CONTINENTAL SOYA COMPANY LIMITED (DEFENDANT) ..... APPELLANT;

AND

J. R. SHORT MILLING COMPANY (CANADA) LIMITED (PLAINTIFF). RESPONDENT.

1941
* May 20, 21, 22.
1942
* Feb. 23.

ON APPEAL FROM THE EXCHEQUER COURT OF CANADA

Patent—Validity—Infringement—Bleaching agent derived from vegetables (preferably from soya bean) for application to wheat flour—Discovery and invention—Patentability of product—"Manufacture or composition of matter" (s. 2 (d) of Patent Act, 1935, c. 32)—"Prepared or produced by chemical processes" (s. 40 of said Act)—Claims in patent—Whether too broadly expressed.

Continental Soya Co. Ltd., one of the defendants, appealed to this Court from the judgment of Maclean J., President of the Exchequer Court

* PRESENT:—Duff C.J. and Crocket, Davis, Kerwin and Taschereau JJ.

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of Canada, [1941] Ex. C.R. 69, the appeal being from his holding that plaintiff's patent no. 345,534 for "Agent for Bleaching Flour" and claims in question in plaintiff's patent no. 347,251 for "Agent for Bleaching Flour and Process of Preparing the Same" were valid and had been infringed by said defendant.

Held: The appeal should be dismissed.

The invention embodied in the patents is a product derived from vegetables, preferably from the soya bean, and possessing properties which constitute it an effective bleaching agent for application to wheat flour. The inventors, while engaged in investigations with a view to the improvement of bread, noticed what they conceived to be evidence that the soya bean contains some substance which could be effectively utilized as such an agent. Further investigations established this as a fact and enabled them to define the conditions under which this substance could be extracted and prepared for effective use.

The phrase "manufacture or composition of matter" in s. 2 (*d*) of *The Patent Act, 1935* (25-26 Geo. V, c. 32) includes a product, which, as well as the process by which it is obtained, may be patentable, if it is new and useful, in the sense of the patent law.

Though the discovery, which might truly be said to have been accidental, was the starting point of the inventors, and indeed the presence in the soya bean (and in other vegetables) of a substance capable of bleaching wheat flour was the basis and essence of the process devised and the product obtained, yet there was more than discovery, there was invention in the patent sense, in the methods devised for the extraction of the bleaching substance and for the preservation of its activity, making it applicable effectively in the manufacture of bread; the invention was patentable both as product and as process.

The invention was not one relating to a substance "prepared or produced by chemical processes" within the meaning of s. 40 of said Act. Everything done by the inventors was in the nature of a physical, as distinguished from a chemical, process. The application of heat for the purpose of drying the substance or the application of water for the purpose of stimulating germination could not bring either the process or the product within the ambit of s. 40. The fact that the vital processes might involve chemical processes is immaterial and does not make s. 40 applicable.

The claims in the patent, in embracing the use of any substance, found in vegetables other than the soya bean, of the same nature as that obtained (by the means devised for its extraction and preparation) from the soya bean, the specification indicating the manner of obtaining the substance from other vegetables, were not too broadly expressed.

Said patent no. 345,534 (issued in 1934) was a patent for an agent produced by improved processes and not a patent for the same invention as that to which said patent no. 347,251 and patent no. 347,252 (re-issues respectively of patents issued in 1932) related.

APPEAL by Continental Soya Company, Ltd., one of the defendants, from the judgment of Maclean J., Presi-

dent of the Exchequer Court of Canada (1), in holding that, as between the plaintiff and said defendant, the plaintiff's patent no. 345,534 for "Agent for Bleaching Flour" and the claims in question in the plaintiff's patent no. 347,251 for "Agent for Bleaching Flour and Process of Preparing the Same" were valid and had been infringed by said defendant.

E. G. Gowling and *G. F. Henderson* for the appellant.

C. F. H. Carson K.C. and *B. V. McCrimmon* for the respondent.

The judgment of the Chief Justice and Kerwin and Taschereau JJ. was delivered by

THE CHIEF JUSTICE—The invention embodied in the patents upon which the respondents' action was brought is a product derived from vegetables and possessing properties which constitute it an effective bleaching agent for application to wheat flour. Mr. Haas and Mr. Bohn, the inventors, while engaged in investigations with a view to the improvement of bread, noticed what they conceived to be evidence that the soya bean contains some substance which could be effectively utilized as such an agent. Furthere investigations established this as a fact and enabled them to define the conditions under which this substance could be extracted from the soya bean and prepared for effective use. The soya bean is, it seems, not the only vegetable containing a substance which can be utilized thus, but for various reasons which need not be discussed it is much the most preferable source.

The claims with which we are concerned are all claims for monopoly in a product. Two governing points had best be first determined. First, the appellants broadly challenge the patentability of a product as such. I have considered with care the able argument presented by Mr. Gowling and Mr. Henderson and my conclusion is that the phrase "manufacture or composition of matter", in section 2 (*d*) of the *Patent Act*, does include a product, which, as well as the process by which it is obtained, may be patentable, if it is new and useful, in the sense of the patent law.

(1) [1941] Ex. C.R. 69; [1940] 4 D.L.R. 579.

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The distinction between discovery and invention must, of course, be borne in mind. The relevant principle, in my opinion, is stated in the treatise on Patents and Inventions by Lord Justice Luxmoore, H. Fletcher Moulton and A. W. Bowyer in the 2nd edition of Halsbury, at p. 591:—

> The difference between discovery and invention has been frequently emphasized, and it has been laid down that a patent cannot be obtained for a discovery in the strict sense. If, however, the patented article or process has not actually been anticipated, so that the effect of the claims is not to prevent anything being done which has been done or proposed previously, the discovery which led to the patentee devising a process of apparatus may well supply the necessary element of invention required to support a patent. This is certainly the case if it can be shown that, apart from the discovery, there would have been no apparent reason for making any variation in the former practice.

I agree with the conclusion of the learned President that there was more than discovery in the methods devised by Haas and Bohn for the extraction of the bleaching substance and for the preservation of its activity, making it applicable effectively in the manufacture of bread. I agree with him, in consequence, that the invention of Haas and Bohn is patentable, both as product and as process.

I think section 40 of the *Patent Act* recognizes the patentability of a product as such. I agree with the learned President that here everything was new. The discovery, which may truly be said to have been accidental, was the starting point, and indeed the presence in the soya bean (and in other vegetables) of a substance capable of bleaching wheat flour is the basis and essence of the process devised and the product obtained by the inventors. Nevertheless, I repeat, in my opinion what Haas and Bohn did amounted to, as the learned President has held, invention in the patent sense.

The second point is based upon section 40 of the *Patent Act*, which is in these words:—

> 40. (1) In the case of inventions relating to substances prepared or produced by chemical processes and intended for food or medicine, the specification shall not include claims for the substance itself, except when prepared or produced by the methods or processes of manufacture particularly described and claimed or by their obvious chemical equivalents. R.S., c. 150, s. 17 (1) Am.
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> (2) In an action for infringement of a patent where the invention relates to the production of a new substance, any substance of the same chemical composition and constitution shall, in the absence of proof to the contrary, be deemed to have been produced by the patented process.

(3) In the case of any patent for an invention intended for or capable of being used for the preparation or production of food or medicine, the Commissioner shall, unless he sees good reason to the contrary, grant to any person applying for the same, a licence limited to the use of the invention for the purposes of the preparation or production of food or medicine but not otherwise; and, in settling the terms of such licence and fixing the amount of royalty or other consideration payable the Commissioner shall have regard to the desirability of making the food or medicine available to the public at the lowest possible price consistent with giving to the inventor due reward for the research leading to the invention.

(4) Any decision of the Commissioner under this section shall be subject to appeal to the Exchequer Court.

(5) This section shall apply only to patents granted after the thirteenth day of June, 1923. R.S., c. 150, s. 17.

I do not think it is necessary to consider whether we have here a substance " * * * intended for food". The substance in question is not, I am satisfied, one "prepared or produced by chemical processes", within the meaning of this enactment. Everything done by Haas and Bohn is in the nature of a physical, as distinguished from a chemical, process. I do not think the application of heat for the purpose of drying the substance, and for that purpose alone, can bring either the process or the product within the ambit of the section. The same may be said with regard to the application of water for the purpose of stimulating germination. The vital processes may, it may be assumed, involve chemical processes, but that, in my opinion, is immaterial. If that were sufficient to make section 40 applicable, it would be enough to say that, the soya bean being a natural vegetable growth, everything contained or derived from it is produced by chemical processes.

There are two further points for consideration. Mr. Gowling pressed with great vigour the argument that the claims are too broadly expressed. The answer to the argument is this: The inventors claim that they have devised a means for obtaining and have obtained from vegetable sources a substance which can be (and have produced it in such a form that it can be) efficaciously applied for bleaching wheat flour for and in the baking of bread; such a substance, the inventors say, may be found not only in the soya bean but in other vegetables. The soya bean, for the reasons mentioned, being by far the most preferable source, they give detailed directions for the extraction

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and preparation of this substance from the soya bean, but they also indicate the manner of obtaining it from other sources; and the claims embrace the use of any substance of the same nature found in other vegetables. I do not think that in these circumstances they have spread their net too wide.

It is also contended that the patent comes under the ban of sections 42 and 26 (1) (*b*). I think Mr. Carson's answer to this contention is sufficient; I agree with the conclusions of the learned President that the processes claimed in Exhibit 5* are different and improved processes, while the description in Exhibit 7* was published too late to bring it within the application of section 26 (1) (*b*).

In connection with this point, counsel for the respondents very properly calls our attention to the proceedings in the Patent Office. On the 11th of February, 1929, Haas and Bohn made application for a Canadian patent. The Commissioner of Patents ruled that there were more than two separate and independent subject-matters of invention claimed in the application: a process of bread making; a process for bleaching flour; a bleaching agent; a food product; a decolorization agent; a process for preparing a bleaching agent; a process of preparing a bread dough, and a wheat flour.

As the result of discussions between the applicants and the Patent Office, two patents were issued. These were No. 319,123, dated the 19th of January, 1932, and entitled a patent for "Bakery Product and Process of Bleaching Flour while preparing Dough", and No. 326,416, dated the 27th of September, 1932, entitled "Agent for Bleaching Flour and Process of Preparing the Same". The specifications in the second of these patents disclosed methods for obtaining the bleaching agent (described as an enzyme, or enzymelike substance); one of these methods is:—

> Soak the beans for twelve to forty-eight hours in water of approximately room temperature, using enough water to cover the beans at all times. At the end of the steep period, the water is drained off and the beans are well washed with two or three changes of fresh water. At this point the beans have swelled to about three times their original size. After draining off the wash water, the beans are ground in a mill which

* Exhibit 5 was patent no. 345,534. Exhibit 7 was patent no. 347,251.

reduces them to a paste or sludge. This paste or sludge is thoroughly mixed with a corn-starch or corn flour or other cereal flour which has preferably been gelatinized to increase its water absorbing capacity.

The resulting mixture is a rather dry, friable mass. This mass is dried in vacuo at a temperature not exceeding 60° C. in order not to injure the enzyme, and it is then ground to a fine powder.

The quantity of soya bean material to be used for bleaching purposes was said to be between 0·15% and 0·45% of the quantity of flour to be bleached. All this appears in the re-issue patent no. 347,251, dated the 1st of January, 1935, entitled "Agent for Bleaching Flour and Process of Preparing the Same", one of the patents in question in this appeal.

The first of these two patents (issued in January, 1932, no. 319,123) was re-issued as no. 347,252, the 1st of January, 1935, a patent not in question in this appeal.

In October, 1932, Haas alone applied for a Canadian patent relating to new and useful improvements for "Bleaching Agent for Flour Dough and Process of Preparing Bleached Dough for Baking". The specification declares that the improvements are founded on the broad idea expressed in the patents already mentioned, no. 319,123 and no. 326,416, but the applicant had ascertained, it is stated, that 0·0625 of one per cent. of the same bleaching agent would be sufficient to effect the bleaching desired. Other methods of obtaining the bleaching enzyme in an active state are described. Specifically it is stated that one of the new methods disclosed renders unnecessary the soaking of the bean and the subsequent evaporation of the moisture. This method is described in detail in Patent no. 345,534, in these words:—

Wash the beans to free them from adhering dirt and immediately dry them at a temperature which must not be over 155° F. for a sufficient length of time to reduce their moisture content to 8% or less. It is preferable that the conditions of operation are so chosen that the temperature may be so controlled that it does not rise over 140° F. to 150° F. By this drying process the beans are prepared for milling. After drying the beans to the required moisture content, which may be readily determined by sample analysis, remove the beans from the drying apparatus and grind them to a flour, grinding them in such a way as to cause removal of the hulls as completely as possible by ordinary means, *i.e.*, aspiration. Then further reduce the hull-free material to a fine powder, a granulation similar to wheat flour. The finer the granulation, the better, as long as during the process the temperature of the material does not

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rise above 155° F. Under these conditions of drying, the activity of the material is not harmed, while higher drying temperatures would seriously impair the bleaching action of the beans. By this latter method the vegetable bleaching material is not subjected to any wetting action after granulation is begun or after the vegetable itself is modified from its original shape. As applied to soy-beans, the beans may be wet or otherwise treated in the process of cleaning them but after being cleaned the material is not further moistened at any stage to the very completion of the bleaching agent.

This method was compendiously referred to in the argument as the "dry process", as distinguished from the "wet process", described in the passage already quoted from patent no. 347,251.

It was ruled in the Patent Office that this application of October, 1932, included four separate and independent subject-matters of invention and the applicant was requested to confine the claims to one subject-matter. It was pointed out by the examiner that claims to a process and claims to its immediate product may be presented as a concrete invention in the same application. In the result three patents were issued on the 23rd of October, 1934, as follows:—

No. 345,532, entitled "Process of Making Bakery Products and Bleaching the Flour Thereof",

No. 345,533, entitled "Flour for Baking and Process of Preparing the Same", and

No. 345,534, entitled "Agent for Bleaching Flour".

The last mentioned of these patents comes in question in this appeal. The specification refers to the two patents above mentioned issued in 1932 (319,123 and 326,416); and the specification declares that the procedure disclosed in it for the preparation of the bleaching agent results in imparting to that agent specific characteristics which constitute an improvement on the agent as theretofore produced. One of these advantageous features is the capacity of the bleaching agent to retain its efficacy as such unimpaired for long periods of storage. Another feature emphasized as an improvement is the low moisture content of the product and the fact that in the course of production the substance possessing the bleaching properties is not moistened after the original cleaning of the exterior of the bean, or other vegetable.

The learned President has, I think, rightly held that the patent no. 345,534, entitled "Agent for Bleaching Flour", is a patent for an agent produced by improved processes and not a patent for the same invention as that to which patents no. 347,251 and no. 347,252 relate.

Haas' principal achievement, which was disclosed in the first group of patents mentioned, may be described in a sentence, or two. Haas discovered the presence of the bleaching substance in the soya bean; it was there in a state of nature. But soya bean flour known to contain this substance, and capable of being employed as a bleaching agent, had not been produced. Haas invented a means for producing a soya bean flour containing it which could be efficaciously employed for the purpose of bleaching wheat flour without impairing any of the qualities of the flour, or the bread, in the baking of which it should be employed, and disclosed the process and the conditions for ensuring its effective application for this purpose.

The second group of patents disclosed improvements on the methods disclosed in the earlier group and these have been sufficiently indicated above.

For the reasons given by the learned President, I think the argument based upon the French patent fails.

The appeal should be dismissed with costs.

CROCKET J.—I agree that this appeal should be dismissed with costs.

DAVIS J.—I agree in the dismissal of the appeal with costs.

Appeal dismissed with costs.

Solicitor for the appellant: *Matthew C. Holt.*

Solicitors for the respondent: *Tilley, Thomson & Parmenter.*