Intellectual Property Office

BL O/100/21

11 February 2021

PATENTS ACT 1977

APPLICANT	Michael Oluwaseun Bamidele
ISSUE	Whether patent application GB 1612154.3 complies with section 14(3)
HEARING OFFICER	Dr S Brown

DECISION

Introduction

1 Patent application GB 1612154.3 ("the application") entitled "Vehicle system based on magnetic repulsion" was filed on 13 July 2016 in the name of "Michael Oluwaseun Bamidele" ("the applicant"). A search request was filed at the same time, and it was published as GB2552190 on 1 January 2018. The applicant then filed a request for substantive examination on 17 January 2018.

2 A search report was issued on 11 January 2017, where the examiner informed the applicant that he was treating amendments filed with the letter of 20 July as voluntary amendments under Rule 31(3) of the Patents Rules 2007, and therefore accorded them a filing date as the day the search report was issued, and that they would be examined under Section 18 of the Patents Act 1977 ("the Act"). The examination opinion that was issued with the search report therefore did not take into account these amendments. The examination opinion set out that the specification does not meet the requirements of sufficiency of disclosure, that the claims were unclear, and lacked novelty and/ or inventive step.

3 In between the issue of the examination opinion and the first examination report, the applicant filed further amendments, on 16 January 2017 and 15 May 2017. The first examination report was based upon the amendments filed on 15 May 2017, and the examiner maintained his objections under sufficiency of disclosure, clarity, and novelty/ and or inventive step. He also considered that the claims were unsupported by the description, and found that the amendments disclosed matter that was not present in the original application, and therefore were not allowable.

4 The amendments filed with the letter of 19 September 2017 overcame the added matter objection but the sufficiency, clarity and novelty/inventive step objections were maintained. Sufficiency and novelty/inventive step were maintained in subsequent examination reports, and with the position unresolved, the examiner suggested that the applicant request a hearing in his examination report of 17 July 2020.

5 The applicant then proceeded to communicate with the examiner, Jorge Quintero, and his group head, Nikki Dowell, by email, maintaining that he disagreed with the sufficiency and novelty/inventive step arguments. At the same time, the applicant contacted the Patent Hearings team with a series of questions around the procedure for hearings, which were answered by a Hearings Officer, Mr Huw Jones. The applicant disputed whether these questions had been answered, however this was revisited and Mr Jones confirmed that the questions had been answered. I agree that the questions asked had been answered satisfactorily and that anyway they did not raise any issues that would impact upon my decision regarding the patentability of this application.

6 To move matters forward, a hearing was scheduled for 25 November 2020. However, in his email of 23 October 2020 the applicant suggested that he would not attend and repeated his belief that his earlier questions had not been answered. In an email of 12 November 2020, the hearing's clerk informed the applicant that a decision would be issued based upon the papers on file if he did not attend the hearing. The hearing's clerk also reminded the applicant of the need to file skeleton arguments, but the applicant reiterated in an email of 19 November 2020 that he would not participate in a hearing until certain issues were resolved to his satisfaction. Despite being uncertain of the applicant's attendance, I initiated the hearing on 25 November as scheduled. The applicant did not attend. I am thus issuing this decision based upon the papers on file.

The invention

7 The invention relates to a vehicle system which comprises a road surface with a magnetic polarity and a vehicle that has the same magnetic polarity as the road surface, thus creating repulsion between the road and the vehicle. The features of vehicle itself are best depicted by Figures 1 and 3, reproduced below:

Fig. 1

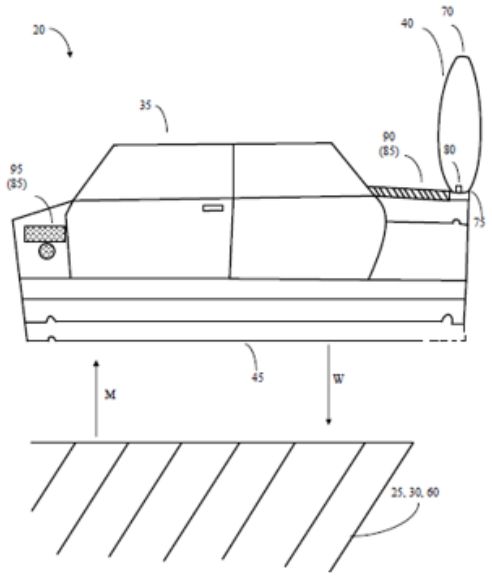
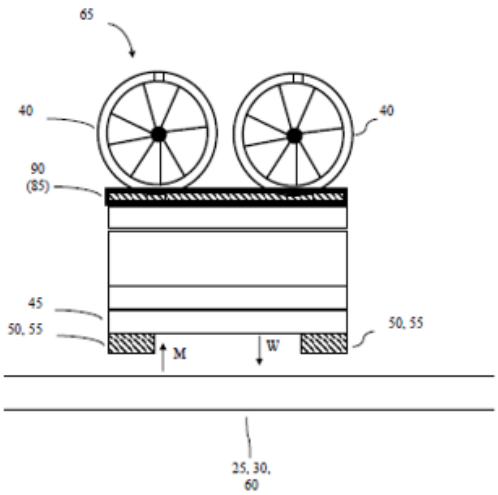


Fig. 3



8 The vehicle (35) ‘hovers’ above the road surface (25) due to the magnetic repulsion generated between the vehicle and the road surface. The vehicle comprises an air turbine (40) for steering and allowing forward, backward and sideways movement, and a hybrid electric power source (85) which comprises photovoltaic cells (90) and a high capacity battery (95) which provides power to the vehicle. The base of the vehicle (45) has weight balancing bars (50) attached to it, with each balancing bar comprising an amplifier (55) for amplifying the magnetic field (60) of the road surface, thereby allowing the vehicle, when in operation, to hover stably above the road surface.

9 The latest set of claims, filed on 15 October 2019, comprise six claims, including independent system claim 1 and method claim 4, which are set out below:

1. *A vehicle system, comprising:*
a road surface, having a magnetic polarity;
a vehicle for operation over the road surface, having same the magnetic polarity as the road surface for creating magnetic repulsion between the road surface and the vehicle;
at least one air turbine for steering the vehicle;
a frame and a base of the vehicle; and
a pair of weight balancing bars attached to the base, each containing an amplifier for amplifying a magnetic field of the road surface and eliminating contact of the base with the road surface,wherein the vehicle, when operated, levitates over the road surface, and for adjusting a downward weight of the vehicle, including the frame, the base, and the pair of weight balancing bars of the vehicle and a maximum number of occupants, to balance the downward weight with an upward magnetic repulsive force of the road surface;
further comprising:
a rear side of the vehicle;
the at least one air turbine being located at the rear side of the vehicle; and
the at least one air turbine having a top side and a bottom side, and being positioned so as to create a clockwise air motion force and an anticlockwise air motion force for achieving a forward and backward sideways movement of the vehicle;
the top side of the at least one air turbine and the bottom side of the at least one air turbine each being hinged via a multi-directional hinge; and
the multi-directional hinge of the top side of the at least one air turbine and the bottom side of the at least one air turbine allowing multiple angular movements of the at least one air turbine, and working with the clockwise air motion force and the anticlockwise air motion force to allow a forward and backward sideways movement of the vehicle.

4. A method of operating a vehicle, comprising the steps of:
polarizing a road surface to achieve magnetic repulsion with the vehicle; and
operating the vehicle to include a frame, a base, and a pair of weight balancing bars attached to the base and running along a length of the

vehicle for enabling embedding, within each of the pair of weight balancing bars, an amplifier for amplifying a magnetic field of the road surface and for adjusting an effective downward weight of the vehicle, including the frame, the base, and the pair of weight balancing bars of the vehicle and a maximum number of occupants, to balance the downward weight with an upward magnetic repulsive force of the road surface;
locating at least one air turbine at the rear side of the vehicle;
the at least one air turbine having a top side and a bottom side, and being positioned so as to create a clockwise air motion force and an anticlockwise air motion force for achieving a forward and backward sideways movement of the vehicle;
the top side of the at least one air turbine and the bottom side of the at least one air turbine each being hinged via a multi-directional hinge; and
using the multi-directional hinge of the top side of the at least one air turbine and the bottom side of the at least one air turbine to allow multiple angular movements of the at least one air turbine, and working with the clockwise air motion force and the anticlockwise air motion force to allow a forward and backward sideways movement of the vehicle.

The issue to be decided

10 The issue for me to decide is whether the disclosure of the invention is sufficient, as is required by section 14(3) of the Act. The issues of the novelty and inventive step of the invention were deferred by the examiner until the sufficiency issue was addressed and I will do likewise.

The law

11 The relevant provision of the Act is reproduced below:

Section 14(3)

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

12 The purpose of section 14(3) of the Act is to prevent an applicant from laying claim to products or processes which the teaching of the specification does not allow the skilled addressee to perform. Essentially it asks whether the patent application provides enough information for a person with a reasonable knowledge and understanding of the technical area described to be able to carry out the invention.

13 In *Eli Lilly v Human Genome Sciences*[1] *[2008]*, Kitchin J, gave the following summary of the relevant principles to be applied when assessing whether an invention satisfies section 14(3) of the Act:

> *"The specification must disclose the invention clearly and completely enough for it to be performed by a person skilled in the art. The key elements of this requirement which bear on the present case are these:*
>
> *(i) the first step is to identify the invention and that is to be done by reading and construing the claims;*
>
> *(ii) in the case of a product claim that means making or otherwise obtaining the product;*
>
> *(iii) in the case of a process claim, it means working the process;*
>
> *(iv) sufficiency of the disclosure must be assessed on the basis of the specification as a whole including the description and the claims;*
>
> *(v) the disclosure is aimed at the skilled person who may use his common general knowledge to supplement the information contained in the specification;*
>
> *(vi) the specification must be sufficient to allow the invention to be performed over the whole scope of the claim;*
>
> *(vii) the specification must be sufficient to allow the invention to be so performed without undue burden."*

14 Whilst there is only one provision under the Act, it is now settled law that sufficiency of disclosure can be approached in three different ways:

> *(1) Classical insufficiency*
>
> *(2) Insufficiency by ambiguity*
>
> *(3) Insufficiency by excessive claim breadth*

15 In this instance, the examiner considers the disclosure to be insufficient by classical insufficiency, which relates to the situation where there is no enabling disclosure. This has been usefully summarised by Floyd J in *Zipher Ltd v Markem Systems*[2]:

> *"Classical insufficiency arises where the express teaching of the patent does not enable the skilled addressee to perform the invention. This type of insufficiency requires an assessment …of the steps to which it would be necessary for the skilled reader or team to take in following the teaching of the specification and in order to arrive within the claim. Plainly the steps should not include inventive*

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[1] *Eli Lilly v Human Genome Sciences [2008] RPC 29*, paragraph 239.

[2] *Zipher Ltd v Markem Systems Ltd [2009] FSR1*:

ones. But a patent can also be found insufficient if the steps can be characterised as prolonged research, enquiry or experiment."

Arguments and analysis

16 In order for an application to be sufficient, it must include at a minimum something amounting to one embodiment or example that can be put into effect. As noted in *Kirin-Amgen Inc v Hoescht Marion Roussel*[3]:

> "*Whether the specification is sufficient or not is highly sensitive to the nature of the invention. The first step is to identify the invention and decide what it claims to enable the skilled man to do. Then one can ask whether the specification enables him to do it."*

17 I thus need to begin by identifying the invention and what the skilled person would understand it claims to enable him to do. This involves applying a purposive construction to the claims, interpreting them in light of the description and drawings.

Identifying the invention

18 On initial reading of the specification, it is not clear how the road surface is polarized, and what the role of the vehicle itself is in achieving this. In particular, it needs to be established what the origin of the magnetic field is at the road surface. In my mind there are two possibilities here: either the vehicle travels over a road with a specific magnetic surface which creates a magnetic field that is sufficient to repel the magnetic field of the vehicle; or a specific road surface is not necessary and the vehicle can travel over any road or ground surface, utilising the Earth's own magnetic field to create the repulsive forces needed to allow it to hover.

19 From reading the specification it is clear that the polarity of the vehicle is dependent upon the region of the Earth in which is it operated. Indeed claim 6 specifies that the base of the vehicle is south polarised if operated in a region of the Earth that is south polarised, and north polarised if in a region that is north polarised. This was clarified further in the applicant's letter of 24 March 2020, where the applicant states that the system 'balances the magnetic repulsion sourced from the Earth's core against the gravitational enforced weight of the vehicle which is operational on any continent of the planet'. I thus conclude that the vehicle is intended to utilise the natural magnetic field of the Earth to create sufficient repulsive force to enable it to levitate, when it itself has an identical polarity to that of the Earth. This conclusion is reinforced by the fact that I can see nothing in the specification explaining how the road surface can be otherwise magnetised. The application simply states that it has a magnetic polarity.

20 I thus construe the invention to be a vehicle system comprising a road surface having a magnetic polarity, due to the Earth's magnetic field, and a vehicle having the same magnetic polarity as the road surface. The vehicle further comprises an air turbine that allows it to be steered across the road surface, and two weight balancing bars, each containing an amplifier that amplifies the Earth's magnetic field at the

[3] *Kirin-Amgen Inc v Hoescht Marion Roussel [2005] RPC 9*.

road surface so as to provide sufficient repulsion between the vehicle's magnetic field and the amplified Earth magnetic field to enable the vehicle to levitate over the road surface. This system supposedly balances of the downward weight of the vehicle with the upward repulsive force such that levitation is obtained.

What the skilled person learns from the specification

21 Next I will consider what the skilled person would deem the specification enables them to do, and I will begin by giving some consideration as to the identity of the skilled person.

22 The concept of the skilled person is well established for the purposes of assessing inventive step, and the same is applied here: they are an uninventive but technically competent person. Aldous J gave some consideration to who the skilled person is for the purpose of sufficiency in *Mentor Corporation v Hollister Inc*[4]:

> *"The section requires that the skilled man be able to perform the invention. Such a man is the ordinary addressee of the patent. He must be assumed to be possessed of the common general knowledge in the art and the necessary skill and expertise to apply that knowledge. He is the man of average skill and intelligence, but is not expected to be able to exercise any invention. In some arts he may have a degree, in others he will be a man with practical experience only. Further, in circumstances where the art encompasses more than one technology, the notional skilled addressee will be possessed of those technologies which may mean that he will have the knowledge of more than one person."*

23 In the present case it can be reasonably assumed that the skilled person would have an understanding of magnetic forces and means for manipulating these. In his letter dated 15 October 2019, the applicant submits that a magnetic field amplifier is within the common general knowledge of the technician of ordinary skill, and refers to three patent documents that in his opinion demonstrate how such an amplifier could be used in the context of the present invention: US5675306, WO2012056331/ EP2633608 and US1810539. He refers to these again in his letter of 24 March 2020, and further states that in order to amplify a magnetic field a skilled technician would require a magnetometer, an electronic amplifier and an electromagnet. Whilst these do not address who the skilled person would be, it does go some way to highlight the kind of knowledge that the applicant believes the skilled person would have, and how they might apply this in the context of the present invention.

24 At least for the sake of argument, I am happy to agree that the skilled person would know how to use a magnetic field amplifier. However, the magnetic amplifier of this invention is part of the vehicle and yet it amplifies the magnetic field on the road surface, i.e. it amplifies the Earth's magnetic field at a location separate to the

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[4] *Mentor Corporation v Hollister Inc* [1991] FSR 557 (at page 561):

amplifier itself. The question, therefore, is whether what is disclosed in the present application enables the skilled person to construct such an amplifier without any significant degree of invention or research.

25 Reading the application carefully, I can see nothing in the way of detail with regards to the construction of the magnetic amplifiers. Indeed, it merely states that the amplifiers are contained in the weight balancing bars and asserts that they amplify the magnetic field of the road surface such that the vehicle can levitate. Whilst I do agree with the applicant that the skilled person would know how to use a magnetic amplifier *per se*, as pointed out by the examiner in his pre-hearing report of 12 August 2020, the amplifiers of this application need to amplify the Earth's magnetic field at a distance. I have reviewed the patent documents referred to by the applicant (see paragraph 23 above) and agree with the examiner that these documents do not disclose such a device. They disclose the amplification of a 'local' magnetic field, i.e. the components are provided around the circuit that generates the magnetic field to amplify *that* magnetic field. There is nothing in these documents that suggest any mechanism capable of amplifying a magnetic field by a component that is separate to the source of the magnetic field, as is required by the present invention. Furthermore, they do not disclose devices capable of amplifying the Earth's magnetic field.

26 In his letter of 24 March 2020, the applicant provided information obtained from the internet which he submits is common general knowledge and goes some way to explaining how the amplifier might work. However, I can see nothing in this submission that demonstrates how a magnetic field from a source separate to the amplifier can be amplified. The applicant went on to point out that the principle of amplification will work inside or outside of the amplifier, but has not provided anything in his submissions or pointed to anything in the prior art or other common general knowledge that would lead me to believe that this is anything more than mere assertion.

27 Finally, the applicant also argued that details of the amplifier functionality cannot be reasonably provided without a prototype or detailed experimentation. He has reiterated this point in various email communications, arguing that this places an unfair disadvantage upon independent inventors who may find it difficult to undertake such detailed experimentation and prototyping. While this may be the case, that is not the relevant legal principle - what the application needs to show is that the skilled person is able to work the invention without an undue burden of experimentation being placed on *them* to achieve what the applicant claims to have already invented.

28 In my opinion, there is nothing in the application as filed, in any of the prior art documents identified by the applicant, nor in any of his other submissions that convinces me that this is the case. In order for the invention to work, the magnetic field amplifier that is embedded in the vehicle needs to amplify the magnetic field at the road surface, which is to say the Earth's magnetic field at that location, and it needs to do so to create sufficient repulsion between the road surface and the vehicle to enable the vehicle to hover. How this is to be achieved is not disclosed in the application, neither was it part of the common general knowledge at the filing date of the present application.

29 I am thus forced to conclude that the invention has not been sufficiently disclosed, as required by section 14(3). It is therefore classically insufficient.

Conclusion

30 I have concluded that the specification does not sufficiently disclose an invention such that a person skilled in the art would be enabled to perform it. I therefore refuse this application under section 18(3)

Appeal

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

STEPHEN BROWN

Deputy Director, acting for the Comptroller