



23 November 2011

PATENTS ACT 1977

APPLICANT VB UK IP Limited

ISSUE Whether patent application GB0616189.7 complies with sections 1(2)(a), 4(1) and 14(3).

HEARING OFFICER J Pullen

DECISION

Introduction

- 1 This decision concerns GB0616189.7 filed by Mr Paul Scanlan, in the name of VB UK IP Limited, on 15th August 2006. It was published on 20th February 2008 as GB2440966. The application relates to an apparatus and method for using input from respiratory function data to determine changes in visual fixation.
- 2 The examiner has maintained throughout objections under sections 1(2)(a), 4(1) and 14(3) of the Patents Act 1977. The applicant has not been able to overcome this objection, despite amendments to the claims. The matter came before me on 23rd September 2011, the inventor, Mr Paul Scanlan, and the examiner, Mr Peter Davies, attended the hearing.

The application

- 3 The application is centred on the proposition that the pressure in a person's respiratory system can affect their vision. As stated on page 2, lines 16-27 of the specification :

As discovered by the inventor, the respiratory system directly influences the visual system. The inventor discovered that pressure from the respiratory system presses on the rear of the eyeball, changing the eyeball's length from front to back, thereby altering the focus of the eye. Increased pressure from the respiratory system pushing on the back of the eyeball reduces the length of the eyeball for better distance vision. A decrease in this pressure increases the length of the eyeball for better close-up vision. Thus when a person changes from viewing an object in the distance to

instead viewing an object close-up, there is a corresponding change in pressure in the respiratory system.

- 4 Figure 3 of the specification, reproduced below, shows the inverse relationship between pressure in the respiratory system (21) and the distance of visual fixation. The graph shows changes in the pressure in the respiratory system (21) plotted against time (22) when a person changes from viewing an object in the middle distance (23), an object in the far distance (24) and object up close (25).

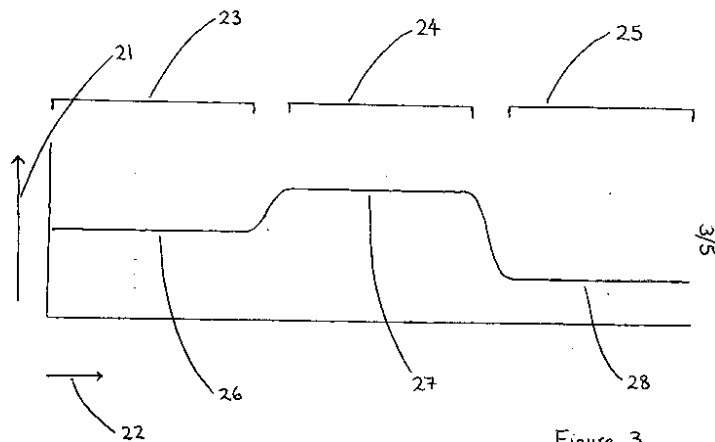


Figure 3

- 5 One of the embodiments of the invention uses the relationship between the respiratory system pressure and distance of visual fixation to control systems which require auto focus, for example cameras, binoculars, telescopes and interactive displays or games etc.
- 6 Another embodiment of the invention measures a users state of accommodation (the ability of the eyes to adjust to focus on objects at various distances) and communicate this information to the user, along with respiratory system information to assist in a biofeedback process.
- 7 There are other embodiments outlined in the description which similarly rely on the relationship between the respiratory system information and the distance of visual fixation.

Claims

- 8 Amended claims were filed on 15th July 2001. There are three independent claims:
- 1 An apparatus for determining changes in distance of visual fixation of a person by use of input from the person's respiratory function data.
 - 2 A method of determining changes in distance of visual fixation of a person by using input from respiratory function data of the person.

- 3 A method of controlling an operating characteristic of a device where that operating characteristic is relevant to a person's distance of visual fixation characterised in that the method uses input from respiratory function data of the person.

Objection under Section 1(2)(a) of the Act

- 9 The examiner has raised an objection under section 1(2)(a) of the Act that the invention is not patentable because it relates to a discovery; the relevant provisions of this section of the Act are shown below:

It is hereby declared that the following (among other things) are not inventions for the purposes of this Act, that is to say, anything which consists of –

(a) a discovery, scientific theory or mathematical method;

- 10 From the disclosure in the specification and from Mr Scanlan's submissions at the hearing, the apparatus to be used in performing the invention amounts to nothing more than combinations of known technology. Also, the techniques proposed for measuring pressure or volume changes are known techniques. Therefore the substance of the invention would appear to be Mr Scanlan's discovery that there is a link between pressure changes in the respiratory system, and a person's point of visual fixation.
- 11 In *Tate & Lyle Technology Limited vs Roquette Frères*¹ Mr Justice Lewison commented, when discussing whether a claim was to a discovery as such, that

"The claim is not saved from unpatentability simply by the addition of the phrase "the use of". What matters is the substance of the claim rather than its form."
- 12 Also in *CFPH*² Mr Peter Prescott QC discusses the exclusion of discoveries from patentability. He summarises in paragraph 34:

"It is well settled law that, although you cannot patent a discovery, you can patent a useful artefact or process that you were able to devise once you had made your discovery. This is so even where it was perfectly obvious how to devise that artefact or process, once you had made the discovery...It objects only when you try to monopolise your discovery for all purposes i.e. divorced from your new artefact or process. For that would enable you to stifle the creation of further artefacts or processes which you yourself were not able to think of."
- 13 It is the applicant's claim that this is exactly what he has done. He submits that he has discovered a link between the pressure in the respiratory system and the point of visual fixation of a person, and he has applied for a patent applying this theory to the control of devices such as cameras. Having listened to Mr Scanlan's submissions at the hearing I believe this was his intention, but he has not achieved this in the drafting of his claims.

¹ *Tate & Lyle Technology Limited vs Roquette Frères* [2009] EWHC 1312 (Pat)

² *CFPH L.L.C.* [2005] EWHC 1589 (Pat)

- 14 Claims 1 and 2 of the application, as set out above, merely express the link between respiratory function data and the point of visual fixation of a person in terms of an apparatus and method respectively. They are not in any way limited or related to a useful artefact or process and appear to be merely trying to monopolise the link between the distance of visual fixation and the respiratory function data, which is not allowable.
- 15 However, it is likely that incorporation of one or more of dependent claims 4-9, 13-15 or 26-34, which relate to control or operation of devices, into one of these main claims could result in a claim which may be considered to relate to a useful artefact or process, and thus overcome the objection raised under section 1(2)(d).
- 16 Claim 3 of the application, as set out above, defines a method of controlling an operating characteristic, but does not go on to do this in terms of a link between a person's distance of visual fixation and respiratory function data. Again, I believe there is scope for this claim to be amended in order to overcome the objection raised under section 1(2)(a).

Objection under Section 4(1) of the Act

- 17 The examiner has raised an objection under section 4(1) of the Act that the invention lacks industrial applicability as it is contrary to well-established physical laws; the relevant provisions of this section of the Act are shown below:

An invention shall be taken to be capable of industrial application if it can be made or used in any kind of industry, including agriculture.

- 18 Mr Scanlan disputed that the invention is contrary to well-established physical laws both in his skeleton arguments and at the hearing. He restated why he felt this was not a relevant objection and provided a lengthy explanation of the reasons to support his theory.
- 19 It is his assertion that holes (ostea) connect the sinuses with a cavity at the back of the eyeball. Consequently, since the sinuses are in communication with the respiratory system, any pressure changes within the respiratory system would be felt on the eyeball. An increase in pressure in the respiratory system would press on the back of the eyeball, making it shorter, and conversely, an increase in the length of the eyeball resulting from looking at something far away would increase the pressure in the respiratory system, which it is claimed would be a measurable effect. On discussion of his observations, the applicant agreed that it would be a natural port of call to consult a medical doctor about the proposed link between the respiratory system and the orbital cavity, and conceded that his theory is based on his own assumption that the ostea would act as a conduit for changes in pressure. I have not however been provided with, or been able to find, any independent evidence that the ostea provide a connection between the respiratory system and the back of the eyeball.
- 20 To demonstrate his theory, the Mr Scanlan hummed while looking from one finger to another, the fingers positioned at two different distances from his eye, and the tone of the his hum changed. This, he asserted, showed a link between the respiratory system, and the distance of visual fixation.

21 In his arguments the applicant cited *Blacklight Power*³. In this decision Mr Justice Floyd set forth a test to be used when there is a debatable question of pure fact facing the Office at the application stage. Mr Justice Floyd discussed how, even where there is substantial doubt over a particular technical fact, an application should not be refused, because a refusal cannot be remedied later. The Office should consider whether “there is a reasonable prospect that matters may turn out differently at a trial, when there will be a full exploration of the matter with the benefit of expert evidence”. However, he then went on to qualify his statement by saying “The reasonable prospect must be based on credible material before the Office”.

22 The evidence provided by the applicant was:

i) The photic sneeze response. When some people move from a dark room into the light they sneeze. The applicant asserted that the sneeze was due to the changes in the respiratory system resulting from the eye adjusting from a dark environment to a light one. It is unclear how this relates to his theory concerning visual fixation, as moving from a dark environment to a light one does not necessarily involve a change in visual fixation distance (thus a change in the length of the eyeball). It is generally accepted amongst the scientific community that this sneeze response is due to an association between the nerve that causes sneezes and the nerve that transmits visual impulses to the brain.

ii) When Mr Scanlan himself altered his point of visual fixation by looking at two fingers held a distance apart, the tone of his hum changed. He asserted that this was evidence of a link between the respiratory system and the point of visual fixation. The Examiner commented in his report of 5th August 2011 that he could not replicate the same results as Mr Scanlan, and neither can I. There is no evidence to show that this effect, if it exists, is not simply due to muscle movements.

iii) The applicant referred to a contestant on the ITV talent show *Britain’s Got Talent* – Antonio Popeye. This is a gentleman who appears to be able to make his eyeballs “pop” out of his skull. This effect, according to Mr Scanlan, is achieved by Mr Popeye having excellent control over the pressure in his respiratory system and how it affects his eyes. Again, there is no evidence that this effect is not simply down to good control of the facial muscles and/or extrinsic eye muscles.

iv) Various non-patent literature references were put forward during the examination process and the Examiner has taken them all into consideration when making his objections. I have reviewed as many as were made available to me and agree with the Examiner that although they provide interesting reading around the subject, none of them show any real evidence that the eyeball changes shape due to external pressure changes introduced by the respiratory system.

v) Mr Scanlan discussed how he feels the principles of tensegrity, best known in the field of architecture, can be related to the human body. He felt that this principle underlies his own observations. I was not provided with any evidence to support this principle in relation to the human body.

³ *Blacklight Power Inc. V The Comptroller-General of Patents* [2009] RPC 6

- 23 The applicant also asserts in his correspondence with the Office (letter of 3rd March 2011) that because there are holes (ostea) joining the orbital cavity and the respiratory system, any pressure exerted by the respiratory system must also be exerted within the orbital cavity. He cites Boyle's law in support of his assertion. However, Boyle's law applies to closed systems, and the respiratory system is not, as far as I can ascertain, a closed system. For this reason I do not accept this argument.
- 24 After considering the information before me, I do not accept that it forms credible evidence to support the applicant's theory over and above what are considered to be well established medical principles. I am therefore of the opinion that there is no reasonable prospect of Mr Scanlan's proposals being accepted even under trial conditions with experts available to give evidence. I consider the application therefore to lack industrial applicability under section 4(1).

Objection under Section 14(3) of the Act

- 25 The examiner has raised an objection under section 14(3) of the Act that the application contains insufficient information for a person skilled in the art to perform the invention; the relevant provisions of this section of the Act are shown below:
- The specification of an application shall disclose the invention in a manner which is clear enough and complete enough for the invention to be performed by a person skilled in the art.
- 26 The applicant has asserted that changes in pressure in the respiratory system affect the length of the eyeball, and thus the point of visual fixation. He has also asserted that the reverse is true, that the small (micrometers) change in length of the eyeball caused when a person changes their point of visual fixation would be enough to exert a measurable change in the pressure of the respiratory system. Consequently is invention relies entirely on the ability to measure changes in the pressure of the respiratory system.
- 27 Since the respiratory system is an open system (via the mouth and nostrils, it is open to the atmosphere) it is not clear from the description how a person skilled in the art could establish a baseline pressure, or how a measurable change in pressure would occur. There is no disclosure in the application of where this pressure is best measured, what specialist apparatus should be used to measure it, or indeed, whether the person would need to be situated within a closed system for there to be any measurable change at all. During discussion of these points at the hearing it was also unclear whether the pressure in the respiratory system was to be measured or some other form of respiratory data, such as the changes to the shape of the abdominal cavity. In the description, page 7, lines 4-8, it is proposed that sensors around the chest are used to detect expansion and contraction, and that a nasal detector senses air flow in and out of the nostrils. Neither of these directly measure respiratory system pressure. If their output can be used to derive a pressure measurement then there is no disclosure of how to do this. I am of the opinion that a person skilled in the art of measuring respiratory pressure and lung function (which to my knowledge is usually carried out in a closed cabinet to maintain a closed system) would struggle to assemble the apparatus, or carry out the method set out in the claims without additional disclosure.

- 28 The second area which must be considered is that of determining the relationship between respiratory function data obtained, and the distance of visual fixation. Mr Scanlan confirmed that for each individual, a calibration would take place, with the person being asked to look at points a known distance away and the respiratory function data being measured accordingly. The support for this disclosure is the graph of figure 3 (reproduced above) and the description on page 5, lines 5-15. The figure only shows three visual fixation distances, gives no indication of their range (millimetres, centimetres, tens of metres?), and no indication of the typical range of pressure measurement that might result. All this figure demonstrates is that the pressure is likely to increase as the visual distance increases. Mr Scanlan agreed when questioned that any relationship is unlikely to be a simple linear one.
- 29 There are also many other variables which would be likely to affect such a relationship, for example a person's state of respiratory health, the quality of their eyesight, the ambient light/atmospheric pressure or even whether or not the person in question is feeling relaxed and breathing normally. None of these are mentioned in any detail in the description with respect to their actual effect on the relationship between the two parameters. No guidance is given in the specification as to how such variables should be taken into account, thus the graph shown in figure 3 does not assist a person skilled in the art in determining the relationship between the measured parameters.
- 30 Furthermore, it is not entirely clear whether the relationship to be derived is that of pressure vs. visual fixation, depth of breathing vs. visual fixation, air flow/volume vs. visual fixation. This is, in part, due to the use of the term 'respiratory function data' in the independent claims which encompasses all of these parameters.
- 31 There are several references in the description to calculations performed on the data, using a computation unit, for example page 4 lines 16-17, page 8 lines 9-12, and page 11 line 17- page 12 line 6. There is no information in the description as to what this calculation might be. Additionally there are references to comparisons to stored data, it is not evident from the description what this stored data is or what validation against the stored data is required or expected.
- 32 Therefore, due to a lack of information concerning the apparatus which should be used to obtain respiratory function data, the conditions under which that data should be obtained, and a lack of information concerning how any data obtained would then be used to derive a visual fixation distance, I consider the application to be lacking in sufficiency under section 14(3) of the act.

Conclusion

- 33 I find the application is incapable of industrial applicability under section 4(1) and lacking in sufficiency under section 14(3). I also find there are no possible amendments which will allow this application to proceed to grant. I therefore refuse this application.

Appeal

- 34 Under the Practice Direction to Part 52 of the Civil Procedure Rules, any appeal must be lodged within 28 days.

J Pullen

Deputy Director acting for the Comptroller