In Defense of "Best Mode": Preserving the Benefit of the Bargain for the Public

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Section 112 of Title 35 of the United States Code imposes two important disclosure obligations on inventors who seek the legal protection offered by a patent. First, the patent specification must “contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art . . . to make and use the same.” This is known as “enablement.” Second, the patent specification must “set forth the best mode contemplated by the inventor of carrying out his invention.” Not surprisingly, this is known as “best mode.”

Recently, several groups have attacked the best mode concept. One of the more influential critics is the 1990 Advisory Commission on Patent Law Reform to the Secretary of Commerce (Advisory Commission). The American Bar Association Section of Patent, Trademark and Copyright Law also criticized best mode, proposing that the statutory provision be limited to require only disclosure of the best mode of what is actually claimed. The following year, the American Bar Association Section on Intellectual Property Law passed Resolution 1992-R-108-9, at the 1992 annual meeting, which states that the section opposes

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3. Id.
4. See THE ADVISORY COMM’N ON PATENT LAW REFORM, A REPORT TO THE SECRETARY OF COMMERCE 100-03 (1992) (advising under Recommendation V-G(i) that the best mode obligation be eliminated) [hereinafter ADVISORY COMMISSION REPORT].
The Advisory Commission issued its report in August 1992 (1992 Report), recommending, inter alia, that best mode be eliminated, ostensibly to reduce the cost and complexity of patent enforcement. Enablement alone, it suggests, can sufficiently educate the public by providing complete and honest disclosure of the patented invention.

An inventor's duty to disclose the best mode known for carrying out an invention, as shown below, has its origins in our nation's earliest patent legislation. Disclosure is required in return for a seventeen year exclusive grant to the patentee. Such disclosure provides the public with the information necessary to fully comprehend the benefits of the inventor's innovation. Fulfilling the enablement obligation, while important, does not ensure that the public receives all to which it is entitled.

This article argues that the attacks on best mode are unfounded and concludes that the best mode requirement should not be abandoned.

I. Evolution of the Best Mode and Enablement Requirements

A. The Patent Acts of 1790 and 1793

Evidence of a best mode obligation appears in our country's initial federal patent legislation. As early as 1790, a statutory defense to patent infringement arose if "the whole of the truth" about the invention had not been disclosed. In an infringement action, if the evidence tended to in principle the elimination of the best mode requirement. See Alan H. Gordon, Section of Intellectual Property Law, American Bar Association, 1992-1993 Annual Report 81 (1993).

5. Advisory Commission Report, supra note 4, at 82-83, 100-03.
6. Id. at 102. The Advisory Commission compares the United States' requirements with disclosure obligations in Japan and Germany, which do not require disclosure of best mode. Id. "Despite the absence of a 'best mode' requirement," it argues, "there are no general concerns over the quality of the German or Japanese patent disclosures." Id. But see J. Philip Anderegg, The Best Mode Requirement of 35 U.S.C. Section 112, 1978 Am. Patent L. Ass'n Q.J. 219, 219 (contending that best mode will become more significant internationally as developing countries complain that foreign companies are providing insufficient disclosure in exchange for patent protection).
8. 35 U.S.C. § 154 (1988 & Supp. 1994). This section provides that the term of a patent is 17 years, during which time a patentee has "the right to exclude others from making, using, or selling" the patented invention. Id. Other conditions for patentability are set forth in 35 U.S.C. §§ 102, 103 (1988).
9. See In re Nelson, 280 F.2d 172, 182 (1960) (explaining that the statute requires disclosure in return for the grant of exclusive patent rights).
10. See infra notes 213-20 and accompanying text (discussing additional benefits of best mode).
prove that the plaintiff’s specification did not contain all information concerning his invention or contained too much information, and if the plaintiff’s purpose appeared to, or had the effect of, intentionally misleading the public, then the verdict was to be entered for the defendant. Another early statutory provision required that a patent application contain a complete description of the invention in sufficient detail to distinguish it from other inventions. This was to enable persons skilled in that particular area of technology to produce or use that invention, to the ultimate benefit of the public, when the patent expired. At the very inception of our patent system, therefore, there was both a statutory enablement requirement and a separate obligation to describe fairly what the patentee regarded as the invention.

The Patent Act of 1793 amended both the enablement and whole truth obligations in several ways. Section 3 of the Act required each applicant to file a written description of his invention, its purpose, and the process by which its purpose was achieved. Section 3 also required the description to be “in such full, clear and exact terms, as to distinguish [it] from all other things before known, and to enable any person skilled in the art or science, of which it is a branch, or with which it is most nearly connected, to make, compound, and use [it].” Furthermore, this section required, if the invention was a machine, that the inventor fully explain

12. *Id.* § 6, 1 Stat. at 111-12. Specifically, if the evidence tend[s] to prove that the specification filed by the plaintiff [does] not contain the whole of the truth concerning his invention or discovery; or that it contain[s] more than [is] necessary to produce the effect described; and if the concealment of part, or the addition of more than [is] necessary, shall appear to have been intended to mislead, or shall actually mislead the public, so as the effect described [cannot] be produced by the means specified, then, and in such cases, the verdict and judgment shall be for the defendant.

*Id.*

13. *Id.* § 2, 1 Stat. at 110. A patent application was to contain a description, accompanied with drafts or models, and explanations and models (if the nature of the invention or discovery will admit of a model) of the thing or things, by him or them invented or discovered, and described as aforesaid, in the said patents; which specification shall be so particular, and said models so exact, as not only to distinguish the invention or discovery from other things before known and used, but also to enable a workman or other person skilled in the art or manufacture, whereof it is a branch, or wherewith it may be nearest connected, to make, construct, or use the same, to the end that the public may have the full benefit thereof, after the expiration of the patent term.

*Id.*


15. *Id.* § 3, 1 Stat. at 321.

16. *Id.*
its principle and how its application was distinguishable from other inventions.\textsuperscript{17}

Section 6 of the 1793 Act altered the whole truth defense.\textsuperscript{18} It removed from the accused-infringer defendant the obligation of showing that the effect could not be achieved through the means specified by the inventor; a burden that had been imposed by the 1790 legislation.\textsuperscript{19} Consequently, the whole truth defense was available whenever the evidence proved that the plaintiff’s specification purposefully deceived the public by not containing enough information or by including too much information.\textsuperscript{20} Upon such proof, a court was required to enter judgment for the defendant and to declare the patent void.\textsuperscript{21}

In \textit{Grant v. Raymond},\textsuperscript{22} the Supreme Court considered whether a party could defend against a charge of infringement by proving that the patentee had failed to comply with the disclosure obligations imposed by section 3 of the 1793 legislation.\textsuperscript{23} The district court refused to instruct the jury that it was to find in favor of the accused infringer if the specification did not contain a clear and precise written description of the patented invention sufficient to distinguish it from previous inventions and allow another person with skill in that particular trade to make and use that invention.\textsuperscript{24} Rather, the district court instructed the jury that the failure to disclose such information would not destroy a patent’s validity “‘unless such defective or imperfect specification or description arose from design or for the purpose of deceiving the public.’”\textsuperscript{25}

Chief Justice Marshall, writing for the majority, discussed the interaction between sections 3 and 6. The Court explained that there is a distinc-

\textsuperscript{17} Id. § 3, 1 Stat. at 321-22.
\textsuperscript{18} See id. § 6, 1 Stat. at 322.
\textsuperscript{19} Id. The 1793 Act removed the phrase “so as the effect described cannot be produced by the means specified,” which had appeared in the 1790 Act. \textit{Compare id. with Patent Act of 1790, ch. 7, § 6, 1 Stat. 109, 112 (repealed 1793).}
\textsuperscript{20} § 6, 1 Stat. at 322.
\textsuperscript{21} Id.
\textsuperscript{22} 31 U.S. (6 Pet.) 218 (1832).
\textsuperscript{23} Id. at 230-31. Apparently, several earlier court decisions held that while the statute expressly provided for a whole truth defense to an infringement action, failure to comply with the statutory enablement requirement did not serve as a basis to avoid the patent. \textit{See Loom Co. v. Higgins, 105 U.S. 580, 588 (1882) (citing several relevant cases prior to and including Grant v. Raymond).}

In \textit{Grant}, the Supreme Court also considered whether the Secretary of State could accept the surrender of an inadvertently defective patent, cancel it, and issue a new patent for the unexpired life of the previous one. \textit{Grant}, 31 U.S. at 240. The Court decided that patentees should not be penalized for inadvertent mistakes when they are providing the public with the full benefit of their discovery. \textit{Id.} at 242-44; \textit{see 35 U.S.C. § 251 (1988).}
\textsuperscript{24} Grant, 31 U.S. at 245.
\textsuperscript{25} Id.
tion between (1) a successful defense that requires a judgment in favor of
the defendant in the particular action, where the patentee remains free to
bring other infringement suits, and (2) a successful defense that compels
the court to rule for the defendant and to void the patent. Justice Mar-
shall announced that "[t]he sixth section is not understood to control the
third. The evidence of fraudulent intent is required only in the particular
case, and for the particular purpose stated in the sixth section." Essentially, enablement was a separately available defense which, unlike whole
truth, did not involve an evaluation of the patentee's intent.

B. The Patent Act of 1836

While the Patent Act of 1836 left the enablement requirement substan-
tially intact, it altered the whole truth defense by omitting the require-
ment that the court declare the patent void when the defendant presented
sufficient evidence to establish the defense. In Loom Co. v. Higgins, the
United States Supreme Court discussed whether this amendment af-

26. Id. at 246 (explaining that while, at one time, the conceptual distinction between
the sections was not completely evident, "[t]his distinction is now well settled").

27. Id. at 247.

28. Id. See generally Anderegg, supra note 6 (explaining that best mode is a separate,
additional disclosure requirement that is being considered and codified in many different
countries).

29. Section 6 of the Patent Act of 1836 states:

But before any inventor shall receive a patent for any such new invention or dis-
covery, he shall deliver a written description of his invention or discovery, and of
the manner and process of making, constructing, using, and compounding the
same, in such full, clear, and exact terms, avoiding unnecessary prolixity, as to
enable any person skilled in the art or science to which it appertains, or with
which it is most nearly connected, to make, construct, compound, and use the
same; and in case of any machine, he shall fully explain the principle and the
several modes in which he has contemplated the application of that principle or
character by which it may be distinguished from other inventions . . . .


30. The 1836 Act omitted the phrase "and the patent shall be declared void," which
1 Stat. 318, 322 (repealed 1836). The relevant portion of the Patent Act of 1836 provided:

That the defendant in any such action shall be permitted to plead the general
issue, and to give this act and any special matter in evidence, of which notice in
writing may have been given to the plaintiff or his attorney, thirty days before
trial, tending to prove that the description and specification filed by plaintiff does
not contain the whole truth relative to his invention or discovery, or that it con-
tains more than is necessary to produce the described effect; which concealment
or addition shall fully appear to have been made for the purpose of deceiving the
public . . . in either of which cases judgment shall be rendered for the defendant,
with costs.

§ 15, 5 Stat. at 123.

fected the *Grant* holding.\textsuperscript{32} The patentee urged that the 1836 amendment eliminated the insufficient description plea, i.e., that there was a lack of enabling disclosure, unless it accompanied an allegation of fraudulent intent to deceive the public.\textsuperscript{33} While the Court found "plausibility in this argument,"\textsuperscript{34} it did not render a decision on the issue because it found the patent specification to be sufficiently full and clear.\textsuperscript{35}

Despite the *Loom Co.* dicta, the Supreme Court later recognized that the failure to comply with the statutory enablement requirement was a basis for judgment against the patentee under the 1836 Patent Act. For example, the Supreme Court examined this issue in *Wood v. Underhill*,\textsuperscript{36} which involved the innovative use of coal dust and clay to make brick and tile.\textsuperscript{37} The patent specification explained that the inventor would pulverize anthracite coal and mix it with the clay prior to molding it.\textsuperscript{38} Generally, one thousand bricks required three-fourths of a bushel of coal dust.\textsuperscript{39} The specification further stated that certain types of clay may require a larger or smaller amount of coal dust to produce the brick or tile.\textsuperscript{40}

The accused infringer argued that the specification was insufficient because it did not state a fixed proportion necessary to create the coal dust and clay mixture.\textsuperscript{41} The district court sustained the objection and entered judgment against the patentee.\textsuperscript{42} On appeal, the patentee asserted that the trial court should have allowed the jury to decide whether the specification's description was enabling.\textsuperscript{43} The Supreme Court explained that

\begin{itemize}
\item \textsuperscript{32} *Id.* at 588-89 (suggesting that the amendment may have changed the rationale in *Grant*, but finding that the issue was not properly before the Court).
\item \textsuperscript{33} *Id.* at 589. The 1793 Act had required an allegation of fraudulent intent to deceive as part of the defense when the party sought to avoid the patent. *Id.* at 588-89; *Grant v. Raymond*, 31 U.S. (6 Pet.) 218, 246-47 (1832).
\item \textsuperscript{34} *Loom Co.*, 105 U.S. at 589.
\item \textsuperscript{35} *Id.*
\item \textsuperscript{36} 46 U.S. (5 How.) 1 (1846).
\item \textsuperscript{37} *Id.* at 1-2. The new mixture of clay and coal dust was supposed to save fuel during the process of producing bricks and tiles. *Id.* at 2.
\item \textsuperscript{38} *Id.* at 2 (stating that the amount of coal dust required depended on how much would "best suit" the particular type of clay used).
\item \textsuperscript{39} *Id.* at 2.
\item \textsuperscript{40} *Id.* at 2-3. The patentee argued that, if necessary, he could present experts that could determine instantly how much coal dust would be needed for the characteristics of a particular type of clay. *Id.* at 3. He also stated that his innovative process created a greater benefit than any other prior process had been able to achieve, even despite the general nature of the formula. *Id.*
\item \textsuperscript{41} *Id.* at 4 (arguing that the specification only suggested what types of experiments would be necessary to achieve the optimum mixture).
\item \textsuperscript{42} *Id.* at 2.
\item \textsuperscript{43} *Id.* at 3. The patentee contended that the specification was as detailed as possible and asserted that manufacturers consistently had been able to use the patentee's method for burning bricks and tiles. *Id.*
\end{itemize}
“the only question presented by the record is, whether his description of the relative proportions of coal-dust and clay, as given in his specification, is upon the face of it too vague and uncertain to support a patent.”44 The answer to this question, according to the Court, could “be disposed of in a few words.”45

The Court announced that the sufficiency of a patentee's enablement disclosure is generally a question of fact to be determined by the jury.46 The Court explained that this rule should govern patent disputes even “where any of the ingredients mentioned in the specification do not always possess exactly the same properties in the same degree.”47 Conversely, where the specification merely gives the names of the substances that would be combined without stating any specific proportion or formula, or when the specification ambiguously or vaguely stated the proportions, “undoubtedly it would be the duty of the court to declare the patent to be void.”48 Failure to meet the necessary enabling obligation would be apparent from the specification itself because no one would be able to use the invention without experimentation.49 The Supreme Court did not find this degree of vagueness and uncertainty in Wood.50 The Court explained that the general proportion provided by the patentee was sufficient, when coupled with the warnings concerning the different quantities of clay.51 However, the Court also cautioned that if the stated proportions had no utility, then the invention would not be patentable.52

The Supreme Court also addressed the lack of enablement as a defense in O'Reilly v. Morse,53 where it considered the validity of the famous

44. Id. at 4.
45. Id.
46. Id. The Court, however, stated that the jury should not make the determination where the specification is obviously ambiguous. Id. at 5. Recall that the enablement obligation only applied to patents on machines. See supra note 17 and accompanying text.
47. Wood, 46 U.S. (How.) at 4-5.
48. Id. at 5 (reasoning that a rational jury possibly could not find that the statutory provision would be satisfied in this case, and that ambiguous or vague proportions have the same effect as an absence of proportions).
49. Id. But see W.L. Gore & Assocs., Inc. v. Garlock, Inc., 721 F.2d 1540, 1557 (Fed. Cir. 1983) (holding that a patent may be enabling even if some experimentation by the user is necessary, provided that the experimentation is not unduly burdensome), cert. denied, 469 U.S. 851 (1984).
51. Id.
52. Id. at 5-6 (citing the possibility that the variations in clay characteristics may be so great as to render the general formula useless).
53. 56 U.S. (15 How.) 62, 112 (1854). The infringing parties asserted three arguments in their defense. They argued: first, that Professor Samuel Morse was not the original inventor of the claimed subject matter; second, that the patent issued did not conform with the existing patent statutes, and was thus invalid; and third, non-infringement. Id. at 106. The second defense involved the lack of adequate enablement. Id. at 112.
eighth claim of the Morse patent. Although it invalidated this claim for overbreadth, the Court recognized that anyone who discovers a method of producing a useful result is entitled to a patent, provided that the means employed are specifically described.

At least one lower court opinion imposed a best mode obligation under the 1836 legislation. In *Page v. Ferry*, the accused infringer asserted that the patentee had failed to disclose the best method of effecting the machine he had described. The district court explained that the law required the patentee to specify the best method known to him at the time he applied for the patent. Such particularity would educate the public and disclose the secret process so that artisans skilled in that particular area could effect the object.

The district court instructed the jury that failure to comply with this obligation would result in a finding of no infringement. An infringement, the court explained, is a subsequent duplication of the principle detailed in the patent. It stated that “if the patent does not fully describe everything essential to the making of the thing patented, there will be no infringement by the fresh invention of processes which the patentee

54. Professor Morse claimed in the specification:
   “Eighth. I do not propose to limit myself to the specific machinery or parts of machinery described in the foregoing specification and claims; the essence of my invention being the use of the motive power of the electric or galvanic current, which I call electro-magnetism, however developed for marking or printing intelligible characters, signs, or letters, at any distances, being a new application of that power of which I claim to be the first inventor or discoverer.”
   *Id.* at 112. The Court found that Professor Morse was claiming an exclusive right to every improvement made involving electric or galvanic currents, where printed characters were created in another location. *Id.*

55. *Id.* at 120.

56. *Id.* at 119. The Court explained:
   Whoever discovers that a certain useful result will be produced, in any art, machine, manufacture, or composition of matter, by the use of certain means, is entitled to a patent for it; provided he specifies the means he uses in a manner so full and exact, that any one skilled in the science to which it appertains, can, by using the means he specifies, without any addition to, or subtraction from them, produce precisely the result he describes. And if this cannot be done by the means he describes, the patent is void.
   *Id.*

57. 18 F. Cas. 979 (C.C.E.D. Mich. 1857) (No. 10,662).

58. *Id.* at 984. The patent involved an innovative type of circular saw that could cut timber without becoming too hot or buckling. *Id.* at 981.

59. *Id.* at 984 (stating that the patent must “fully describe” the invention).

60. *Id.* (stating that the specification must be such “that the public may fully enjoy the benefit of his invention”).

61. *Id.* (holding that whether the patentee met the burden of disclosure is a question of fact for the jury).

62. *Id.*
In Defense of "Best Mode"

The court directed the jury to apply a subjective test, based on the "best mode known to the inventor." The best mode defense, it opined, ensures that the public receives an honest disclosure in return for the grant of exclusivity.

The court also separately instructed the jury on enablement, explaining that the patentee should not recover if "the specifications and drawings are vague and uncertain, conveying no exact or definite description of the invention claimed." The policy considerations underlying this requirement are based on fairness. The court explained that "[t]he law confers upon the patentee a monopoly" in exchange for a description of the invention "in such clear, full and exact terms, that persons of competent skill and knowledge, may construct and reproduce the machine, or thing described, by following the specification, with the aid of drawings." This level of disclosure, the court observed, ensures that the public is able to use the invention once the patent expires.


The Patent Act of 1870 modified the enablement requirement in one minor respect. Instead of obligating the inventor to disclose "the principle and several modes" of his invention, as required by the 1836 statute, it required the inventor of a machine to "explain the principle thereof, and the best mode in which he has contemplated applying that principle.

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63. Id.
64. Id. The court also instructed the jury to weigh carefully expert testimony in determining the inventor's knowledge at the time he applied for the patent. Id.
65. Id. The court explained that "[i]n consideration of the exclusive privilege conferred, and that the public may fully enjoy the benefit of his invention, all his knowledge in respect to the perfect practice of his invention, must be embraced in his specification." Id.
66. Id. at 983. The court found that a detailed description was necessary to fully inform the public of the nature of the invention because at the end of the patent term, the invention becomes public property. Id.
67. Id.
68. Id. The court discussed, in this context, the nature of a patent grant:

   The patent may be considered in the light of a deed from the government, the consideration of which is the invention specified; and the patentee is bound to communicate it, by so full, clear, and exact a description, with drawings and models, that it shall be within the comprehension of the public at the expiration of the patent, for at that period his invention becomes public property. The exclusive privilege is not conferred merely as a reward of genius, and for the encouragement of useful inventions and improvements in arts and manufactures, but also embraces the public benefit.

Id.
so as to distinguish it from other inventions." 71 The enablement requirement set forth in this legislation 72 was later codified in R.S. 4888 of the Revised Statutes of 1878. 73 Furthermore, the 1870 Act retained the whole truth defense, 74 which also was subsequently codified in R.S. 4920. 75

Following the 1870 legislation, sections 4888 and 4920 were not substantially changed until the 1952 Patent Act. 76 The 1952 Act incorporated both the enablement and best mode obligations in section 112 and codified as part of the defenses of patent invalidity a failure to comply with these obligations. 77 While it did not substantially change enablement, 78 the Act modified best mode in two ways. First, the 1952 Act

71. § 26, 16 Stat. at 201. William Robinson explained that the specification must contain full explanations of three different subjects: the invention itself; the manner of making it; and the mode of putting it to practical use,—a complete knowledge upon all these points being necessary to render the invention available to the public without further experiment or exercise of inventive skill.

2 WILLIAM C. ROBINSON, THE LAW OF PATENTS FOR USEFUL INVENTIONS § 484, at 73 (1890) (footnote omitted). Robinson further explained that disclosure of the best mode is required because "to withhold, for his own use or that of his licensees, a better form than that which he bestows upon the public would be a fraud upon them and render the patent void." Id. § 485, at 75.

72. To obtain a patent, the 1870 Act required that an inventor shall file in the patent office a written description of the [invention or discovery], and of the manner and process of making, constructing, compounding, and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art or science to which it appertains, or with which it is most nearly connected, to make, construct, compound, and use the same; and in case of a machine, he shall explain the principle thereof, and the best mode in which he has contemplated applying that principle so as to distinguish it from other inventions.

§ 26, 16 Stat. at 201.


74. § 61, 16 Stat. at 208. The statute provided

That in any action for infringement the defendant may plead the general issue, and . . . may prove . . . any one or more of the following special matters:

First. That for the purpose of deceiving the public the description and specification filed by the patentee in the patent office was made to contain less than the whole truth relative to his invention or discovery, or more than is necessary to produce the desired effect; . . . .

Id.

75. R.S. 4920 originally was codified at 35 U.S.C. § 69 (1946).


78. Id. Section 112 requires that

[t]he specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as 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.

Id.
broadened best mode to encompass not only patent applications on machines, but patent applications for any new, useful and non-obvious invention.\footnote{79} Second, this new form of best mode under section 112 replaced the whole truth defense.\footnote{80} In his commentary on the 1952 Patent Act, then Chief Patent Examiner Federico explained that with the expansion of the best mode to include "utility" patent applications for any invention, the new form "is not absolute, since it only requires disclosure of the best mode contemplated by the inventor, presumably at the time of filing the application."\footnote{81}

The distinction between best mode and enablement became clearer as a result of judicial interpretation. In the 1960s, the United States Court of Customs and Patent Appeals construed the 1952 Patent Act in several decisions and concluded that enablement and best mode disclosures were

\footnote{79} See 35 U.S.C. §§ 101-103 (1988). This is often referred to as a "utility" patent application. Compare 35 U.S.C. § 112 (omitting the language from the 1870 Act requiring that the best mode be disclosed "in [the] case of a machine") \textit{with supra} note 73 (quoting the omitted language from the 1870 Act). The new version of the best mode requirement provided that, in addition to an enabling description, a specification "shall set forth the best mode contemplated by the inventor of carrying out his invention." 35 U.S.C. § 112.

In \textit{In re} Nelson, 280 F.2d 172 (C.C.P.A. 1960), the United States Court of Customs and Patent Appeals explained the policy behind this version of the best mode requirement:

\begin{quote}
One cannot read the wording of section 112 without appreciating that strong language has been used for the purpose of compelling complete disclosure. There always exists, on the part of some people, a selfish desire to obtain patent protection without making a full disclosure, which the law, in the public interest, must guard against. Hence section 112 calls for description in 'full, clear, concise, and exact terms' and the 'best mode' requirement does not permit an inventor to disclose only what he knows to be his second-best embodiment, retaining the best for himself.
\end{quote}


\footnote{80} See 35 U.S.C § 282 (1988) (listing the available infringement defenses). Section 282 provides:

\begin{quote}
The following shall be defenses in any action involving the validity or infringement of a patent and shall be pleaded:
\begin{enumerate}
\item Noninfringement, absence of liability for infringement or unenforceability,
\item Invalidity of the patent or any claim in suit on any ground specified in part II of this title as a condition for patentability,
\item Invalidity of the patent or any claim in suit for failure to comply with any requirement of sections 112 or 251 of this title,
\item Any other fact or act made a defense by this title.
\end{enumerate}
\end{quote}

\textit{Id.}

separate and distinct obligations.\textsuperscript{82} \textit{In re Gay},\textsuperscript{83} for example, involved an appeal from a Patent Office Board of Appeals decision that affirmed an examiner’s rejection of several claims.\textsuperscript{84} The patentee invented a perforated bag that “‘permits the uniform cooking of fluffy rice . . . by inexperienced or unskilled persons.’”\textsuperscript{85} The Patent Office rejected the patent application for two reasons. First, it found that the term “‘substantially non-porous’” was “‘new matter’”\textsuperscript{86} that had been added to the specification and the claims during the course of prosecution.\textsuperscript{87} The Court of Customs and Patent Appeals rejected the Board of Appeals’ analysis, observing “that as originally filed, appellant’s specification would have indicated to one skilled in the art that all suggested container materials were to be substantially non-porous.”\textsuperscript{88}

Second, the Patent Office rejected the patent application because the specification was incomplete, inadequate, and did not completely describe “‘a specific embodiment of the package on which appellant predicates patentability.’”\textsuperscript{89} In reversing this basis for refusing to grant the patent, the court noted that the Board’s analysis was not completely clear.\textsuperscript{90} The appellate court found that the analysis confused and partially contradicted two requirements of 35 U.S.C. § 112.\textsuperscript{91} The court explained that the enablement portion of section 112 essentially requires a patentee to disclose a method by which a person who is skilled in that specific art can make and use the invention.\textsuperscript{92}

\textsuperscript{82} See, e.g., \textit{In re Honn}, 364 F.2d 454 (C.C.P.A. 1966); \textit{In re Gay}, 309 F.2d 769 (C.C.P.A. 1962).
\textsuperscript{83} 309 F.2d at 769.
\textsuperscript{84} \textit{Id}.
\textsuperscript{85} \textit{Id}. The court explained that tiny perforations in the rice container create pressure while the rice is boiling, allowing water containing starch to be emitted while preventing the entry of additional water. \textit{Id} at 770.
\textsuperscript{87} \textit{In re Gay}, 309 F.2d at 770. The examiner found that originally, the specifications did not note whether the material used had to be porous. \textit{Id}.
\textsuperscript{88} \textit{Id} at 771 (emphasis in original). The court stated that the original disclosure reference to “‘resistant to water and heat’” would have indicated that the inventor was concerned with nonporous materials to someone skilled in the art. \textit{Id}.
\textsuperscript{89} \textit{Id} at 772.
\textsuperscript{90} \textit{Id} (suggesting that the Patent Office may have confused the enablement and best mode requirements).
\textsuperscript{91} \textit{Id} at 772-73. The court explained that the Patent Office believed “best mode” to be the “\textit{optimum} mode” available to employ the invention. \textit{Id} at 773 (emphasis in original). The court noted that the patentee is only required to disclose the best mode known to him at the time of application, even though that method may not yet have been commercially tested. \textit{Id}; see 35 U.S.C. § 112 (1988).
\textsuperscript{92} \textit{In re Gay}, 309 F.2d at 772 (referring to 35 U.S.C. § 112).
treated best mode as a "separate and distinct" requirement from the enablement requirement.  

According to the Court of Customs and Patent Appeals, the best mode requirement demands that the inventor "disclose the best mode contemplated by him, as of the time he executes the application, of carrying out his invention." The purpose of this requirement is to constrain patent applicants who conceal particularly advantageous forms of their innovations from the public. An inventor will satisfy the best mode obligation "if he does not conceal what he feels is a preferred embodiment of his invention." This issue "is, however, a question separate and distinct from the question of the sufficiency of his disclosure to satisfy the [enablement] requirements of . . . section 112."  

II. BEST MODE AND ENABLEMENT INTERACTION IN LITIGATION  

One way to assess the importance of the best mode requirement is to consider whether parties have asserted best mode and enablement as alternative defenses or as congruent obligations. If treated as merely congruent, best mode would be nonessential in light of the enablement requirement. If shown to be treated by the courts as an alternative, non-congruent defense, however, best mode would seem to be recognized to serve a separate purpose and complement the requirements of enablement. A review of patent cases with this in mind reveals that best mode is not surplusage, but is rather separate and distinct from enablement.

93. Id.  
94. Id. (emphasis in original).  
95. Id. (finding that the failure to detail certain specifications in this case did not prove intent to deceive the public).  
96. Id.  
97. Id. (emphasis in original). The court reversed the decision of the Board of Appeals on the ground that it misconstrued the requirements of section 112. Id. at 774.

Another appeal from a decision of the Patent Office Board of Appeals rejecting claims for "insufficient disclosure" was at issue in In re Honn, 364 F.2d 454 (C.C.P.A. 1966). In Honn, the patentees invented new methods to produce materials that were tougher and more heat resistant. Id. at 455. The United States Court of Customs and Patent Appeals divided the claims into two groups and treated the issues of enablement and best mode separately. Id. at 461-63. The court concluded that the first group of claims contained sufficient disclosure to satisfy the enablement requirement. Id. at 462. As for the best mode requirement, it found "no reason" to believe the inventors had concealed the best mode known to them at the time of their application. Id. The court, however, affirmed the rejection of the second group of claims because of the lack of enabling disclosure. Id. at 462-63. The court found that in this case the disclosure would not necessarily allow those skilled in the art to make and use the invention. Id. at 463.
Decisions both prior to and subsequent to the creation of the Court of Appeals for the Federal Circuit are in this respect consistent.\textsuperscript{98}

\textbf{A. Best Mode and Enablement Decisions Prior to the Creation of the Federal Circuit}

In \textit{Engelhard Industries, Inc. v. Sel-Rex Corp.},\textsuperscript{99} the patented invention involved a method of electrodepositing gold through the use of an electrolyte or bath.\textsuperscript{100} The accused infringer contended that the specification was nonenabling.\textsuperscript{101} It performed inter partes tests designed around the three examples of the patent.\textsuperscript{102} The results from tests corresponding to Example 2 showed the example, by its terms, was inoperative. In three tests corresponding to Examples 1 and 3, the results actually achieved were quite poor.\textsuperscript{103} The patentee argued that the process disclosed in the specification was, nevertheless, operative and the conditions contemplated by the example were "within the broad range of the claims of the patent."\textsuperscript{104} Accordingly, the patentee asserted that one skilled in the art would be able to make and use the claimed invention.\textsuperscript{105} While the


\textsuperscript{100} \textit{Id.} at 833. The court explained:

A typical electrodeposition system consists of a tank containing an aqueous solution of the metal compound to be deposited, called the bath or electrolyte; a positively charged electrode, or anode; and a negatively charged electrode, or cathode. The electrodes are immersed in the electrolyte, spaced apart and connected externally to a direct current power source. . . . [As the current flows,] positively charged metal ions in the bath "plate out" as atoms on the cathode, forming a coating of the metal which was in the compound. Various metals may be used as electrodes. \textit{Id.} at 833-34.

\textsuperscript{101} \textit{Id.} at 834. The alleged infringer brought an action for declaratory judgment to declare the patent invalid and not infringed by the plaintiff. \textit{Id.} at 833. The defendant counterclaimed, alleging that the plaintiff infringed the patent. \textit{Id.} The alleged infringing party also asserted defenses under 35 U.S.C. §§ 102, 103, as well as a defense under § 112 that the specification did not "distinctly claim the subject matter of the invention," and a defense based on file wrapper estoppel. \textit{Id.} at 834.

\textsuperscript{102} \textit{Id.} at 836 (referring to Tests 1A, 1B, and 3, as well as Examples 1, 2, 3 in the specification).

\textsuperscript{103} \textit{Id.} (stating that instead of the desired result, each experiment resulted in coating that was "brown in color, powdery and spongy" or "[a] brown, brittle deposit").

\textsuperscript{104} \textit{Id.} (explaining that tests using conditions of higher temperatures and lower current densities would have produced better results).

\textsuperscript{105} \textit{Id.}
United States District Court for the District of New Jersey was inclined to agree with the patentee on the enablement issue, it found that the patentee's specification did not disclose the best mode contemplated by the inventor for the purpose of producing and operating his invention.106

The accused infringer had "not explicitly raised" the failure to comply with the best mode requirement as a defense.107 Nevertheless, the district court cited the parties' express or implied consent as a justification for its review.108 Based on the poor test results, the court found that the inventor knew that better results could be obtained under conditions other than those described in the patent examples.109 The district court concluded that in fact the inventor intended to conceal the best mode "in view of the wide range of the claims as to temperature and current density."110 As a result, the court invalidated the patent for failure to comply with the best mode obligation.111

In Flick-Reedy Corp. v. Hydro-Line Manufacturing Co.,112 the United States District Court for the Northern District of Illinois considered two patents, one of which involved a connection between the head and the barrel of a cylinder.113 The accused infringer asserted several defenses, but under section 112 raised only the failure to comply with best mode.114 The district court found that a special tool was needed to produce absolute concentricity and zero clearance, which were critical elements of the claimed invention.115 The patentee conceded that it regarded its use of the special tool as a trade secret.116 By omitting a detailed description of

106. Id. (acknowledging the distinction between enablement and best mode).
107. Id.
108. Id. The district court explained that references to the relevant statutory section and to the tests in the specification raised the issue. Id.
109. Id. at 836-37.
110. Id. at 837.
111. Id. On appeal, the United States Court of Appeals for the Third Circuit affirmed the patent's invalidity under 35 U.S.C. § 102, one of the other defenses asserted at the district court level. Engelhard Indus., Inc. v. Sel-Rex Corp., 384 F.2d 877, 878 (3rd Cir. 1967). The Third Circuit declined "to deal with the other important issues which the district court considered," including whether the patentee failed to comply with the best mode requirement under section 112. Id.
113. Id. at 129. Flick-Reedy produced hydraulic and pneumatic cylinders for use in motors. Id.
114. Id. at 141.
115. Id. at 132 (referring to the tracer tool used to finish the cylinders).
116. Id.
the special tool and reserving it as a trade secret, the court concluded that the patentee failed to comply with the best mode obligation.\textsuperscript{117}

The infringing party in \textit{Benger Laboratories, Ltd. v. R.K. Laros Co.},\textsuperscript{118} also raised the best mode defense.\textsuperscript{119} This case involved a patented cure for iron-deficiency anemia in newborn pigs, a condition which shortened the lifespan of the animals.\textsuperscript{120} Known iron preparations could have been administered safely and were even used with humans, but these required an intravenous injection to be performed by a person having the requisite professional skill.\textsuperscript{121} Such intravenous treatment would require farmers to hire a veterinarian.\textsuperscript{122} The inventors therefore sought to create an intramuscularly injectable iron preparation, having concluded that their employer's intravenously injectable product "could not be modified for that purpose."\textsuperscript{123} They discovered that a specific compound would effectively serve as a carrier for the iron compound,\textsuperscript{124} but were unable to precisely define the resulting chemical structure.\textsuperscript{125}

The infringers asserted that the patent was invalid because of the indefiniteness of the patent's claim and the inventors' failure to disclose the best mode of carrying out the invention.\textsuperscript{126} The United States District Court for the Eastern District of Pennsylvania treated this defense as separate and distinct from the other affirmative defenses.\textsuperscript{127}

The claim used the technical word "'complex,'" which the accused infringers argued was "so indefinite and [of such] varied meaning as to leave the identification of the product to the imagination."\textsuperscript{128} The district

\begin{itemize}
\item \textsuperscript{117} Id. at 135. The trial court believed that the patentees withheld necessary information on the use and nature of a "'special tool'" required to operate the invention and held the patent invalid. \textit{Id.} at 141.
\item \textsuperscript{119} \textit{Id.} at 641. Other defenses included obviousness, improper reissue, non-infringement, and patent misuse in violation of antitrust laws. \textit{Id.}
\item \textsuperscript{120} \textit{Id.} at 641.
\item \textsuperscript{121} \textit{Id.} (noting the impossibility of using oral administration with piglets).
\item \textsuperscript{122} \textit{Id.} (explaining the need for an alternative means of battling the anemia).
\item \textsuperscript{123} \textit{Id.} (explaining that Benger Laboratories unsuccessfully searched for a solution for at least two years).
\item \textsuperscript{124} \textit{Id.} The compound was dextran, which Benger Laboratories had been using for several years "as a blood plasma extender." \textit{Id.}
\item \textsuperscript{125} \textit{Id.} at 642.
\item \textsuperscript{126} \textit{Id.} The alleged infringers argued that the inventors violated section 112, which requires that "[t]he specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention." 35 U.S.C. § 112 (1988).
\item \textsuperscript{127} See \textit{id.} at 642, 644.
\item \textsuperscript{128} \textit{Benger Laboratories}, 209 F. Supp. at 642. The plaintiff's expert testified that if a given chemical substance cannot be determined to be a mixture or a compound, the substance is referred to as "complex." \textit{Id.}
court agreed that the term "complex" is used in chemistry to describe compounds of matter for which scientists have not decided upon a general understanding.\textsuperscript{129} Indeed, the patentee, the accused infringers, and their respective experts all conceded that the precise chemical structure of the claimed product was not known.\textsuperscript{130}

Nevertheless, the district court reasoned that "nothing in the law requires the courts to deny a patent to the inventor of a new and useful product merely because laboratory technique has not advanced to a point where the chemical structure can be recognized and described."\textsuperscript{131} The patentee is required only to make reasonable disclosure, describing "the product with sufficient particularity [so] that it can be identified and [so] that those who are interested in its manufacture are enabled to determine what will and what will not infringe."\textsuperscript{132}

The court then considered whether the inventors had disclosed the best mode known to carry out the invention.\textsuperscript{133} At the time the patent application was filed, the co-inventors and another scientist, who supervised the commercial production of the invention, disagreed as to the best mode of achieving commercial production.\textsuperscript{134} While the method used by the co-inventors in the laboratory produced the desired results, it did not do so consistently.\textsuperscript{135} The patent application was filed before the scientists resolved their dispute.\textsuperscript{136} Commercial production of the invention proceeded with the other scientist's method.\textsuperscript{137} The district court found that although commercial production did not use the method described in the patent application, the inventors remained unconvinced about the viability of the production method actually used for some time after their application was filed.\textsuperscript{138} Accordingly, the court held that the inventors fulfilled their best mode obligation because they included in the specifica-

\textsuperscript{129} Id. The court suggested that "complex" is a categorical name for that which is as yet undefined. Id.

\textsuperscript{130} Id.

\textsuperscript{131} Id.

\textsuperscript{132} Id. Consequently, the patent was not invalid under 35 U.S.C. § 112 for claim indefiniteness. Id.

\textsuperscript{133} Id. at 644; see 35 U.S.C. § 112 (1988).

\textsuperscript{134} Benger Laboratories, 209 F. Supp. at 644.

\textsuperscript{135} Id. (explaining the pressure on the patentees to achieve a consistent, commercially viable method).

\textsuperscript{136} Id. (stating that the two sides were "at swords points" as to whether the laboratory method or the commercial method of production was better).

\textsuperscript{137} Id. The patentees were unconvinced that the method used for commercial production was the most efficient. Id.

\textsuperscript{138} Id. Because of mechanical problems, the dispute continued for almost two years after the patent application was filed. Id.
tion the best mode contemplated by them at the time the application was filed. 139

The United States District Court for the Southern District of New York in Indiana General Corp. v. Krystinel Corp. 140 upheld a defense of patent invalidity for failure to describe clearly the best mode contemplated by the inventors. 141 In Indiana General, the patent at issue involved a material that was useful in home radio antennas. 142 The court concluded that the patentees violated the best mode requirement of section 112 by effectively obscuring the preferred composition of the invention. 143 The court explained that the patentee failed to disclose a specific formula by "merely includ[ing] the elements of the preferred composition within the series of broad ranges claimed by the patent." 144 Using company reports, the district court determined that the preferred composition of the innovative material improved efficiency (or Q factor) at a maximum frequency of 10 to 30 megacycles. 145 The patent specification, however, stated incorrectly that beneficial results were achieved throughout a much wider frequency range of up to 300 megacycles. 146

In Trans-World Display Corp. v. Mechtronics Corp., 147 the United States District Court for the Southern District of New York found that

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139. Id. at 645.
141. Id. at 447.
142. Id. at 430-31 (describing a new method of producing nickel-zinc ferrite antennae). The inventor sought to patent the invention in Germany, the United States, France, and the United Kingdom. Id. at 432, 434. The United States patent was issued nine years after the German priority application was filed. Id. at 432, 437.
143. Id. at 439. A patent applicant may not obtain a "monopoly on the products falling within [an overly broad] range." Id. (quoting Georgia-Pacific Corp. v. United States Plywood Corp., 258 F.2d 124, 132 (2d Cir.), cert. denied, 358 U.S. 884 (1958)).
144. Id.
145. Id. at 442.
146. Id. at 441 (finding that a misstatement of that magnitude could not have been unintentional). The court also found that the patentees attempted to obscure the fact that the patent incrementally improved upon the prior art by failing to define adequately the innovative material's advancement. Id. The court therefore invalidated the patent because the specification was "not only insufficiently descriptive but, moreover, misrepresentative as to the extent of the inventive advance." Id. at 442. The patentee may have developed a patentable product, but because the specification attempted to manipulate more rights than that to which it was entitled, the patent was invalid. Id. at 439. On appeal, the Second Circuit found it necessary to affirm only on the ground of obviousness. Indiana Gen. Corp. v. Krystinel Corp., 421 F.2d 1023, 1024 (2d Cir.), cert. denied, 398 U.S. 928 (1970).
the patentee failed to comply with best mode. The patented invention was a gravity feed dispenser that would hold four or five different-sized boxes of film against the front of the display. A sawtooth and detent to provide stability to the partitions were found by the court to be significant components of the dispenser, but the patentee had failed to describe this structure in the specification. Trans-World Display attempted to explain the nondisclosure by arguing that the sawtooth and detent arrangement was developed a short time after the patent application was filed. The district court, however, concluded that the arrangement had existed a couple of months before the patent application was filed. Accordingly, the patent failed to comply with the best mode obligation under section 112.

B. Decisions Rendered by the Federal Circuit

The United States Court of Appeals for the Federal Circuit came into existence on October 1, 1982. Several decisions of this court confirm the separate and distinct nature of enablement and best mode. W.L. Gore & Associates, Inc. v. Garlock, Inc., for instance, involved two patents deriving from a single patent application. Both patents concerned stretching polytetrafluorethylene (PTFE), which is commonly known as

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148. See id. at 702. Enablement was not at issue in this case. See id. at 694. The alleged infringer asserted defenses under § 103, § 102(b), non-infringement, and defective title to the patent, as well as best mode. Id. at 694.
149. Id. at 694-95 (comparing the design to cigarette dispensers).
150. Id. at 702. The court explained that without the sawtooth and detent, the partitions would fall during assembly, unless the dispenser was filled with film. Id.
151. Id. (signifying a disclosure violation of 35 U.S.C. § 112).
152. Id. (contending that the structure was not known to the patentee at the time the patent application was filed).
153. Id.
154. Id. at 704. In Arbrook, Inc. v. American Hosp. Supply Corp., 202 U.S.P.Q. (BNA) 676 (N.D. Tex. May 9, 1977), aff'd in part and rev'd in part, 645 F.2d 273 (5th Cir. 1981), the United States District Court for the Northern District of Texas invalidated a patent for failure to comply with best mode. Arbrook, Inc., 202 U.S.P.Q. at 685. The invention was a shoe sole cleaner, which would be placed at the threshold of an operating room or other such room to clean shoes of bacteria and dirt. Id. at 676. The court found that when the inventor filed the application, he believed the best mode of practicing the invention involved a plastic sheet without a reinforcing fibrous web. Id. at 684. The patent application, by contrast, described a structure that used a reinforcing fibrous web. Id. For this reason, the district court found that the specification was deficient for failure to disclose the best mode, as well as for violation of §§ 102, 103, 271 and the enablement requirement of § 112. Id. at 684-85.
155. See supra note 99.
156. See infra notes 158-224 and accompanying text.
158. Id. at 1556. The court noted that the specifications were "substantially identical." Id. One patent was on the product, and the other was for the process. Id. at 1545.
TEFLON, a trademark of E.I. du Pont de Nemours, Inc.\textsuperscript{159} The United States District Court for the Northern District of Ohio invalidated all patent claims for lack of enablement and for indefiniteness.\textsuperscript{160} On appeal, the Federal Circuit determined that this conclusion was not based on a proper interpretation of the function and purpose of section 112.\textsuperscript{161} The Federal Circuit found no evidence to conclude that those skilled in the art would have believed that the claim language was indefinite or that the specification was nonenabling on the date the patent application was filed.\textsuperscript{162}

In the course of its enablement analysis, the Federal Circuit addressed best mode, even though the district court had not invalidated the patent on that basis.\textsuperscript{163} The Federal Circuit stated that at the time the application was filed, the patentee calculated the stretch rate simply by measuring with a stopwatch the time needed to stretch the substance.\textsuperscript{164} This was the only method employed by the inventor to calculate the stretch rate.\textsuperscript{165} The Federal Circuit used the best mode issue to support its enablement analysis, explaining that “calculation by that mode would have been employed by those of ordinary skill in the art at the time the application was filed.”\textsuperscript{166} As a result, the Federal Circuit returned its focus to

\textsuperscript{159} Id. at 1544-45. The inventor discovered the innovative product and process in response to “a tape breakage problem in the operation of its ‘401’ tape stretching machine.” Id. at 1545. The experimentation involved heating the PTFE crystalline rods to improve their stretching propensity. Id.

\textsuperscript{160} Id. at 1556. The district court concluded that certain specification phrases were indefinite and certain processes were not sufficiently disclosed. Id. The district court found that the specification was nonenabling in several respects: there was no definition of “stretch rate;” there was no way specified to calculate the minimum stretch rate; and the phrases “matrix tensile strength” and “specific gravity of the solid polymer” were indefinite. Id. The alleged infringer sought to defend the infringement claim by asserting patent invalidity based on §§ 102 and 103, as well as the enablement requirement of § 112. Id. at 1546.

\textsuperscript{161} Id. at 1556. The district court based its decision on whether certain terms would have been enabling to the public, rather than to those skilled in the art as required by section 112. Id. at 1556. Furthermore, the district court relied on publications appearing well after the filing date of the specification. Id.

\textsuperscript{162} Id.

\textsuperscript{163} Id. at 1556-57; see supra note 157 and accompanying text (discussing the district court’s reasons for invalidating the patent).

\textsuperscript{164} W.L. Gore & Associates, 721 F.2d at 1556.

\textsuperscript{165} Id. The alleged infringers argued that the inventor’s development of a formula to calculate the stretch rate and its addition to his corresponding Japanese patent proves that the inventor failed to disclose the best mode of calculating the stretch rate at the time the application was filed. Id.

\textsuperscript{166} Id. at 1556-57 (following the language of the best mode obligation in 35 U.S.C. § 112).
the enablement issue, concluding that the "stretch rate" was not indefinite as it was "clearly assessable through use of a stopwatch." 167

In *White Consolidated Industries, Inc. v. Vega Servo-Control, Inc.*, 168 the Federal Circuit reviewed a patent involving a numerical control system for machine tools controlled by a computer program. 169 The computer program was written in a high-level language that used "English-like words" and a "language translator" was then used to convert the program into machine code. 170 The specification described the language translator as "a known translator," making specific reference to a program, the source code of which was kept as a trade secret but which was sold in object code form under the acronym SPLIT. 171 The United States District Court for the Eastern District of Michigan concluded that the patent specification was nonenabling because it failed to disclose the proprietary program. 172 It explained that "here the enabling requirement and the best mode requirement go hand-in-hand due to the proprietary nature of SPLIT and its importance as the only singlepass language known at the time to work" in the patented system. 173 The district court emphasized that SPLIT was the only programming language known by the inventors that would work in their patented system. 174 Because SPLIT was a trade secret and thus unavailable, the specification was nonenabling without its disclosure. 175

On appeal, the Federal Circuit only considered the enablement issue. 176 Despite the description of the translator's characteristics and the reference to SPLIT, the Federal Circuit agreed with the district court that the specification was nonenabling as to the language translator program because suitable substitutes for SPLIT were not known and not widely available. 177 Although the invention encompassed much more than the

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167. Id. at 1557.
169. Id. at 789.
170. Id. (explaining the necessity of translating the numerical control language into machine language).
171. Id. SPLIT stands for "Sundstrand Program Language Internally Translated." "
173. Id. at 824 (noting that best mode and enablement usually are separate and distinct analyses).
174. Id. at 825 (acknowledging that other language translators existed at the time, but none had ever been used in this context).
175. Id. at 823.
177. Id. at 790.
language translator, it was "an integral part of the disclosure necessary to enable those skilled in the art" to carry out the claimed invention.\textsuperscript{178}

The Federal Circuit again evaluated enablement and best mode in Randomex, Inc. v. Scopus Corp.,\textsuperscript{179} which involved a portable machine for cleaning computer disk packs.\textsuperscript{180} The patent did not claim the fluid as part of the patented invention, but cleaning fluid was needed for use in the patented machine. The patent disclosed that the cleaning solution used either should contain a ninety-one percent alcohol content or should be a detergent solution similar to Randomex Cleaner No. 50281.\textsuperscript{181} At trial, the district court submitted two questions, Q2 and Q3, to the jury to determine whether the patentee fulfilled the best mode requirement of section 112.\textsuperscript{182} In response to Q2, the jury concluded that the inventors adequately disclosed the cleaning fluid so that a person skilled in the art would not be required to engage in undue experimentation to practice the invention.\textsuperscript{183} In response to Q3, the jury found that the inventors deliberately refrained from disclosing information pertaining to the best cleaner fluid for the purpose of inducing users to purchase the company's own product.\textsuperscript{184} The district court concluded that the jury's latter re-

\textsuperscript{178} Id. at 791. Theoretically, the reviewing court opined, the patentee could unlawfully extend its patent rights by virtue of its exclusive control over an integral part of the production process. \textit{Id.} To avoid such a result, the patentee was obligated to disclose details of SPLIT. \textit{Id.} The Federal Circuit explained that a trade secret may be referred to by name only and yet satisfy the disclosure obligations of \textsection 112. \textit{Id.} at 790. To do so, however, equivalent methods or products must be known to exist and must be available to those skilled in that particular area. \textit{Id.} In this case, no equivalent existed. \textit{Id.}

\textsuperscript{179} 849 F.2d 585 (Fed. Cir. 1988).

\textsuperscript{180} Id. at 586. Prior to this point, the fragile computer disks had to be transported to a nonportable cleaning apparatus. \textit{Id.} The Federal Circuit explained that the cleaning solution was sprayed on the brushes of the cleaning apparatus to remove dirt and grease after the disks have been cleaned. \textit{Id.}

\textsuperscript{181} Id.

\textsuperscript{182} Id. at 588-89.

\textsuperscript{183} Id. at 586. The submitted question, as answered, was:

2. Was the patent's disclosure with respect to cleaning fluid so inadequate that a person skilled in the art who did not use plaintiff's named cleaner would have had to engage in an undue amount of experimentation,

a) To use the invention?

\begin{tabular}{ll}
Yes & \textit{X} \\
No & \\
\end{tabular}

b) To find the best mode to use the invention?

\begin{tabular}{ll}
Yes & \textit{X} \\
No & \\
\end{tabular}

\textit{Id.}

\textsuperscript{184} Id. Q3 asks:

3. Did the applicants deliberately refrain from informing users of the invention of the best cleaner formula with the intent that, to a substantial extent, users would be led to purchase plaintiff's cleaner rather than to experiment themselves to find the best?
sponse was a better indicator of whether the best mode requirement had been fulfilled and entered judgment against the patentee.\textsuperscript{185}

In its review of the district court decision, the Federal Circuit split as to which question was actually more relevant to the best mode issue. According to the Federal Circuit majority, Q3 was not determinative of the best mode issue even though it contained elements of a best mode analysis.\textsuperscript{186} Instead, Q3 was designed to address patent misuse.\textsuperscript{187} Thus, explained the majority, Q3 focused on users of the invention rather than persons skilled in the art.\textsuperscript{188} Moreover, Q3 did not direct the best mode analysis to the claimed invention, which was a portable machine for cleaning computer disk packs.\textsuperscript{189} Those of ordinary skill in this art, the majority opined, are not expected to be skilled in the art of cleaning fluids.\textsuperscript{190} The court stated that it assumed a person skilled in one art who had questions concerning another subject would ask a properly skilled individual.\textsuperscript{191}

Instead, the majority determined that Q2 was more properly directed to the best mode issue.\textsuperscript{192} Concluding that the district court erred in relying on the jury's answer to Q3, the Federal Circuit reversed the district court's holding of invalidity.\textsuperscript{193} The appellate court also explained that commercial substitutes were readily available in the prior art and that the Randomex product identified by trade name was "mere surplusage—an addition to the generic description."\textsuperscript{194}

In dissent, Judge Mayer argued that there is "a sharper distinction between the best mode and enablement requirements of 35 U.S.C. § 112."\textsuperscript{195} He indicated that one of the co-inventors, through experimentation, had learned that there was a significant difference in cleaning fluid

<table>
<thead>
<tr>
<th>Yes X</th>
<th>No ________</th>
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a) Was that a reasonable expectation? | Yes X | No ________ |

\textit{Id.} Regardless, the jury awarded the patentees, Randomex, over $1.5 million in damages.

\textit{Id.}
\textsuperscript{185} \textit{Id.} at 587.
\textsuperscript{186} \textit{Id.} at 588.
\textsuperscript{187} \textit{Id.}
\textsuperscript{188} \textit{Id.} at 588.
\textsuperscript{189} \textit{Id.} at 588-89.
\textsuperscript{190} \textit{Id.} at 589 (explaining that "[t]he world is full of cleaning fluids produced by persons skilled in the cleaning fluid art").
\textsuperscript{191} \textit{Id.}
\textsuperscript{192} \textit{Id.}
\textsuperscript{193} \textit{Id.}
\textsuperscript{194} \textit{Id.} at 590 (noting the patentee's description of the cleaning fluid as an extraneous public relations ploy).
\textsuperscript{195} \textit{Id.} (Mayer, J., dissenting).
effectiveness.\textsuperscript{196} That co-inventor intentionally refrain from disclosing in the specification the optimum cleaning solution formula to induce the users of the invention to purchase his company's cleaning solution.\textsuperscript{197} Indeed, the dissent continued, the generic description provided in the specification was actually misleading.\textsuperscript{198} The trade secret solution contained no alcohol and there was uncontradicted testimony that an alcohol-based cleaning fluid could be dangerous.\textsuperscript{199} Nevertheless, the Federal Circuit reversed the district court's holding of invalidity.\textsuperscript{200}

\textit{Dana Corp. v. IPC Ltd. Partnership}\textsuperscript{201} involved an appeal from a judgment finding a patent "valid, enforceable and willfully infringed."\textsuperscript{202} In \textit{Dana}, the patent failed to mention the fluoride surface treatment that was used to obtain satisfactory performance with the patented product. The lower court excused this nondisclosure because it believed best mode could be satisfied by showing that the missing information could be obtained in the prior art. This was an "erroneous" view of the law.\textsuperscript{203}

The Federal Circuit opined that there was no objective standard by which to test the sufficiency of best mode disclosure.\textsuperscript{204} It explained that whether there was compliance with best mode involved comparing the disclosure to the facts concerning the invention known to the inventor at the time the application was filed. Thus, only evidence of accidental or intentional concealment was said to be pertinent.\textsuperscript{205} In this case, the appellate court concluded that uncontradicted evidence presented at trial

\begin{itemize}
\item \textsuperscript{196} \textit{Id.} at 591 (suggesting that the specification would be satisfactory if all of the cleaning solutions worked equally well).
\item \textsuperscript{197} \textit{Id.} (explaining that the inventor believed it would be "'a good advertising gimmick' ").
\item \textsuperscript{198} See \textit{id.}
\item \textsuperscript{199} \textit{Id.} An alcohol solution could produce dangerous fumes, but the patent disclosed fluid with 91\% alcohol content as appropriate for use.
\item \textsuperscript{200} \textit{Id.} at 590.
\item \textsuperscript{201} 860 F.2d 415 (Fed. Cir. 1988), cert. denied, 490 U.S. 1067 (1989).
\item \textsuperscript{202} \textit{Id.} at 417.
\item \textsuperscript{203} \textit{Id.} at 419. The patented product was a "valve stem seal" used in automobiles. \textit{Id.} at 416. The product was designed to allow an optimum amount of oil into the cylinder while preventing oil from leaking out. \textit{Id.} at 416-17.
\item \textsuperscript{204} \textit{Id.} at 418 (noting the subjective nature of the analysis for each set of facts).
\item \textsuperscript{205} \textit{Id.} In a 1992 case, the Federal Circuit further explained:
\begin{itemize}
\item A best mode analysis has two components. The first inquiry focuses on whether the inventor knew of a mode of practicing his invention at the time he filed his patent application which he considered to be better than any other. This determination is subjective, focusing on the inventor's state of mind at the time he filed his application. If he did have a best mode, the next question is whether he disclosed it and did so adequately to enable one of ordinary skill in the art to practice the best mode. This is an objective determination. There must be no concealment of a mode known by the inventor to be better than that which is disclosed.
\end{itemize}
\end{itemize}
demonstrated that the patentee "believed that the best way of carrying out his invention included fluoride treating the surface of the valve seals." Concluding that Dana suppressed its best mode, the court reversed the judgment below.

Best mode and enablement were considered in *Northern Telecom, Inc. v. Datapoint Corp.* The patent at issue related to various aspects of a programmable processor-based batch data entry terminal and contained forty-six claims. The district court invalidated one group of claims for failure to disclose the best mode of magnetic recording tape for storing computer data. It invalidated a separate group of claims for lack of enablement because the specification failed to include a computer program necessary to carry out the invention.

In analyzing the best mode issue, the Federal Circuit noted that the specification stated that the invention used recording cassettes "of the type that are almost universally available for audio purposes." Prior to filing the patent application, however, the inventors knew that standard audio tape did not comprise the best mode for carrying out the invention. To record digital data, which was required by the invention, the best mode tape required yield strength and magnetic characteristics that were different from those in standard audio tape. The patentee argued that at the time of the patent application, a commercial audio tape that

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206. *Dana Corp.*, 860 F.2d at 419-20.
207. *Id.* at 420. The Federal Circuit found it unnecessary to consider any other ground of appeal. *Id.* at 417. The court took this opportunity to discuss the differences between enablement and best mode. *Id.* at 419. It explained:

"Enablement looks to placing the subject matter of the claims generally in the possession of the public. If, however, the applicant develops specific instrumentalities or techniques which are recognized at the time of filing as the best way of carrying out the invention, then the best mode requirement imposes an obligation to disclose that information to the public as well."

*Id.* at 419 (quoting *Spectra-Physics, Inc. v. Coherent, Inc.*, 827 F.2d 1524, 1532 (Fed. Cir.), cert. denied, 484 U.S. 954 (1987)).
208. 908 F.2d 931 (Fed. Cir.), cert. denied, 498 U.S. 920 (1990). For purposes of full disclosure, the author was appellate counsel for Datapoint Corporation in this matter. *Id.* at 933.
209. *Id.* at 933.
210. *Id.* at 940. The alleged infringer asserted patent invalidity based on §§ 102 and 103, as well as the enablement and best mode requirements under § 112. *Id.* at 933.
211. *Id.* at 941.
212. *Id.* at 940 (pointing out that standard audio tape had been used before to collect and record data).
213. *Id.*
214. *Id.*
met its specifications existed on the market.\textsuperscript{215} The Federal Circuit concluded that, if this were true, then to satisfy the best mode obligation, the patent specification should have disclosed either this particular tape or patentee's own product specifications.\textsuperscript{216} The court noted that "[w]hile [the patentee's] argument may be relevant to enablement, it does not establish the best mode."\textsuperscript{217}

The Federal Circuit also considered the question of enablement.\textsuperscript{218} The district court held that the patent specification lacked an enabling description of the software program, because those skilled in the field would be required to experiment unduly to use the invention.\textsuperscript{219} The Federal Circuit agreed that the enablement requirement prohibits undue experimentation, not merely some experimentation.\textsuperscript{220} However, the Federal Circuit reversed, concluding "that the programs here involved were, to a skilled programmer, routine. The district court's finding that undue experimentation was necessary to write the program is clear error."\textsuperscript{221}

### III. The Attack on Best Mode Is Misplaced

In August 1992, the Advisory Commission recommended that the best mode requirement of 35 U.S.C. § 112 be eliminated.\textsuperscript{222} The Commission's reasoning is flawed, however, and does not survive close scrutiny. Best mode and enablement are conceptually related to our earliest patent laws.\textsuperscript{223} The two disclosure requirements are predicated on different pol-

\textsuperscript{215} Id.
\textsuperscript{216} Id.
\textsuperscript{217} Id. The best mode affirmance drew a dissent. The dissent began with the premise that the patent specification was enabling on this issue. Id. at 946 (Newman, J., concurring and dissenting). It suggested that a "failure to include information that is not necessary either to describe or to enable the claimed invention should not invalidate the claims under the 'best mode' provision, unless the information was withheld for the purpose of concealment of a better mode." Id. at 946-47. In fact, the district court specifically recognized that concealment was an element. See Northern Telecom, Inc. v. Datapoint Corp., 9 U.S.P.Q.2d (BNA) 1577, 1596 (N.D. Tex. Aug. 31, 1988), aff'd in part and rev'd in part, 908 F.2d 931 (Fed. Cir.), cert. denied, 498 U.S. 920 (1990).

\textsuperscript{218} Id.

\textsuperscript{219} Id. at 941. The district court reasoned that the incomplete specification would require those skilled in the field to experiment unduly to use the invention. Id.

\textsuperscript{220} Id.

\textsuperscript{221} Id. at 943.

\textsuperscript{222} See supra notes 4-6 and accompanying text (discussing the Advisory Commission Report).

\textsuperscript{223} See supra notes 11-94 and accompanying text (reviewing the development of best mode and enablement since enactment).
cies and are designed to achieve complementary goals. Neither litigants nor courts have treated them as congruent obligations.

Enablement prescribes a requisite degree of disclosure, making it unnecessary to provide a level of detail that would permit any person, however unschooled, to make and use the invention. Instead, disclosure need only be sufficiently detailed so that those skilled in the relevant art, without undue experimentation, can make and use the invention. Best mode serves two purposes that complement enablement: (1) to ensure the public receives not merely a disclosure of the invention, but the best way contemplated by the inventor of carrying out the invention; and (2) to allow the public to compete fairly with the patentee after the patent expires.

Clearly, if the statutory best mode obligation is repealed, the public will no longer receive the benefit of the additional disclosure compelled by best mode. There are several cases in which patentees have satisfied the enabling obligation, while still concealing relevant information. Even with the present statutory best mode disclosure requirement, applicants sometimes withhold important technical details to which the public is entitled. Inventors realistically will not disclose more than they are absolutely required to divulge. Without a best mode obligation, enablement will establish both the upper and lower boundaries of disclosure. The Advisory Commission’s reasons for eliminating best mode and

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224. See supra notes 80-94 (discussing Gay’s treatment of enablement and best mode as separate and distinct). For earlier cases making a similar distinction, see Grant v. Raymond, 31 U.S. (6 Pet.) 218 (1832); Page v. Ferry, 18 F. Cas. 979 (C.C.E.D. Mich. 1857) (No. 10,662).

225. See supra notes 96-109 (discussing treatment of enablement and best mode in Engelhard Industries); supra notes 200-11 (discussing treatment of enablement and best mode in Northern Telecom).

226. Christianson v. Colt Indus. Operating Corp., 822 F.2d 1544, 1562 (Fed. Cir. 1987), vacated, 486 U.S. 800 (1988). The court also noted that enablement disclosure is not intended “to supply, free of charge, production data and production drawings to competing manufacturers.” Id.

227. Id.


229. Christianson v. Cold Indus. Operating Corp, 870 F.2d 1292, 1302 n.8 (7th Cir.), cert. denied, 493 U.S. 822 (1989). This second reason may have less validity in rapidly advancing technologies, but some guidance is always better than none.


231. In re Nelson, 280 F.2d at 184.
the supposed benefits to be derived therefrom must be weighed against the definable, if not quantifiable, loss of information that the public will suffer.

A. Voodoo Economics?

The Advisory Commission Report proceeds from the premise that "challenges to patent validity which create a disproportionate effect on costs and delays during patent litigation without providing a corresponding public benefit" should be eliminated. 232 Best mode, it argues, creates such undue cost and delay and should therefore be eliminated. 233 The Advisory Commission ostensibly uses a cost-benefit analysis, which balances the availability of certain infringement defenses against additional litigation costs and increased uncertainty in patent rights. 234 Yet the Advisory Commission concedes "that the right to challenge a patent on the grounds that it was improperly granted is a basic element of the patent system." 235

The Advisory Commission's economic attack on best mode begins with the accurate premise that during patent examinations, some patentability requirements are never considered. 236 The Patent and Trademark Office (Patent Office) independently evaluates only a few statutory obligations. 237 It accepts the appearance of satisfactory compliance with certain important obligations without additional inquiry. For example, a patent applicant is required to file an oath or declaration. 238 In this document, the applicant must acknowledge a duty to disclose to the Patent Office all patentability information he knows to be material. 239 Failure to comply with this duty of honesty has long been recognized as a basis for a defense

232. Advisory Commission Report, supra note 4, at 100 (Recommendation V-G).
233. Id. at 100 (Recommendation V-G(i)).
234. Id. at 100-01. The Advisory Commission reasoned that additional benefits of the best mode requirement are outweighed by the litigation costs incurred in asserting the defense. Id. at 100.
235. Id. at 100. The Advisory Commission argued that infringing parties should not be able to raise a defense of best mode when the Patent Office never actively considered best mode during its examination and approval of the patent. Id.
236. Id.
239. 37 C.F.R. § 1.63; 35 U.S.C. §§ 25, 115. The duty of good faith and candor is defined in 37 C.F.R. 1.56 (1993) and is required of each patent applicant dealing with the Patent and Trademark Office. 37 C.F.R. § 1.56.
in a suit for patent infringement of inequitable conduct. Nevertheless, the Patent Office examiner does not actively investigate whether a patent applicant has, in fact, acted candidly in pursuing the patent application.

Similarly, patent applicants must comply with the best mode obligation. 37 C.F.R. § 1.71 is entitled "Detailed description and specification of the invention." This regulation implements section 112 and requires the specification to describe the invention in sufficient detail so as "to distinguish it from other inventions and from what is old." Furthermore, the specification "must describe completely a specific embodiment of the process, machine, manufacture, composition of matter or improvement invented, and must explain the mode of operation or principle whenever applicable. The best mode contemplated by the inventor of carrying out his invention must be set forth." A patent examiner may reject claims on any of these grounds. For example, the examiner may be able to determine if a patent satisfies the enablement requirement by examining the application for being vague, indefinite, or incomplete. Failure to comply with best mode, however, is not something an examiner normally can evaluate when reviewing the application and that failure (or concealment) is not under any circumstance easily detected.

Hypothetically, an applicant who wishes to protect information as a trade secret could inform the examiner that a specific formulation is being withheld as a trade secret but that the applicant seeks to satisfy the

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240. See, e.g., Precision Instrument Mfg. Co. v. Automotive Maintenance Mach. Co., 324 U.S. 806, 814 (1945) (stating that the guiding doctrine is "'he who comes into equity must come with clean hands'"); Hazel-Atlas Glass Co. v. Hartford-Empire Co., 322 U.S. 238, 250 (1944) (concluding that the discovery of fraud "calls for nothing less than a complete denial for relief to [the patentee] for the claimed infringement of the patent thereby procured and enforced").

241. See MANUAL, supra note 242, paras. 2001.04, 2014. Paragraph 2001.04 of the MANUAL states that this rule "will aid the Office in receiving, in a timely manner, the information it needs to carry out effective and efficient examination of patent applications." MANUAL, supra note 242, para. 2001.04, at 2000-2. This duty of disclosure is incumbent upon the applicant until the patent is abandoned. 37 C.F.R. § 1.56(a) (1993); see also MANUAL, supra note 242, para. 2001.04, at 2000-3. This duty also continues during a reexamination because the patent examiner does not generally consider the issues of fraud, inequitable conduct or violation of duty of disclosure in reexamination proceedings. Id. at para. 2014, at 2000-9.


243. Id.

244. Id.

245. MANUAL, supra note 242, at ch. 700 (discussing examination procedures for patent applications).

246. MANUAL, supra note 242, at paras. 706.03(d), (f).

247. See MANUAL, supra note 242, at para. 700, at 700-1 (listing in the table of contents numerous grounds for rejecting claims but not including best mode).
best mode obligation by disclosing a generic formula. The patent examiner possibly could determine whether the applicant has complied with the best mode obligation. The Advisory Commission correctly recognizes that, in reality, this simply does not occur. Best mode is not normally examined during the patent solicitation process; compliance is presumed.

The Advisory Commission’s conclusion that best mode should be abolished because it is not considered during examination, however, is not logically derived. If the Patent Office is not adequately equipped to determine best mode compliance, then it does not follow that best mode should be eliminated. Instead, courts must be empowered to review patents for compliance. The alternative solution suggested by the Advisory Commission Report—eliminating the disclosure obligation—does not sufficiently account for the consequences to the public.

Moreover, the Advisory Commission Report’s cost-benefit analysis appears to be controlled by the result sought. The analysis is inconsistent with practical litigation experience. Specifically, the Advisory Commission suggests that because best mode is not reviewed by the Patent Office, the parties often use “extensive efforts and uncontrolled discovery” before trial. While patent litigation is usually expensive, no evidence indicates that litigation costs are materially increased by disputes over best mode. Analysis of best mode compliance is based on the inventor’s state of mind at the time the patent application is filed. This analysis is initially a subjective question. The inventor’s state of mind, however, will be relevant during discovery regardless of whether best mode compliance is contested. Parties almost invariably depose inventors in patent

248. See Randomex, Inc. v. Scopus Corp., 849 F.2d 585, 590 (Fed. Cir. 1988) (holding that disclosure of a generic description in conjunction with the trade name of a cleaning fluid used in the invention met the best mode requirement and that the specific formula need not be disclosed).

249. Id. The Federal Circuit explained that a generic formula could be used only if “commercial substitutes [to the product covered by the trade secret] were readily available.”

250. ADVISORY COMMISSION REPORT, supra note 4, at 100 (stating that “some of the requirements for patentability are never considered during examination of the patent”).

251. Id.

252. See id. The Advisory Commission explained that there is great difficulty in determining best mode even at trial because such determination depends on the subjective knowledge of the applicant at the time the application was filed. Id. at 101.

253. Id.

254. Id. at 100 (citing the necessity of investigating the applicant’s state of mind).


The inventor's development efforts are scrutinized for numerous reasons. These reasons typically include: to determine whether the invention may have been derived from another; to identify whether there has been an error in inventorship; to test assertions that the claimed subject matter has achieved commercial success; to identify any difficulties a patentee may have experienced in commercializing the claimed invention, which may bear on the issue of enabling disclosure; and to gather relevant information about whether the claimed subject matter was unobvious.

Even in the absence of a best mode dispute, routine discovery in patent litigation will almost inevitably encompass facts pertinent to best mode analysis. Therefore, if best mode is repealed, no material cost saving will be achieved during discovery. The degree of evidentiary overlap among various commonly disputed patent issues at trial removes any realistic possibility that trials could be shortened by eliminating best mode.

**B. The Postulated Countervailing Policy Considerations**

The Advisory Commission also speculates as to whether the best mode requirement actually achieves its intended purpose of promoting full and fair disclosure. Even assuming that best mode does achieve this goal,
through its cost-benefit analysis, the Advisory Commission cautions that “it is questionable whether the costs of the best mode requirement outweigh any benefit gained from the additional disclosure.”

The costs on which the Advisory Commission focuses, however, are illusory. It considers associated costs that arise whenever a patent is held invalid. Yet the public also receives the concomitant benefit of the right to make, use and sell without fear of suit when an improvidently-granted patent is declared invalid. The Advisory Commission apparently ignores this public benefit. More significantly, the Advisory Commission also ignores the issue of basic fairness. If it is fair to invalidate patents for reasons such as obviousness or prior invention by another where both the applicant and the Patent Office have acted open and honestly, is it any less fair to reward those who conceal best mode by eliminating that statutory obligation?

It is clear that patents may be declared invalid because of the existence of prior art that is “better” than that which the Patent Office examined during its limited ex parte review. In that situation, both the government and the patentee have acted in good faith. Nevertheless, when the patent is issued, the public learns about subject matter that might otherwise have been maintained as a trade secret. The patentee ultimately receives nothing once the patent is held to be invalid. Conversely, when an inventor intentionally conceals the best mode of his invention, the public does not receive the full benefit of its bargain. The patentee nevertheless enjoys exclusionary rights over the patented invention even though he has not acted in good faith. Accordingly, it is less costly to the public and no more costly to a patent owner if a patent is invalidated do not support the Advisory Commission’s premise. In fact, the conclusion of one article is that “inventors and their attorneys or agents should be able to draft United States patent applications which will pass ‘best mode’ muster, and which will lead to valid, enforceable patents.” Kenneth R. Adamo, What’s Better, What’s Best—The Best Mode Requirement in U.S. Patent Practice, 73 J. Pat. & Trademark Off. Soc’y 811, 842 (1991).

267. ADVISORY COMMISSION REPORT, supra note 4, at 101.
268. Id. (emphasizing that the victims of best mode attacks are United States inventors).
269. See, e.g., Rota-Carb Corp. v. Frye Mfg. Co., 313 F.2d 443, 447 (8th Cir. 1963) (stating that the public is entitled to protection against monopolization of what is not patentable).
270. MANUAL, supra note 242, at para. 706-02, at 700-7 (noting that it is the most frequent basis found for rejection); see, e.g., Graham v. John Deere Co., 383 U.S. 1, 25-26 (1966); Brenner v. Ladd, 247 F. Supp. 51, 54-56 (D.D.C. 1965) (finding that patentees are presumed to know all references available to the public in printed form at the time they make an invention).
because of best mode noncompliance than if a patent is held invalid on some other ground.\textsuperscript{272}

The Advisory Commission also postulates that best mode is not necessary to ensure the full and fair disclosure of patented inventions.\textsuperscript{273} This conclusion is belied by two hundred years of legislative and judicial pronouncements.\textsuperscript{274} Clear, strong policy reasons exist as to why our country requires both enabling disclosure and disclosure of an inventor's best mode.\textsuperscript{275} Seeking to justify its premise, the Advisory Commission suggests that "there are substantive deterrents to concealment of useful or material information in patent documents."\textsuperscript{276} One such deterrent is said to be the doctrine of inequitable conduct.\textsuperscript{277} Inequitable conduct relates to how the inventor and patent counsel conduct themselves during negotiations with the Patent Office, normally after the application has been filed. A finding of inequitable conduct requires a misrepresentation that

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\textsuperscript{272} The Advisory Commission suggests that the best mode obligation is discriminatory against United States inventors, finding no cases in which a foreign patent has been invalidated for failure to comply with best mode. See Advisory Commission Report, supra note 4, at 101. This, perhaps, is due to the difficulty in obtaining disclosure from foreign inventors because of restrictions on discovery outside of the United States. Id. at 102-03. Discovery abroad, however, is not completely unobtainable. See Hague Convention on the Taking of Evidence Abroad in Civil or Commercial Matters (Hague Evidence Convention), opened for signature Mar. 18, 1970, art. VIII, 23 U.S.T. 2555. More significantly, United States courts require that foreign inventors be made available for reasonable discovery when their employer asserts a United States patent in a United States court. See, e.g., Afram Export Corp. v. Metallurgiki Halyps, S.A., 772 F.2d 1358, 1365 (7th Cir. 1985) (requiring defendant, a Greek company, to present a deposition in the United States pursuant to a state long-arm statute); In re Anschuetz & Co., GmbH, 754 F.2d 602, 615 (5th Cir. 1985) (directing a German company to provide documentation and witnesses regarding its United States patent), vacated, Anschuetz & Co., GmbH v. Mississippi River Bridge Auth., 483 U.S. 1002 (1987), on remand.

\textsuperscript{273} See Advisory Commission Report, supra note 4, at 102. It proposes that enablement is sufficient. Id.


\textsuperscript{275} See, e.g., Dana Corp., 860 F.2d at 415-18 (stating that best mode was separate from enablement and that it ensured that the public received the complete disclosure from the inventor); Engelhard Industries, 253 F. Supp. at 835-37 (stating that the disclosure system promotes good faith on the part of the inventor).

\textsuperscript{276} See Advisory Commission Report, supra note 4, at 102 (discussing the factors that may limit the scope of patent rights).

\textsuperscript{277} Interestingly, in Recommendations VI-A and VI-B, the Advisory Commission proposes that the inequitable conduct defense be curtailed. Id. at 113-14.
is material to the examination process. While a material misrepresentation is an essential element of inequitable conduct, the essence of non-compliance with best mode is concealment rather than overt misrepresentation. Inequitable conduct would not inhibit an inventor from disclosing a second-best mode. Consequently, reliance on inequitable conduct has not—and will not—protect the important public policies embodied in the best mode requirement.

Enablement also differs from best mode in that compliance with enablement inherently does not compel disclosure of the best mode. For an enablement analysis, a court makes an objective determination as to whether a hypothetical person skilled in the art could practice the invention. A factfinder need not consider whether the inventor intended to deceive or mislead, so long as the patent specification is enabling. Invalidity for failure to provide an enabling disclosure is not an effective alternative either.

The Advisory Commission also suggests that a best mode disclosure is not actually mandatory. It hypothesizes that if an applicant does not consider one mode to be superior to another at the time the application is filed, that applicant cannot disclose the best mode. This, however, is a hypothetically rare occurrence. Even if, arguendo, that situation sometimes does arise, the public clearly benefits from all the disclosures of inventors' best modes, when a "best" mode does exist. The Advisory Commission contends too that requiring disclosure of a best mode is inadequate because in rapidly evolving technologies, the inventor's best

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279. Northern Telecom, 908 F.2d at 939-40.
280. 35 U.S.C. § 112 (1988); see supra note 77 and accompanying text for the text of the provision.
281. Northern Telecom, 908 F.2d at 941-43.
282. The Advisory Commission also suggests that concealment places a patent applicant at risk from later innovators who discover and then patent the superior method. ADVISORY COMMISSION REPORT, supra note 4, at 102. In fact, the concealed mode usually is marketed, even though it is not disclosed in the patent. See, e.g., Trans-World Display Corp. v. Mechatronics Corp., 437 F. Supp. 692, 701-02 (S.D.N.Y. 1977) (indicating that the patent at issue was filed without a best mode description); Flick-Reedy Corp. v. Hydro-Line Mfg. Co., 241 F. Supp. 127, 141 (N.D. Ill. 1964) (indicating a patent for hydraulic aid and preventive cylinders was filed without a best mode description), aff'd in part and rev'd in part, 351 F.2d 546 (7th Cir. 1965). One who subsequently and independently recreates the best mode may be prohibited from patenting it. 35 U.S.C. § 102(a),(b) (1988).
283. See Northern Telecom, 908 F.2d at 941-43.
285. ADVISORY COMMISSION REPORT, supra note 4, at 102.
286. Id. (citing the subjectivity of the determination).
mode at the time the patent application is filed may be dramatically different from and inferior to the best mode known at the time a patent issues.\textsuperscript{287} This argument is a nonsequitur. Even in the cases where technology overtakes the inventor's knowledge, the public receives a greater benefit when the inventor discloses what is believed to be the best mode at the time of application than when the public receives no best mode disclosure at all.

The Advisory Commission concludes that best mode "does not effectively compel higher quality disclosures."\textsuperscript{288} To the contrary, the fear of having a patent invalidated for failure to comply with this obligation effectively compels higher quality disclosures.\textsuperscript{289} Prudent inventors and patent counsel are obviously taking the best mode obligation seriously.\textsuperscript{290} Eliminating the best mode disclosure obligation would actively discourage full and forthright patent application disclosures.

IV. Conclusion

Best mode and enablement are complementary statutory provisions designed to ensure that the public receives complete and honest disclosure of the patented invention in return for the grant of exclusivity. While it is difficult to quantify the public economic benefit of best mode disclosure, one can surmise that it must have some value or patent applicants would not, on occasion, intentionally conceal the information. As a result of the existence of overlapping discovery between best mode compliance and other typical patent defenses, it is unlikely that the elimination of the statutory best mode obligation will significantly reduce litigation costs. Similarly, noneconomic reasons offered to support the repeal of best mode do not survive close scrutiny. The attacks on best mode are unfounded. Preserving honest disclosure remains in the public interest.

\textsuperscript{287} Id. (citing examples of biotechnology and computer programming).

\textsuperscript{288} Id.

\textsuperscript{289} The Commission's recognition that the number of best mode challenges has risen over the past 20 years supports this conclusion. Id. at 101.

The Advisory Commission justifies the repeal of best mode because, in its current form, it is only a recent disclosure obligation. Id. at 103. It explains that the pre-1952 requirement was far more restricted in application. Id. However, without repeating the detailed discussion provided earlier in this Article, it is apparent that best mode has long been a statutory obligation. See supra part I. Whatever the reasons for the relatively few reported litigation cases involving a best mode defense prior to 1960, such reasons hardly justify termination of that important disclosure obligation.

\textsuperscript{290} See Adamo, supra note 250, at 811.