

PATENTS ACT, 1949

BL 0/6/86

IN THE MATTER OF an application  
under Section 29 to amend the  
specification of Letters Patent No. 1415644  
by JOHNSON, MATTHEY & COMPANY LIMITED

- and -

IN THE MATTER OF an opposition thereto  
by ROSEMOUNT ENGINEERING COMPANY LIMITED

#### DECISION

The applicants applied on 20 March 1981 to amend their specification, stating that their reason for wishing to make the amendment was "to more clearly define the invention claimed." The office did not regard this reason as being satisfactory and after some correspondence with the applicants a letter dated 28 April 1981 was received from the applicants confirming that the amendments proposed were put forward by way of disclaimer and stating that the proposal to amend was made "as a result of technical considerations." After further correspondence between the office and the applicants the office received a letter dated 14 September 1981 in which the applicants identified four patent specifications as being prior art known to them and taken into account when making the amendments proposed. As a result of objections raised against the proposed amendments the applicants modified their proposal and the modified amendments were duly advertised in the Official Journal on 8 September 1982. Opposition was entered by Rosemount Engineering on five grounds:

- (1) The specification amended as proposed would claim or disclose matter not in substance disclosed in the specification before amendment.

(2) The reasons given for the proposed amendments are not full and correct in view of certain published documents known to the applicants prior to the date of the application to amend.

(3) The proposed amendments do not meet the prior art both as cited by the applicants and by the opponents.

(4) There has been undue delay since the applicants were aware of the prior art before the date of the application for amendment.

(5) The unamended claims were covetous and/or deliberately ambiguous.

Events followed in a not unusual sequence with the filing of statement, counterstatement and opponents' evidence, but then, although the applicants had indicated in their counterstatement that they would be filing evidence, they eventually failed to do so in the time allotted, and subsequently informed the office in a telephone call on 12 August 1985 and a confirmatory letter dated 23 August 1985 that they would not be represented at a hearing to be appointed in the matter.

At the hearing before me on 12 November 1985 Mr S Thorley appeared as counsel for the opponents, and, as intimated above, the applicants were not represented.

The applicants' specification is concerned with temperature sensitive resistance elements for use as resistance thermometers. For many years such elements have generally consisted of a frail metal wire helix, platinum being a commonly used metal. The specification refers on p.1 l. 72 et seq to an attempt to produce more rugged elements by depositing metal layers on an insulating substrate using what is known as "thin-film" technique, for example vacuum deposition. According to the specification this technique failed to produce elements with sufficiently high

values of temperature coefficient of resistance (TCR), the values obtained apparently being well below + 2000 ppm/°C which the specification sets out as being a desirable minimum value of TCR for a temperature sensitive element which is to be used as part of a resistance thermometer. The applicants' invention relates to the production of temperature sensitive resistance elements by what is known as a "thick-film" technique in which particles of metal are mixed with glass frit, the resulting composition is applied to an insulating substrate in a pattern forming a tortile path, for example by silk screen printing, and the substrate bearing the pattern is then fired to fuse the glass.

Claim 1 of the patent (as accepted) reads:-

"1. A temperature sensitive element for use as part of a resistance thermometer, comprising a substrate made from an electrically non-conducting material and carrying an electrically conducting tortile path consisting essentially of fused vitreous material loaded with electrically conducting particles, the particles being made from a metal selected from group consisting of gold, silver, the platinum group metals other than osmium, iron, nickel, cobalt and copper."

There is also an independent method claim which (as accepted) reads:-

"12. A method of making a temperature sensitive element for use as part of resistance thermometer, comprising the steps of forming on electrically non-conducting substrate an electrically conducting tortile path of fused vitreous material produced from a composition which consists essentially of a dispersion of powdered vitreous material and particles of an electrically conducting material in an organic medium, and which is heated to drive off the organic medium and fuse the glass, the electrically conducting particles being made from a metal selected from the group

consisting of gold, silver, the platinum group metals other than osmium, iron, nickel, cobalt and copper.

The amendments as advertised restrict the metals specified in claims 1 and 12 to Pt, Pd and Rh (platinum, palladium and rhodium - members of the platinum group) and add the requirement that the element of claim 1 or produced by the method of claim 12 has a TCR of at least + 2000 ppm/°C. Amendments to two of the dependent claims 3 and 14 are also proposed as follows, additions being shown by underlining and deletions being shown in brackets:-

"3. An element according to claim 1 (or claim 2), wherein the fused vitreous material comprises lead borosilicate glass and the electrically conducting particles comprise particles of platinum and wherein the element has a TCR of at least + 3000 ppm/°C"

The amendments to claim 14 are identical to those to claim 3 apart from the change in dependency.

To be allowable the amendments must satisfy the requirements of Section 31(1) that is to say they may only be by way of disclaimer, correction or explanation and, except in the case of an obvious error, may not be of such effect that the specification as amended would claim or describe matter not in substance disclosed in the specification before amendment or that any claim of the specification as amended would not fall wholly within the scope of a claim of the specification before amendment, and this brings me to the first ground of opposition.

Mr Thorley accepted that the proposed amendments are disclaimer and I am satisfied that that is so. Furthermore, I consider that by restricting the selection of metals specified in claims 1 and 12 to Pt, Pd and Rh and introducing the requirement that the value of the TCR is at least + 2000 ppm/°C those proposed amended claims fall wholly within the scope of the claims as

accepted, at least in the sense that the matter it is now proposed to claim was not excluded from the ambit of the unamended claims. The opponents have argued however that the proposed amendments, if effected, would result in the specification claiming or disclosing matter not in substance disclosed in the specification before the amendment, and in this respect Mr Thorley submitted that the proposed amendments were a classic case of intermediate generalisation and were not allowable as there was no basis for the generalisation sought. For my part, I consider the disclosure of the Pt group metals (excluding osmium) in the unamended specification to provide ample basis for the proposed selection of Pt, Pd and Rh as the metals to be used, indeed these metals were among the metals listed individually as being suitable in the provisional specification from which the patent derives priority. Moreover, on consulting the complete specification as filed, which I feel obliged to do in order to ascertain all the relevant and available facts, I have discovered that this specific list of metals including Pt, Pd and Rh was carried over into the complete specification as filed. It appears to me therefore that the crucial question which must be answered as far as claims 1 and 12 are concerned comes to this: "Was there in the unamended specification a proper basis for claiming Pt, Pd and Rh as the metal constituent coupled with the requirement that the TCR is at least + 2000 ppm/°C?"

The only metal specifically mentioned in the description of the specification as accepted is Pt and although the claims and corresponding consistory clauses specify inter alia the Pt group metals (other than osmium) there is no explicit indication that Pd and Rh are particularly preferred or that these metals do in fact permit the desired minimum value of + 2000 ppm/°C for the TCR to be achieved. In the specification at p.1 l.82-87 it is stated that thin-film techniques were found to produce devices with TCR's considerably less than the desired minimum value, and this, I suppose, might be taken as implying that all thick films comprising any of the metals specified in the unamended claims

necessarily provided a TCR of at least the desired value or that the invention was limited by implication to films which did satisfy the minimum TCR requirement. The former supposition seems to be manifestly incorrect for a comparative example of a thick film using Rh as the metal constituent is shown to have a TCR of - 6000 ppm/°C in specification NL 6712212 (Du Pont), one of the prior art documents admitted to have been considered by the applicants, and to which I shall refer in more detail later. I remain unconvinced that the unamended specification, when read by a relevant skilled person, would convey the implied lower limit of + 2000 ppm/°C for the TCR where the metal is Pd or Rh. Consequently I consider that the proposed amendments to claims 1 and 12 would result in the specification disclosing matter not in substance disclosed in the unamended specification and as such to be unallowable.

As to claims 3 and 14, the opponents contended that there was no basis for a TCR in excess of about + 3000 ppm/°C, but I do not consider this objection to be well-founded as the proposed amendments in fact use the words "a TCR of at least + 3000 ppm/°C" and this seems to me to be properly based on the specific example described which provides a TCR of + 3032 ppm/°C.

I turn now to the reasons given by the applicants for requesting the amendments and the second ground of opposition which alleges that the reasons were not full and correct in view of certain prior art known to the applicants. The opponents have mounted two attacks under this ground, the first being that the applicants knew that the claims they obtained and later sought to use commercially lacked utility because at least one metal included among those specified in the claims was recognised as being unsuitable in one of the prior art documents whose authorship was attributed in part to one of the inventors named in the patent, and this alleged defect should be reflected in the reasons given. The applicants have denied that any such defect exists, and that, I think, as far as the present proceedings are concerned must be an end to the matter.

The second attack on the applicants' reasons is that the reasons are inadequate in view of prior art known to the applicants before the date on which the application to amend was made. Some twenty one prior art documents were cited by the opponents as being known to the applicants before the relevant date, but fortunately I do not find it necessary to consider them all here. In the first place there seems to be no evidence to suggest that six of these documents were in fact known to the applicants, and in the second place Mr Thorley helpfully identified just one of the remainder, namely US specification No.3329526 (Daily) as being the most relevant and I would not disagree with that. Exhibits REBC2 and 3 annexed to the evidence of Mr Cross show that the Daily specification was cited by the US Patent Office during the examination proceedings on the applicants' application made in the USA and corresponding to the present patent. Daily is concerned with the production of resistance elements by screen printing and firing a composition of noble metal and glass particles suspended in an organic liquid. There is no disclosure in Daily of the composition being printed in any particular pattern, and Mr Thorley conceded that that specification does not constitute a prior publication of the claims of the present patent. There are also other distinctions which in my view are not without significance to the present proceedings, namely that Daily does not disclose any value for TCR and seems to be concerned with resistance elements in general but especially variable resistance controls (potentiometers) for use in missile control systems.

At this point it is convenient to describe the disclosure of the Du Pont specification mentioned earlier, which specification, in my opinion, is clearly the most relevant of the prior art documents which the applicants admit to having considered, and is the only one of those documents which it is necessary for me to consider here. The specification discloses thermistors (temperature sensitive resistance elements) formed by firing a mixture of powdered inorganic binder such as glass, Pd and/or Ru (ruthenium), and Rh and, optionally, a small quantity of silver

or gold, this mixture producing a thermistor with a TCR of between - 5000 and + 1000 ppm/°C. Some examples of suitable mixtures are given in a Table I and in addition this Table gives, for comparison, the TCR values for 50:50 mixtures of glass: Pd or Rh or Ru, these being + 2000, - 6000 and + 4000 ppm/°C respectively. As with Daily, there is no disclosure of the mixture being laid down in a tortile path.

It is my conclusion that, of all the prior art documents which have been brought into these proceedings, Du Pont is the most relevant, but I am unable to conclude with any reasonable degree of certainty from the evidence at my disposal whether or not any of the other prior art documents, especially Daily, of which the applicants were aware before making the application to amend, had any influence upon their decision to seek the amendments. Under these circumstances I feel obliged to reject the allegation that the reasons given by the applicants were inadequate in view of the prior art listed in ground 2 of the opposition.

I can now turn to the allegation that the proposed amendments do not meet the prior art both as cited by the applicants and as listed on the Notice of opposition. I do not consider it proper to consider the question of obviousness or otherwise of the proposed amended claims, and as I have already come to the conclusion that the unamended claims were not prior published in any of the prior art documents cited or listed, the same conclusion must apply in respect of the amended claims.

The remaining grounds of alleged undue delay and covetous and/or deliberately ambiguous claiming are matters which, Mr Thorley urged, should persuade me, in exercising my discretion, to refuse to allow the proposed amendments but, if I understood Mr Thorley correctly, there seemed to me to be an underlying tacit acceptance in his submission that without relevant evidence from the applicants I would not be able to come to a properly considered opinion in these matters. Nevertheless, when it comes to the question of exercising discretion there is a heavy onus on



the applicants to put the whole story before discretion should be exercised in their favour, and it was Mr Thorley's contention that, in the present instance, the applicants had not even put part of the story and not only should their request to amend be refused, but they should not be granted any further indulgence.

For my part, although the opponents have not been able to satisfy me that the applicants acted in bad faith in obtaining, maintaining and using claims which they had good reason to believe were invalid, there are a number of matters concerning the applicants' actions, or lack of them, which I find unsatisfactory. In the first instance, the applicants, in making their application to amend, gave what I consider to be a totally inadequate reason for the amendment sought. Secondly, when prompted by an office enquiry to rectify this shortcoming they merely stated that the amendment sought was by way of disclaimer and identified certain prior art "known to them and which was taken into account when making the amendments previously proposed" without specifying when this prior art had become known to them, why they considered it necessary or desirable to amend the specification in the manner sought or why they chose to seek the amendment at that particular time. Thirdly, after promising in their counterstatement to deal with some of the opponents' allegations by filing evidence, and after being allocated a not ungenerous length of time in which to do so, the applicants eventually decided not to file any evidence. Finally, I have been unable to find anything in the prior art cited by the applicants which might have influenced them in making their decision to attempt to remove the metals iron, cobalt and copper from their claims unless it is the indication given in US specifications 2950995 and 2950996 (Place) that it is desirable to use non-reactive and non-oxidisable metals and the fact that GB 849505 (Johnson Matthey) mentions cobalt in connection with Pt-Co magnet alloys, though what other relevance that specification has to the application to amend escapes me. I am satisfied that the two US specifications were known to the applicants in 1977, and

the GB specification, which bears a priority date of 3 February 1959, is in the applicants' own name. Hence I am led to question whether or not the applicants had in fact unduly delayed or failed to give full and correct reasons. I am of course aware that it would not be proper for me to decide these questions without having all the necessary facts and evidence before me, but neither can an applicant who chooses to remain behind a wall of silence reasonably expect discretion to be exercised in his favour when such questions arise.

In summary therefore I find that the amendments proposed to claims 1 and 12 and the corresponding consistory clauses are not allowable under Section 31(1) for the reasons given above, and even if they were, I would not be disposed to exercise my discretion to allow them. Accordingly I refuse to allow the amendments.

Having given due regard to all the circumstances of the application and the opposition thereto I award the opponents the sum of two hundred and fifty pounds as a contribution to their costs, this sum to be paid to them by the applicants.

Dated this *2<sup>nd</sup>* day of *January* 1986

K E PANCHEN  
Superintending Examiner, acting for the Comptroller

