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The Townsend-Purnell Plant Patent Act of 19301 was the first attempt anywhere in the world to legally recognize the plant breeder as an inventor entitled to the protection of patent laws.2 Plant patents and plant patent applications so seldom have been the subject of judicial consideration throughout the intervening years that plant patent law is still in need of clarification in a great many areas.

Purpose

The amendment of 1930 increased the number of potential patentees to include anyone who "invented or discovered and asexually reproduced any distinct and new variety of plant, other than a tuber-propagated plant." The purpose of the amendment was to provide to those engaged in agriculture or horticulture the same opportunity to participate in the benefits of the patent system as was previously given to industry.3

Asexual Reproduction

It will be noted that the statute refers to the invention or discovery of a variety of plant and insists that the inventor or discoverer asexually reproduce it. Variety is the lowest category in botanical classification, and every plant, in a sense, may be considered a variety in that it has its own individual characteristics, usually too insignificant to be of any practical importance.4 On rare occasions, however, a plant or a part of a plant will manifest new and unique characteristics of such usefulness or beauty as to make it desirable to preserve them.

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2 Allyn, The First Plant Patents 10 (1934).
Seedlings from such plants or parts of plants cannot be relied upon to reproduce the new characteristics, and the only dependable means of preserving the new variety is to resort to one of several well-known methods of asexual reproduction such as cutting, layering, grafting, or the like. In cutting, a stem or twig is detached from the new variety and planted in the earth. Layering involves bending down an undetached living branch of the plant and covering it with earth. For the purpose of grafting, a detached stem or scion is attached to another living plant called the “stock.” Asexual reproduction results in a new plant having characteristics which are substantially identical with the characteristics of the plant or part of a plant from which it came, and the new plant may itself be asexually reproduced to provide other identical plants. As long as there is one plant of the new variety to begin with, it may be multiplied almost indefinitely.

Patentable Distinctions

The distinctive characteristics which make a new variety of plant patentable may manifest themselves in the outward appearance of the plant or they may not even be apparent to the viewer. In determining a question of infringement, one court noted the differences in color between the fruit and pit cavities of two allegedly distinct varieties, the differences in the size and shape of the fruit and pits, and the differences in the shape, color, and glands of the leaves. But a patent was granted by the Patent Office for a new variety of rose which was identical in appearance with a known variety wherein the sole distinction of the new plant was its everblooming characteristic.

Department of Agriculture

Applications for plant patents may be submitted by the Patent Office to the Department of Agriculture for study and to obtain a report as to whether or not, in the opinion of the Department, the application is for a new and distinct variety of

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6 Seidman & Horwitz, op. cit. supra note 4.
One writer has expressed the opinion that the Patent Office practice has been to grant a patent whenever the Department of Agriculture gives a favorable opinion as to novelty without further regard to any yardstick of improvement or distinction. However, the Department's report is actually merely advisory in nature and does not even constitute a part of the official record of the application. This is borne out in Ex parte Rosenberg where an appeal was taken to the Board of Appeals from a rejection of a claim. The ground of rejection was evidence of prior knowledge and use found in the Department of Agriculture's reports. It was not made clear whether or not the matters reported were as to facts within the personal knowledge of the official making the report. In reversing the rejection, the board pointed out that a Patent Office examiner may rely upon matters of knowledge as to the prior existence of a thing if such knowledge is personal to an employee of the Office and is supported by affidavit. The board concluded that the rule as to employees of the Department of Agriculture could be no more lax than that for employees of the Patent Office, and in the absence of an affidavit supporting the alleged knowledge, the ground for rejection was untenable.

The case of the everblooming rose, referred to above, involved another situation in which an adverse opinion was received from the Department of Agriculture. During the prosecution of Plant Patent No. 1, granted to Henry F. Rosenberg and covering a climbing rose, the Department reported that the subject plant was substantially identical with an established variety known as "Dr. Van Fleet." The applicant filed affidavits supporting the fact that although the plant was identical in appearance with the Dr. Van Fleet, it differed by its everblooming characteristic, having flowers continuously throughout the summer and fall. The Patent Office suggested that the applicant amend his claim to define this everblooming habit and thereafter allowed the patent to pass to issue.

14 Id. at 394-95.
15 Rossman, supra note 9.
Scope of a Plant Patent

Early writers on plant patent law differed widely as to its worth and meaning and particularly as to just what a plant patent was supposed to cover.\textsuperscript{10} The rule is now well settled that a plant patent covers the entire plant and not a part thereof,\textsuperscript{17} notwithstanding the fact that some early plant patents bore the title of the fruit or flower only of the patented variety. In \textit{Ex parte Van Over},\textsuperscript{18} the applicant attempted to get multiple claims in a plant patent, including method claims. He argued that different parts of the plant had different uses and that he was entitled to claims for the different parts. In refusing the multiple claims, the board said that a plant patent is to the variety and, therefore, to the whole plant. The board further reasoned that the statutes say nothing about methods or arts in connection with plant patents and held that method claims are improper in a plant patent. The inevitable conclusion reached from this case was that only one claim can be allowed in a plant patent and it must not be a method claim.

The statute grants to the plant patentee the right to exclude others from asexually reproducing the plant or selling or using a plant so reproduced.\textsuperscript{19} The question was early discussed as to whether or not a plant which is substantially identical with a patented plant but which was separately developed and asexually reproduced is an infringement of the patent. The exact question, in those terms, seems not to have been decided, but the reasoning of the cases and the view of some writers supports the conclusion that there would be no infringement under these circumstances.\textsuperscript{20} Therefore, it would seem that a plant patent only protects the clones or, in other words, the asexual progeny of a particular plant.

If the above conclusion is correct, then a plant patentee may not only exclude all others from reproducing, selling, or using the new variety but he may never be excluded from reproduc-


\textsuperscript{17} Manual of Patent Examining Procedure, op. cit. supra note 12 at 1605.

\textsuperscript{18} 24 J. Pat. Off. Soc'y 293 (1942) (P. O. Bd. App. 1941).

\textsuperscript{19} 35 U. S. C. Sec. 163.

ing, selling, or using the plant himself. In other words, there can be no such thing as a dominating or basic plant patent which could operate to prevent a subsequent plant patentee from practicing his own invention, a situation which is quite common in the field of mechanical patents.

**What Constitutes Invention**

Since plant variation is, in a very real sense, a more or less accidental phenomena of nature, the question of what constitutes invention of a new variety of plant is particularly interesting. The statute uses both the term *invents* and *discovers.* As one court pointed out, as cultivation cannot cause a variation, invention must be in the discovery of a new variety. But the inventor cannot discover the plant until he is certain that it actually is a new variety, and the only test possible is to asexually reproduce it and thereby prove that it is a new variety. Therefore, conception or discovery of the invention must be concurrent with actual reduction to practice or the asexual reproduction of the plant.

In *Ex parte Foster,* an appeal to the Board of Appeals was taken from a rejection on the ground that the variety of plant sought to be patented is found in nature. The applicant was a professional plant cultivator and an expert on plant propagation and hybridization. He traveled extensively in search of new varieties, and on one trip found two small and different syngonium plants in a downtown garden in Barranquilla, Columbia, South America. Applicant obtained the plants, took them to Florida, decided that they were a new variety, and asexually reproduced them. The Board considered the question to be so important that it was decided by a larger board than the customary three. The rejection by the examiner was affirmed and the rule of the case appears to be that a plant which is merely found in nature, even though in a cultivated area, is not patentable. The Board held that the words "invented or discovered" and "new" mean the same whether applied to plant patents or to patents covering other statutory classes of patentable subject matter, and apparently felt that these plants had previously existed in nature.

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21 35 U. S. C. Sec. 163.
24 Id. at 17.
and could not, therefore, be discovered within the meaning of the plant patent statute.

Another ground for rejection was put forth by the examiner in *Ex parte Moore*, but the situation was quite similar to the *Foster* case. The application of Moore had been rejected during prosecution solely on the ground that he was not the original, first, and sole inventor or discoverer of a new variety of peach tree. The facts were that in 1918 one Miller built a house and the following year he noticed a small peach tree growing in the yard. It lived 12 years and bore large, luscious peaches. Miller had no idea that it was a new variety. In 1928 the applicant, Moore, saw the tree and recognized it as a new variety. With Miller’s permission, he took ten scions from the tree and grafted them on native root stock and asexually reproduced several successive generations from the original tree. The examiner took the position that “discovers” means “finds” and that Miller discovered the tree. The applicant argued that Miller did not find a new variety of tree as he had no appreciation that it actually was a new variety. Also, Miller did not asexually reproduce the tree while Moore did. The Board of Appeals held that Moore was the discoverer within the meaning of the statute and, therefore, was entitled to a patent.

The *Foster* and *Moore* cases are not readily reconciled although the fact that in *Foster* two of the new plants were found may be considered as of some significance. If two of them existed, the inference could be drawn that the variety existed in nature and the fact that it could be asexually reproduced was of no significance, but the Board did not make this point. The 1954 amendment to 35 U. S. C. 161 had the declared purpose of clarifying the intent of Congress that a grower of plants who through no particular efforts other than by accident develops a new plant which is nevertheless “due to his activity” should be entitled to a patent as though he had deliberately planned the result achieved. It will be noted that the *Foster* case was decided before the amendment, and the *Moore* case was decided afterwards. However, it is difficult to see how the new variety in *Moore* was brought into existence “due to his activity” to any greater extent than the mere find in *Foster*.

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Reduction to Practice

It can be stated definitely that invention as applied to plant patents comprises the same two inventive acts which are required in other patents: conception and reduction to practice. Conception is the recognition that a new variety exists, and reduction to practice consists of asexual reproduction of the new variety. Constructive reduction to practice by the mere filing of a patent application, although permitted and quite common with mechanical inventions, is not available to the plant patent applicant.

The problem of reduction to practice was pertinent to the issue in Dunn v. Ragin. That case involved a three-way interference and related to a new variety of seedless orange tree which originated as a mutation or bud variation, commonly called a bud sport, on a pineapple orange tree growing in a cultivated orange grove in Florida. All parties had propagated trees from the bud variation, and all parties had filed patent applications. The sole question before the Board was that of priority.

The facts of the Dunn case were that an employee from an adjoining grove discovered a seedless orange growing on a tree in a grove belonging to Dunn. Dunn was informed of the discovery, and upon examining the tree found that one limb bore seedless oranges while the rest of the tree bore heavily seeded fruit. In 1937 Dunn told Carlile of the discovery and asked him to asexually reproduce the new variety. Later, Dunn sold the tree and all rights thereto to Carlile. Carlile cut budwood from the tree and budded it to root stock and by 1938 the new trees bore fruit. However, Carlile filed for a patent in 1937 before success was actually determined.

Much earlier, in 1934, Dunn had given Ragin permission to cut budwood in his grove from any tree he chose. Ragin found the new variety, obtained some of the budwood, and had successfully reproduced the new plant by 1936. The application of Carlile was placed in interference with an application by Ragin, and Dunn, apparently learning of the interference from Carlile, filed his own application.

Dunn took the position that he first discovered the plant and had Carlile reduce it to practice for him. Ragin contended that mere knowledge did not constitute discovery as referred to

\[27\] Dunn v. Ragin, supra note 22 at 474.
\[28\] Id.
in the plant statute and that Carlile was not Dunn’s agent. Carlile, as assignee of Dunn, took no position.

The Board awarded priority to Ragan who had discovered the plant in 1934 and had asexually reproduced it in 1936. Carlile’s application was declared to be invalid because he had not asexually reproduced the tree before filing a patent application. As for Dunn, the Board reasoned that even if it were assumed that Carlile was the agent of Dunn, the latter had both a filing date and a reduction date later than those of Ragin, and Dunn had lost any rights he might have had by his lack of diligence.

In its discussion of the subject of reduction to practice, the Board in the Dunn case pointed out that the ordinary means of reduction is to either build the machine or perform the art or do whatever is necessary to prove the invention. However, one may effect a constructive reduction to practice by filing a patent application on the theory that this completes the invention by making it (when a patent issues) available to the public. But the mere filing of a plant patent application and obtaining a patent therefor would not enable anyone to reproduce the plant, because to do so the plant must be in existence. Therefore, filing of a plant patent application cannot be a constructive reduction to practice. 29

Joint Inventors

There can be joint inventors in a plant patent. Two cases bring this out very clearly: Ex parte Kluis 30 and Bourne v. Jones. 31

In the Kluis case, an appeal was taken to the Board of Appeals from a rejection of the application on the ground that the oath was not sufficient. Two oaths had been filed, saying in effect that one party had invented or discovered the new plant and the other party had asexually reproduced it. The Board said that, lacking precedent, analogies must be drawn from the law on mechanical patents. The plant patent statute requires the averment of two distinct acts: invention or discovery and asexual reproduction. But the statute does not require that at all times and for all purposes both parties be in the presence of each other

29 Id.
at each stage of development or that they jointly perform every act. The rejection was reversed.

The facts in the Bourne case evolved from a program carried on by the State of Florida wherein an attempt was being made to find a sugar cane variety which would be inherently immune to a prevalent sugar cane disease. Bourne acted as a breeder and Stevens carried on the agronomic aspects of the experiments. Bourne obtained a patent and brought an infringement suit against the defendant. On these facts, the court held that Bourne and Stevens were joint inventors and that the patent was invalid because it was issued to only one of them.33

Bars to a Plant Patent

The effective bars to the issuance of a plant patent are apparently no different than those for mechanical patents insofar as they are applicable to plant patents.34 Lack of novelty will bar a plant patent35 as well as public use in excess of the statutory period for public use.36 Additionally, tuber propagated plants or plants found in an uncultivated state are barred by statute.37

The condition in 35 U. S. C. Sec. 102 (a), that an invention which was known or used by others in this country before the invention thereof by the applicant cannot be patented, was the primary defense of the defendant in Nicholson v. Bailey.38 Plaintiff sued for infringement of Plant Patent No. 625 covering a seedless navel orange tree producing “Dream Navels.” Plaintiff had discovered the new variety in 1939 in a small citrus grove planted with mixed varieties, and only one tree had the characteristics of the patented plant. This parent tree was twenty-five to thirty years old and was a budded tree of undetermined root stock. Plaintiff cut some budwood from the parent tree and asexually reproduced it. A patent issued in 1944.

The defendant’s position was that since the tree had been

32 70 U. S. P. Q. at 166.
33 114 F. Supp. at 418.
34 Ex parte Rosenberg, supra note 13 at 394; 35 U. S. C. Sec. 101, 102, 103.
35 Ex parte Foster, supra note 23.
asexually reproduced twenty-five to thirty years before its discovery by the plaintiff, it must have been known or used within the meaning of the statute and, therefore, the patent was invalid. But the court reasoned that although the tree actually was asexually reproduced, there was no evidence that anyone appreciated that it was a new variety. The court held that the mere existence in an orange grove of a tree which had been asexually reproduced so many years before the patent issued did not by itself act to overcome the presumption of validity attaching to the issuance of a patent. The patent was held to be valid and infringed.

The Plant Patent Act added plants to the statutory classes of patentable subject matter. What the term “plant” embraces was questioned in In re Arzberger. An application for a plant patent covering a bacteria had been rejected by the examiner, and the applicant appealed to the Board of Appeals. The bacteria was cultured from Louisiana cane field soil and was useful in soil cultivation. Reproduction of the bacteria was asexual. The issue raised was whether or not bacteria are plants within the meaning of the statute.

While refusing a patent to the applicant, the court conceded that bacteria are usually scientifically classified as plants. However, the court noted that in the House and Senate committee reports it states that the new bill provides for an inventor or discoverer the exclusive right to propagate the new plant by asexual reproduction and defines asexual reproduction as by grafting, budding, cuttings, layering, division, and the like. Bacteria are not reproduced by any of these methods, and this is a strong indication of the character of plants intended to be embraced by the legislation. The court concluded that the word “plant” was used by the Congress in its popular sense and not in its scientific sense.

Infringement

Any use of a patented plant which does not directly or indirectly involve asexual reproduction cannot be deemed an infringement of the patent. As the patent covers the entire plant

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39 Id. at 511.
40 27 C. C. P. A. (Patents) 1315, 112 F. 2d 834 (1940).
41 Supra note 3.
42 27 C. C. P. A. at 1318-20.
43 Langrock, supra note 20 at 787.
and not a part thereof, the sale of fruit from a patented tree is not an infringement of the plant patent any more than the sale of the product of a process patent is an infringement of that patent.\textsuperscript{44} Also, no inference of infringement arises from the presumption of validity of a patent.\textsuperscript{45}

In \textit{Armstrong Nurseries, Inc. v. Smith},\textsuperscript{46} three defendants were charged with infringement of certain patents covering new varieties of roses. The defendant Dyess furnished budwood from the patented plants, and the defendant Smith budded and cultivated the roses. Dyess had also entered into an agreement with Hood whereby Hood also budded the infringing roses. Hood was apparently innocent of any willful wrongdoing as Dyess had represented to him that the plants were new, unpatented varieties.

Dyess was held to be guilty of infringement for furnishing the budwood and actively inducing others to infringe. He was also adjudged a contributory infringer in aiding and abetting the sale of the infringing roses. Smith was guilty of infringement for asexually reproducing the roses. Hood was likewise held to have infringed even though he had no knowledge that he was doing so at the time. Except for the purpose of increasing damages when the infringement is willful, knowledge or intent is not material.\textsuperscript{47}

The statutory requirement of notice to an infringer\textsuperscript{48} was satisfied as to a plant patent when the plaintiff, at the time of sale of a patented plant to the defendant, told the defendant that it was patented and that he could not asexually reproduce or sell the trees without the plaintiff's permission.\textsuperscript{49}

One who charges infringement of a patent has the burden of proving it.\textsuperscript{50} This rule creates a particular hardship for the plaintiff owner of a plant patent. One writer argues that the burden should be shifted to the defendant in the case of plant inventions. He points out that, on the one hand, asexually reproduced plants can vary in a minor way from environmental in-

\textsuperscript{44} Robb, \textit{supra} note 16 at 758.
\textsuperscript{45} Kim Bros. v. Hagler, \textit{supra} note 8, at 668. The presumption of validity of a patent is statutory, 35 U. S. C. Sec. 282.
\textsuperscript{46} 170 F. Supp. 519 (E. D. Texas 1958).
\textsuperscript{47} Kim Bros. v. Hagler, \textit{supra} note 8, at 668.
\textsuperscript{48} 35 U. S. C. Sec. 287.
\textsuperscript{49} Kim Bros. v. Hagler, \textit{supra} note 8.
\textsuperscript{50} Id. at 668.
fluences alone while, on the other hand, it is possible to develop an almost identical plant by other means than asexually reproducing the patented plant. The burden on the patentee, to show some actual physical appropriation from the patented plant, is nearly impossible for him to support. The suggestion is that the presumption should be that where the patentee shows that the allegedly infringing plants are substantially the same as the patented plant and that the defendant had at least a minimum opportunity to make an actual physical appropriation, the defendant be held to have infringed and the burden be on him to show that he independently reproduced the plants. It is pointed out that the defendant is in a superior position as to knowledge of how he reproduced the plants and can easily show his innocence.51

Extension of Monopoly

An interesting footnote to plant patent law is found in Dixie Rose Nursery v. Coe.52 This case was an appeal from the District Court's refusal to authorize the Commissioner of Patents to register appellant's trade-mark for rose plants, scions, and cuttings. The trade-mark comprised the words “Texas Centennial” on an outline map of Texas. Appellant already had a patent on the variety of rose sold under the trade-mark, and he marketed the rose himself or licensed others to do so. The Patent Office refused registration on the ground that it was the name of a variety of rose and, therefore, merely descriptive. Appellant admitted that the variety was well-known and was commonly called for by the trade-mark name.

In upholding the judgment against the appellant, the court pointed out that the Patent Office and the District Court could conclude from the facts that the trade-mark name was so widely used to identify a particular type of rose as to have lost its significance as pertaining specifically to appellant's rose. It had thus become merely descriptive of a rose and not of a particular product. The court reasoned that if appellant were allowed to have this trade-mark registered, it would have the effect of extending his monopoly beyond the time granted by the patent, as buyers would be forced to ask for a trade name when all they really wanted was a particular variety of rose. This would make it difficult for a newcomer to break into the field after

51 Langrock, supra note 20, at 788-90.
52 131 F. 2d 446 (D. C. Cir. 1942), cert. den., 318 U S. 782 (1943).
the patent monopoly had expired. The court concluded that where words sought to be registered as a trade-mark, though originally arbitrary, have come to describe to the public a particular thing and not the source of that thing, the applicant is not entitled to registration.53

Summary

Features characteristic of plant patents and plant patent law may be summarized in the following statements.

(1) A plant patent covers the entire plant and not a part thereof.

(2) Only one claim can be allowed in a plant patent and it must not be a method claim.

(3) There can be no such thing as a dominating or basic plant patent.

(4) Conception or discovery of a plant invention must be concurrent with actual reduction to practice of the invention.

(5) A new variety of plant, found by a person in nature and not brought into existence due to his activity, is not patentable.

(6) There can be no such thing as a constructive reduction to practice of a plant invention.

(7) A plant patent, obtained on an application filed before success is actually determined by asexual reproduction, even though success is subsequently determined, is invalid.

(8) There can be joint inventors in a plant patent.

(9) The mere discovery of a new variety of plant, in the absence of any appreciation that it actually is a new variety, is not conception or discovery of the invention.

(10) Bacteria are not patentable under the plant patent statutes.

(11) The word “plant” in the statutes is used in its popular sense and not its scientific sense.

(12) Any use of a patented plant which does not directly or indirectly involve asexual reproduction is not an infringement of the patent.

(13) One who furnishes material for asexually reproducing a patented plant is an infringer of the patent.

53 Id. at 447.