



PATENTS ACT 1977

APPLICANT Roy Henry Booker

ISSUE Whether patent application number GB 1014537.3
complies with Section 1(1)(b) and Section 76(2)

HEARING OFFICER J Pullen

DECISION

Introduction

- 1 Patent application GB1014537.3 relating to improvements in vehicle lighting was filed by Mr Roy Henry Booker on 1 September 2010 claiming priority from GB1013076.3, which was filed on 4 August 2010. The application was published on 8 February 2012 as GB2482567A.
- 2 Following several rounds of correspondence, the applicant has been unable to convince the examiner that the claimed invention involves an inventive step as required by section 1(1)(b) of the Patents Act 1977¹. There is also an issue of added matter which arises under section 76(2). These issues are set out in reports dated 8 December and 10 December 2014.
- 3 The applicant accepted the offer of a hearing, and the matter came before me on 19 January 2015.

The application

- 4 The application concerns a vehicle lighting system, in particular the relationship between the indicator lights and the hazard warning lights. It is usual for road vehicles to be provided with at least four indicator lights, one at each side on the front and rear of the vehicle, these being amber in colour in most (but not all) countries of the world. It is also usual for these same lights to provide a hazard warning function by all four lights flashing simultaneously and in phase. However,

¹https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/354942/patentsact1977011014.pdf

when being used as hazard warning lights, the indicator lights are not available to be used to indicate a change in direction. The invention provides separate indicator and hazard warning lights on electrically isolated circuits, with the hazard warning lights being red in colour so as to distinguish them from the amber indicator lights. This allows a change in direction to be indicated whilst the hazard warning lights are in operation.

- 5 The examination reports given above and the hearing were based on the amended claim proposed by Mr Booker in his letter of 12 February 2014, which reads as follows:

“A vehicle lighting system comprising of hazard warning lights and indicator lights, where the hazard warning light system is electronically isolated from the indicating light system, allowing a turn signal to be given, and made visible, when the hazard warning lights are activated. The hazard warning lights are red in colour and the indicator lights are amber. Both the hazard warning lights and the indicator lights are situated at the four corners of the vehicle.”

- 6 It should be noted that Mr Booker is entitled to claim a priority date of 4 August 2010 from GB1013076.3, however, the priority application contains nothing more than a statement about changing the colour of hazard warning lights in every vehicle that travels on private and public roads. Therefore, the majority of the detail of Mr Booker's present application has the earliest date of its filing date, which is 1 September 2010.

Added Matter

- 7 Before I address the issue of inventive step, I must consider the issue of added matter raised by the examiner in his letter dated 8 December 2014.

- 8 The relevant parts of the law are set out below:

No amendment of an application for a patent shall be allowed under section 15A(6), 18(3) or 19(1) if it results in the application disclosing matter extending beyond that disclosed in the application as filed.

- 9 The claim under consideration states that the indicator lights and hazard warning lights are situated at “the four corners of the vehicle”. I agree with the examiner that this phrase does not appear in the originally filed application. Furthermore, as there is no indication that the outer edges of the lights shown in figures 1 and 2 are also the outer edges of the vehicle, it cannot be considered that the figures support this phrase. Therefore, this constitutes added matter under section 76(2) of the Act, and cannot be allowed. However, as suggested by the examiner, the figures do support the indicator lights and hazard warning lights being situated at both sides of the front and rear of the vehicle.
- 10 I believe this is a matter of poor drafting rather than any real intention to amend the scope of the claim beyond the matter disclosed in the application as filed. As the examiner has suggested, there are minor amendments which could be made to the claim to overcome this objection.

Inventive step

The law

- 11 Section 1 of the Act sets out a number of requirements that an application must comply with before a patent can be granted. The relevant parts of that section read as follows:

A patent may be granted only for an invention in respect of which the following conditions are satisfied, that is to say -

(a) the invention is new;

(b) it involves an inventive step;

- 12 Further explanation of the inventive step requirement can be found in Section 3:

An invention shall be taken to involve an inventive step if it is not obvious to a person skilled in the art, having regard to any matter which forms part of the state of the art by virtue only of section 2(2) above (and disregarding section 2(3) above).

Analysis

- 13 At the hearing, Mr Booker spoke about solving a real problem and how much of an improvement, in terms of safety, his invention is over current vehicle lighting systems. As a specific example he drew upon personal experience where his car cut out in the outside lane of a motorway. He activated his hazard warning lights and was then unable to indicate as he pulled across the carriageway to the hard shoulder. He was clearly enthusiastic about his idea and spoke with passion about the potential safety benefits it would bring.
- 14 The task for me is to determine whether Mr Booker's invention involves an inventive step, or in other words, to determine if it is obvious having regard to any matter made public before the priority date.
- 15 The approach to be followed when assessing whether an invention provides an inventive step is that laid down by the Court of Appeal in *Pozzoli*². This approach was followed by the examiner, most noticeably in his report dated 10 December 2014. This approach involves the following steps:

(1)(a) Identify the notional "person skilled in the art"

(1)(b) Identify the relevant common general knowledge of that person;

(2) Identify the inventive concept of the claim in question or if that cannot readily be done, construe it;

(3) Identify what, if any, differences exist between the matter cited as forming part of the "state of the art" and the inventive concept of the claim or the claim as construed;

(4) Viewed without any knowledge of the alleged invention as claimed, do those differences constitute steps which would have been obvious to the person skilled in the art or do they require any degree of invention?

² Pozzoli SpA v BDMO SA [2007] EWCA Civ 588, [2007] FSR 37

Step 1 - Identify the notional skilled person and their common general knowledge

- 16 In his report dated 10 December 2014, the examiner identifies the skilled person as a “vehicle lighting engineer”. I agree with this, and Mr Booker did not dispute it at the hearing. However, to expand on the definition, I consider that the vehicle lighting engineer would be involved in the design and modification of vehicle lighting systems, and would at least have an appreciation and understanding of their installation in various road vehicles. They would be a person who has the skill and knowledge to make routine workshop developments, but not to exercise inventive ingenuity or think laterally.
- 17 In ascertaining what constitutes the skilled person’s common general knowledge, I became aware of the following web pages:
- <http://boards.straightdope.com/sdmb/showthread.php?t=497021> (dated 2008)
- <http://h2g2.com/forums/A148907/conversation/view/19585/3729108/page/1/> (dated 2006)
- <http://www.surfaceeffect.com/thoughts/turn> (dated 2001)
- 18 Each of these pages discusses the problems of having combined indicator and hazard warning lights. Each suggests the solution of using different colours to distinguish them, with the 2008 reference also suggesting that separate sets of lights are used. In light of the content of these web pages, which are general discussions of the problem to be addressed, I am certain that the skilled person would be aware of this problem, that it could be solved by using different colours for indicators and hazard warning lights and that they could be separate lights.
- 19 Further, the skilled person would be aware of the different vehicle light colours commonly used, and those allowed by law, in their territory and in other major territories. For example, in the UK indicator and hazard warning lights must, by law, be amber. This is also true across the majority of the world. However, in the USA and Canada rear indicator lights are allowed, by law, to be red in colour. Such vehicles will still usually use their indicator lights as hazard warning lights, and so their rear hazard warning lights will also be red in colour. The skilled person, even if operating outside of the USA or Canada, would be aware of this as North America is a major player in the road vehicle market, in terms of design, manufacture and use. Therefore, the use of each of amber and red for indicator lights and hazard warning lights would form part of the common general knowledge of the skilled person.

Step 2 - Identify the inventive concept of the claim in question or if that cannot readily be done, construe it

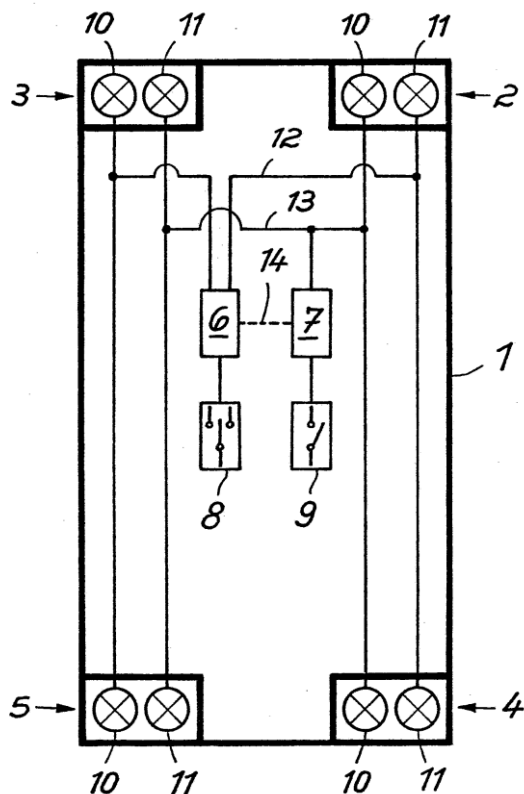
- 20 There are two issues with the claim to be resolved before the inventive concept can be identified, both issues were first raised by the examiner in his report dated 16 May 2014.
- 21 The first issue is that the claim comprises three sentences which, previous case law has held, renders the claim ambiguous. However, notionally rewriting the claim so as

to consist of a single sentence would present no difficulty, and I do not believe it would have any effect on the intended scope of Mr Booker's claim.

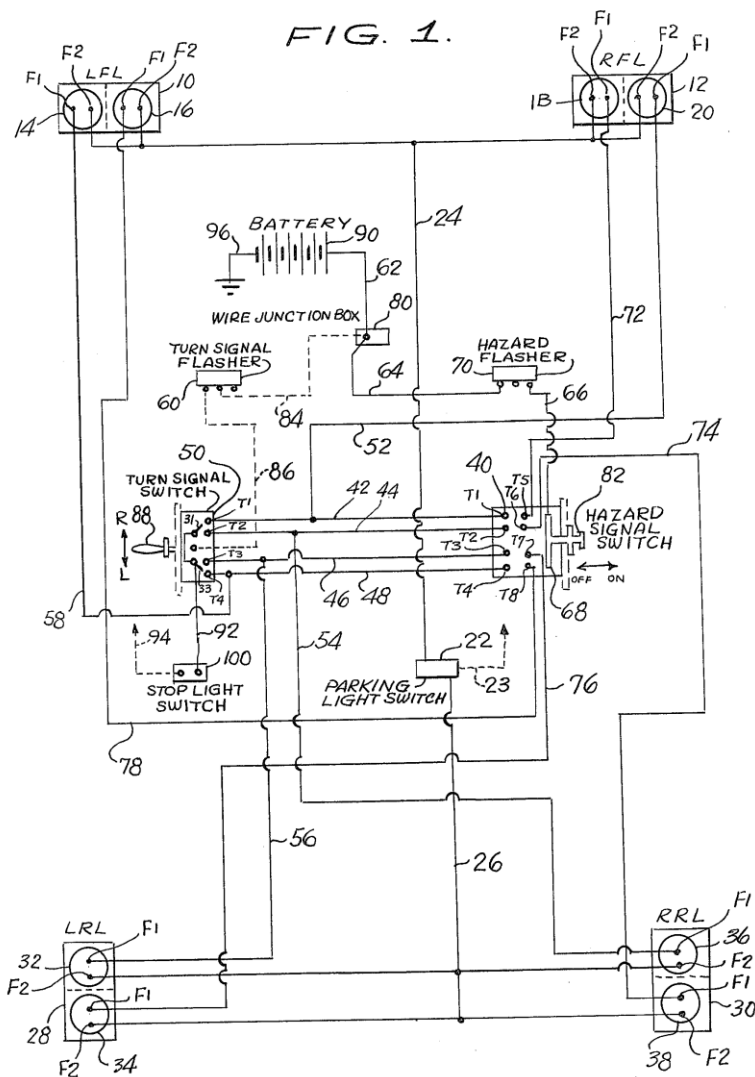
- 22 The second issue is added matter which I have addressed above. I do not believe that the added matter would have any significant effect on the inventive concept.
- 23 Taking these two issues into account, I believe the inventive concept of the proposed claim to be the provision of electrically isolated amber indicator lights and red hazard warning lights at both sides of the front and rear of a vehicle.

Step 3 - Identify what, if any, differences exist between the matter cited as forming part of the "state of the art" and the inventive concept of the claim

- 24 The matter cited as forming part of the state of the art in this instance comprises six prior patent documents, which have been separated into group 1 (two documents) and group 2 (four documents). Group 1 consists of US4087784 and DE3227511.
- 25 Disclosed in DE3227511 is a motor vehicle lighting arrangement wherein an indicator light circuit, 12, is electrically isolated from a hazard warning light circuit, 13. The indicator light circuit includes a switch, 8, a flash transmitter, 6, and four lights, 10, one situated at each side of the front and rear of the vehicle. Similarly, the hazard warning light circuit 13 includes a switch 9, a flash transmitter 7 and four lights 11, one situated at each side of the front and rear of the vehicle. The switches are independently controllable such that the indicator lights can be used when the hazard warning lights are activated. Although the drawing shows a dashed line between the flash transmitters 6, 7, the description, in its final paragraph on page 5, states that this indicates tuning of flashing frequencies, and so the circuits are still considered to be electrically isolated.



26 US4087784 discloses a motor vehicle lighting arrangement wherein the indicator and hazard warning lights are independently controllable such that the indicator lights can be used when the hazard warning lights are activated. This is achieved in the embodiment of figure 1 by providing two bulbs on each side of the front and rear of the vehicle, for example bulbs 14, 16 at the front left. Each bulb comprises two filaments F1, F2, and each filament is part of a parking light circuit which is electrically isolated from the indicator and hazard warning lights, whilst each filament F1 provides an indicator and/or hazard warning function. However, there is a question over whether the indicator lights and hazard warning lights are electrically isolated. When the hazard signal switch 40 is on, the filaments F1 of each of bulbs 16, 18, 34 and 38 are energised such that they flash. At this time the indicator and hazard warning light circuits are electrically isolated, and activation of the turn signal (indicator) switch 50 will energise filaments F1 of bulbs 14 and 32 to flash if indicating left, or bulbs 20 and 36 to flash if turning right. However, when the hazard signal switch 40 is off, the two circuits are connected by lead wires 42, 44, 46 and 48 such that activation of the turn signal (indicator) switch 50 will energise filaments F1 of bulbs 14, 16, 32 and 34 to flash if indicating left, or bulbs 18, 20, 36 and 38 to flash if turning right:



- 27 Does US4087784 disclose electrically isolated indicator and hazard warning lights as given in Mr Booker's application? In believe the answer to this is yes. The circuits are electrically isolated when the hazard warning lights are in operation, thus allowing separate indicator lights to be used when the hazard warning lights are already being used in the same way as in Mr Booker's application.
- 28 What is not disclosed in DE3227511 or US4087784 is that the indicator lights are amber, and the hazard warning lights are red. In fact, there is no disclosure at all about what colour each of the sets of bulbs might be. In the hearing Mr Booker did not dispute that the only difference between his invention and the disclosures of DE3227511 and US4087784 is the use of amber for the indicator lights and red for the hazard warning lights
- 29 Group 2 consists of documents US4117454, US3925759, DE2734668 and US6188317. Each of these documents discloses the use of red hazard warning lights in various vehicle lighting arrangements. At the hearing Mr Booker did not dispute this.

Step 4 - Viewed without any knowledge of the alleged invention as claimed, do those differences constitute steps which would have been obvious to the person skilled in the art or do they require any degree of invention?

- 30 The final step of the approach set out in *Pozzoli* takes us essentially to the statutory test, i.e. is the invention obvious? This does not mean the earlier steps were unnecessary. Rather they are intended to ensure that a consistent approach is taken to determining whether an invention is or is not obvious.
- 31 The examiner's argument is that the use of red hazard warning lights, as exemplified by the group 2 documents, is known, and that it would be obvious to a skilled person to modify the arrangements of DE3227511 and US408778 to use red for the hazard warning lights.
- 32 At the hearing Mr Booker argued that his invention was not obvious, and that it did involve an inventive step. His argument centred on the fact that his invention is "unique", and that he is the first person to put together the relevant teachings of the group 1 and group 2 documents. I explained to Mr Booker that, as far as the six prior art patent documents cited by the examiner are concerned, it is agreed that his invention is unique, and that he is the first person to put together the relevant teachings of the group 1 and group 2 documents in a patent application. This is why no objection to the novelty of his claim under section 1(1)(a) of the Act has been made. I clarified that the matter to be decided is whether the claimed invention involves an inventive step in view of the patent documents cited, and the skilled person's common general knowledge.
- 33 Following the hearing, at the point at which I became aware of the three web pages identified above, Mr Booker was invited to make observations on the relevance of these web pages to the inventiveness of his invention. Mr Booker did provide observations, but these provided no arguments relevant to the inventiveness of his invention, so will not be considered further.

- 34 The skilled person, implementing the vehicle lighting arrangement disclosed in either of DE3227511 and US408778 would have to select a colour for each set of lights. It has already been established that a skilled person would be aware of the issues surrounding combined indicator and hazard warning lights, and that the use of different colours could alleviate such issues. Therefore, when presented with the disclosure of either of DE3227511 and US408778 the skilled person would readily understand that the use of different colours (by way of coloured bulbs and/or lenses) could easily be achieved, and do this without exercising any inventive ingenuity.
- 35 The choice of amber for the indicators, and red for the hazard warning lights is considered to be arbitrary, there being no perceived technical effect in using these colours over any other two colours that the human eye can easily distinguish from one another. Further, as previously discussed, the skilled person would also be aware of the different colours used for different vehicle lights. He would be aware that amber is widely used for indicator and hazard warning lights, and he would also be aware, no matter what territory he were operating in, that in the USA red is commonly used for rear indicator and hazards warning lights. The documents of group two further show that it is known to use red for hazard warning lights.
- 36 I consider that the skilled person would not need to exercise any inventive ingenuity in selecting amber for the indicator light bulbs and red for the hazard warning light bulbs for the vehicle lighting arrangement disclosed in DE3227511 or US408778 as these are both an arbitrary choice, and known colours for the respective bulbs.
- 37 It follows that I do not consider the invention defined in the proposed claim to contain an inventive step.

Other matters

- 38 At the hearing Mr Booker also presented arguments on the subject of whether emergency vehicle lights constitute hazard warning lights. Mr Booker's opinion was that emergency vehicle lights do not hazard warning lights, and he referred to a letter from Mr Keith Jeffs, Operations Manager and a senior partner of Roadcraft Driver Training Ltd. in support of his argument. However, as this issue has no bearing on whether the invention is obvious in view of the cited prior art, it will not be considered further in this decision.

Conclusion

- 39 With regard to added matter I find that the claim of the application currently contains added matter under section 76(2), however, there are amendments which could be made to remedy this. With regard to inventive step, I have carefully considered the specification as a whole, but am unable to find anything upon which an allowable claim might be based. I therefore refuse the application under section 18(3) for failure to comply with section 1(1)(b).

Appeal

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

J Pullen

Deputy Director, acting for the Comptroller