

Privy Council Appeal No. 122 of 1930.

James Lewis Kraft and others - - - - - *Appellants*

v.

Oliver Kenneth McAnulty - - - - - *Respondent*

FROM

THE HIGH COURT OF AUSTRALIA.

JUDGMENT OF THE LORDS OF THE JUDICIAL COMMITTEE OF THE
PRIVY COUNCIL, DELIVERED THE 17TH JULY, 1931.

Present at the Hearing :

LORD HANWORTH.

LORD TOMLIN.

LORD RUSSELL OF KILLOWEN.

LORD MACMILLAN.

SIR LANCELOT SANDERSON.

[*Delivered by* LORD HANWORTH.]

This appeal is from a decision of the High Court of Australia given on the 17th March, 1930, whereby the decision of Henchman J., of the Supreme Court of Queensland, given on the 29th August, 1929, was reversed.

The action was commenced by writ dated the 2nd June, 1928, and was brought by James Lewis Kraft, the grantee and registered legal owner of letters patent for the Commonwealth of Australia, numbered 1620 of 1916, in respect of a "Process of sterilizing cheese and an improved product produced by such process," dated the 26th July, 1916—for an injunction to restrain the defendant, his servants and agents from infringing the patent by manufacturing or selling, or offering for sale, cheese manufactured in accordance with the specification of the plaintiffs' patent and the usual consequential relief.

The plaintiffs, the Kraft Cheese Company (Incorporated), is a company incorporated under the laws of the State of Illinois,

U.S.A., and is the unregistered assignee of the letters patent from James Lewis Kraft, and the beneficial owner of the patent.

The other plaintiff company is a company duly incorporated in the State of Victoria and is the grantee of an unregistered exclusive licence dated the 17th May, 1926, from the Kraft Cheese Company (Incorporated) to manufacture cheese in accordance with the specification of the letters patent.

The defendant, who is the respondent to this appeal, denied infringement, and alleged that the patent was invalid on various grounds. The grounds which ultimately raised the contest between the parties were want of subject matter, want of utility, and that the specification was ambiguous and misleading in that (1) it is not possible by following out the directions contained in it to achieve the alleged result ; (2) the claims were ambiguous and did not sufficiently define the monopoly that the patentee intended to claim.

The trial occupied Henchman J. thirteen days, between the 10th and the 26th July, 1929, and on the 29th August he delivered his considered judgment, holding the patent valid, and that the defendant had infringed it. He accordingly granted the plaintiffs the relief asked for in the action.

That judgment was considered by the High Court of Australia, and on the 17th March, 1930, judgment was delivered. Isaacs, Rich and Dixon JJ. agreed in reversing the decision of the Court below on the grounds—

- (a) That the patent was invalid because the representation or promise of complete sterilization at about 175° F. was not true ;
- (b) That the specification was ambiguous and misleading and did not disclose, or prescribe, a method whereby the object arrived at could be achieved.

Sir Adrian Knox C.J. and Starke J. differed from the majority of the Court and were in favour of upholding the judgment of Henchman J.

By special leave given on the 28th July, 1930, the plaintiffs were granted leave to appeal against the judgment of the majority of the High Court, and the appeal has been heard on the 15th, 16th, 18th, 19th June, 1931.

It may be convenient at the outset to state in general terms the purpose and nature of the patent.

It seems that it is well known that cheese of the Cheddar type—that is, hard cheeses, as contra-distinguished from soft varieties such as Camembert, Limburger, Brie, etc.—cannot be heated much above melting-point without disintegrating it and permanently destroying its character. In the melted cheese the casein and fats separate and cannot be restored to their original combined form and homogeneity. For this reason it had been found impossible to treat these Cheddar types of cheeses to a high sterilizing temperature without injury to the cheese, with the result that a completely sterilized Cheddar cheese had not been

produced before the Kraft patent. The specification, which must be examined more closely hereafter, was designed to teach that a high temperature could be applied to Cheddar cheeses—a temperature sufficiently high to effect sterilization at least to a greater extent than was known before, provided that the cheese, when melted by the heat applied to it, was actively stirred and agitated by suitable stirrers during the time that the high temperature was applied to it.

The learned Judge, Henchman J., delivered a lucid and closely-reasoned judgment which has proved of much service to the Board, and from which it will be convenient to make excerpts of what was proved at the trial, for they clearly demonstrate the problem which the patentee endeavoured to solve.

We are told that there are two stages in the production of a Cheddar cheese fit for consumption: the first, the making of the cheese; secondly, the maturing so as to make it palatable. Henchman J. proceeds, p. 451:—

“ Cheddar cheese is described as an emulsion of fat in a gel of casein and water, *i.e.*, the minute globules of fat are dispersed throughout the general mass of the cheese, which consists of a gel of casein and water. To make the cheese the milk, which already contains a large number of bacteria, some desirable, others deleterious, is placed in a long, wide, shallow vat. Physically the subsequent process involves the addition of a culture of *streptococcus lactis*, heating to about 86° F., the addition of rennet, rapid stirring to mix the rennet, the cutting up into little cubes and gentle stirring of the resultant junket, the gradual raising of this temperature with gentle stirring to about 100°, the draining off of the whey, the ‘ matting ’ of the small cubes into one mass, cutting up the strips of matter curd into blocks, which are turned over at intervals, the milling of the curd into small pieces for salting and the further expression of whey, and finally its compression in cloth-lined moulds into tough, hard curd, which is the green cheese. This is then taken to the curing room and allowed to mature.

“ Chemically the process involves the carrying off in the whey of most of the water, most of the lactose, some portion of the mineral salts, and practically all the albumen in the original milk.

“ The resultant curd consists mainly of casein fat, some mineral salts, and a little water. As the whey is not entirely removed, some lactose remains for a period.

“ As in the original milk, the fat globules remain dispersed, but the external phase has been solidified into a compound substance called calcium-para-caseinate.

“ By the action of bacteria, during the process of ripening this compound is gradually broken down into simple compounds, which results in what is known as maturing in body texture and flavour of the cheese.

“ The bacteriological changes are shortly as follows:—The ‘ starter,’ *i.e.*, the culture of *streptococcus lactis* added in the first place to the milk, rapidly propagates on account of the favourable temperature. Its effect is shown by an increase in the acidity of the lactic acid, which acid is produced by the action of the bacteria on the milk sugar. If there was no milk sugar the bacteria would not grow. They produce the lactic acid; and that, and the bacteria, are responsible for the chemical changes just described. The bacteria reach a maximum number, possibly over 100,000,000 per gramme, about the time the cheese is made and gradually decrease as the cheese ripens, decreasing to perhaps 20,000,000 per gramme

in six months, but never entirely disappearing. They are always present in great numbers, running into millions. Side by side with these desirable bacteria there are always some undesirable bacteria present. These are never entirely suppressed or wiped out in the process of making the cheese by the growth of the *streptococcus lactis* or by the increasing acidity, which is also bad for them. And unless the cheese is kept at a low temperature, they grow and spoil the cheese, causing odours and other undesirable changes.

“The whole object of the process is to get as much as possible of the casein transformed by the increasing acidity into mono-calcium-para-caseinate, but the acidity must be controlled, otherwise it commences to destroy the mono-calcium-para-caseinate and produces an acid cheese which is short and crumbly and does not mature normally.

“The salting is to control the acidity by checking the growth of the bacteria at the optimum stage. This it does by causing a further expression of the whey, leaving less food substance for the bacteria by increasing the salt contents of the cheese, which is unfavourable to the bacteria, and by reducing the temperature, which in turn checks the rapid growth of the bacteria.

“In the freshly-made cheese a very small amount of lactose or milk sugar is left. This is the food on which the *streptococcus lactis* depends. For some days these bacteria continue to grow slightly, but the lactose has completely disappeared in 14 days at most after the cheese is made.

“As the cheese ripens the bacteria gradually decrease in numbers and die. They, however, produce substances known as enzymes, which go on operating after the organism which produces them has died. These enzymes are believed to be not living but chemical substances, but there is still much that is not known about them. They are directly responsible for the ripening of the cheese.

“The temperature employed in making the cheese is deliberately designed to encourage the growth of bacteria under the best possible conditions and so encourage the production of enzymes.

“The stirring throughout, except the one rapid stirring to mix the rennet, is deliberately made very gentle, and in the later stages after the milling is done by hand, being designed to get the whey out without breaking up the curds.

“Cheddar cheese made by the process thus described should be kept at a cool temperature somewhere about 50° F. during the process of ripening. If kept at higher temperatures the ripening is spoiled by the propagation of the undesirable bacteria left in the cheese and it may become ‘blown’ by the production by these bacteria of noxious gases. It is not commercially possible to store Cheddar cheese at temperatures exceeding 70° without deterioration. This means that Cheddar cheese will not keep at air temperatures frequently met with in Australia, and cannot safely be sent for sale abroad or in the hotter parts of Australia as ordinary freight or cargo.”

The specification must now be considered in relation to the above cheese making and maturing operations. It opens as follows :—

“This invention relates to an improved process of sterilizing cheese to render it permanently keeping, and to the product thereby produced. The chief object of the invention is to convert cheese of the Cheddar genus into such condition that it may be kept indefinitely without spoiling under such conditions which would ordinarily cause it to spoil and to accomplish this result without substantially impairing the taste of the cheese. Incidentally the process has a marked value, in that it has the effect of permanently

arresting the curing or flavour-development of the cheese, from which it follows that the cheese may be brought to the precise stage of ripening desired, and then permanently arrested and kept in that stage or condition until consumed.

"The invention consists in the process of rendering cheese of the Cheddar group permanently keeping, according to which process the cheese is heated and melted, actively stirred while melted, and while thus maintained in homogeneous condition raised in temperature to such degree as to effect complete sterilization, and then enclosed in protective containers under sterilized condition."

Later on, col. 3, line 4, it is stated :—

"A completely sterilized and permanently-keeping cheese of the Cheddar genus has not been produced prior to the present discovery."

Then there follows the preferred way of carrying out the process—col. 4, line 15 :—

"The temperature is gradually raised until the contents of the kettle reach approximately 175° F., at approximately which temperature it is held for a period sufficient to completely destroy the life of all bacteria, usually for about 15 minutes."

Claims 1 and 2 are for improved processes. Claim 1 is for :—

"The improved process of rendering cheese of the Cheddar group permanently keeping, which consists in heating and melting the cheese, actively stirring it while melted, and while thus maintained in homogeneous condition raising its temperature to such degree as to effect complete sterilization, and then enclosing it in protective containers under sterilized condition."

Claim 2 is for the same process in substance, but it specifies the temperature to which the cheese is to be raised as 175° F.

"for a substantial period,"

and concludes—

"and finally placing it while sterile in suitable sterilized hermetically-sealed containers."

It will be observed that claim 1 does not indicate any definite or approximate temperature as requisite. The necessary degree is described to be such as to effect complete sterilization. In both claims the duration of the application of heat is left undetermined, except that in claim 1 it is involved in the words "so as to effect complete sterilization," and in claim 2 it is indicated as "for a substantial period." Claims 3, 4 and 5 are for products of the process.

What, then, is the construction of the specification? What is the process that is described?

Two views are presented upon the first point. The one that the main desideratum and object to be attained is complete sterilization in the sense to which the lines quoted above from col. 4, lines 15–20, afford the interpretation, namely, "at approximately which temperature it is held for a period sufficient to completely destroy the life of all bacteria."

It is also to be noticed that the title is for a process of "sterilizing cheese and an improved product produced by such process."

The term "sterilizing" is repeated several times and in addition to the passage already referred to ("to completely destroy the life of all bacteria") the paragraph in col. 3, lines 28-37, runs:—"In the case of cheese of the Cheddar genus, the making and curing or ripening does not eliminate any bacteria present, and as some require a relatively high temperature to kill them, it follows that the high temperature for sterilizing is imperative."

The other view dwells upon the opening words of the specification:—"This invention relates to an improved process of sterilizing cheese to render it permanently keeping and to the product thereby produced": and upon the lines 26 *et seq.* of column 1:—"The invention consists in the process of rendering cheese of the Cheddar group permanently keeping."

It is contended that these passages—addressed to cheesemakers or dealers in cheese and not to scientists—are the dominant key to the specification, and that the sterilizing is the means whereby the property of permanently keeping is acquired. In other words, that "permanently keeping" is the primary aim of the patent, and the so-called sterilizing only the means thereto. Thus that if the soundness of the cheese for a longer time than previously in adverse circumstances is achieved, it is not necessary or indeed permissible to test the sterilization process applied by ascertaining whether it in fact kills all bacteria and spores completely, so long as it kills so many that the few surviving become innocuous for the keeping of the cheese until under ordinary circumstances it is consumed. Cheeses are not intended to be specimens in a museum or to be kept *in sæcula sæculorum*.

This latter view is reinforced by the terms of claims 1 and 2, which are for "The improved process of rendering cheese of the Cheddar group permanently keeping."

Henchman J. accepted the second of these interpretations. He held (see his judgment, p. 460, lines 17-24) that by a permanently keeping Cheddar cheese is meant a Cheddar which, under conditions ordinarily to be expected in the course of marketing and consumption, and which would spoil ordinary Cheddar, will keep for any period not greater than the life of the container in which it is placed, over which the operations of the wholesaler and retailer may reasonably be expected to extend, before the product reaches the consumer. Such a cheese would be permanently keeping for all commercial purposes.

He also found that the patentee intended something less than a scientifically complete destruction of micro-organisms—only such sterilization as would result in making the cheese permanently keeping in the sense which he had explained.

In the High Court Sir Adrian Knox and Starke J. agreed with this interpretation of the specification. In their judgment, it was not incorrect to describe a cheese in which the micro-organisms

are so suppressed that their activities are negligible as "permanently keeping."

The majority in that Court, however, interpreted the specification according to the first view. They held that the phrase "permanently keeping" is used both in the body of the specification and in the first two claims to denote cheese that had been both completely sterilized and also so placed in suitable containers as to maintain the complete sterilization. They were unable to cut down the meaning of sterilization to the degree for which the appellants contend. They also found the specification, even taken at the meaning most favourable to the appellants, avoidably ambiguous, and held that it does not sufficiently mark the limits which a person may go to, but may not transgress, without infringement—"for commercial purposes" was a vague generality inadmissible "in such a document as a specification and did not avoid obscurity." Dixon J. said the patentee sought protection not for a process of heating cheese, but for an absolutely sterilizing process and a completely sterilized product, and did so upon the mistaken assumption that 175° F. was enough for his purpose, and he made this assumption the basis for the invention for which he claimed. Accordingly, he said, his patent must fail.

All the Judges, who have given careful consideration to the patent, formed the opinion that it contained subject-matter and utility. Isaacs J. said that it was not in controversy that the patentee's "lucky discovery" . . . might well have been made the subject of a patent (p. 485, lines 4-8).

These opinions would lead their Lordships, in accordance with well-known principles, to approach the case with a desire to uphold the patent as valid; nor do they overlook the conduct of the defendant in the action which Rich J. described as of an unmeritorious character, and to which Henchman J. and Sir Adrian Knox (pp. 474, 480) rightly applied stronger terms.

For the purpose, therefore, of their decision they would, without deciding which of the two views above set out gives the right interpretation to the specification, desire to test the appellants' claim on the basis that a process for the production of a permanently-keeping cheese is the main object of it, and that the consequential claims 3, 4 and 5 are for products to which that characteristic belongs.

Has, then, the patentee fulfilled his promise and shown the way to secure a permanently-keeping cheese, attaching to that adjective a commercial and reasonable meaning?

Henchman J. has been at pains to summarize the evidence given before him, as to which it may be observed that he was the more favourably impressed by that given on behalf of the plaintiffs.

He found as a fact upon the evidence without difficulty that cheese processed at 175° F. according to the specification is not in the strictly scientific sense a completely sterilized product.

Then comes the next question, was the cheese in spite of that a permanently-keeping cheese ?

There was clear evidence that some foods are completely sterilized in the scientific sense, and must be so sterilized that they should keep. That was the evidence of Professor Young (p. 429). Meat and fruit were given as illustrations of this by Mr. Pound, who said (p. 389) that those sterilized foods would keep until the container undergoes some change to admit of outside air. It all depends upon the conditions under which the can or container is kept. Cheeses prepared by the Kraft process had proved much more satisfactory than those not so treated when sent to Java, Singapore and Calcutta, where they would have to stand the test of high temperatures (see *per* Mr. Walker, p. 224), and that experience had been established for twelve months before the trial.

Mr. Callister, an eminent industrial chemist, to whose evidence Henchman J. paid great attention, said (p. 124) that an ordinary Cheddar cheese which had not been subjected to the Kraft process, under reasonable conditions of climate, in order to keep it for any length of time, or for a period of months, would have to be put into a cool store at a temperature below 50° F. "You could store it at a temperature up to 70°, but it is very bad for the cheese to go over that temperature" (see p. 124). . . . "Personally, I would not attempt to store cheese in any temperature over 50°. I know it would deteriorate very considerably."

Then, by contrast, he was asked about cheeses subjected to the Kraft process, which he claimed to answer the description "permanently-keeping." His answer was, "Our stuff will keep without any deterioration of flavour or any deterioration from internal spoiling agents for twelve months, and perhaps more than that, without cold storage." But that was not irrespective of temperature. "If we got a very prolonged period of 98° to 100° F. it would ultimately spoil, but it would take a period of several months. I am speaking of spoilage due to internal spoilage agents."

It was this evidence that Henchman J. and Sir Adrian Knox and Starke J. accepted as proving that cheeses made by the Kraft process were "permanently-keeping."

Their Lordships are not able to adopt this view. Even allowing that the patentee used the expression in a commercial sense intelligible to those concerned in the trade, they cannot hold that the process effected the aim of "permanently-keeping" in such reduced sense. They find themselves in agreement with the observations made by Isaacs J. upon this evidence (p. 500); and as Dixon J. said (p. 508), with cogency, the evidence quoted suggests, to "say the least, a very modified permanence."

Their Lordships also desire to point out that in both claims 1 and 2 there is some insufficiency in the description of the process to be followed. If "permanently-keeping" is the aim and object

of the patent and complete sterilization is relegated to an ancillary place, it is not easy to learn from claim 1 the point to which the temperature is to be raised ; and equally, in claim 2, it is difficult to know what is the substantial period during which the temperature is to be retained at 175° F. These uncertainties make it difficult to define the area on which it is lawful to proceed without infringement. It is difficult to follow the process in any confidence that it is leading to the desired end.

Counsel for the appellants pressed the case of "*The Z. Electric Lamp Manufacturing Co., Ltd., v. Marples, Leach & Co., Ltd.*," 27 R.P.C., pp. 305 and 737, upon the attention of the Board, on the point that an error in chemistry as to the method whereby a result was achieved ought not, and was not in that case, allowed, to defeat the patent.

It is to be observed, however, that the basis of that decision of the Court of Appeal appears to be as stated by Moulton L.J. at p. 746 :—

"The patentee's obligation is not to be omniscient ; the patentee's obligation is to put the public in the possession of his invention, and if he does that *bona fide* in such a way that they know its advantages practically, and they can obtain these advantages practically, the fact that he has formed an erroneous view in theory of that which procures those advantages, or the state of things in which those advantages occur, does not, in my opinion, militate against him."

In the view that their Lordships take of the evidence given in support of the patent it is unnecessary to discuss the decision, or the reasoning on which it is founded in detail. Suffice it to say that the proposition stated by Moulton L.J. has no application to the present case.

The principle in patent law is clear that the patentee must define the nature of the invention and disclose a process which produces the result to be aimed at. "If the patentee claims protection for a process for producing a result and that result cannot be produced by the process, in my opinion the consideration (for the patent) fails." (See *per* Parker J. in *Alsop's Patent*, 24 R.P.C., at p. 752.) These words were adopted by Lord Birkenhead in *Hatmaker v. Joseph Nathan & Co., Ltd.*, 36 R.P.C., at p. 237, and he added : "In other words, protection is purchased by the promise of results. It does not, and ought not, to survive the proved failure of the promise to produce the results."

Their Lordships will humbly advise His Majesty that the judgment of the High Court should be affirmed and the appeal dismissed with costs to be paid by the appellants.

In the Privy Council.

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v.

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DELIVERED BY LORD HANWORTH.

Printed by
Harrison & Sons, Ltd., St. Martin's Lane, W.C.2.
1931.