

Understanding and Applying the CREATE Act in Collaborations

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The Cooperative Research and Technology Enhancement Act of 2004 (CREATE Act)¹ amends the United States patent laws to provide that subject matter developed by another person will be treated as owned by or subject to an obligation of assignment to an inventor for purposes of determining the obviousness of an invention made by that inventor provided that the requirements of the act are satisfied. The act applies to inventions made by or on behalf of parties to a written joint research agreement where the inventions are made within the scope and term of the agreement.

This amendment was motivated by concerns raised by a recent Federal Circuit Court ruling in a case called *OddzOn Products Inc. v. Just Toys Inc.*,² which publicized the fact that nonpublic information shared between collaborators during a joint project may be used as prior art to inventions that emerge from the project under certain circumstances. The intent of the amendment was to provide participants in research collaborations with additional protections during the sharing of private information between collaborators, and the main thrust of the act is to exclude some prior art (that possessed by participating collaborators) from obviousness considerations if the invention arose from a joint research agreement.

This chapter provides some practical guidelines for technology transfer professionals seeking to manage the application of the CREATE Act in common types of collaborative activities taking place within universities. Since many common agreements involving third-party rights, licenses, access to university labs, and/or use of university resources will satisfy the terms of the act, and the act can be relied upon unilaterally once the joint research agreement is in place to obtain patents over incremental improvements, it is important to understand the act and identify strategies for how to manage it.

In those situations when the act applies, it can result in significant advantages and disadvantages. While the guidelines provide a framework for thinking about the issues raised by the act, and by collaborative activity with third parties more generally, they may not be applicable to any particular scenario, and legal counsel should be sought when determining how best to protect the university during the collaboration agreement, patent filing, and prosecution process to utilize the benefits and mitigate the risks of the act.

When Does the Act Apply?

When a university employee enters into a formal or informal collaboration with a person or entity who is not a university employee and is not under any obligation to assign inventions to the university (a third party), the information that the university employee and the third party share with each other can limit the ability of both the university and the third party to obtain patent protection for any resulting inventions. The information provided by the third party will, in the absence of a joint research agreement satisfying the requirements of the act, be considered prior art to any invention made by the university employee solely or jointly with the third party, and the information provided by the university employee will similarly be considered prior art to the invention made by the third party solely or jointly with the university employee. If the sole goal of the collaboration is to contribute the results to the public domain, the act can generally be disregarded, but it cannot be ignored where the university and/or the third party seek to obtain patent protection for the fruits of the collaboration.

The act excludes subject matter provided by one of the parties to a joint research agreement (including public and nonpublic disclosures) from being considered as prior art for purposes of determining the obviousness under 35 USC 103 of an invention developed within the scope of that joint research agreement. Use of the act's safe harbor enables the university and the third party (company, individual, or collaborating institution) to unilaterally exclude certain research results from being considered obvious and, therefore, unpatentable under U.S. patent law. The act has an impact on the patentability of inventions that are incremental improvements (i.e., improvements over existing technology that would not be separately patentable if the existing technology were treated as prior art) that arise from the collaboration.

The act only applies to patents (including any reissue patent) granted on or after December 10, 2004. The act and implementing rules³ specify three requirements to overcome certain obviousness rejections under 35 USC 103(a)⁴ over subject matter developed by another and certain obviousness-type double-patenting rejections over patents and patent applications owned by another. These requirements are:

- the claimed invention must have been made by or on behalf of parties to a written joint research agreement that was in effect on or before the date the claimed invention was made, and
- the claimed invention must have been made as a result of activities undertaken within the scope of the joint research agreement, and
- the application for patent for the claimed invention must disclose or be amended to disclose the names of the parties to the joint research agreement.

The act applies where the subject matter that might be considered prior art for purposes of patenting inventions is owned by one of the parties to a joint research agreement and the invention is made within the scope and term of this agreement. The act can be used to overcome a rejection under 35 USC 103 based upon subject matter of either party to the joint research agreement, which only qualifies as prior art under 35 USC 102(e), (f), or (g). It applies if the subject matter qualifies as prior art only under one or more of Sections 102(e), (f), or (g).⁵

Prior Art not Addressed by the Act

Sections 102(a), (b), and (d) cover certain kinds of publicly available information. Sections 102(c) is a loss-of-rights provision. The act does not apply to the types of prior art covered by Sections 102(a)-(d), and if these sections apply to the subject matter, then the subject matter cannot be excluded under the act when making a prior art determination.

Prior Art Addressed by the Act

Section 102(e), (f), and (g) apply to subject matter developed by another. Prior art under Sections 102(e), (f), and (g) can be used to support a rejection of a patent application based on obviousness of the invention under Section 103.⁶ This includes both

public and secret disclosures of information. An inventive entity's own ideas and inventions and patent application(s)/patents are not included as prior art under these sections when determining if the same inventive entity's subsequent invention is patentable.

What Is a Joint Research Agreement under the CREATE Act?

The act includes a broad definition of what constitutes a joint research agreement for purposes of the act. To satisfy the requirements of the act, there must be an agreement:

- between two or more parties;
- in writing;
- for performance of experimental, developmental, or research work;
- in the *field* of the invention; and
- signed prior to the invention.

As long as the parties enter into a written agreement that involves research, development, or experimental activity, the act will be available to either party to the agreement for inventions that arise within the scope and term of this agreement unless the agreement expressly provides otherwise. The agreement may be amended to add new parties or to amend the field of the collaborative activity, but the amendment must be in place before the inventions arising within the amended scope to benefit from the act.

Types of agreements that may fall within the sweep of the act could include collaborations, sponsored research, grant applications, licenses, material transfer agreements, equipment loan and lease agreements, visitors or visiting faculty agreements, and public use of university facility and equipment. Similarly, there may be a variety of joint research participants, including nonprofit/interinstitutional parties, commercial entities, government, foreign entities, and individuals.

Potential Benefits of the CREATE Act

The act allows the parties to the joint research agreement to obtain patents that might otherwise be precluded by prior art, thus allowing them to build a broader and stronger patent portfolio. It also reduces the risk of inequitable conduct arising from failure to disclose communications between collaborators in the patent prosecution process.

Expand Patent Portfolio

The primary benefit of the act is that it facilitates the patenting of incremental improvements to core inventions, allowing collaborators to expand their patent portfolios around core inventions that are further developed pursuant to collaboration.

Consider, for example, a university that wants to encourage the development of a new product based on its platform technology using the university's preexisting patents and know-how. The university collaborates with a third party to develop the new product, the two collaborators jointly invent (and jointly own) the resulting product, and the university seeks to patent the product. Provided that the university and the collaborator have entered into a written joint research agreement prior to the inventive activity, and provided further that the new product falls within the scope of the agreement, the university will be able to exclude its preexisting know-how and patents (and the collaborator's preexisting know-how and patents) from being considered as prior art for the purpose of patenting the product. Prior to the act, the university's and the collaborator's preexisting know-how and patents would be considered as prior art and patent protection could well have been unavailable for the resulting product.

New Deal Point for Negotiation

The act could provide significant benefits to collaborators who derive considerable commercial benefit from protecting incremental improvements to their products or processes. By turning the availability of the benefits of the act into a deal point, to be negotiated and bargained for, universities may be able to obtain better deal terms (e.g., higher royalties) from their collaborators, particularly commercial collaborators.

Managing Inequitable Conduct Risk

Under 37 CFR Section 1.56 (Rule 56), there is a duty to disclose to the U. S. Patent and Trademark Office all information known to be material to patentability with respect to each pending claim in a patent application. Proprietary information shared by collaborators on a confidential basis is subject to Rule 56 disclosure requirements. The act reduces the risk of inequitable conduct during patent prosecution by removing the need of collab-

orators to a joint research agreement to disclose the secret prior art of other collaborators (and their own prior secret art for joint inventions) when prosecuting patent applications for inventions arising within the term and scope of the joint research agreement.

Potential Risks Arising from the CREATE Act

The two key areas of concern arising from the act are (1) the ability of any party to a joint research agreement to rely upon the act unilaterally to obtain patent protection over incremental improvements to inventions, patents, or know-how owned by other parties to the agreement and (2) potential accounting and tax implications from expanding the universe of joint research activities involving commercial entities.

To illustrate through example, consider one of the most likely scenarios. The university enters into a joint research agreement with a company and, pursuant to this agreement, the university grants to the company a license to use the research report that is a deliverable under the joint research agreement (report) and a preexisting university-owned patent application (university application) that later issues (university patent). The agreement does not explicitly address ownership of inventions that are developed during the course of the joint research (which means that the default rules of inventorship and ownership under U.S. patent law will apply). During the term of this research agreement, the company files its own patent application (company application), which covers an obvious improvement to the university application and the information included in the report. The company application is rejected by the U.S. Patent and Trademark Office as obvious over the university application and/or the report. The company relies on the act, and the rejection is withdrawn, because the university application and report are no longer prior art for company application. The company is granted the patent for the company application (company patent).

Problems for the University under the Act

Continuing the example, the following issues may arise for the university.

Company May now Control a Blocking Patent

The company now owns the company patent, which covers obvious implementations of the university's technology as described in its report and university application. If there is a divorce of the university and the company without agreement over control of the company patent, the company will own blocking rights to what are obvious improvements to the university's intellectual property. The company might be able to block the university from further developing and/or licensing the university application or any patentable inventions included in the report because the company owns and solely controls the blocking company patent, which means that the company may be able to limit third-party development activity.

Company May Benefit from University Intellectual Property while Avoiding Royalties

The university has provided the company with a report that may include inventions that the university did not file patent applications on. The company can file patent applications on incremental additions to that information and may obtain a company patent. This company patent may offer substantial exclusive rights to the company. Absent a specific agreement with the university, the company would not be required to pay a royalty to the university and, more importantly, can block the university and its researchers from continued use of their developments covered by the company patent. The company gets a monopoly benefit from the university's report (and the inventions included in it) but does not have to share that benefit with the university.

The Dangers of Terminal Disclaimers

In the event that claims in the patent application filed by the company are obvious in light of claims in the university application, and a patent is granted to the university for the university application before the company receives the company patent, a terminal disclaimer will be required to take advantage of the act. The company does not need to

notify the university to file the terminal disclaimer and obtain the company patent. It is important to note that, although the act, and the implementing rules provided by the U.S. Patent and Trademark Office, do not require consent of the senior patent owner, consent may well be sought as a practical matter (although perhaps not until enforcement becomes an issue) since the company will not be able to separately enforce its patent.

The implementing rules are unclear about how the senior patent owner will be effected by this restriction on separate enforcement, since they do not provide for notification or consent of the senior patent owner. If, however, a patent is granted on the company's patent application before the university receives a patent for its university application, and claims in the university application are obvious in light of the company patent, then the university will be required to file a terminal disclaimer to obtain the university patent, and the university will need to agree not to enforce the resulting university patent separately from the company patent. Even though the company patent may have been an incremental improvement to the technology described in the university patent, the university will have given the company effective control over the enforcement of the university patent.

Categorizing Activities as Collaborations

It is important to consider the implications of using the words *joint research agreement* or *collaboration* when characterizing arrangements between universities and third parties because how agreements are labeled and categorized can have implications for how the corresponding activities are treated for accounting and tax purposes. The way in which these arrangements are characterized as well as how they are structured can have implications on how they are treated for tax and accounting purposes. It is also important to consider which agreements may fall within the act's definition of a joint research agreement, regardless of how they are named.

Specific Drafting Tips

Here are some specific drafting tips.

Make Sure the Agreement Satisfies the Requirements of the Act

To utilize the benefits of the act, the university must ensure that the following requirements are satisfied.

(a) The parties to the collaboration must enter into a written joint research agreement. Tip: Specify that the agreement is entered into for the purposes of conducting joint research, development, or experimental work. Make it clear that the parties will be doing collaborative work (although note that this could raise tax issues) and that they want to utilize the benefits of the act. Existing joint agreements can be amended to satisfy the requirements of the act—if amended, it may be the date of the amendment that is included as the date of the joint research agreement for purposes of the act.

(b) The claimed invention must be the result of activities undertaken within the scope of the joint research agreement. Tip: Define the scope of the joint research carefully to correspond to all aspects of the research statement of work, and amend the agreement to reflect changes in the scope of the joint research activities when such activities change. Make sure that changes to the scope of the agreement are only done by mutual written consent. There is tension between how narrow the university might want a collaboration to be and how broad the language needs to be to capture inventions.

(c) The specification of the patent application for the claimed invention must disclose, or be amended to disclose, the names of the parties to the joint research agreement. Tip: There will be some administrative steps involved in obtaining the benefits of the act, and the parties should consider how and when they want to deal with these issues.

(d) Where the claimed invention is patentably indistinct from a prior filed patent, the owner of the claimed invention must expect to waive the right to separately

enforce the subsequently filed (patentably indistinct) patent application and resulting patent to obtain the benefits from the act. The disclaimer must be executed by the owner of the subsequent application/patent. The implementing rules for the act are unclear about how the senior patent owner is impacted by the disclaimer, since notification and consent of the senior patent owner is not required by the act. What is clear is the restriction imposed on the subsequent patent owner/applicant, who cannot separately enforce this owner/applicant's patent. Tip: A clear agreement setting forth the circumstances under which the patent rights will be licensed and enforced, and who will control these decisions and receive the benefits, should be entered into where both parties have or are likely to file patent applications relating to the subject matter of the collaboration.

Neutralize Unilateral Nature of CREATE Act

The parties subject to the act are treated as a single entity solely for purposes of allowing one party to obtain a patent over certain prior art, but the parties may well have divergent rights and interests over the use of the prior art and resulting patent(s). Because the act can be relied upon unilaterally, those divergent interests can be exploited by the party making the otherwise obvious contribution, to the disadvantage of the innovator. The problems that can arise from these divergent interests (as illustrated in the prior sections) can be managed by contract.

(a) Contract for veto over right to rely on CREATE Act. Here's an example of a contract provision: "Neither party may invoke the CREATE Act with respect to any invention that is developed pursuant to this agreement without the prior written consent of the other party, such consent to include specific reference to the invention for which the benefits of the CREATE Act are claimed."

(b) Include a penalty if there is a breach of the agreement not to unilaterally rely on the act. An example of a contract provision: "In the event that a party (the "Relying Party") avails itself of the benefits of the CREATE Act in connection with an invention developed pursuant to this Agreement without the prior written approval of the other party ("Other Party"), the Other Party will own all right, title, and interest in any patent resulting from this impermissible reliance on the CREATE Act, and the Relying Party hereby agrees to assign all of its right, title, and interest in such patent to the Other Party."

Labeling Agreements: The Danger of Mischaracterizing and Miscategorizing the Arrangement

Some proposed language is included below to illustrate how to ensure clarity in the treatment of joint research agreements.

(a) Limit the meaning of “joint research agreement” by linking it to “for purposes of CREATE Act.” For example a contract provision might say: “This university research agreement is a “Joint Research Agreement” solely for purposes of the CREATE Act.”

(b) Include strong nonagency language. For example: “University and Company are independent contractors. Neither party has the authority to bind the other. Any reference to “Joint Research Agreement” is intended solely for purposes of the CREATE Act and should not be construed to create an employer/employee relationship, joint venture, partnership, or other such joint relationship between the parties.”

(c) Limit the scope of the research to reduce the activities that are covered by the joint research agreement. But, care needs to be taken to balance circumscribing the joint research to narrow the scope of the collaboration with expanding the scope of the joint research to capture the benefits of the act.

Manage Timing of Joint Research Agreement

To obtain the benefits of the act, the university must have a written agreement signed by the parties before claimed invention is made. Moreover, invention must be made *as a result of* activities undertaken within the scope of the joint research agreement, meaning that the statement of work for such agreements needs to be periodically updated as the scope of research changes. Where agreements are amended to add parties or to expand the field of the invention, the date of the amendment will apply for inventions that are subsequently developed if they would not otherwise have fallen within the scope of the initial joint agreement.

A university may manage the timing by taking steps that include: (a) informing potential collaborators at different institutions of advantage in documenting, in writing, their proposed working arrangement before research begins and (b) considering when standard

form agreements may satisfy terms of the act (where such agreements may end up leading to joint research) and modify as appropriate.

Address the Implementation of the Act during Patent Prosecution

Where the act is likely to have an impact (e.g., where incremental improvements are likely to emerge), the joint research agreement should address the implementation of the act during patent prosecution. The agreement should cover:

- whether to invoke the act at filing,
- whether to require consent to invoke the act,
- use of confidential information,
- notice requirements for actions taken that utilize the act, and
- handling of joint enforcement if a terminal disclaimer is required.

Addressing the CREATE Act

So, what are the implications of the CREATE Act? Here are some issues to consider.

Revisit Existing Agreements and Collaborative Activities

Universities should be aware that many of their existing collaborative agreements may already satisfy the requirements of the act. The parties do not need to opt in to the provisions of the act to be covered by the provisions of the act. This means that existing research agreements, including sponsored research agreements; interinstitutional collaboration agreements; and some kinds of grants, material transfer agreements, and perhaps even confidentiality agreements, could de facto be joint research agreements subject to the terms of the act. Where the disadvantages of the act are most likely to arise (discussed further below), prior agreements should be revisited to assess whether any of the above discussed risks apply.

On the other hand, some collaborations may not be formalized in appropriate written agreements, and, in this case, the benefits of the act will not be available unless action is taken to formalize the arrangements with a written agreement that satisfies the requirements of the act. Where the benefits of the act are most likely to arise (as discussed

further below), effort should be made to put joint research agreements in place to cover the new inventions taking place after the date of the agreement.

Identify Scenarios Where the Act Is Least and Most Likely to Have Impact

The act is least likely to have a material impact on the university in the following situations:

- Where there is no joint research, development, or experimental work.
- Research that is unrelated to the prior contributions of the collaborators (i.e., collaborations where all of the resulting inventions and/or research results are nonobvious over any existing subject matter and patents, meaning that there would be no successful Section 103 rejections based on the prior art of participants in the joint research).
- Collaborations where there is common ownership of the prior art and the new inventions (e.g., a first patent application and a second patent application both co-owned by the same institutions).
- Collaborations in which there is unlikely to be any inventive activity or where the resulting information and inventions are made publicly available (i.e., there would be no patent applications and patents filed on inventions arising from the collaboration).
- Where equivalent prior art qualifies under the categories of prior art provided in Section 102(a) or (b) or the invention falls under the categories set forth in Section 102(c) or (d). Section 102(a) includes inventions that are known or used by others in the United States, or are patented or described in a printed publication in the United States or abroad, before the invention in question. Section 102(b) includes inventions patented or described in a printed publication in the United States or abroad or in public use or on sale in the United States more than one year prior to the date of the patent application in question in the United States. Section 102(c) covers the case in which the invention in question has been abandoned. Section 102(d) covers situations in which the invention in question was first patented or caused to be patented, or was the subject of an inventor's certificate, by the applicant or his legal representatives or assigns in a foreign country, more than 12 months prior to the date of the U.S. patent application.
- Where there is no qualifying joint research agreement, even if there is joint research. This is not uncommon as between collaborators at different institutions.

Where is the act most likely to have an impact? The key benefit of the act arises where a patent application later filed is an incremental improvement over either prior unpatented information or a prior filed patent application or patent that is not owned by the later patent filer. This is most likely to take place in the following arrangements:

- Sponsored research with commercial entities.
- Interinstitutional collaborations that are formed to develop and expand upon a technology (such as a platform technology) that includes contributions from both sides to further develop the preexisting technology.
- License to use university intellectual property or university resources (including licenses in and licenses out, particularly where improvements or grant-backs of intellectual property are involved).
- Material transfer that includes collaboration and exchange of documentation and materials that have proprietary value.
- Confidentiality agreements that involve the exchange and use of proprietary information by both parties for the purpose of collaborative research activity.

This list is not exhaustive, but should provide some guidelines for how to think about and screen agreements and collaborations in light of the act.

Guidelines for Specific Arrangements

Sponsored Research

The concerns about the act are perhaps most likely to emerge in sponsored research arrangements with commercial entities. Companies can obtain results and know-how from university faculty and pursue an aggressive patenting strategy based on this transfer of know-how by invoking the act, and the transferred information will not be considered as prior art to the company's incremental improvements. The timing of patent filings and patent grant will become important where terminal disclaimers come into play. Things to think about when reviewing sponsored research arrangements in light of the act include:

- Careful definition of the field of sponsored research—taking into account considerations of when to make the field broader to increase the scope for benefiting from the act, when to make sure that it stays limited to avoid the risks of the act.

- Periodic updating of the statement of work for sponsored research agreements to ensure that it accurately describes the scope of the research and to ensure that no new third parties (e.g., other institutions) have been involved in the sponsored research.
- Keep in mind the relationship between sponsored research and license agreements—what happens when the sponsored research continues and the license terminates, for example?
- Implications where the company now has rights to future developed intellectual property that third parties do not have (via ability to obtain title to intellectual property using the act).

Interinstitution Collaborations

One of the key challenges of interinstitution collaborations will be to get the joint research agreement in place before the inventive activity takes place and keep the agreement continually updated to manage the changing scope of the work and potentially changing parties to the agreement. If collaborations take place without an agreement, the technology transfer professional will need to determine what activities took place before the written agreement was signed and whether the activities and resulting inventions fall within the scope of the joint research agreement. A question (for further discussion) arises as to whether it is practical to expect collaborators to get a written agreement in place before beginning to collaborate, and if not, whether it is useful or dangerous to use a simple standard form that is not tailored to individual circumstances to document collaborative activity in early stages.

Licensing and Material Transfer

Universities should carefully consider the implications of the act for incremental improvements being developed either by the university, a third party using university resources, or jointly by both. If the university is providing proprietary materials and know-how and has not established its own patent protection around such materials, it should expressly address the ownership of any inventions that are developed as a direct result of such materials by written contract. If the license provides for use of university know-how and improvements, the parties should consider and contract for the use and benefits of the

act. If the license provides for a grant-back of improvements to the university (perhaps for internal research use or more broadly), then the act may offer some opportunities for university patenting that it would not otherwise have.

Implementation of CREATE Act during Patent Prosecution

Legal counsel should be sought when determining how to manage the implications of the act in particular situations and when determining what steps are required in the patent filing and prosecution process. A brief overview of some of the steps involved is provided below, but this description is by no means comprehensive.

Rejection of Patent Application on Qualifying Prior Art Grounds

When a patent application is rejected on CREATE Act-qualifying prior art grounds (a rejection under 35 USC 103(a)), the patent applicant must provide a statement to the effect that: (i) the prior art and the claimed invention were made by or on the behalf of parties to a joint research agreement, and (ii) the joint research agreement was in effect on or before the date the claimed invention was made, and (iii) the claimed invention was made as a result of activities undertaken within the scope of the joint research agreement. The patent applicant must amend the patent application specification to name all of the parties to the joint research agreement.

Obviousness-Type Double-Patenting Rejections

Invoking the CREATE Act may give rise to an obviousness-type double-patenting rejection when Section 102(e) prior art is involved. A terminal disclaimer will be required to overcome this obvious-type double-patenting rejection.

Disclosure Requirements under Rule 56

Under Rule 56, there is a duty to disclose to the U.S. Patent and Trademark Office all information known to be material to patentability with respect to each pending claim in a patent application. This duty may apply, whether or not there is a joint agreement.

Notes

1. Public Law 108-453.
2. 122 F.3d 1396 (Fed. Circ. 1997).
3. 70 Fed. Reg. 54259 (14Sep2005); 70 Fed. Reg. 1818 (11Jan 2005).
4. 35 USC 102 (Section 102 of the U.S. Patent Act) sets forth the rules for what is prior art. 35 USC 103 (Section 103 of the U.S. Patent Act) provides that an invention is not patentable if it is obvious in light of the prior art described in Section 102. The act only applies to certain kinds of prior art.
5. 35 USC 103(c), as amended by the act, [emphasis added] now reads as follows:

Section 103(c) (1) Subject matter developed by *another* person, which qualifies as *prior art only under one or more of subsections (e), (f), and (g)* of Section 102 of this title, shall not preclude patentability under this section where the subject matter and the claimed invention were, at the time the claimed invention was made, owned by the same person or subject to an obligation of assignment to the same person. (2) For purposes of this subsection, subject matter developed by another person and a claimed invention shall be *deemed to have been owned by the same person or subject to an obligation of assignment to the same person* if (A) the claimed invention was made by or on behalf of parties to a joint research agreement that was in effect on or before the date the claimed invention was made; (B) the claimed invention was made as a result of activities undertaken within the scope of the joint research agreement; and (C) the application for patent for the claimed invention discloses or is amended to disclose the names of the parties to the joint research agreement. (3) For purposes of paragraph (2), the term “joint research agreement” means a written contract, grant, or cooperative agreement entered into by two or more persons or entities for the performance of experimental, developmental, or research work in the field of the claimed invention.

6. A person shall be entitled to a patent unless ...
- (e) the invention was described in (1) an application for patent, published under Section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in Section 351 (a) shall have the effects for the purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21 (2) of such treaty in the English language; or
 - (f) he did not himself invent the subject matter sought to be patented, or
 - (g)(1) during the course of an interference conducted under Section 135 or Section 291, another inventor involved therein establishes, to the extent permitted in Section 104, that before such person's invention thereof the invention was made by such other inventor and not abandoned, suppressed, or concealed, or
 - (2) before such person's invention thereof, the invention was made in this country by another inventor who had not abandoned, suppressed, or concealed it. In determining priority of invention under this subsection, 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.