabling. Snitzer v. Etzel, 531 F.2d 1062, 1065, 189 USPQ 415, 417 (CCPA 1976). On the other hand, in ex parte examination the general rule is that an examiner bears the burden of establishing non-enablement. In re Marzocchi, 439 F.2d 220, 223-24, 169 USPQ 367, 369-70 (CCPA 1971). The general rule in ex parte examination is that the examiner's burden of proof is preponderance of the evidence. In re Caveney, 761 F.2d 671, 674, 226 USPQ 1, 3 (Fed. Cir. 1985).

To meet the burden, an examiner may rely on any relevant evidence which establishes non-enablement. The relevant evidence must make out a prima facie case of non-enablement under the preponderance of evidence standard. The general rule is that the applicant may then submit evidence to overcome the examiner's case. Upon submission of evidence by applicant, the general rule is that the examiner's evidence and the applicant's evidence is weighed collectively to see if a preponderance emerges on the issue of enablement. A decision is entered accordingly.

In this case, the examiner's "evidence" was the holding of the board in Interference 100,775 that applicant had not sustained applicant's burden of showing that applicant's claimed apparatus involved in the interference was enabled. We are comfortable holding, in this case, that the "evidence" makes out a prima facie case of lack of enablement of the claimed method

given that applicant has been held to have failed to describe an enabled apparatus for practicing the claimed method.

What is applicant's burden in overcoming the evidence relied upon the examiner? We believe it depends on the facts of each case. To the extent the applicant would seek to overcome the prior holding of the board in Interference 100,775, we hold that applicant should be required to overcome the holding under the same burden under which the applicant labored in the interference. If it were otherwise, the procedure would be that applicant could avoid the consequences of having lost on enablement in the interference by returning to ex parte prosecution and forcing the examiner to independently prove that the board, or a reviewing court, was "right." That procedure is not appropriate in cases like this case where issuance of a patent containing the method claims on appeal would mean that Carter and Krumme and the public would not be able to freely practice the invention claimed in the now-expired Carter and Krumme patent.

Carter and Krumme thought they "won" having put in issue the enablement of applicant's apparatus and having prevailed on that issue. If the method claims on appeal are issued, that "win" was at best a partial "win." Carter and Krumme could "make" their apparatus, but could not "use" it. Thus, the rule in this case should be that where an applicant seeks to overcome a prior adverse holding in a proceeding in which it was a party, the applicant is under an obligation to overcome the adverse holding under the same standard of proof applicable in the prior proceeding. What that means in this case is that applicant's burden of overcoming the board's lack of enablement holding in Interference 100,775 is clear and convincing evidence.

Since the clear and convincing evidence standard applicable here is the same as that under which applicant labored in Interference 100,775, there is no difference in the standard of proof applicable in the interference and this ex parte proceeding. Accordingly, the possible exception to application



of issue preclusion mentioned by the 7th Circuit [and its reference to Restatement (Second) of Judgment, § 28(4) (1982)] is not available here.

We decline to exercise our discretion to apply the exception in this case. Since applicant is issue precluded, it also follows that applicant, despite the general rule, is not permitted in this case to present additional evidence to overcome the examiner's reliance on the holding of non-enablement in Interference 100,775.

g.

Answer to applicant's res judicata argument

Applicant maintained throughout prosecution of the application on appeal that "res judicata" is not appropriate in an ex parte case. We construe applicant's argument to apply equally to issue preclusion.

To quote Judge Friedman,<sup>29</sup> applicant "seeks aid and comfort from \*\*\* [precedential] decision[s]" in In re Herr, 377 F.2d 610, 153 USPQ 548 (CCPA 1967) and In re Russell, 439 F.2d 1228, 169 USPQ 426 (CCPA 1971),<sup>30</sup> but they "offer him none." Herr involved identical claims, but a different record. Russell involved similar claims and a different record.

Applicant's reliance on Herr, Russell and similar cases based on a prior decision in an ex parte circumstance is not availing in a case like the present case where the prior decision was rendered in an inter partes circumstance.

The CCPA reasoned in Herr, Russell and other like cases that application of res judicata principles were not appropriate where the decision relied upon was ex parte in nature. The CCPA reasoned that 35 U.S.C. § 120 authorizes an applicant to refile a case by way of a continuation and that if applicant is entitled to a patent, the public interest is served by granting the patent

---

<sup>29</sup> Perri v. United States, 340 F.3d 1337, 1342 (Fed. Cir. 2003).

<sup>30</sup> See also In re Craig, 411 F.2d 1333, 162 USPQ 157 (CCPA 1969) and In re Donohue, 766 F.2d 531, 226 USPQ2d 619 (Fed. Cir. 1985).

as opposed to relying on res judicata principles to defeat issuance of patents. In other words, Congress has determined that patentable inventions should be published and res judicata based on prior ex parte decisions defeat a congressional mandate.<sup>31</sup>

While applicant's argument relying on Herr, Russell and similar cases may appear superficially plausible, those arguments does not withstand penetrating analysis when applied to cases like the present case where the decision relied upon is inter partes.

The congressional mandate that patentable inventions be published (through the issuance of a patent) has not been defeated or any way frustrated in this case. The Carter and Krumme patent was already public knowledge at the time Interference 100,775 was declared and continues to be public knowledge today. The public therefore has had the benefit intended by Congress with respect to the invention involved in the interference. The Carter and Krumme patent not only describes and claims the apparatus, but necessarily described how to use that claimed apparatus and the significance of the use of constant current (see Findings 87 through 94). Hence, issuance of a patent to applicant on the presently claimed method adds little, if anything, to the public knowledge.

Moreover, we believe we ought to consider the effect issuance of a patent to applicant's claimed method would now have on Carter and Krumme and their assignee. The Carter and Krumme patent has expired. The owner of that patent, having won (or maybe it would be better to say having not lost) Interference 100,775 has some expectation to believe that it would be able to practice its invention when its patent expires. Likewise, the

---

<sup>31</sup> Today's twenty-year patent term from initial filing date, not the law when the CCPA decided Herr and other cases, further supports the notion that res judicata is not generally appropriate in an ex parte context. The patent granted as a result of Herr had a 17-year term; today, the term would have been considerably shorter.

public should have some expectation of being able to practice the invention now that the Carter and Krumme patent has expired. It is true that practice of the invention claimed in the Carter and Krumme patent might be precluded by issuance of some other patent to some third-party not involved in Interference 100,775. But, issuing a patent to applicant's method after it has been held that applicant has not provided an enabling disclosure of how to make and use the apparatus needed to practice the now claimed method gives us pause and is difficult to justify.

3. Resolution of enablement rejection

The method claims on appeal call for the use of at least the apparatus involved in the Interference 100,775. Therefore, the method claims on appeal call for the use of an apparatus which is non-enabled. We need not determine whether those method claims also cover the use of apparatus which may be enabled. In this case, it is sufficient that those claims in large measure cover the use of non-enabled apparatus. In other words, applicant's claims are "too broad" because they read on non-enabled subject matter.

Enablement must be commensurate in scope with the breadth of the claims. In re Cook, 439 F.2d 730, 169 USPQ 298 (CCPA 1971) (involving zoom lenses); PPG Industries, Inc. v. Guardian Indus. Corp., 75 F.3d 1558, 1564, 37 USPQ2d 1618, 1623 (Fed. Cir. 1996), and cases cited therein.

We will sustain the examiner's enablement because applicant's claims include methods which, as to applicant, are non-enabled and another patent exists--now expired--which adequately describes how to practice the method.

4. Answer to applicant's other arguments

We have considered all of the briefs filed by applicant in connection with the appeal. We proceed to analysis of arguments made in those briefs.

a.

To the extent the briefs argue that res judicata (issue preclusion) is not available in this ex parte case, we have answered those arguments supra at pages 33-35).

b.

Applicant maintains (brief, Paper 52, page 16) that method claims were not involved in Interference 100,775. As we have discussed above, the claims on appeal cover the use of apparatus which was held non-enabled in Interference 100,775.

c.

Applicant relies on additional "testimony" which he says was not before the board in Interference 100,775 (Brief, Paper 52, page 17). Applicant would appear to be correct since declarations of individuals who did not testify in Interference 100,775 have been presented in this record. The examiner initially declined to consider the additional testimony. It turns out the examiner correctly declined to consider the additional declaration testimony given that applicant is precluded from re-litigating here the "enablement" of the apparatus involved in Interference 100,775. Moreover, we cannot help but wonder why the additional "testimony", if it is as compelling as applicant would have us believe, was not presented in Interference 100,775. In other words, why did applicant not call Messrs. Macovski, Ingle and Miller in Interference 100,775, where they might have been cross-examined by Carter and Krumme? Declarations presented here of individuals who testified in Interference 100,775 which purport to add "new reasons" why applicant's apparatus is enabling collide directly with issue preclusion.

Applicant argues that the examiner "is legally bound to consider and give weight to factual testimony of qualified experts ..." (Reply brief, Paper 55, page 4). We can agree that "expert" testimony when properly and timely presented is entitled to be considered. 37 CFR § 1.132 (2003). The weight to be given expert testimony is a matter within the discretion of the

examiner. For example, not all expert testimony is entitled to be accorded weight. See Rohm and Haas Co. v. Brotech Corp., 127 F.3d 1089, 1092, 44 USPQ2d 1459, 1462 (Fed. Cir. 1997) (nothing in the Federal Rules of Evidence or Federal Circuit jurisprudence requires the fact finder to credit the unsupported assertions of an expert witness). In this case, the "evidence" applicant seeks to have considered is not "admissible" because applicant is precluded from re-visiting enablement of applicant's claimed apparatus involved in Interference 100,775; non-enablement of that apparatus justifies a lack of enablement rejection of the method claims on appeal. Hence, in our view the examiner did not err in declining in the first instance to consider the "new" testimony or to accord that testimony little, if any, weight.

d.

Applicant argues that relatively constant current sources were well-known when applicant's original application was filed (Brief, Paper 52, pages 17-18). Carter and Krumme and the board in Interference 100,775 disagreed. The argument applicant now wants us to re-visit, without any input from Carter and Krumme, was made and lost in Interference 100,775. If Carter, Krumme and board made an error, the time to have corrected that error was on a request for rehearing to the board or judicial review.

e.

Applicant suggests that the board in Interference 100,775 may have misapplied the law (Brief, Paper 52, page 18, n \*). Our response is the same as that given in the previous paragraph; the time to have corrected errors of fact and law was on a request for rehearing to the board or judicial review.

f.

Applicant argues that the specification of the application on appeal is enabling (Brief, Paper 52, page 19 et seq.). To the extent the argument is that applicant's claimed apparatus involved in Interference 100,775 is enabling, applicant is precluded here from making the argument.

g.

Applicant argues that the specification of the application on appeal describes relatively "constant current" by virtue of an alleged incorporation by reference of two patents (Brief, Paper 52, page 25 et seq.). The board in Interference 100,775 disagreed. The time to have corrected any error by the board in this respect was by way of a request for rehearing to the board or judicial review.

h.

Applicant argues that the examiner erred in rejecting the claims based on an alleged lack of a description of a best mode (Brief, Paper 52, page 28). Since we have affirmed the examiner's lack of enablement rejection, we have no occasion to reach or express any views on the best mode rejection.

i.

Prior to the appeal to the Federal Circuit, we remanded the appeal to the examiner to express views on the merits of the "new" testimony presented in the form of declarations previously discussed in this opinion (Paper 69). We now conclude that applicant is precluded from re-litigating enablement of the apparatus involved in Interference 100,775. Accordingly, there is no occasion to consider most of the arguments made in applicant's reply to the supplement examiner's answer (Paper 71).

j.

We have considered all of the other arguments applicant has presented in the briefs. Unfortunately for applicant, we have not found any of those arguments sufficient as a basis for reversing the examiner's non-enablement rejection.

**E. Decision and order**

Upon consideration of the record, and for the reasons given above, it is

ORDERED our decision and opinion entered 27 March 2003 (Paper 74) are vacated and this decision and opinion are substituted in their place.

FURTHER ORDERED that the decision of the examiner rejecting the claims on appeal as based on a non-enabling disclosure is affirmed.


FURTHER ORDERED that we do not reach or express any views on the examiner's rejection based on an alleged lack of a description of a best mode.<sup>32</sup>

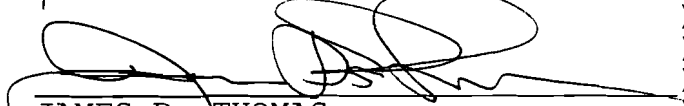
---


<sup>32</sup> Nor is it necessary, at this time, for us to reach the possible issue of whether the priority proofs in Interference 100,775 would establish that Carter and Krumme made their claimed invention prior to the date which applicant made applicant's claimed invention. See 37 CFR § 1.196(b) (2003).

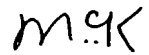
FURTHER ORDERED that no time period for taking any subsequent action in connection with this appeal may be extended under 37 CFR § 1.136(a) (2003).


**AFFIRMED**

  
\_\_\_\_\_  
GARY V. HARKCOM, Acting Chief  
Administrative Patent Judge

  
\_\_\_\_\_  
JAMES D. THOMAS  
Administrative Patent Judge

  
\_\_\_\_\_  
BRADLEY R. GARRIS  
Administrative Patent Judge

  
\_\_\_\_\_  
FRED E. McKELVEY, Senior  
Administrative Patent Judge

  
\_\_\_\_\_  
MICHAEL R. FLEMING  
Administrative Patent Judge

BOARD OF PATENT  
APPEALS AND  
INTERFERENCES



## Appendix 1

### Table of Contents Application 06/295,929 Rule 60

01	1981-06-21	Application
02	1981-06-21	Preliminary amendment A
03	1981-06-21	Preliminary amendment B
04	1982-11-22	Request for attorneys to withdraw
05	1983-01-17	Rejection
06	1983-08-17	Notice of abandonment
07	1983-09-12	Revocation of power of attorney
08	1983-10-11	Power to inspect
09	1984-03-15	Amendment C
10	1984-03-15	Petition to revive (137(b))
11	1984-04-12	Petition to revive granted
12	1984-05-16	Suspension
13	1984-11-23	Status inquiry
14	1985-01-11	Suspension
15	1985-08-25	Status inquiry
16	1985-12-31	Suspension
17	1986-07-07	Status inquiry
18	1986-09-02	Rejection
19	1987-03-03	Amendment D and petition to suspend
20	1987-03-18	Petition dismissed
21	1987-03-03	Information disclosure statement
22	1987-03-12	Letter of protest (missing)
23	1987-03-27	Interview summary record
24	1987-03-27	Letter
25	1987-04-29	Supplemental information disclosure statement
26	1987-07-02	Rejection
27	1987-11-02	Petition for extension of time
28	1988-02-01	Notice of abandonment

### Application 07/117,393 Rule 62

29	1987-11-02	Preliminary amendment E
30	1987-11-02	Preliminary amendment F
31	1988-08-30	Final rejection
32	1989-03-06	Petition for extension of time
33	1989-03-06	Notice of appeal
34	1989-03-06	Declaration of Isackson (Ex 1-6 missing)
34½	1989-03-06	Declaration of Eggers
35	1989-03-06	Associate power of attorney
36	1989-03-06	Amendment G
37	1989-03-06	Revocation of atty/power of attorney
38	1989-03-10	Acceptance of revocation
39	1989-03-29	Suspension
40	1990-04-24	Suspension
41	1991-12-16	Suspension

42	1993-01-07	Suspension
43	1994-02-10	Rejection
44	1994-06-15	Response to Office action
45	1994-06-15	Declaration of Pisano
46	1994-07-29	Interview summary
47	1994-08-15	Supplemental response to office action
48	1994-03-25	Final rejection (missing)
49	1995-01-11	Change of address
50	1995-01-12	Final rejection (as remailed)
51	1995-04-12	Notice of appeal
52	1995-06-12	Brief on appeal
53	1995-09-06	Examiner's answer
54	1995-10-05	Power to inspect
55	1995-11-03	Reply brief
56	1996-03-12	Power to inspect
57	1997-01-24	Acknowledgement of reply brief
58	1997-10-28	Request for oral hearing
59	1997-12-31	Status inquiry
60	1998-02-18	Response to status inquiry
61	1998-10-08	Petition to make special
62	1998-10-29	Petition granted
63	1998-11-19	Change of address (via fax)
64	1999-02-01	Order (need for compliance with Rule 192(c))
65	1999-01-20	Change of address (via fax)
66	1999-03-08	Supplemental brief on appeal
67	2000-03-28	Notice of oral hearing
68	2000-04-04	Confirmation of oral hearing
69	2000-05-17	Remand to examiner
70	2000-08-31	Supplemental examiner's answer
71	2000-11-06	Reply to supplemental examiner's answer
72	2000-12-19	Acknowledgement of reply
73	2002-07-22	Letter--suspending appeal
74	2003-03-27	Decision on appeal
75	2003-05-27	Request for rehearing
76	2003-07-11	Decision denying rehearing
77	2003-09-10	Notice of appeal to Federal Circuit
78	2003-11-20	Joint Motion to Remand (filed in Fed Cir)
79	2003-12-19	Federal Circuit mandate
80	2004-03-15	Protest under 37 CFR § 1.291a
81	2004-03-15	Copy Final Rejection (Paper 50)
82	2004-03-15	Declaration of Stutz (see Paper 52)
83	2004-03-15	Declaration of Eggers (see Paper 52)
84	2004-03-15	Declaration of Eggers (see Paper 52)
85	2004-03-15	Isackson Exhibits E,F,G,H and CJR (see Paper 47)
86	2004-03-15	Exhibits 1-6 of Paper 34
87	2004-03-15	Declaration of O'Neill (see Papers 36, 47 & 52)
88	2004-03-15	Declaration of Macovski (see Papers 36, 47 & 52)
89	2004-03-15	Declaration of Ingle (see Papers 36, 47 & 52)
90	2004-03-15	Declaration of Shaw (see Papers 36 & 47)
91	2004-03-15	Declaration of Miller (see Papers 36, 47 & 52)

92	2004-03-15	Declaration of Craig (see Papers 36 & 47)
93	2004-03-15	Isackson Exhibits B,C and CSR (see Papers 36 & 52)
94	2004-05-21	Decision on appeal

cc (via First Class Mail):

FISH & NEAVE  
1251 Avenue of the Americas  
50th Floor  
New York, New York 10020