

September 25th  
2007

**PATENTS ACT 1977**

BETWEEN

Lufthansa Technik AG

Proprietor

and

Barker Brettell

Opponent

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PROCEEDINGS

Application under section 74B of the Patents Act 1977 for  
a review of opinion no. 26/06 issued on patent no. EP(UK) 1532046

HEARING OFFICER

R C Kennell

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**DECISION**

**Background**

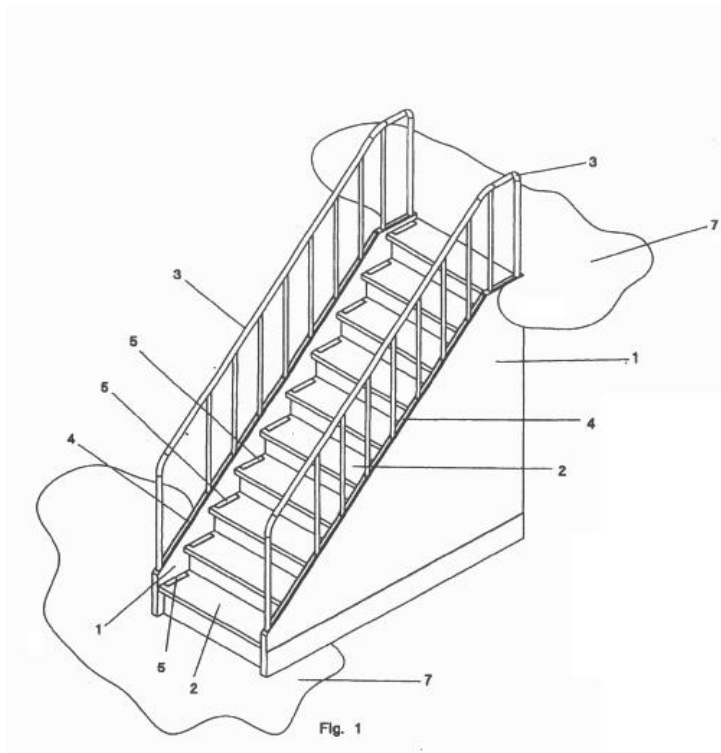
- 1 The above opinion was requested by Barker Brettell and was issued on 14 February 2007 after the receipt of observations from the proprietor. It concluded that some of the claims of the patent were invalid, and the proprietor applied on 14 May 2007 for a review of the opinion under rule 77(5)(a) of the Patents Rules 1995. This rule allows the patent holder to apply for a review on the grounds that the opinion wrongly concluded that the patent was invalid, or was invalid to a limited extent.
- 2 The application was accompanied by a statement under rule 77H(3) setting out the grounds for review. Barker Brettell ("the opponent") filed a counter-statement under rule 77I(3) on 19 June 2007 contesting the application, and is therefore a party to the review proceedings. Both parties are willing to have the matter decided on the basis of these submissions without a hearing.

**The patent**

- 3 The patent relates to the provision of emergency lighting on the staircases of multi-deck aircraft. It contains four claims, and I need quote in full only claim 1:

“An aeroplane having a plurality of decks (7), arranged one on top of the other, for passengers, freight and/or crew and at least one staircase (1,2,3), which connects the decks and is provided with photoluminescent rail- or strip-like markers (4,5) which are arranged on both sides of the staircase steps (2) at the lateral ends thereof, characterised in that markers (4), which can be seen from above and are essentially uninterrupted, are arranged at the sides of the steps (2), following the ascent of the staircase (1,2,3).”;

the reference numerals relate to Figure 1.



- 4 Claims 2-4 relate respectively to the provision of lateral side markers on a landing, of markers having different colours and/or luminosity, and of indicators on the markers.
- 5 The patent states that it is known to provide photoluminescent (“PL”) rail- or strip-like markers (5) at the lateral ends of the steps. The invention supplements these with continuous markers (4) at the sides of the steps which follow the slope of the staircase. As the patent explains, the markers (4) and (5) are at an angle to one another, so that a passenger will see these as converging lines or groups of lines and immediately recognise that they relate to a staircase and not to an aisle.

### Construction

- 6 In construing the claims, the examiner made the following points at paragraphs 6,7,12,14,15 and 19 of the opinion:
- The preamble to claim 1 should refer only to the markers (5), the markers

(4) being above, rather than at, the lateral edges of the steps.

- Although the deletion of (4) from the preamble would remove the explicit statement that (4) must be PL rail- or strip-like markers, it is clear from the specification that this is essential.
- Although the claim does not recite functional language relating to giving an impression of converging lines to the viewer, it is clear from paragraph [0006] of the description that this visual effect is essential. Tread markings along the nosings of the steps (as in D4 and D7) would give a transverse “ladder” effect rather than a pair of converging lines.
- Markers along the handrails are to be discounted as not being in the view of a person descending the stairs and looking downwards for guidance, and are not in any case “at the sides of the steps” as required by the claim.

7 These points do not appear to be in issue in the review proceedings, although the opponent disputed the third and fourth in its reply to the proprietor’s observations before the issue of the opinion. I accept the examiner’s arguments on construction (although my decision does not turn on them).

#### **The grounds for the review**

8 The request for an opinion alleged lack of inventive step of all four claims on the basis of seven prior art documents D1 – D7 (not all of which I need to discuss for the purposes of this review):

D1 Patent specification EP 0 828 657 B1 (Saf-t-Glo Aerospace Ltd)

D2 Patent specification US 5 775 016 (Chien)

D3 Patent specification EP 0 514650 A1 (Deutsche Airbus GmbH)

D4 Buildings Research Establishment information paper  
“Photoluminescent markings for escape routes”, Webber et al,  
published September 1989

D5 US Department of Transport draft resolution “Recommendation for  
low-level lighting requirements on passenger ships”, issued  
February 1992

D6 Article “The evacuation problem and glow-in-the-dark escape  
systems”, Strauss, “Caution” magazine, published April 1985

D7 Photoluminescent Safety Products Association (PSPA) Standard  
002 Part 2 1993 “Photoluminescent emergency wayfinding  
guidance systems”

9 The examiner concluded that claims 1 and 2, and claim 4 when dependent on claim 1 or claim 2, lacked an inventive step and were invalid; but that claim 3, and

claim 4 when dependent thereon, were valid. I shall need to explore the reasoning behind the opinion in more detail, but it suffices for the moment to say that it rested on D5 as the closest prior art document, even though this is directed to lighting in ships rather than in aeroplanes.

- 10 With particular reference to the reasoning in paragraphs 16 and 36-39 of the opinion, the proprietor's statement seeks a review on the grounds:
- that the examiner was wrong to presume that the skilled person would have found D5;
  - even if he had found it, that he would have attached enough weight to it to consider applying it to an aeroplane; and
  - that he had in any case interpreted D5 incorrectly with the benefit of hindsight;

and asks accordingly for the opinion to be set aside to the extent that it concludes that claims 1, 2 and 4 are invalid. (Although the proprietor does not ground any argument on D7, it points out for completeness that that the same arguments apply in respect of that document also.)

- 11 The opponent on the other hand submits that the examiner's reasoning and conclusions were based on prior art that the skilled person would have found and considered and did not result from the use of hindsight. It asks for the opinion to be maintained. It points out that the proprietor has not attempted to challenge the opinion in respect of claims 2 and 4 should I still find claim 1 to be invalid.
- 12 The proprietor further states that the system of the invention has successfully passed the European safety tests and is very successful economically. The opponent makes no comment on this point.

## **Analysis**

### ***Document D5***

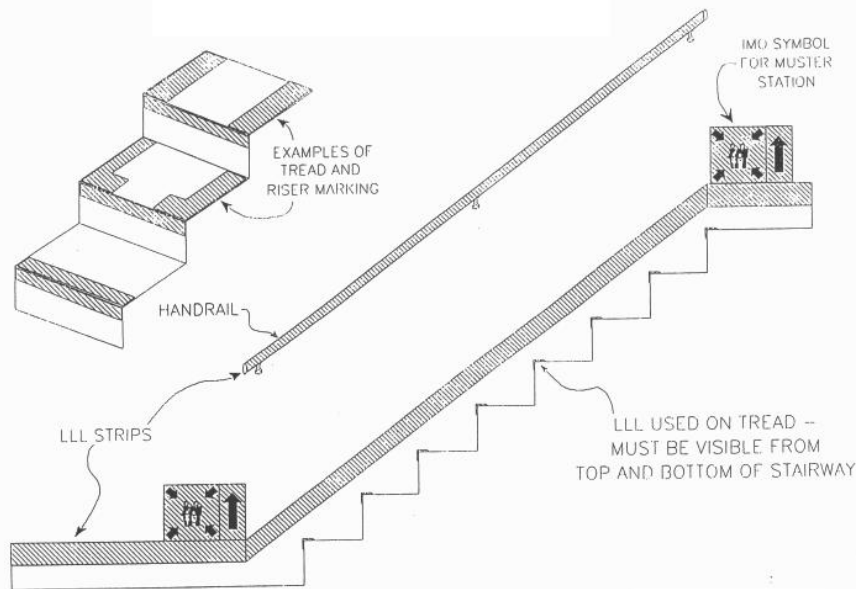
- 13 Paragraph 3.1 of D5 defines low-level lighting ("LLL") as photoluminescent or electroluminescent strips or marking placed at all points of the escape route. Paragraphs 4.3 and 4.4 state:

"4.3 In all passageways, the LLL strips shall be continuous except as interrupted by corridors in order to provide a visible delineation along the exit path of travel (see figure 2). The strips shall be installed on both sides of the corridor. .... LLL strips in passageways shall be located either in the lower 300mm of the bulkhead or on the deck within 150mm of the bulkhead.

4.4 In all stairways, LLL shall be installed which will make the location of each step and the width of the stairs readily identifiable to any person standing above and below that step (see Figure 5). All

handrails shall be identified either by having LLL strips incorporated into the handrail itself or having the entire handrail outlined. IMO signs shall be incorporated into the LLL which direct the passengers toward the embarkation or muster stations.” ;

and figure 5 is as follows:



- 14 D5 concludes with the reports of a test to validate the draft requirements. The test was held in a building rather than a ship and is stated to have been attended by ship owners, manufacturers, classification societies and local firefighters. The building layout described at pages 1 and 2 includes two sets of stairs, that from the second floor down to the first being described as follows:

“d. Stairs to the First Floor (approximately 1m wide) – There was no handrail in this stairway. Strips were laid on the edges of the treads and the risers as called for in the draft LLL resolution (see photo #4). A 100mm strip was also laid on the bulkhead as shown in the resolution.”

- 15 A plan view of these stairs is shown in figure 3 of the test report. They are not identical to D5 and the position of the bulkhead strip in relation to the stairs is unclear. However, figure 3 explicitly shows the strip on one side only.

#### ***The examiner's analysis of D5***

- 16 In reaching his opinion, the examiner stated at paragraphs 16-17:

“16. D5: This looks like the most relevant of D4 – D7. The stairway shown in figure 5 has continuous markers following the ascent of the stairs, both

on the handrails and also, importantly, lower down on the bulkhead nearer the steps. This lower bulkhead marking is shown on one side only in figure 5, but this is probably just because of the way the stairs are shown. The lower bulkhead marking is shown as a continuation of the strips on the bulkheads in the upper and lower decks connected by the stairs. Given the disclosure at 4.3 that markings should be on both sides of passageways it appears that marking on both sides of the stairs is contemplated. The upper and middle steps of the inset illustration show lateral step markings according to the claim. The staircase of D5 is in accord with the claim apart from being in a ship rather than an aeroplane.

17. The proprietor's comments on D5 (paragraph 19 of the observations) refer to the penultimate paragraph on page 3 of D5: trialists who navigated a test-set up including two separate sets of stairs remark that a handrail, and especially a marked handrail, is very useful in navigating stairs. The test set-up as described on pages 1 and 2 under the heading "Building layout" did not have stairs like those in figure 5, with continuous strips low down near the steps, so the relevance of the trial set-up is not clear. The proprietor appears to be saying that the trials in D5 show that handrail marking is much more important. However the low level markings are plainly shown in the recommended layout of figure 5 and the proprietor is silent on these continuous strips lower on the bulkhead."

(The paragraph to which the examiner refers is the only specific comment on D5 by the proprietor in the observations, and says only that the tests in D5 indicate that the lack of a handrail and thus the PL marking on the handrail makes navigating the stairs difficult.)

- 17 The examiner applied the well-known four-step *Windsurfing*<sup>1</sup> analysis to the assessment of inventive step and concluded in relation to claim 1:

"34. The art in question is that of PL marking in aircraft to assist passage to emergency exits. I do not have expert witness evidence to assess the common general knowledge in the art in question but it would seem quite clear that it must include the fact that stairways occur in aircraft and knowledge that PL strips can be used to guide persons in an aircraft and generally for evacuation purposes. I also assess below certain other knowledge that I consider to be the common general knowledge of the skilled person, is assessing the dependent claims.

.....

37. D5 appears to be the closest prior art because this discloses the required arrangement of PL markings on a staircase in a passenger transport application. The difference between D5 and the alleged invention is that the staircase of the invention is in an aeroplane instead of a ship.

.....

39. The question to be asked is whether the skilled but unimaginative man in the art of aeroplane evacuation guidance markings would recognize that

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<sup>1</sup> *Windsurfing International Inc v Tabur Marine (Great Britain) Ltd* [1985] RPC 59, at pp 73-74

the stairs shown in figure 5 of D5, which are marked in the required form, would solve the problem of effective emergency evacuation down stairs in aeroplanes. My view is he would recognize this possibility and use normal skill or common sense in making any slight adaptations necessary.

40. D2 lists ships and aeroplanes together as environments where emergency evacuation guidance is required. D1 mentions vehicles in general at the outset before going on to concentrate on aeroplanes. D2 and D1 are of some assistance to the requester but are not essential because no combination is required to impugn the claim; D5 considered in the light of the common general knowledge of the art shows that the present invention lacks an inventive step."

### ***Claim 1 of the patent***

*Would the skilled person have found D5?*

- 18 As the proprietor rightly observed, the Court of Appeal in *Windsurfing* held that the question of obviousness has to be answered not by looking with the benefit of hindsight at what is known now and what was known at the priority date and asking whether the former flows naturally and obviously from the latter, but by hypothesising what would have been obvious at the priority date to a person skilled in the art to which the patent in suit relates. The proprietor submitted that the examiner had fallen into the trap of analysing D5 with hindsight, and that it would not have been obvious to a person skilled in the art of aeroplane evacuation guidance markings to search through disclosures in the field of passenger ships.
- 19 At paragraphs 7 and 8 of the statement the proprietor gives the following reasons for this allegation:
- There are important differences in the requirements for ships and aeroplanes: in an emergency on a ship passengers will need to move upwards and away from rising water, whereas passengers in an upper deck on an aeroplane will have to move downwards to get to the emergency exits
  - Aeroplanes have to comply with very strict safety rules and new systems require rigorous testing by the authorities: the skilled person would not therefore consider documents in different fields such as passenger ships as being of any relevance.
- 20 The opponent makes no comment on the second of these reasons, but argues in paragraph 7 of the counter-statement that the assumptions underlying the first reason are incorrect. The opponent submits that situations such as a power failure may arise where the ship is not sinking but emergency lighting is still required in identify corridors and stairways and assist the movement of passengers and crew both up and down the stairs, and that even if a ship such as a cruise liner or ferry were sinking, many passengers would be on the decks above the main access deck and would have to move down the stairways in

order to escape. The opponent further submits that D5 envisages the movement of people both up and down a stairway by providing PL markers on the treads, which would be visible from above, and on the risers, which would be visible from below.

21 In the absence of further evidence, I have to say that I am not at all convinced by the proprietor's first point. In my view, for the reasons stated by the opponent it cannot simply be assumed that emergency evacuation from a ship will always be upwards at a stairway. The opponent's submission is clearly supported by paragraph 4.4 of D5, and if anything more clearly by paragraph 9.2.4 of D7 which specifically mentions escape routes both up and down stairs in passenger ships.

22 The proprietor's submission would in any case seem to be at variance with its arguments in the observations that it made on the request for the opinion. These did not dispute that D5 was a document to be considered, as appears from paragraph 15:

"The skilled but unimaginative addressee is assumed to be a person concerned with the design of escape route lighting at the priority date of the UK'046 patent and in particular escape route lighting for aeroplanes. Therefore it is assumed that the skilled addressee would have imputed to him a knowledge of the disclosures of documents D1-D7 as indicated in the request."

23 The proprietor's second point seems to me to be a non sequitur. I do not for one moment doubt that new systems of emergency lighting for aircraft will have to undergo rigorous testing in order to comply with safety requirements. However, unless it can be shown that these testing and safety regimes dictate lighting arrangements and constructions which are wholly distinct from those used in ships, I do not think the point has any bearing on whether the skilled person would or would not look at documents relating to emergency lighting in ships.

24 Accordingly I do not think that the proprietor has made out any case that the skilled person in the art of emergency evacuation guidance markings in aircraft would not look at documents relating similar markings in ships when faced with the problem of improving the guidance provided by PL marker strips on aircraft stairways. In my view the skilled person would not confine his or her enquiry to documents relating to aircraft but would be expected to take in documents relating to areas such as passenger ships and buildings where there is also a need to use stairways in an emergency to evacuate people quickly and without panic.

25 I therefore consider that D5 is a document which the skilled person would be expected to find. Although I reach that conclusion without reference to D1 and D2, I think it is supported by the references in these documents to which the examiner refers in paragraph 40 of the opinion (see above).

*Would the skilled person have considered D5 if found?*

26 Even if D5 had been found, the proprietor submitted that the skilled person would



not have given it serious consideration as it related specifically to passenger ships with no encouragement to encourage a reader to use its disclosure in different circumstances.

- 27 I do not think this is a correct assessment of D5. Although it is specifically directed to the requirements for LLL in passenger ships, it includes a summary of the testing underlying the draft resolution. This was carried out in a building and the summary describes in some detail the arrangement of PL marking strips in corridors and stairways used to facilitate evacuation down from the top floor. I think the skilled person would immediately realise that the teachings of the document would be generally applicable to situations where emergency evacuation down staircases was required, including aircraft, even though the list of attendees attached to the summary does not appear to include anyone with a specific aerospace interest.

*Has the examiner interpreted D5 correctly?*

- 28 The proprietor submits in paragraph 10 of the statement that, notwithstanding the statement in 4.3 of D5 that strips should be installed on both sides of the passageway, the examiner was wrong to interpret D5 as showing uninterrupted continuous markings at both sides. It considers figure 5 to show only markings on one side of the stairway. In support of this allegation it observes that there are several other plan representations in D5 showing both sides of the stairway but none with the markings on both sides.
- 29 The opponent however points out that the marking in figure 5 meets at each end with continuous passageway markings. Since paragraph 4.3 requires these to be on both sides, the opponent believes it implicit that continuous lines of PL material would be applied to both sides of the stairway.
- 30 Further, the proprietor does not consider that D5 can be combined with either D2 or D1 to arrive at something within claim 1, in view of the examiner's admissions in the opinion at paragraphs 24-25 and 28. Thus - and rightly in my view - the examiner points out that D2 discusses stairs and buildings in general but does not contemplate or discuss stairs in aeroplanes or show PL markers on both lateral ends of the steps, and that D1 discloses the use of PL material for guiding people in an aeroplane and vehicles in general but is wholly silent on stairs.
- 31 In regard to the proprietor's mention of "several other plan representations" which do not show marking on both sides, the only such representation that I can find is the arrangement in the test report which I have mentioned above. This is not the same arrangement as that in figure 5 of the main part of document. Arguably it might incline the skilled person towards providing the markers at one side only of the figure 5 arrangement rather than at both sides, given that paragraph 4.4 specifically deals with stairways and unlike 4.3 does not prescribe installation of markings at both sides. On the other hand, I can see nothing in D5 to discourage the skilled person from providing markers at each side in order to link up with corridor markings at each side in accordance with 4.3, and I agree with the examiner (see paragraph 16 of the opinion) that this would be contemplated.

32 It therefore seems to me implicit in D5 that the markings can be either at one side only or at both sides. Even if I am wrong on that, I think the provision of markings at both sides is a simple modification which would readily occur to the skilled reader of D5, irrespective of what is taught by documents D1 and D2.

33 In my view therefore the skilled person would have found and considered D5 even though it relates to requirements for passenger ships, and from it would have arrived at the construction of claim 1 without inventive effort. I do not think that this is negated by the proprietor's point concerning the economic success of the invention, which is a mere assertion unsupported by any detailed arguments or evidence. It follows that claim 1 lacks inventive step in the light of D5 and is invalid.

#### ***Claims 2 and 4 of the patent***

34 I agree with the opponent that the proprietor's statement does not provide any grounds to challenge the examiner's opinion on claims 2 and 4, and I see no reason on the face of the opinion to question his reasoning and conclusion on these claims.

#### **Conclusion**

35 I therefore find that the examiner was correct in his opinion that claims 1, 2 and 4 lacked inventive step and I accept his reasoning. Under rule 77J(1)(b) I decide that no reason has been shown for the opinion to be set aside.

#### **Costs**

36 Neither side has asked for costs, and I do not propose to make any award.

#### **Appeal**

37 Under the Practice Direction to Part 52 of the Civil Procedure Rules, any appeal under rule 77K must be lodged within 28 days.

**R C KENNEL**

Deputy Director acting for the Comptroller