

Privy Council Appeal No. 14 of 1914.

The Golden Horseshoe Estates Company, Limited - - - Appellants

v.

**The Gold Ore Treatment Company of Western Australia, Limited
(in Liquidation), and others - - - Respondents**

FROM

THE SUPREME COURT OF WESTERN AUSTRALIA.

JUDGMENT OF THE LORDS OF THE JUDICIAL COMMITTEE OF THE
PRIVY COUNCIL, DELIVERED THE 20TH JANUARY, 1919.

Present at the Hearing :

LORD BUCKMASTER.

LORD DUNEDIN.

LORD PARMOOR.

[*Delivered by* LORD BUCKMASTER.]

This appeal challenges the validity of certain letters patent, viz. number 3,145 of 1900 of Western Australia and number 278 of 1904 of the Commonwealth of Australia. Both patents are identical in form and need not be considered separately.

The action which has given rise to this appeal was instituted by the respondents against the appellants in the Supreme Court of Western Australia, claiming damages for infringement.

The Supreme Court, by a judgment of His Honour Mr. Justice Macmillan, dated June 26th, 1913, has decided that the patents are good and have been infringed, and has granted an injunction restraining the appellants from using or exercising the invention they protect during the residue of the term of the patents, and directing an enquiry as to the damage sustained by the respondents in respect of the infringement. From this judgment the present appeal has been brought.

Notwithstanding the arguments that have been advanced, their Lordships are clearly of opinion that if the patents are valid they have been infringed. The appellants, indeed, have contested this conclusion but faintly: the real weight of their argument was directed against the letters patent themselves which they declare to be bad, first, because there was no subject matter for the invention which they purported to protect, and secondly, because if there were such invention, it had been anticipated.

The questions of subject matter and anticipation are closely interlaced and it is sometimes difficult to decide to which branch of the subject a particular argument relates; but in the present case this fact gives rise to no embarrassment.

The patents in question were taken out by Carl Goepner and Wilhelm Witter and are stated to relate to an improved manufacture of cyanogen bromide. The specification begins with the following statement:—

“When solutions of a bromide and a bromate in certain proportions are mixed and an equivalent quantity of an alkali cyanide is added to the mixture together with an acid such as sulphuric acid, cyanogen bromide is produced”;

and after referring to the most suitable oxidants continues with the statement:—

“Instead of the bromides and bromates of the alkali metals, those of the alkali earth metals, and instead of alkali cyanide, hydrocyanic acid may be used.”

It concludes with two claims, the first of which is in these words:—

“The herein described manufacture of cyanogen bromide by mixing in solution a bromide, a bromate, a cyanide and an acid with or without addition of an oxidising agent.”

Construing these words with the help obtained, from the body of the specification, the invention is in their Lordships' opinion confined to making cyanogen bromide by mixing a bromide, a bromate, a cyanide and an acid, the character of the cyanide being limited by restricting it to an alkaline cyanide or to hydrocyanic acid. This confines the invention within narrow limits, but it is the construction most favourable to the respondents' case.

In order to determine whether this process constitutes an invention, regard must be had to the state of knowledge at the time when it was taken out.

The patent is a patent in connection with the process of gold extraction; it is, therefore, necessary to relate some of the steps in the development of this industry.

McArthur and Forrest discovered as far back as 1890 that potassium cyanide in dilute solution would act selectively upon gold in the ore; they protected this invention by letters patent in 1887, and a process was extensively adopted under their patent for the extraction of gold. In 1894, Messrs. Sulman and Teed conceived the idea that a better result would be obtained if the halogen compounds of cyanogen were added to the cyanide of potassium, and for this invention they sought and obtained

letters patent No. 601 of 1894 for Western Australia. This patent has also been the subject of attack in the proceedings out of which the present appeal has arisen, and it has been held both by Mr. Justice McMillan and by this Board, for reasons that need not be repeated, that this patent was invalid. Notwithstanding this fact, the use of bromo cyanogen has been profitably employed in gold extraction, and the article, which, up to the time of its use for this purpose, was one for which there was no commercial demand, has become of considerable importance.

Halogen compounds of cyanogen are described in the Sulman and Teed patent as the chlorides, the bromides or the iodides of cyanogen. It is only with the bromides that Messrs. Goepner and Witter's invention is concerned, and indeed it is only bromo cyanogen which has become useful.

Bromo cyanogen was at all material times a well-known chemical compound, though formerly, as it was not in great demand, it was not extensively made; when required, it was created by the simple process of mixing bromine with cyanide of potassium, and this process in the language of Dr. Diehl, one of the respondents' chief witnesses, was "common knowledge."

There is no evidence that before the date of Messrs. Goepner and Witter's patent it was ever made by any other means. Now, bromine itself is made by mixing a bromide, a bromate and an acid; and this also was common chemical knowledge. It is indeed stated again by Dr. Diehl that—

"The ordinary chemist would only know two methods of producing bromine-bromide, bromate and acid, or a bromide dioxide of manganese and an acid,"

and that the former was the usual method. In his own words, "it was one of the commonest ways of making bromine if you wanted it." It follows, therefore, that Messrs. Goepner and Witter's invention in fact consisted of nothing more than mixing together the four elements in one process instead of first mixing the three, and then mixing the resulting bromine with the fourth.

It was strongly urged upon their Lordships that this step was an inventive and useful step in connection with the preparation of bromo cyanogen. It was said that it was not an obvious course to take, since, were the elements all mixed together, unforeseen and unexpected combinations might occur which would prevent the anticipated result, or at least prevent the full value of bromo cyanogen being obtained. It is this which is the real substance of the patentee's claim for subject matter in his invention, and their Lordships will accept the view held with hesitation by the learned Judge who tried the case, but supported by a minute analysis of the evidence that, although the step was a small one, yet it did constitute a distinct advance and that the patentees were entitled to have protection for their discovery.

It is unnecessary to give any elaborate and detailed reasons for this opinion because, even holding that there was good subject matter for the invention, their Lordships are nonetheless driven to the conclusion that it has been anticipated, and that this

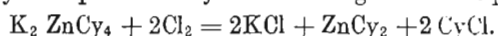
anticipation was effected by the disclosures made in the Sulman and Teed patent to which reference has already been made. This patent, having described the alleged effect of the halogen compound of cyanogen when added to a solution of cyanide of potassium as a solvent for precious metals, proceeded to give a careful statement as to three ways in which these processes might be carried out. The first was to form separately a chloride, a bromide or an iodide of cyanogen by any known or suitable method, adding the requisite proportion of any one to the requisite proportion of cyanide of potassium in water. In number two they suggest the action upon the solution of potassium cyanide or of any suitable cyanide of any of the alkalies or alkaline earths by chlorine, bromine or iodine in quantities sufficient to produce the requisite amount of the desired cyanogen haloid with certain added directions. While the third alternative is in these terms:—

A further alternative is to act by the addition of the haloid elements, or of mixtures capable of yielding the same, to compounds containing or yielding cyanogen (other than the cyanides before specified) such as the double cyanides, sulpho-cyanides, &c., which shall thus, by their mutual interaction, yield products which contain the desired corresponding haloid-cyanogen compound.

The specification then proceeds as follows—

A further application of our invention relates to the treatment of the waste liquors, which are obtained from the process of the extraction of the gold or precious metals from the solvent solution by the action of zinc on these latter. The addition of a halogen element, or of mixtures capable of yielding the same, decomposes the double cyanide of zinc and potassium which is found therein with the formation of insoluble cyanide of zinc—which may be separated from the liquors by filtration or other means—and effects the regeneration of the haloid-cyanogen compounds, which can thus be used again for fresh solvent purposes when mixed with a suitable proportion of potassium cyanide.

This may be represented by the following chemical equation—



It is these two statements by which the appellants say the respondents' patent is anticipated. They allege that in the first the alleged invention is disclosed, because the mixture capable of yielding the haloid element of bromine was well known to be a bromide, a bromate and an acid, that the compound containing or yielding cyanogen is the same thing as a cyanide and that, although the clause in brackets excludes a cyanide of the alkalies or alkaline earths, yet, the others are included, and the example given of the double cyanide and the sulpho cyanide are introduced merely as an illustration of what the compound containing or yielding cyanogen might be, and are not intended to exclude from those compounds anything other than the cyanides enclosed in the brackets. Now it is true that the cyanides enclosed in the brackets, and therefore excluded, are the very cyanides which form the chief subject of Messrs. Goepner and Witter's specification; but this specification also introduces hydrocyanic acid, which is undoubtedly a compound containing or yielding cyanogen and is therefore

distinctly described in the body of the specification of Sulman and Teed, unless it is excluded by the illustrations of the double cyanide or the sulpho cyanides. This is a mere matter of construction of words and in their Lordships' opinion it is not so shut out, but it is unnecessary to dwell on this matter since, in their opinion, the subsequent words amount to a clear anticipation of the alleged invention.

It is there stated that the addition of mixtures capable of yielding a halogen element, that is in the case of bromine, a bromide, a bromate and an acid, decomposes the double cyanide of zinc and potassium with the formation of insoluble cyanide of zinc and effects the regeneration of the haloid elements, and that this may be represented by the equation which they give. This equation relates to the chloride of cyanogen, but it is merely illustrative and it would be just the same in effect were the bromide of cyanogen desired.

Now, this statement makes plain the fact that the mixing of the bromide, the bromate, the acid and a cyanide (although indeed a double cyanide) does not produce any of the interactions which it was said might be anticipated, but that these combine to produce bromo-cyanogen with the zinc cyanide thrown out as an insoluble solution. In other words it discloses the very invention which the respondents urge was made by Messrs. Goepner and Witter. Indeed Mr. Knutsen, one of the respondents' witnesses, says, in answer to a question in cross-examination—

“ If I knew it could be done with a double cyanide there would be no news in saying it could be done with a plain cyanide.”

He slightly modifies this statement in some of his subsequent answers, suggesting that cyanogen is in the case of a plain cyanide, more loosely combined with the other agents, but this view appears to be only a speculation, and, if true, does not affect the statement that the difficulties apprehended from mixing the elements together had been stated not to exist.

It is said, however, that this is disclosed in a patent which is in itself bad ; but it has been pointed out that, for the purpose of anticipation, it is a matter of no importance that you find the information by which the invention is said to be anticipated disclosed in an imperfect specification (*see King, Brown & Co. v. The Anglo American Brush Corporation*, 9 R.P. Cases, p. 313, at p. 320). The question is, has the disclosure in fact been made in such plain terms that the person to whom the patent would be directed would, on reading it, realise the fact? Applying this test, their Lordships are of opinion this question must be answered in the affirmative, even though Dr. Diehl says that reading the specification did not make the disclosure to him. There is, indeed, no ambiguity about the process mentioned, and any person having the knowledge as to the mixture capable of yielding the haloid element of bromine and of the meaning of an ordinary chemical equation could, if their attention were directed to

Messrs. Sulman and Teed's specification, have seen at once that the invention had been anticipated.

The most serious argument against this is one by which their Lordships have been considerably impressed, but to which they feel unable to give effect. It is that, although Messrs. Sulman and Teed's specification was relied upon by the appellants as supporting the defence to the action on the ground of anticipation, it was never put to the expert witnesses over here who were called on the appellants' behalf, and that no cross-examination whatever was directed to the respondents' witnesses on commission who, in their examination in chief, denied that in their opinion any such anticipation had been effected.

It is impossible to assign a reason for this conduct of the case. It may have been associated with the attack that was made upon Messrs. Sulman and Teed's patent by reason of this very clause, but whatever may have been the reason, the result is most regrettable. It would, indeed, have been fatal to the appellants' case, but for the fact that their counsel reserved at the end of the examination the right for the appellants' advisors in Western Australia to raise such further questions as they thought right, and the learned Judge, before whom the case was heard, conceded to them the privilege of raising and arguing this question and recalling Dr. Diehl, one of the witnesses, and closely examining him upon it.

Their Lordships are unable in these circumstances to exclude Messrs. Sulman and Teed's specification from their consideration, but they feel strongly that this conduct of the appellants may have placed the respondents in considerable difficulties; it is therefore with reluctance that they have felt themselves constrained to decide this case upon a point, argued and decided indeed before the learned Judge and put to some of the witnesses, but carefully kept back from the chief scientific experts on whose evidence the respondents rightly rely.

The learned Judge from whom this appeal has been brought, analyses with great care the evidence on the question, but with regard to Sulman and Teed's patent, he dismissed it in a few sentences by saying that his construction of the patent had disposed of the question. This is the only part of the extremely careful judgment of the learned Judge on this patent with which their Lordships are unable to agree. The learned Judge had in substance decided that the process disclosed in Messrs. Sulman & Teed's patent would not work; he had expressly found that chloro-cyanogen could be made, but he decided that when made it was useless. This decision does not affect the question of anticipation unless indeed the learned Judge had thought that an anticipation might be disregarded if contained in the specification of an invalid patent, but if this view was entertained it was erroneous. Their Lordships are therefore unable to find that the reasoning which led to the decision that Messrs. Sulman and Teed's patent was bad, leads also to the conclusion that it did not disclose the process men-

tioned in the patent of Messrs. Goepner and Witter. They think, therefore, that this appeal must be allowed, but there should be no costs allowed for the original hearing, nor, if this appeal stood alone, would they be prepared, for reasons they have already given, to allow the appellants any of its costs. This is, however, a cross-appeal in an unsuccessful appeal brought by these respondents. They think, therefore, that the order that would best meet the justice of the whole matter would be to declare these appellants entitled to one-half of their costs on the appeal and the cross-appeal, and they will humbly advise His Majesty accordingly.

In the Privy Council.

THE GOLDEN HORSESHOE ESTATES COMPANY,
LIMITED,

o.

THE GOLD ORE TREATMENT COMPANY OF
WESTERN AUSTRALIA, LIMITED (IN LIQUIDATION), AND OTHERS.

DELIVERED BY LORD BUCKMASTER.

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