to the making of such a declaration, though his final conclusion was not in favour of doing so.

Their Lordships, after much consideration, are of opinion that the judgment of the High Court and the judgment of the Supreme Court of Queensland should be discharged, and in lieu thereof that it should be declared and ordered that the respondents are not entitled to expend moneys received by them in respect of general rates levied upon the rateable lands in one division or ward of their area upon works constructed in another division or ward of their area in the absence of the resolution and direction prescribed by sec. 265 of the *Local Authorities Act* of 1902, and that an injunction should be granted restraining them from so expending general rates, and that each party should bear their own costs of the action both in the said High Court and in the said Supreme Court.

Their Lordships will humbly advise His Majesty accordingly.

There will be no costs of this appeal.

[HIGH COURT OF AUSTRALIA.]

MINERALS SEPARATION LTD. . . . APPELLANTS;

AND

POTTER'S SULPHIDE ORE TREATMENT LTD. . . . . } RESPONDENTS.

POTTER'S SULPHIDE ORE TREATMENT LTD. . . . . } APPELLANTS;

AND

MINERALS SEPARATION LTD. . . . RESPONDENTS.

ON APPEAL FROM THE COMMISSIONER OF PATENTS.

June 21, 22, 23, 24, 25.

Patent — Specification — Amendment — New principle — Disclaimer—Correction—Explanation—Patents Act 1903 (*No.* 21 *of* 1903), *secs.* 71, 78.

Griffith C.J., and O'Connor J.

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If a person has discovered a new principle, and invented a mode of carrying it into effect, he may obtain a patent for that principle coupled with the mode of carrying it into effect, and he is thereby protected against persons carrying the principle into effect by other modes.

Chamberlain & Hookham Ltd. v. *Mayor, &c. of the Borough of Bradford*, 20 R.P.C., 673, followed.

An amendment of a specification of a patent is a "disclaimer," within sec. 71 of the *Patents Act* 1903, if it is a renunciation of some claim actually or apparently made, or supposed to be made, by the original specification.

Ralston v. *Smith*, 11 H.L.C., 223, followed.

An amendment of a specification is an "explanation" within that section if, without giving any additional information to the class of persons to whom the specification is addressed, it gives information not possessed by other persons not so familiar with the subject.

A patent for a new principle coupled with a mode of carrying it into effect is not invalidated because the patentee does not state, and is unable to state, all the cases in which the principle will operate.

Therefore, a specification which described a process for the separation by flotation of metals from sulphide ores by treating the ores with a solution consisting of water with the addition of a certain percentage of "any acid (preferably sulphuric acid)" was allowed to be amended by substituting for "any acid (preferably sulphuric acid)" the words "sulphuric acid or any other suitable acid (but preferably sulphuric acid)" and adding a description of a laboratory experiment for determining the suitability of any ore for treatment according to the process by any acid.

Various amendments of the specification of a patent for an "improved solution to be used in a process for the separation of metals from sulphide ores." allowed as being by way of disclaimer, correction or explanation, and not claiming an invention substantially larger than or different from the invention claimed by the original specification.

APPEALS from a decision of the Commissioner of Patents.

An application was made by Potter's Sulphide Ore Treatment Ltd. for leave to amend the complete specification of the Commonwealth letters patent No. 5337, dated 26th February 1906, and the New South Wales letters patent No. 11575. Both specifications were the same, and were as follows, the amendments sought being marked in red ink :—

"An improved solution to be used in and process for the

1x

separation of ~~metals~~ metallic sulphides from sulphide ores.

"We, Potter's Sulphide Ore Treatment Limited, having its registered office at 369 Collins Street, Melbourne, in the State of Victoria, Commonwealth of Australia, hereby declare this invention and the manner in which it is to be performed to be fully described and ascertained in and by the following statement:—

"The crude ore, concentrates, tailings, or slimes, after being 2x when necessary pulverised, are placed in a suitable vat or vessel, and a solution is then added, such solution consisting of water 3x with the addition of from one per cent. to ten per cent. of ~~any~~ 3x 3x ~~acid (preferably~~ sulphuric acid ~~for reasons hereinafter stated~~) 3x or any other suitable acid (but preferably sulphuric acid) the acidulated strength of the solution being determined by the 4x quality or nature of the sulphide ore to be treated. Heat being applied, the effect of the acidulated solution when admixed becomes apparent by the bubbling up and gathering on the surface of the fluid of the metallic sulphides in the form of a thick, pasty mass. Should this pasty mass be scanty, thin, and not swell and accumulate rapidly so as to overflow the vat if not skimmed off, more acid must be added until the maximum separative activity is reached, which very slight experience and observation in applying this treatment to sulphide ores will 4x 5x enable the operator to determine. While the exact acidulated strength of such solution will depend on the metallic contents and general condition of the ore, ascertainable only by observation when under treatment as aforesaid, any variation of the acidulated strength found necessary or expedient will remain well within the limit before stated, namely of from one to ten per cent. of 5x 6x the whole solution. The suitability of any sulphide ore for treatment by this process with any acid can be determined very readily by placing a small quantity of the pulverised ore in a glass tube or beaker with a solution of such acid, and admixing

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6x 7x

and heating same over a Bunsen burner or lamp. Ores containing the sulphides of lead, zinc, copper and iron, ~~and silver, in combination~~ either with or without silver free or combined, ~~with sulphur~~ we treat as follows:—

7x

The ore in a state of fine division is placed in a vat or such like

8x

vessel provided with an internal stirrer or stirrers , or other

8x

means for admixing the ore and acidulated solution. The acidulated solution is then added thereto, such solution containing, in the first instance, say one per cent. only of the acid when mixing it with the ores, and after heat is applied thereto as hereinafter directed, gradually increasing its acidulated strength until the determinate strength is reached, which in most instances will amount to two and a half per cent. of acid or thereabouts, to be decided on or governed by the apparent action of the solution

9x

on the material under treatment. ~~We use sulphuric acid preferably by reason of its cheapness and its production as a by-product~~

9x 5x

~~resulting from the process or treatment herein described. While the exact acidulated strength of such solution will depend on the metallic contents and general condition of the ore ascertainable only by observation when under treatment as aforesaid, any variation of the acidulated strength found necessary or expedient will remain well within the limit before stated, namely, of from~~

5x

~~one to ten per cent. of the whole solution~~

The bulk solution to be added or applied to the class of ores lastly named would be, say, approximately two hundred and fifty

10x

gallons to every ton weight of ore, varying ~~to some small extent~~ according to the absorbent quality of the ore, and its degree of

11x

fineness, the proportion of solution being increased when the ore is pulverised very fine, and the stirring or admixture being then

11x 8x
carried out with greater care. The stirrers or other appliances
8x 11x
for admixing, are then ~~freely~~ used and heat is applied to the vat or vessel directly or by means of steam injection therein, at or
8x
near the floor of the vat or vessel, or by any other suitable
8x
means. As the temperature of the solution and other contents
12x
of the vat or vessel rises it causes large quantities of the ~~metals~~ metallic sulphides to rise upwards from the bottom of the vat and float upon the surface from which ~~it~~ they may be allowed to flow automatically and continuously into a separate receptacle, or be skimmed off as arranged into a
13x
separate vessel for further treatment. ~~The gangue accumulating in the bottom of the separating vat, containing a small proportion of gold and silver, as well as all the rhodonite, garnets, silica, and the like, can be then further treated by cyanide or other of the well known means or processes, and the gold and silver be~~
13x
~~thus extracted therefrom~~. The said solution may be used over and over again by the addition from time to time of a small quantity of acid when it is apparent by the effect of the solution when re-applied to the material and heated that its acidulated
14x
strength has become diminished. ~~The skimmings or concentrates containing all the metals free from gangue are then mixed with a certain quantity of crushed or coarsely broken up iron or iron oxide (the quantity of such iron required depending upon the quantity of sulphur the metals contain), also a quantity of powdered charcoal. This admixture is then placed in a suitable vessel or retort, and a rapidly produced heat applied, converting the mixture into a molten condition. After a short period it will be found that the sulphide of lead and silver has been reduced to metallic lead and silver. The retort can then be tapped at the bottom and these metals run off. While this reduction is taking~~

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place, the iron having changed places with the lead, being sulphide of iron, the zinc by the action of the great heat is vaporised and passed off in the form of vapor into a suitable vessel, wherein it becomes condensed into metallic zinc. The iron sulphide remaining in the retort is re-crushed and roasted, the sulphur resulting from which may be utilised for the manufacture of sulphuric acid, the iron being again available for use after the extraction of such silver and gold it may contain by

14x

any of the well-known processes.

15x

The means of process for treating ores chiefly for the recovery of the gold therein, in combination with sulphur, such as iron pyrites, arsenical pyrites or telluride, is as follows:—

The ore is ground to a very fine powder (the finer the better), placed in a vat or suitable vessel, the said solution added, well stirred, and the heat applied in exactly the same manner as before described in relation to the lead and silver ores, thus separating the gold and other metals from the gangue in manner as before described. The skimmings or concentrates, which are now in a very small bulk containing practically all the gold, are then roasted in a suitable furnace, after which they will be in a condition to be treated by chlorine or cyanide in a well-known manner. By this treatment the difficulties of treating a large bulk of ore mixed with slimes, and the necessity for dealing with the slimes by filtration are obviated and dispensed with, and a

15x

better and more complete result obtained.

Having now fully described and ascertained our said invention and the manner in which it is to be performed, we declare that what we claim is:—

16x 1. As a solution for the treatment of sulphide ores for the separation of metals therefrom the mixture of sulphuric or other acid with water in the proportions of from one to ten per cent. of acid to the quantity of water used mixed, applied and used as before described.

1x 1x

2. 1. As a means for separating ~~metals~~ metallic sulphides

from sulphide ores, the admixture in a suitable vessel with such ores (reduced to a powdered or pulverised condition) of an
17x
acidulated solution hereinbefore described, and applying heat thereto to bring the whole mixture to a sufficiently high tem-
1x 1x
perature to cause the ~~metals~~ metallic sulphides therein to rise or float to the surface.

1x 1x
~~3.~~ 2. The process of separating ~~metals~~ metallic sulphides from pulverised sulphide ores, concentrates, and slimes by mixing
17x
therewith an acidulated solution hereinbefore described ~~therewith,~~
1x 1x
stirring, heating, skimming or floating off such ~~metals~~ sulphides from the surface of the whole admixture as they rise so as to
1x
recover such ~~concentrates or metals~~ sulphides ready for after
14x
treatment ~~as and in manner hereinbefore described.~~

(The numbers 1x, 2x, 3x, &c., appearing above the lines refer to the numbers of the different amendments).

The amendments were opposed by the Minerals Separation Limited. Amendments 7x and 8x were abandoned at the hearing before the Commissioner of Patents.

The Commissioner dealt with the various amendments as follows:—

He allowed amendment 1x.

He refused amendment 2x.

He allowed amendment 3x so far as it related to the deletion of the words "any acid (preferably . . .) for reasons hereinafter stated," and refused it so far as it related to the insertion of the words "or any other suitable acid (but preferably sulphuric acid)."

He allowed amendment 4x.

He allowed amendment 5x.

He refused amendment 6x.

He allowed amendment 9x.

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He refused amendment 10x.
He refused amendment 11x.
He allowed amendment 12x.
He allowed amendment 13x.
He allowed amendment 14x, except so far as it related to the words "as and in manner hereinbefore described" at the end of claim 3.
He allowed amendment 15x.
He allowed amendment 16x.
He allowed amendment 17x.

The opponents appealed from this decision so far as it allowed the proposed amendments 1x, 3x, 9x, 12x, 13x, 14x and 15x.

The applicants appealed from the decision so far as it disallowed the proposed amendments, 3x, 6x, 10x and 11x.

Mitchell K.C. and *Starke*, for Potter's Sulphide Ore Treatment Ltd. Where a man discovers a principle he may obtain a patent for that principle coupled with a mode of carrying it into operation: *Chamberlain & Hookham Ltd.* v. *Mayor &c. of the Borough of Bradford* (1); *British Ore Concentration Syndicate Ltd.* v. *Minerals Separation Ltd.* (2). That is the character of this invention, and it is now desired to amend the specification under sec. 71 of the *Patents Act* 1903, in order to make more plain what the invention is without making it anything different. As to amendment 3x, the patentees are entitled to limit the numbers of acids which they propose to use. That is merely a disclaimer: *In re Dellwik's Patent* (3). They are entitled to use the words, "any suitable acid" to describe the acids which they claim. Otherwise they could not have the benefit of the invention. It is not necessary to set out all the acids or all the ores that will work, but having set out some, they may say that there are others that will work: *Leonhardt & Co.* v. *Kallé & Co.* (4); *Australian Gold Recovery Co. Ltd.* v. *Day Dawn P.C. Gold Mining Co. Ltd.* (*No.* 2) (5). It must be taken that the specification originally referred to commercial acids: *Frost on Patents*, 3rd ed., vol.

(1) 20 R.P.C., 673, at p. 683.
(2) 26 R.P.C., 124, at p. 137.
(3) 15 R.P.C., 682.
(4) 12 R.P.C., 103.
(5) 1902 St. R. Qd., 123, at p. 156.

I., p. 211; *Stevens* v. *Keating* (1). The original specification could have been put in the form in which it is now sought to be put, and if it is said that the original specification is too wide, there is nothing to prevent the patentees by disclaimer now putting the specification into the new form. [They referred to *In re Alsop's Patent* (2); *Frost on Patents*, 3rd ed., pp. 70, 75, 76]. The original specification does not mean that this invention will work with all ores, but that in the field of sulphide ores this is a useful process. Neither does the original specification claim every acid. There must be taken into consideration the class of persons to whom the specification is addressed, and to them it would mean a soluble acid which would readily decompose, and which was commercially in use. Amendment 6x, which has been allowed, only directs to be done that which any experienced mining man would do, and is a means of finding what acids are suitable to particular ores. As to amendment 11x, that is merely an explanation. It is not necessary, and to a competent workmen it would be apparent.

Irvine K.C. and *Mann*, for the Minerals Separation Ltd. So far as the amendments are a matter of discretion, the Court should scrutinize the matter very closely in view of the other discoveries that have been made by other people in the meantime. As to amendment 3x, the word "suitable" might be used if the person to whom the specification is addressed would only need to have common knowledge in order to determine what are suitable acids. But here, as is shown by amendment 6x, numerous experiments must be made to find out what in the case of any particular ore is a suitable acid. This amendment should not be allowed as a disclaimer, which means a giving up to the public which was within the patent. It makes the invention claimed different from that which was described in the original specification. The insertion of the words "preferably sulphuric acid" will enable the applicants, when the patent is attached on the grounds of other acids being suitable, to say that they have said sulphuric acid is the test. The addition of the words "any suitable acid" means that there is no acid which can be used

(1) 2 Web. Pat. Cas., 172; 19 L.J. Ex., 57. (2) 23 R.P.C., 65, at p. 77.

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which will not be an infringement, just as it would be under the original specification. The object is not to cut down the number of acids but to introduce amendment 6x. Amendment 6x is not a disclaimer or part of a disclaimer. It gives up nothing, but it provides a possible defence to an argument that may be used in the future. The object of the test is not to find out whether the process will work with a particular ore, but to find out whether a particular acid will work with that ore. Although the test may give a negative result that would not be an answer to an action for infringement. This is an attempt to make an insufficient description into a sufficient description and should not be allowed: *In re Johnson's Patent* (1); *Wallace and Williamson on Patents*, p. 267. Amendments 10x and 11x are enlargements of the original specification. They leave the specification as indefinite but larger. At any rate they are not disclaimers but must be supported as corrections or explanations. In *Simpson* v. *Holliday* (2) it was held that the fact that any skilled workman would apply heat in a certain process would not save a specification which described alternative processes, one with heat and one without, but where without heat no result would follow. These amendments, being corrections or explanations, are inadmissible because they introduce the result of subsequently acquired knowledge. As to amendment 12x, the original specification had said that the process would give a practically complete recovery of all metals. If that is not true the patent is void, and no amendment should be allowed which will make the patent good. Amendment 13x depends upon the validity of 12x. As to amendment 14x, the original specification describes a process of recovering metals from sulphide ores, and not a process of recovering concentrates. A disclaimer of part of the process so as to make it a process for recovering concentrates widens the ambit of the monopoly and should not be allowed. Amendment 15x is not a disclaimer. It does not leave the particular classes of ores outside the monopoly. Amendment 17x goes with amendment 6x. The whole of the amendments amount to a re-writing of the specification in the light of subsequent events. [They referred to *Frost on Patents*, 3rd ed. vol. II., pp. 75-78.]

(1) 13 R.P.C., 659. at p. 661. (2) L.R. 1 H.L., 315.

Mitchell K.C., in reply, referred to *Edison and Swan Electric Light Co.* v. *Holland* (1); *Badische Anilin und Soda Fabrik* v. *Levinstein* (2); *In re Hattersley and Jackson's Patent* (3).

[GRIFFITH C.J. referred to *Consolidated Car Heating Co.* v. *Came* (4).]

Cur. adv. vult.

GRIFFITH C.J. These are cross appeals from the decision of the Commissioner of Patents on an application by Potter's Sulphide Ore Treatment Limited, the present holders of the two patents, one granted for the Commonwealth and one for the State of New South Wales. We have not the advantage of any decisions of English Courts of Justice as to the principles to be followed in dealing with such applications because under the English law the final jurisdiction to deal with such matters rests with the Law Officer. All we have to assist us, as far as they go, are some observations that have been made by the very learned lawyers who have held that office. But the principles to be followed are sufficiently clearly stated in the *Patents Act* 1903 itself. Sec. 71 provides that the patentee may seek leave "to amend his complete specification by way of disclaimer correction or explanation stating the nature of the amendment and the reasons for it"; and sec. 78 provides that: "No amendment shall be allowed that would make the specification as amended claim an invention substantially larger than or substantially different from the invention claimed by the specification before amendment." It is therefore all important to consider what was the invention claimed by the specification before amendment. Whether a particular amendment sought can fairly be called a disclaimer or correction or explanation may vary according to the nature and subject matter of the invention. What might be a radical change, or an important change, in the case of one kind of invention, might be a mere explanation in the case of another, and so on. I proceed then to consider what this patent was for.

It is described as "an improved solution to be used in and process for the separation of metals from sulphide ores," and, leaving

(1) 6 R.P.C., 243, at p. 278.
(2) 29 Ch. D., 366, at p. 400; 12 App. Cas., 710, at p. 719.
(3) 21 R.P.C., 233.
(4) (1903) A.C., 509.

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out a claim which is verbally different and is now sought to be omitted, to which no objection is offered, the claim is "as a means of separating metals from sulphide ores, the admixture in a suitable vessel with such ores (reduced to a powdered or pulverised condition) of an acidulated solution, and applying heat thereto to bring the whole mixture to a sufficiently high temperature to cause the metals therein to rise or float to the surface." Then practically the same claim is repeated in other words. The invention was, as appears from the evidence, a new principle; the principle that the patentee Potter had discovered being that the application of an acidulated solution of varying degrees of strength to certain sulphide ores would cause the sulphides to separate from the gangue, and to float to the surface so that they could be skimmed off. That was the nature of the invention, but as you cannot obtain a patent for a principle, it was necessary for the patentee to go on and explain how that idea or principle could be put into practical operation, which he did. It is not in dispute that he did so, and gave an effective way of doing it. The rights of the patentee of an invention of that sort are now definitely settled by the rule first laid down by Baron *Alderson* in the case of *Jupe* v. *Pratt* (1), and adopted by the House of Lords in the case of *Chamberlain & Hookham Ltd.* v. *Mayor &c. of the Borough of Bradford* (2). Lord *Davey* said, and his judgment was formally concurred in by Lord *Robertson*, Lord *Shand*, and Lord *Halsbury* L.C. without adding any more:—"The law on this subject is free from doubt, and I do not know that it has been better stated than it was by Mr. Baron *Alderson* in the well known case of *Jupe* v. *Pratt* (1). The learned Judge says:—'You cannot take out a patent for a principle. You may take out a patent for a principle coupled with the mode of carrying the principle into effect, provided you have not only discovered the principle but invented some mode of carrying it into effect. But then you must start with having invented some mode of carrying the principle into effect. If you have done that, then you are entitled to protect yourself from all the other modes of carrying the principle into

(1) 1 Web. Pat. Cas., 146.

(2) 20 R.P.C., 673, at p. 684.

effect, that being treated by the jury as a piracy of your original invention.'

"The question in every case is, in what consists the originality and merit, or, to use the well known phrase of Lord *Cairns*, the 'pith and marrow' of the patented invention? If that includes the discovery or suggestion of a new principle as well as the means of carrying it into effect, an infringer is not entitled to take the principle although he uses somewhat different machinery for the application of it to a practical purpose."

I then approach this application remembering the patent is a patent for a principle, and that no alteration is to be allowed to be made in the specification which will make it a substantially larger or different invention, that is, something other than an invention of that principle. It may very well be that a quite different mode of carrying the principle into effect would be incompetent in view of that rule, but it is not necessary to express any opinion on that point.

Now, to go more in detail into the original specification and the amendments sought. The original specification went on to describe the invention in this way: "The crude ore, concentrates, tailings or slimes, after being pulverized, are placed in a suitable vat or vessel, and a solution is then added, such solution consisting of water in which from one to ten per cent. of any acid (preferably sulphuric acid for reasons hereinafter stated) the acidulated strength of the solution being determined by the quality or nature of the sulphide ore to be treated." Then it went on to say that in the case of ores containing lead, zinc, copper, iron, and silver in combination with sulphur, it was placed in a vat provided with an internal stirrer or stirrers and then the acidulated solution was added, gradually increasing the strength of the solution until the best results are got. Then it went on to say that the bulk solution should be approximately, say, 250 gallons to every ton weight of ore, varying to some small extent according to the quality of the ore and the degree of fineness. It is added that as the temperature increases the metals rise from the bottom of the vat and float on the surface, from which they can be skimmed off and treated as sulphides free from earthy matter. The specification then went on to say

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what might be done with these concentrates or skimmings, and that, in the case of what the patentee calls lead and silver ores, they can be treated in one way that it is admitted was well known at the time, and could not have been claimed as part of the invention. As a matter of fact, on the true construction of the claim, it was not claimed. Then the patentee went on with a paragraph beginning in this way:—"The means or process for treating ores chiefly for the recovery of the gold therein, in combination with sulphur, such as iron pyrites, arsenical pyrites, or tellurides, is as follows:" and then he describes the process, beginning with grinding the ore to a fine powder and winding up with getting the concentrates into a condition to be treated by chlorine or cyanide in the ordinary way.

That being the original specification, it is sought to amend it in certain particulars. I will take them in the order in which they stand.

The first is an application to substitute for the word "metals" in the title, the words "metallic sulphides." That was allowed by the Commissioner. It was formally appealed from, but the appeal was not much pressed on that point, and it is clear on looking at the whole specification that the word "metals" was used in the original specification in the sense of metallic sulphides, and the amendment was therefore properly allowed.

The next amendment, and the one on which we heard the greater part of the argument, was an application to substitute for the words "any acid (preferably sulphuric acid, for reasons hereinafter stated)" these words, "sulphuric acid or any other suitable acid (but preferably sulphuric acid.)" The Commissioner did not allow the amendment as asked for, but he allowed the striking out of the words "any acid preferably" and the words "for reasons hereinafter stated," leaving an amendment for which the applicants had not asked, and which they might not be disposed to accept. It is contended for the appellants, the objectors to the amendment, that the proposed amendment is not in the nature of a disclaimer, correction or explanation, and therefore is inadmissible. That is probably correct, if it is not in the nature of one or the other, but it is necessary to consider what those terms mean. Every patent is construed not as being addressed to

ignorant persons who are not conversant with the subject matter dealt with, but it is assumed to be addressed to persons having a certain amount of information on the subject, persons possessed of common knowledge relating to that branch of industry; so that a patent, which to an ordinary uninstructed person may be quite unintelligible, may, to an instructed person, possessing the amount of instruction which is assumed on the part of the person to whom the specification is addressed, be perfectly clear. From that point of view I think that the term "explanation" includes any information as to any matters which the persons to whom the specification is deemed to be addressed already know, but which may not be possessed by other persons not so familiar with the subject. From that point of view an explanation is entirely for the benefit of the public. It cannot do anybody any harm. It does not really give any additional information in the technical sense, because the readers of it are already supposed to know it, but it certainly enlarges the number of persons who can understand it when it is presented to them, and I think that is a very reasonable meaning of the word "explanation." The meaning of the word "disclaimer" hardly needs any definition. Lord *Chelmsford's* definition in *Ralston* v. *Smith* (1) was, and it is as good a one as could be given, "the renunciation of some previous claim actually or apparently made, or supposed to be made." As regards this proposed amendment, the original statement in the patent was that it consisted of "a solution of water with the addition of a small percentage of any acid (preferably sulphuric acid for the reasons hereinafter stated)"; that is to a certain extent ambiguous. There are an immense number of acids—technically called acids—but it is quite clear, when you remember you are dealing with substances by the ton, that what are called fancy acids or chamber acids were not contemplated by the patentee, and I do not suppose anybody would think they were. He might have meant, and probably did mean, what are commonly called commercial acids, bulk acids such as could be used in bulk for large operations of this kind. If the specification originally meant that he claimed all acids, and he desires to say "I did not mean that, I only meant commercial

(1) 11 H.L.C., 223, at p. 254.

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acids," that is in substance a disclaimer. It is either disclaimer, or correction of an error, or the explanation of an ambiguity. It may be regarded from either point of view. But again it is said, truly, that there are some ores to which this process is not applicable so far as is known, and it is said that has been found out since, and that the use of the word "suitable" in the phrase "any suitable acid" really is bringing in after-acquired knowledge. But I think it may be taken that any person conversant with this sort of metallurgy knows that the constituents of different kinds of sulphide ores are infinitely various. It was in the highest degree improbable that every acid would deal with every ore. It was held in *Cassel Gold Extracting Co. Ltd.* v. *Cyanide Gold Recovery Syndicate* (1) by the Court of Appeal in England, and by the Supreme Court of Queensland in *Australian Gold Recovery Co. Ltd.* v. *Day Dawn P.C. Gold Mining Co. Ltd.* (*No.* 2) (2) that the fact that a patent for a process described as the treatment of ores in general was not invalidated by the discovery of some ores that it would not treat, and if the patentee, who must be assumed to have known that, desires to tell the world that it is so, and save them the trouble of making idle and useless attempts, it seems to me that may very fairly be called an explanation. From another point of view, the word "suitable" may be regarded as a limitation. The patentee may say:—"I do not claim it for all acids, I only claim it for certain acids. The invention is a principle, but I do not assert that it is applicable to all acids." That may be regarded in one sense as a disclaimer. Then he proposes to add later on these words:—"The suitability of any sulphide ore for treatment by this process with any acid can be determined very readily by placing a small quantity of the pulverised ore in a glass tube or beaker with a solution of such acid, and admixing and heating same over a Bunsen burner or lamp." It appears to me that the two together, the substitution of "any other suitable acid (but preferably sulphuric acid)" for the original words, coupled with that explanation amounted, in part to a disclaimer and in part to explanation; they do not in any way alter the nature of the invention. They only give to persons not so well acquainted

(1) 12 R.P.C., 232. (2) 1902 St. R. Qd., 123.

with the subject as persons very familiar with it or possessing the assumed degree of knowledge, an opportunity of avoiding any unnecessary waste of time in inquiry. I think, therefore, that these two amendments ought to have been allowed, and that the appeal should be allowed on that point.

There is a minor point connected with this to which I should refer. The words "preferably sulphuric acid" as originally used were qualified by the words "for reasons hereinafter stated," and these reasons were that sulphuric acid was used preferably by reason of its cheapness, and because it could be afterwards obtained as a by-product from one of the processes of after treatment which he mentioned. I think there is some mistake as to the sulphuric acid being got as a by-product, but whether or not, the reason why he preferred sulphuric acid does not seem to me to be material. It may be a correction or it may be a disclaimer. From whichever point of view the amendment is regarded I think it is properly asked for and ought to be allowed.

The next amendment, which was allowed and which was objected to, was the omission of these words:—"We use sulphuric acid preferably by reason of its cheapness and its production as a by-product resulting from the process or treatment herein described." That must stand or fall on the description of a subsequent process which is now sought to be omitted.

The next amendment, which is the only one of serious importance, relates to the description of the process for carrying the principle into effect. I will read the words as they stood:—"The bulk solution to be added or applied to the class of ores lastly named would be, say, approximately 250 gallons to every ton weight of ore, varying to some small extent according to the absorbent quality of the ore and its degree of fineness." It is sought to amend that by leaving out the words "to some small extent," and by adding "the proportion of solution being increased when the ore is pulverised very fine, and the stirring or admixture being then carried out with greater care." As to the words "to some small extent," they are ambiguous. They may mean a small extent as between two degrees of fineness, or to a small extent as between the coarsest ore and the finest

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slimes. So that in that point of view the omission of the words may be regarded as clearing up an ambiguity; but, having regard to the nature of the patent and to the fact that whether the bulk was varied to a large or small extent, there would be equally an infringement of the patent, it may be also regarded as correction, a correction within the limits of the original patent. From either point of view, therefore, that amendment is unobjectionable. If the patentee was announcing that the proportion of the solution should be increased when the ore is pulverised very fine, that would remove another ambiguity, and if so, it did not do any more than state what was manifest to anybody who read the original specification and knew something about the matter. As to the words "the stirring or admixture being then carried out with greater care," that is open to the same observation. There is evidence that any person who knew anything about such things, knew that slimes are really mud, particles in an extremely fine state of comminution, and that if you stir up the mud rapidly you get it into a liquid, might come to the conclusion that the stirring should be carried out with greater care when you are dealing with fine mud than when you are dealing with coarser metals, which from the specific gravity of the particles and from their size would the more readily enable them to sink to the bottom. I think, therefore, that the amendment ought to have been allowed.

Another passage immediately following is this: "The stirrers are then freely used," and it is sought to omit the word "freely." That is refused by the Commissioner. I confess I can see no reasons for its refusal. It really means nothing, it does not convey any definite directions. For the reasons I have already given, the omission of it does not in any way alter the nature of the invention. A person who used the process, whether he stirred the ingredients freely or not freely, must be equally an infringer, so it may be regarded as correction, disclaimer or explanation.

The other amendments relate to leaving out all references to after-processes. Before I deal with this I should refer to a matter that I omitted just now in dealing with the amendment as to suitable acids. The patentee cannot be asked to do what is impossible. The contention set up was that, if a process which

is invented will not work always, although it is a new process of nature, and although in the nature of things it is impossible to enumerate all the cases in which it will operate and those in which it will not, yet, although it may operate in a great many cases, unless the patentee is in a position to tell the world what in the nature of things cannot be known at that time, the patent must be bad. I do not think that is the law, and I will read two or three passages from the judgments in *Badische Anilin und Soda Fabrik* v. *Levinstein* (1). Lord *Halsbury* L.C. said:— "If I understand the objection made in the judgment upon which I am commenting it is of this character: The patentee has not selected out of all he has claimed the best colour or shade of colour—he has claimed all, and only one is proved to have any practical value, and he has given no specific directions how to produce that particular shade of colour which is practically of value. In a certain sense the objection is well founded in fact: the patentee has, I think, claimed all the shades from red to brown, but I am at a loss to understand what is meant by the best colour. I do not know that there is any standard to which you can refer the goodness of a dyeing stuff in respect of its shade. Its tinctorial power, its temporary popularity, its brilliancy, are all qualities which may make it best under some circumstances, but which under others may make it less profitable, less popular, and therefore less commercially valuable. Each season very often has its own fashionable colour, and if to make the patent valid the patentee must forsee and describe a colour (by specimen I presume, since no nomenclature with which I am acquainted can distinguish minute shades of colour), then no patent could be valid for dye stuffs which should embrace a wide range of colours unless the patentee did that which nothing but the gift of prophecy could enable him to accomplish. Of course if the specification were misleading, if it were to describe a process by which it was alleged that you could produce a red colour whereas in fact you produced a brown, I should agree that the patent would be bad; but, as I have already said, the words by which we signify the shades of colour are but imperfect instruments for representing the optical

(1) 12 App. Cas., 710, at p. 715.

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phenomena which we recognise under the generic name of colours.

"It would of course be possible to give specimens of colour though not possible by verbal description. Your Lordships have been familiar, I dare say, with some of the specimens which have been provided for the purpose of distinguishing different shades of silks or worsteds, and if in addition to giving specimens of each, which of course would be possible, the duty were thrown upon the patentee that in order to make his patent valid each and all of those shades of colour should be separately distinguished as of greater or less commercial value, and that the specific mode by which each particular shade was to be distinguished should be described, it would appear to me to reduce the whole law upon this subject to an absurdity."

In the same case, Lord *Herschell* said (1):—"If the failure thus to discriminate between the several isomers invalidates the patent, the judgment of the Court of Appeal is not open to question. But I may observe, at the outset, that to require the patentee thus to discriminate, would, as it seems to me, be to insist upon what is really impracticable." Then he went on (2):—"It was urged by the learned counsel for the respondents that a patentee is bound to disclose the means by which his invention may be carried into effect, and that if he leaves this to be ascertained by experiments, his patent cannot be supported. This is no doubt correct. But I think the patent under consideration does show how the colouring matters are to be produced, and that what it leaves a skilled person, of the class to whom the specification is addressed, to discover is only which of these colouring matters will best answer his purpose at any particular time. There is, in my opinion, no warrant for asserting that this invalidates the patent."

Substituting acids for colouring matters in that case, every word in those passages is absolutely applicable to the present case. All the patentee proposes to do by way of amendment is to tell the public how to do, and assist them in doing, what, according to the opinions of the learned Lords, they would have been able to do without the information.

(1) 12 App. Cas., 710, at p. 719. (2) 12 App. Cas., 710, at p. 720.

I will refer now briefly to the amendments which were allowed by the Commissioner, which proposed to strike out all the references to after-processes. The first one said what might be done with the gangue remaining in the bottom of the vat after the sulphides had been floated off. This is clearly nothing to do with the process of separating metallic sulphides from their ores. It is an idle addendum. No claim was made in respect of it, and, even if there was, this would have been a disclaimer. There is no claim made in respect of it, and it is a mere idle encumbrance on the specification, and the amendment can be properly allowed.

The next amendment—14x—deals with the skimmings or concentrates obtained from lead and silver ores by an old process. That on the face of the specification is not claimed, and, if it had been, it could have been disclaimed, but not having been claimed, it is mere surplusage and may properly be omitted.

The remaining amendment relates to pyritic ores, and is perhaps not quite so simple. The passage begins by saying:—"The means or process for treating ores chiefly for the recovery of the gold therein, in combination with sulphur, such as iron pyrites, arsenical pyrites or telluride, is as follows." Then it goes on to describe the process right down to getting out the gold. I think that is to be taken as a description of a process or variation of the other process to be used when the object sought is the recovery of gold, and that is the main object sought. I have considerable doubt whether it is included in the claim. That is a matter of construction. If it is, it may properly be disclaimed; if it is not, it is idle. It does not alter the nature of the invention, but it leaves the specification silent so far as regards any particular process for recovering gold. It leaves it as an invention dealing only with the recovery of the metallic sulphides to be dealt with then in that condition; and from either point of view it may be regarded as disclaimer, and the amendment has been properly allowed.

There are no other amendments to which it is necessary to refer particularly. The result is that I think all the amendments allowed by the Commissioner were properly allowed, and that the appeal of Minerals Separation Limited must be dismissed, and, for the reasons I have given, I also think that Potter's

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Sulphide Ore Treatment Limited succeed in their appeal, and that the amendments which were refused, and on which their appeal is brought, ought to have been granted.

O'CONNOR J. I entirely concur in the judgment just delivered. I do not think it necessary to follow my learned brother the Chief Justice into a consideration of the details of these amendments; I merely wish to add something as to the general principles on which such applications ought to be considered. Mr. *Irvine* is right in contending that applicants for amendment come to the Court for a favour and must establish that they bring themselves within the terms of the Statute. The application for amendment is a judicial proceeding. It is an application to the discretion of the Commissioner, in the first instance, and to the discretion of the Court on appeal. The exercise of that discretion is limited only by the provisions of sec. 78, which prevent amendments being allowed which would have the effect of causing the amended specification to claim an invention substantially larger than, or substantially different from, that claimed in the specification before amendment. So long as the amendment does not infringe that limitation, it is a matter entirely for the discretion of the Commissioner, or of the Court, whether the amendment should be allowed or not. In the exercise of the discretion it is clear that an amendment ought not to be allowed which would make a patent obviously bad—bad either by reason of insufficient description of the process or invention, or by reason of any failure in the duty of fully informing the public as to the manner in which the invention is to be carried out. But, in considering whether an amendment which would not obviously invalidate the patent should be allowed, the real nature of the application, and the reasons for making a public record of the specification, must be considered. In granting or refusing the application, no rights are determined. The patentee who makes the application merely asks to be allowed to describe his invention in the way which appears to him clearest and best; any amendment which will throw additional light on the method of carrying out the invention is for the benefit of the public. If an amendment throwing additional light on the meaning of the

specification can be made without rendering the invention substantially larger than, or substantially different from, what it was as originally claimed, it is in the interests of the public that it should be made. Where there is a doubt about whether the amendment is such that it would invalidate the patent, the benefit of that doubt ought to be given to the person who has discovered the principle, and applied it by a process which is of value to the public, leaving the question whether the specification as amended is valid to be determined on some future occasion, when the validity of rights conferred by the patent shall be in issue.

This case has been very ably argued on both sides. There were, no doubt, strong reasons put forward by Mr. *Irvine* and Mr. *Mann* why these amendments should be refused. But they were, I think, sufficiently answered by the applicants' counsel. One thing has, however, appealed to me most strongly throughout this case. That is the difficulty which arises from the nature of this invention, in stating the process for carrying it out as explicitly as is generally possible. I think the applicants have done their best, and, in the face of the difficulty of describing this undoubtedly valuable invention, and putting it before the public in an exact and definite form, they have given all the information they could reasonably be expected to give. In this respect, the case is brought within the observations of Lord *Halsbury* L.C. and Lord *Herschell* in *Badische Anilin Und Soda Fabrik* v. *Levenstein* (1) cited by the learned Chief Justice. Under these circumstances I think that these amendments, being all by way of disclaimer, correction or explanation, do not substantially enlarge the invention or make it substantially different, but give valuable information to the public, and therefore ought to be allowed.

Appeal of the Minerals Separation Ltd. dismissed with costs. Appeal of Potter's Sulphide Ore Treatment Ltd. allowed with costs.

Solicitors, for Minerals Separation Ltd., *Blake & Riggall.*

Solicitors, for Potter's Sulphide Ore Treatment Ltd., *Madden, Drake & Candy.*

B. L.

(1) 12 App. Cas., 710,