

OPINION UNDER SECTION 74A

Patent	GB2414073 C
Proprietor(s)	Airdri Limited
Exclusive Licensee	
Requester	Avire Limited
Observer(s)	Airdri Limited
Date Opinion issued	09 December 2015

The request

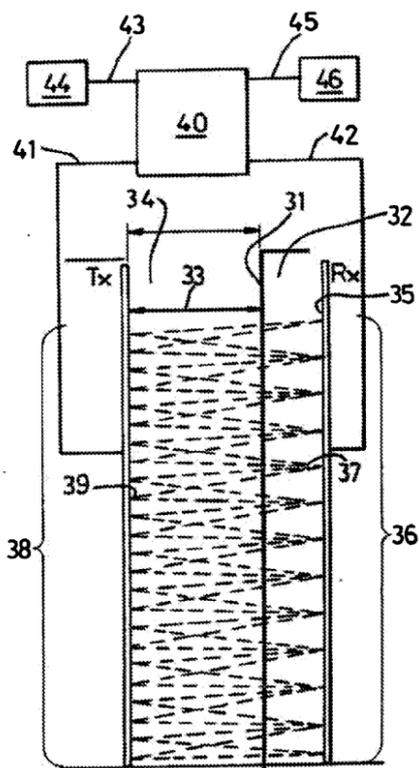
1. The comptroller has been requested to issue an opinion as to whether GB2414073 (“the patent”) is inventive in light of certain prior art documents and common general knowledge. In addition an opinion is requested as to whether the matter disclosed in the specification of the patent extends beyond that disclosed in the application for the patent as filed.

Observations and preliminary matters

2. Observations were received from IP Asset LLP on behalf of the patentee and observations in reply were received from Mathys & Squire LLP on behalf of the requester.
3. The observations from the patentee are said to include “*many and sufficient reasons why the Comptroller should refuse the opinion request.*”. Despite this statement I can find no reasons given in the observations as to why the Comptroller should refuse the request. Consequently I take this phrase to simply mean that the patentee has provided observations intended to show that the patent is valid and includes no added matter.
4. The observations in reply state “*There is no basis in the Patents Act or Rules for a request for validity opinion to be ‘refused’.*”. In fact section 74A(3) and rule 94 do make provision for refusal of a request. However, as I noted above, no argument has been advanced regarding refusal and I shall not consider the issue further.

The patent

5. The patent was granted with effect from 22 April 2009 and remains in force. The application was filed on 14 May 2004 and no priority claim was made.
6. The patent is concerned with a system for scanning a gap for example in connection with a sliding door for a lift and is entitled System for gap scanning. A single embodiment is illustrated in figure 2, below, showing a variable gap 33 between the leading edge 31 of a partially closed lift door 32 of a lift car 34 and a frame edge. The gap 33 is scanned by a series 38 of twenty four infra red transmitters 39 facing a series 36 of thirteen infra red receivers 37. The frame edge in question is referenced 35 in the description, a reference number which is shown in the figures outside the gap 33. I assume that reference 35 in figure 2 should indicate the left hand frame edge carrying the series 38 of transmitters 39. The description also says that "leading edge 31 of the door frame 103 houses a series 36 of thirteen infra red receivers (typically receiver 37)". This is inconsistent with what figure 2 shows and with the invention claimed in claim 1. I take it that in the embodiment the variable gap is formed between the leading edge of the door and the opposite side of its frame and the emitters and receivers are located at the lateral boundaries of a fixed gap formed by the door frame.



Proposal 48 Beam Pattern
13 Rx Sensors
24 Tx Sensors

Fig. 2

Added matter

7. The request suggests that claim 1 includes subject matter that was not disclosed in the application as filed, the wording in question being “*wherein the number of units in the one plurality of units is of the order of twice the number of units in the other plurality*”. The request does however acknowledge that claim 1 of the patent as filed refers to the numbers of emitters and receivers differing from one another and that figure 2 shows twenty four infra red transmitters and thirteen infra red receivers.
8. In their observations the patentee disputes that there is any added matter. The observations take me to three further passages in the application as filed that are said to provide support for the passage in claim 1. Firstly what is described with reference to the drawings is said to be an “*exemplary embodiment*” (line 5 on page 4 as filed). On page 5 as filed the term “*typically*” is used in the context of the transmitters and receivers. Finally page 6 as filed includes the phrase “*a nearly 50% reduction in the number of sensors in series 39 (figure 2) by comparison with those in series 19 (Figure 1)*”.
9. In their observations in reply the requester asserts that “*exemplary embodiment*” and “*typically*” refer to the embodiment as a whole rather than to the numbers of transmitters and receivers. The requester goes on to point out that the only embodiment shows a number of transmitters that is less than twice the number of receivers, arguing that this is not “*of the order of twice*”. The requester also argues that “*a nearly 50% reduction*” is not “*of the order of twice*” since it is a stated benefit rather than a technical feature, further that it refers to the number of receivers in the embodiment compared with the prior art and still further that it would not include “*exactly twice*” or “*more than twice*”. The requester goes on to refer me to *Bonzel and Schnieder (Europe) AG v Intervention Ltd* [1991] RPC 553.
10. Both requester and patentee seem to agree that “*exemplary embodiment*” refers to figure 2 as a whole and I concur. More complete quotes from page 5 are “*a series 36 of thirteen infra red receivers (typically receiver 37)*” and “*a complementary series 38 of twentyfour (sic) infra red transmitters (typically transmitter 39)*”. I cannot read “*typically*” in these passages as referring to the number of receivers and transmitters and also on this point I agree with the requester. I am not clear what relevance there is in “*a nearly 50% reduction*” being a stated benefit. It is true that the 50% reduction in receivers is between the prior art in figure 1 and the embodiment in figure 2, but essentially the point is that thirteen is being described as “*a nearly 50% reduction*” of twenty four.
11. According to Jacob J. in *Richardson-Vicks Inc.’s Patent* [1995] RPC 568, “*the test of added matter is whether a skilled man would, upon looking at the amended specification, learn anything about the invention which he could not learn from the unamended specification*”. In my view the skilled man knew from the unamended specification that the invention must have differing numbers of emitters and receivers (see claim 1), either more emitters than receivers or fewer emitters than receivers (see claims 2 and 3) and that the invention might be embodied by an arrangement of twenty four infra red transmitters and thirteen infra red receivers. I believe that in this context twenty four is “*of the order of twice*” thirteen. He would understand that the invention was not limited to twenty four infra red transmitters and thirteen infra red receivers, since the embodiment is described as “*exemplary*”. I do not believe that

we would learn anything about the invention that he could not learn from the unamended specification. Hence in my opinion there is no added matter.

Claim construction

12. Before considering the documents put forward in the request I will need to construe the claims of the patent following the well known authority on claim construction which is *Kirin-Amgen and others v Hoechst Marion Roussel Limited and others* [2005] RPC 9. This requires that I put a purposive construction on the claims, interpret it in the light of the description and drawings as instructed by Section 125(1) and take account of the Protocol to Article 69 of the EPC. Simply put, I must decide what a person skilled in the art would have understood the patentee to have used the language of the claim to mean.

13. Section 125(1) of the Act states that:

For the purposes of this Act an invention for a patent for which an application has been made or for which a patent has been granted shall, unless the context otherwise requires, be taken to be that specified in a claim of the specification of the application or patent, as the case may be, as interpreted by the description and any drawings contained in that specification, and the extent of the protection conferred by a patent or application for a patent shall be determined accordingly.

14. And the Protocol on the Interpretation of Article 69 of the EPC (which corresponds to section 125(1)) states that:

Article 69 should not be interpreted in the sense that the extent of the protection conferred by a European patent is to be understood as that defined by the strict, literal meaning of the wording used in the claims, the description and drawings being employed only for the purpose of resolving an ambiguity found in the claims. Neither should it be interpreted in the sense that the claims serve only as a guideline and that the actual protection conferred may extend to what, from a consideration of the description and drawings by a person skilled in the art, the patentee has contemplated. On the contrary, it is to be interpreted as defining a position between these extremes which combines a fair protection for the patentee with a reasonable degree of certainty for third parties.

15. There is a single independent claims, as follows:

A gap scanning system for use in a door opening defining a fixed size gap between first and second lateral boundaries and a variable sized gap which can be closed by means of a door with a leading edge, the door being movable between:

an open configuration providing a maximum variable gap size between the leading edge of the door and a fixed location on the opposite side of the door opening so as to allow passage through the fixed gap; and

a closed configuration in which the variable gap size is a minimum or zero;

a first plurality of emitter units of beams of electromagnetic radiation, located at one of the lateral boundaries of the fixed gap;

a second plurality of receiver units for the beams located on the other side of the fixed gap on the other of the lateral boundaries;

control means providing for the emitter and receiver units to establish an array of beams across the fixed gap in which a beam from one emitter in the first plurality can be received by a complementary receiver in the second plurality; wherein the number of units in the one plurality of units is of the order of twice the number of units in the other plurality; the plurality containing the greater number of units being located relative to that side of the variable gap from which the door moves in moving from a position where the variable gap size is a maximum to where the variable gap size is a minimum or zero.

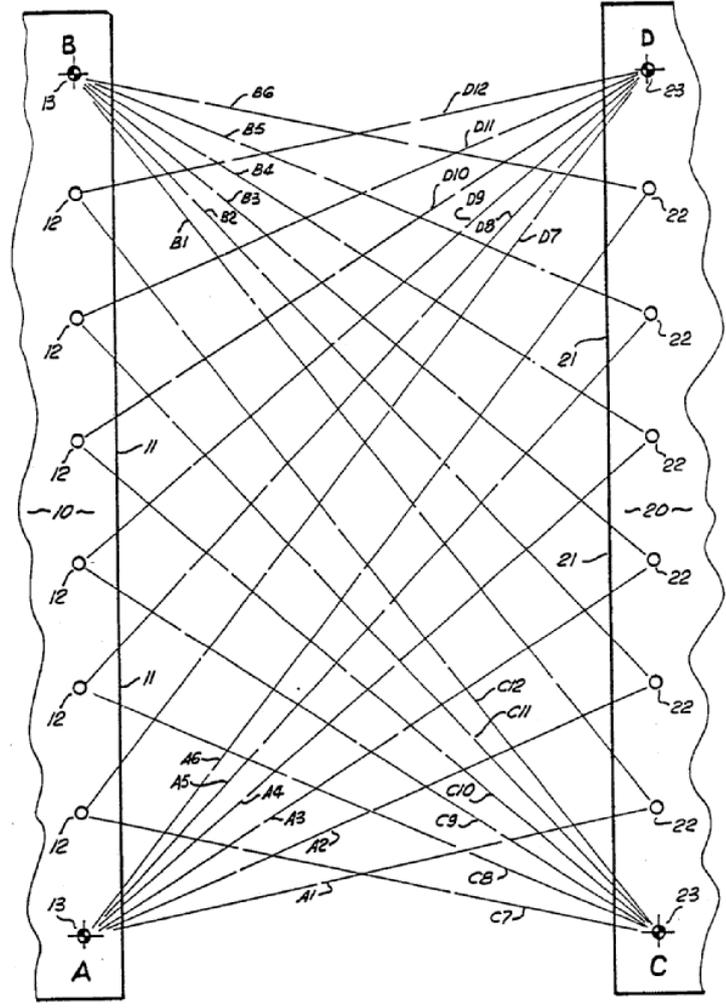
16. As will become clear later, the wording “*of the order of twice*” is significant. There is nothing in the patent as filed that informs me explicitly how I should interpret the phrase. The only assistance that I can find is the embodiment of figure 2 which shows thirteen sensors and twenty four transmitters, a ratio of 1.85:1. Thus it is clear that “*of the order of twice*” need not mean exactly twice. In the absence of any other indication from the patent of how I might construe the phrase I believe I must conclude that it means a value closely approximating twice.
17. The only other part of the claim which I feel requires some interpretation is the phrase “*being located relative to that side of the variable gap from which the door moves*”. From figure 2 it seems that “*relative to*” should be taken to mean opposite or opposed to. The requester and the patentee both refer to “opposing” and “opposite”, albeit when describing the prior art (see section 3.7 of the request and section 3.1 of the observations from the patentee).

Prior art

18. Eight pieces of prior art are referred to in the request, six patent documents and two datasheets. These last two are said by the requester to be generally representative of common general knowledge in the art. I note that some of the documents were cited during the prosecution of the application for the patent. However, I am content that I am being asked to give an opinion on a new question and not to revisit matters already considered.
19. In interpreting some of the prior art the request quotes comments said to be made by the patentee in an opposition to a European patent granted to the requester, EP2165961. No documents are provided to verify the quotations in the request, although the patentee does not dispute the quotations in their observations. The patentee does however point out that the comments were made in a different context and should be treated with caution. They also suggest that the relevance of the prior art to the patent should be judged on its own merits, a sentiment with which the requester agrees in their observations in reply. It is probably most sensible if I treat the comments in the request as being the interpretation of the prior art of the requester.
20. All of the patent documents referred to in the substance of the request were published before the filing date of the patent.
21. The first piece of prior art is US4794248, referred to as US4794298 by the patentee

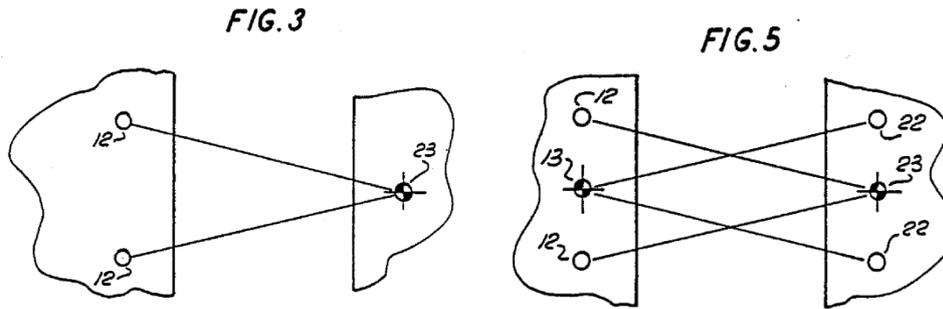
in their observations. Whilst this document was not cited during the prosecution of the application for the patent, its disclosure is essentially the same as WO82/02787. That document was cited during pre-grant prosecution and is also referred to in the opinion request. The documents both show a system detecting the presence of objects between the sliding doors of an elevator. A series of emitters 12, 22 and sensors 13, 23 in a ratio of 3:1 are provided on doors 10, 20, see figure 1 below.

FIG. 1



22. Figures 3 and 5, below, are described as showing “other arrangements of sensors and emitters according to the invention”, but there is no further description of those figures. Figures 3 and 5 appear to be scrap views of doors with alternative arrangements of emitters and sensors, see also below. The requester considers that figures 3 and 5 show arrangements with twice as many emitters as sensors. The patentee believes that the arrangements in figures 3 and 5 would be repeated in such a way to give equal numbers of emitters and sensors. Their basis for this is a statement in US4794248 that “The radiation from the emitters is not collimated, unlike related prior techniques that use lights and detectors in matched pairs, where collimation is required for good sensitivity. Consequently, each sensor actually receives radiation in a plurality of paths, each extending between the sensor and one of the emitters, as FIG. 1 shows.” I am not convinced that I can draw the implication regarding repetition of emitters and sensors that the patentee suggests from this

passage. To my mind it simply means that fewer sensors may be required by the invention of US4794248 than earlier systems, i.e. the ratio of emitters to sensors can be more than 1:1. Whilst figures 3 and 5 each show one sensor for two emitters, to my mind neither figure discloses a whole system. It is not clear to me that the document teaches how the arrangements of figures 3 and 5 would necessarily be incorporated in a larger system. Consequently I do not think the skilled man could readily conclude that any specific numbers or ratios of emitters and sensors in a whole system are disclosed in figures 3 and 5. Therefore the only ratio of emitter to sensors disclosed in US4794298 and WO82/02787 is 3:1.



23. US4853531 was cited during the pre-grant examination of the patent. It shows a high speed shutter door assembly in which a series of receivers 20, 22, 24 and 26 and four groups of infra-red diode transmitters S1.1 to S1.n, etc are mounted on walls 16, 18 either side of an opening 10, i.e. a fixed gap. Each of the four receivers receives emissions from one of the four groups of transmitters. How many transmitters might make up a group is not disclosed.

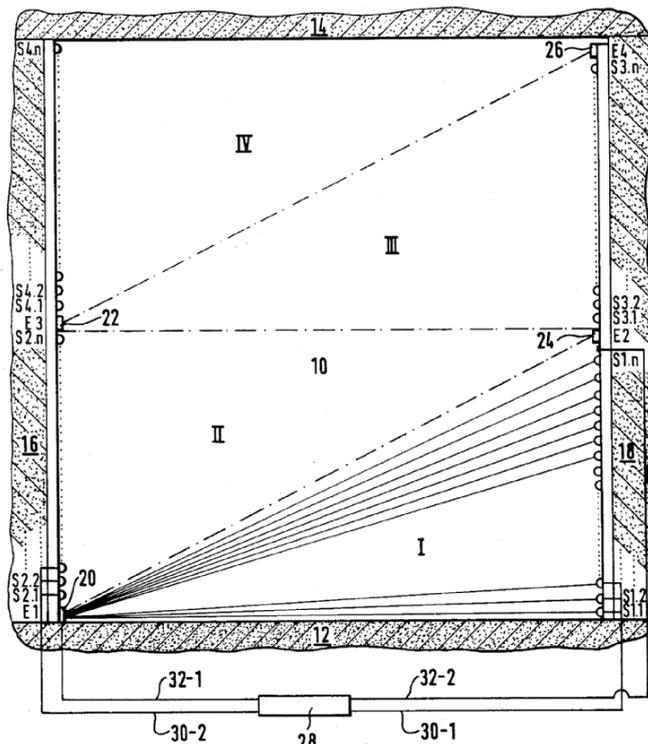


Fig.1

24. US4742337 was not considered during the pre-grant examination of the patent. It describes a room or other area security system and makes no mention of lifts, elevators, doors or the like. Figure 8 shows an arrangement of opposing strips 1a, 1b, each made up of receiving regions E1a and E2a or E1b and E2b and transmitting regions Sa or Sb made up of transmitting elements 2. The implication is that strips 1a, 1b are fixed, although there is nothing stated explicitly in the specification to make this clear.

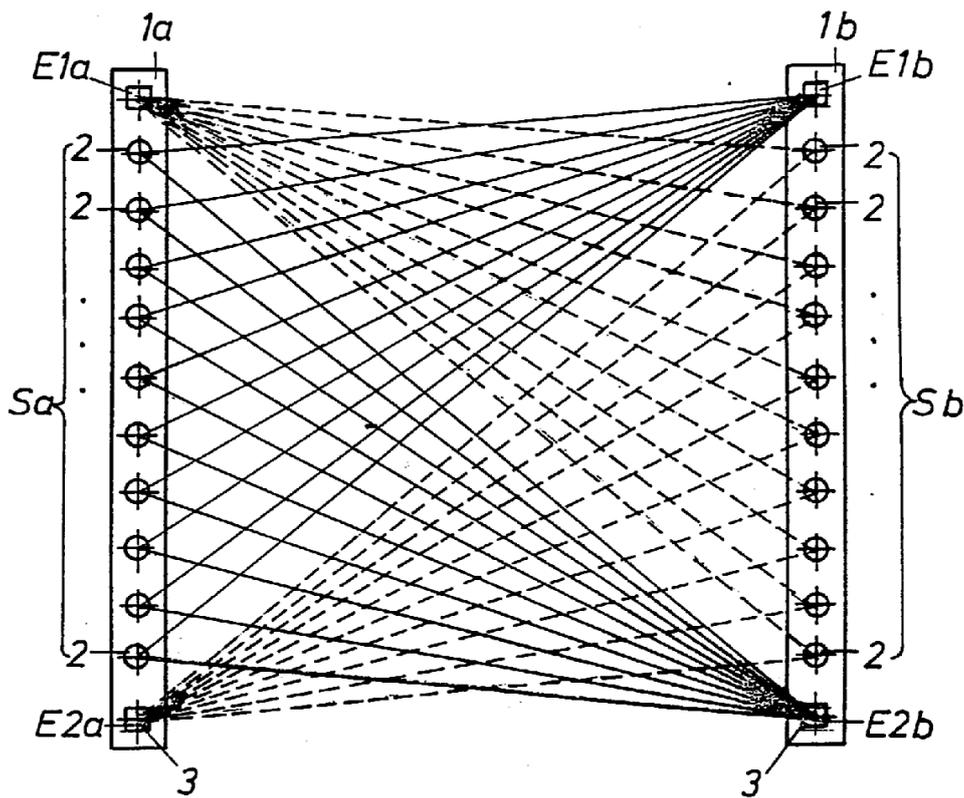


Fig. 8

25. GB2353855, a pre-grant citation against the application for the patent, is concerned with scanning a gap in connection with a sliding door of an elevator. Figure 1, below, shows an elevator car 11 with a sliding door 12 and an opening D between the edge of the door 12 and a side panel 15. Leading edge 17 of door 12 carries an array 18 of infra red emitters 19 to 23, etc and side panel 15 carries an array 10 of infra red receivers 24 to 28, etc. Whilst this embodiment has one fixed array and a movable array, elsewhere in the specification it is made clear that both arrays may be fixed, see for example the last paragraph on page 6.

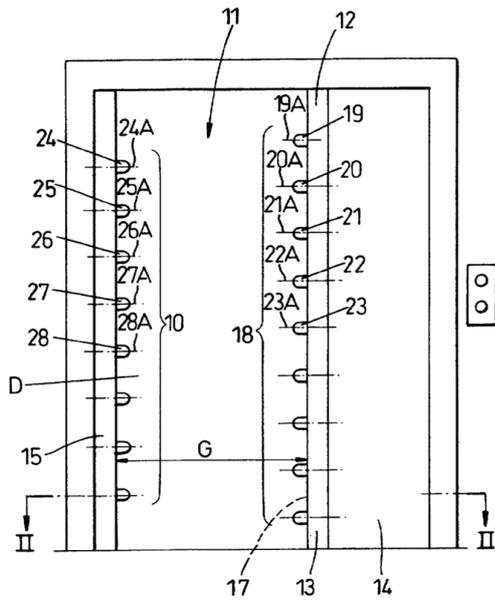


Fig. 1

26. GB2361310 is concerned with an infrared antipinch system for automatic vehicle door closure. Figure 2 shows a pair of transmitters 30 mounted on a door 22 and a plurality of sensors 34 on a door jamb 16.

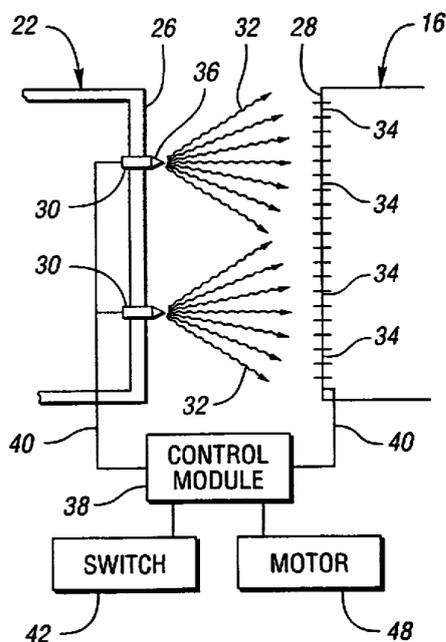


Fig. 2

27. In addition to the patent documents described above a number of datasheets,

product information sheets and installation sheets concerning products from Memco Ltd accompany the request. Before turning to the substance of these documents there is a question of their publication date. The request asserts that they were published before the priority date of the patent. The observations on behalf of the patentee question if the documents were publically available or for example made available under conditions of commercial confidentiality. The observations also query the dates shown on the documents as being illegible. In response the requester repeats the assertions and directs me to a passage in the Manual of Patent Practice that says "*A date of publication which appears on or in connection with a document is presumed to be the date on which publication actually took place, and any allegation to the contrary must be established by evidence.*". No such evidence has been provided.

28. The requester has ringed and highlighted text on the datasheets, etc that presumably are intended to show a publication date. The documents in question were filed by fax and their legibility has suffered somewhat as a result. In many cases the highlighted text is indeed illegible, although where the text is legible the dates do appear to pre-date the priority date of the patent. I cannot say from the documents themselves whether the text refers to a date of publication or some other date, for example a date the document was finalised or prepared. I will however assume for the purposes of this opinion that the documents were published and that the date of publication was before the priority date of the patent.
29. Although more Memco documents have been provided with the request, only two documents are referred to. These are a datasheet for a Memco model 616 and a product information sheet for a Pana40plus-3D. A table of ordering information on page 3 of the Memco model 616 datasheet includes a part number for a static fixing kit and page 3 of the Pana40plus-3D product information sheet refers to detectors being fitted in a static position and also to alternative detectors described as standard or leading edge. The request asserts that standard indicates static mounting, although no reference in the document itself is provided to support this. The observations from the patentee refer to installation notes in the Pana40plus-3D product information sheet which state "*Always mount the detectors as close to the door edge as possible.*". The observations from the patentee argue that this, along with accompanying figures 2 to 6, means that the Pana40plus-3D product information sheet only refers to a variable gap.
30. The Memco model 616 datasheet does show an installation where the components are fixed relative to one another in figure 1 and also refers to mounting the detectors on the car doors. Thus this document discloses both a fixed gap and a variable gap to be scanned. By contrast I can only find references to a variable gap in the Pana40plus-3D product information sheet.

Inventive step

31. To determine whether or not an invention defined in a particular claim is inventive over the prior art, I will rely on the principles established in *Pozzoli SPA v BDMO SA* [2007] EWCA Civ 588, in which the well known Windsurfing steps were reformulated, although the request does not formally follow this approach. The reformulated steps are:

- (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, determine whether those differences constitute steps which would have been obvious to the person skilled in the art.

- 32. The request identifies the person skilled in the art as being skilled in the art of elevator safety system design and installation. I do not disagree with this, but I would add that gap scanning systems would form part of this art. I base this on the prior art accompanying the request exemplifying such systems.
- 33. The request goes on to suggest that the Memco datasheets provide evidence that door edge safety systems being mounted either statically or on the leading edge of a movable door was common general knowledge. Of the seven pieces of prior art referred to in the request (US4794248 and WO82/02787 being essentially the same), only US4853531, US4742337, GB2353855 and the Memco model 616 datasheet refer to statically mounted systems and of those US4742337 is outside the field of elevators. Although I do not feel that the evidence provided is very strong on this point, nevertheless I agree with the requester that such arrangements were commonly known.
- 34. The inventive concept is essentially a gap scanning system with arrays of emitter units and receiver units mounted either side of a fixed gap, the number of units in one array being very close to twice the number of units in the other array and the array with the greater number of units being located on the side of the gap opposite the side from which a door moves as it closes the gap.
- 35. The request includes several inventive step attacks. However each attack begins with US4794248 as “*the matter cited as forming part of the “state of the art”*”.
- 36. According to the request the only difference between US4794248 and the inventive concept of the claim is that US4794248 does not explicitly disclose emitters and receivers mounted either side of a fixed gap, only mounted to moving doors. The patentee agrees that this difference exists, but disagrees that this is the only difference. The additional difference identified is the requirement from claim 1 that “*the number of units in the one plurality of units is of the order of twice the number of units in the other plurality*”. As I discussed above I do not believe that US4794248 discloses this requirement. I can identify no additional differences between US4794248 and the inventive concept. Therefore the differences are the fixed gap and a ratio of emitters to receivers or of receivers to emitters of very close to 2:1.
- 37. Moving to the final step in the Windsurfing/Pozzoli approach, the request argues that the difference it identifies would have been an obvious step in light of variously US4853531, US4742337, GB2353855 or common general knowledge represented by the Memco documents discussed earlier.

38. As I noted above all of these documents apart from the Pana40plus-3D product information sheet show a fixed gap. However, none of them shows a ratio of emitters to receivers or of receivers to emitters of very close to 2:1. Consequently the various combinations proposed do not result in the inventive concept of claim 1.
39. In any event the request gives no reason why the skilled man would consider combining the disclosures of these documents with that of US4794248. For example, apart from the Memco documents, none of them are said to form or exemplify the common general knowledge in the art. In the absence of any such justification I can see no reason to suggest that a simple mosaic of US4794248 with any one of the other documents would have been considered by the skilled person without hindsight.
40. According to the request the Memco documents are evidence that installing door edge safety devices statically was commonly known in the art. As I noted above, only one of the Memco documents referred to in the request shows a fixed gap. However, given the weight of prior art provided showing a fixed gap it seems reasonable to conclude that such arrangements were commonly known. Nevertheless it remains that case that none of the prior art shows the requirement of claim 1 that *“the number of units in the one plurality of units is of the order of twice the number of units in the other plurality”*.

Opinion

41. It is my view that the prior art provided by the requester does not show that the invention was obvious at the filing date.

Karl Whitfield
Examiner

NOTE

This opinion is not based on the outcome of fully litigated proceedings. Rather, it is based on whatever material the persons requesting the opinion and filing observations have chosen to put before the Office.