When Is Enough Enough? Reduction to Practice and Summary Judgment During Patent Priority Disputes

R. Douglas Bradley
WHEN IS ENOUGH ENOUGH?
REDUCTION TO PRACTICE AND SUMMARY
JUDGMENT DURING PATENT PRIORITY DISPUTES

R. Douglas Bradley, Ph.D.

Abstract: This Note examines the current U.S. Patent and Trademark Office standards for determining patent priority in an interference proceeding. In particular, this Note reviews and criticizes the procedural rules governing the implementation of summary judgment in an interference. In Schendel v. Curtis, the U.S. Court of Appeals for the Federal Circuit had the opportunity to articulate a clear analytical framework to guide Administrative Patent Judges in the determination of what experimental evidence, and how much of it, a party must present to establish a prima facie showing of reduction to practice. This Note argues that, in an interference proceeding, once a party has argued with particularity that certain evidence is sufficient to establish reduction to practice of the invention in dispute, then the Administrative Patent Judge should explicitly state for the record why that evidence is insufficient. In addition, Administrative Patent Judges should conform to the same summary judgment standards that federal judges use in deciding whether to impose summary judgment against a non-moving party: all inferences drawn from underlying facts should be viewed in the light most favorable to the party against whom summary judgment is being applied.

As the only major industrial country in the world that operates with a first-to-invent patent priority rule, the United States is under increasing pressure to harmonize its patent practices with the rest of the industrialized world. This has caused much discussion of the pros and cons of converting the U.S. patent priority system from a first-to-invent rule to one in which priority is determined solely by which inventor is the first to file a patent application with the U.S. Patent and Trademark Office (PTO). Implicit in the structure of a first-to-invent patent system is the need for a procedural mechanism to resolve the inevitable priority disputes that arise when more than one inventor lays claim to the same invention. The U.S. patent statutes allow for such disputes and authorize

1. Kim Taylor, Patent Harmonization Treaty Negotiations on Hold: The “First to File” Debate Continues, 20 J. Contemp. L. 521, 521 (1994). In patent law the term “priority” means the party who has proved first invention. In a first-to-file patent system, the party who is first to apply for a patent establishes priority for the described invention. In contrast, under the U.S. first-to-invent patent priority system, the party who can establish that it was the first to invent a claimed invention has patent priority. Robert P. Merges, Patent Law and Policy: Cases and Materials 32 (1992).
interference proceedings to determine patent priority. However, a recent Federal Circuit Court of Appeals case, *Schendel v. Curtis*, directly implicates the issue of whether PTO interference proceedings using summary judgment have adequate procedural safeguards to ensure that priority disputes in highly technical arts, such as biotechnology, are resolved fairly.

One argument frequently offered in favor of the first-to-invent priority rule is that it is inherently fairer than a first-to-file rule. In theory, a first-to-invent priority system awards patents based upon the actual time that an invention is made, thus allowing an individual inventor who might not have the time or financial resources to file a patent application immediately a period of time in which he or she may still file and defeat the claim of a later inventor who has beaten the first inventor to the patent office. However, this contention is predicated upon the notion that the PTO rules and procedures for resolving interferences are themselves fair and efficient. Thus, one of the primary responsibilities of the Administrative Patent Judge (APJ) who adjudicates an interference proceeding is to determine the date on which an invention was first conceived and reduced to practice.

Given that many inventions occur in highly sophisticated scientific and technical fields, it is important to ensure that the APJ has fairly and completely evaluated all submitted evidence pertaining to the moment of

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3. A patent interference is the adjudicative proceeding administered by the PTO to determine inventorship priority. It may be instigated by either the PTO or by inventors who have independently submitted patent applications for the same invention. See 35 U.S.C. § 135 (1994) ("The Board of Patent Appeals and Interferences shall determine questions of priority of the inventions . . . ."); U.S. Patent & Trademark Office, *Manual of Patent Examining Procedure* § 2300.01, at 2300-1 to 2300-4 (6th ed. rev.1 1995) [hereinafter MPEP]; see also infra notes 57-83 and accompanying text.

4. Appellate jurisdiction over all cases involving claims under patent statutes and PTO rules and regulations resides exclusively with the Court of Appeals for the Federal Circuit. The Federal Circuit was created in 1982 by joining the Court of Customs and Patent Appeals and the Court of Claims to provide more consistent appellate review of cases involving interpretation of patent law. Donald S. Chisum & Michael A. Jacobs, *Understanding Intellectual Property Law* § 2B[6], at 2-17 to 2-18 (1992).

5. 83 F.3d 1399 (Fed. Cir. 1996).

6. See Donohue, supra note 2, at 772–75.


8. Conception and reduction to practice are patent terms of art used to determine the time at which an inventor first makes an invention. See 35 U.S.C. § 102(g) (1994). Conception embodies the mental aspect of inventorship or the solving of a problem by the creation of a tangible means of solving or carrying out the idea. Townsend v. Smith, 36 F.2d 292, 295 (C.C.P.A. 1929). Reduction to practice occurs when an inventor builds an embodiment of the invention and tests it to determine that it will be operable in its intended functional setting. Kimberly-Clark Corp. v. Johnson & Johnson, 745 F.2d 1437, 1445 (Fed. Cir. 1984). See infra Part I.B.
invention. In Schendel, the Federal Circuit affirmed the Board of Patent Appeals and Interferences' (Board) decision that an APJ had properly used summary judgment to find that Schendel had failed, as a matter of law, to provide sufficient experimental evidence to establish a prima facie case of reduction to practice of a biotechnological invention. However, given the technical evidence offered by Schendel in support of reduction to practice, the Federal Circuit decision is hard to reconcile with either the summary judgment standard used in federal courts or the record formation requirements implicit in the statutory authorization of appellate review by the Federal Circuit.

The Schendel decision highlights one of the main faults with the current reduction to practice standards—the lack of clarity concerning how much and what kind of evidence a junior party must present to establish a prima facie case of reduction to practice. Because of the difficulty in determining when reduction to practice of an invention has occurred, it is critical that APJs be required to examine fully all of the evidence put forward by junior parties in support of priority and to develop a full record of their factual findings concerning the submitted evidence. This is particularly true when an APJ intends to dispose of an interference by summary judgment. The Schendel decision raises serious questions of whether the PTO's interference summary judgment standard fairly protects a junior party's interest in obtaining a full evidentiary hearing of his or her priority assertion. This in turn suggests that the U.S. first-to-invent system might not offer as much fairness to inventors as its proponents suggest it does.

9. In a patent interference dispute, the junior party has the initial burden of providing the PTO judge with:

(1) evidence which may consist of patents or printed publications, other documents, and one or more affidavits which demonstrate that [the] applicant is prima facie entitled to a judgment relative to the patentee and (2) an explanation stating with particularity the basis upon which the applicant is prima facie entitled to the judgment.

37 C.F.R. § 1.608(b) (1996).

10. Schendel, 83 F.3d at 1404.


12. While the summary judgment standard used in patent interference is similar to that used in federal courts, the standard is significantly different in one respect: there is no requirement that inferences be drawn in favor of the party against whom summary judgment is being applied. See infra notes 80–83, 153–86 and accompanying text.

This Note argues, first, that APJs, in deciding interference disputes by summary judgment, should be required to specifically state for the record any defects in the experimental evidence submitted by a junior party. Second, APJs also should be required to adhere to the same summary judgment standards utilized in federal courts: "the evidence of the non-movant is to be believed, and all justifiable inferences are to be drawn in his favor." Part I reviews the statutory requirements of the U.S. patent system, the process of determining patent priority through interference proceedings, and the burden of proof that must be met to establish reduction to practice. Part II provides an overview of the Schendel v. Curtis priority dispute. Part III analyzes the Federal Circuit's reasoning in Schendel and discusses why adopting the federal court summary judgment standard would more fairly promote and protect the first-to-invent priority rule.

I. THE FIRST-TO-INVENT PATENT SYSTEM AND THE DETERMINATION OF PATENT PRIORITY

The PTO serves as the public's representative to insure that parties seeking to obtain patents meet all of the statutory requirements delineated by Congress. From the outset, the United States has awarded patents to inventors if they could establish that they were the first to discover a new and useful invention. The determination of inventorship priority is facilitated by the explicit statutory declaration of the criteria by which the date of invention is to be determined. However, problems easily arise in the application of such criteria when judges are placed in the position of reviewing highly technical documents pertaining to what is necessarily a hindsight determination of the moment of invention. Thus, there is a clear need for procedural guidelines to safeguard the rights of parties involved in patent priority disputes.

16. See generally Pritchard, supra note 2, at 292–99 (providing short history of U.S. patent statutes and first-to-invent requirements). Pritchard notes that the very first patent statutes, enacted in 1790, authorized the PTO to grant patents only to the first true inventor of a particular invention. Id. at 294.
17. 35 U.S.C. § 102(g). Section 102(g) requires the PTO to consider dates of conception and reduction to practice of an invention and, under some circumstances, the reasonable diligence of an inventor in pursuing his or her inventive activities to completion by filing a patent application. See infra notes 37–40 and accompanying text.
Reduction to Practice and Patent Priority

A. U.S. Patent Statutes

The U.S. Constitution authorizes Congress to enact patent statutes. The fundamental purpose of the U.S. patent system is to promote scientific and technological innovations by allowing limited monopolies on the use of an invention in exchange for early and complete disclosure to the public. In essence, patents are issued as the result of the formation of a "public policy" contract between the patentee and the general public.

Currently, four key statutes detail the patentability requirements that an inventor must meet when preparing and submitting a patent application to the PTO. First, an inventor is entitled to a patent only if the claimed invention pertains to certain subject matters and is useful. Second, an application must be submitted within the statutorily specified time, and the claimed invention must be novel. Third, patents are only

18. See U.S. Const. art. I, § 8, cls. 8, 18. The Constitution provides:

The Congress shall have Power... [8] To promote the Progress of Science and useful Arts, by securing for limited Times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries; ... [and] [18] To make all Laws which shall be necessary and proper for carrying into Execution the foregoing Powers...

Id.


20. See Bonito Boats, 489 U.S. at 150–51 ("The federal patent system... embodies a carefully crafted bargain... In consideration of [an invention's] disclosure and the consequent benefit to the community, the patent is granted.").

21. After submission of a patent application, it is assigned to a patent examiner who has some expertise in the technical field of the invention described by the applicant. The examiner then searches for prior patents and other publications ("prior art") in the field of the invention and determines if the invention as claimed meets the other statutory requirements for patentability.

22. Section 101 of the patent statutes provides: "Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title." 35 U.S.C. § 101 (1994).

23. Section 102(b) sets forth statutory bars to patentability that are specific to the behavior of the inventor with regard to use or public disclosure of the invention more than one year prior to the patent application. 35 U.S.C. § 102(b) (1994). As explained by Professor Merges, "[Section] 102(a) events bar the patent because the inventor was not first, and § 102(b) events bar a patent because the inventor did not apply for a patent soon enough." Merges, supra note 2, at 163.

24. While § 101 provides that an invention must be new in order to be patentable, it is § 102(a) that explicitly requires an invention to be novel at the time of invention. That is, the invention must not have been "known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for patent." 35 U.S.C. § 102(a) (1994). This is a major distinction from a first-to-file patent system, which determines novelty based upon what is known at the time a patent application is filed. Thus, the
awarded for inventions that are considered to be nonobvious to other persons having ordinary skill in the technical field pertaining to the invention.\(^\text{25}\) Lastly, a submitted patent application must contain written information and drawings describing the invention, how it was made, and the best mode known to the inventor for practicing the invention, sufficient to enable a person skilled within the field to make and use the invention.\(^\text{26}\)

Even if a patent application meets all of the patentability requirements, an applicant may still lose the right to a patent if other inventors are able to prove that they made the invention first.\(^\text{27}\) Section 102(g) of the patent statutes mandates that a patent is only awarded to the inventor who is the first to invent, rather than first to submit a patent application to the PTO.\(^\text{28}\) Thus, in addition to requiring that patents be awarded based upon who is the first to invent, section 102(g) also specifies the criteria to be considered by the PTO in determining patent priority: the dates of conception and reduction to practice.

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first-to-file priority rule provides a strong incentive to an inventor to file a patent application as early as possible.

The body of worldwide knowledge in any technical field, whether it exists in patents, publications, products on sale to the public, or methods in common usage, comprises what is termed "prior art." Sections 102(a), (b), (e), and (g) specify what prior art is for purposes of determining novelty. See Chisum & Jacobs, \textit{supra} note 4, § 2C[5][a], at 2-83 to 2-85.

25. 35 U.S.C. § 103 (1994). What is nonobvious to a person skilled in the art is also determined by reference to the prior art and whether a skilled person, upon consideration of the prior art, would view the invention as obvious. Prior art for the purposes of determining obviousness is not explicitly defined in § 103, but generally it includes all of the prior art used for the determination of invention novelty. \textit{See generally} Chisum & Jacobs, \textit{supra} note 4, § 2C[5][a], at 2-83 to 2-85 (discussing determination of prior art in context of §§ 101, 103).


27. 35 U.S.C. § 102(g) (1994). Specifically, § 102(g) states:

A person shall be entitled to a patent unless . . . before the applicant's invention thereof the invention was made in this country by another who had not abandoned, suppressed, or concealed it. In determining priority of invention there shall be considered not only the respective dates of conception and reduction to practice of the invention, but also the reasonable diligence of one who was first to conceive and last to reduce to practice, from a time prior to conception by the other.

35 U.S.C. § 102(g).

B. Conception, Diligence, and Reduction to Practice

Normally, the date of invention is considered to be the date on which the PTO receives a patent application.29 If the PTO determines that substantially the same invention is claimed by multiple inventors, the focus shifts from the date of filing to the date of invention. The PTO may then declare an interference to resolve the issue of which inventor made the invention first.

Once the PTO has declared an interference, the PTO must decide which inventor has priority to the invention described by the interference count.30 An interference “count” is the term used by the PTO to describe the inventive subject matter for which the priority is in dispute. The junior party to an interference has the burden of establishing that it was in possession of the invention before the senior party.31 In an interference proceeding, the party who has the earliest effective patent filing date is called the “senior party.” Any other party involved with an interference has a later patent filing date and is referred to as a “junior party.”32 For purposes of an interference, an invention is in the possession of an inventor when the inventor has both conceived and reduced to practice the disputed invention.33 Thus, the junior party must establish dates of actual conception and reduction to practice that are earlier than the senior party’s constructive date of invention (the date upon which the senior party filed a patent application).34

An invention is conceived when its inventor formulates a definite and permanent idea of all of the features and limitations recited in a patent application’s claims.35 Although conception of an invention is subjective,

29. An inventor may also claim U.S. patent priority based upon the date of filing of a patent application in a foreign country. 35 U.S.C. § 119 (1994). However, a foreign inventor must file for the corresponding patent in the United States within one year of the foreign filing. An applicant claiming benefit of a foreign application has the burden of proving entitlement to the benefit of the earlier-filed foreign application by demonstrating that the foreign patent specification meets the three requirements contained in the first paragraph of 35 U.S.C. § 112. See Fiers v. Revel, 984 F.2d 1164, 1169 (Fed. Cir. 1993).

30. See Chisum & Jacobs, supra note 4, § 2D[5][h][i], at 2-94.

31. Oka v. Youssefeyeh, 849 F.2d 581, 584 (Fed. Cir. 1988) (holding that junior party is required to establish reduction to practice or conception before filing date of senior party, and that in event of tie, priority must be awarded to senior party).


34. 35 U.S.C § 135 (1994).

35. This standard of conception was first articulated in Mergenthaler v. Scudder, 11 App. D.C. 264 (D.C. Cir. 1897), and adopted by the U.S. Court of Customs and Patent Appeals in Gunter v. Stream, 573 F.2d 77 (C.C.P.A. 1978).
courts have added an objective component by requiring that an inventor show independent corroborating evidence of conception. If an inventor can further establish diligent behavior in developing an invention, from the time of conception through reduction to practice and the filing of a patent application, then the inventor will be entitled to the date of conception as the earliest possible patent priority date.  

Due diligence in the pursuit of patent protection is required after conception to encourage inventors to promptly put their inventions into a workable form and disclose them to the public in the form of an application. Failure to show reasonable diligence in reducing an invention to practice will preclude inventors from later asserting priority based upon the date of conception. Tardy inventors may, however, still establish a priority date based upon the date they actually began to diligently reduce the invention to practice. Diligent activity is any inventor behavior that is directed towards reduction to practice.  

There are two kinds of reduction to practice: constructive and actual. Constructive reduction to practice is accomplished by filing a patent application containing a full disclosure of the invention. The invention

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The conception of an invention consists in the complete performance of the mental part of the inventive act. All that remains to be accomplished in order to perfect the act or instruments belongs to the department of construction, not invention. It is therefore the formation in the mind of the inventor of a definite and permanent idea of the complete and operative invention as it is thereafter to be applied in practice that constitutes an available conception within the meaning of the patent law.

Id. at 80 (quoting Mergenthaler, 11 App. D.C. at 276); see also Coleman v. Dines, 754 F.2d 353, 359 (Fed. Cir. 1985); Hebard v. Burton, 333 F.2d 239, 243 (C.C.P.A. 1964). See generally Chisum & Jacobs, supra note 4, § 2D[5][e], at 2-186 to 2-187 (discussing law of conception).

36. An inventor must have disclosed, at least one non-inventor, sufficient information about the invention to allow a person of ordinary skill in the art to build and use the invention without extensive research or experimentation. Burroughs Wellcome Co. v. Barr Lab., Inc., 40 F.3d 1223, 1228 (Fed. Cir. 1994), cert. denied, 116 S. Ct. 771 (1996); see also Coleman, 754 F.2d at 359; Field v. Knowles, 183 F.2d 593, 601 (C.C.P.A. 1950).

37. See Chisum & Jacobs, supra note 4, § 2D[5][e], at 2-189 to 2-191.

38. Id.


40. Griffith v. Kanamaru, 816 F.2d 624, 626-28 (Fed. Cir. 1987) (discussing examples of reasonable diligence); In re Nelson, 420 F.2d 1079, 1081 (C.C.P.A. 1970) (holding that although inventor need not demonstrate constant effort, two-month delay must be explained); Hull v. Davenport, 90 F.2d 103, 105 (C.C.P.A. 1937) (holding that reasonable diligence may be shown by affirmative acts, acceptable excuses, or reasons for failure to act).

41. Chisum & Jacobs, supra note 4, § 2D[5][d], at 2-88.

42. A valid disclosure must meet the requirements delineated in 35 U.S.C. § 112; that is, it must provide sufficient information about the invention to "enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same." 35 U.S.C. § 112.
Reduction to Practice and Patent Priority

description and examples contained within the application are considered sufficient to establish the priority date as the date on which the patent application was filed.\(^\text{43}\) Actual reduction to practice is achieved when an inventor builds a version of the invention and performs tests to determine whether it operates within the functional environment as planned.\(^\text{44}\) Inventors need not show that the invention is ready for commercial development; they just must show that their inventive concept will probably work.\(^\text{45}\) Determination of whether actual reduction to practice has occurred is a question of law.\(^\text{46}\) On appeal, courts review determinations of actual reduction to practice de novo\(^\text{47}\) and review the PTO's underlying factual findings for clear error.\(^\text{48}\)

Historically, biotechnology and biological sciences are classified as "unpredictable" arts from a patenting point of view.\(^\text{49}\) One important ramification of an art being deemed unpredictable is that inventors may only submit evidence of reduction to practice to establish a priority date for interference purposes. Evidence relating to the time of conception

(1994). See also Travis v. Baker, 137 F.2d 109, 111 (C.C.P.A. 1943) (holding that to comply with doctrine of constructive reduction to practice, specification must be for same invention and contain disclosure of invention that is sufficient to enable one skilled in art to practice invention).

43. A senior party who submits no other evidence of invention priority is confined to his or her filing date for conception of the invention and its constructive reduction to practice. See Weil v. Fritz, 572 F.2d 856, 865 n.16 (C.C.P.A. 1978); Travis, 137 F.2d at 110.

44. Newkirk v. Lulejian, 825 F.2d 1581, 1583 (Fed. Cir. 1987) (explaining that actual reduction to practice requires more than theoretical capability; it requires that apparatus exist and work for its intended purpose); Kimberly-Clark Corp. v. Johnson & Johnson, 745 F.2d 1437, 1445 (Fed. Cir. 1984) ("[R]eduction to practice requires that an invention be sufficiently tested to demonstrate that it will work for its intended purpose.").

45. Scott v. Finney, 34 F.3d 1058, 1061 (Fed. Cir. 1994) ("Reduction to practice does not require that the invention, when tested, be in a commercially satisfactory stage of development.") (citations omitted).


47. Id.


49. See generally Jackie Hutter, Note, A Definite and Permanent Idea? Invention in the Pharmaceutical and Chemical Sciences and the Determination of Conception in Patent Law, 28 J. Marshall L. Rev. 687 (1995). See also Amgen, Inc. v. Chugai Pharm. Co., 927 F.2d 1200, 1206–07 (Fed. Cir. 1991) ("Based on the uncertainties of the method and lack of information concerning the amino acid sequence of the EPO protein ... neither party had an adequate conception of the DNA sequence until reduction to practice had been achieved ...."); Rey-Bellet v. Engelhardt, 493 F.2d 1380, 1387 (C.C.P.A. 1974) (explaining that unpredictable response human subject might exhibit dictates that considerable preliminary testing in animals be done); Smith v. Bousquet, 111 F.2d 157, 159–63 (C.C.P.A. 1940) (agreeing with PTO's determination that in experimental sciences of chemistry and biology, conception of invention is unpredictable and cannot occur until experimental results are obtained that reduce invention to practice).
will not be considered because, in unpredictable fields, conception of an inventive idea is too speculative to deserve the awarding of patent priority. This suggests that the doctrine of simultaneous conception and reduction to practice requires inventors to establish that their inventions actually work as originally conceived before priority may be established. One of the policy considerations motivating the doctrine of simultaneous conception and reduction to practice is the prevention of patent priority being determined by claims of conception that are nothing more than "a general goal or research plan." Therefore, in highly unpredictable arts, inventions are simultaneously conceived and reduced to practice when inventors successfully perform the necessary experiments to prove feasibility.

Recently, the Federal Circuit explicitly declined to apply the doctrine of simultaneous conception and reduction to practice to all experimental arts. In *Burroughs Wellcome Co. v. Barr Laboratories, Inc.*, the court refused to invoke the doctrine to decide an appeal from a patent infringement judgment concerning the HIV drug AZT. The court stated that conception may fail to establish the moment of invention, not because a particular field is inherently unpredictable, but because in such fields conception is usually incomplete absent reduction to practice. In recent years the Federal Circuit has only invoked the doctrine of simultaneous conception and reduction to practice to resolve priority disputes centered upon biotechnology gene sequence inventions.

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50. See generally Hutter, *supra* note 49; Chisum & Jacobs, *supra* note 4, § 2D[5][c], at 2-187 to 2-189.


52. *Burroughs Wellcome Co. v. Barr Lab., Inc.*, 40 F.3d 1223, 1228 (Fed. Cir. 1994) ("An idea is definite and permanent when the inventor has a specific, settled idea, a particular solution to the problem at hand, not just a general goal or research plan he hopes to pursue."); *Fiers v. Revel*, 984 F.2d 1164, 1169 (Fed. Cir. 1993) (noting that policy behind patent statutes is to promote public disclosure of inventions, not research plans).

53. In *Bousquet*, the Court of Customs and Patent Appeals explicitly adopted the doctrine of simultaneous conception and reduction to practice. See *Bousquet*, 111 F.2d at 139–64.


55. *Burroughs Wellcome*, 40 F.3d at 1229.

56. *Amgen, Inc. v. Chugai Pharm. Co.*, 927 F.2d 1200, 1206 (Fed. Cir. 1991) (holding that when inventor is unable to envision gene so as to distinguish it from other materials, as well as method for obtaining it, conception has not been achieved until reduction to practice has occurred, i.e., until after gene has been isolated).
C. Resolution of Priority Through Interference Proceedings

An interference is an adjudicative proceeding administered by the Board under a complex set of regulations. During an interference, an APJ must determine which inventor has the earliest documented date of invention. The preparation and filing of initial motions and preliminary statements are very important in setting forth the evidence that will determine the outcome of the interference. Prior to reaching an interference “trial” with its attendant discovery provisions, however, junior parties must make an evidentiary showing that they are “prima facie entitled to a judgment.”

1. Declaration of Interference

If a PTO examiner, while examining a pending application for patentability, discovers that another patent application or unexpired patent contains claims corresponding to the same invention described in the application under review, the examiner is authorized to declare an interference. While the primary purpose of an interference is to determine invention priority, the APJ is also authorized to resolve patentability questions. If applicants discover on their own that a recently issued patent claims the same invention described in their patent application, they may also provoke an interference by incorporating into their

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57. Conservolite, Inc. v. Widmayer, 21 F.3d 1098, 1100 (Fed. Cir. 1994) ("Interference practice is highly arcane and specialized, and complicating the situation is the fact that the PTO changed its rules fairly recently."). See generally Chisum & Jacobs, supra note 4, § 2D[5], at 2-194 to 2-201 (explaining interference procedure).
59. See generally Chisum & Jacobs, supra note 4, § 2D[5][h], at 2-194 to 2-201.
60. Unlike a regular civil trial, the discovery process in a patent interference is limited, although the APJ has the discretion to order additional discovery. See 37 C.F.R. § 1.687 (1996).
61. 37 C.F.R. § 1.608(b) (1996); see also infra notes 80–83 and accompanying text.
62. See supra notes 21–28 and accompanying text.
63. Specifically, the PTO examiner, in comparing two sets of claims to substantially the same invention, defines one or more “counts” that specifically delineate the interfering subject matter. 37 C.F.R. § 1.601(f) (1996); see also In re Van Geuns, 988 F.2d 1181, 1184 (Fed. Cir. 1993) ("The count of an interference is merely the vehicle for contesting the priority of invention and determining what evidence is relevant to the issue of priority.").
64. 35 U.S.C. § 135 (1994); 37 C.F.R. § 1.601(i) (1996); MPEP, supra note 3, § 2300.01, at 2300-1 to 2300-4. For example, the PTO rules allow an interference party to file motions contesting the patentability of an opponent’s claim. See 37 C.F.R. § 1.633(a) (1996).
65. If the interference is with an unexpired patent, the patent must not have issued more than one year before the filing of the interfering patent application. 35 U.S.C. § 135(b).
application a claim to subject matter that is substantially the same as that claimed in a previously-issued patent.66

In determining patent priority, APJs are under a statutory mandate to consider "not only the respective dates of conception and reduction to practice of the invention, but also the reasonable diligence of one who was first to conceive and last to reduce to practice, from a time prior to conception by the other."67 Thus, key to the resolution of invention priority is the determination of which party first conceived and reduced to practice the invention. In unpredictable arts, such as biotechnology, the doctrine of simultaneous conception and reduction to practice is in force, and the inquiry is focused solely on the date of constructive or actual reduction to practice.68

2. Establishment of Priority Based Upon Actual Reduction to Practice

To establish actual reduction to practice of an invention, the junior party has the burden of proving that the embodiment relied upon as evidence of reduction to practice actually worked for its intended purpose.69 An embodiment is any physical manifestation that falls within the inventive concept or principle as described by the patent claim.70 Thus, to show reduction to practice, inventors need only demonstrate that they have created one embodiment. However, that embodiment must be shown to have incorporated every limitation of the interference count.71 These requirements are consistent with the policy of not rewarding patent protection to inventors who have not met all of the patentability statutes.72 To award patent priority based upon the reduction of practice of an embodiment that is itself outside of the described invention would be unfair to the senior party and a fraud upon the public.

The applicable standard of proof to be used by the PTO in assessing whether a party has presented sufficient evidence to demonstrate actual

67. 35 U.S.C. § 102(g) (1994); see also supra note 27.
68. See supra notes 49–56 and accompanying text.
69. Wiesner v. Weigert, 666 F.2d 582, 588 (C.C.P.A. 1981) (explaining that "invention is not reduced to practice until its practicability or utility is demonstrated pursuant to its intended purpose").
70. See Merges, supra note 1, at 11.
71. Hahn v. Wong, 892 F.2d 1028, 1032 (Fed. Cir. 1989); Newkirk v. Lulejian, 825 F.2d 1581, 1582 (Fed. Cir. 1987) ("Every limitation of the interference count must exist in the embodiment and be shown to have performed as intended.").
72. See supra notes 21–28 and accompanying text.
reduction to practice depends upon the facts giving rise to the interference. When an interference is between a senior party’s patent that has issued from an application that was originally pending at the same time as the junior party’s application, then the applicable standard of proof for conception, diligence, and reduction to practice is preponderance of the evidence.73 This standard requires the fact finder “to believe that the existence of a fact is more probable than its nonexistence before [he or she] may find in favor of the party who has the burden to persuade the [judge] of the fact’s existence.”74 In contrast, when an interference is declared based upon an application that was filed to provoke an interference with a patent that has already issued, then the junior party is required to prove his or her invention date based upon clear and convincing evidence.75 This heightened standard of proof is premised on society’s interest in protecting patents that have already issued.76

Even after inventors have presented sufficient evidence based upon their own testimony to establish reduction to practice, they are also required to provide independent corroborating evidence.77 Evidence of corroboration may consist of witness testimony (other than that of the inventor) or any other evidence of the facts and circumstances concerning the reduction to practice, which is independent of the information received from the inventor.78 The primary purpose of corroboration is to prevent fraud.79

3. Interference Summary Judgment

The failure of junior party inventors to provide sufficient evidence to the PTO to support their prima facie case of reduction to practice may result in the APJ declaring summary judgment for the senior party,

74. Id. at 542 (citing In re Winship, 397 U.S. 358, 371–72 (1970) (Harlan, J., concurring)) (alterations in original).
75. Id. at 541; Price v. Symsek, 988 F.2d 1187, 1194 (Fed. Cir. 1993).
76. This societal interest is “derived from the statutory presumption that an issued patent is valid.” Price, 988 F.2d at 1193. See generally Warren M. Haines II, Recent Decisions, 32 Duq. L. Rev 149 (1993) (reporting and explaining Price and its effect on interference practice).
77. Hahn v. Wong, 892 F.2d 1028, 1032 (Fed. Cir. 1989); Lacotte v. Thomas, 758 F.2d 611, 613 (Fed. Cir. 1985); Coleman v. Dines, 754 F.2d 353, 359 (Fed. Cir. 1985); 37 C.F.R. § 1.608(b) (1996).
thereby terminating the interference process at an early stage.\textsuperscript{80} If, in the opinion of the APJ, the evidence submitted by a junior party in support of an actual reduction to practice\textsuperscript{81} fails to show that the junior party is prima facie entitled to a judgment relative to the senior party, the APJ shall, concurrent with declaring an interference, enter an order stating the reasons for the opinion and directing the junior party to show cause why summary judgment should not be entered against the junior party.\textsuperscript{82} PTO rules further state that the APJ or the Board "shall decide whether the evidence submitted... shows that the [junior party] is \textit{prima facie} entitled to a judgment relative to the [senior party]."\textsuperscript{83} However, the PTO rules do not further state what evidentiary standards APJs are to apply in considering junior parties' submitted evidence of reduction to practice.

II. OVERVIEW OF \textit{SCHENDEL v. CURTIS}

In \textit{Schendel v. Curtis}, the Federal Circuit Court of Appeals upheld a summary judgment entered by the Board for the senior party, Curtis.\textsuperscript{84} Schendel claimed in his appeal, inter alia, that the Board had applied the wrong standard of proof for the evidentiary showing required to establish a prima facie case of reduction to practice of a fusion protein invention.\textsuperscript{85}

\textbf{A. Facts}

The senior party, Curtis, is the holder of U.S. Patent 5,073,627, which issued on December 17, 1991, with an accorded priority date of August 22, 1989.\textsuperscript{86} The junior party, Schendel, submitted a patent application that was given a priority date of August 29, 1990.\textsuperscript{87} The PTO declared an interference based upon substantially similar claims within the Curtis patent and the Schendel patent application. The only count in the interference read:

\begin{itemize}
\item \textsuperscript{80} 37 C.F.R. § 1.617(a) (1996).
\item \textsuperscript{81} 37 C.F.R. § 1.608(b); \textit{see also supra} note 9.
\item \textsuperscript{82} 37 C.F.R. § 1.617(a). If the APJ determines that the junior party is \textit{prima facie} entitled to a judgment relative to the senior party, then the interference proceeds in the normal manner under PTO regulations. \textit{See} 37 C.F.R. § 1.617(a).
\item \textsuperscript{83} 37 C.F.R. § 1.617(g) (1996).
\item \textsuperscript{84} Schendel v. Curtis, 83 F.3d 1399, 1400 (Fed. Cir. 1996).
\item \textsuperscript{85} \textit{Id.} at 1402; Brief for Appellant Paul Schendel at 14–15, \textit{Schendel} (No. 95-1329) [\textit{hereinafter} Brief for Appellant].
\item \textsuperscript{86} \textit{Schendel}, 83 F.3d at 1400.
\item \textsuperscript{87} \textit{Id.}
1. A fusion protein of the formula IL-3/X or X/IL-3 substantially free from association with other proteinaceous materials, wherein X is a hematopoietin selected from the group consisting of G-CSF and GM-CSF, and wherein IL-3 and X are linked either directly or through a peptide linker.  

IL-3, G-CSF, and GM-CSF are the names given to natural lymphokine proteins found in humans. Purified forms of these proteins independently stimulate the immune system in ways that were thought to have therapeutic value in the treatment of a variety of immune disorders. The interference count describes fusion proteins that are created when two different lymphokine proteins are joined together to form a single fusion protein.

The fusion proteins at issue in Schendel were produced by both parties through the manipulation of previously cloned and sequenced human genes that encode the lymphokine proteins. Using recombinant DNA methods, the DNA encoding two of the proteins were fused together to form a single fusion gene that directs the synthesis of a fusion protein that has the biological activity of both of the independent lymphokines. The inventive hope for the creation of such fusion proteins was that the new bi-functional lymphokines would have greater efficacy as therapeutic agents in the treatment of immune disorders than that observed when each constituent protein is provided alone, or, when the two separate proteins are administered simultaneously.

In compliance with interference requirements, Schendel submitted an inventor declaration, five corroborating declarations, supporting laboratory notebook entries, and an explanation stating the basis upon which he believed that he was entitled to judgment because his evidence
demonstrated reduction to practice prior to Curtis's effective date. In essence, Schendel's evidence of reduction to practice relied upon documentation that he had constructed an IL-3/G-CSF fusion gene of a known DNA sequence, expressed this fusion gene in bacteria, and then demonstrated that protein extracts from these bacteria contained biological activity that was only consistent with the presence of both protein activities on one protein molecule.

On the basis of Schendel's evidence, an APJ declared an interference but also issued an order for Schendel to show cause why summary judgment should not be entered against him. The APJ cited two deficiencies with Schendel's submissions to the PTO: first, there was insufficient corroboration of Schendel's alleged reduction to practice; and second, Schendel's evidence of reduction to practice failed to prove that he was in possession of the invention as it was described in the interference count.

PTO rules declare that summary judgment may only be entered by the Board. A Board, composed of the original APJ and two other APJ's, reviewed the case and entered summary judgment against Schendel. The Board, citing the APJ's original findings extensively, stated that Schendel had not provided sufficient proof that he had accomplished an actual reduction to practice of the invention that met all the limitations of the count. The Board specifically noted Schendel's failure to provide direct experimental evidence that the IL-3 and G-CSF constituents of the fusion protein were "linked either directly or through a peptide linker." Quoting the original show cause order, the Board supported its conclusion by noting that a protein assay cannot be used to "provide

95. Schendel v. Curtis, 83 F.3d 1399, 1401 (Fed. Cir. 1996); Joint App. (Order to Show Cause) at A23.
96. The IL-3 and G-CSF genes were well characterized in that they had both previously been isolated from human chromosomal DNA, and their entire DNA nucleotide sequences had been determined and disclosed to the public. Knowing the DNA sequence allows one to use the genetic code to translate the DNA sequence into a predicted protein sequence for the two proteins. Brief for Appellant at 9, Schendel (No. 95-1329).
97. Schendel, 83 F.3d at 1401.
98. Id. at 1409 (Newman, J., dissenting); Brief for Appellant at 39-40.
99. Schendel, 83 F.3d at 1401.
100. Id. at 1401-02.
101. 37 C.F.R. § 1.617(g) (1996) ("If the applicant is not prima facie entitled to a judgment relative to the patentee, the Board shall enter a final decision granting summary judgment against the applicant.").
102. Schendel, 83 F.3d at 1402.
103. Joint App. (Final Decision) at A11, Schendel (No. 95-1329).
sufficient chemical structure or other sufficient characteristics such that one of ordinary skill in the art could distinguish the protein from other materials and ascertain the protein's structure." One member of the Board dissented, arguing that the majority had applied too high a burden of proof.

B. The Federal Circuit's Decision and Reasoning

In a split decision, the Federal Circuit upheld the Board's summary judgment that Schendel had not presented sufficient evidence to establish a prima facie case of actual reduction to practice. The majority decision only peripherally discussed the Board's conclusion that Schendel had also failed to provide proof of corroboration of his alleged reduction to practice. However, the court declined to reach this part of Schendel's appeal, instead agreeing with the Board that Schendel had never established a prima facie showing of actual reduction to practice.

Without noting what standard of proof was required, the Federal Circuit stated that Schendel had the burden to prove that he had prepared a fusion protein meeting every limitation of the count. The court further noted that "every limitation of the interference count must exist in the embodiment and be shown to have performed as intended." Furthermore, "[t]o establish reduction to practice of a chemical composition, it is sufficient to prove 'that the inventor actually prepared the composition and knew it would work.'"

The Schendel court agreed with the Board, finding that Schendel "did not provide direct evidence that he prepared a fusion protein having the structure required by the count." The court stated that "[t]he absence of corresponding molecular weight or other information for the purported IL-3/G-CSF fusion protein, or even any data confirming the coding sequence of the plasmid, leaves unproved the question whether Schendel ever successfully prepared the fusion protein specified by the count."

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104. Id. (citing Colbert v. Lofdahl, 21 U.S.P.Q.2d (BNA) 1068, 1071 (B.P.A.I. 1991)).
105. Schendel, 83 F.3d at 1402.
106. Id. at 1400.
107. Id. at 1402-04.
108. Id.
109. Id. at 1402 (citing Newkirk v. Lulejian, 825 F.2d 1581, 1582 (Fed. Cir. 1987)).
110. Id. (citing Hahn v. Wong, 892 F.2d 1028, 1032 (Fed. Cir. 1989)).
111. Id. (quoting Mikus v. Wachtel, 542 F.2d 1157, 1159 (C.C.P.A. 1976)).
112. Id. at 1402-03.
113. Id. at 1403.
As for the biological activity data Schendel presented to prove that the bacterial extracts contained a fusion protein as described in the interference count, the court noted that “[t]he biological activity data discussed in these declarations do not show that Schendel prepared an IL-3/G-CSF fusion protein.” The court further complained that Schendel’s “record is devoid of any explanation or evidence linking the biological activity data to the composition or structure of the purported fusion protein.” Lastly, the majority observed that Schendel had not provided the court with any persuasive reasons for why his samples could not have contained a mixture of IL-3 and G-CSF proteins. Absent such reasons the court was not going to “second-guess the board’s interpretation of technical data.”

C. Judge Newman’s Dissent: We Are Judges, Not Scientists

In her dissent, Judge Newman noted that in a summary judgment proceeding, Schendel’s only obligation was to establish a prima facie case of reduction to practice. Quoting Kahl v. Scoville, she observed that when determining reduction to practice, the truth of the allegations contained within the appellants’ affidavits should be assumed. On this basis, Judge Newman found that because Schendel had submitted extensive evidence that was “prima facie probative of conception and reduction to practice of the subject matter of the count,” summary judgment was inappropriate. In support of this conclusion, Judge Newman stated that “[t]he scientific sufficiency of [Schendel’s] evidence has not been challenged by persons of skill in this field of science; indeed, both sides followed similar synthesis and assay procedures, to the same effect.” She also asserted that both the Board and court majority were playing an “improper judicial role,” given that this was a summary judgment.

114. Id.
115. Id. at 1404.
116. Id.
117. Id. at 1406 (Newman, J., dissenting).
118. 609 F.2d 991 (C.C.P.A. 1979).
119. Schendel, 83 F.3d at 1406 (Newman, J., dissenting) (“Appellants are only required to establish a prima facie case; that is, it is assumed that the allegations in appellants’ affidavits are true.”) (quoting Kahl, 609 F.2d at 995).
120. Id. (Newman, J., dissenting).
121. Id. (Newman, J., dissenting).
judgment decision, in not adopting Schendel’s assertion that his experimental results were sufficient to show reduction to practice.\textsuperscript{122}

After reviewing the extensive experimental evidence supplied by Schendel in support of his reduction to practice of the fusion protein described in the count,\textsuperscript{123} Judge Newman reasoned that if all reasonable factual inferences were drawn in favor of Schendel,\textsuperscript{124} then he had made a prima facie showing of reduction to practice. She further suggested that the majority had applied the wrong criteria during the summary interference proceeding, arguing that “[t]he criteria for the grant of summary judgment, a procedure expressly authorized in 37 C.F.R. § 1.617, are not isolated from the law governing summary dispositions.”\textsuperscript{125} In a final comment, she stated that “[t]he issue is the threshold question of the right to contest priority. When this right is denied summarily, the law requires that the procedure is fair, and fairly administered. This in turn requires that the rules of summary judgment be properly applied.”\textsuperscript{126}

III. REDUCTION TO PRACTICE AND SUMMARY JUDGMENT: WHEN IS ENOUGH ENOUGH?

The majority opinion in \textit{Schendel} had two deficiencies in its analysis of how reduction to practice should be determined. First, the court was too deferential to the technical expertise of the APJs. The APJ who handled the \textit{Schendel} interference should have been required to develop a record that specifically stated why Schendel’s biological assay data was insufficient to prove the structure of the claimed fusion protein.\textsuperscript{127} Second, the court should have adopted the dissenting opinion’s suggestion that the applicable summary judgment standard in a PTO interference proceeding should be the same as that used in federal courts:\textsuperscript{128} “evidence of the nonmovant is to be believed, and all justifiable

\begin{enumerate}
\item[122.] \textit{Id.} at 1407 (Newman, J., dissenting).
\item[123.] \textit{Id.} at 1407–09 (Newman, J., dissenting).
\item[124.] \textit{Id.} at 1409 (Newman, J., dissenting) (citing \textit{Kahl}, 609 F.2d at 995, and \textit{Anderson v. Liberty Lobby, Inc.}, 477 U.S. 242, 255 (1986)).
\item[125.] \textit{Id.} (Newman, J., dissenting).
\item[126.] \textit{Id.} (Newman, J., dissenting).
\item[127.] The patent statutes require that the Federal Circuit review of PTO decisions be based “on the record before the Patent and Trademark Office.” 35 U.S.C. § 144 (1994). Thus, there is a clear statutory requirement that the PTO maintain adequate records of interference proceedings to facilitate Federal Circuit review. See \textit{Gechter v. Davidson}, 43 U.S.P.Q.2d (BNA) 1030, 1033 (Fed. Cir. 1997).
\item[128.] \textit{Schendel}, 83 F.3d at 1409 (Newman, J., dissenting).
\end{enumerate}
inferences are to be drawn in his favor.” These procedures are necessary to safeguard the rights of junior parties to have full and fair hearings of their assertions of invention priority.

The Schendel pleadings reveal the lack of procedural safeguards in current PTO interference practice. Not only was the Federal Circuit unable to review an adequate PTO record regarding Schendel’s evidence of reduction to practice, but imposing a stringent summary judgment standard precluded Schendel from obtaining an opportunity to prove his alleged reduction to practice of the invention. Although these arguments necessarily require some discussion of molecular biology in order to appreciate why Schendel’s submitted evidence did in fact establish at least a prima facie case of reduction to practice, the same principles of procedural fairness are applicable to all patent applications, regardless of their technological scope. Without a complete record, meaningful appellate review of PTO findings of fact and law is impossible.

A. Administrative Patent Judges Should Form a Record That Allows Appellate Review

In Schendel, both the initial APJ’s order to show cause and the Board’s final summary judgment decision failed to address explicitly the relevance of important experimental data, and the interpretation of that data, as submitted by Schendel in support of his prima facie case of reduction to practice. Schendel, in his sworn declaration and his response to the PTO’s order to show cause, presented critical biological activity data that directly supported his assertion of reduction to practice. Schendel stated that not only did he make a bacterial protein extract that contained the biological activities expected of each constituent protein comprising his inventive fusion protein, but that standard biochemical analysis of the protein activity data also demonstrated that the two measured protein activities had to be contained upon the same molecule. It is this latter point that both the initial APJ and the Board failed to address in their opinions.

130. Joint App. (Order to Show Cause) at A23–27, Schendel (No. 95-1329).
131. Id. (Final Decision) at A1–19.
132. Id. (Declaration of Paul Schendel) at A35–36.
133. Id. (Explanation Pursuant to 37 C.F.R. § 1.607 et seq.) at A106–08; Brief for Appellant at 39–40, Schendel (No. 95-1329); see also Schendel v. Curtis, 83 F.3d 1399, 1408–09 (Fed. Cir. 1996) (Newman, J., dissenting).

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Both of the PTO decisions found fault with Schendel’s submitted experimental data because it purportedly failed to provide proof of the structure of the protein within the bacterial protein extract. The APJ and the Board relied upon Colbert v. Lofdahl for the proposition that a biological assay is insufficient to prove the chemical structure of a protein molecule. However, a careful reading of Colbert shows that the experimental facts crucial to the Colbert holding are not present in Schendel, and, therefore, the Board’s reliance on Colbert is misplaced. Colbert involved the use of a biological protein assay to prove that a particular DNA clone encoding a specific protein molecule had been isolated by the senior party, Lofdahl, from a large number of other DNA clones that could be encoding any of the other proteins produced within the bacterium from which the DNA originated. Lofdahl attempted to persuade a Board that he had proof of reduction to practice of a recombinant DNA invention, whereby he claimed that he had isolated a gene encoding a specific protein. Lofdahl asserted that the identity of the gene, i.e., its structure, could be proven by experimental evidence that the cloned DNA molecule encoded a protein having a biological activity that was consistent with the claimed identity. The Board rejected this evidence, noting that “until the clone was isolated and its sequence known, there was no certainty that [the clone] encoded the amino acid sequence for [the desired protein].”

In Colbert, the Board reached the correct result because, in fact, given the complex nature of the gene isolation experiments being performed, there could have been other genes present in the starting bacteria that might also produce proteins having similar biological activity to the protein encoded by the claimed invention. Thus, there could be no certainty that Lofdahl had isolated the gene he claimed to have isolated; the bioassay merely suggested that he had isolated a gene that might be the correct one. In contrast, in Schendel the DNA sequences of both of the parent genes, which were fused together to form the fusion gene encoding the claimed invention, had been previously determined. Furthermore, Schendel had verified the junctions between the DNA

135. Joint App. (Final Decision) at A11 (citing Order to Show Cause).
137. Joint App. (Final Decision) at A11; id. (Order to Show Cause) at A26.
139. Id. at 1072.
sequences of the parent genes on his fusion gene recombinant plasmid.\textsuperscript{141} Thus, as the dissent points out, "[i]t is surely more likely than not that the products were the G-CSF and IL-3 proteins and not some heretofore unknown mimics."\textsuperscript{142} Therefore, the reasoning of \textit{Colber} is inapplicable to \textit{Schendel}. In \textit{Schendel}, there were no other genes present in the transformed bacteria that could have given rise to the observed bioactivity except for the fusion gene Schendel had constructed.

The majority in \textit{Schendel} pointedly suggested that Schendel should have determined the molecular weight of the fusion protein in order to prove that the produced fusion protein had an increased protein size as would be predicted by joining two proteins together to form one large fusion protein.\textsuperscript{143} However, as the dissent stated, this type of suggestion is improper judicial conduct.\textsuperscript{144} The PTO records clearly showed that Schendel submitted and argued that his experimental evidence directly demonstrated the structure of the fusion protein.\textsuperscript{145} In fact, an argument can be made that Schendel performed the more relevant experiment for proving reduction to practice. Schendel determined not only that a fusion protein had been created in which two proteins were joined together to form one protein, but also that the inventive fusion protein functioned and had the biological activities that were required to fulfill the invention's purpose. The experimental determination of the molecular weight of a fusion protein, as requested by the majority judges, does not address the important issue of whether the invention functions for its intended purpose, nor does such an experiment provide any definitive proof of the fusion protein's composition.\textsuperscript{146}

\begin{itemize}
\item \textsuperscript{141} \textit{Id.} (Newman, J., dissenting).
\item \textsuperscript{142} \textit{Id.} at 1408 (Newman, J., dissenting).
\item \textsuperscript{143} \textit{Id.} at 1404. Protein molecular weight is a function of how many amino acid residues are present in a protein. However, the experimental methods commonly used to determine protein molecular weight (gel electrophoresis or gel filtration) are at best imprecise. The loss or addition of several amino acids will not be detectable. Thus, knowledge of a protein's molecular weight, as determined generally in the art of molecular biology, cannot be equated with the determination of the structure of a fusion protein.
\item \textsuperscript{144} \textit{Id.} at 1408 (Newman, J., dissenting) ("It is not our appellate role to devise experiments that the inventor did not deem it necessary to conduct, and then to hold that the judges' choice of experiments is dispositive of the issue.").
\item \textsuperscript{145} \textit{Id.} at 1409 (Newman, J., dissenting).
\item \textsuperscript{146} Actual reduction to practice requires that inventors prove their inventions will work as intended. Newkirk v. Lulejian, 825 F.2d 1581, 1583 (Fed. Cir. 1987); see also \textit{supra} notes 44-48 and accompanying text.
\end{itemize}

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In a post-Schendel opinion, Gechter v. Davidson, the court held that Board opinions must meet an "equivalent standard" to that stated in Rule 52 of the Federal Rules of Civil Procedure. The Board opinions must set forth "specific findings of fact and conclusions of law adequate to form a basis for our review." The court reasoned that "[w]hen the opinion explaining the decision lacks adequate fact findings, meaningful review is not possible, frustrating the very purpose of appellate review." These statements could have just as easily been made in the Schendel opinion.

The Schendel majority noted that the judiciary's review function was not to "second-guess the board's interpretation of technical data." However, proper judicial deference to agency adjudicatory decisions does not relieve a reviewing court from its obligation to ensure that the PTO has made the requisite findings of fact and applications of law on the evidence submitted to them. As noted in the dissenting opinion, the Board made a clearly erroneous finding when it stated that Schendel had presented no evidence that the IL-3 and G-CSF proteins were linked. Therefore, under the logic of Gechter, the Schendel court should have vacated the Board's summary judgment.

B. Interference Summary Judgment Standard Should Not Unfairly Preclude a Junior Party from a Full Interference Hearing

An interference proceeding turns on the determination of whether the junior party has provided sufficient evidence to establish a prima facie showing of reduction to practice. To meet this burden, junior party inventors must build the invention and perform tests to determine that their inventions are functional for their intended purposes. Under PTO rules, once an interference is declared, junior parties effectively have only one chance to submit the evidence necessary to establish their prima facie case of reduction to practice. Additional evidence in support of

147. 43 U.S.P.Q.2d (BNA) 1030 (Fed. Cir. 1997).
148. Id. at 1034.
149. Id. at 1035.
150. Id. at 1033.
152. Id. at 1408-09 (Newman, J., dissenting).
153. See supra notes 44-45 and accompanying text.
154. 37 C.F.R. § 1.617(b) (1996) ("Additional evidence shall not be presented by the applicant or considered by the Board unless the applicant shows good cause why any additional evidence was not initially presented with the evidence filed under § 1.608(b)."); MPEP, supra note 4, § 2317, at
reduction to practice will be allowed only at the discretion of the Board, upon a showing of “good cause” for why the evidence was not submitted originally. The Federal Circuit has upheld Board decisions to prevent introduction of new evidence because: (1) an inventor’s patent counsel “did not fully appreciate the kind of corroboration required to demonstrate a prima facie case for a complete reduction to practice”; and (2) an attorney misrepresented to a client his ability and experience in prosecuting interference cases.

However, as noted by commentator Charles L. Gholz, the PTO rule governing summary judgment in interference proceedings specifically directs the APJ or the Board to “decide whether the evidence submitted under §1.608(b) and any additional evidence properly submitted under paragraphs (b) and (c) of this section shows that the applicant is prima facie entitled to a judgment relative to the patentee.” Gholz further argues that there is a fundamental difference between federal judges and APJs; the former are generalists, whereas the latter are required by statute to be specialists in both patent law and science. However, the fact that APJs are specialist judges does not relieve the PTO from the duty of explicitly stating what its summary judgment standard is, nor should it exempt the PTO from having some summary judgment safeguards analogous to those found in federal courts.

The PTO should embrace the same summary judgment standards and safeguards in patent interference proceedings as those developed in federal courts. The federal court doctrine of summary judgment is well developed and incorporates two safeguards to protect the party against


155. Hahn v. Wong, 892 F.2d 1028, 1033–34 (Fed. Cir. 1989) (holding that Board did not abuse its discretion in deciding that junior party had not shown good cause; therefore, Board properly declined to consider additional evidence in response to show cause order).
156. 37 C.F.R. §1.617(b). In the MPEP comment to §1.617, the PTO expressly states that “under the ‘good cause’ standard, ignorance by a party or counsel of the provisions of the rules or the substantive requirements of the law will not constitute good cause.” MPEP, supra note 3, § 2317, at 2300-28 to 2300-30.
157. Hahn, 892 F.2d at 1035.
160. 37 C.F.R. §1.617(g) (1996).
162. Gholz, supra note 159, at 290.
whom summary judgment is being asserted from being unfairly precluded from his or her day in court. First, summary judgments are reviewed de novo by U.S. Courts of Appeals.\textsuperscript{163} Second, under a rule first adopted by the U.S. Supreme Court in \textit{United States v. Diebold, Inc.},\textsuperscript{164} judges, in making a summary judgment ruling, must view evidence submitted to them "in the light most favorable to the party opposing the motion."\textsuperscript{165}

The primary danger of summary judgment is that it might prematurely prevent a party from obtaining a full and fair hearing of his or her case. When making a summary judgment, the judge is not supposed to weigh the credibility of the evidence or determine the truth of the contested matter, but is only supposed to determine whether there is a genuine dispute of material fact.\textsuperscript{166} Thus, as noted by the \textit{Schendel} dissent, "matters of truth and credibility and judicial determination of scientific significance contrary to the view of the scientists themselves, are not matters for summary adjudication."\textsuperscript{167} Had \textit{Schendel} survived summary judgment, the next stage of the proceeding would have focused on whether Schendel’s evidence proved priority by a preponderance of the evidence. All of the parties asserting inventorship would then file preliminary statements and motions\textsuperscript{168} and procure witness testimony\textsuperscript{169} regarding their claims to priority. The PTO rules governing this process are extensive and beyond the scope of this Note. However, the Manual of Patent Examining Procedure provides: "Manifestly, the burden in summary judgment proceedings is not as strict as the burden in proceedings following summary judgments."\textsuperscript{170}

The main purpose for allowing summary judgment is to allow a judge to dispose of nonmeritorious cases rapidly.\textsuperscript{171} Judicial dispatch is

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\item \textsuperscript{163} Jack H. Friedenthal et al., \textit{Civil Procedure} § 13.4, at 604 (2d ed. 1993).
\item \textsuperscript{164} 369 U.S. 654 (1962) (per curiam).
\item \textsuperscript{165} \textit{Id.} at 654 ("On summary judgment the inferences to be drawn from the underlying facts contained in [affidavits] must be viewed in the light most favorable to the party opposing the motion."). This principle was further developed by the U.S. Supreme Court. See \textit{Adickes v. S.H. Kress \\& Co.}, 398 U.S. 144, 157 (1970); \textit{Anderson v. Liberty Lobby, Inc.}, 477 U.S. 242, 255 (1986).
\item \textsuperscript{166} \textit{See Anderson}, 477 U.S. at 247–50.
\item \textsuperscript{167} \textit{Schendel v. Curtis}, 83 F.3d 1399, 1409 n.2 (Fed. Cir. 1996) (Newman, J., dissenting).
\item \textsuperscript{168} \textit{MPEP, supra} note 3, §§ 2322–2340, at 2300-30 to 2300-40.
\item \textsuperscript{169} \textit{Id.} §§ 2351–2353, at 2300-43 to 2300-44.
\item \textsuperscript{170} \textit{Id.} § 2317, at 2300-29 (citing \textit{Brewer v. DeMarinis}, 558 F.2d 22, 28 (C.C.P.A. 1977), and \textit{Schwab v. Pittman}, 451 F.2d 637, 640 (C.C.P.A. 1971)).
\item \textsuperscript{171} \textit{See Celotex Corp. v. Catrett}, 477 U.S. 317, 327 (1986) (stating summary judgment procedure is properly regarded as integral part of Federal Rules, which are designed to secure just, speedy, and inexpensive determination of every action); \textit{see also} Lundeen v. Cordner, 354 F.2d 401,
\end{itemize}
important to relieve a party from costly and unfair litigation, and, as a
general policy, to allow courts to conserve valuable monetary and
personnel resources for only those cases that have merit.\textsuperscript{172} One of the
primary arguments in favor of summary judgment in agency adjudication
is to relieve the long delays that are generally associated with
administrative processes.\textsuperscript{173} Indeed, some of the PTO rules governing
patent interference practice were rewritten in 1984 to streamline
proceedings so that most disputes would be decided within two years.\textsuperscript{174}
Thus, while there is a legitimate place for summary judgment within
administrative adjudications, fundamental fairness concerns suggest that
procedural safeguards should be present to guarantee parties the
opportunity to have meritorious claims judged based upon all admissible
evidence.

The standards for summary judgment in federal court are set forth in
Rule 56 of the Federal Rules of Civil Procedure: “Summary judgment is
proper ‘if the pleadings, depositions, answers to interrogatories, and
admissions on file, together with the affidavits, if any, show that there is
no genuine issue as to any material fact and that the moving party is
entitled to judgment as a matter of law.’”\textsuperscript{175} The U.S. Supreme Court has
further explained that for summary judgment, the “evidence of the
nonmovant is to be believed, and all justifiable inferences are to be
drawn in his favor.”\textsuperscript{176}

To what extent then do the federal standards governing summary
judgment inform summary judgment during administrative adjudication?
In \textit{Puerto Rico Aqueduct & Sewer Authority v. EPA},\textsuperscript{177} the First Circuit
Court of Appeals reviewed the use of summary judgment in
administrative agencies and concluded that administrative summary
judgment is “linked inextricably” to Rule 56, and that “many agencies

\textsuperscript{172} See generally \textit{Celotex}, 477 U.S. at 327 (discussing summary judgment in historical context
of procedural tools that prevent trial of cases containing “factually insufficient claims or defenses . . .
with the attendant unwarranted consumption of public and private resources”).

\textsuperscript{173} See Ernest Gellhorn & William F. Robinson, Jr., \textit{Summary Judgment in Administrative

\textsuperscript{174} See Huston v. Ladner, 973 F.2d 1564, 1566 (Fed. Cir. 1992); see also Paintin, supra
note 154, at 58.

\textsuperscript{175} Celotex, 477 U.S. at 322 (citing Fed. R. Civ. P. 56(c)).


\textsuperscript{177} 35 F.3d 600 (1st Cir. 1994), cert. denied, 513 U.S. 1148 (1995).
habitually look to Rule 56 case law for guidance in respect to administrative summary judgments."  

PTO interference proceedings present an exception to this general principle. For these proceedings there has been no clear judicial or agency affirmation or denial that the Federal Rules of Civil Procedure inform the standards to be used during the application of summary judgment. The PTO regulation regarding summary judgment merely states:

If in the opinion of the administrative patent judge the evidence fails to show that the applicant is *prima facie* entitled to a judgment relative to the patentee, the administrative patent judge shall, concurrently with the notice declaring the interference, enter an order stating the reasons for the opinion and directing the applicant, within a time set in the order, to show cause why summary judgment should not be entered against the applicant.

The rule further states:

> [T]he Board shall decide whether the evidence submitted... shows that the [junior party] is *prima facie* entitled to a judgment relative to the [senior party]. If the [junior party] is not *prima facie* entitled to a judgment relative to the [senior party], the Board shall enter a final decision granting summary judgment against the [junior party].

However, Judge Newman states in her dissenting opinion in *Schendel* that "[t]he Board’s summary disposition under 37 C.F.R. § 1.617 was necessarily based on the premise that there is no genuine issue as to any material fact and that the party Curtis is entitled to judgment as a matter of law." Judge Newman also argues, and quotes from *Kahl v. Scoville*, for the proposition that during PTO summary judgment proceedings the “[a]ppellants are only required to establish a prima facie case; that is, it is assumed that the allegation in appellants’ affidavits are

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178. *Id.* at 607.


181. 37 C.F.R. § 1.617(g) (1996).


183. 609 F.2d 991 (C.C.P.A. 1979).
true." The terminology Judge Newman uses in the opinion clearly indicates her view that the federal court summary judgment standards and case law should apply to PTO interference practice. Such a view also finds support in *Gechter v. Davidson*, where the Federal Circuit looked to federal court jurisprudence regarding Federal Rule of Civil Procedure Rule 52(a) to support its holding that "like a district court opinion, a Board opinion must contain sufficient findings and reasoning to permit meaningful appellate scrutiny."\(^{185}\)

The stringent PTO summary judgment rule, limiting a junior party's ability to make additional submissions of evidence to the PTO to defeat summary judgment, is in stark contrast to practice in federal courts where the party against whom a summary judgment motion has been lodged is allowed the opportunity to, and indeed, in most cases, must submit further evidence to substantiate his or her claim or defense.\(^{186}\) Adopting the federal court summary judgment jurisprudence, particularly the requirement that the evidence of the nonmovant is to be believed and that all justifiable inferences are to be drawn in his or her favor, would go a long way towards balancing the junior party's interest for a full and fair hearing regarding patent priority against the PTO's need to settle interference disputes rapidly.

IV. CONCLUSION

*Schendel v. Curtis* exposes one of the major flaws inherent in a first-to-invent priority system: the difficulty of fairly determining the exact time at which an invention worthy of patent protection has occurred. The problem is, of course, exacerbated by the highly technical nature of many of the inventions described in patent applications submitted to the PTO. While the PTO employs many examiners and APJs of high technical ability, there is nonetheless a large gap between actual practitioners in a technical field and persons merely reading the results. If the United States is to persist in the first-to-invent patent priority system and the interference adjudication system of determining priority disputes, then

186. Rule 56(e) states:

> When a motion for summary judgment is made . . . an adverse party may not rest upon the mere allegations or denials of the adverse party's pleading, but the adverse party's response, by affidavits or as otherwise provided in this rule, must set forth specific facts showing that there is a genuine issue for trial.

changes should be made to the PTO interference regulations to more fully protect the interests of the junior party inventors. First, the Gechter v. Davidson rule, that APJs must set forth opinions with specific findings of fact and conclusions of law adequate to form a basis of appellate review, should be stringently enforced when the Federal Circuit is reviewing interference summary judgments of the PTO. Second, the interference summary judgment standard should be substantially equivalent to the summary judgment standard utilized in federal courts.

The adoption of both of these procedural safeguards would help ensure that PTO interference practice more fully comports with the policies supporting the first-to-invent priority rule and would ensure that junior parties to interference proceedings have a fair opportunity to establish patent priority based upon reduction to practice of their inventions. The failure to more fully protect the legitimate interests of junior parties to patent interference disputes only adds support to what some commentators assert is true about the U.S. patent system: the United States, in fact, awards patents under a de facto first-to-file priority rule and the United States has little to lose by changing from a first-to-invent priority rule to the first-to-file rule. Adopting these standards would help restore some of the balance to the first-to-invent priority system and safeguard what is portrayed as its major advantage—fairness to all inventors.