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LET'S TEST THIS OUT A Proposal for a New Unified Test for the Experimental Use Exception to § 102(b)

Moshe Wilensky*

Introduction

The experimental use exception ("the Exception") to the statutory bar of 35 U.S.C. §102(b) traces its roots back to 1877. Through that long history, the courts developed a complex test to determine which public uses and sales activities should be exempt from the statutory bar. Recently, an intracircuit split has developed within the Federal Circuit Court of Appeals, and two tests now exist for analyzing when the Exception should apply. This split has created confusion among district courts and the U.S. Patent Office ("USPTO"). Furthermore, both of these competing tests lack predictability. As such, the time has come for a new test that will provide more transparency to the legal reasoning behind such decisions. This article demonstrates the need for such an approach and then proposes a unified, three element test.

Part I explains the public policy that requires the existence of the Exception and briefly traces the history of the Exception from its roots in 1877 to today. Part II documents the present state of the law, including the two competing tests that together constitute an intracircuit split. Part III discusses the flaws of both current approaches, and demonstrates the need for a new test. Finally, Part IV presents the proposed three element test and explains its benefits.

I. Background

A. Public Policy

Unlike the rest of the world, the United States has always used a "first to invent" patent system.¹ Thus, there exists a concern that inventors might attempt to extend their monopoly rights beyond the allowable statutory term by applying for a patent only after a competing patent application appeared or an infringing device entered the market.² To counter this potential abuse Congress enacted 35 U.S.C. 102(b), commonly known as the "statutory bar." The statutory bar states that an inventor has only one year to file a patent application from the first day that the invention is first used in public or the inventor offers the invention for sale.³ The statutory bar also serves several other public policy needs. It discourages the removal of inventions from the public domain after the public has come to view them as freely available, it encourages prompt and widespread disclosure of inventions, and it allows inventors a reasonable amount of time to determine potential economic value.⁴

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¹ Woodcock v. Parker, 30 F. Cas 491, 491 (C.C.D. Mass. 1813).

² Lough v. Brunswick Corp., 86 F.3d 1113, 1120 (Fed. Cir. 1996).

³ *Id.* at 1119; Pfaff v.Wells Elec. Inc., 525 U.S. 55, 57 (1998).

⁴ *Lough*, 86 F.3d at 1120.

However, the statutory bar created a problem for inventors who needed to publicly test their inventions for longer periods of time.⁵ For example, the inventor of the proverbial longer lasting light bulb may need to test his product for several years to determine if it really does last longer. To remedy this problem the courts created the Exception.

B. History of the Experimental Use Exception

The Supreme Court first articulated the Exception in the seminal case of *City of Elizabeth v. American Nicholson Pavement Company* in 1877.⁶ The case involved a patent for improving street pavement, which the inventor tested by installing the improved pavement in one small section of public highway and carefully observing it for several years.⁷ The Court stated that "[t]he use of an invention by the inventor himself, or of another person under his direction, by way of experiment, and in order to bring the inventor may work to perfect an invention in private before he files for a patent, the law should not punish inventors whose inventions require testing in public places.⁹ In a second case that same year, the Supreme Court laid out one of the fundamental limits of the Exception, stating that once an invention fulfilled the purpose it was designed to achieve, the Exception would no longer apply.¹⁰

The first major case in the evolution of the modern Exception was *In re Dybel* in 1975.¹¹ *Dybel* expanded the Exception to include experimental sales in addition to public uses.¹² However, the court limited the holding to cases where profit was minimal and made clear that the patentee needed to prove that the primary purpose of the sale was experimentation and not commercial exploitation.¹³

The first major case after the creation of the Federal Circuit¹⁴ was *In re Smith*.¹⁵ The court stated that experimentation must be the "real purpose [of the] public use and not merely incidental" for the Exception to apply.¹⁶ The court also held that it needed objective factors to determine the real purpose of a public use because an inventor's testimony regarding purpose is of little or no value.¹⁷ The court held that control of the invention and inspection of the invention

⁵ City of Elizabeth v. Am. Nicholson Pavement Co., 97 U.S. 126, 134 (1877).

⁶ *Id.* at 126.

 $^{^{7}}$ *Id.* at 133.

⁸ *Id.* at 134.

⁹ Id.

¹⁰ Smith & Griggs Mfg. Co. v. Sprague, 123 U.S. 249, 257 (1877).

¹¹ 524 F.2d 1393 (C.C.P.A. 1975).

¹² *Id.* at 1400.

 $^{^{13}}$ *Id.* at 1401.

¹⁴ From 1877 until 1981 the regional circuits each developed their own tests as to when and how the Exception applied. However, in 1982 the Congress created the Federal Circuit and granted it subject matter jurisdiction over all patent appeals. As such, the Federal Circuit is now the primary authority on the Exception. Furthermore, the Federal Circuit only accepted precedent from the Court of Customs and Patent Appeals as binding upon itself. In the interests of brevity and clarity, only cases decided by the Federal Circuit, and its predecessor the Court of Claims and Patent Appeals, will be discussed in this article.

¹⁵ 714 F.2d 1127 (Fed. Cir. 1983).

¹⁶ *Id.* at 1134.

 $^{^{17}}$ *Id.* at 1135.

during use were two such factors.¹⁸ Over the next several years the court began adding factors. By 1996 the list had expanded to six factors: the number of prototypes, the duration of testing, the existence of records, the existence of confidentiality agreements, the amount of compensation, and control.¹⁹ However, the court made clear that not all factors deserved equal weight, stating that "the last factor of control is critically important."²⁰ The list of factors continued to expand and in the 2002 case, *Allen Engineering Corp. v. Bartell Industries*, it reached thirteen factors, thus creating the modern *Allen* test.²¹ For the next three years, courts accepted the thirteen-factor *Allen* test as the standard for when to apply the Exception. Then, in the 2005 case *Electromotive Division of General Motors Corp. v. Transportation Division of General Electric Co.*,²² the Federal Circuit unexpectedly decided to modify the *Allen* test to create the new *Electromotive* test.²³

Throughout the history of the Exception, the Federal Circuit also cited other rules and concepts outside the thirteen *Allen* factors. For example, *In re Smith* articulated the rule that market research is not legitimate experimentation.²⁴ Additionally, the court held an inventor could only invoke the Exception if he made the purchasers aware of the experimentation.²⁵ The court also held that evidence of changes to the claims made as a result of experimentation was indicative of an intent to experiment but that the existence of a money-back guarantee was not.²⁶ Finally, in *Manville Sales Corp. v. Paramount Systems, Inc.*²⁷ the court failed to cite any factors at all, and made its ruling solely by applying the facts of the case directly to the public policy behind the Exception.²⁸ These rules are technically all still good precedent; in fact the *In re Smith* rule prohibiting market research is frequently cited.²⁹

II. The Experimental Use Exception Today

The current state of the Exception warrants a discussion of several topics, each of which this article will address. Part A discusses the standard of review and burdens of proof. Part B addresses the scope of the Exception. Part C explains the subtle differences between the on-sale bar and the public use bar Exceptions. Part D discusses the *Allen*³⁰ test. Finally, Part E explains the most recent approach articulated by *Electromotive*.³¹

¹⁸ Id.

¹⁹ Lough v. Brunswick Corp., 86 F.3d 1113, 1120 (Fed. Cir. 1996).

²⁰ Id.

 $^{^{21}}$ 299 F.3d 1336, 1353 (Fed. Cir. 2002). This thirteen-factor test has never been formally called the "*Allen* test." However, because *Allen* was the first case to comprehensively list the factors in a single easy to use list, it is now the dominantly cited case in the field.

²² 417 F.3d 1203 (Fed. Cir. 2005).

²³ *Id.* at 1214-18. See infra notes 75–84 and accompanying text for a full discussion of the new test.

²⁴ 714 F.2d 1127, 1135 (Fed. Cir. 1983).

²⁵ *In re* Dybel, 524 F.2d 1393, 1401 (C.C.P.A. 1975); Paragon Podiatry Lab., Inc. v. KLM Lab., Inc., 984 F.2d 1182, 1187 (Fed. Cir. 1993).

²⁶ Labounty Mfg., Inc. v. U.S. Int'l Trade Comm'n, 958 F.2d 1066, 1074 (Fed. Cir. 1992); EZ Dock v. Schafer Sys., 276 F.3d 1347, 1353 (Fed. Cir. 2002).

²⁷ 917 F.2d 544 (Fed. Cir. 1990).

²⁸ *Id.* at 550 (stating "Manville's actions are entirely consistent with the policy favoring prompt and widespread disclosure of inventions.").

²⁹ See, e.g., Dippin' Dots, Inc. v. Mosey, 476 F.3d 1337, 1344 (Fed. Cir. 2007).

³⁰ Allen Eng'g Corp. v. Bartell Indus., 299 F.3d 1336, 1353 (Fed. Cir. 2002).

³¹ Electromotive Div. of Gen. Motors Corp. v. Transp. Div. of Gen. Elec. Co., 417 F.3d 1203 (Fed. Cir. 2005).

A. Standards of Review and Proof

Courts review the Exception *de novo* as a question of law, and any facts underlying the ultimate legal conclusion for clear error in bench trials,³² and for substantial supporting evidence in jury trials and PTO decisions.³³ When the Patent Office issues a 102(b) rejection, the applicant carries the burden of proving that the use or sale was primarily for experimental purposes by full, unequivocal, and convincing proof.³⁴

In litigation, however, the Exception does not overcome a public use or sale, but rather negates it.³⁵ Despite being called the "experimental use exception," it would be more accurate to refer to the Exception as the "experimental use negation."³⁶ The Exception is not a two-step analysis: first, is there a public use or sale and second, is the use or sale *excused* by virtue of being experimental.³⁷ Rather, only one question should be asked: was the invention the subject of a commercial offer for sale or public use "not primarily for the purposes of experimentation" before the critical date.³⁸

The primary import of this single question approach is that the burden of proof never shifts to the patentee in litigation.³⁹ Because 35 U.S.C. § 282 places the burden of proving the invalidity of an issued patent on the party asserting invalidity, the Federal Circuit has held it is improper for a patentee to carry the burden of proving that a public use or sale was experimental.⁴⁰ This does not mean the challenger has the burden of proving a use or sale was not experimental, or that the patent owner has no duty of providing evidence.⁴¹ Rather, "[i]t means that if a *prima facie* case is made of public use [or sale], the patent owner must be able to point to . . . convincing evidence to counter that showing."⁴²

B. Scope of Allowable Experimentation

The Exception allows an inventor to determine if his invention works for its intended purpose.⁴³ The courts have held this limits an inventor to perfecting claimed features of his invention or "features inherent to the claimed invention."⁴⁴ Therefore, the Exception does not cover experiments that relate to the marketability of the invention or the suitability of the invention for the needs of a particular client.⁴⁵ However, whether an experiment relates to an

³² U.S. Envtl. Prod., Inc. v. Westall, 911 F.2d 713, 715 (Fed. Cir. 1990).

³³ *Dippin' Dots*, 476 F.3d at 1343.

³⁴ *In re* Dybel, 524 F.2d 1393, 1400 (C.C.P.A. 1975).

³⁵ TP Lab, Inc. v. Prof'l Positioners, Inc., 724 F.2d 965, 971 (Fed. Cir. 1984).

³⁶ Id.

³⁷ Paragon Podiatry Lab., Inc. v. KLM Lab., Inc., 984 F.2d 1182, 1185 n. 3 (Fed. Cir. 1993).

³⁸ Allen Eng'g Corp. v. Bartell Indus., 299 F.3d 1336, 1352 (Fed. Cir. 2002) (restating the first prong of the test from *Pfaff v. Wells Elec., Inc.*, 525 U.S. 55 (1998)).

³⁹ Allen, 299 F.3d at 1352.

⁴⁰ *TP Lab*, 724 F.2d at 971.

⁴¹ Id.

⁴² Id.

⁴³ Manville Sales Corp. v. Paramount Sys., Inc., 917 F.2d 544, 550 (Fed. Cir. 1990).

⁴⁴ Electromotive Div. of Gen. Motors Corp. v. Transp. Div. of Gen. Elec. Co., 417 F.3d 1211 (Fed. Cir. 2005).

⁴⁵ In re Smith, 714 F.2d 1127, 1135 (Fed. Cir. 1983).

inherent feature or simply market testing is often a contentious and complex issue.⁴⁶ For the purposes of this article, questions relating to the issues of this subsection will be collectively referred to as the "scope" of the Exception.

The allowance of experimentation on inherent features dates back to *City of Elizabeth*, where the court held that the inventor was able to test the durability of the wooden planking because the invention's purpose was to improve the durability, even though the inventor did not claim durability.⁴⁷ The logic behind allowing experimentation on inherent features is that until an inventor confirms the existence of these features, he does not know if there is an invention to disclose.⁴⁸ Courts have held that this includes experiments relating to longevity,⁴⁹ durability,⁵⁰ food product interactions,⁵¹ and clinical drug trials.⁵²

Conversely, once an invention has been reduced to practice, courts will no longer excuse further experimentation.⁵³ Furthermore, courts apply the Exception claim-by-claim.⁵⁴ Therefore, once an inventor reduces a claim to practice, courts will not excuse experiments directed to that claim, even if the experimentation relates to improvements that are embodied in other claims.⁵⁵ However, when the entire invention is an improvement on existing technology, the Exception does not consider whether the invention works, but rather if it works better than existing technology.⁵⁶ In summary, the scope of the Exception is that an inventor is allowed to experiment on both claimed and inherent features; and the inventor may determine if the invention works for its intended purpose in its intended environment.⁵⁷

C. The On-Sale Bar versus the Public Use Bar

For much of the Exception's history, the courts treated on-sale cases differently from public use cases. For the first 100 years of its existence, the Exception only applied to public uses.⁵⁸ Even after allowing experimental sales, the courts initially held that such sales should produce minimal, if any, profit.⁵⁹

Even today there are subtle differences in the approach used in the two types of cases. On-sale cases often involve complex contract and UCC issues, which have no relation to the determination of whether the primary purpose of the sale is experimental.⁶⁰ Courts have often

⁴⁶ For further study, compare the majority holding and dissent in *In re Smith*, 714 F.2d 1127.

⁴⁷ City of Elizabeth v. Am. Nicholson Pavement Co., 97 U.S. 126, 135 (1877).

⁴⁸ *Manville*, 917 F.2d at 550.

⁴⁹ City of Elizabeth, 97 U.S. at.135.

⁵⁰ Seal-Flex, Inc. v. Athletic Track and Court Constr., 98 F.3d 1318, 1322 (Fed. Cir. 1996).

⁵¹ Grain Processing Corp. v. Am. Maize-Prod. Co., 840 F.2d 902, 906 (Fed. Cir. 1988).

⁵² Eli Lilly & Co. v. Zenith Goldline Pharm., Inc., 364 F. Supp. 2d 820, 914 (S.D. Ind. 2005).

⁵³ EZ Dock v. Schafer Sys., 276 F.3d 1347, 1357 (Fed. Cir. 2002) (Linn, J. concurring).

⁵⁴ Id.

⁵⁵ *Id.*; Smith & Griggs Mfg. Co. v. Sprague, 123 U.S. 249, 257 (1877).

⁵⁶ TP Lab, Inc. v. Prof'l Positioners, Inc., 724 F.2d 965, 972 (Fed. Cir. 1984).

⁵⁷ *Id.; EZ Dock*, 276 F.3d at 1352.

⁵⁸ See, e.g., In re Dybel, 524 F.2d 1393, 1399 (C.C.P.A. 1975).

⁵⁹ *Id.* at 1400.

⁶⁰ See, e.g., Group One, Ltd. v. Hallmark Cards, Inc., 254 F.3d 1041, 1047 (Fed. Cir. 2001).

unintentionally and improperly bifurcated the issue of whether a sale occurred from the issue of whether that sale was primarily for experimental purposes.⁶¹

Moreover, the existence of a sale often triggers a host of assumptions regarding the nature of the transaction. For example, an unconditional sale of a product necessarily implies a lack of control because the purchaser may resell the product without restriction.⁶² Also, the existence of a sale creates a presumption that profit is the driving motive behind the transaction.⁶³ These factors subtly shift the way courts treat on-sale cases.

The Supreme Court further exacerbated the difference between on-sale and public use cases in 1998 when it restructured the test for the on-sale bar in the landmark case *Pfaff v. Wells Electronics, Inc.*⁶⁴ Although the Federal Circuit held that the *Pfaff* test did not change the test for the Exception, courts were still forced to use two different tests for the underlying 102(b) analysis.⁶⁵ These differences have diminished somewhat since the Federal Circuit extended the *Pfaff* test to include public use cases.⁶⁶ However, the differences have not entirely disappeared.

D. The Allen Test

As mentioned earlier, courts give little or no weight to an inventor's privately-held belief that a use or sale is for experimental purposes.⁶⁷ Courts require objective evidence for the Exception to apply.⁶⁸ The *Allen* test is a thirteen factor balancing test used to objectively determine whether experimentation was the primary purpose of a sale or public use.⁶⁹ These factors are:

- 1. The necessity for public testing;
- 2. The level of control over the experiment retained by inventor;
- 3. The nature of the invention;
- 4. The length of testing;
- 5. Whether payment was made;
- 6. Whether users/purchasers signed confidentiality agreements;
- 7. Whether records were kept;
- 8. Who conducted the experiment;
- 9. The degree of commercial exploitation during testing;
- 10. Whether the invention required evaluation under real conditions;
- 11. Was testing systematically performed;
- 12. Whether the inventor continually monitored the invention during testing; and

⁶¹ *TP Lab*, 724 F.2d at 971.

⁶² Lough v. Brunswick Corp., 86 F.3d 1113, 1121 (Fed. Cir. 1996).

⁶³ Dybel, 524 F.2d at 1401.

 $^{^{64}}$ 525 U.S. at 67. *Pfaff* instituted a two step approach for determining whether a sale had occurred, asking: (1) was the invention the subject of a commercial offer for sale before the critical date, and (2) was it ready for patenting at that time.

⁶⁵ Allen Eng'g Corp. v. Bartell Indust., Inc., 299 F.3d 1336, 1352 (Fed. Cir. 2002).

⁶⁶ Invitrogen Corp. v. Biocrest Mfg., L.P., 424 F.3d 1374, 1379 (Fed. Cir. 2005).

 ⁶⁷ Electromotive Div. of Gen. Motors Corp. v. Transp. Div. of Gen. Elec. Co., 417 F.3d 1203, 1212 (Fed. Cir. 2005).
⁶⁸ Id.

⁶⁹ Allen, 299 F.3d at 1353.

13. The nature of contacts with potential customers.⁷⁰

These factors are not exhaustive,⁷¹ and not every one will apply in every case.⁷² Courts consider control the most important of these factors, but control is still not a required element.⁷³ *Allen* also incorporated an earlier decision which held that, at a minimum, an inventor needed to make his customers or users aware of the experimentation for the Exception to apply.⁷⁴

E. The Electromotive Test

In the 2005 *Electromotive* case, the Federal Circuit conducted a comprehensive analysis of the Exception.⁷⁵ The court reiterated that to utilize the Exception, objective evidence must be present to demonstrate that the sale was incidental to the primary purpose of experimentation.⁷⁶ The court catalogued the *Allen* factors, and noted that several previous cases considered customer awareness to be determinative.⁷⁷

The Federal Circuit then decided to alter the *Allen* test, holding that "control and customer awareness ordinarily must be proven if experimental use is to be found."⁷⁸ While the court did not define what it meant by "ordinarily," it seemed to indicate that it regarded control and customer awareness as elements⁷⁹ of the Exception, not merely factors.⁸⁰ The court held that if control and awareness were present, the next step would require analyzing the remainder of the *Allen* factors to determine if the Exception should apply.⁸¹ Thus, the *Electromotive* test is effectively a hybrid. It combines a new two-element test with the traditional *Allen* test.

The court also discussed how future courts should determine whether an inventor retained control during experimentation. The court stated that a lack of record keeping,⁸² the lack of a research protocol, the failure to monitor test conditions, the failure to obtain customer feedback, and the failure to require customers to use the products in specific conditions, all might indicate a

⁷⁰ Id.

⁷¹ Indeed, the *Allen* court neglected to include a factor expounded in *EZ Dock* that if "an inventor can show changes during experimentation that result in features later claimed . . . this evidence is a strong indication that the activities of the inventor" were primarily for experimentation. *EZ Dock v. Schafer Sys.*, 276 F.3d 1347, 1353 (Fed. Cir. 2002). Likewise, a district court case later held that an inventor's choice to publish the results of a public use in a scientific journal "supports the conclusion that the use was experimental." *Cent. Admixture Pharm. Serv., Inc. v. Advanced Cardiac Solutions, P.C.*, No. CV-00-2430-VEH, 2006 WL 4448613, at *10 (N.D. Ala. Jan. 13, 2006).

⁷² *Electromotive*, 417 F.3d at 1213.

⁷³ In re Hamilton, 882 F.2d 1576, 1581 (Fed. Cir. 1989) (stating control is not the "lodestar" but still an "important factor").

⁷⁴ Allen, 299 F.3d at 1355 (citing *In re* Dybel, 524 F.2d 1393, 1401 (C.C.P.A. 1975)).

⁷⁵ Electromotive Div. of Gen. Motors Corp. v. Transp. Div. of Gen. Elec. Co., 417 F.3d 1203 (Fed. Cir. 2005).

⁷⁶ *Id.* at 1212. *Electromotive* involved the on-sale bar. However, the author believes that the holding applies to public use as well.

⁷⁷ *Id.* at 1213.

⁷⁸ *Id.* at 1214–15.

⁷⁹ A factor need not always be present, or in a party's favor, to succeed in a test, however, an element must *always* be satisfied for a test to succeed.

⁸⁰ Id.

⁸¹ *Id.* at 1218.

⁸² *Id.* at 1213 (citing Lough v. Brunswick Corp., 86 F.3d 1113, 1120 (Fed. Cir. 1996)).

lack of control.⁸³ The astute reader will note these encompass *Allen* factors seven, eleven, and twelve.⁸⁴ Thus, the court conflated control with several other *Allen* factors.

III. Flaws in the Current Approaches

The Federal Circuit should adopt a new test to determine when the Exception should apply because the current approaches are flawed and confusing. First, the Federal Circuit's unexpected decision to modify the *Allen* test created a *de facto* intracircuit split, which has resulted in confusion at the district court level and the USPTO. Second, both the *Allen* and *Electromotive* tests have several underlying flaws that inhibit their effectiveness.

A. Confusion with the Current Test(s)

A three judge panel decided *Electromotive* and as such did not have the authority to overrule *Allen* or other previous panel decisions.⁸⁵ Previously, a Federal Circuit panel explicitly held that control was not the "lodestar" of the Exception, stating that control was not an element, but only an "important factor."⁸⁶ However, *Electromotive* effectively overruled the previous precedent when the court held that control and customer awareness are instead required elements.⁸⁷

The resulting confusion regarding the state of the law can best be illustrated by a pair of district court cases decided in 2005 and 2007. Both share the same case name, *Cummins-Allison Corp. v. Glory Ltd.*,⁸⁸ and will therefore be referred to by their respective years. *Cummins 2005* concerned the public use of Currency Regulation Counters used at various banks between January and May of 1991.⁸⁹ *Cummins 2007* concerned some related patents directed to Currency Recognition Units that were publicly used during the same time period.⁹⁰ Both cases therefore involved highly similar inventions. In both cases bank tellers publicly used the inventions.⁹¹ Neither case involved a confidentiality agreement; and the length of testing was the same in both cases.⁹² Lastly, in both cases, Cummins-Allison asserted that the Exception negated the public uses.⁹³ In summary, the fact patterns were virtually identical.

In *Cummins 2005*, Judge Ward, who has extensive experience with patent cases, applied the recently-decided *Electromotive* test.⁹⁴ He held that both control and customer awareness were

⁸³ *Id.* at 1215.

⁸⁴ Allen Eng'g Corp. v. Bartell Indust., Inc., 299 F.3d 1336, 1353 (Fed. Cir. 2002).

⁸⁵ *Electromotive*, 417 F.3d at 1203.

⁸⁶ In re Hamilton, 882 F.2d 1576, 1581 (Fed. Cir. 1989).

⁸⁷ *Electromotive*, 417 F.3d at 1214–15.

⁸⁸ Cummins-Allison Corp. v. Glory Ltd., No. 2:03-CV-358 (TJW), 2005 WL 2012259 (E.D. Tex. Aug. 22, 2005) [hereinafter "*Cummins 2005*"]; Cummins-Allison Corp. v. Glory Ltd., No. 02 C 7008, 2007 WL 487564 (N.D. Ill. Feb. 12, 2007) [hereinafter "*Cummins 2007*"].

⁸⁹ *Cummins 2005*, 2005 WL 2012259, at *1.

⁹⁰ Cummins 2007, 2007 WL 487564, at *2.

⁹¹ Cummins 2005, 2005 WL 2012259, at *1; Cummins 2007, 2007 WL 487564, at *2.

⁹² Cummins 2005, 2005 WL 2012259, at *1; Cummins 2007, 2007 WL 487564, at *2.

⁹³ Cummins 2005, 2005 WL 2012259, at *1; Cummins 2007, 2007 WL 487564, at *2.

⁹⁴ Cummins 2005, 2005 WL 2012259, at *4-5.

now elements that the inventor needed to demonstrate to invoke the Exception.⁹⁵ However, two years later Judge Kendall analyzed *Cummins 2007* using the *Allen* test.⁹⁶ Judge Kendall's decision also cited *Electromotive*, indicating that she was aware of the case, and considered it relevant, and presumably binding, precedent.⁹⁷ Thus, in two virtually identical cases, two district courts came to different conclusions as to the applicable current test.

Some may argue that these contrasting results arose from conflicting interpretations over whether to apply *Electromotive*, an on-sale bar case, to a public use case.⁹⁸ Unfortunately, there is no discussion in either district court case regarding whether the respective judges considered this issue or based their decisions upon it. In contrast, the 2006 on-sale bar case of *Stant Manufacturing, Inc. v. Gerdes GmbH*,⁹⁹ used the *Allen* test, rather than the *Electromotive* test, even while citing *Electromotive*.¹⁰⁰ This indicates that the confusion likely has nothing to do with *Electromotive* being an on-sale case. One explanation is that the district judges are not aware that *Electromotive* overruled the *Allen* test. If so, the judges' mistake is entirely understandable, given that the panel buried the change eleven pages into the decision, with little prior warning that the clearly defined *Allen* test of two pages earlier was going to be overruled.¹⁰¹

Even more problematic is that the USPTO also seems unclear as to the proper test. The Manual of Patent Examining Procedure ("MPEP") addresses what elements and factors that examiners should consider when applying the Exception during patent prosecution.¹⁰² Section 2133.03(e)(4) states that examiners should use the *Allen* factors, and only cites *Electromotive* for the rule that customer awareness is needed in the context of a sale.¹⁰³ However, the very next section holds that the two-element *Electromotive* test is controlling.¹⁰⁴ Moreover, §2133.03(e)(5) does not distinguish between public use and on-sale cases.¹⁰⁵ Thus, the patent office seems just as confused as the courts.

B. Flaws Inherent to Both Tests

The *Electromotive* panel may have overstepped its authority; however, it was only attempting to remedy several flaws inherent to the *Allen* test. The *Allen* test lacks transparency and predictability for several reasons. First, courts often conflate the factor of control with other factors, resulting in difficulty for later courts to know what the word meant in any given case.

⁹⁸ Electromotive Div. of Gen. Motors Corp. v. Transp. Div. of Gen. Elec. Co., 417 F.3d 1203, 1210 (Fed. Cir. 2005).
⁹⁹ No. 1:02-CV-1653 RLY-WTL, 2006 WL 278540 (S.D. Ind. Feb. 3, 2006). *Stant* is not the only other post-

⁹⁵ Id.

⁹⁶ Cummins 2007, 2007 WL 487564, at *5.

⁹⁷ *Id.* at *4.

Electromotive district court case to still use the *Allen* case. At least one other district court case, *Robert Bosch GmbH v. Haynes Corp.*, No. 1: 05 CV 2376, 2006 WL 3463427, at *4 (N.D. Ohio Nov. 29, 2006), explicitly cited the *Allen* test as controlling. Moreover, of the nine district court cases uncovered during research, only Judge Ward's 2005 case used the *Electromotive* test.

¹⁰⁰ Cummins 2007, 2007 WL 487564, at *4.

¹⁰¹ *Electromotive*, 417 F.3d at 1213–1215. For the record, the author would like to note he himself missed the new test when first reading the case.

¹⁰² MPEP §§ 2133.03(e)(4)–(5) (8th Ed., Rev. 5 2006).

¹⁰³ *Id.* at § 2133.03(e)(4).

 $^{^{104}}$ Id. at § 2133.03(e)(5).

¹⁰⁵ Id.

Second, the *Allen* test improperly separated issues of scope from its factors. Third, because the Allen test uses thirteen factors, courts often make decisions based on the aggregate effect of many of those factors. This results in difficulty in applying precedent to new factual scenarios. This problem is compounded by the fact that many of the *Allen* factors relate to highly disparate concepts, which forces courts to compare apples and oranges.

The *Electromotive* test tried to remedy some of these problems. The *Electromotive* test chose to analyze the most important factor-control-independently. This allowed control to be considered without complicated comparisons to other factors. *Electromotive* also tried to clearly define control, by identifying what sub-factors indicated a lack of control. However, the *Electromotive* test did not go far enough because it still used the *Allen* test as its second step. Therefore, the *Electromotive* test still suffers from many of the same flaws of the *Allen* test.

This section analyzes the flaws of the *Allen* test, and discusses how those flaws still exist within the *Electromotive* test. This section opens with a discussion of the problems relating to the conflation of the control factor. Next, this section analyzes the problems arising from the separation of scope from the Allen factors. Finally, this section studies the problems arising from using a vast array of highly disparate factors, and illustrates these problems with several concrete examples.

1. The Conflation of Control

Virtually every court to address the Exception concluded that control is the most important factor in determining whether the Exception applies.¹⁰⁶ However, the courts' definition of control varied from case to case. Moreover, these definitions frequently included factors that appear elsewhere among the Allen factors. For example, TP Lab, Inc. v. Professional Positioners, Inc. stated that a confidentiality agreement "is indicative of the inventor's continued control."107 In re Hamilton conflated the issue of control with the location of the experimentation.¹⁰⁸ In a concurrence to EZ Dock v. Schafer Systems, Judge Linn listed four factors relating to control: control over the location of use, prohibition against moving the invention, control over re-sales, and the user or purchaser's obligation to assist or permit testing.¹⁰⁹ Finally, *Electromotive* held that record keeping and monitoring were indicative of control.¹¹⁰ The end result is that control lacks a uniform definition in current case law.

The conflation of control presents two problems. The first problem is that it is now impossible to know what many Federal Circuit panels meant when they addressed control. This may appear to only be a semantic question. After all, in a totality of the circumstances analysis involving many factors what difference does it make if a court considered the factor of recordkeeping as an independent factor, or as part of control? It is difficult enough to analyze how much weight previous panels accorded specific arguments and facts when those cases

¹⁰⁶ See, e.g., Lough v. Brunswick Corp., 86 F.3d 1113, 1120 (Fed. Cir. 1996).

¹⁰⁷ 724 F.2d 965, 972 (Fed. Cir. 1984).

 ¹⁰⁸ 882 F.2d 1576, 1580 (Fed. Cir. 1989).
¹⁰⁹ 276 F.3d 1347, 1358 (Fed. Cir. 2002) (Linn, J. concurring).

¹¹⁰ Electromotive Div. of Gen. Motors Corp. v. Transp. Div. of Gen. Elec. Co., 417 F.3d 1203, 1215 (Fed. Cir. 2005). Electromotive actually included two additional factors that were indicative of control. See supra text accompanying notes 82-83.

identify which facts and arguments were actually considered; the problem only worsens when it is unclear which facts and arguments the courts considered. Most Federal Circuit panels that addressed control never stated which definition of control they used. As such, it is sometimes difficult to know what facts and factors the panels considered when analyzing control.

Furthermore, trial courts face a separate problem: should the courts analyze the factors conflated with control independently, or only analyze them within the confines of determining control? This confusion will inevitably result in conflicting approaches at the district court level. Thus, trial courts need a concrete definition of control.

Electromotive intended to solve this problem by clearly defining the factor of control. The court upheld the district court's assertion that control was lacking because the inventor did not monitor the testing, did not provide a research protocol, and did not provide or enforce any restrictions on the use of the invention during experimentation.¹¹¹ However, because of the intracircuit split and the surrounding confusion,¹¹² this definition of control remains simply one among many. Thus, until control is authoritatively defined, future courts will remain confused as to what control means.

2. The Separation of Scope

Another problem is that both current tests separate the *Allen* factors from the scope analysis.¹¹³ This is improper because a careful analysis of *Allen* reveals that several of the factors inherently relate to scope. For example, *Allen* factors one and ten analyze the need for public testing under actual conditions,¹¹⁴ both of which relate to the scope issue of whether the invention works as intended in its intended environment. Likewise, factor four, the length of testing,¹¹⁵ usually relates directly to whether longevity is an inherent feature of the invention. Finally, factor three, the nature of the invention,¹¹⁶ also relates to the scope analysis. As such, the scope analysis becomes skewed or flawed when these issues are separated.

3. Comparing Apples and Oranges

The most serious problem, however, is that the thirteen *Allen* factors focus on a number of disparate concepts. For example, a factor like length of testing has very little in common with whether a confidentiality agreement exists.¹¹⁷ Also, when a court renders a decision based on the *Allen* factors, it is often difficult to know how much weight the court gave to each factor. This in turn leads to a lack of predictability. This is a frequent problem plaguing balancing tests that utilize large numbers of factors. For example, consider the case of *Lough*.¹¹⁸

¹¹¹ *Electromotive*, 417 F.3d at 1215–16.

¹¹² See supra text accompanying notes 85–105.

¹¹³ *Electromotive*, 417 F.3d at 1211–12, 1213 (discussing scope and the *Allen* factors, respectively); Allen Eng'g Corp. v. Bartell Indus., 299 F.3d 1336, 1353, 1355 (Fed. Cir. 2002) (discussing the *Allen* factors and scope, respectively).

¹¹⁴ Allen, 299 F.3d at 1353.

¹¹⁵*Id.*

¹¹⁶ Id.

 $[\]frac{117}{10}$ Id. (factors four and six).

¹¹⁸ Lough v. Brunswick Corp., 86 F.3d 1113, 1120 (Fed. Cir. 1996).

Lough was a solo inventor who developed a better engine seal for an outboard motor.¹¹⁹ He manufactured six prototypes of his invention, and after installing one on his boat, he distributed the remaining five prototypes to some friends and acquaintances, ostensibly for experimental purposes.¹²⁰ However, Lough did not receive any feedback for a year after installing the prototypes.¹²¹ Moreover, one of the boats involved was sold to a new owner.¹²² The Federal Circuit held that the Exception did not apply based on a number of factors.¹²³ The court stated that Lough failed to keep records, failed to obtain feedback, failed to maintain control, and did not supervise the testing.¹²⁴

Now, the outcome of the instant case was correct, but if Lough had kept detailed records, would the Exception apply? A future inventor, or his attorney, reading *Lough* would have no idea how to answer this question. What if Lough had supervised the experiment, and maintained control, but still not obtained feedback or kept records? Or what if Lough lacked control and recordkeeping, but additional facts relating to several other *Allen* factors weighed in Lough's favor? These questions cannot be answered, because it is virtually impossible to know how much weight the court accorded each factor. The more factors a balancing test uses, and the more unrelated the factors are to each other, the worse this problem becomes.

IV. The Unified Test: Need, Control and Protocol

The Unified test solves the above problems. This test consists of three elements: Need, Control, and Protocol. Each element combines several of the old *Allen* factors with appropriate scope issues, based on common purpose and theme. An inventor must meet each element independently for the Exception to apply.

A. Need, Control and Protocol Explained

The Need element combines all the old issues of scope¹²⁵ with those *Allen* factors that address scope and the need for experimentation.¹²⁶ A court would analyze the classic scope question: was the experimentation conducted primarily to determine if a claimed or inherent feature worked as intended in its intended environment.¹²⁷ Simultaneously, the court would examine the flip-slide question: was the real purpose of the experiment to obtain market research, customer preferences, or market share.

¹¹⁹ *Id.* at 1116.

 $^{^{120}}$ *Id.*

 $^{^{121}}$ Id.

¹²² *Id.* at 1121.

¹²³ *Id*.at 1121–1122.

¹²⁴ Id.

¹²⁵ See supra text accompanying notes 43–57.

¹²⁶ Allen Eng'g Corp. v. Bartell Indust., 299 F.3d 1336, 1353 (Fed. Cir. 2002).

¹²⁷ Electromotive Div. of Gen. Motors Corp. v. Transp. Div. of Gen. Elec. Co., 417 F.3d 1211 (Fed. Cir. 2005).

To answer these questions, a court would inquire into the degree of commercial exploitation and the nature of the contacts with the customers or users.¹²⁸ Next, the court would analyze if public testing under actual conditions for the length of the test period was necessary to determine if the invention would work as intended.¹²⁹ Finally, the court would examine if the inventor had already reduced the invention to practice, thus negating any claim of experimentation.¹³⁰

The second element is Control. Control under the Unified test does not utilize the same factors as the *Electromotive* test. In the context of the Unified test, Control considers whether the inventor took steps to ensure that he did not further expose the invention to the public beyond the chosen users or customers.¹³¹ Thus, a court would analyze whether confidentiality agreements exist and if the inventor monitored the testing and testing site. In on-sale cases courts would also determine if an unconditional sale occurred. Normally, the purchaser of a good is free to resell that good without restriction, even when the item is patented.¹³² However, for the Exception to negate a sale, the inventor must maintain control over re-sales.¹³³

The final element analyzes whether the experiment had a sufficient research Protocol. The *Lough* court noted that it expected different levels of research protocol from different inventors.¹³⁴ For example, we would not expect a solo inventor working in his garage to have the same research protocols as a large corporation. Nevertheless, every inventor must objectively demonstrate that his primary purpose was experimentation by showing the existence of some research protocol. Protocol encompasses the old element of customer awareness,¹³⁵ in combination with the *Allen* factors of record keeping and systematic testing.¹³⁶ A court would determine if a systematic method for obtaining and analyzing data from the experiment existed. The court would also analyze the identity of the user or customer (*Allen* factor eight¹³⁷), by examining whether the inventor chose experimenters for a logical or specific reason. Thus, evidence showing that the users were people capable of giving technical feedback would be

¹²⁸ This step in the Need analysis also addresses any potential differences between on-sale and public use cases. Onsale cases will inherently start with a greater degree of commercial exploitation, but the relevant inquiry will remain whether that exploitation primarily for profit or experimentation.

¹²⁹ Allen, 299 F.3d at 1354.

¹³⁰ *Id.* (quoting EZ Dock v. Schafer Sys., 276 F.3d 1347, 1356–57 (Fed. Cir. 2002) (Linn, J. concurring)).

¹³¹ But see Electromotive, 417 F.3d at 1213–14.

¹³² Mitchell v. Hawley, 83 U.S. 544, 548 (1872).

¹³³ Some may argue that if a customer cannot resell the invention, he has not purchased it at all, but rather has merely leased it. Under 102(b), a license does not trigger the on-sale bar, only a full sale does. *See Mas-Hamilton Group v. LaGard, Inc.*, 156 F.3d 1206, 1217 (Fed. Cir. 1998). This would seem to give rise to a potential dilemma: under what circumstances would the Exception ever apply in an on-sale case, because if a sale really occurred then an inventor necessarily loses control; but if the inventor only licensed the invention, 102(b) shouldn't apply. The answer may be found in the case of *In re Kollar*, which distinguishes between two types of licenses. 286 F.3d 1326, 1331 n.3 (Fed. Cir. 2002). The court held that only licenses related to rights under a patent are excused, while licenses or leases of tangible products can still trigger the on-sale bar. *Id.* To further explain, a license that allows production of the invention for a 5% royalty once the patent issues would not trigger the on-sale bar. *See Id.* However, the license of a specific piece of computer software, which is effectively a license masquerading as a sale, can trigger 102(b). *See Id.*

¹³⁴ Lough v. Brunswick Corp., 86 F.3d 1113, 1120–21 (Fed. Cir. 1996).

¹³⁵ *In re* Dybel, 524 F.2d 1393, 1401 (C.C.P.A. 1975)

 ¹³⁶ Allen Eng'g Corp. v. Bartell Indust., 299 F.3d 1336, 1353 (Fed. Cir. 2002).
¹³⁷ Id.

indicative of experimental use, while use by sales representatives would indicate the opposite. Importantly, this does not conflate Protocol with Need. The difference between the two inquiries is that Protocol asks the logic behind the choice of user, while Need examines the actual results of the relationship after the choice was made.

Nothing in the Unified test changes the nature of these inquiries from their previous incarnations. The element that the inventor direct the experiment to a claimed or inherent feature of the invention is still required, and the old *Allen* factors remain merely factors. This is because while the currents tests may be flawed, the underlying factors and elements are, for the most part, very effective.

B. Benefits of the Unified Test

The advantages of the Unified test are numerous. The first advantage is the increased transparency and predictability that the test provides. The Unified test limits each element to consider no more than four of the old *Allen* factors. Thus, the relative strengths and weaknesses of any given factor, as it relates to a given fact pattern or argument, becomes more apparent. Furthermore, the elements of the Unified test group these factors logically, allowing interplay between like factors to become more apparent. For example, the factors of whether experimental records were kept, and whether the testing was systematic enough are grouped together in the Protocol element. These two factors are inherently related; therefore, it is appropriate that they be weighed against each other.

Another advantage of the Unified test is that it puts inventors on proper notice as to what courts expect of them. Attorneys will know that they cannot overcome a lack of control with impeccable record keeping, or vice versa. The test more clearly articulates exactly what the courts expect of inventors to successfully meet the Exception's requirements, which in turn allows patent attorneys to give targeted advice as to the sufficiency of the inventor's Need, Control, and Protocol, rather than simply citing a laundry list of factors to a client.

The Unified test also promotes more effective appellate review. Trial courts will be able to more clearly identify which element a litigant failed to satisfy, allowing appellate courts to more easily tailor its analysis. This, in turn, promotes judicial economy.

C. The Unified Test Applied

This article already discussed how the $Lough^{138}$ decision demonstrated the lack of transparency and predictability of the *Allen* factors.¹³⁹ Now, to demonstrate the improvements of the Unified test, consider the following result if the court analyzed the *Lough* fact pattern using the Unified test.

The original *Lough* decision did not conduct a detailed analysis of whether Lough needed to test his seal prototypes on boats other than his own because the court felt that the lack of

¹³⁸ Lough v. Brunswick Corp., 86 F.3d 1113, 1120 (Fed. Cir. 1996).

¹³⁹ See supra text accompanying notes 118–124.

control and recordkeeping was dispositive.¹⁴⁰ However, the court discussed a number of relevant facts to the analysis. Lough argued that "to verify operability of the seal assemblies, prototypes had to be installed by mechanics of various levels of skill in boats that were exposed to different conditions."141

When an inventor designs an improved product, as was the case in *Lough*, the inventor needs to test whether his invention works better than existing products in its intended environment.¹⁴² After all, the test of the better mousetrap is not whether it catches mice, but whether it catches more mice. Similarly here, Lough needed to test his prototypes in different boats, in different environments. The relatively small number of prototypes would work in Lough's favor.¹⁴³ Further, because the purpose of the improved seal was to reduce leakage due to corrosion over time, the long duration of the experiment in actual sea-water conditions is understandable.¹⁴⁴ The court could also consider that Lough did not accept any money, and that he was not trying to obtain market research or the like.¹⁴⁵ Thus, the issue of Need would at least present issues of fact.

Next, the court would analyze whether Lough maintained Control of his prototypes. The court would ask if Lough took sufficient precautions to prevent exposing his five prototypes to the public.¹⁴⁶ The fact that Lough did not require the five boat owners to sign confidentiality agreements would be a major strike against him.¹⁴⁷ Lough also allowed one of the boats to be sold with his prototype still in it, and he subsequently did not keep track of that prototype.¹⁴⁸ The court would easily conclude that Lough did not maintain Control.

Finally, the court would determine whether Lough had established a research Protocol. Lough did not keep records and did not attempt to elicit feedback for over a year.¹⁴⁹ Nor is it clear if Lough told the five boat owners that they were part of an experiment.¹⁵⁰ Admittedly, Lough was a small solo inventor, and the court would not expect an elaborate Protocol.¹⁵¹ However, the court would still likely conclude Lough had insufficient Protocol to successfully negate the public uses.

The reader should note that each element considered only a few closely related factors. For example, the relationship between confidentiality agreements and re-sales in control still requires a balancing test. However, the relationship between the two is far more quantifiable than the balance between record keeping and control was.

 150 *Id*.

¹⁴⁰ *Lough*, 86 F.3d at 1121–22.

¹⁴¹ *Id.* at 1119.

¹⁴² TP Lab, Inc. v. Prof'l Positioners, Inc., 724 F.2d 965, 972 (Fed. Cir. 1984).

¹⁴³ *Lough*, 86 F.3d at 1116.

¹⁴⁴ *Id.* at 1119.

 $^{^{145}}$ *Id.*

¹⁴⁶ Id. at 1116. The public would be defined as everyone beyond the original five boat owners to whom he gave prototypes. ¹⁴⁷ *Id.* at 1121.

 $^{^{148}}$ Id.

¹⁴⁹ *Id.*

¹⁵¹ Supra, Section IV.A.

Conclusion

The current state of the Exception is mired in confusion. District courts have two conflicting tests to choose from, and it is unclear whether courts must consider the *Electromotive* test as binding precedent. Likewise, the USPTO does not know which test to apply. Furthermore, both tests lack predictability because each weighs thirteen highly disparate factors against each other, and neither test properly defines the most important factor, control. An *en banc* hearing to resolve the intracircuit split is necessary. The *en banc* court should strongly consider adopting the Unified Test proposed by this article.