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Paper 58

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

BAHMAN HESHMATPOUR

Junior Party,
(Application 09/020,616),

v.

JOSEPH A. MEGY

Senior Party,
(Patent 5,935,295).

Patent Interference No. 104,622

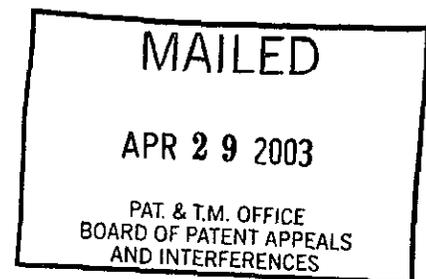
Before: SCHAFER, SPIEGEL and LANE, Administrative Patent Judges.

SCHAFER, Administrative Patent Judge.

FINAL JUDGMENT

This interference is between Application 09/020,616 of Bahman Heshmatpour and Patent 5,935,295 issued to Joseph A. Megy.¹ We award judgment against Dr. Heshmatpour. Dr.

¹ While both parties were at one time represented by counsel, both now proceed pro se.



Heshmatpour's evidence is insufficient to prove (1) that he actually reduced the invention to practice before Megy's effective filing date or (2) that Megy derived the invention from Dr. Heshmatpour.

Background

Dr. Heshmatpour provoked this interference by filing an amendment to his application adding claims which interfered with Megy's patent claims and requesting an interference with the Megy patent. Application 09/020,616, Paper 7, pp. 11-24. After the interference was declared, preliminary motions were filed by both parties. Those motions have been decided. Paper 44. Subsequently, a schedule was set for the priority phase of this interference. Paper 49. Only Dr. Heshmatpour filed any evidence on priority. Megy, therefore, relies on his effective filing date of October 16, 1997. No oral argument was requested.

Subject Matter of the Interference

The subject matter of this interference relates to a process for making grain refined cast aluminum alloys, particularly alloys which use titanium-containing grain refining ingredients. Grain refining additions cause the aluminum to solidify with smaller crystals (grains). Typically, the grain refining materials form compounds such as TiB_2 in molten aluminum which act as nuclei for crystal formation as the aluminum casting solidifies. More nuclei means more and smaller grains. A smaller grain size results in improvements in both the casting process and the certain physical properties of cast aluminum.

A conventional way of adding grain refining materials to aluminum alloys is to add a "master alloy" to the molten aluminum prior to casting. A master alloy is an alloy containing an excess of the grain refining ingredients. It is typically provided in the form of a solid rod or waffle. When added to the molten aluminum, the master alloy melts to provide the necessary amounts of grain refining ingredients. See Megy Patent 5,935,295, col. 1, ll. 13-26; Heshmatpour Specification, Application 09/020,616, Paper 1, page 2, l. 1 - p. 3, l. 6.

The invention claimed by both parties uses a different way of adding the grain refining ingredients. Most notably, the process does not use a master alloy. It is an "in-situ" process in which at least some of the grain refining materials are added directly to the casting melt in the form of a gas.

In the process as claimed by Megy, up to 3000 ppm (0.3%) of titanium is added to the molten aluminum. After the titanium is added, grain refining material which reacts with titanium is added to the melt in the form of a gas. The treated aluminum is then used to form a cast product. Megy claim 1 is representative of the invention as claimed by Megy:

1. An improved method for treating molten aluminum for solidifying into cast products wherein the molten aluminum is subject to a metal treatment for removing impurities, the improved method comprising forming grain refiner in the molten aluminum, the method comprising:
 - (a) providing a molten aluminum body;
 - (b) providing 1 to 3000 ppm titanium in said molten aluminum body;
 - (c) introducing to said molten aluminum body, a material reactive with said titanium, said material being in gaseous form at molten aluminum temperature and comprising at least one component of the group consisting of boron, sulfur, nitrogen and phosphorus, said material and said titanium forming grain refining nuclei in the aluminum body; and
 - (d) solidifying at least a portion of said molten aluminum body into a grain refined, cast product.

Patent 5,935,295, col. 10, l. 52 - col. 11, l. 2. Heshmatpour's process appears to be essentially the same except that up to 200,000 ppm (20%) titanium is provided. Claim 21 is representative of the process as claimed by Heshmatpour:

21. An improved process for treating a molten aluminum medium for solidification into a grain refined, cast product, wherein grain refining nuclei are formed in the molten aluminum medium, the improvement comprising:
 - (a) providing the molten aluminum medium;
 - (b) providing from 1 to 200,000 ppm of titanium in the molten aluminum medium;
 - (c) introducing to the molten aluminum medium, a material that is reactive with the titanium, the reactive material being in a gaseous form at a temperature of the molten aluminum medium and comprising at least one element selected from the group consisting of carbon, boron, sulfur, nitrogen and phosphorus, the reactive material and the titanium forming the grain refining nuclei in the molten aluminum medium; and
 - (d) solidifying at least a portion of the molten aluminum medium into the grain refined, cast product.

Application 09/020,616, Paper 7, p. 6.

The sole count of this interference is

Count 1

The method of treating molten aluminum according to claims 1, 17, 35, 44 or 45 of Megy Patent 5,935,295;

or

the method of treating molten aluminum according to claim 21 of the Heshmatpour Application 09/020,616.

Paper 1, p. 32. Megy's claims 17, 35, 44 and 45, the other alternatives of the count, are reproduced in the margin.²

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17. An improved method for treating molten aluminum for solidifying into cast products wherein the molten aluminum is subject to a molten metal treatment for removing impurities, the method comprising:
- (a) providing a molten aluminum body in a temperature range of 1200° to 1500° F.;
 - (b) providing titanium in the range of 1 to 1500 ppm in said molten aluminum body;
 - (c) after providing said titanium in said body, introducing to said body a material reactive with said titanium, said material being in gaseous form at molten aluminum temperatures and being introduced to said body in a carrier gas or fluxing gas, said material selected from at least one of a chloride or fluoride of one of the groups consisting of boron, sulfur, nitrogen and phosphorus, said material and said titanium forming a grain refining nuclei in said molten aluminum body; and
 - (d) solidifying at least a portion of said molten aluminum body into a grain refined, cast product.
35. An improved method of fluxing, grain refining and casting aluminum, the method comprising the steps of:
- (a) providing a body of molten aluminum;
 - (b) providing titanium in said body of molten aluminum in a range of 1 to 3000 ppm;
 - (c) subjecting said body to a fluxing treatment with a gas to remove both dissolved and suspended materials;
 - (d) contacting said molten aluminum body with a gaseous compound reactive with said titanium, said gaseous compound having at least one component selected from the group consisting of boron, sulfur, nitrogen and phosphorus;
 - (e) forming a grain refining material in said molten aluminum comprised of said gaseous compound and said titanium; and
 - (f) casting said molten aluminum into a grain refined, solid form.
44. A method of grain refining aluminum, the method comprising:
- (a) providing a molten aluminum body;
 - (b) providing 1 to 1500 ppm titanium in said molten aluminum body;
 - (c) introducing to said molten aluminum body a material reactive with said

(continued...)

All of Heshmatpour's pending claims (1-13 and 21-27) were designated as corresponding to the count. Megy's claims 1-7, 9-12, 14-20, 23, 24, 35-36, 38-41, and 43-45 were designated as corresponding to the count. The remainder of Megy's claims do not correspond and are not involved in this interference. Paper 1, p. 33.

The Parties' Positions

Both parties have filed informal briefs as to their respective positions on priority. Dr. Heshmatpour has also filed evidence supporting his position. Megy has not filed any evidence. Of course, Megy need not file evidence to prevail since Dr. Heshmatpour is the junior party and bears the burden of proof. We note that Megy has neither cross-examined any of Heshmatpour's witnesses nor challenged the authenticity of any of Heshmatpour's documentary evidence. Thus, we look to Dr. Heshmatpour's submissions.

Dr. Heshmatpour's case for priority

Dr. Heshmatpour's informal brief asserts priority and derivation (Paper 55). The brief indicates that he substantially relies on the submission made under 37 CFR § 1.608(b) in attempting to provoke this interference (Application 09/020,616, Paper 7). Paper 55, p. 1. That submission

²(...continued)

titanium, said material being in gaseous form and comprising at least one component of the group consisting of boron, sulfur, nitrogen and phosphorus; and

(d) forming a grain refining compound comprised of said material and said titanium in said molten aluminum body and casting a grain refined product.

45. A method of grain refining aluminum, the method comprising:

(a) providing a molten aluminum body in a temperature range of 1200° to 1500° F.;

(b) providing titanium in said molten aluminum body;

(c) after providing said titanium in said body, introducing to said body a material reactive with said titanium, said material being in gaseous form and introduced to said body of molten aluminum in a carrier or fluxing gas, said material being a chloride or fluoride of one of the groups consisting of boron, sulfur, nitrogen and phosphorus; and

(d) forming a grain refining compound comprised of said material and said titanium in said molten aluminum body and casting a grain refined product.

included three declarations and thirty-five exhibits, many of the exhibits were redacted. During the interference, he has also submitted a collection of "evidence and relevant documents." Paper 53. The collection appears to include unredacted copies of the documents included with § 1.608(b) submission as well as additional documents. While the notice declaring this interference prohibits incorporating arguments by reference to other papers, in light of the fact that this interference is being prosecuted pro se, we exercise our discretion to consider that paper along with the other papers submitted as part of Dr. Heshmatpour's case-in-chief.³

Dr. Heshmatpour asserts the following grounds relating to priority:

1. Dr. Heshmatpour invented the subject matter of the count prior to Megy, and
2. Megy derived the subject matter of the invention from Heshmatpour.⁴

Application 09/020,616, Paper 7, p. 23.

With respect to the prior invention, Dr. Heshmatpour asserts that he was the first to conceive and first to reduce the invention to practice. Application 09/020,616, Paper 7, p. 23. He does not argue that he was the first to conceive and last to reduce the invention to practice nor assert diligence from before Megy's effective filing date to an actual or constructive reduction to practice. We thus turn to Heshmatpour's priority and derivation cases.

ANALYSIS

Actual reduction to practice

In order to establish actual reduction to practice, the inventor must prove that he constructed an embodiment or performed a process that met all the limitations of the claim, and that he determined that the invention would work for its intended purpose. Slip Track Systems, Inc. v. Metal-Lite, Inc., 304 F.3d 1256, 1265, 64 USPQ2d 1423, 1429 (Fed. Cir. 2002); Cooper v. Goldfarb,

³ Our consideration of Dr. Heshmatpour's case is complicated by the fact that Dr. Heshmatpour's brief refers to exhibits by number, but the evidence and documents submitted (Paper 53) do not have any exhibit numbers. While the referenced exhibit numbers often correspond to those submitted during prosecution as part of the § 1.608(b) showings, others do not correspond and some were apparently submitted for the first time during this interference as part of Paper 53.

⁴ Heshmatpour also asserted that Megy was not entitled to the priority benefit of provisional Application 60/062,155. Application 09/020,616, Paper 7, p. 23. However, during the preliminary motions phase, Heshmatpour did not file a motion pursuant to 37 CFR § 1.633(g) to attack the benefit accorded Megy's provisional application in the notice declaring this interference. Thus, the issue is not before us.

154 F.3d 1321, 1327, 47 USPQ2d 1896, 1901 (Fed. Cir. 1998). Determining that the invention will work for its intended purpose may require testing, depending on the character of the invention and the problem that it solves. Cooper, 154 F.3d at 1327, 47 USPQ2d at 1901. "The adequacy of a reduction to practice is to be tested by what one of ordinary skill in the art would conclude from the results of the tests." Slip Track, 304 F.3d at 1265, 64 USPQ2d at 1429 quoting Winter v. Lebourg, 394 F.2d 575, 581, 157 USPQ 574, 578 (CCPA 1968). To prove reduction to practice by inventor testimony, the inventor's testimony must be corroborated by independent evidence. Slip Track, 304 F.3d at 1265, 64 USPQ2d at 1429; Cooper, 154 F.3d at 1330, 47 USPQ2d at 1903. The corroboration "may consist of testimony of a witness, other than an inventor, to the actual reduction to practice or it may consist of evidence of surrounding facts and circumstances independent of information received from the inventor." Hahn v. Wong, 892 F.2d 1028, 1032-33, 13 USPQ2d 1313, 1317 (Fed. Cir. 1989); Reese v. Hurst, 661 F.2d 1222, 1225, 211 USPQ 936, 940 (CCPA 1981). When considering the sufficiency of corroborating evidence of an actual reduction to practice a reasonableness standard is used. Scott v. Finney, 34 F.3d 1058, 1061-62, 32 USPQ2d 1115, 1118 (Fed. Cir. 1994); Holmwood v. Sugavanam, 948 F.2d 1236, 1238, 20 USPQ2d 1712, 1714 (Fed. Cir. 1991).

The count is the disjunction of Megy Claims 1, 17, 35, 44 or 45 and Heshmatpour Claim 21. Thus, to prove an actual reduction to practice, Heshmatpour must prove that he carried out a process for casting aluminum alloys that is covered by at least one of the alternatives of the count and that that process worked for its intended purpose, i.e., resulted in a cast grain-refined aluminum alloy.

The steps set forth in each count alternative are quite similar. Each alternative requires the following:

1. Providing molten aluminum;
2. Providing titanium to the molten aluminum alloy;
3. Forming grain refining nuclei in the molten aluminum by introducing a gaseous material which interacts with the titanium and includes boron, sulfur, nitrogen or phosphorus; and
4. Solidifying the molten alloy into a grain refined cast product.

There are some differences between each of the alternatives of the count. Some of the alternatives specify the amount of titanium: 1-3000 ppm (Megy Claims 1 and 35), 1-1500 ppm (Megy Claims 17 and 44); and 1-200,000 ppm (Heshmatpour Claim 21). Megy Claim 45 is not restricted to any particular amount of titanium. Some of the alternatives specify the temperature of the molten aluminum: 1200-1500°F (Megy Claims 17 and 45). Some of the alternatives additionally require the use of a fluxing or carrier gas (Megy Claims 17, 35 and 45). One alternative specifies that the gaseous materials is a chloride or fluoride of boron, sulfur, nitrogen, or phosphorus (Megy Claim 17). One alternative additionally specifies that the gaseous material may include carbon (Heshmatpour Claim 21).

Dr. Heshmatpour testifies that he actually reduced the process to practice on October 9, 1997, and that the process worked:

After ordering materials and setting up small-scale production equipment, I ran an actual test of my inventive process on October 9, 1997, and confirmed that the process worked. A true and correct copy of my personal handwritten notes for the work I conducted from October 7-9, 1997 at Dr. Megy's plant is attached hereto and marked as Exhibit 19. Note the entry for October 9, 1997 in my notes, which shows that I injected mixed gaseous chlorides of $TiCl_4$ and C_2Cl_4 into an aluminum molten melt. Ted Mitchell ("Ted") and Dr. Knoll observed the testing of my invention. I took out samples of products produced my inventive process so that [the samples] could be sent to Touchstone Research Laboratory for analysis, but I am unaware what happened to [the samples] them as my business relationship with Dr. Megy ended shortly thereafter.

Attachment to Paper 53, Rule 1.608(b) Evidentiary Declaration 1 of Bahman Heshmatpour, p. 6.⁵ Exhibit 19⁶, referred to above, is a one-page handwritten unsigned document which is partially illegible. The relevant portions are reproduced below:

Trip to New Cumberland WV, Oct. 7-10, 1997

* * * * *

⁵ A copy is also an attachment to Paper 7 of Application 09/020,616, filed December 27, 1999, Evidentiary Declaration 1.

⁶ The reference to "Exhibit 19" refers to Exhibit 19 of the submission titled "Documentary Exhibits 1-35" which is an Attachment to Paper 7 of Application 09/020,616, filed December 27, 1999.

10-9: Ted continued work on setting up the system, gas line, [illegible],
9 weighed Al - loaded and fired furnace ≈ 11:00 AM.
Bought lunch for Ted to stay with work during lunch -
1:00 PM Al all melted. Started test with several consecutive injection
of chloride $TiCl_4$ and C_2Cl_4 - pulled several TP-1 samples. Wrote
report on test.

This evidence fails to prove an actual reduction to practice of an embodiment meeting all the limitations of at least one of the alternatives of the count and that the process worked for its intended purpose.

First, Dr. Heshmatpour's testimony is not corroborated by independent evidence, i.e., evidence which is independent of his own testimony. He has not directed us to testimony of a witness who observed the tests or to evidence of facts and circumstances surrounding the reduction to practice which were independent of information which originated with Dr. Heshmatpour.

Secondly, the evidence presented does not establish that Dr. Heshmatpour actually carried out a process meeting all the limitations of at least one of the count alternatives. The alleged actual reduction to practice relies on the use of C_2Cl_4 to introduce a material reactive with titanium. Only the count alternative of Heshmatpour Claim 21 allows the use of a carbon containing material. Thus, in order to constitute an actual reduction to practice the process must meet all the limitations of Dr. Heshmatpour's Claim 21. Claim 21 requires providing 1-200,000 ppm of titanium in the molten aluminum. Dr. Heshmatpour's evidence fails to establish the amount of titanium provided to the molten aluminum.

Lastly, and more importantly, the evidence does not establish that the treatment worked for its specified and intended purpose - forming a grain refined aluminum casting. While the evidence indicates samples were sent to Touchstone Research Laboratory for analysis and Dr. Heshmatpour states that test samples verified the success of the process (Paper 55, p. 3) results of that analysis were not presented. The fact that Dr. Heshmatpour may not have had access to the results does not relieve him of his burden of proving that the activities said to be an actual reduction to practice included all the limitations of the count and that the invention worked for its intended purpose.

Dr. Heshmatpour has failed to prove an actual reduction to practice before Megy's effective filing date.

Derivation

Notwithstanding the failure to prove an actual reduction to practice, Dr. Heshmatpour may still prevail if he can prove that Megy derived the subject matter of the invention from Dr. Heshmatpour. Derivation involves the claim that the adverse party did not "invent" the subject matter of the count because that party derived the invention from another. Cooper, 154 F.3d at 1332, 47 USPQ2d at 1905; Price v. Symsek, 988 F.2d 1187, 1190, 26 USPQ2d 1031, 1033 (Fed. Cir. 1993). To prove derivation in an interference proceeding, the party asserting derivation must establish prior conception of the claimed subject matter and communication of the conception to the adverse claimant. Cooper, 154 F.3d at 1332, 47 USPQ2d at 1905; Price, 988 F.2d at 1190, 26 USPQ2d at 1033.

Conception

"Conception is the formation 'in the mind of the inventor of a definite and permanent idea of the complete and operative invention, as it is therefore to be applied in practice.'" Kridl v. McCormick, 105 F.3d 1446, 1449, 41 USPQ2d 1686, 1689 (Fed. Cir. 1997). A conception must encompass all limitations of the count (Kridl, 105 F.3d at 1449, 41 USPQ2d at 1689), and "is complete only when the idea is so clearly defined in the inventor's mind that only ordinary skill would be necessary to reduce the invention to practice, without extensive research or experimentation" (Burroughs Wellcome Co. v. Barr Lab., 40 F.3d 1223, 1228, 32 USPQ2d 1915, 1919 (Fed. Cir. 1994)).

When a party seeks to prove conception via the oral testimony of a putative inventor, the party must proffer evidence corroborating that testimony. Mahurkar v. C.R. Bard, Inc., 79 F.3d 1572, 1577, 38 USPQ2d 1288, 1290 (Fed. Cir. 1996); Price, 988 F.2d at 1194, 26 USPQ2d at 1036. That rule addresses the concern that a party claiming inventorship might be tempted to describe his actions in an unjustifiably self-serving manner in order to obtain a patent or to maintain an existing patent. See Eibel Process Co. v. Minn. & Ont. Paper Co., 261 U.S. 45, 60 (1923); Kridl, 105 F.3d at 1450, 41 USPQ2d at 1689 ("The tribunal must also bear in mind the purpose of corroboration, which is to prevent fraud, by providing independent confirmation of the inventor's testimony"); Price, 988 F.2d at 1194-95, 26 USPQ2d at 1036-37. There is no particular formula that an inventor must follow in providing corroboration of his testimony of conception. See Kridl, 105 F.3d at 1450,

41 USPQ2d at 1689. Rather, whether a putative inventor's testimony has been sufficiently corroborated is determined by a "rule of reason" analysis, in which "an evaluation of all pertinent evidence must be made so that a sound determination of the credibility of the inventor's story may be reached." Price, 988 F.2d at 1195, 26 USPQ2d 1031 at 1037. However, that "rule of reason" analysis does not alter the requirement of corroboration of an inventor's testimony. Brown v. Barbacid, 276 F.3d 1327, 1335, 61 USPQ2d 1236, 1240 (Fed. Cir. 2002). Evidence of the inventive facts must not rest alone on the testimony of the inventor himself. Cooper, 154 F.3d at 1330, 47 USPQ2d at 1903. Because conception is a mental act, "it must be proven by evidence showing what the inventor has disclosed to others and what that disclosure means to one of ordinary skill in the art." In re Jolley, 308 F.3d 1317, 1321, 64 USPQ2d 1901, 1904 (Fed. Cir. 2002) quoting Spero v. Ringold, 377 F.2d 652, 660, 153 USPQ 726, 732 (CCPA 1967). The evidence must show that the inventor disclosed to others his "completed thought expressed in such clear terms as to enable those skilled in the art" to make the invention. Coleman v. Dines, 754 F.2d 353, 359, 224 USPQ 857, 862 (Fed. Cir. 1985); Field v. Knowles, 183 F.2d 593, 600, 86 USPQ 373, 379 (CCPA 1950).

Dr. Heshmatpour testifies that he conceived the invention prior to October 16, 1997:

3. (a) Prior to October 16, 1997, I conceived the invention claimed in my patent application, which is directed to a process involving gaseous grain refining reactions.

Heshmatpour Declaration, p. 2, ¶ 3(a)⁷ Dr. Heshmatpour further testifies that he described his invention in a letter to a patent attorney. He testifies:

(b) Prior to October 16, 1997, I submitted a written description of my invention, entitled Process for Manufacturing High Potency Grain Refiners for Aluminum Industry, in a letter to a patent attorney, William G. Lane, Esquire ("Greg" Lane), whose office is located at 18400 Von Karman Avenue, Suite 500, Irvine, California 92715.

Heshmatpour Declaration, p. 2, ¶ 3(b). Dr. Heshmatpour testifies that a copy of the written description submitted to the patent attorney is provided as Exhibit 1 to the Heshmatpour Declaration,

⁷ Attachment to Paper 53, Rule 1.608(b) Evidentiary Declaration 1 of Bahman Heshmatpour, p. 2. A copy is also of record in the Heshmatpour involved application as Evidentiary Declaration 1 which is part of Application 09/020,616, Paper 7, Evidentiary Declarations 1-3.

p. 2, ¶ 3(c). The letter bears the date August 21, 1997. Lane Letter 1.⁸ Dr. Heshmatpour argues that the written description shows the “essence” of his invention. Paper 55, p. 2.

Dr. Heshmatpour also relies upon a second letter sent to the patent attorney including attached sketches. He testifies:

(d) Shortly thereafter, and still prior to October 16, 1997, I sent Mr. Lane another letter regarding the same matter and enclosed therewith rough sketches of apparatuses for practicing my inventive process. True and correct copies of the letter and enclosures are attached hereto and marked as Exhibit 2.

Heshmatpour Declaration, p. 2, ¶ 3(d). The letter bears the date August 30, 1997, and includes handwritten attachments including drawings and some text identifying various components shown in the drawings. Lane Letter 2.⁹

The content of the documents are not explained to us in detail as required by 37 CFR § 1.671(f). We have endeavored to review the documents on our own to ascertain what they show. Having undertaken this review, we conclude that the documents are insufficient to prove a conception of the invention.

These two documents alone or in combination fail to describe an embodiment including all the features of at least one of the alternatives of the count. The documents disclose neither the compositional limitation for titanium nor the molten aluminum temperature required by the alternatives of the count. In particular they do not show the specified amounts of titanium required by the count alternatives of Megy Claims 1, 17, 35, 44 and Heshmatpour Claim 21 (1-1500, 1-3000 or 1-200,000 ppm) or (2) molten aluminum at a temperature of 1200° to 1500°F required by the count alternatives of Megy Claims 17 and 45. While Dr. Heshmatpour argues that these documents show the “essence” of his invention (Paper 55, p. 2), proof of conception requires evidence showing

⁸ Attachment to Paper 53. A redacted copy is also of record in the Heshmatpour involved application as Exhibit 1 to the Rule 1.608(b) Evidentiary Declaration 1 of Bahman Heshmatpour. Application 09/020,616, Paper 7).

⁹ Attachment to Paper 53. A redacted copy is also of record in the Heshmatpour involved application as Exhibit 2 to the Rule 1.608(b) Evidentiary Declaration 1 of Bahman Heshmatpour (Application 09/020,616, Paper 7).

all the elements of the count (Kridl, 105 F.3d at 1449, 41 USPQ2d at 1689), not just the “essence” of the invention.

The next document relied upon is said to be a more detailed disclosure which was submitted to patent counsel for preparation of a patent application. The document is an attachment to Paper 53.¹⁰ The document bears the date of October 11, 1997. Dr. Heshmatpour testifies:

Prior to October 16, 1997, I wrote out my invention disclosure in more detail (13 pages + 2 drawings) and sought the advice of new counsel in anticipation of a dispute with Mr. Megy. A true and correct copy of this invention disclosure is attached hereto and marked as Exhibit 21. I then met around this time with Samuel Ragonese, Esquire. Mr. Ragonese referred me to a patent attorney, Allan N. Kutzenco, Esquire, at Connolly, Bove, Lodge & Hutz LLP. I spoke to Mr. Kutzenco on the telephone around this time regarding my invention disclosure and met him in person at his office prior to October 16, 1997. During this meeting, I gave him my invention disclosure and instructed him to prepare a patent application for filing in the United States Patent and Trademark Office.

Heshmatpour Declaration, p.7, ¶ 8.

Again, Dr. Heshmatpour does not provide an explanation of how this document proves conception of an embodiment meeting all the limitations of at least one of the alternatives of the count. We have reviewed the document on our own. The document appears to us to describe a method for making aluminum master alloys using gas injection, including master alloys to be used for grain refining in the conventional manner. The disclosure does not appear to describe an in-situ process for making a cast grain-refined aluminum alloy which is the subject matter of all the alternatives of the count. The document is titled: “Process for Manufacturing High Potency-Ultra Clean Aluminum Grain Refining and Specialty Master Alloys.” In a section captioned “Summary of the Invention,” the document states:

It is an object of the invention to provide improved grain refiners for aluminum that can be used in processing of aluminum alloy castings which would allow subsequent production of thin sheet, foil, fine wire and other forms without concern for product degradation. Another object of the

¹⁰ A redacted copy is also of record in the Heshmatpour involved application as Exhibit 21 to the Rule 1.608(b) Evidentiary Declaration 1 of Bahman Heshmatpour (Application 09/020,616, Paper 7).

invention is to provide grain refined cast Al alloys free from hard particle that would render such alloys unacceptable and a method to produce such alloys.

Attachment to Paper 53, Process for Manufacturing High Potency-Ultra Clean Aluminum Grain Refining and Specialty Master Alloys, p. 9 (emphasis added).¹¹ The phrase "grain refiner" as used throughout the October 11, 1997, invention disclosure appears to be synonymous with "master alloy." This meaning is supported by a letter from Dr. Heshmatpour to patent attorney Kutzeno dated November 27, 1997. The letter was apparently in response to questions raised by Kutzeno during the preparation of the involved application based upon the October 11 invention disclosure. The question related to the meaning of some phrases appearing in the invention disclosure. In response, Dr. Heshmatpour provides the following definition:

With respect to your questions on a number of definitions, words, etc., I have already incorporated/made proper changes in the text to reflect/clarify those questions. However, here are some answers;

1. Grain refiner: is the master alloy product produced by this invention which is used by the customer (aluminum industry) to grain refine their aluminum alloys.

Attachment to Paper 53, Letter dated November 25, 1997, from Dr. Heshmatpour to Allan N. Kutzeno, p. 1.¹²

The only portion of the document we could find which describes the formation of a cast grain-refined aluminum alloy uses a master alloy in the conventional way:

The invention further provides a grain refined aluminum alloy substantially free of carbides, borides, nitrides, sulfides, and phosphides greater than about 1 micron in diameter, and substantially free from oxides, inclusion and agglomerates. Such grain refined Al alloys are produced by the addition of the claimed grain refining master alloys to a molten mass of aluminum or its alloy. The invention further provides a family of specialty master allow for structural and other applications substantially free from carbides, borides, nitrides, sulfides, and phosphides greater than 1 micron in diameter, and substantially free from oxides inclusions and agglomerates.

¹¹ A redacted copy is also of record in the Heshmatpour involved application as Exhibit 21 to the Rule 1.608(b) Evidentiary Declaration 1 of Bahman Heshmatpour (Application 09/020,616, Paper 7).

¹² A redacted copy is also of record in the Heshmatpour involved application as Exhibit 27 to the Rule 1.608(b) Evidentiary Declaration 1 of Bahman Heshmatpour (Application 09/020,616, Paper 7).

Attachment to Paper 53, Process for Manufacturing High Potency-Ultra Clean Aluminum Grain Refining and Specialty Master Alloys, p. 9 (emphasis added).¹³

The only description we could find which appears to expressly relate to a process of forming an aluminum alloy other than a master alloy is on p. 12 of the document. The document there describes the production of an Al-5%-Mo-3% Si metal matrix composite alloy using gaseous injection. However, this alloy does not include titanium or other grain refining ingredients as required by all the alternatives of the count and does not appear to result in a grain refined alloy.

The October 11, 1997, invention disclosure does not appear to describe a process meeting all the limitations of at least one of the count alternatives and thus is insufficient to prove conception of the invention.

Dr. Heshmatpour has also presented two other documents of interest to conception. Both of these documents appear to describe at least one embodiment meeting all the limitations of the count.

The first document is titled "Preliminary Test Plan for Grain Refiner Development." The document is an attachment to Paper 53.¹⁴ The document bears the date September 29, 1997. The document has two sections. The first section is captioned "Al-0.015% Ti Alloy at 730°C +/- 5°C." The document describes the following steps:

1. Melting aluminum,
2. Adding titanium in the form of titanium salts,
3. Injecting gaseous chlorides including C_2Cl_4 and BCl_3 into the melt while maintaining the bath at 730°C, and
4. Forming sample cones from the alloy for testing.

0.015% titanium is 150 ppm. 730°C is 1346°F. The process described in the document appears to be an embodiment within the scope of the count alternatives of Megy Claims 1, 17, 44 and Heshmatpour Claim 21. With respect to the document, Dr. Heshmatpour testifies:

¹³ A redacted copy is also of record in the Heshmatpour involved application as Exhibit 21 to the Rule 1.608(b) Evidentiary Declaration 1 of Bahman Heshmatpour (Application 09/020,616, Paper 7).

¹⁴ A copy is also of record in the Heshmatpour involved application as Exhibit 18 to the Rule 1.608(b) Evidentiary Declaration 1 of Bahman Heshmatpour (Application 09/020,616, Paper 7).

During this period, I also devised and typed out operating procedures for testing the efficacy of my invention, which included the introduction of gaseous grain refining reactants to a molten aluminum melt. A true and correct copy of these operating procedures, dated September 29, 1997 and entitled Preliminary Test Plan For Grain Refiner Development, are attached hereto and marked as Exhibit 18.

Heshmatpour Declaration, p. 5, ¶ 5(b). While stating that document is “dated” September 29, 1997, Dr. Heshmatpour does not testify as to the date when the document was prepared except with the indefinite statement “during this period.” We interpret this statement to be a reference to Dr. Heshmatpour’s testimony in the paragraph immediately preceding the above-quoted statement that

During a period covering about four (4) weeks immediately subsequent to the execution of the confidentiality agreement

Heshmatpour Declaration, p. 5, ¶ 5(a). Dr. Heshmatpour testifies that the confidentiality agreement was executed on September 7, 1997. Heshmatpour Declaration, p. 4, ¶ 4(c). “[W]here testimony merely places the acts within a stated time period, the inventor has not established a date for his activities earlier than the last day of the period.” Oka v. Youssefyeh, 849 F.2d 581, 584, 7 USPQ2d 1169, 1172 (Fed. Cir. 1988); Haultain v. DeWindt, 254 F.2d 141, 142, 117 USPQ 278, 279 (CCPA 1958). Thus, “about four weeks immediately subsequent to” September 7, 1997, establishes a date for the document of no earlier than October 5, 1997. This date is prior to Megy’s effective filing date of October 16, 1997.

The other document appears to be a nine-page invention disclosure bearing the date October 13, 1997. A corresponding document was apparently not submitted with the § 1.608(b) materials and does not appear to be discussed in Dr. Heshmatpour’s declaration. Dr. Heshmatpour’s brief appears to address this document as Exhibit 41:

Exhibit 41 is my original write up for the in-situ part of my process for the patent application. Both patent write ups were filed with my former attorney, Allen N. Kutzenko during October to November of 1997.

Paper 55, pp. 3-4. The document is titled “In-situ Grain Refining of Aluminum and its Alloys in Molten Metal Processing Systems.” The document appears to relate to a method of grain refining that does not use a master alloy but rather uses in-situ gaseous grain-refining material to form a grain

refined cast aluminum product. The document appears to disclose an embodiment meeting all the limitations of a number of the alternatives of the count.

Neither of these documents are sufficient to corroborate Dr. Heshmatpour's conception. Corroborating evidence must show that the inventor disclosed his conception to others. Jolley, 308 F.3d at 1321, 64 USPQ2d at 1904; Coleman, 754 F.2d at 359, 224 USPQ at 862; Spero, 377 F.2d at 660, 153 USPQ at 732; Fields, 183 F.2d at 601, 86 USPQ at 379. Dr. Heshmatpour has not directed us to, nor could we find, evidence independent of Dr. Heshmatpour's testimony, sufficient to prove that the documents or the subject matter disclosed in these documents were disclosed to others prior to Megy's effective filing date.

As to the test plan, while Dr. Heshmatpour testifies that he shared copies with others, he has not directed us to any independent evidence, nor have we been able to locate any in the record, which tends to show that it was disclosed to others. Indeed, we have been unable to find any other evidence which appears to reference this document.

As to the October 13, 1997 invention disclosure, Dr. Heshmatpour does not provide any testimony. While he argues that it was given to his patent attorney "during October to November of 1997," this statement is argument and not evidence. Even if we took this argument as evidence, it would only prove a date for the document and conception no earlier than the last day of the "October to November" period, November 30, 1997. Oka, 849 F.2d at 584, 7 USPQ2d at 1172; Haultain, 254 F.2d at 142, 117 USPQ at 279. This date is after Megy's effective filing date of October 16, 1997, and therefore could not prove conception prior to Megy's effective filing date.

We have also considered the following documents, to see if they provide evidence that a complete conception of the in-situ process was disclosed to his patent attorney:

1. A letter bearing the date October 16, 1997, from Kutzenko to Dr. Heshmatpour;¹⁵
2. A letter bearing the date October 16, 1997, from Kutzenko to William G. Lane;¹⁶

¹⁵ Attachment to Paper 53. A redacted copy is Exhibit 22 to the Heshmatpour Declaration (Application 09/020,616, Paper 7).

¹⁶ Attachment to Paper 53. A redacted copy is Exhibit 23 to the Heshmatpour Declaration (Application 09/020,616, Paper 7).

3. A letter bearing the date October 23, 1997, from Kutzenco to Dr. Heshmatpour;¹⁷
 4. A letter bearing the date November 10, 1997, from Kutzenco to Dr. Heshmatpour;¹⁸
 5. A letter bearing the date November 20, 1997, from Kutzenco to Dr. Heshmatpour;¹⁹
 6. A letter bearing the date November 25, 1997, from Dr. Heshmatpour to Kutzenco;²⁰
 7. A letter bearing the date January 6, 1998, from Kutzenco to Dr. Heshmatpour;²¹
 8. A letter bearing the date January 7, 1998, from Kutzenco to Dr. Heshmatpour;²²
 9. A letter bearing the date January 12, 1998, from Dr. Heshmatpour to Kutzenco;²³
 10. A letter bearing the date January 27, 1998, from Kutzenco to Dr. Heshmatpour;²⁴
 11. A letter bearing the date February 1, 1998, from Dr. Heshmatpour to Kutzenco;²⁵
 12. A letter bearing the date February 10, 1998, from Kutzenco to Dr. Heshmatpour;²⁶
- and

¹⁷ Attachment to Paper 53. A copy is Exhibit 24 to the Heshmatpour Declaration (Application 09/020,616, Paper 7).

¹⁸ Attachment to Paper 53. A copy is Exhibit 25 to the Heshmatpour Declaration (Application 09/020,616, Paper 7).

¹⁹ Attachment to Paper 53. A redacted copy is Exhibit 26 to the Heshmatpour Declaration (Application 09/020,616, Paper 7).

²⁰ Attachment to Paper 53. A redacted copy is Exhibit 27 to the Heshmatpour Declaration (Application 09/020,616, Paper 7).

²¹ Attachment to Paper 53. A redacted copy is Exhibit 28 to the Heshmatpour Declaration (Application 09/020,616, Paper 7).

²² Attachment to Paper 53. A redacted copy is Exhibit 29 to the Heshmatpour Declaration (Application 09/020,616, Paper 7).

²³ Attachment to Paper 53. A redacted copy is Exhibit 30 to the Heshmatpour Declaration (Application 09/020,616, Paper 7).

²⁴ Attachment to Paper 53. A redacted copy is Exhibit 31 to the Heshmatpour Declaration (Application 09/020,616, Paper 7).

²⁵ Attachment to Paper 53. A redacted copy is Exhibit 32 to the Heshmatpour Declaration (Application 09/020,616, Paper 7).

²⁶ Attachment to Paper 53. A redacted copy is Exhibit 34 to the Heshmatpour Declaration (Application 09/020,616, Paper 7).

13. An undated letter from Kutzenco to Dr. Heshmatpour.²⁷

None of the documents note receipt or the enclosure of the in-situ invention disclosure. From our review of the documents, we can identify only three which arguably make reference to, and thus could indicate that, the "in-situ" process was disclosed to others. The first two are the November 25, 1997, and January 12, 1998, letters from Dr. Heshmatpour to Kutzenco. Both letters make reference to the in-situ process and indicate that it will be the subject of a second application. However, neither expressly mention the October 13 invention disclosure. In any event, since these letters are from Dr. Heshmatpour, they do not provide independent evidence that the October 13, 1997, in-situ invention disclosure was disclosed to others. In addition, even if they are sufficient to prove the necessary disclosure they are dated after Megy's October 16, 1997, effective filing date and would therefore not prove a prior conception by Dr. Heshmatpour.

The remaining reference is the January 27, 1998, letter from Kutzenco to Dr. Heshmatpour. This letter refers to "Draft 4" and includes a listing of areas a) - h) for comment by Dr. Heshmatpour. After the listing, the letter makes the following additional request:

Can you describe your second invention in a short paragraph?

January 27, 1998, letter from Allan N. Kutzenco to Dr. Heshmatpour, p. 2. Presuming that the "second invention" is a reference to the in-situ grain refining process, it is not clear from the question whether Kutzenco was aware of the October 13 invention disclosure or the subject matter described in that document.²⁸

With respect to the October 13, 1997, invention disclosure, we have also considered Paper 15 filed during this interference. This paper was accepted as Dr. Heshmatpour's preliminary statement. It includes Dr. Heshmatpour's explanation of the chronological order of events leading to the filing of his involved application. The chronology includes preparing a fourteen page "patent

²⁷ Attachment to Paper 53.

²⁸ It appears from the record that Dr. Heshmatpour responded to Kutzenco's inquiry with a letter dated February 1, 1998. The record, however, does not include Dr. Heshmatpour's response. The copy of the February 1, 1998, letter submitted as Exhibit 32 to the Heshmatpour Declaration, shows a response was made to each of the areas a) - h). The response to d) and the portion of the response following response h), where the description of the second invention would logically occur, were redacted. The copy of the February 1, 1998 letter submitted as part of Paper No, 53 only includes the first page of the letter. Thus, we are never informed of Dr. Heshmatpour's response.

application” on October 11, 1997, and indicates that “my written patent application” was given to Kutzenco at a meeting on October 13, 1997. We note that the October 11 invention disclosure is fourteen pages including one page of drawings. We, therefore, interpret the reference in the chronology to be a reference to the invention disclosure bearing the date of October 11, 1997. We found above that that disclosure does not describe the in-situ grain refining process. The chronology never mentions anything about another “patent application” or invention disclosure, in particular, the invention disclosure bearing the date October 13, 1997. We find it somewhat peculiar that this important document was not mentioned at all in the chronology.

In total, the evidence is simply too meager to support a finding that the subject matter of the October 13 invention disclosure was disclosed to Kutzenco or to any other person. In any event, even if the letter is sufficient to show disclosure of the alleged conception to others, it would only prove the existence of a conception as of the date of the letter January 27, 1998, which is after Megy’s effective filing date. Oka, 849 F.2d at 584, 7 USPQ2d at 1172; Haultain, 254 F.2d at 142, 117 USPQ at 279.

Dr. Heshmatpour has failed to prove conception prior to Megy’s effective filing date of October 16, 1997. Since proof of conception is a necessary element of derivation, we hold that Dr. Heshmatpour has failed to prove that Megy derived the invention from Dr. Heshmatpour.²⁹

Conclusion

We hold the Dr. Heshmatpour failed to prove either an actual reduction to practice of invention of the count prior to Megy’s effective filing date of October 16, 1997. We also hold that Dr. Heshmatpour has not proved derivation of the subject matter of the count by Megy.

²⁹ Because conception has not been proved, it is unnecessary for us to evaluate whether Dr. Heshmatpour has proved the second component of derivation –communication of the conception to Megy.

ORDER

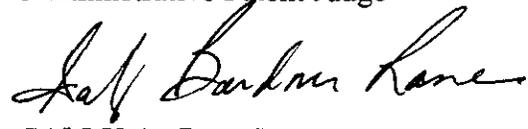
It is -----

ORDERED that judgment on priority as to Count 1, the only count in this interference, is awarded against junior party BAHMAN HESHMATPOUR;

FURTHER ORDERED that junior party, BAHMAN HESHMATPOUR, is not entitled to a patent containing Claims 1-13 and 21-27 of Application 09/020,616;

FURTHER ORDERED that if there is a settlement agreement and it has not already been filed, attention is directed to 35 U.S.C. § 135(c) and 37 CFR § 1.661; and

FURTHER ORDERED that a copy of this decision be given appropriate paper numbers and entered into the file records of Patent 5,935,295 and Application 09/020,616.

)	
RICHARD E. SCHAFER)	
Administrative Patent Judge)	
)	
)	
CAROL A. SPIEGEL)	BOARD OF PATENT
Administrative Patent Judge)	
)	APPEALS AND
)	
SALLY GARDNER-LANE)	INTERFERENCES
Administrative Patent Judge)	

Date:
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