Intellectual Property Office

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PATENTS ACT 1977

APPLICANT	California Institute of Technology, and Thermo Fisher Scientific (Bremen) GmbH
ISSUE	Whether patent application GB1811532.9 complies with Section 76(1)
HEARING OFFICER	B Micklewright

DECISION

Introduction

1 This decision relates to whether patent application GB1811532.9, lodged on 13 July 2018, can be treated as a divisional of earlier application GB1507362.0 and thus be allowed to proceed with the filing date of the earlier application, i.e. 10 October 2013. The earlier application was granted on 19 December 2018 (GB 2521579 B).

2 In her first examination report, of 7 September 2018, the examiner objected that the claims of the new application contained subject matter not present in the earlier application and as such the new application could not be treated as having been filed on the same filing date of the earlier application. Despite several rounds of correspondence, the examiner and the applicant have been unable to resolve this issue. The issue therefore came before me at a video hearing on 6 March 2019. The applicant was represented by Mrs Elspeth Doyle and Dr Elaine Taylor-Shaw of Murgitroyd and Company.

3 In addition to the submissions made at the hearing I am also grateful to Mrs Doyle for providing me with a set of written skeleton arguments prior to the hearing. I confirm that I have carefully considered these and reviewed the other correspondence on file.

The invention

4 As Mrs Doyle readily acknowledged at the hearing the specification is rather a long one; there are 85 pages of description and 48 pages of drawings. So before looking at the specific issue to be considered it is perhaps helpful to give a general overview of the technical background of the application. The application relates to mass spectrometry. Conventional mass spectrometry generally determines the overall concentration of an isotope irrespective of its location in the molecule or the proportions of multiple isotopic substitutions in the same molecule, and therefore does not distinguish among different isotopologues of the same molecule. An

isotopologue is a chemical that differs from its parent chemical in that at least one atom has a different number of neutrons. The application is therefore directed towards apparatus, systems and methods for the quantitative analysis of the isotopologues of compounds of interest. A complete quantitative analysis of all the isotopologues present in a sample compound may enable determination of useful information, such as the geographic origin of the molecule, its temperature of origin, or the parent molecule from which the molecule was derived. The application points to a number of different fields in which this might be useful, including hydrocarbon exploration, chemical forensics, biomedical research, and diagnosis and treatment of diseases.

5 The summary of the invention, beginning at paragraph [0006], and the first section of the detailed description, beginning at paragraph [0076], relate to a high-resolution reverse-geometry mass spectrometer which can be used in performing the analysis mentioned above. The claims of the earlier application, GB1507362.0, are directed towards this spectrometer. The detailed description goes on, from paragraph [0105], to discuss a system and method which uses a combination of two mass spectrometers when performing such an analysis. It is to such a combination that the claims of this application are directed. It should however be noted that the granted claim set for GB1507362.0 also includes claims (claims 15-18) directed towards a system comprising a combination of two mass spectrometers.

The claims

6 The application contains a single independent claim, as follows:

> *1. A method for determining the isotopic composition of an analyte in a sample, the method comprising:*
>
> *using a first mass spectrometer comprising a single-collector and having a mass-resolution of about 30,000 or greater to measure ratios of ion beams at each cardinal mass of the analyte to produce first molecular analyte ion data;*
>
> *using a second mass spectrometer comprising a multi-collector to measure relative abundances of closely-adjacent ions at different cardinal masses of the analyte to produce second molecular analyte ion data;*
>
> *utilizing the first molecular analyte ion data to identify proportions of isotopologues that contribute to signal intensity at each cardinal mass measured with the second mass spectrometer; and*
>
> *utilizing the proportions of the isotopologues that contribute to the signal intensity at each cardinal mass to compensate for unresolved detected molecular analyte species and calculate an abundance of one or more isotopic species of interest measured with the second mass spectrometer.*

The law

7 The relevant provision which allows the filing of a divisional application is Section 15(9) of the Patents Act which reads:

> *Where, after an application for a patent has been filed and before the patent is granted -*
>
> *(a) a new application is filed by the original applicant or his successor in title in accordance with rules in respect of any part of the matter contained in the earlier application, and*
>
> *(b) the conditions mentioned in subsection (1) above are satisfied in relation to the new application (without the new application contravening section 76 below),*
>
> *the new application shall be treated as having, as its date of filing, the date of filing the earlier application.*

8 This section of the Patents Act makes clear that such an application can only be treated as having the filing date of the earlier application so long as Section 76 is not contravened. The relevant subsection of Section 76, Section 76(1), is:

> *An application for a patent which –*
>
> *(a) is made in respect of matter disclosed in an earlier application, or in the specification of a patent which has been granted, and*
>
> *(b) discloses additional matter, that is, matter extending beyond that disclosed in the earlier application, as filed, or the application for the patent, as filed,*
>
> *may be filed…as mentioned in section 15(9) above, but shall not be allowed to proceed unless it is amended so as to exclude the additional matter.*

Arguments and analysis

9 Whilst the technology here is complex the crux of the examiner's objection is rather more straightforward to understand. The examiner is of the view that the skilled person would understand from the teaching of the earlier application that when using two mass spectrometers in combination the first of the two must be a double focussing reverse-geometry mass spectrometer. To be more specific, the first spectrometer of the combination must include a momentum filter followed by an energy filter. Claim 1 of this application does not recite that there is a momentum filter followed by an energy filter. The examiner's objection is that the omission of this feature means that the application discloses matter extending beyond that disclosed in the earlier application, and as such it cannot proceed as a divisional application. The applicant disagrees.

10 Whilst the issue is a simple one it is not trivial to decide since the claims under consideration were not present in the earlier application and there is no statement of invention in the earlier application which corresponds to the claims. Of course this does not necessarily mean that there is added matter in the new application, as Mrs

Doyle points out in her skeleton arguments, since a divisional application may be based on any part of the matter contained in the earlier application, as section 15(9) makes perfectly clear, so long as it does not offend against section 76.

11 Aldous J provides some pertinent guidance on added matter (albeit not in the context of divisionals) in *Southco Inc v Dzus Fastener Europe Ltd*[1] :

> *"What the Act is seeking to prevent is a patentee altering his claims in such a way that they claim a different invention from that which is disclosed in the application. Thus, provided the invention in the amended claim is disclosed in the application when read as a whole, it will not offend against section 76", and*
>
> *"section 76 is there to prevent the patentee disclosing either by deletion or addition any inventive concept which was not disclosed before but not to prevent a patentee claiming the same invention in a different way"*

It is therefore clear that the task is look to the earlier application when read as a whole to see whether it teaches the inventive concept now claimed in the later application. If it does, then the application may proceed.

12 As Aldous J says, added matter can arise as a result of deletion. However, the omission of a feature is not necessarily an indicator of added matter. The Court of Appeal in *Nokia Corporation v IPCOM GMBH & Co KG (No.3)*[2] considered such an issue with reference to the "*Houdaille* Test" set out by the EPO Board of Appeal[3]. Kitchen L J summarised this test as follows:

> *The skilled person must be able to recognise directly and unambiguously that*
>
> *(1) the [omitted] feature is not explained as essential in the original disclosure,*
>
> *(2) it is not, as such, indispensable for the function of the invention in light of the technical problem it serves to solve, and*
>
> *(3) the replacement or removal requires no real modification of other features to compensate for the change.*

13 Mrs Doyle submitted to me that the skilled person would clearly understand that the earlier application includes distinct inventive concepts, and distinct solutions to the problem at hand. She suggested that the first inventive concept (covered by the claims of the granted earlier application) relates to a mass spectrometer apparatus, in isolation, in which reverse geometry is an essential feature whereas a second inventive concept relates to methods and systems using a mass spectrometer device in which the reverse geometry is merely an optional feature. In support of this submission Mrs Doyle drew my attention to several paragraphs of the description.

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[1] [1990] RPC 587
[2] [2013] RPC 5
[3] T331/87 *Houdaille/Removal of feature* [1191] EPOR 194.

14 The main basis for Mrs Doyle's argument is paragraphs [00114]-[00116] which describe a combination of a first and second mass spectrometer. Paragraph [114], for example, states:

> "[00114] Embodiments of the present invention are directed to the combination of data from the first and second mass spectrometers, so that their complementary traits (multi collection at lower resolution; single collection at higher resolution) can both discriminate and quantify isotopologues of high molecular weight compounds."

15 Mrs Doyle argues that this paragraph makes clear that the essential features of the invention to which the later application is directed are (i) a multi collector low resolution spectrometer combined with (ii) a single collection high resolution spectrometer. These are said to be the complementary traits of the two spectrometers which are required for discriminating and quantifying isotopologues. The particular point that Mrs Doyle makes with regards to this paragraph is that it does not go as far as to say that reverse geometry is essential. She further argues that paragraph [00116] makes clear that the first spectrometer need not have a reverse geometry since it refers to "…the first mass spectrometer (e.g. a single-collector, reverse geometry mass spectrometer…)". Her logic is that because paragraph [00114] has already said that the first mass spectrometer must be single-collection then it can only be the reverse geometry to which the "e.g." relates, and thus reverse geometry cannot be an essential feature.

16 Mrs Doyle also drew my attention to paragraph [0078], which once again refers to a combination of two mass spectrometers, one of which is said to provide a high-resolution measurement at a single cardinal mass and the other of which provides lower resolution measurements at multiple cardinal masses. She argues that the absence of any mention of reverse geometry in this paragraph would clearly teach the skilled person that such a feature is merely optional, and not essential, in the combination of the two mass spectrometers.

17 Clearly there is a certain logic to Mrs Doyle's arguments here, but it is based on just a few individual paragraphs in a very long specification. As I have set out above I must determine what the earlier application teaches the skilled person taking into account the whole of the specification. With this in mind I asked Mrs Doyle to explain why, in the balance of the overall teaching of the specification, she felt that these paragraphs would lead the skilled person to conclude that reverse geometry is not essential.

18 In response Mrs Doyle referred me to paragraph [0006] which sets out, right at the very beginning of the application, that aspects of the invention relate to "apparatus, systems and methods for the quantitative analysis of the isotopologues of gaseous compounds and/or volatile organic compounds". She pointed out that there is no mention of reverse geometry until paragraph [0011], where a mass spectrometer with a reverse geometry is said to be an "embodiment" of the invention. Furthermore, Mrs Doyle pointed out paragraph [0022] which says that aspects of the invention relate to methods of determining the isotopic composition of an analyte in a sample. This paragraph does refer to use of a reverse geometry, but the relevant passage is prefaced by the words "for example". Mrs Doyle maintains that these portions of the description support her argument.

19 Taking account of these arguments, and adopting the approach set in the *Houdaille* test above, I have to decide whether or not, in the description as originally filed in the parent application, the reverse geometry feature is explained as an essential feature of the single collector high resolution mass spectrometer when used in combination with a lower resolution multi collector mass spectrometer.

20 There is of course an important qualifier in the *Houdaille* test – the skilled person must be able to recognise directly and unambiguously that the reverse geometry is not essential. This qualifier is very much on all fours with the test of added matter described by Aldous J in *Bonzel and Schneider (Europe) AG v Intervention Ltd*[4] in which he says:

> *The comparison is strict in the sense that subject matter will be added unless such matter is clearly and unambiguously disclosed in the application either explicitly or implicitly.* (My emphasis)

21 I'm afraid I am not at all persuaded by an argument which is based upon a few paragraphs, within the context of a very long specification, which need to be read and understood in a very particular way if one were to reach a conclusion that reverse geometry is inessential.

22 The paragraphs highlighted by Mrs Doyle are anything but direct. Paragraphs [00114] and [00116] certainly do not contain a clear and explicit statement that reverse geometry is only a preferable feature of the single collector high resolution mass spectrometer when used in combination with a multi-collector lower resolution spectrometer. Moreover those paragraphs, such as [0006] and [0078], which lack an explicit reference to reverse geometry cannot be genuinely taken to mean that it is not present.

23 Furthermore, those paragraphs are ambiguous and unclear inasmuch as they might, in isolation at least, be open to different interpretations. For instance, one could say paragraph [00114] teaches the skilled reader that the only essential features required in the combination of two spectrometers is that one is multi-collection at lower resolution whilst the other is single-collection at higher resolution, which is essentially Mrs Doyle's argument. Alternatively one could say that paragraph [00114] simply teaches that those traits of the two mass spectrometers allow the combination to work, but is otherwise simply silent on exactly what features the two spectrometers must have. The second of these alternatives seems to me to be clearly what was intended.

24 Similarly, what would the skilled reader make of the expressions "e.g. a single-collector, reverse geometry mass spectrometer" in paragraph [00116] and the "for example … " of paragraph [0022], discussed above? Would they really interpret these as teaching that the reverse geometry is optional, in the manner Mrs Doyle suggests? Or rather would he resolve any doubt by reading the whole document at face value and taking the features of the first mass spectrometer to be those which are presented in the summary of invention at paragraphs [0011]-[0030] and the

[4] [1991] RPC 553

detailed description at paragraphs [0076]-[00104]? To my mind it would plainly be the latter.

25 The paragraphs Mrs Doyle has highlighted must be viewed within the context of the specification as a whole. When the skilled reader does so they simply would not interpret them in the manner Mrs Doyle suggests. I find it impossible to believe that the skilled reader would genuinely reach the conclusion, when reading the specification as a whole, that the reverse geometry feature is essential to the apparatus first mentioned in paragraph [0006] but not to the systems and methods also mentioned in paragraph [0006]. I therefore do not consider that there is a clear, direct and unambiguous disclosure in the earlier application of a system comprising a combination of two mass spectrometers in which the first lacks the reverse geometry feature i.e. a momentum filter followed by an energy filter. Mrs Doyle's argument fails at the first hurdle of the *Houdaille* test. That being the case I do not need to consider the second and third hurdles.

26 I might add that it may well be obvious to the skilled reader, in view of the disclosure, that a normal geometry single collector high resolution mass spectrometer could perhaps be used in combination with a lower resolution multi collector mass spectrometer in some applications, but that is not the same thing as saying that such a combination is implicitly disclosed and, as mentioned above, the test for added matter is a strict one. And it may well be the case that the applicant has realised, subsequent to filing their earlier application, that they could have drafted different claims to those originally filed but, as Aldous J points out in *Southco Inc v Dzus Fastener Europe Ltd,* the Patents Act prevents them from claiming a different invention from that which is disclosed.

Conclusion

27 I have found that this application discloses subject matter which is not disclosed in the earlier application GB1507362.0. Its filing date cannot therefore be treated as being the date of filing the date of the earlier application in accordance with Section 15(9) because it contravenes Section 76(1).

28 It follows from Section 76(1) that the application may be able to proceed as a divisional application if it can be amended to as to remove the added matter. There is some time remaining before the expiry of the extended compliance period so this remains a possibility. The applicant has a short period to put forward amendments that overcome the added matter objection and which are otherwise acceptable. Any amendments will be referred for consideration by the examiner who is unlikely to allow any further extension of the compliance period, other than for an exceptional reason.

Appeal

29 Any appeal must be lodged within 28 days after the date of this decision.

B Micklewright
Deputy Director, acting for the Comptroller