Intellectual Property Office

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23 June 2015.

PATENTS ACT 1977

APPLICANT Duncan James Parfitt

ISSUE Whether patent application GB1016621.3 complies with section 14(3)

HEARING OFFICER Dr J E Porter

DECISION

Introduction

1 Patent application GB1016621.3 was filed on 2 October 2010 in the name of Duncan James Parfitt. The application is entitled "Windmill II" and it was published on 4 April 2012 as GB 2 484 148 A. The application makes no claim to an earlier priority date.

2 Following amendment of the claims and correspondence between the examiner (Mr John Twin) and the applicant, the examiner remains of the view that there is insufficient information contained in the specification to enable a person skilled in the art to put the claimed invention into practice. The applicant disagrees.

3 With the position unresolved, the applicant asked to be heard and the matter came before me at a hearing on 21 April 2015. The applicant represented himself and the examiner was also present.

The invention

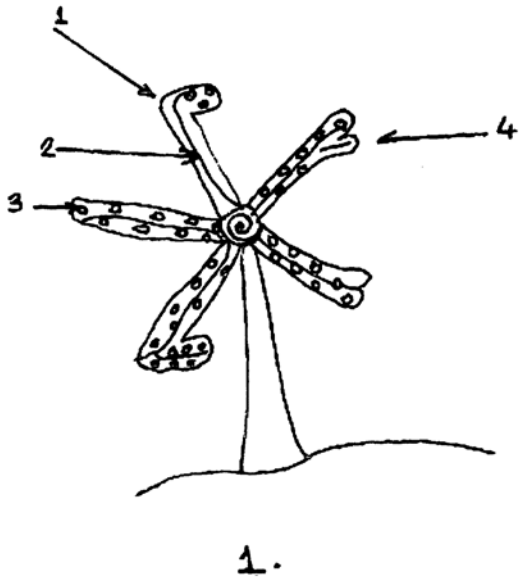
4 The invention relates to a windmill device with a particular type of vanes. The description is brief and, in its entirety, reads as follows:

> A device to convert movement of air in to rotation performing useful work.
> The device has scrolling(2) flexable(1) vanes to channel(4) the air movements, directing them to the tips(4).
> The vanes are also perforated with appertures(3) designed to be elastic(5). The elastic(5) appertures(7) extend interaction times, and so enhance the throughput.
> Variations of colour(6) and production material(6) produce an enhancement of operation.
> The combination of these effects produce a high pressure output at the tip of the vanes(4) enabling the vanes to rotate.
> The vanes should be aerodynamically designed to reduce drag.

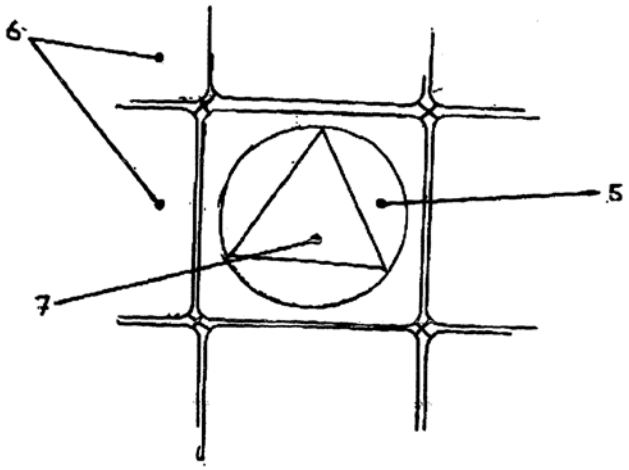
5 The original claims, provided on the filing date of the application, largely reflect the content of the description but there are a small number of apparently additional points. The original claims filed read thus:

1) A device to transform air movement to rotation.
2) A device according to claim1 using flexable vanes.
3) A device according to claim 1 having perforated vanes.
4) a device according to claim 2 having scrolling vanes.
5) A device according to claim 4 that channels air as throughput.
6) A device according to claim 3 having elastic deliniated appertures.
/) A device according to claim 6 extending interaction times.
8) A device according to claim 1 using contrasts of colour and thermal properties to generate vortex's.

6 There are two drawings included in the application, which are these:



1.



2.

The law

7 Section 14(3) of the Patents Act requires that:

> *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.*

8 There is established case law which explains that the disclosure must make it possible to perform the invention without requiring the skilled person to find out anything new (*Edison and Swan Electric Light Co v Holland,* 6 RPC 282), or to perform tests or developments that go beyond routine trials (*Halliburton Energy Services Inc v Smith International (North Sea) Ltd* [2006] RPC 2). The position is summed up neatly in *Novartis AG v Johnson & Johnson Medical Ltd* [2010] EWCA Civ 1039, where the Court of Appeal upheld a finding of insufficiency because "the instructions do not enable the skilled person readily to perform the invention over the whole area claimed without undue burden and without needing inventive skill".

9 I also note that guidance was given by the House of Lords in *Kirin-Amgen Inc v Hoechst Marion Roussel* [2005] RPC 9, where it was held that the first step in determining whether the specification is sufficient or not was to identify the invention

and decide what it claimed to enable the skilled man to do. It was then possible to ask whether the specification enabled him to do it.

10 The written exchanges do not show any disagreement between the examiner and the applicant over the principles relating to sufficiency set out in case law. The matter in dispute relates to whether the application, on the facts, satisfies the legal requirement for sufficient disclosure, as interpreted by the courts.

Arguments and analysis

11 The examiner's position is set out in his examination reports of 18 January 2012 and 10 March 2015, and summarised in his pre-hearing report of 31 March 2015. The applicant's arguments are contained in his responses of 1 March 2015 and 20 March 2015 – and further submissions were made at the hearing.

12 What I must do, in light of the material on file and the arguments put to me at the hearing, is determine whether the specification discloses the invention in a sufficiently clear and complete way, within the meaning of the relevant law.

Identifying the invention

13 The current set of claims was filed on 3 March 2015. Claim 1 is the only independent claim and it reads as follows:

> *A device to transform air movement to rotation using scrolling vanes.*

14 There are 5 dependent claims, which set out additional features of the scrolling vanes. Features claimed are that the scrolling vanes are flexible, have "elastically deliniated [*sic*] perforations" and have "contrasts of colour and thermal properties". The claims also state that the scrolling vanes "channel air as throughput to the tips" and "extend interaction times".

What the invention claims to enable the skilled man to do

15 As noted above, the main claim is short and simple. It is directed to a device which transforms air movement into rotation, and the claim clearly states that this is achieved using scrolling vanes.

16 In terms of who the skilled man might be, the examiner referred in his reports to "a person skilled in the design and construction of windmills or wind turbines". Mr Parfitt's contention is that there is a distinction between someone skilled in windmills and someone skilled in wind turbines. He argues that his invention is an enhancement to windmill technology and that "there are no skilled windmill makers, I would have thought, alive today". He suggests that the skilled person might be a skilled carpenter or woodworker, or a sail-rigger or other person who was "someone who understands the wind". But they would be "significantly skilled" and be able to build a windmill from scratch.

17 In my view, the relevant skilled addressee would be someone with expertise in windmill design, construction and operation. They would have a good understanding of how windmills work and more generally of how to generate rotational motion from

wind energy. They would have a good understanding of the engineering problems and issues which arise in that field.

18 In any event, I do not think this alters the straightforward conclusion that the invention claims to enable the skilled man to construct a device for transforming air movement into rotation using scrolling vanes.

What the specification enables the skilled man to do

19 A central point in the examiner's objections is that the skilled reader would not know from the disclosure what a "scrolling vane" is or how it would work. The skilled reader would not, the examiner says, understand from the specification how those vanes would channel the air movement, nor how the elastic apertures would "extend interaction times". Neither would the skilled reader be taught how to achieve "high pressure output at the tip of the vanes".

20 The applicant put forward a number of arguments in response, and these were explored in some depth at the hearing. It was clear Mr Parfitt thought the key to the disclosure of the invention was contained in the word "scrolling" and in the drawings.

21 In terms of the word "scrolling", Mr Parfitt explained that he saw a difference between a roll (which, when unrolled, would stay in that unrolled state) and a scroll (which, when unrolled, would naturally return to its rolled state). At the hearing he said:

> *If you've ever put wallpaper on a wall, you'll know what I mean by "scrolling", and that is when you roll out the paper, it rolls straight back again. That's my opinion of "scrolling"... that's the overall construct that I believe people will interpret from the word "scrolling".*

22 Thus, he said, "scrolling" refers to a scrolled surface which can roll and unroll and has a "dynamic of its own", and the act of "scrolling" is the action of a scroll returning to its rolled-up state. In written submissions and at the hearing he also pointed to dictionary definitions showing how "roll" and "scroll" are directly connected, and to a discussion in a book on English usage supporting the idea that the word "scrolling" can be a gerund[1].

23 Following this, he submitted that it was clear to the reader of the specification that a "scrolling vane" is one which flexibly rolls and unrolls but always returns to its rolled-up state. It is a vane which "can exhibit the properties of the scroll" but this was, he said, different from a "scrolled" vane because the latter term does not capture the idea of the vane rolling and unrolling when exposed to the wind.

24 This leads on to Mr Parfitt's arguments in respect of the drawings. With reference to figure 1 and the five vanes extending radially from the centre, he argued that the line running down each vane from the tip to the central point showed clearly the "layered surface" forming the edge of the scroll, and thus that these were "scrolling vanes". In his view, the layered edge of a scroll was the only possible meaning that could be given to the line down each vane on the drawing.

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[1] That is to say, a verb acting as a noun. The example given is the verb "to paint". In its present participle form ("painting") it can act as a noun e.g. "Painting is Martha's hobby".

25 He also explained that spiral shown at the centre of the windmill in figure 1 was a sixth scrolling vane, coming perpendicularly out of the page. Whilst he admitted that there was no mention of this in the description, he argued that the reader would deduce it from common sense. In his words: "Anyone aware of windmills would know what that was, and that's a perfect way of illustrating it". Mr Parfitt argued that there was nothing else in the application to refute or conflict with this understanding.

26 In terms of how the windmill would function, and transform air movement to rotation, Mr Parfitt explained that the sixth, central scrolling vane would act to move the windmill around so that it faced into the wind. The wind would then enter the other scrolling vanes at the outer edge of each scroll, and be channelled through the spiral of the scroll to the centre of each vane, while the vane rolled and unrolled to an extent. He argued that this was shown in figure 1, with each vane showing a different degree of unrolling in response to different wind speeds. Thus the vane nearest the number "3" was shown in low wind speed but the vane nearest the number "4" was a scroll that had opened up considerably in high wind.

27 Mr Parfitt said that, having entered each scroll, the wind would emerge at the tip of the scroll and this would lead to increased rotational motion. Thus "because air will be going into the centre of the scroll and then out, any movement that is first incurred will be enhanced by this pressure at the tips" and this, he said, would cause rotation via "the normal forces". In Mr Parfitt's view, the greater the pressure at the tip of the vanes, the greater the rotational motion.

28 He also mentioned at the hearing the reference in the description to colour, material or thermal property variations in the vanes. These would, he said, be "to absorb heat" thus "creating the sense of instability that will then react and produce the rotation that is primarily and initially implemented just by the concept of the basic windmill".

29 He also explained that the elasticated apertures shown in figure 2 were an optional feature "to improve the pressure at the tips". In his view, these apertures would increase vane flexibility and would "aid and abet the dissipation of forces...aimed to produce circular motion". They would also "start inducing vortexes" which would further contribute to rotational motion. He emphasised that they were not an essential feature of the invention, but would further improve its operation. He also emphasised that he should not be required to give details about the placement or number of the apertures as this was "the implementer's choice".

30 In summary, it was Mr Parfitt's view that the description and drawings provided all the evidence needed to understand his invention fully.

31 In my view, the first point is whether the specification teaches the skilled man that each vane is in the form of a scroll. Having read the specification and considered Mr Parfitt's arguments carefully, I am not satisfied that it does. There is only one reference in the description to anything scroll-related in terms of the vanes, and that is the second line reference to "scrolling (2) flexable [*sic*] (1) vanes".

32 Despite Mr Parfitt's submissions, I am not convinced that the word "scrolling" is clear in meaning in the context in which it is used. I do not see how it is made clear to the skilled reader that Mr Parfitt intended "scrolling" to mean the ability of a scroll to roll

and unroll (to a degree) in response to a force, or to refer to the act of a scroll responding in that way. I do not think it is a widely-understood meaning of the word and the dictionary definitions, which relate "scroll" and "roll", do not assist me further. Neither does the grammatical material supplied. I am also not convinced that the skilled reader's particular knowledge and experience of wind generation would give them further insight into what Mr Parfitt meant by "scrolling" in this context.

33 Thus I am not convinced that the skilled reader would understand from the single phrase of disclosure that each vane is to be constructed in the form of, or have the properties of, a scroll.

34 I am also unconvinced that figure 1 provides assistance on this point – relying, as it does, on the line on each vane from tip to centre to represent a scroll edge. In my view it would not be at all clear to the skilled reader that this line is the edge of a scroll. Given the absence of any explanation, the skilled reader might easily conclude this line was showing a change in material or colour or surface angle, or a join or other feature of construction – or indeed they may simply be left uncertain what it showed. I also think it wholly unclear to the skilled reader that the various shapes drawn at the outer edges of the vanes are showing scrolls which are rolled or unrolled to different degrees in response to different wind strengths. Not only do the various shapes themselves fail to get this point across – but also there is nothing to help the reader understand the rather confusing concept of the figure showing a single windmill with each vane responding to different wind strengths.

35 Therefore I do not think that the skilled person would be able to understand from the description and drawing that the vanes are intended to be scrolled, and that they are designed to roll and unroll in response to the wind. But, even if I am wrong on this point, there remains the important question of whether the specification discloses a device which can transform air movement into rotation using such vanes. For the following reasons, I am not convinced that it does.

36 First, I do not think the skilled reader would understand that the spiral at the centre of figure 1 is a vane intended to direct the windmill towards the wind. However clear this was to Mr Parfitt, there is simply nothing in the specification to help the reader work this out.

37 Second, and accepting for the sake of the argument that the air would end up at the tips of each vane, the description does not explain how this channelling of the air to the tips would cause or increase rotational motion. Neither do I think the skilled reader could deduce it – even with their understanding of how windmills work and of how to generate rotational motion from wind energy. In fact, in the absence of any further information, I think they would conclude that the air would pass out from each vane radially at the tip, and the forces would oppose one another rather than act together to produce rotation. They might also conclude, in the absence of further explanation from the disclosure, that the air would pass through the apertures shown – if these were present to any great extent in the vanes.

38 Third, I do not see how the skilled reader would be able to relate the idea of the vanes rolling and unrolling with the claimed rotational motion. Even if such continuous rolling and unrolling action would occur when the vane is exposed to wind, there is no explanation of how this continuous action would lead to better

channelling of the wind through the vane, or more rotation, than would be achieved by a static scroll.

39 Fourth, the specification provides absolutely no explanation of how elastic apertures in the vanes, or variations of colour, material or thermal property, could enhance performance or create rotational motion. There are simply brief statements asserting that this is what these features can achieve.

40 Finally, at the hearing, Mr Parfitt argued that rotational motion would be initiated and would continue by virtue of the vanes being shaped like those of a conventional windmill – but the features of the invention would then enhance that motion. I can see no teaching in the specification which suggests to the skilled man that the vanes should be of a profile which would provide a conventional response to wind. The description is entirely silent on how the skilled person might construct a vane which has a conventional vane profile, necessary for conventional windmill rotation, but which also comprises a scroll. The brief mention that the vanes "should be aerodynamically designed to reduce drag" does not address this point.

41 For all these reasons, I am not persuaded that the disclosure of the specification would enable the skilled man to construct, without undue burden or inventive skill, a device which would convert air movement into rotation using scrolling vanes.

Conclusion

42 The specification of the application does not 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.

43 Since the only way to make the disclosure sufficient would be to add significant technical matter by way of amendment, and this is not allowable, it follows that no saving amendment is possible. The application is refused under section 18(3).

Appeal

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

Dr J E Porter
Deputy Director acting for the Comptroller