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Going Against the Grain?: The “Maize” of Lost Profits Awards in *Grain Processing Corp. v. American Maize-Products Co.*

Since the 1998 Federal Circuit decision upholding Signature Financial Group’s patent for the calculation of mutual fund asset values,¹ the number of patent applications for business methods² has increased markedly.³ The United States Patent and Trademark Office (USPTO) is currently reviewing thousands of these applications from E-commerce companies,⁴ which are primarily responsible for the increase.⁵ As more E-commerce companies seek

1. *State St. Bank & Trust Co. v. Signature Fin. Group, Inc.*, 149 F.3d 1368, 1375 (Fed. Cir. 1998) (holding that business methods may be patented); *see AT&T Corp. v. Excel Communications, Inc.*, 172 F.3d 1352, 1360–61 (Fed. Cir. 1999) (holding that business methods are patentable subject matter); *see also* Scott M. Alter, *The Effects of State Street: The Year-and-a-Half in Review*, in *PATENTING THE NEW BUSINESS MODEL: BUILDING FENCES IN CYBERSPACE* 77, 77–92 (Jeffrey A. Berkowitz ed., 2000) [hereinafter *PATENTING THE NEW BUSINESS MODEL*] (discussing the effects and implications of *State Street*).

2. *See* Christopher E. Chalsen & John M. Griem, Jr., *Drafting and Prosecuting the Business Method Patent: Building the Cyberspace Fence*, in *PATENTING THE NEW BUSINESS MODEL*, *supra* note 1, at 201, 204 (defining business method patents as patents of methods used to earn profits, which typically involve the use of computers or the Internet); E. Robert Yoches, *Enforcing Business-Method Patents*, in *PATENTING THE NEW BUSINESS MODEL*, *supra* note 1, at 275, 281 (defining business method patents as “software-related patents whose novelty resides in the conduct of business, and not in any implementing software or hardware”).

3. U.S. PATENT AND TRADEMARK OFFICE (USPTO), *AUTOMATED FINANCIAL OR MANAGEMENT DATA PROCESSING METHODS (BUSINESS METHODS)*, §§ III.C–D, <http://www.uspto.gov/web/menu/busmethp/class705.htm> (Mar. 29, 2000) [hereinafter *USPTO WHITE PAPER*] (on file with the North Carolina Law Review) (noting that the filing growth of business method patents in fiscal year 1998 and 1999 was strong); W. Scott Petty, *Business Model Patents: Here Today, Gone Tomorrow?*, *INTELL. PROP. TODAY*, May 2000, at 40, 40 (noting that the Federal Circuit’s holding in *State Street* prompted E-commerce companies to file business method patent applications).

4. An E-commerce company is a business that uses the Internet as its primary tool for trade, typically through a customer visiting the company’s Web site and making a transaction using the Internet. *Define and Sell: Where E-Commerce Wins Hands Down, and Where It Doesn’t*, at 6, *inserted in* *ECONOMIST*, Feb. 26, 2000, at 64 (A Survey of E-Commerce).

5. *See* *USPTO WHITE PAPER*, *supra* note 3, §§ III.C–D; Petty, *supra* note 3, at 40 (noting that companies filed 2600 business method patent applications and that the USPTO granted patents for 583 of these applications between October 1998 and September 1999); Bill Roberts, *The Truth About Patents: Five Reasons They’ll Have Limited Impact on the Web’s Evolution*, *INTERNET WORLD*, Apr. 15, 2000, at 72, 74–76.

to enforce their patents for commercial and economic gain,⁶ the pace of litigation is likely to increase, implicating concerns over limited judicial resources.⁷

Another factor likely to increase litigation is the prospect of low damages awards for patentees after the Federal Circuit opinion⁸ in *Grain Processing Corp. v. American Maize-Products Co.*⁹ Intuitively, low damages might appear to lead to *less* litigation. On the contrary, patentees are more concerned about obtaining injunctions to protect their “first-mover advantage”—the opportunity to define the

6. See W. Scott Petty, *Internet Patent Lawsuits Multiply as E-Commerce Revenues Soar*, INTELL. PROP. TODAY, Aug. 2000, at 7, 7. Amazon.com, Priceline.com, and DoubleClick.com have obtained multiple patents to protect their business methods and have attempted to enforce those patents with lawsuits. Amazon.com, Inc. v. Barnesandnoble.com, Inc., 73 F. Supp. 2d 1228, 1249 (W.D. Wash. 1999) (granting a preliminary injunction restraining Barnesandnoble.com from using methods that allegedly violated an Amazon.com patent), *vacated*, 239 F.3d 1343, 1366 (Fed. Cir. 2001) (vacating the preliminary injunction); *Technology Briefing: E-Commerce: Microsoft-Priceline Dispute Settled*, N.Y. TIMES, Jan. 10, 2001, at C7 [hereinafter *Microsoft-Priceline Dispute Settled*] (noting that Expedia, Microsoft’s majority-owned online travel company, will continue to offer its services using Priceline.com’s patented process but will pay Priceline.com a royalty for that right); *Technology Briefing: Internet: DoubleClick Settles Suits*, N.Y. TIMES, Nov. 8, 2000, at C4 (noting that DoubleClick, Inc. entered into a cross-patenting settlement with two rivals that it sued for patent infringement).

7. RICHARD A. POSNER, THE FEDERAL COURTS: CHALLENGE AND REFORM 53–86 (1996) (describing the growth of the federal courts’ caseloads and the subsequent stress placed on the federal courts’ workload). The courts of appeals have the largest caseload problem. *Id.* at 244. See generally Robert M. Parker & Ron Chapman, Jr., *Accepting Reality: The Time for Adopting Discretionary Review in the Courts of Appeals Has Arrived*, 50 SMU L. REV. 573, 574–76 (1997) (describing the federal circuits’ volume crisis); Del Jones, *Businesses Battle Over Intellectual Property: Courts Choked with Lawsuits to Protect Ideas and Profits*, USA TODAY, Aug. 2, 2000, at 1B, 2000 WL 5785645 (describing the onslaught of patent litigation).

8. As a Federal Circuit opinion, *Grain Processing* has the ability to influence the law throughout the United States. Although the Federal Circuit cannot directly overturn other circuit court decisions, it can repudiate the holding or doctrine of a previous patent case from another circuit. The decisions of the Federal Circuit are the most significant because the Federal Circuit has exclusive jurisdiction over patent appeals from district courts. 28 U.S.C. § 1295(a)(1) (1994) (creating exclusive jurisdiction). The other circuits may hear cases in which patents are incidentally involved, such as contract cases in which the contract happens to be a patent license. See Rochelle Cooper Dreyfuss, *The Federal Circuit: A Case Study in Specialized Courts*, 64 N.Y.U.L. REV. 1, 23–24 (1989) (studying the Federal Circuit’s patent jurisdiction, focusing specifically on the court’s inability to develop a jurisdictional concept of itself and thus attain the efficiency expected of a specialized court).

9. 185 F.3d 1341 (Fed. Cir. 1999); see also *infra* notes 72–75 and accompanying text (arguing that damages awards are likely to be low after *Grain Processing*). See generally Ronald A. Antush, *Recent Developments in Patent Law*, 8 TEX. INTELL. PROP. L.J. 71, 89–93 (1999) (providing a history of *Grain Processing*); Margaret E. M. Utterback, Note, *Substitute This! A New Twist on Lost Profits Damages in Patent Infringement Suits: Grain Processing Corp. v. American Maize-Products Co.*, 2000 WIS. L. REV. 909 (same).

competitive rules by virtue of entering a market early¹⁰—than about obtaining damages. If patent infringement suits result in low damage awards, then competing companies might rationally decide that testing the boundaries of a patent is worth the risk;¹¹ if more companies test the scope of competing companies' patents, then more patentees will sue to protect their first-mover advantage despite the likely low damages.¹²

This Recent Development discusses the effect of *Grain Processing* on damages analysis in business method patent cases. *Grain Processing* modified prior law deeming evidence of non-infringing substitutes not on the market during the period of infringement to be irrelevant;¹³ thus, companies will now be able to limit or preclude lost profits awards by showing the availability of substitutes not on the market.¹⁴ This modification is especially relevant for E-commerce companies because they can create software quickly to circumvent patents.¹⁵

Criticism of *Grain Processing* stems from the decision's probable effect on E-commerce companies acquiring patents to protect their first-mover advantage.¹⁶ By limiting lost profits, *Grain Processing* will

10. Potential first-mover advantages include serving customers first to establish loyalty, shaping the way that a product is defined, learning about markets early, and securing institutional barriers against imitation, such as patents. MICHAEL E. PORTER, *COMPETITIVE ADVANTAGE: CREATING AND SUSTAINING SUPERIOR PERFORMANCE* 186–88 (1998); see also Arti Rai, *Judicial Issues: Addressing the Patent Gold Rush: The Role of Deference to PTO Patent Denials*, 2 WASH. U. J.L. & POL'Y 199, 212 (2000) (noting that even patents that are struck down by courts are valuable, because the brief period in which the patentee may preclude others from using the patent might give the patentee a first-mover advantage).

11. Andrew J. Frackman & Robert M. Stern, *E-Commerce Damages Awards*, NAT'L L.J., July 3, 2000, at B10, B10 (noting that patentees will prosecute their patents to protect a lead in the marketplace despite the absence of a meaningful damages award); Jones, *supra* note 7 (noting that companies are litigating patents to deflect competition and are primarily driven by business considerations).

12. Frackman & Stern, *supra* note 11, at B10 (noting that damages analysis in infringement actions affects the rate of infringement, which, in turn, affects the rate of litigation).

13. See, e.g., *State Indus., Inc. v. Mor-Flo Indus., Inc.*, 883 F.2d 1573, 1578–79 (Fed. Cir. 1989) (rejecting an attempt to rely on a non-infringing substitute that was not available during the infringement period); *Central Soya Co. v. Geo. A. Hormel & Co.*, 723 F.2d 1573, 1579 (Fed. Cir. 1983) (stating that proof of a non-infringing substitute is redundant and unnecessary).

14. *Grain Processing*, 185 F.3d at 1343 (holding that a patent holder cannot prove lost profits when an acceptable, non-infringing alternative was available to the infringer).

15. See *infra* notes 71–75 and accompanying text (indicating that E-commerce companies software-based businesses put them in position to limit lost profits awards under *Grain Processing*).

16. See 35 U.S.C. § 284 (1994) (entitling patent holders to adequate compensation for

increase the rate of infringement. Conversely, approval of *Grain Processing* derives from the recognition that many business method patents are so ill defined that awarding high damages would be unfair.¹⁷ Under either view, *Grain Processing* is expected to increase patent litigation as more E-commerce companies test the boundaries of business method patents.¹⁸

The first step for evaluating *Grain Processing*'s impact is to understand which remedy the decision effects. Patentees have two available remedies if a court determines that infringement occurred. First, courts may award reasonable royalties¹⁹ on the defendant's infringing sales to patentees that cannot prove lost profits.²⁰ Reasonable royalties fix the minimum damages awards in patent infringement cases.²¹ Second, courts may award patentees lost profits

infringements); *Del Mar Avionics, Inc. v. Quinton Instrument Co.*, 836 F.2d 1320, 1326-28 (Fed. Cir. 1987) (vacating the district court's award of five percent royalty damages because the court "should consider all factors reasonably pertinent to a determination of damages that bear a reasonable relationship to the damages actually suffered by the patent owner").

17. *In re Dance*, 160 F.3d 1339, 1343 (Fed. Cir. 1998) (defining obviousness as "a question of law based on findings of underlying facts relating to the prior art, the skill of the artisan, and objective considerations" and stating that "obviousness cannot be established by hindsight combination to produce the claimed invention"). Members of the Internet and software communities claim that business method patents often protect widely known, obvious methods that can be simply implemented using computers and the Internet; if there is nothing new or innovative about a business method, then it is undeserving of patent protection. See *Petty*, *supra* note 3, at 40 (noting that the patent office is currently taking steps to respond to these criticisms); see also Irah H. Donner, *Combating Obviousness Rejections Under 35 U.S.C. Section 103*, 6 ALB. L.J. SCI. & TECH. 159, 162 (1996) (discussing the obviousness standard which prevents patents on "inventions . . . contain[ing] insignificant differences over the prior art").

18. *Frackman & Stern*, *supra* note 11, at B10.

19. If a royalty arrangement already exists, it is generally accepted as the "reasonable royalty." *Hanson v. Alpine Valley Ski Area, Inc.*, 718 F.2d 1075, 1078 (Fed. Cir. 1983). Otherwise, reasonable royalties are "based upon . . . a hypothetical royalty resulting from arm's length negotiations between a willing licensor and a willing licensee." *Id.*; see also *Ga.-Pac. Corp. v. United States Plywood Corp.*, 318 F. Supp. 1116, 1120 (S.D.N.Y. 1970) (stating that the amount upon which a licensor and licensee would have agreed is a consideration when determining the amount of reasonable royalties) *modified sub nom. on other grounds*, *Ga.-Pac. Corp. v. United States Plywood-Champion Papers, Inc.*, 446 F.2d 295 (2d Cir. 1971). See generally Laura B. Pincus, *The Computation of Damages in Patent Infringement Actions*, HARV. J.L. & TECH., Fall 1991, at 95, 96 (noting the "fantasy and flexibility" of computing patent damages and discussing "the few areas where predictability remains possible").

20. *Grain Processing*, 185 F.3d at 1343 (affirming the district court's decision denying lost profits damages but awarding the plaintiff a three percent royalty on the defendant's infringing sales); *Yoches*, *supra* note 2, at 330.

21. 35 U.S.C. § 284 (1994); see also *King Instruments Corp. v. Perego*, 65 F.3d 941, 947 (Fed. Cir. 1995) (noting that reasonable royalties constitute the floor of damages for infringement); *Joseph Ferraro & Frank J. Nuzzi, Business Method Infringement Damages*,

resulting from “diverted sales, price erosion, and increased expenditures caused by the infringement.”²² *Grain Processing* significantly affects the formula used by courts to determine lost profits²³ because the denial of lost profits, which typically represents the larger award,²⁴ leaves reasonable royalties as the only potential remedy.

A patentee is entitled to lost profits upon proof of causation.²⁵ As a result, the patentee must demonstrate a reasonable probability that, “but for” the infringement, the patentee would have made the sales and profits allegedly lost.²⁶ The Sixth Circuit’s decision in *Panduit Corp. v. Stahl Bros. Fibre Works, Inc.*²⁷ established the four-factor test used by courts to determine whether the patentee would have made the profits received by the infringer and is thus entitled to a lost profits award.²⁸ These guidelines require patentees

N.Y. L.J., July 24, 2000, at S6, S12 (same) Michael D. Pegues, Protecting Patents, Trademarks, Copyrights: Remedies for Infringement, http://www.hayboo.com/briefing/6_29_00Pegues.htm (last visited Mar. 24, 2001) (on file with the North Carolina Law Review) (same).

22. *Hebert v. Lisle Corp.*, 99 F.3d 1109, 1119 (Fed. Cir. 1996); *Minco, Inc. v. Combustion Eng’g, Inc.*, 95 F.3d 1109, 1118 (Fed. Cir. 1996); *Lam, Inc. v. Johns-Manville Corp.*, 718 F.2d 1056, 1065 (Fed. Cir. 1983)); *see also* *Yoches*, *supra* note 2, at 328–29 (noting that lost profits caused by an infringement in the Internet industry might be higher than in any other industry).

23. *Frackman & Stern*, *supra* note 11, at B10 (noting the significant impact that *Grain Processing* will have on the damages equation).

24. *See supra* note 21 and accompanying text. *But see* *Yoches*, *supra* note 2, at 330 (indicating that a reasonable royalty is the amount the infringing party would have paid the patentee for a licensing agreement, which can be high depending on gross profits and how royalty base is calculated).

25. *See* 35 U.S.C. § 284 (1994) (entitling patent holders to adequate compensation for infringements); *Panduit Corp. v. Stahl Bros. Fibre Works*, 575 F.2d 1152, 1156 (6th Cir. 1978) (providing a four factor test for assessing lost profits claims); *Ferraro & Nuzzi*, *supra* note 21, at S6 (noting that patentee must show that the infringement caused the lost profits).

26. *King Instruments Corp. v. Perego*, 65 F.3d 941, 952 (Fed. Cir. 1995); *State Indus., Inc. v. Mor-Flo Indus., Inc.*, 883 F.2d 1573, 1577 (Fed. Cir. 1989); *Del Mar Avionics, Inc. v. Quinton Instrument Co.*, 836 F.2d 1320, 1326 (Fed. Cir. 1987); *see also* David Yurkerwich, *Important Lessons in Patent Valuation from Past 20 Years*, N.Y. L.J., May 22, 2000, at S4, S4 (noting that the “but for” analysis is the critical question when connecting claims to the market). To recover fully, the plaintiff must demonstrate proximate causation as well. *Rite-Hite Corp. v. Kelley Co.*, 56 F.3d 1538, 1548 (Fed. Cir. 1995) (indicating that not all injuries resulting from an infringer’s entry into the marketplace with the infringing product are legally compensable).

27. 575 F.2d 1152 (6th Cir. 1978).

28. *Id.* at 1156; *see also* *Ferraro & Nuzzi*, *supra* note 21, at S6 (noting that courts use the *Panduit* factors to determine whether the infringement caused the damages). The Federal Circuit has held that the methodology for proving lost profits is within the district court’s discretion. *King Instruments*, 65 F.3d at 952. The Sixth Circuit established *Paundit* as a permissible test, 575 F.2d at 1156, and the Federal Circuit later approved this test in

to show (1) the presence of demand for the patented product, (2) the absence of non-infringing substitutes, (3) the ability of patentees to meet customer demand, and (4) the amount of lost profits.²⁹ *Grain Processing* affects the second *Panduit* factor, further refining the “but for” test.

The issue raised by *Grain Processing* was whether American Maize, by showing the availability of an acceptable non-infringing alternative not on the market during the infringement period,³⁰ rebutted the inference that Grain Processing would not have lost sales absent the infringement.³¹ The Federal Circuit held that the “but for” inquiry in lost profits analysis permits the use of non-infringing alternatives not on the market to show the availability of acceptable substitutes during the infringement period.³² Such a showing might prevent patentees from proving under *Panduit* that profits would not have been lost absent the infringement.

The *Grain Processing* patent concerned maltodextrins, or food additives made from starch.³³ In 1979, Grain Processing acquired the patent to a class of maltodextrins and its production processes; the company owned these patent rights until November 1991.³⁴ In 1981, Grain Processing claimed that American Maize’s production of a maltodextrin, Lo-Dex 10, infringed on its patent rights.³⁵ While the suit was pending, American Maize developed a second process to produce Lo-Dex 10 in an effort to engineer around the patent.³⁶ The

Pall Corp. v. Micron Separations, Inc., 66 F.3d 1211, 1222 (Fed. Cir. 1995) (citing *Panduit*, 575 F.2d at 1156). Note that *Panduit* was heard by the Sixth Circuit prior to the creation of the Federal Circuit in 1982. Federal Courts Improvement Act of 1982, Pub. L. No. 97-164, § 101, 96 Stat. 25, 25 (codified at 28 U.S.C. § 41 (1994)) (establishing the Court of Appeals for the Federal Circuit); see also *supra* note 8 (describing the jurisdiction of the Federal Circuit versus the jurisdiction of other circuits).

29. *Panduit*, 575 F.2d at 1156.

30. The infringement period is also referred to as the “accounting period.” Antush, *supra* note 9, at 92.

31. *Grain Processing*, 185 F.3d at 1343.

32. *Id.* at 1356.

33. U.S. Patent No. 3,849,194 (issued Nov. 19, 1974); see *Grain Processing*, 185 F.3d at 1343.

34. *Grain Processing*, 185 F.3d at 1344, 1347. Maltodextrins are a class of food additives that are popular for their neutral flavor and cold-water solubility. Grain Processing Corporation, MALTRIN Maltodextrins and Corn Syrup Solids, at <http://www.grainprocessing.com/food/malinfo.html> (last visited Mar. 23, 2001) (on file with the North Carolina Law Review). They serve as builders for standard and low-fat products and easily digestible carbohydrates for nutritional products. *Id.*

35. *Grain Processing*, 185 F.3d at 1345; see also *id.* at 1344 (citing *Grain Processing Corp. v. Am. Maize-Prods. Co. (Grain Processing I)*, No. 81-0237 (N.D. Ind. Mar. 16, 1987)).

36. *Id.* at 1345.

Federal Circuit found that both of American Maize's processes infringed on Grain Processing's patent rights,³⁷ and American Maize was enjoined from producing or selling of either product.³⁸ American Maize then produced Lo-Dex 10 using a third process, which the Federal Circuit also found infringed on Grain Processing's patent rights.³⁹ In April 1991, American Maize adopted a fourth process, which Grain Processing conceded did not violate the terms of its patent.⁴⁰

In 1995, the district court began the damages hearing that lead to a new development in patent law.⁴¹ Grain Processing claimed that it was injured by American Maize's infringing sales and was thus entitled to lost profits.⁴² The district court found that American Maize could have produced Lo-Dex 10 using the fourth, non-infringing process.⁴³ Thus, the court denied lost profits to Grain Processing and instead awarded the company reasonable royalties.⁴⁴ The Federal Circuit vacated the district court's reasonable royalties award, stating that switching to a non-infringing product after the period of infringement does not establish that a non-infringing alternative was available during the infringement period.⁴⁵ On remand, the district court found that the fourth process was available during the infringement period and again denied Grain Processing lost profits.⁴⁶ The court stated that it did not rely on the fact that American Maize later switched to a non-infringing alternative to

37. *Grain Processing Corp. v. Am. Maize-Prods. Co.* (Grain Processing II), 840 F.2d 902, 911-12 (Fed. Cir. 1988). The district court had found no infringement. *Grain Processing*, 185 F.3d at 1345; see also *id.* at 1344 (citing *Grain Processing I*).

38. *Grain Processing*, 185 F.3d at 1345 (describing an injunction served by the district court on Oct. 21, 1988).

39. *Grain Processing Corp. v. Am. Maize-Prods. Co.* (Grain Processing V), 21 U.S.P.Q.2d (BNA) 1474, 1476-77 (Fed. Cir. 1991). The district court had initially found infringement, but had subsequently changed its mind. *Grain Processing*, 185 F.3d at 1346 (citing *Grain Processing Corp. v. Am. Maize-Prods. Co.* (Grain Processing III), No. 81-0237 (N.D. Ind. May 15, 1990), modified, *Grain Processing Corp. v. Am. Maize-Prods. Co.* (Grain Processing IV), No. 81-0237 (N.D. Ind. Jul. 16, 1990)).

40. *Grain Processing*, 185 F.3d at 1346-47.

41. *Grain Processing Corp. v. Am. Maize-Prods. Co.* (Grain Processing VI), 893 F. Supp. 1386 (N.D. Ind. 1995).

42. *Id.* at 1392; see also *Hebert v. Lisle Corp.*, 99 F.3d 1109, 1119 (Fed. Cir. 1996) (listing diverted sales, price erosion, and increased expenditures as criteria for calculating damages for patent infringement based on lost profits).

43. *Grain Processing VI*, 893 F. Supp. at 1392.

44. *Id.* at 1396.

45. *Grain Processing Corp. v. Am. Maize-Prods. Co.* (Grain Processing VII), Nos. 95-1506 & 95-1507, 1997 U.S. App. LEXIS 2885, at *4 (Fed. Cir. Feb. 20, 1997).

46. *Grain Processing Corp. v. Am. Maize-Prods. Co.* (Grain Processing VIII), 979 F. Supp. 1233, 1238 (N.D. Ind. 1997).

establish the availability of a non-infringing substitute; rather, the court relied on the fact that American Maize could have adopted the fourth process during the infringement period.⁴⁷ The Federal Circuit affirmed the district court's second opinion, creating precedent providing potential defendants more leeway in showing that a non-infringing alternative was available during the period of infringement.⁴⁸

The Federal Circuit decided that, to determine the existence and amount of lost profits, a court first must accurately construct the market as it would have been without the infringing product.⁴⁹ The court stated that, to construct the marketplace accurately, courts must consider the business strategies that infringing parties would have adopted had they avoided infringement.⁵⁰ Determining the expected profits of a patentee, and thus the patent's value, requires that courts account for all comparable products despite the non-existence of those products during the infringement period.⁵¹ If a non-infringing substitute has not been commercialized over that period, then that substitute can defeat a lost profits claim only if specific facts demonstrate the availability and acceptability of the substitute.⁵² The court affirmed the district court's findings that the fourth process used to develop Lo-Dex 10 was within American Maize's means from the beginning of the infringement period and thus the non-infringing substitute was available; American Maize possessed the expertise, experience, and scientific knowledge to design the fourth process and could have obtained the materials needed to produce Lo-Dex using that process.⁵³

In determining that the non-infringing product was acceptable, the court stressed the substitute product's price, as well as its physical and functional similarities.⁵⁴ As to price, consumer sensitivity to price changes supported the finding that American Maize would not have raised prices to compensate for higher production costs under the fourth process.⁵⁵ As to similarities, American Maize's sales records showed no significant changes after introducing products made by the

47. *Id.* at 1235.

48. *Grain Processing*, 185 F.3d at 1348.

49. *Id.* at 1350.

50. *Id.* at 1350-51.

51. *Id.* at 1351.

52. *Id.* at 1355.

53. *Id.* at 1354. The court also pointed out that economic considerations alone prevented the fourth process from being used before 1991. *Id.*

54. *Id.* at 1355.

55. *Id.*

fourth process, indicating consumers found the products to be interchangeable.⁵⁶

The effect of *Grain Processing* on business method patent infringement cases is illustrated by applying the court's analysis to Amazon.com's patent on a one-click method for processing online orders.⁵⁷ On December 1, 1999, Amazon.com obtained an injunction forcing Barnesandnoble.com to redesign its "Express Lane" ordering system so that customers were required to click more than once to purchase products.⁵⁸ The case never reached the damages stage because Barnesandnoble.com was allowed to modify its checkout system to avoid infringement.⁵⁹ If the suit had reached the damages stage, however, claims for lost profits under *Grain Processing* would have been limited or precluded if Barnesandnoble.com could show it had the ability to design around Amazon.com's patent quickly.⁶⁰ The court then would have considered Barnesandnoble.com's software design as if it were in the marketplace during the infringement period. A finding of no lost profits would be consistent with *Grain Processing*, because the Federal Circuit in that case also considered a design-around product in refusing to award lost profits.⁶¹

Although *Grain Processing* is consistent with prior case law indicating that an accurate construction of the hypothetical marketplace requires courts to consider alternatives,⁶² it is inconsistent with prior case law concerning the relevance of

56. *Id.*

57. See U.S. Patent No. 5,960,411 (issued Sept. 28, 1999) (covering the use of technology enabling customers to order, pay for, and arrange delivery of goods with one click of their mouses); see also Andrew J. Frackman & Robert M. Stern, *Surf's Up: Wave of Patent Litigation is Coming*, E-COMMERCE, May 2000, at 1, LEXIS, Legal Publications Group File (analyzing how *Grain Processing* would have affected a lost profits award for Amazon.com upon infringement of its one-click patent).

58. See *Amazon.com, Inc. v. Barnesandnoble.com, Inc.*, 73 F. Supp. 2d 1228, 1249 (W.D. Wash. 1999), vacated, 239 F.3d 1343 (Fed. Cir. 2001). The preliminary injunction was later vacated because Barnesandnoble.com "raised substantial questions as to the validity of the . . . patent." 239 F.3d at 1366; see also W. Scott Petty, *Do Business Model Patents Provide an Unfair Competitive Advantage?*, INTELLECT. PROP. TODAY, Apr. 2000, at 28, 28 (pointing out that Amazon.com's one-click patent has been widely criticized).

59. *Amazon.com, Inc.*, 73 F. Supp. 2d at 1249.

60. Frackman & Stern, *supra* note 57.

61. *Grain Processing*, 185 F.3d at 1355; see also Frackman & Stern, *supra* note 57 (noting that the ability to design around existing patents helps limit or preclude lost profits awards).

62. See *Panduit Corp. v. Stahl Bros. Fibre Works, Inc.*, 575 F.2d 1152, 1156 (6th Cir. 1978) (indicating that courts will examine proof of acceptable, non-infringing alternatives); *Rite-Hite Corp. v. Kelley Co.*, 56 F.3d 1538, 1548 (Fed. Cir. 1995) (stating that an acceptable, non-infringing alternative is evidence to rebut patentees' proof that they would have profited "but for" the infringement).

substitutes not on the market.⁶³ In *State Industries, Inc. v. Mor-Flo Industries, Inc.*,⁶⁴ for example, the plaintiff sued a competitor for infringing upon its patent on a method of insulating water heaters with foam.⁶⁵ The competitor argued that the district court erred in failing to consider available alternative methods.⁶⁶ In response, the Federal Circuit stated that because the competitor offered no evidence about the alternative methods existing in the market during the infringement period, the district court properly declined to consider the alleged alternatives.⁶⁷ In *Central Soya Co. v. Geo. A. Hormel & Co.*,⁶⁸ the patentee sued a competitor for infringing on its patent protecting a method of making a food product in the form of a patty.⁶⁹ Relying on *Panduit*, the Federal Circuit stated that the patentee could recover damages for infringement if the patentee proved the absence of non-infringing substitutes on the market.⁷⁰ Under this line of cases, the result in the Amazon.com hypothetical would have been that Barnesandnoble.com could not offer proof of their alternative technology unless it was on the market during the period of infringement. After *Grain Processing*, however, such technology would be relevant in reconstructing the “but for” market.

Grain Processing calls into question the *State Industries* and *Central Soya* decisions by holding that non-infringing substitutes not on the market during the period of infringement can limit or preclude damages measured by lost profits.⁷¹ This damages analysis is especially threatening to the ability of E-commerce patentees to recover lost profits after proving infringement. In *Grain Processing*, the court did not award lost profits to the patentee because the infringing party was able to move to a non-infringing substitute quickly.⁷² Had American Maize required months, or even years, to develop a non-infringing substitute, the court probably would have

63. See *State Indus., Inc. v. Mor-Flo Indus., Inc.*, 883 F.2d 1573, 1579–80 (Fed. Cir. 1989) (rejecting an attempt to rely on a non-infringing alternative that was unavailable during the infringement period); *Central Soya Co. v. Geo. A. Hormel & Co.*, 723 F.2d 1573, 1579 (Fed. Cir. 1983) (providing that an acceptable substitute must be on the market).

64. 883 F.2d 1573 (Fed. Cir. 1989).

65. *Id.* at 1576.

66. *Id.* at 1579.

67. *Id.*

68. 723 F.2d 1573 (Fed. Cir. 1983).

69. *Id.* at 1575.

70. *Id.* at 1578–79 (citing *Panduit Corp. v. Stahl Bros. Fibre Works, Inc.*, 575 F.2d 1152, 1156 (6th Cir. 1978)).

71. *Grain Processing*, 185 F.3d at 1356.

72. *Id.*

allowed the patentee to recover lost profits measured during those months or years.⁷³ While this change in the law affects all patentees seeking lost profits for infringements, it especially affects E-commerce companies, which typically have the ability to design software around a patent expeditiously.⁷⁴ Under prior law, the ability of an E-commerce company to design non-infringing alternative software would carry no relevance in limiting or precluding lost profits awards, as courts would not consider the software as being on the market during the infringement period.⁷⁵

Considering the importance of the first-mover advantage for E-commerce companies, the potential effects of limiting damages in infringement suits are troubling.⁷⁶ The first-mover advantage refers to the ability of an E-commerce company to develop a novel business method and quickly protect that method with a patent.⁷⁷ This protection enables the infringing E-commerce company to capture and increase market share with respect to the product being sold.⁷⁸ Furthermore, the ability of an E-commerce company to secure investments in the business's growth depends heavily upon the ability of the business to protect its first-mover advantage.⁷⁹ Because allowing a patentee to capture significant market share will increase the cost of entry, competitors have an incentive to test the boundaries of the patent.⁸⁰ This incentive may be counteracted if the risk of a

73. Frackman & Stern, *supra* note 57 (noting that the time for calculating lost profits will be short if the infringing company can and would have switched to a substitute expeditiously).

74. *Id.* ("Even where the infringer would have to develop a substitute software program independently, the time to write that software independently may well be so short as to make the lost-profits damages relatively nominal.").

75. *See supra* note 63.

76. Ferraro & Nuzzi, *supra* note 21, at S15 (suggesting that "[b]usiness method patent holders need to start building an evidentiary record—in advance of litigation, and, if possible, even before adopting a new method—to support a substantial damage claim").

77. Monica Soto, *Competition's Keen for Patents*, SEATTLE TIMES, Aug. 9, 2000, at E1.

78. *See* Ferraro & Nuzzi, *supra* note 21, at S15 (noting that a competitive edge can be gained by being the first to use a new business method); Petty, *supra* note 3, at 40 (noting that most Internet startup companies include in their business plans the goal of obtaining a patent to protect market share). *But see* Roberts, *supra* note 5, at 73 (reporting the belief of some experts that patents do not determine the short-term success of Internet companies).

79. Soto, *supra* note 77 (indicating that companies are quickly obtaining patents due to the importance of being first in the high-tech world). *See generally* Frackman & Stern, *supra* note 57 ("Given the low barriers of entry and the importance of preserving their head start, the ability of first movers to patent their e-commerce business methods is often critical in raising crucial venture capital and attracting public investors.").

80. The value of protecting a business method for the brief time that it remains novel

costly damage award from infringement is high.⁸¹ Under *Grain Processing*, however, the risk of the court awarding a patentee a generous lost profits award appears to be low, thereby eliminating the counteracting effect.⁸² The incentive to test the boundaries of a patent, when coupled with the recent increase in the number of patents issued by the USPTO, provides a formula for increased litigation.⁸³

On the other hand, *Grain Processing*'s positive effects might attenuate concerns over a litigation explosion. Business method patents issued by the USPTO to E-commerce companies have come under severe criticism for being obvious and undeserving of patent protection.⁸⁴ For example, Amazon.com's patent protects a system allowing Web sites that refer customers to other sites to collect a percentage of sales.⁸⁵ In another case, the USPTO granted Priceline.com a patent for a reverse auction allowing customers to name their own prices.⁸⁶ Granting patents such as these, which

might also drive the patentees to litigate despite the low odds of receiving lost profits. Although a patent lasts for twenty years, 35 U.S.C. § 154 (1994), rapid advancements in technology make business method patents obsolete in far fewer years. *See Roberts, supra* note 5, at 84 ("If the Internet moves like a raging river, then the patent process is as slow as a glacier."); Edith Updike, *What's Next—A Patent for the 401(k)*, BUS. WEEK, Oct. 26, 1998, at 104, 104 (stating that the financial value of Internet patents is questionable because they become obsolete so quickly).

81. *See Frackman & Stern, supra* note 57.

82. *Id.*

83. *Id.* ("[T]he absence of any significant adverse damages award . . . will delight trial lawyers, because substantial litigation seems certain.")

84. *See Sharon Nash, Patents Pending*, PC MAG., May 9, 2000, at 84, 84 (recognizing that the patenting of business methods has become a concern for lawmakers); Philip E. Ross, *Patently Absurd*, FORBES, May 29, 2000, at 180, 180 ("When patents are issued for sweeping claims or obvious applications, they don't foster innovation, they crush it."); Mit Spears, *Patent Lockup*, UPSIDETODAY: THE TECH INSIDER, June 12, 2000, at <http://www.upside.com/texis/mvm/print-it?id=393597320&t=> (on file with the North Carolina Law Review) (arguing that awarding patents that are neither new nor innovative serve no good purpose and that most E-commerce business method patents meet this description); *see also* Ross, *supra*, at 181–82 (contending that some critics attribute these troublesome patents to an overworked USPTO).

85. U.S. Patent No. 6,029,141 (issued Feb. 22, 2000). Interestingly, the founder of Amazon.com has responded to critiques of the company's "Internet-based affiliate program" by proposing reforms that would prevent the USPTO from granting as many patents as it has in the past. *See Petty, supra* note 58, at 28.

86. U.S. Patent No. 5,794,207 (issued Aug. 11, 1998). Note that Walker Asset Management Limited Partnership is the official owner of the patent, *see id.*, although Priceline.com brought suit to enforce the patent, *see Microsoft-Priceline Dispute Settled, supra* note 6, at C7. Jay Walker founded Priceline.com. Pamela L. Moore, *Walking Away from Priceline*, BUS. WK., Jan. 15, 2001, at 44, 44. Priceline.com offered merchandise and services online, which customers bid on, and related this information to companies owning the merchandise or offering the services. Teresa Riordan, *Outlook 2000: Technology and*

protect common methods of carrying out electronic business, might discourage innovation and impede the spread of tools needed to conduct E-commerce.⁸⁷ Thus, a system permitting large lost profits awards for infringement of these patents would be unfair. To return to our hypothetical, if Amazon.com's one-click patent was not really original, then enforcing high damages against Barnesandnoble.com for infringement would be unfair.

If courts determine that the need to reduce the pace of litigation outweighs this competing argument, however, then *Grain Processing* is problematic. By changing the lost profits analysis, *Grain Processing* has set a precedent that could increase the case load of courts at an unwieldy pace as the number of business method patents issued to E-commerce companies continues to rise.

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Media: Patents Considered Vital to Thrive on the Internet, N.Y. TIMES, Dec. 20, 1999, at C39.

87. See Sabra Chartrand, *Federal Agency Rethinks Internet Patents*, N.Y. TIMES, Mar. 30, 2000, at C12; James Gleick, *Patently Absurd*, N.Y. TIMES, Mar. 12, 2000, § 6 (Magazine), at 44.

