IN THE CANADIAN PATENT OFFICE

DECISION OF THE COMMISSIONER OF PATENTS

Patent application 428,420 having been rejected under Rule 47(2) of the Patent Regulations, the Applicant asked that the Final Action of the Examiner be reviewed. The rejection has consequently been considered by the Patent Appeal Board and by the Commissioner of Patents. The findings of the Board and the ruling of the Commissioner are as follows.

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COMMISSIONER DECISION

Section 2: SOYBEAN VARIETY

A strain of soybean developed by known cross breeding and selection techniques may be new and useful but the necessary attribute of ingenuity is not present. Further, the subject matter does not fall within the definition of invention under Section 2.

Final Action: Affirmed

Patent application 428,420 (Class 47-4), was filed on May 18, 1983 for an invention entitled SOYBEAN VARIETY. The inventor is Clark W. Jennings. The Examiner in charge of the application took a Final Action on April 3, 1984 refusing to allow it to proceed to patent. In reviewing the rejection, the Patent Appeal Board held a Hearing at which the Applicant was represented by Mr. D. Watson and Mr. E. McKhool. Also present were the inventor Dr. C. Jennings, Mr. J. Cavanaugh of Pioneer U.S.A., and Mr. W. Parks, President of Pioneer Canada.

The subject matter of this application relates to a strain of soybean (Variety 0877) which has been developed by cross-breeding. Soybean Variety 0877 resulted from the cross (Clark X Chippawa 64) X Corsoy and provides the following desirable characteristics:

- high oil content
- early maturity
- stable high yields
- resists seed shattering
- resists root rot caused by the fungus phytophthora megasperma var sojae

In the Final Action the Examiner refused the application for not falling within the statutory definition of invention under Section 2 of the Patent Act. That action stated (in part):

> ...
> As was stated in the previous official action, the variety of soybean plant disclosed and claimed in this application does not fall within the statutory definition of invention as given by Section 2 of the Patent Act.
>
> In Section 2, "invention" means any new and useful art, process, machine, manufacture or composition of matter, or any new and useful improvement in any art, process, machine, manufacture or composition of matter.

In the Manual of Patent Office Practice, Section 12.03.01(a), dealing with non-statutory subject matter, it is stated:

> Subject matter for a process for producing a new genetic strain or variety of plant or animal, or the product thereof, is not patentable. This exclusion does not include a micro-biological process or product thereof.

The interpretation of "invention" as given in Section 2 has always excluded new varieties of plants and seeds. Plants and seeds are considered a unique category of creativity, so much so as to warrant an entirely separate act to govern creative contributions of this kind. In this connection, it should be noted that the U.S. has separate regulations governing plant patents, and that Great Britain does not permit this category of creativity to fall within its definition of invention.

Applicant's argument that a patent for the new soybean plant should be granted because the proposed Canadian plant Breeders Rights Act has died on the order paper of parliament is noted but the argument is not considered relevant.

In response to the Final Action the Applicant stated (in part):

> This invention relates to a unique variety of soybean plant which has been created by the hand of man by cross-breeding. It is submitted that it has all the necessary attributes of patentable subject matter, novelty, unobviousness and utility. Nevertheless, the Examiner has rejected it on the sole ground that it does not comply with the definition of "invention" in Section 2 of the Patent Act, as interpreted by the Manual of Patent Office Practice, Section 12.03.01(a).
>
> Although such statement in the Manual of Patent Office Practice may bind the Examiner, it does not bind the Commissioner of Patents. It is accordingly submitted that, for the reasons that will be developed, there should be a re-evaluation of the statement in the Manual in the light of the wording of the Patent Act and developments in the law.

At the Hearing Mr. Watson emphasized that under Section 42 of the Patent Act the Commissioner of Patents must be satisfied that the Applicant is not by law entitled to be granted a patent before he can refuse it. He said that the requirements for patentability are novelty, utility, and ingenuity, and if these are all present, the Commissioner has no authority to deny the grant of a patent. He argued these attributes are present here and that a patent should be granted. In support of his position he referred to numerous judicial decisions, and to the Commissioner's decision in the application of Abitibi Company 62 C.P.R. (2d) 81.

The issue before the Board is whether or not the application is directed to patentable subject matter under Section 2 of the Patent Act. That Section reads:

> 'invention' means any new and useful art, process, machine, manufacture or composition of matter, or any new and useful improvement in any art, process, machine, manufacture or composition of matter.

The claims are as follows:

1. A variety of soybean plant characterized by having the following objective characteristics:

Seeds:

Shape	Oblong
Surface	Sometimes wrinkled
Seed Coat Color	Medium yellow
Seed Coat Luster	Shiny
Hilum Color	Light gray
Weight	18-20 grams per 100 seeds
Cotyledon Color	Yellow

and also, exhibiting longitudinal discoloration of the seed coat stemming from the hilum, visible in the event that the plant has experienced considerable environmental stress;

Leaves:

Color	Medium green
Shape	Ovate
Plant Pubescence Color	Medium Gray
Plant Height	27-35 inches
Plant Type	With intermediate canopy, i.e., intermediate between slender and bushy
Plant Habit	Indeterminate

Pods:

Color	Brown
Set	Scattered
Flower Color	Purple
Hypocotyl Color	Purple
Lodging Score	2.0 to 3.0, on a scale of 1-5
Maturity Group	0

> said variety resembling the soybean variety Corsoy with respect to plant shape, seedling pigmentation and leaf characteristics, and the variety Portage with respect to seed size, and the variety Altona with respect to seed shape, and the variety Hardome with respect to color of hilum; and is further characterized by being resistant to the fungus Phytophthora megasperma var sojae (Races 1 and 2).
>
> 2. A pod of the soybean plant of claim 1.
>
> 3. A seed of the soybean plant of claim 1.
>
> 4. A variety of soybean plant of the genus Glycine, species max, substantially as described in the specification.

While the definition of invention in Section 2 of the Act is broad in its wording, it has for a long time been recognized by the Canadian Courts that they must interpret the Section carefully to give it some reasonable boundaries. As Mr. Watson pointed out, there is great similarity in the definitions of invention in Section 101 of the United States Patent Law and Section 2 of the Canadian Patent Act. However, quite different interpretations have been given to the two Sections in the two countries. In the United States it has been said that Congress intended statutory patentable subject matter to include "anything under the sun that is made by man", here, the same broad interpretation has not been applied by Canadian Courts. They have circumscribed the broad wording of Section 2 by holdings that have excluded some subject matter areas and human activities from patentability. The findings in the following Canadian cases are illustrative of limitations to the meaning of Section 2.

In Lawson v Commissioner of Patents (1970) 62 C.P.R. at 109 the Court took it as settled that all new and useful arts and manufactures are not included within the definition of invention. Cattenach, J. quoted Thorson, P. in Farbwerke Hoechst Aktiengesellschaft Vormals Meister Lucius & Bruning v Commissioner (1962), 39 C.P.R. 105 at 124 as saying that if an art or manufacture were

> ...new and useful it is an invention within the meaning of the definition and, therefore, patentable under the Act...

Cattenach, J. then pointed out that

> On appeal the view of Thorson, P., as above expressed was repudiated by the Supreme Court of Canada...

and commented:

> It is, therefore, clear that words of limitation must be read into s. 2(d).

Mr. Cattanach went on to say that, even though the Board of Appeals in the United States Patent Office accepted certain claims in the corresponding United States application, he did not agree that the procedure of dividing land was in the patentable area in Canada. In that case novelty and utility could not save subject matter in an area deemed non-patentable.

In Commissioner of Patents v Farbwerke Hoechst Aktiengesellschaft Vormals Meister Lucius & Bruning (1964) S.C.R. at 55 Judson J. said:

> Following statements made in R. v Patents Appeal Tribunal, Ex p. Swift & Co., the Exchequer Court said that the Commissioner should not refuse to allow an application to proceed to the grant of a patent unless he is quite satisfied that the subject-matter of the application could not conceivably be patented within the meaning of the Patent Act.
>
> The Commissioner was well within even this definition of the scope of his duties but I think that the obiter of the Exchequer Court expresses the duties of the Commissioner too restrictively and fails to recognize the distinction between the United Kingdom and the Canadian Patent Acts ...
>
> ... in Canada the Patent Office, supervised by the Court, does examine as to inventiveness, and an applicant may appeal to the highest court. Moreover, in the particular class of case with which we are here concerned dealing with drugs and medicines, there is considerable public interest at stake, and the Commissioner should most carefully scrutinize the application to see if it merits the grant of monopoly privileges and to determine the scope of the monopoly available.

Judson, J. in the above passage, was commenting with approval on the long-standing Canadian practice of examining applications for the presence of inventiveness (as opposed to novelty and utility only) even though

inventiveness is not a statutory condition in the Patent Act. He also affirmed the Commissioner's duty to make determinations on the patentability of an application when there is a perceived public interest in the outcome. This, in our view, is not the same as merely applying the broadest meaning that the wording of the Act will bear without any consideration at all as to its implications, which appears to be what Mr. Watson would have the Commissioner do in this case.

Another case pertaining to restrictions not found in Section 2 but applied by the Court is Tennessee Eastman Co. v Commissioner of Patents 8 C.P.R. (2d) 202 where Kerr J. said:

> The method lies essentially in the professional field of surgery and medical treatment of the human body, even although it may be applied at times by persons not in that field. Consequently, it is my conclusion that in the present state of the patent law of Canada and the scope of subject matter for patents, as indicated by authoritative judgments that I have cited, the method is not an art or process or an improvement of an art or process within the meaning of s. 2(d) of the Patent Act.
>
> (emphasis added)

Again, the questions of novelty and utility were not deciding factors, the overriding concern was the subject matter itself, particularly, the professional field of surgery and medical treatment of the human body.

In the more recent case of Schlumberger Canada Ltd. v. Commissioner of Patents (1981) 56 C.P.R. 204 related to a computer program, Pratte, J. said:

> As to mental operations and processes it is clear in my view that they are not the kind of processes that are referred to in the definition of invention in s. 2.

In our view, the findings in these four cases show that the Canadian Courts have not taken the very broad wording of Section 2 at face value. They provide direction that restrictive meanings be given to Section 2, and that the Commissioner has authority to assess the subject matter of an application. Kerr, J. in Tennessee Eastman, supra, called this taking "the

present state of the patent law of Canada and the scope of subject matter for patents, as indicated by authoritative judgments". In view of these cases, the Commissioner has not only the right but the duty to determine if an application is directed to patentable subject matter and if, according to his determination, it is not patentable then he is permitted to refuse to grant a patent. In short, we do not agree with Mr. Watson when he says the only determination allowed for the Commissioner is novelty, utility and inventive ingenuity.

Further support for this view may be found by referring to the Vanity Fair case and the Monsanto case.

In Vanity Fair Silk Mills v Commissioner of Patents (1931) S.C.R. 245, a case often cited by agents when they foresee an exercise of the Commissioner's authority to make determinations under the Act, the Supreme Court was, in fact, upholding a Commissioner's decision not to grant a patent based on his determination of lack of inventiveness. Chief Justice Duff, who wrote the decision, said:

> No doubt the Commissioner of Patents ought not to refuse an application for a patent unless it is clearly without substantial foundation

and

> In effect both the President of the Exchequer Court and the Commissioner have held that.

In other words Duff, C.J. did not see any difficulty in upholding a refusal by the Commissioner based on his determination concerning subject matter sought to be patented. Clearly, therefore, the Commissioner is empowered to determine between patentable and unpatentable subject matters.

In Monsanto Co. v Commissioner of Patents (1979) 42 CPR (2d) 161 the Supreme Court iterated the remarks of Duff, C.J. in Vanity Fair and then went on to explain that the objection of the majority was not that the Commissioner had exercised discretion but the way in which he had exercised it. The Court was concerned with the lack of reasons to justify the Commissioner's refusal to grant, and said it appeared that the Commissioner was demanding the Applicant justify a grant, but the Court did not say that the Commissioner had no authority to refuse to grant based on his understanding of the issues. Consequently we do not see how Monsanto would help Mr. Watson's argument.

All the cases we have mentioned demonstrate that there has been and continues to be a considerable difference in the practical application of the definition of a patentable invention according to the Canadian Patent Act and the United States patent law. Further, they show that it is within the Commissioner's jurisdiction to make patentability determinations. Otherwise the Commissioner would be in a position of never having to decide on the patentability of subject matter unless that particular subject matter had already been excluded by the Courts. We think the Patent Act was not meant to be administered in that way and we disagree with this line of argument advanced by Mr. Watson.

The subject matter of this application is a strain of soybean. The claims are directed to the soybean plant, a pod, and a seed of the variety described; so there is no doubt that a type of living matter is being claimed. Mr. Watson in discussing the Commissioner's Decision in Abitibi, supra, points out the subject matter in that application was concerned with living matter, namely a mixed fungal yeast culture that was acclimatized to spent sulphite liquor and it was rejected by the examiner for that reason. He believes the following passage from Abitibi is helpful to his argument:

> It is of some importance, we think, to recognize how far our recommendation, if accepted, will carry us, and we believe clear guidelines should be set down for the benefit both of applicants and examiners. Certainly this decision will extend to all micro-organisms, yeasts, moulds, fungi, bacteria, actiomycetes, unicellular algae, cell lines, viruses or protozoa; in fact to all new life forms which are produced en masse as chemical compounds are prepared, and are formed in such large numbers that any measurable quantity will possess uniform properties and characteristics.
>
> (our emphasis)

In assessing Mr. Watson's argument we find it useful to consider a subsequent passage appearing in Abitibi a few lines after the above, as follows:

> We can see no justifiable reason for distinguishing between these life forms when deciding the question of patentable subject matter. Whether it reaches up to higher life forms - Plants (in the popular sense) or animals - is more debatable.
>
> (our emphasis)

We understand from the first passage that the animate matter in question was being discussed in terms of characteristics normally associated with inamimate matter, for example, uniformity of structure, and properties in the mass. We learn from the second passage, the question of considering higher forms where the properties of individual entities become more important and more complex relative to the mass, was left open.

Another passage from Abitibi quoted by Mr. Watson at the hearing was the following:

> We can no longer be satisfied that at law a patent for a micro-organism or other life forms would not be held allowable by our own courts. Since that is the criterion set down in Section 42, without which an application should not be refused, we recommend that the rejection of claims 4 and 5 be withdrawn.

We have no doubt that the Commissioner's Decision in Abitibi applies to micro-organisms and lower life forms produced en masse, however, that is not the subject matter now under review. We believe Applicant's subject matter, a variety of soybean, should be considered on its own merits in view of the above Canadian cases, rather than by attempting to relate the comments made with respect to an application concerned with micro-organisms.

In the United States, the legislature has implemented two laws whereby plant breeders are afforded protection, namely the Plant Patent Law of 1930 and the Plant Variety Protection Act of 1970. The United States legislature may have considered these two further laws, directed towards plants and seeds, were necessary to afford a certain kind of protection in those areas. In Canada however, in contrast, Parliament has not enacted legislation similar to either the Plant Patent Law or the Plant Variety Protection Act and, to date, all proposals that similar laws be enacted have not resulted in legislation.

Absent any indication in Canada by the Courts, or by legislation that the public policy is to provide protection for strains of soybeans, the comment by Mr. Justice Judson in the Farbwerke case, supra, becomes significant, "... the Commissioner should most carefully scrutinize the application to see if it merits monopoly privileges" under the Canadian Patent Act.

We find no direction from the Canadian Courts that a plant growing according to the laws of nature, should be considered a manufacture that may be acceptable under Section 2. We are not informed in the application of any change on growth that is due to changing the effects of inherent natural forces resident in a soybean. Apropos the skills of persons involved in developing soybean varieties, we refer to the text book SOYBEANS AND SOYBEAN PRODUCTS Vol. 1, 1950 Interscience Publishers, Inc. New York. We learn from page 19 that between 1898 and 1950 the U.S. Dept. of Agriculture has imported more than 10,000 varieties of soybean from various countries throughout the world. Paragraph 3 of that page reads:

> Most of the acreage devoted to soybeans was first used for forage and pasture; therefore the early breeding work tended largely toward the development of varieties most suitable for hay, silage, soilage, and pasture. The expansion in the use of soybeans for processing into oil and meal in the early 1920's led to a demand by growers and processors for yellow-seeded varieties having a high oil content and a high seed-yielding character. Agronomists and plant breeders of state experiment stations and the United States Department of Agriculture developed, through selection and hybridization of introductions and standard varieties, many improved varieties. These new varieties with a much higher oil content and better yields of seed have practically displaced all of the old standard types and extended the area over which soybeans were previously grown.

Clearly then the number of varieties that have been developed through the cross breeding and selection technique must number many thousands in the United States alone. As indicated in the above reproduced paragraph the purpose of developing new varieties is to obtain improved characteristics (high oil content, high seed-yielding character). We agree that the descendent plant may be new and useful but we do not see the attribute of ingenuity in the patentable sense has been demonstrated. We are persuaded however, that Applicant has used the professional skills practiced by a person in the art, for example, following the skills of a plant breeder that have been exercised in the past in obtaining the thousands of strains of soybeans mentioned in the book. We are satisfied there is no direction provided by the cases discussed during the prosecution and the Hearing, particularly the Tennessee Eastman case, that this kind of subject matter should receive patent protection.

Subsequent to the Hearing, Applicant submitted a copy of the Ex parte Hibberd decision of the United States Board of Appeals dated September 18, 1985. He pointed out that it is in conformity with the interpretation provided by the United States Supreme Court decision, Diamond v. Chakrabarty, 447 U.S. 303, 206 USPQ 193 (1980) and provides persuasive reasoning why this application should issue to patent. With respect to Applicant's position we do not agree that either of these cases advances reasons that alter the direction provided by the Canadian jurisprudence we have outlined herein.

In summary, as may be seen from the Canadian cases discussed above, the Courts have indicated, in ruling on appeals to them from refusals by the Commissioner of Patents to allow certain subjects matter, that there are limitations in Canada to the types of endeavor worked by humankind that may receive patent protection. The Courts have further provided direction that it is within the Commissioner's authority to determine whether subject matter does or does not fall into a patentable category, and moreover, to refuse to grant a patent when the attributes of patentability are not present.

We consider that this application is not directed to patentable subject matter within the definition of Section 2 of the Patent Act in view of the direction provided by Canadian jurisprudence. We recommend the rejection of the application should be affirmed.

M.G. Brown
Acting Chairman
Patent Appeal Board

S.D. Kot
Member

I concur with the findings and the recommendation of the Patent Appeal Board. I am satisfied this application is not directed to statutory subject matter. Accordingly, under Section 42 of the Act I refuse to grant a patent on this application. The Applicant has six months within which to appeal my decision.

J.H.A. Gariépy
Commissioner of Patents:

Dated at Hull, Quebec
this 4th day of March 1986

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