An Exploration of the Unintended Temporal Extension of the Plant Patent Term

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I. INTRODUCTION

The patent law framework is designed to encourage innovation by way of reciprocity: the government furnishes a period of exclusivity to the inventor in exchange for disclosure of the invention. The inventor is granted a period of exclusivity for a period of 20 years from the date of filing of the patent application in order to recoup the costs for and capitalize on his or her invention. This period is in exchange for the inventor's disclosure of how to create or duplicate the invention. Accordingly, when the period is up, the invention is then dedicated to the public and anyone may enjoy the benefit of practicing it. Patents are available for almost anything: pharmaceuticals, the various parts in our cars, the cosmetics and shampoos we use daily, and even for the various plants you may see growing at your local nursery.

Over ten thousand plant patents have been issued in the United States. Plants were first able to be patented in 1930, with the passage of the Plant Patent Act, which protected plant breeders from having their respective plants that they "created" from being reproduced to the point where the breeder is unable to make a decent living and few new breeders would be attracted to the field. The legislators of the day were concerned with the fact that once the new plant variety "left the hands of the breeder, it may be reproduced in unlimited quantity by all." The plant patents were to

2. The patent term was changed in 1995 from 17 years from the date that the patent issued to 20 years from the date that the patent is filed. See Pub.L. 103-465, 108 Stat. 4809 (Dec. 1994) (codified at 35 U.S.C. 154(a)(2) (2003)). For the history about patent terms, see 5 DONALD S. CHISUM, CHISUM ON PATENTS § 16.04[2], at 16-186 (2002 ed.).
8. S. REP. NO. 71-315, at 1 (1930); See also H.R. REP. NO. 71-1129, at 1 (1930).
9. Id.
follow the same statutory scheme as regular utility patents; however, the enablement requirement was relaxed.\textsuperscript{10} It therefore appears logical that the enablement requirement was relaxed because the plants were in the public domain when the patent would expire. Upon the expiration date, the public would then be able to freely reproduce the plants at will, thus relaxing the requirement of enablement for the plant patent and thereby creating a loophole.

An example of the loophole is a breeder who bred a plant that bears a seedless variety of fruit. The breeder then obtains a plant patent and never distributes the plants to the public during the patent term. However, the breeder does sell the seedless fruits, and when the patent term expires the breeder still has total control over the plant. Therefore, the public does not have access to the plant in order to replicate it. This goes against every policy that the patent laws are based on. Once the patent expires, the idea or the invention is supposed to enter the public domain. This poses a rather interesting group of questions: How should the problem presented by the prior example be remedied? Should this be considered patent misuse? Should society allow the plant breeder to continue his operation? Are antitrust issues implicated if the breeder is allowed to continue operations without distributing the once patented plants? Should the government step in and, with limited interruption to the breeder’s operations, take a few cuttings at the end of the patent term so that the plant is able to enter the public domain? If the government does take some of the breeder’s plants, can it be construed as a taking under the Fifth Amendment of the Constitution? This article attempts to analyze and answer these questions.

II. BACKGROUND

A. Patent Laws in General

The stated purpose of the United States Constitution in granting the power to Congress to create legislation in the area of intellectual property, is to “promote the Progress of Science and useful Arts.”\textsuperscript{11} In order for individuals to become interested in and be

\textsuperscript{10} The enablement portion of a patent application is a written description of the invention and instructs a “person skilled in the art” on how to recreate or practice the invention. 35 U.S.C. 112 (2003).

\textsuperscript{11} \textit{Kewanee Oil}, 416 U.S. at 480; See also U.S. CONST. art I, § 8.
able to finance further interest in the progression of science, an incentive is given to the inventor. Article I, section 8 of the Constitution "authorizes Congress to secure for 'limited times' to inventors 'the exclusive right' to their discoveries." Congress enabled this concept through Section 154 of Title 35, which states that:

Every patent shall contain a short title of the invention and a grant to the patentee, his heirs or assigns, the right to exclude others from making, using, offering for sale, or selling the invention throughout the United States . . . [s]uch a grant shall be for a term beginning on the date in which the patent issues and ending 20 years from the date that the application was filed in the United States . . .”

Therefore, the patent owner obtains an exclusive property right while the patent is in force and those rights become public property once the patent term expires.

There are three different kinds of patents that one can obtain through the United States Patent and Trademark Office: Utility Patents, Design Patents, and Plant Patents. Utility Patents are issued to inventors pursuant to 35 U.S.C. § 101 and are the patents that most people think of when they hear the word "patent." Section 101 provides: “Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent thereof, subject to the requirements of this title.” 35 U.S.C. §101 (2003).


Plant Patents are issued to inventors pursuant to 35 U.S.C. §§ 161-64 (2003). "Whoever invents or discovers and asexually reproduces any distinct and new variety of plant, including cultivated sports, mutants, hybrids, and newly found seedlings, other than a tuber propagated plant or a plant found in an uncultivated state, may obtain a patent therefore, subject to the requirements and provision of this title. The provisions of this title relating to patents shall apply to patents for plants, except as otherwise provided. 35 U.S.C. §161 (2003).
The terms of section 101 are very broad and are to be interpreted as such. "In choosing such expansive terms as 'manufacture' and 'composition of matter,' modified by the comprehensive 'any,' Congress plainly contemplated that the patent laws would be given wide scope." Therefore, inanimate objects and living things, such as man made micro-organisms and even sexually reproduced plants, are patentable under section 101.

One of the requirements that must be met when applying for a utility patent is the specification requirement under 35 U.S.C. §112, which requires the inventor to describe how to make the invention in such terms as to enable another, who is skilled in the art, to make or use the invention. Section 112 is the means by which the inventor makes his disclosure so that when the patent term expires, the public may freely reproduce the invention.

B. Rights Conferred with the Issuance of a Patent

This section discusses the rights conferred with a patent. It is important to understand the specific rights afforded a patent holder in order to understand the rationale behind this author's analysis. The key concept is that an inventor is able to exclude others for a limited time and once the patent expires, the public is free to practice the invention.

Patents are a form of property and grant the owner the ability to exclude others from using the invention. Section 154 of Title 35 grants the "right to exclude others from making, using, offering for sale, or selling the invention throughout the United States or

20. Id. at 130 (citing Chakrabarty, 447 U.S. at 308).
22. Id. at 131. 35 U.S.C. §112 reads, in pertinent part:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear and 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, and shall set forth the best mode contemplated by the inventor of carrying out his invention. The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention. . . .

importing the invention into the United States” to the patentee.\textsuperscript{25}

Patents do “not grant the affirmative right to make, use, or sell.”\textsuperscript{26}

Patentees are not obligated to practice, sell, or make their invention once it is patented,\textsuperscript{27} and therefore not using the invention does not affect the validity of the patent.\textsuperscript{28} However, once a patent has expired, it falls into the public domain and then anyone is free to copy and practice the invention.\textsuperscript{29}

Some have compared patents to a granting of a temporary monopoly; however, in United States v. Dubilier Condenser Corp.,\textsuperscript{30} the Court said that equating patents to monopolies is not accurate.\textsuperscript{31}

Though often so characterized a patent is not, accurately speaking, a monopoly, for it is not created by the executive authority at the expense and to the prejudice of all the community except the grantee of the patent. The term 'monopoly' connotes the giving of an exclusive privilege for buying, selling, working, or using a thing which the public freely enjoyed prior to the grant. Thus a monopoly takes something from the people. An inventor deprives the public of nothing which it enjoyed before his discovery, but gives something of value to the community by adding to the sum of human knowledge. He may keep his invention secret and reap its fruits indefinitely. In consideration of its disclosure and the consequent benefit to the community, the patent is granted. An exclusive enjoyment is guaranteed him for seventeen years,\textsuperscript{32} but, upon the expiration of that period, the knowledge of the invention inures to the people, who are thus enabled without restriction to practice it and profit by its use. To this end the law requires such disclosure to be made in the application for patent that others skilled in the art may understand the invention and how to put it to use.\textsuperscript{33}

\textsuperscript{26} CHISUM, supra note 2, § 16.021 at 16-9.
\textsuperscript{27} Bement v. Nat'l Harrow Co., 186 U.S. 70, 90 (1902).
\textsuperscript{30} 289 U.S. 178 (1933).
\textsuperscript{31} Dubilier, 289 U.S. at 186.
\textsuperscript{32} Utility Patent terms are now 20 years from the date of filing of the application. 35 U.S.C. 154(a)(2) (2003).
\textsuperscript{33} Dubilier, 289 U.S. at 186-87 (citations omitted).
To summarize, the right of exclusivity that comes with a patent is in exchange for disclosure so that the public may enjoy the invention when the patent term is finished.

C. A Brief Introduction to Plant Reproduction

Plant reproduction can occur sexually or asexually. The sexual reproduction of plants comprises "the recombination of genetic material." Therefore, offspring plants are not exactly like the parent plants or like each other. Sexual reproduction in plants may involve one or two plants and is carried out by seed production.

Asexual reproduction is the reproduction of plants without the sexual process and can occur in many forms such as bulbs, shoots, and even by human intervention such as by cuttings or by grafting. New plants that are created asexually have the same genetic material as the parent plant and are essentially a clone. Genetic uniformity can be desirable when the plant breeder wants to replicate a specific trait that a particular plant possesses, such as a particular flower color or a seedless fruit or even a plant that appears to be resilient to certain harms, such as weather or diseases. Cloned plants are very common in commercial settings. Some plants, such as those that bear seedless fruits, have to be reproduced asexually through human intervention because there is no other way to reproduce plants that provide seedless fruits other than by human intervention. For instance, if a breeder hap-

34. The California Backyard Orchard: The Big Picture – Propagation, available at http://homeorchard.ucdavis.edu/general-prop.shtml (last visited June 21, 2003). The reproduction of plants will only be considered briefly and in general terms in order to provide a basic understanding of plant reproduction so that the laws protecting plants can be understood more fully. For a more in depth look at plant anatomy and reproduction, see ANTHONY HUXLEY, THE NEW ROYAL HORTICULTURAL SOCIETY DICTIONARY OF GARDENING 3, at 603-25, 642-44 (1999 ed.).
35. The California Backyard Orchard: The Big Picture – Propagation, supra note 34.
37. J.E.M. AG Supply, 534 U.S. at 132 n.3.
40. Stems and Roots: Structure and Functions, supra note 38.
41. Id.
42. Id.
pens to find or create a plant with desirable characteristics, such as a particular seedless orange, the only way to make more of that particular seedless orange is to asexually reproduce that particular plant.

D. Types of protection available for plants

There are three types of protection available to plant breeders. Utility Patent Protection and the Plant Variety Protection Act (PVPA) are available for sexually reproduced plants. The Plant Patent Act protects asexually reproduced plants.

The Plant Variety Protection Act (PVPA), enacted in 1970, provides patent-like protection to breeders who have sexually reproduced plants. The PVPA is administered by the Office of Plant Variety Protection, which is located within the Department of Agriculture. Grants of protection under the PVPA are certificates of plant variety, and are for any new variety of sexually reproducible plant, which has been sexually reproduced by the breeder. Certificates may be issued upon a showing that the variety is "new, distinct, uniform, and stable." The protection allocated to breeders under the PVPA contains two exemptions: one for research and one for farmers to save and replant seed on their own farms.

In order to acquire a greater degree of protection, plant breeders may obtain a utility patent for their sexually reproduced plants. They must comply with the written description requirement under section 112 and, in order to satisfy the enablement requirement, place a deposit of seed that is accessible to the public. However, some plant breeders are unable to comply with the requirements listed under section 112, especially for plants that can only be re-

44. *Id.* at 132.
48. *J.E.M. AG Supply*, 534 U.S. at 138. Certificates of plant variety issued under the PVPA are different from, and are not considered, patents. *Id.*
51. *J.E.M. AG Supply*, 534 U.S. at 145-46. Utility Patents for plants do not contain exemptions for saving seeds and provide more protection than the PVPA. *Id.* at 129 n.1.
52. *J.E.M. AG Supply*, 534 U.S. at 131. The placement of seed in a publicly accessible area satisfies the enablement requirement so that after the utility patent expires, the public has access to the plant and has the ability to reproduce the plant. Ex Parte C, 27 U.S.P.Q.2d 1492, 1495 (B.P.A.I 1992). See also 37 C.F.R. §§ 1.801 – 1.809 (2003).
produced asexually. The alternative available to them is the Plant Patent Act, which is described in more detail below.\(^5\) Plants protected under the plant patent laws do not need to meet the requirements prescribed by section 112, whereas plants protected by a utility patent do need to meet the requirements.\(^5\)

**E. Plant Patent Act**

Congress extended the scope of the patent laws to include asexually reproduced plants in 1930 by enacting the Plant Patent Act.\(^5\) The purpose of the Plant Patent Act was:

> [T]o afford agriculture, so far as practicable, the same opportunity to participate in the benefits of the patent system as has been given [to] industry, and thus assist in placing agriculture on a basis of economic equality with industry [and thereby] removing the existing discrimination between plant developers and industrial inventors.\(^5\)

There was concern displayed within the legislative history that plant breeders had no financial incentive to breed plants since once a new variety of plant would be sold by the breeder, the public was free to asexually reproduce the plant.\(^5\) Congress recognized the need for a stable food supply and the public benefit, in general, that plants provide.\(^5\) The only funding available then for

\(^5\) J.E.M. AG Supply, 534 U.S. at 131-32.

\(^5\) 35 U.S.C. § 162 (2003). No plant patent shall be declared invalid for noncompliance with section 112 of this title if the description is as complete as is reasonably possible. Id.


\(^5\) Bergy, 596 F.2d at 982.


\(^5\) Id. at 2.

The food and timber supply of the Nation for the future is dependant upon the introduction of new varieties. Many millions of Federal and private funds are annually spent in combating disease through plant quarantines, disinfection, spraying, and other methods. The phoney peach disease has threatened the important peach supply of Georgia and the welfare of one of the most important industries of that State. The chestnut blight has wiped the eastern forests clean of the valuable chestnut tree . . . The plant pathologist has through his experiments attempted but with slight success to combat these plant diseases. But an equally valuable means of combating plant disease is the development of new disease resistant varieties by the plant breeder.
plant breeding was through government grants and private donations.\textsuperscript{59} Congress hoped that through the enactment of the Plant Patent Act, more private funding would develop.\textsuperscript{60}

Congress clearly anticipated that plant patents would be treated in the same way as utility patents are treated.\textsuperscript{61} The laws relating to plant patents are the same as the laws that relate to utility patents, with the exception of the inability to comply with section 112.\textsuperscript{62} In fact, the original time period in which Congress gave an "originator control of his discovery [was] a period of 17 years, the same term as under industrial patents."\textsuperscript{63} Since that time, the respective patent terms have been changed to 20 years from the date of the filing of the patent application in the United States Patent Office.\textsuperscript{64}

\textbf{F. Patent Misuse}

The "[p]atent misuse doctrine is concerned with two basic sorts of perceived evils: the use of patents to undermine competition and the expansion of patent rights beyond their lawful scope."\textsuperscript{65} The principle of patent misuse requires a showing of the fact that the patent was broadened in some fashion and that this broadening affects competition.\textsuperscript{66} "The concept of patent misuse arose to restrain practices that did not in and of themselves violate any law, but that drew anticompetitive strength from the patent right[s], and thus were deemed to be contrary to public policy."\textsuperscript{67} The purpose of the doctrine is to prevent the patentee from obtaining a market benefit beyond what is given by statute.\textsuperscript{68} Patent misuse, however, is only an equitable defense, and it is not an actionable claim.\textsuperscript{69}

\begin{itemize}
\item The bill proposes to give the breeder the incentive to develop such varieties without the aid of Federal funds.
\item S. REP. NO. 315 at 2.
\item 58. Id. at 1-3.
\item 60. Id.
\item 61. Id. at 1-3, 6-9.
\item 63. S. REP. NO. 315 at 2; \textit{See also note 2 supra} and accompanying text.
\item 64. 35 U.S.C. 154(a)(2).
\item 65. HERBERT HOVENKAMP, ET AL., \textit{IP AND ANTITRUST: AN ANALYSIS OF ANTITRUST PRINCIPLES APPLIED TO INTELLECTUAL PROPERTY LAW} § 3.2b at 3-7 (2002 ed).
\item 66. Id.
\item 68. \textit{Mallinckrodt}, 976 F.2d at 704.
\end{itemize}
There are three types of misuse examinations.\(^70\) First, there are a few practices which may fall within the scope of per se patent misuse which include "tying arrangements in which a patentee conditions a license under the patent on the purchase of a separable, staple good, and arrangements in which a patentee effectively extends the term of its patent by requiring post-expiration royalties."\(^71\) The court held in *Mallincrodt v. Medipart*\(^72\) "that price fixing was misuse per se."\(^73\) When conduct has been proven as being per se patent misuse, no further analysis is required.\(^74\)

Second, at the other extreme, there are a number of activities that have been determined to not be misuse by way of the 1988 amendments to the Patent Act.\(^75\) For example, the 1988 amendment altered the holding of *Morton Salt Co. v. G.S. Suppiger Co.*,\(^76\) which was that all tying arrangements are misuse per se,\(^77\) to where only tying arrangements that exist where there is evidence of market power\(^78\) constitute patent misuse.\(^79\) Lastly, the category

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\(^{70}\) HOVENKAMP, ET AL., *supra* note 65, § 3.2b at 3-7.

\(^{71}\) Virginia Panel v. MAC Panel, 133 F.3d 860, 869 (Fed. Cir. 1997), see HOVENKAMP, ET AL., *supra* note 64, § 3.2b at 3-7.

\(^{72}\) 976 F.2d 700 at 704-706.

\(^{73}\) HOVENKAMP, ET AL., *supra* note 65, § 3.2b at 3-7.

\(^{74}\) Id.


No patent owner otherwise entitled to relief for infringement or contributory infringement of a patent shall be denied relief or deemed guilty of misuse or illegal extension of the patent right by reason of his having done one or more of the following: (1) derived revenue from acts which if performed by another without his consent would constitute contributory infringement of the patent; (2) licensed or authorized another to perform acts which if performed without his consent would constitute contributory infringement of the patent; (3) sought to enforce his patent rights against infringement or contributory infringement; (4) refused to license or use any rights to the patented product on the acquisition of a license to rights in another patent or purchase of a separate product, unless, in view of the circumstances, the patent owner has market power in the relevant market for the patent or patented product on which the license or sale is conditioned.


\(^{76}\) 314 U.S. 488, 491 (1942).

\(^{77}\) Morton Salt Co., 314 U.S. at 491.

\(^{78}\) The Ninth Circuit, in *Image Technical Services v. Eastman Kodak*, stated that: Market power can be proven by direct or circumstantial evidence. . . .To demonstrate market power by circumstantial evidence, a plaintiff must: (1) define the relevant market, (2) show that the defendant owns a dominant share of that market, and (3) show that there are significant barriers to entry and show that existing competitors lack the capacity to increase their output in the shortrun.

Image Technical Services, Inc v. Eastman Kodak, 125 F.3d 1195, 1202 (9th Cir. 1997).

\(^{79}\) HOVENKAMP, ET AL., *supra* note 65, §3.2b at 3-7; Virginia Panel, 133 F.3d at 869.
that falls in between these two extremes exists where inquiries into anticompetitive effects are relevant.\(^{80}\)

When a practice alleged to constitute patent misuse is neither per se patent misuse nor specifically excluded from a misuse analysis by § 271(d), a court must determine if that practice is "reasonably within the patent grant i.e., that it relates to subject matter within the scope of the patent claims."\(^{81}\) If so, the practice does not have the effect of broadening the scope of the patent claims and thus cannot constitute patent misuse. If, on the other hand, the practice has the effect of extending the patentee's statutory rights and does so with an anticompetitive effect, that practice must then be analyzed in accordance with the "rule of reason." Under the rule of reason, "the finder of fact must decide whether the questioned practice imposes an unreasonable restraint on competition, taking into account a variety of factors, including specific information about the relevant business, its condition before and after the restraint was imposed, and the restraint's history, nature, and effect."\(^{82}\)

The doctrine of patent misuse may be summed up as an overextension of the patentee's rights, either physically or temporally, creating an anticompetitive effect on commerce. In establishing patent misuse, there must be proof that the patentee has market power and proof that the patentee's conduct is an unreasonable restraint on competition.\(^{83}\) Patent misuse and antitrust are very closely related, and some have argued that the patent misuse laws should be made coextensive with the antitrust laws.\(^{84}\) However, the fact that they are separate allows patent misuse to serve as an internal constraint on the patent system, keeping that system within its bounds, as well as being able to reach areas that are not covered by antitrust law.\(^{85}\)

\(^{80}\) Hovenkamp, et al., supra note 65, §3.2b at 3-7.

\(^{81}\) Virginia Panel, 133 F.3d at 869 (citing Mallinckrodt 976 F.2d at 708).

\(^{82}\) Virginia Panel, 133 F.3d at 869 (citing State Oil Co. v. Khan 522 U.S. 3, 10 (1997)); See also Hovenkamp, et al., supra note 64, §3.2b at 3-7 to 3-8.

\(^{83}\) Hovenkamp, et al., supra note 65, §3.3a at 3-10 to 3-11.

\(^{84}\) Id. § 3.2c at 3-9; USM Corp. v. SPS Tech., 694 F.2d 505, 512 (7th Cir. 1982).

\(^{85}\) Hovenkamp, et al., supra note 65, §3.2c at 3-10.
G. Monopoly

Monopoly has been defined as "the power to control prices or exclude competition." In *United States v. Grinnell Corp.*, the Supreme Court defined unlawful monopolization as having two elements under Section Two of the Sherman Act. The first element is "the possession of monopoly power in the relevant market." The second element is "the willful acquisition or maintenance of that power as distinguished from growth or development as a consequence of a superior product, business acumen, or historic accident."

With respect to the first element and determining the existence of "monopoly power," it is necessary to define the relevant market and then to assess the defendant's power within the defined market. Courts examine circumstantial and direct evidence of the monopoly power and may consider a number of factors. However, the leading indicator of monopoly power is market share.

The second element has been defined as the willful acquisition or exercise of monopoly power, and as a result not all monopolies are unlawful. A lot of controversy has been created due to the disagreement on what conduct will satisfy the requirement of willfulness. Section 2 of the Sherman Act is not meant to prevent mere market dominance and punish a successful competitor. "It is the acquisition, maintenance, or exercise of monopoly power — not its mere existence — that violates Section 2." A business may

88. Aspen Skiing Co. v. Aspen Highlands Skiing Corp., 472 U.S. 585, 596 (1985) (quoting Grinnell, 384 U.S. at 570-71); See also 2 JULIAN O.VON KALINOWSKI ET AL., ANTITRUST LAWS AND TRADE REGULATION, ch. 25 (2d ed. 2003). If a private plaintiff brings a cause of action under Section 2 of the Sherman Act seeking damages he or she "must demonstrate 'antitrust injury' caused by the conduct that offends Section 2." 2 JULIAN O.VON KALINOWSKI ET AL., at § 25.02, p. 25-8.
89. Aspen Skiing, 472 U.S. at 596.
90. Id.
92. Id., § 25.03[3], at 25-29.
93. Id., § 25.02, at 25-9. "Ever since the Alcoa case was decided in 1945, the market share enjoyed by the alleged monopolist has been the most important indicator of monopoly power." Id. § 25.03[3] at 25-30. U.S. v. Aluminum Co. of America, 148 F.2d 416 (2d Cir. 1945).
95. Id.
96. Id.
97. Id. at 25-10 to 25-12.
Mere size, nor continued exercise of lawful powers by even a monopolist, is not illegal when that size and power have been obtained by lawful means and developed by
have lawfully achieved its power because of a new discovery,\textsuperscript{98} its "superior skill, its business acumen, its superior products, or its economic or technological efficiency, or merely by the fortuitous course of events."\textsuperscript{99} Laws and circumstances may convey lawful monopolies.\textsuperscript{100} For example, patents and copyrights convey a period of exclusivity; also, there are laws involving public utilities.\textsuperscript{101}

One of the most popular types of monopolization cases is when a monopolist refuses to deal with another company.\textsuperscript{102} Many courts have assessed such behavior according to the analysis in \textit{United States v. Colgate}.\textsuperscript{103} The Supreme Court stated in \textit{Colgate} that: "[i]n the absence of any purpose to create or maintain a monopoly, the [Sherman] Act does not restrict the long-recognized right of a trader or manufacturer engaged in an entirely private business, freely to exercise his own independent discretion as to parties with whom he will deal."\textsuperscript{104}

natural growth. "It would be paradoxical for government . . . to encourage a race for the swift and then reward the victor with a sentence of economic death." Under the economic conditions extant in the United States today, bigness is not \textit{per se} illegal—it is here to stay . . . Monopolies coming about through non-predatory, nonexclusive and essentially fair competitive practices are not ipso facto condemned, i.e., through aggressive merchandising, and employing vigorous but nevertheless honest economic maneuvers to enlarge its market position. What is condemned is growth by business methods designed for and having the effect of impeding new entry into the market, or excluding those whose occupancy is already precarious, by recognizably exclusionary devices. Competing fairly and aggressively, regardless of the consequences to one's rivals is not condemned. Bailey's Bakery, Ltd. v. Cont'l Baking Co., 235 F. Supp. 705, 717-18 (D. Haw. 1964), aff'd, 401 F.2d 182 (9th Cir. 1968), cert. denied, 393 U.S. 1086, reh'g denied, 394 U.S. 967 (1969).

\textit{2} JULIAN O.VON KALINOWSKI ET AL., \textit{supra} note 88, \$ 25.02 n.9, at 25-12.

The legislative history of Section 2 reveals that Congress did not intend to ban all monopolies. For example, Section 2 was not intended to apply to one who happens by his skill and energy to command an innocent and legitimate monopoly of business. 21 Cong. Rec. 3151 (1890). See \textit{United States v. E.I. du Pont de Nemours & Co.}, 351 U.S. 377, 390, 76 S. Ct. 994, 100 L. Ed. 1264 (1956) (Senator Hoar, in discussing \$ 2, pointed out that monopoly involved something more than extraordinary commercial success, "that it involved something like the use of means which made it impossible for other persons to engage in fair competition. This exception to the Sherman Act prohibitions of monopoly power is perhaps the monopoly 'thrust upon' one of [Alcoa].")

\textit{2} JULIAN O.VON KALINOWSKI ET AL., \textit{supra} note 88, \$ 25.02 n.9, at 25-13.


\textit{100.} Id. \$ 25.02, at 25-14.

\textit{101.} Id.

\textit{102.} Id. \$ 25.04[3][a], at 25-69.

\textit{103.} 250 U.S. 300 (1919), see \textit{2} JULIAN O.VON KALINOWSKI ET AL. \textit{supra} note 88, \$ 25.04[3][a], at 25-69.

There are two theories under which refusals to deal have been analyzed. These theories are the intent test and the "essential facilities" doctrine. The intent test focuses on the defendant's "intent to create or maintain a monopoly." The "essential facilities" doctrine, as developed by the lower courts, has the following four elements that the plaintiff must prove: "(1) control of an essential facility by a monopolist; (2) a competitor's inability reasonably or practically to duplicate the essential facility; (3) denial of the use of the facility to the competitor; and (4) providing the competitor access to the facility is feasible."

In the first element (control of an essential facility), the term "facility" has been found to apply to tangible assets, and some courts also conclude it encompasses intangible assets. In order to be essential, the facility must be controlled by a monopolist, and the access to the facility must be necessary to the plaintiff's ability to compete. If equivalent facilities exist, a facility will not be considered "essential."

The second element does not require the plaintiff prove that the facilities are impossible to copy; it must only be proven that it would be unreasonable or uneconomical to copy the facility. Additionally, the plaintiff must show that he is a competitor of the defendant.

The third element requires denial of access to the essential facilities to a competitor. Absolute denial is not required if the plaintiff can prove that the access provided was on an unreasonable basis. The fourth element requires that the plaintiff-competitor show that it is feasible, and within reason, for the defendant to provide access.

105. 2 JULIAN O.VON KALINOWSKI ET AL., supra note 88, § 25.04[3][a], at 25-69 to 25-70.
106. Id. § 25.04[3][a], at 25-70.
107. Id. § 25.04[3][b], at 25-81. These elements were described in MCI Communications v. AT&T, 708 F.2d 1081, 1132-33 (7th Cir. 1983) and have been cited by many courts. 2 JULIAN O.VON KALINOWSKI ET AL., supra note 88, § 25.04[3][b], at 25-81 n.114.
108. Id. § 25.04[3][b], at 25-89.
109. Id. § 25.04[3][b], at 25-89, 25-90.
110. 2 JULIAN O.VON KALINOWSKI ET AL., supra note 88, at § 25.04[3][b], at 25-93.
111. Fishman v. Estate of Wertz, 807 F.2d 520, 539-540 (7th Cir. 1986); See also Hecht v. ProFootball, Inc., 570 F.2d 982, 992 (U.S.App.D.C. 1977) and 2 JULIAN O.VON KALINOWSKI ET AL. supra note 88, § 25.04[3][b], at 25-95 to 25-98.
112. Thomas Network Solutions, Inc., 176 F.3d 500, 509 (D.C.Cir. 1999); See also 2 JULIAN O.VON KALINOWSKI ET AL., supra note 88, § 25.04[3][b], at 25-97.
113. Id. § 25.04[3][b], at 25-99.
114. "No court has decided that a monopolist must increase capacity or build new facilities in order to grant access." Id. § 25.04[3][b], at 25-101.
115. Id. § 25.04[3][b], at 25-100.
H. Fifth Amendment Takings Clause

The Takings Clause of the Fifth Amendment of the Constitution provides that a person can not be deprived of his or her property without due process of the law, "nor shall private property be taken for public use, without just compensation." Both tangible and intangible property may be protected under the Fifth Amendment. Berman v. Parker is the leading modern case with respect to defining the scope of the public use limitation. The Berman opinion confirmed "that the public use limitation of the Fifth and Fourteenth Amendment is as expansive as a due process police power test."

In Hawaii Hous. Auth. v. Midkiff, the Court found that the Land Reform Act of 1967, passed by the Hawaiian legislature as an exercise of eminent domain, "was rationally related to the public purpose of correcting deficiencies in the real estate market and social problems attributed to land oligopoly." A large portion of the land in Hawaii was owned by just a few people, which interfered with the state's residential land market and forced thousands of individuals to lease the land that lie beneath their homes, rather than to purchase it. The land oligopoly had perpetuated from the time when the monarchs ruled the island. One of the main issues was whether there was a legitimate public use since the land would be taken from a few private individuals in order to be given to other private individuals. The Hawaii Hous. Auth. Court turned to the Berman decision to evaluate the Land Reform Act's constitutionality. Berman, in the context of determining whether the takings were for public use, had stated that requirements of a state's ability to use its police powers in eminent domain, which "attempt[s] to define its reach or trace its outer limits

116. U.S. CONST. amend. V.
119. CONSTITUTIONAL LAW, at 497.
120. Id. The Berman case was concerned with the constitutionality of the District of Columbia Redevelopment Act of 1945. Private Property was being taken under the power of eminent domain for the sole purpose of redeveloping the area so as to prevent slum and substandard housing. Berman, 348 U.S. at 28.
122. CONSTITUTIONAL LAW, at 498.
124. Id. at 241-42.
125. Id. at 233-34.
are fruitless, for each case must turn on its own facts." The *Berman* Court went on to say:

The definition [of the outer limits of police power] is essentially the product of legislative determinations addressed to the purposes of government, purposes neither abstractly nor historically capable of complete definition. Subject to specific constitutional limitations, when the legislature has spoken, the public interest had been declared in terms well-nigh conclusive. In such cases the legislature, not the judiciary, is the main guardian of the public needs served by social legislation.

. . . Once the object is within the authority of Congress, the right to realize it through the exercise of eminent domain is clear. For the power of eminent domain is merely the means to an end. . . . Once the object is within the authority of Congress, the means by which it will be attained is also for Congress to determine. Here one of the means chosen is the use of private enterprise for redevelopment of the area. Appellants argue that this makes the project a taking from one businessman for the benefit of another businessman. But the means of executing the project are for Congress and Congress alone to determine, once the public purpose has been established.

The role for the courts to play in evaluating the legislature’s judgment of what constitutes a “public use” is an “extremely narrow one.” The courts are not to substitute their own judgment in place of the legislature’s “unless the use be palpably without reasonable foundation.” *Hawaii Hous. Auth.* Court stated that, “[r]egulating oligopoly and the evils associated with it is a classic exercise of a State’s police powers . . . [w]e cannot disapprove of Hawaii’s exercise of this power.”

### III. Analysis

Many issues surround the loophole that developed in the Plant Patent legislation. The patent laws were established to ultimately

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126. *Id.* at 239 (citing *Berman*, 348 U.S. at 32).
benefit the public by giving the patentee a time of exclusivity to recoup costs and make a profit.\textsuperscript{131} This period of exclusivity is in exchange for full disclosure of the best mode of the invention, so that when the patent term expires, the public may freely duplicate the invention.\textsuperscript{132} The 1930 Plant Patent Act was created with the same purpose in order to give agriculture the same benefits as industry.\textsuperscript{133} In the legislative history, the House of Representatives Report analogizes the breeder to the inventor and the plant to the invention in order to show that there is Constitutional support enabling Congress to have the power to create the plant patent legislation.\textsuperscript{134} In fact, plant patents are to follow the same rules as regular patents, with the exception of the requirements of 35 U.S.C. § 112, which requires the inventor to provide a written description so that an individual skilled in the art could duplicate the invention.\textsuperscript{135} Plant patents are exempted from this requirement because an individual could not “recreate” the patented plant even if the same two parent plants were used, due to the way the genetic information is distributed each time a plant is sexually reproduced.\textsuperscript{136}

The legislature did not concern themselves with a mode of enablement, nor did they need to. From the legislative history, one can surmise that the legislature was concerned about protecting nursery owners and breeders who sold to the public and to other farmers when it enacted the Plant Patent Act.\textsuperscript{137} Perhaps Congress

\textsuperscript{131} Scott Paper, 326 U.S. at 255-258.
\textsuperscript{132} AK Steel, 2003 U.S.App.LEXIS 19640, at 24-27.
\textsuperscript{133} S. REP. No. 71-315 at 1 (1930).
\textsuperscript{134} H.R. REP. No. 71-1129 at 7-9 (1930).
\textsuperscript{136} See Ex Parte C for a discussion about plant reproduction and the inability to reproduce the same exact plant even if a full disclosure were given. \textit{Ex Parte C} deals with being able to grant utility patents for plants, which gives greater protection for plants than do plant patents, which only protect the plant from being asexually reproduced. \textit{Ex Parte C}, 27 U.S.P.Q.2d 1492 (1992). (See also J.E.M. AG Supply, 534 U.S. 124, which discusses the differences between the protections available to plants by the Plant Patent Act, the Plant Variety Protection Act and those protected by Utility Patents).
\textsuperscript{137} The test of the pertinent legislative history reads:
To-day the plant breeder has no adequate financial incentive to enter upon his work. A new variety once it has left the hands of the breeder may be reproduced in unlimited quantity by all. The originator's only hope of financial reimbursement is through high prices for the comparatively few reproductions that he may dispose of during the first two or three years. After that time, depending upon the speed with which the plant may be asexually reproduced, the breeder loses all control of his discovery. Under the bill the originator will have control of his discovery during a period of 17 years, the same term as industrial patents.
S. REP. No. 71-315 at 1-2.
assumed that the breeder would continue to sell the plants to the public for the life of the patent term, and upon expiration, individuals would be free to reproduce the plants that they had already purchased. Therefore, the rationale follows that the need for enablement is not required because the plant is already out in the public domain and thus free to be asexually reproduced once the plant patent term has expired. However, the legislature did not account for the case where a breeder would create a plant, patent it, and then not sell the plant to the public, other breeders, or farmers. Such a situation can exist when a breeder develops seedless fruit, patents the plant, sells fruit for years that is borne from the plant, but does not sell any plants. The plant, itself, never reaches the public, and as a result, the farmer still maintains total control over the plants beyond the patent term. The breeder would believe that they are his plants. After all, he grew them and may maintain a personal property right in them, or can he?

The farmer's arguments may include the following: I followed the patent laws, I was granted a patent, it expired, so what? Other patents don't require the patentee to open up his shop or research lab or chemical plant and allow people to come take the patentee's products of invention, so why should I allow people on my farm to take cuttings of my plants? Each argument has a valid point. This particular type of case had fallen through the cracks and was left unaccounted for under the Plant Patent Act.

In *Bonito Boats v. Thunder Craft Boats*, the Supreme Court declared federal policy to be that "all ideas in general circulation be dedicated to the common good unless they are protected by a valid patent." In *Bonito Boats*, the Court struck down a Florida state law that allowed for protection of boat hull designs, which was similar to the protection given by the federal patent schemes. The Court stated that the "petitioner chose to expose its hull design to the public in the marketplace, eschewing the bargain held out by the federal patent system of disclosure in exchange for exclusive use. Yet, the Florida Statute allows petitioner to reassert a substantial property right in the idea, thereby constricting the spectrum of useful public knowledge..." The policy of information becoming available that was not being currently protected by

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140. *Bonito Boats*, 489 U.S. at 159.
patent law was also discussed in *U.S. v. Dubillier Condenser Corp.*,\(^{141}\) where the Court stated:

[An inventor] may keep his invention secret and reap its fruits indefinitely. In consideration of its disclosure and the consequent benefit to the community, the patent is granted. An exclusive enjoyment is guaranteed him for seventeen years,\(^{142}\) but, upon the expiration of that period, the knowledge of the invention inures to the people, who are thus enabled without restriction to practice it and profit by its use.\(^ {143}\)

Another state law concept that was used to expand the length of a patent was invalidated in *Scott Paper v. Marcalus Mfg.*\(^ {144}\) In *Scott Paper*, the Court held that ideas stemming from an expired patent are free for the public to use and "whatever the legal device employed, runs counter to the policy and purpose of the patent laws."\(^ {145}\)

One can argue that if the breeder did not want to share his discovery (his plants) with the public that he should not have patented the plant and should have just used the personal property or trade secret rights provided to him by state law to protect his investment. Not patenting the plants may have prevented them from entering the public domain, and the breeder could indefinitely reap the benefits, while he was able to maintain control over the plants. This practice runs counter to the patent laws, but the issue of how it can be corrected remains. The issue posed is whether the breeder has established an illegal monopoly.

Illegal monopolies have two elements: a possession of monopoly power in a relevant market and the willful acquisition or maintenance of that power.\(^ {146}\) The Supreme Court in *U.S. v. E.I. du Pont de Nemours* evaluated whether du Pont was illegally monopolizing the cellophane market.\(^ {147}\) The Court stated that determining the market "for commodities depends on how different from one another are the offered commodities in character or use [and] how

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141. 289 U.S. 178 (1933).
142. Utility Patent terms are now 20 years from the date of filing of the application. 35 U.S.C. § 154(a)(2) (1952); see generally note 25, supra.
144. 326 U.S. 249 (1945).
far buyers will go to substitute one commodity for another.” The Court did not limit the market definition of cellophane to just cellophane — it expanded the definition to include all flexible-wrapping devices. In the case where a breeder is selling fruit borne from a plant that was once protected by a now expired patent (that no one else in the public domain has), there are many ways that an individual could define the market. For instance, using grapes, the markets could be: fruit, grapes, red grapes, green grapes, seedless grapes, green seedless grapes, red seedless grapes, etc. The broadest market may be classified as grapes. Although there are many kinds of grapes, and some may have more desirable characteristics than others, they are all classified as grapes.

A breeder, if he were in the grape market, could not be readily accused of being a monopolist because there are so many other types of grapes on the market. Therefore, trying to quickly remedy the loophole in the Plant Patent Act by using the claim of illegal monopolization power is not the key.

Another way to close this loophole is to view this as patent misuse, based on the claim that a patentee has expanded the scope of the patent temporally. When the patent expires, the idea, the invention, and the plant become a part of the public domain. Since patent misuse is merely an equitable defense and not an actionable claim, the only way to correct the lack of reasonable access to such a plant by the public is through an amendment to the Plant Patent Act for prospective and retroactive plant patents. The amendment would have to require the patent holder to provide plants to the public once the patent expires by perhaps selling a plant, for a reasonable amount, to those who would want one, or alternatively by providing a plant or two to a government run greenhouse or depository that would be responsible for propagating and selling the plants.

The argument against such an amendment’s application to older plant patent holders is that such an amendment could be construed as a taking which would be violative of the Fifth Amend-

149. Id. at 393-94. In E.I. du Pont de Nemours, the Court considered various flexible packaging or wrapping devices including “aluminum, cellulose acetate, chlorides, wood pulp, rubber hydrochloride, and ethylene gas.” Id. at 396-97. This demonstrates that the Court is willing to define the market broadly in order to include substitutes.
ment's Taking Clause.\textsuperscript{151} The breeders, who had no intention of selling their plants to the public and were content to sell the fruit borne from the once patented plants, could argue that forcing them to sell plants that they would rather keep could be considered a "taking." The Takings Clause requires that a successful government taking must be for public use and for just compensation.\textsuperscript{152} The question then arises of whether selling plants to a private individual is considered to be an adequate public use. The Supreme Court decided this issue in \textit{Hawaii Hous. Auth.}.\textsuperscript{153} Legislation that enabled the lessor to purchase the land from lessees, essentially from one private individual to another private individual, was upheld by the Supreme Court as constitutional, because the role that the courts play in evaluating the legislature's judgment of what constitutes a public use is an extremely narrow one.\textsuperscript{154} The role of regulating the evils of oligopolies is a "classic exercise of a State's police powers."\textsuperscript{155} The Supreme Court upheld the questioned legislation regarding the taking of land, therefore, it is highly unlikely that an invention would be afforded more protection under the Constitution. The purpose of patent law is to protect ideas for a limited time and then they are ultimately to be dedicated to the public; the same cannot be said in the case of real property.

Regulating Patents is one of the powers enumerated in the Constitution that Congress is able to regulate. Therefore, Congress can amend the patent laws accordingly in order to prevent further misuse by select plant patentees. Fixing this problem appears to be out of the realm of the judicial branch's power.

IV. CONCLUSION

In order to close the existing loophole in plant patent law, currently depriving the public of the invention or plant for which a patent was granted in order to protect it for the lifetime of the patent, Congress should amend the plant patent laws to account for the fact that it is possible for a plant patentee to monopolize a new plant for a period that extends beyond the temporal scope of the patent. This is also known as patent misuse. However, patent

\textsuperscript{151} \textit{Constitutional Law} 472-73, n. 4.
\textsuperscript{152} \textit{U.S. Const.} amend. V.
\textsuperscript{153} See text accompanying notes 119-128, supra.
\textsuperscript{154} \textit{Hawaii Hous. Auth.}, 467 U.S. at 240 (citing \textit{Berman}, 348 U.S. at 32).
\textsuperscript{155} \textit{Hawaii Hous. Auth.}, 467 U.S. at 242.
misuse is an inadequate remedy since it is only to be used as a defense for an infringing party. When a patentee applies for a patent there is an understanding that the invention, or in this case, the plant, will enter the public domain upon the expiration of the patent. This is the policy behind the patent laws. If breeders intend to not ever share their plants, they should protect them using another approach.

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