HER MAJESTY THE QUEEN (RESPONDENT) ..... APPELLANT;

AND

THE HONOURABLE THE SECRETARY OF STATE OF CANADA, acting in his capacity as Custodian under the Revised Regulations Respecting Trading with the Enemy (1943) (PETITIONER) ..... RESPONDENT;

AND

ALUMINUM COMPANY OF CANADA LIMITED (RESPONDENT) .... RESPONDENT.

1952
*Oct. 22, 23, 24

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*April 15

ON APPEAL FROM THE EXCHEQUER COURT OF CANADA.

Patents—Reasonable compensation for use of invention—Relevancy of agreement re use of improvements to patents and extension of term of licence—The Patent Act, 1935, S. of C. 1935, c. 32, s. 19—Orders in Council P.C. 6982 of 1940, P.C. 11081 of 1942 and P.C. 449 of 1944. Evidence—Jurisdiction of Exchequer Court to admit new evidence when sitting as a Court of Appeal—The Exchequer Court Act, R.S.C. 1927, c. 34, ss. 87(c), 88 (2), (3), Exchequer Court Rule 30.

The respondent, Aluminum Company of Canada Ltd. (Alcan) entered into an agreement in 1937 with Det Norske Aktieselskab for Elektrokemisk Industri, a Norwegian corporation, for the use until 1953, under a non-exclusive licence subject to royalty payments, of the latter's Canadian patents covering the Soderberg system for manufacturing aluminum. After the outbreak of war in 1939, due to the great increase in production, negotiations were carried on for a reduction in the royalty payments and in 1941 it was agreed that the licence should be changed from a non-exclusive to an exclusive one and that the royalty rate be reduced by one third where annual production exceeded 40,000 metric tons up to an excess of 30,000 tons and be further reduced by one half if production exceeded that amount. Near the end of 1942 further negotiations were begun seeking a ceiling on the amount of royalties but no agreement had been reached when in March 1943 the Deputy Minister of Munitions & Supply (acting under the powers contained in Orders in Council P.C. 6982 of 1940 and 11081 of 1942) notified Alcan no further royalty payments were to be made on orders placed with it by or on behalf of the Crown but that (as provided by the said Orders) the Crown would indemnify Alcan as to any claim made against it for non-payment of royalties under the terms of any licensing agreement. On the occupation of Norway by the enemy the respondent, The Secretary of State of Canada, as Custodian under the Revised Regulations respecting Trading with the Enemy, became vested with the patents in question and, as provided by s. 19 of the *Patent Act, 1935*

*PRESENT: Rinfret C.J. and Kerwin, Taschereau, Estey, Locke, Cartwright and Fauteux JJ.

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and the above cited Orders and P.C. 449 of 1944, petitioned the Commissioner of Patents to name a reasonable compensation for the use of the patents by the Crown. The Commissioner found that such compensation was one-fortieth of a cent for each pound of aluminum produced under the process with a limit of $100,000 for any one year. On appeal to the Exchequer Court the President, after hearing evidence of a witness who had not been available at the time of the hearing before the Commissioner, set aside that award and fixed compensation at the rate agreed upon between the parties in 1941, subject to a ceiling of $215,000 in any twelve-month period.

Held: that further evidence was properly admitted under the power vested in the Court by r. 40 of the Exchequer Court rules.

Held: also, that the evidence disclosed that there had been no agreement between the parties that the maximum total annual payment should be $215,000 and that while this amount had been finally proposed by Elektrokemisk the amount suggested was in payment of rights which included the right to use any improvements made or acquired by the patentee during the terms of the agreement without further payment and the right to the extension of the term of the licence during the life of any such patents. The value of this right was not relevant to the inquiry which concerned only the use of the five patents.

Held: further, that the principle applicable in settling compensation under the Orders in Council is the same as in proceedings under s. 19 of the *Patent Act, 1935,* and a fair and reasonable compensation for such user should be such an amount as would be agreed upon between a willing licensor and a willing licensee bargaining on equal terms, but the fact that the country was at war and that accordingly practically the sole customer was the Crown was a matter to be considered in estimating what amount would be so agreed upon. Such an amount here would be one-twentieth of a cent per pound of aluminum produced by the Soderberg system, subject to a ceiling of $175,000 in any one year. *The King* v. *Irving Air Chute Inc.* [1949] S.C.R. 613 referred to.

Judgment of the Exchequer Court [1950] Ex. C.R. 33 reversed in part.

APPEAL from a judgment of the Exchequer Court, Thorson P., (1) allowing an appeal of Respondent, the Secretary of State of Canada, from the decision of the Commissioner of Patents.

E. G. Gowling, Q.C. and *G. F. Henderson* for the appellant.

H. Gérin-Lajoie, Q.C. for the Secretary of State of Canada, respondent.

G. Geoffrion for the Aluminum Company of Canada Limited, respondent.

(1) [1950] Ex. C.R. 33.

The judgment of the Chief Justice, Kerwin, Taschereau, Locke, Cartwright and Fauteux, JJ. was delivered by:—

LOCKE J.:—It is common ground that the claim advanced by the Secretary of State on behalf of Det Norske Aktieselskab for Elektrokemisk Industri (herein referred to as Elektrokemisk) is in respect of the use of five only of the Canadian patents mentioned in the licensing agreement entered into between Elektrokemisk and the Aluminum Company of Canada (to be called Alcan hereinafter). These are No. 264997 dated October 12, 1926, and granted to Elektrokemisk as the assignee of Carl Wilhelm Soderberg; No. 287700 dated March 5, 1929, and granted to it as the assignee of Jens Westley; No. 341667 dated May 15, 1934, granted to it as assignee of Pierre Torchet; No. 346868 dated February 18, 1934, relating to a further invention of Torchet, which patent by assignment is vested in Elektrokemisk and No. 383238 dated August 8, 1939, and granted to it as the assignee of Jean-Louis Legeron. The nature of the inventions described in these letters patent and the manner of their use in the manufacture of aluminum have been described in the judgment appealed from and it is unnecessary to restate them.

Long prior to the date when the first of these patents was obtained in Canada, Soderberg, a Norwegian, together with Dr. Mathias O. Sem, had carried on experiments with a view to developing a satisfactory self-baking electrode for use in electric furnaces. Dr. Sem, who gave evidence on the hearing of the appeal before the learned President of the Exchequer Court but who was not available at the time of the hearing before the Commissioner of Patents, was in the year 1914 in the employ of Elektrokemisk as assistant to Soderberg, the Chief Metallurgist of the Company. It was in that year, owing to war conditions, very difficult to obtain pre-baked carbon electrodes and, in an endeavour to develop a self-baking electrode, Soderberg, apparently with the assistance of Sem, developed a method which later became the subject of Canadian Patent No. 215697, the application for which was filed on February 14, 1918, and which was granted on February 7, 1922 to Elektrokemisk as assignee of Soderberg. The method described in the specification was to make a self-baking carbon

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electrode by inserting in the electrode paste, which consisted of crushed coke and calcined anthracite together with a binder, an iron rod through which the electric current was carried into the mass. These efforts, according to Sem, were not directed to the recovery of aluminum but for the purpose of using the electrodes in a smelting furnace, as used for the production of calcium carbide, ferro-alloys and the like, and the invention was not tried for the production of aluminum anywhere. The method was a failure and apparently would not work for any purpose.

The efforts to develop a satisfactory self-baking electrode were, however, continued and on September 23, 1919, an application was made for a Canadian patent for an improved method by enclosing the paste within an iron mantel having ribs or fins of iron which projected into the paste and conveyed the electric current to the electrode, and for which Patent No. 216092 issued on February 21, 1922. Electrodes so made proved successful in smelting furnaces but when tried for the production of aluminum were, according to Dr. Sem, found to be of no value since the use of the iron casing introduced too much impurity into the aluminum. In addition to the inventions described in these two patents, Elektrokemisk had on May 31, 1921, obtained Canadian Patent No. 212181 for a clamping device which pressed on the iron casing of the electrode and enabled the electrode to be lowered as it was consumed but which had no function in the baking of the paste.

On July 22, 1924, Elektrokemisk applied as assignee of Soderberg for a further Canadian patent, for a new method of preparing the electrode mass or paste in which the proportion of the binder content was sufficiently high to render the mass liquid and Patent No. 264997 issued in respect of the invention claimed on October 12, 1926.

There was evidence, notably that of Dr. Sem, establishing that these inventions controlled by Elektrokemisk were not effective in the production of aluminum and that this was demonstrated by tests made in the plant of the Aluminum Company of America at Baden in North Carolina in 1924. According to Sem, the equipment and the methods used embodied all the knowledge that Elektrokemisk had of the production of aluminum up to that time, but too much power was consumed, there were impurities

in the aluminum produced and the product could not successfully compete with that produced by the employment of pre-baked electrodes and the trial was abandoned.

Stress has been laid in the argument of the appellant upon the fact that it was possible to produce aluminum by the use of methods protected by Patents Nos. 215697, 216092 and 264997 and the Commissioner of Patents, in determining what was reasonable compensation for the use of the five patents in question, materially reduced the amount awarded by reason of this fact. I am, however, of the opinion that, in the circumstances of the present case, undue weight was attached to this fact.

It was not until the discoveries made by Westley in respect of which Patent No. 287700 was granted and those of Torchet for which Patents Nos. 341667 and 346868 were granted that what may be described as the Soderberg system, for the manufacture and use of self-baked electrodes, became successful in the production of aluminum. Throughout the period during which these various discoveries were made, Elektrokemisk was endeavouring to obtain the acceptance of the methods described in the patents it controlled from time to time by the Aluminum Company of America (referred to in the proceedings as Alcoa), then the largest of all the producers of aluminum on this continent. After the failure of the experiments at Baden in 1924, according to Sem, a further installation was made by Alcoa, after Westley's discovery, and which made use of the invention disclosed in Patent No. 287700, in one of its plants in Tennessee, and in the following four years the method was extensively used but in 1932 Alcoa advised Elektrokemisk that its method could not compete with what were described as European type furnaces which employed pre-baked electrodes. Manufacture was, however, continued for a time on Elektrokemisk agreeing to waive any claim for royalties.

The situation changed, however, completely after Torchet's discoveries which were made in France in the summer of 1932, and for which patents were obtained in that country. According to Dr. Sem, the effect of the employment of the methods described in Canadian Patents Nos. 341667 and 346868 was enormous. The patent rights were acquired by Elektrokemisk and according to Sem, the

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accuracy of whose statement was accepted by the learned President, the successful introduction of the Soderberg system into the aluminum industry started from that time. Thereafter that system, including the methods described in Patents Nos. 264997, 287700 and in the two Torchet's patents, were installed by Alcoa, together with the invention of Legeron referred to in Patent No. 383238, in some, though not all, of their plants. The evidence supports the finding in the judgment appealed from that the employment of these five inventions resulted in the adoption of the Soderberg method throughout by far the greater part of the aluminum industry and that this condition continued up to the time of the hearing.

In determining what is reasonable compensation, it is necessary to examine the terms of the two licensing agreements made between Elektrokemisk and Alcan. The first of these is dated July 14, 1937, and recites that Elektrokemisk had the sole control of eight patents relating to self-baking electrodes and the manufacture thereof (referred to in the agreement as the Soderberg electrode system) and, in addition, some twenty-two patents relating to improvements on Soderberg electrodes. The first patents referred to included Nos. 212181, 215697, 216092 and 264997. In the latter group were Nos. 287700, 341667 and 346868. For the term of the licence which was until June 18, 1953, unless terminated earlier at the option of the licensee, the licensor granted to the latter a non-exclusive licence to make and to use for the production, treatment and manufacture of aluminum only the said patents, together with any patents for improvements which might be acquired by Elektrokemisk, without any addition to the royalty. It was by reason of this provision that Alcan became entitled to the benefit of the invention described in the Legeron Patent No. 383238. The stipulated royalty was 1/10 cent U.S. currency per pound of aluminum, with the proviso that, if the price of gold in New York should during the term exceed the then price of $35 an ounce, Elektrokemisk had the option, by giving written notice at the end of each quarter, to claim as royalty for the next quarter either 1/10 cent per pound or delivery of 11 pounds of aluminum per metric ton of aluminum produced under the licence.

Due to the outbreak of the World War in September, 1939, the demand for aluminum increased tremendously and practically the entire output resulting from Alcan's operations was required for war purposes. Negotiations were carried on between Alcan and Elektrokemisk for a reduction of the agreed royalty and a change agreed upon which was embodied in a letter dated January 27, 1941, addressed to Alcan on behalf of the licensors. This letter stated that, of the patents listed in the preamble to the agreement of July 14, 1937, Patents Nos. 215697, 216092 and 212191 had expired but that four other Canadian patents obtained by Elektrokemisk, including one covering the Elektrokemisk absorption system, had been obtained since the date of the first agreement and were subject to its terms. The non-exclusive licence was changed to an exclusive licence and the rate of royalty was changed. For annual production of 40,000 metric tons the rate was that provided in the original agreement but, for production in excess of that amount up to 30,000 metric tons, the royalty was at the rate of two-thirds of that amount, and for any further annual increase the royalty was reduced by fifty per cent.

On March 23, 1943, the Deputy Minister of Munitions and Supply wrote Alcan informing them that, effective immediately, it was to make no payments by way of royalty or licence fees under the licence agreement, for the purpose of carrying out any contract or order placed with the company by that Department or by any of the Crown Companies, without the approval in writing of the Department. After referring to the Orders-in-Council in pursuance of which the notices were given, the Deputy Administrator said that it was the view of the Department that in many cases the rate of royalty, although perhaps not unreasonable under normal conditions, was altogether excessive having regard to the very substantially increased volume of production resulting from wartime requirements and the purposes for which the patent rights were being used, and gave further detailed instructions as to the manner in which the requirements of the Crown were to be complied with, and agreed on behalf of His Majesty in the right of Canada to indemnify the company against any claim

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which might be made against it in respect of the non-payment of any royalties payable under any licence agreement.

Production of aluminum had continued to increase tremendously and, before the Deputy Minister had intervened, negotiations had been carried on between the parties for a further amendment of the licensing agreement. Near the end of 1942 Alcan had asked Elektrokemisk to consider placing a ceiling on the amount of the royalties and Georg Hagerup-Larssen, who had managed to escape from Norway and was representing Elektrokemisk in North America, after consultation with the representatives of the Norwegian Government, said that his employers were agreeable to fixing such a ceiling and offered to accept $250,000 as such, as the maximum amount to be paid per annum for royalties for the duration of the war. Alcan made a counteroffer of $175,000 but this was not accepted. On May 7, 1943, Hagerup-Larssen, on behalf of his employers, wrote to Alcan from New York offering to fix a maximum annual payment for any calendar year at $215,000, provided that such agreement should be approved by the Alien Property Custodian of Canada. The letter further stated that there were some minor points which would have to be dealt with in any amending agreement. As, however, Alcan had already received the order of the Deputy Minister of Munitions and Supply of March 23, 1943, nothing further was done with the matter. It may be noted that in the reply filed on behalf of the Crown to the petition it was admitted that the schedule of royalties provided by the agreement had been amended by providing a maximum figure of $215,000 but that in the reply filed by Alcan this was denied. The admission on behalf of the Crown was apparently made in error. The evidence showed that no such agreement had been made.

The obligation imposed upon the Crown by Orders-in-Council P.C. 6982 and 11081 is to pay to the owners of these patents such compensation as the Commissioner of Patents reports to be reasonable for their use during the period in question. The decision of the Commissioner is declared to be subject to appeal to the Exchequer Court.

The Commissioner in conducting his inquiry is given all of the powers that are or may be given to a commissioner appointed under Part 1 of the *Inquiries Act*.

The petition addressed to the Commissioner by the Honourable the Secretary of State was filed on June 8, 1944, at a time when the Second World War was still in progress and Norway occupied by the enemy. At the time the inquiry was opened in March 1945 the case for the patent owner was presented without the evidence of Dr. Sem, whose knowledge of the inventions covered by the various patents was very much more extensive than that of any of the available witnesses, owing to his long association with Elektrokemisk. The case for the petitioner was supported by the evidence of Alan N. Mann, a member of the Bar of New York specializing in patent matters, Dr. Bruno Luzatto, an Italian engineer who had had a lengthy experience in the production of aluminum in Europe, and Georg Hagerup-Larssen, an electrical engineer who had been in the employ of Elektrokemisk since the year 1935.

By his report the Commissioner of Patents found that the obligation of the Crown was to pay compensation to the petitioner from October 1, 1941, and that fair and reasonable compensation was 1/40 of a cent for each pound of aluminum produced by the Soderberg process, with a limit of $100,000 for any one year, this to be payable in Canadian currency. The Commissioner, in his carefully reasoned report, noted that Patents Nos. 212181, 215697 and 216092 had expired prior to January 27, 1941, when the amended agreement was made between Elektrokemisk and Alcan and, accordingly, that the inventions disclosed by them might be freely used and expressed the opinion that the five patents in respect of which the proceedings were taken, while being of material value, were less valuable than these three patents which had expired. As between the three expired patents and the other patents to the use of which the licensee was entitled under the two licensing agreements and the five patents, he assigned 75 per cent of the value to the former and 25 per cent to the latter.

Upon the appeal to the Exchequer Court, leave was granted on the application of the petitioner to call Dr. Sem as a witness and his evidence was taken and considered by

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the learned President, together with that taken before the Commissioner of Patents in dealing with the matter. While the matter was contested before the President and has been argued before us, in my opinion the evidence of Dr. Sem was properly admitted under the powers vested in the Court by Rule 30 of the Exchequer Court Rules.

By the judgment delivered in the Exchequer Court from which the present appeal is taken, the decision of the Commissioner was set aside and the compensation awarded on the basis of the amending agreement of January 27, 1941, subject to a ceiling of $215,000 for each of the years 1942, 1943 and 1944 less, in the latter year, 1 per cent for the aluminum produced for civilian purposes. The learned President was apparently of the opinion that the maximum amount which had been proposed on behalf of Elektrokemisk in the letter of May 7, 1943, had been agreed to by Alcan.

In *The King* v. *Irving Air Chute, Inc.* (1), three of the members of the Court considered the principle to be applied in fixing the compensation to be awarded to the owners of a patented invention by the Government of Canada under the provisions of s. 19 of the *Patent Act,* 1935. That section provides that the Government may at any time use any patented invention, paying to the patentee such sum as the Commissioner reports to be reasonable compensation for the use thereof. The principle applicable in settling the compensation under the Orders-in-Council in question in the present matter is, in my opinion, the same as in proceedings under s. 19. Two of the five members composing the Court expressed the opinion that, in fixing the amount, the Commissioner of Patents might properly adopt the rule recommended by the Royal Commission appointed in England to determine the nature of the awards to be made to inventors of whose inventions the Crown had made use during the period of hostilities, that a fair and reasonable consideration for such user should be such an amount of money as would be arrived at between a willing licensor and a willing licensee bargaining on equal terms. In my opinion, where the product manufactured under the licence is, as was the case with aluminum in the

(1) [1949] S.C.R. 613.

recent war, required almost exclusively for war purposes, the licensor should not be permitted to exploit the necessity of the nation by exacting an excessive royalty. On the other hand, he should not be required to accept less than a fair remuneration by reason of the fact that he is dealing with the Crown and may, accordingly, by the exercise of legislative power be required to take such amount as Parliament may see fit to allow, or indeed be paid nothing. I consider, however, the fact that the country was at war and that, accordingly, practically the sole customer for aluminum was the Government, is a matter to be considered in estimating what, under such circumstances, a willing licensor and a willing licensee who had only one customer for his product, would agree upon.

It is evident from the negotiations which were carried on at the end of 1942 and the early part of 1943 that Elektrokemisk realized that the rates provided by the amending agreement of January 27, 1941 would require payment of an amount in excess of what was reasonable under the circumstances and that this opinion was shared by Alcan, since the latter asked and the former was agreeable to restricting the total annual payment by a ceiling. It would appear from statements made by the witness Mann and by counsel for Alcan during the course of the hearing that, apart from the necessity of obtaining the approval of the Crown, the only obstacle to an agreement for fixing the ceiling at $215,000 was the question as to the liability for any increase in the then existing fifteen per cent tax on payments to non-residents, a stipulation which Elektrokemisk then offered to waive. I do not consider, however, that this amount can be accepted as a reasonable maximum annual payment.

I am, with respect, unable to agree with the Commissioner of Patents as to the value to be assigned to the patents other than the five in respect of which the claim is made. There were twenty-five patents owned or controlled by Elektrokemisk which were referred to by number in the licence agreement of July 14, 1937. Evidence as to each of these patents was given by the witness Mann and there was no contradiction of his statements. The first of these, in order of date, was Canadian Patent No. 212181 and was for a sliding clamp which was used successfully

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with a metallurgical furnace but which, if ever of use in the production of aluminum, was entirely replaced by the mechanism described in the Torchet patents. Patent No. 215697, which was Soderberg's first attempt to make a self-baking carbon electrode by inserting an iron rod in the mass, was not directed to the recovery of aluminum and was not tried for that purpose anywhere and did not work for any purpose. The invention disclosed by Patent No. 216092 was, according to the evidence of Dr. Sem, found to be of no value in the production of aluminum. The Commissioner attached importance to the fact that in giving evidence Mann said that this patent No. 216092 could be said to be the foundation of the Soderberg system but, when his evidence is read together with that of Dr. Sem, it would appear that it might more properly be said that the method disclosed by this patent, like that described in Patent No. 215697, represented ineffective and unworkable attempts to produce a self-baking electrode. It was not until Westley discovered the method of introducing electricity into the mass by the employment of studs and Torchet's two patents changing the shape of the electrode and disclosing an effective method of successfully suspending it that a commercially feasible method of producing aluminum by the use of self-baked electrodes was found. The remaining patents enumerated, other than the five in question, disclosed inventions which were either less effective and accordingly were superseded by the Westley or Torchet methods, or were for use in smelting furnaces and not designed for use in the production of aluminum, or were not discovered to be of any value in the production of aluminum by Alcan. This appears to be demonstrated conclusively by the fact that none of them had been utilized between the time of the granting of the first licence agreement in 1937 up to the time of the hearing before the Commissioner in 1945.

At the time when Elektrokemisk agreed to the reduction in the rate of royalty for production in excess of 40,000 metric tons in January of 1941, Patents Nos. 212181, 215697 and 216092 had expired. This circumstance, however, had apparently nothing to do with the reduction of the royalty which was sought and granted only by reason of the great increase in the annual production of Alcan, due to the war.

For the year 1939 the production of aluminum by the employment of the Soderberg system was something in excess of 68,000,000 lbs., which was increased in the following year to an amount in excess of 92,000,000 lbs. and was steadily increasing. While I think it is clearly shown by uncontradicted evidence that the three expired patents had not been of any value to Alcan since the contract of 1937 was made and that, accordingly, the fact that they had expired was a matter of no moment, the willingness of Alcan to pay the 1937 rate for the first 40,000 metric tons of its production shows that the company placed no value on these expired patents. As to the other patents mentioned in the original agreement, while conceivably the right to the use of some of them was of some value to Alcan, to consider that, at the time the amendment to the licence agreement was made in January 1941, they represented any substantial value in the eyes of the contracting parties is, in my opinion, error.

The production of Alcan by the employment of the Soderberg system was in the calendar year 1941 almost exactly double that of the year 1939. In 1942 it was in excess of 353,000,000 lbs., in 1943 in excess of 666,000,000 lbs. and in 1944 something more than 663,000,000 lbs. As indicated by the conduct of Elektrokemisk and Alcan, they were in agreement that a royalty calculated according to the amended rate provided in the agreement of January 27, 1941, resulted in the payment of an amount in excess of what was fair and reasonable. The learned President, considering that the ceiling of $215,000 had been agreed upon by the licensor and the licensee, concluded that compensation from October 1, 1941, should be computed at the royalty rate provided by the January 1941 agreement and the ceiling applied in any year when the royalty so computed exceeded $215,000.

While, as I have pointed out, there was no agreement between Elektrokemisk and Alcan on a maximum payment of $215,000, it would appear that, apart from the necessity of obtaining the approval of the Minister, the only substantial difference between the parties themselves was as to the liability for taxation if the rate imposed on payments to non-residents exceeded 15 per cent. It must, however, be recognized that the royalty rate agreed to by

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Alcan was not merely for the right to use the five patents but the right to the use of any improvement made or acquired by Elektrokemisk during the term of the agreement which were to be communicated to Alcan as soon as the same were perfected and which might be made use of by it without payment of any additional royalties and the right to the extension of the term of the licence during the life of any such patents. In addition, the royalty payment agreed upon in January 1941 entitled Alcan to an exclusive licence for the employment of the Soderberg system in Canada. The right to the use of such improvement patents might well be of the greatest value to Alcan but this consideration, no doubt most material in the estimation of that company, is not relevant to the present inquiry. I am, therefore, with respect, unable to agree in the conclusion of the learned President of the Exchequer Court that the maximum annual payment should be fixed at an amount as high as $215,000.

In my opinion, it is in the interest of the due administration of justice that we should now determine the amount of the compensation to be paid. It is now nearly nine years since the petition was filed by the Secretary of State on behalf of Elektrokemisk. Witnesses have been brought from Europe and elsewhere to give evidence on the two hearings which have been held and, unless the parties should agree that the matter be determined by the Commissioner of Patents on the evidence taken before him in 1945 and the evidence of Dr. Sem subsequently taken in the Exchequer Court, heavy further expense will be necessarily incurred in again giving this evidence at Ottawa. It is not suggested by either party that there is any other evidence which would be of assistance in determining the amount of a reasonable compensation than that which is now before us.

The agreement of January 27, 1941, is evidence of the fact that both the licensor and the licensee were in agreement that the royalty should be at a lesser rate as production was increased. The negotiations which resulted in the letter of May 7, 1943, show that both parties considered that a maximum annual figure should be agreed upon. At the 1937 contract rate of 1/10 of a cent per pound, the royalty paid by Alcan to Elektrokemisk in 1940

was $92,192.59. The January 27, 1941, amendment provided for the payment of a royalty of 1/20 of a cent per pound for all production in excess of 70,000 metric tons, or roughly 154,350,000 lbs. Production for the year 1942 exceeded that amount by roughly 77,000,000 lbs. and in each of the years 1943 and 1944 by over 230,000,000 lbs. After giving all of the evidence tendered in this matter the most careful consideration, it is my opinion that a fair and reasonable royalty rate to be paid for the use of the patents in question from October 1, 1941 until the end of the year 1944 would be 1/20 of a cent per pound of aluminum produced by the Soderberg system, subject to a ceiling of $175,000 in any one year. I would to this extent allow the appeal with costs. As I think the Commissioner of Patents erred in principle in fixing the amount of his award, I would allow to the petitioner the costs in the Exchequer Court. There should be no costs for or against Alcan. If the parties are unable to agree as to the amount of the production for the period October 1 to December 31, 1941, the matter may be spoken to.

ESTEY J.:—This is an appeal from a judgment of the learned President of the Exchequer Court setting aside the report of the Commissioner of Patents fixing the compensation to be paid by the Government for the use of certain patents, as provided by Orders-in-Council P.C. 6982 of December 4, 1940, and P.C. 11081 of December 8, 1942, passed under and by virtue of the provisions of the War Measures Act. The learned President himself fixed the compensation and this appeal therefrom asks that the report of the Commissioner be restored.

Under date of July 14, 1937, Det Norske Aktieselskab for Elektrokemisk Industri (hereinafter referred to as Elektrokemisk) granted a licence to the Aluminum Company of Canada Limited (hereinafter referred to as Alcan) to use, in the production of aluminum, some thirty of its patents and such improvements as may be made in relation to those patents during the life of the agreement and two years thereafter. This licence or agreement was to continue until June 18, 1953, unless otherwise terminated as therein provided.

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The head office of Elektrokemisk is in Oslo, Norway, which country was occupied by the enemy on April 9, 1940, and the patents under the foregoing agreement thereafter became the property of the Secretary of State of Canada, acting in his capacity as Custodian of Enemy Property. On March 23, 1943, the Deputy Minister of Munitions and Supply, acting under authority of the above-mentioned Orders-in-Council, advised Alcan to make no further payment of royalties or licence fees under the above-mentioned licence agreement.

Alcan, at the time this notice was received, had not paid royalties from and after October 1, 1941, and we are here concerned with fixing reasonable compensation from that date.

It is not the first step, by which aluminum oxide (Al_2O_3), or alumina, is taken from bauxite, but rather the electrode that is used in the process of breaking up aluminum oxide, or alumina, into its component parts of aluminum and oxygen, with which we are here concerned.

About 1886, and almost simultaneously, Charles M. Hall in the United States and Paul T. Héroult in France discovered that by mixing the mineral creolyte, a fluorine compound, with alumina, and passing through this mixture an electric current of low voltage and high amperage, this mixture could be raised to a temperature of approximately 960 degrees centigrade and the molecule of aluminum oxide broken into its constituent elements, the aluminum going to one pole and the oxygen to the other. All this is usually done in what is variously styled a tank, a furnace, but more properly described as an electrolytic cell. One pole, or cathode, is at the bottom and the other pole, or anode, enters at or near the top. The electric current is, by an iron conveyor in the electrode, taken down into the mixture of creolyte and aluminum oxide, which is styled electrolyte. When the oxygen becomes separated from the aluminum it burns or consumes the carbon electrode at the lower end and forms carbon monoxide and carbon dioxide.

It will be observed that the electricity serves a double purpose—it generates the heat and provides the action of electrolysis. The creolyte, in this process, is a catalyst and, therefore, though necessary, remains unchanged.

This electrode is made of carbonaceous material, usually coke and pitch. In the method discovered by Hall and Héroult it is baked separate and apart from the electrolytic cell and is, therefore, styled prebaked. In the electrolytic cell they use a number of these electrodes, which, because of the burning and consumption at the lower end, have to be, from time to time, lowered and eventually removed. Because of the necessity of maintaining a continuous process they cannot all be removed at the same time. Therefore, these electrodes are of varying lengths and their proper adjustment from time to time is a matter of difficulty. This process of prebaking, the constant adjustment and replacement, involves a substantial expense.

Soderberg sought to find an electrode which could be baked in the same process and thereby avoid the substantial disadvantages and expense incident to prebaking and constant changing. He first succeeded in developing an electrode which could be baked in the same electrolytic cell and would be replenished at the top as it was burned or consumed at the bottom. This was called a self-baking continuous electrode. His discovery was about 1917 and it was patented in Canada as No. 215,697 (applied for February 18, 1918). In this process new carbonaceous material was added at the top of the electrode to compensate for that which was burned or used at the bottom. The amount burned in a day is relatively small and the baking process is effected as the electrode is lowered into the heat. One or more iron rods run down through the carbonaceous material to support the electrode and carry the electric current into the molten electrolyte. The expansion of the iron rod, or rods, when heated, made this patent impracticable for commercial purposes.

Soderberg, however, continued his study and soon improved his earlier process, which he patented under No. 216,092 (applied for September 19, 1919). In this patent he eliminated the iron rods and introduced a cylindrical iron mantle or casing having ribs extending inwardly therefrom. He thereby provided a casing or container to hold the carbonaceous substance or paste and the ribs carried the electric current into the molten electrolyte. Under this process aluminum may be produced, but because the iron

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melts and falls into the aluminum the latter becomes contaminated. Mr. Mann described this patent as "the foundation of the Soderberg system."

The third Soderberg patent, No. 212,181 (applied for February 2, 1921) provided greater efficiency in holding the electrode in place and lowering it. It was regarded as an improvement of the process.

Soderberg's fourth patent, No. 264,997, eliminated the tamping of the paste in the casing by the introduction of sufficient binder to render it liquid.

Then followed the Westly patent No. 287,700, which removed the projecting iron ribs and introduced removable iron studs inserted through holes in the casing. There are several rows of these studs which point inward and downward toward the molten electrolyte. The electric current is passed through the lower rows of these studs which are removed before they reach a point where the iron might drop into the aluminum pot. Furthermore, these studs projected outside of the casing and made possible the carriage of the current directly into the electrode.

In all of the foregoing patents the electrode is cylindrical in shape. Torchet's patent No. 346,868 introduced an electrode rectangular in shape, of a width not more than 43 inches, while in length no limit was specified. This patent provided a shorter path for the escape of the gases and thereby eliminated possibilities of disturbance in the aluminum that tended to lower the efficiency of the process.

Torchet introduced, by patent No. 341,667, iron beams placed along each side of the electrode under the rows of studs in a manner that forms a frame around the electrode and the side beam and studs carry the weight of the electrode. This patent prevented the electrode from bulging and improved the method for lowering the electrode. It is referred to as a device for suspending continuous electrodes.

Legeron, by patent No. 383,238, improved the Torchet suspension patent by providing, instead of a beam under the row of studs, a continuous wall of beams around the electrode. This provided greater strength around the electrode and made possible the use of a thin aluminum casing or mantle instead of the iron mantle.

The first seven of the foregoing patents were included under the agreement of July 14, 1937, and the last, or Legeron, patent was added in accordance with the terms thereof. The parties in that agreement, in effect, classified these patents under two headings. In the first recital it is stated as follows:

> Whereas Elektrokemisk is the sole owner and/or has sole control of the following letters patent of Canada relating to self-baking electrodes and manufacture thereof hereinafter called the Soderberg Electrode System.

The numbers of certain patents follow, including the Soderberg patents, or the first four of the eight patents which appellant says were used under the licence. These are Nos. 215,697, 216,092, 212,181 and 264,997. It is further stated:

> Whereas Elektrokemisk is also the sole owner and/or has control of the following letters patent relating to improvements on Soderberg Electrodes.

Then follow the numbers of certain patents, including three of the eight. These are Nos. 287,700 (Westly), 341,667 (Torchet) and 346,868 (Torchet). The remaining patent, or Legeron, No. 383,238, is mentioned in the letter of January 27, 1941 (amending royalties) as one of the patents added to the list since the agreement of July 14, 1937.

The parties to the agreement treated the first four as among the basic patents in the Soderberg electrode system and the latter three as improvements thereon which had been incorporated into that system. When the agreement of July 14, 1937, was made seven of these patents were outstanding. At all times material hereto the first three had expired and we are, therefore, only concerned with the compensation for the use of the last-mentioned five patents.

The Government, under the authority of the Orders-in-Council, directed the use of the foregoing patented inventions for war purposes; agreed to indemnify or protect Alcan against any proceedings for non-payment of the royalty under the agreement and became obligated to pay Elektrokemisk reasonable compensation for the use of these inventions. The Government was, therefore, not bound by the terms of the agreement of July 14, 1937. On

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the contrary, the record would indicate that the Government felt that in many agreements the royalties were, having regard to the increased production to meet war requirements, excessive; that all royalties upon patent inventions so used should be reviewed and some uniformity in respect of the basis of payment should be arrived at. In any event, it is the compensation under the Orders-in-Council, notwithstanding such an agreement may exist, that the Commissioner has to determine. The relevant provisions of the Orders-in-Council are identical and read as follows:

> His Majesty shall pay to the owner or licensor of any such patent or registered industrial design which is valid such compensation as the Commissioner of Patents reports to be reasonable for the use aforesaid of the invention or design covered by such patent or registered industrial design * * * *

These provisions in respect to compensation are to the same effect as that in s. 19 of the Patent Act.

> 19. The Government of Canada may, at any time, use any patented invention, paying to the patentee such sum as the Commissioner reports to be a reasonable compensation for the use thereof, . . . R.S., c. 150, s. 48.

It will be observed that s. 19 applies at all times, while the foregoing Orders-in-Council constitute an extension of s. 19 restricted to the conditions of war.

Though the agreement was not binding upon the Government, its terms may be and were, in fact, considered by both the Commissioner and the learned President. Alcan therein promised to pay in United States currency a royalty of one-tenth of a cent per pound of aluminum produced. This term was amended when Alcan, enlarging its production facilities, requested and, under date of January 27, 1941, was granted a reduction. The above rate of one-tenth of a cent remained in effect in respect of each annual production up to 40,000 metric tons; over 40,000 and up to 70,000 tons the royalty was fixed at a rate of 66 2/3 per cent of the said one-tenth of a cent and for a production over 70,000 tons the royalty to be at 50 per cent of the one-tenth of a cent.

In the latter part of 1942 Alcan sought a further reduction. Elektrokemisk then suggested a ceiling in any year of $250,000 and later of $215,000, while Alcan suggested $175,000. No amount was agreed upon, no doubt because

of the letter from the Deputy Minister dated March 23, 1943, requesting that no further royalties be paid under the agreement. The ceiling then proposed would have applied to both war and civilian production. In 1941, 1942 and 1943 the entire production of Alcan was for war purposes and in 1944 1 per cent of the production was devoted to civilian needs.

The Commissioner adopted two methods of computing what he thought would at least approximate reasonable compensation. First, he considered that the thirty patents and those later added had each a value; that all of the patents other than the five here in question represented 75 per cent of the total royalty value and the five represented 25 per cent thereof. While, therefore, he fixed no specific value to any particular patent, the result was that he allowed 25 per cent of the royalty fixed by the parties on July 14, 1937, or a rate of one-fortieth of a cent per pound of aluminum produced. This he applied to the average production during the six-year period 1939-1944 and arrived at a figure of $82,500 per year.

In his second method, the Commissioner based his finding upon the evidence of Mr. Russell of Alcan, who deposed that the company had saved about .11 cents per pound at the company's Arvida plant in 1944. The Commissioner, therefore, concluded that 25 per cent of the saving based on the average production per year from 1939 to 1944 would be reasonable compensation for the use of these patents. Under this method he arrived at a sum of $90,500 per year.

The Commissioner then averaged the two amounts of $82,500 and $90,500 and arrived at a figure of $86,500 per year, which he determined as reasonable compensation, subject to a ceiling of $100,000 for any one year.

In *His Majesty The King* v. *Irving Air Chute,* (1), a judgment rendered subsequent to the Commissioner's report, this Court applied the test adopted as a general rule in Great Britain that the Government should pay as reasonable compensation that sum "arrived at between a willing licensor and a willing licensee bargaining on equal terms." This rule contemplates bargaining in what is

(1) [1949] S.C.R. 613.

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usually referred to as an open market and as applied to this case it eliminates the inclusion of any amount in the compensation that might be exacted because of the necessity of the Government under the circumstances of war. While in the determination of such an amount the information and computations before the Commissioner may be of assistance, it cannot be concluded that upon the evidence the Commissioner applied that principle. I am, therefore, in agreement with the learned President that the Commissioner, in fixing the compensation, did not apply the proper principle.

The learned President found reasonable compensation for the use of the five patents to be the schedule of royalties agreed upon and set out in the letter of January 27, 1941, subject to a ceiling or limit of $215,000 in any one year. He stated:

> Primarily, the use of the inventions was worth what the parties were willing to pay and receive for it. There can be no doubt that the revised royalty and ceiling were arrived at between a willing licensor and a willing licensee bargaining on equal terms with full knowledge of the value of the inventions that were being used.

The revised royalty referred to is that set forth in the letter of Elektrokemisk to Alcan dated January 27, 1941. This revision or reduction was granted as a result of a request from Alcan at a time when it was enlarging its productive capacity. Alcan was already obligated under the agreement of July 14, 1937. Aluminum, in the circumstances of war, was a necessity and, therefore, while Alcan might request, actually it was in the position where it had to accept whatever reduction, if any, Elektrokemisk might make. The latter did, in fact, make a substantial reduction, but, with the greatest possible respect, these parties cannot be held to have been then negotiating as willing licensors and licensees within the meaning of *Irving Air Chute, supra.*

Moreover, the learned President was apparently of the opinion that the parties had agreed on the ceiling of $215,000. With great respect, I do not think the evidence bears out that conclusion. Alcan did approach Elektrokemisk in 1943 asking the second reduction. In the course of negotiations Elektrokemisk suggested $250,000 and subsequently a ceiling of $215,000. Alcan, on its part, sug-

gested $175,000, but no agreement was arrived at, apparently because the Government had served notice that no further royalties should be paid.

It cannot be overlooked that Alcan and Elektrokemisk entered into the agreement of July 14, 1937, appreciating that an improvement patent ought not to be used without a licence or permission being obtained for the use of the basic patent. *Lynch and Henry Wilson & Company Ld.* v. *John Phillips & Company* (1). As already pointed out, they, in effect, classified as improvement patents four of the five here in question. The fact that the basic patents may have, as here, expired and thereby become public property does not alter or affect the value of the improvement patents. While it may be conceded that the inventions under the improvement patents may have been the major factors in making the self-baking continuous electrode commercially successful, it is difficult to attribute to them the entire value of the system. Mr. Mann, called on behalf of the respondent, stated:

> This patent No. 216,092 can be said to be the foundation of the Soderberg system.

Doctor Sem, in the course of his evidence, stated:

> The basic invention of Mr. Soderberg is the foundation of the self-baking electrode as developed by us.

Moreover, Doctor Sem, in 1938, in an article entitled "Soderberg Electrodes in the Production of Aluminum," wrote:

> The first commercial plant dates back as far as 1925 but only lately has the equipment been fully developed to all the requirements of the aluminum industry.

These statements indicate that the basic patents were of value and support the view that the entire value of the system cannot be attributed to the five patents in question.

Moreover, the original agreement of July 14, 1937 had to do with some thirty patents, together with any improvements effected thereon. While the evidence shows that only eight were used, it does disclose that in certain contingencies others might have been used. What, however, is of greater significance is that Alcan was, under that agreement, purchasing the right to use, in the production of aluminum, over a period of fifteen years, all of these patents

(1) (1908) 25 R.P.C. 694.

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and the improvements that might be effected in relation thereto. The same right was preserved to Alcan for a period of about twelve years when, on January 27, 1941, the royalty was revised. Alcan no doubt entered into the agreement of July 14, 1937, with the intent of forthwith using certain of these patents, but it also intended to protect itself by the inclusion of the others and the acquisition of the right to use the improvements that, during the currency of the agreement, might be effected in relation to all of these patents. The basis upon which the consideration would be determined would, in such an agreement, be quite different from that of ascertaining reasonable compensation for the use of five of these patents over a period of a few years.

The evidence justifies the conclusion that there is a relation between the savings effected by the patented inventions and the amount of the royalty. Mr. Russell of Alcan made a computation which would indicate that the amount determined by the learned President could not be accepted as reasonable. Counsel for respondent pressed the comparisons with royalties paid and savings effected by the Aluminum Company of America. These, of course, may well be considered, but it must be conceded that circumstances in the two countries are not identical. With the greatest possible respect, it would appear that the compensation has not been arrived at in accord with the principle underlying *Irving Air Chute, supra,* and must be set aside.

At the hearing of this appeal a question was raised as to the jurisdiction of the learned President to admit, upon the hearing of the appeal before him, the evidence of Doctor Sem. The recital of the first of the foregoing Orders-in-Council refers to s. 19 of the *Patent Act* and, as already stated, may be regarded as an extension of or, in effect, an amendment to s. 16.

It would, therefore, appear that it was intended that under the Orders-in-Council, as under s. 19, the provisions of s. 17 of the *Patent Act* would apply. S. 17 reads as follows:

> 17. In all cases where an appeal is provided from the decision of the Commissioner to the Exchequer Court under this Act, such appeal shall be had and taken pursuant to the provisions of the *Exchequer Court Act* and the rules and practice of that Court.

Rule 30 of the Exchequer Court Rules, under which the learned President admitted the evidence, reads as follows:

> The Court in any appeal shall have full discretionary power to receive and hear further evidence.

That the Exchequer Court had authority to enact such a rule is apparent from s. 87(c) of the *Exchequer Court Act*. Section 87(c) reads:

> 87. The President of the Exchequer Court may, from time to time, make general rules and orders,
>
> * * *
>
> (c) For the effectual execution and working in respect to proceedings in such Court or before such judge, of any Act giving jurisdiction to such Court or judge and the attainment of the intention and objects of any such Act;

Moreover, s. 88(2) provides that copies of all rules and orders made by the President of the Exchequer Court shall be laid before both Houses of Parliament within ten days of the opening of the session next after the making thereof. Rule 30 was included in the rules of April 21, 1931, and, therefore, comes within the provisions of s. 88(3) which reads as follows:

> 88(3) All such rules and orders and every portion of the same not inconsistent with the express provisions of any Act shall have and continue to have force and effect as if herein enacted, unless during such session an address of either the Senate or House of Commons shall be passed for the repeal of the same or any portion thereof, in which case the same or such portion shall be and become repealed: . . .

Rule 30 is not inconsistent with the express provisions of any Act and is, therefore, by virtue of s. 88(3), entitled to full force and effect as if enacted as part of the *Exchequer Court Act*. It would, therefore, appear that Rule 30 was competently made.

The learned President, who had dealt with and reviewed a similar application in the *Irving Air Chute Case, supra,* in the present case found that circumstances were disclosed which, in the exercise of his discretion, justified the admission of the evidence.

The practice of this Court would require that this matter be referred back for the purpose of determining the compensation as directed by the Orders-in-Council. The circumstances here are, however, quite exceptional and justify this Court in fixing the compensation. I therefore, adopt the computation thereof as set out in the reasons of my brother Locke.

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The appeal should be allowed. The appeal before the learned President was justified and I would not disturb his order for costs in the Exchequer Court. The appellant should have its costs in this Court. There should be no costs for or against Alcan.

Appeal allowed with costs.

Solicitor for the appellant: *F. P. Varcoe.*

Solicitor for the Secretary of State of Canada, respondent: *Lajoie, Gélinas & Lajoie.*

Solicitor for the Aluminum Company of Canada Ltd., respondent: *Geoffrion & Prud'homme.*