

Neutral Citation Number: [2009] EWHC 1221 (Pat)

Case No: HC06C03530

IN THE HIGH COURT OF JUSTICE
CHANCERY DIVISION
PATENTS COURT

Royal Courts of Justice
Strand, London, WC2A 2LL

Date: 9 June 2009

Before :

Mr Peter Prescott QC (sitting as a Deputy Judge)

Between :

FOLDING ATTIC STAIRS LIMITED	<u>Claimant</u>
- and -	
(1) THE LOFT STAIRS COMPANY LIMITED	<u>Defendants</u>
(2) MICHAEL HERAGHTY	

Mr James Mellor QC and Mr James Whyte (instructed by **Kuit, Steinart Levy LLP**) for the Claimant

Mr Richard Davis (instructed by **Shakespeare Putsman LLP**) for the Defendants

Hearing dates : 23-25 and 27 February 2009

JUDGMENT

Mr Peter Prescott QC:

1. This is a patent case, and it is not an easy one. Two points of difficulty are these. What happens if a manufacturer allows selected members of the public onto his premises, not on terms of confidence, where they can see a product that is still under development, but they are not experts and do not understand its significance – could that invalidate a patent afterwards applied for? And what are we to make of the phrase “spaced a *preset* distance” in the patent claim – are words of intentionality allowed?

2. This case is about so-called folding attic stairs and how they are manufactured. I shall describe the relevant technology in general terms first: it is not difficult.

Folding Stairways

3. Many of the older houses in the British Isles have roof voids that are not supposed to be used for human habitation but which contain useful storage space. Therefore it is quite common to install loft ladders to provide access. Most of those ladders are of the sliding or telescopic sort and they are made of aluminium.

4. We are concerned with a different kind: namely a folding stairway, typically made of wood, and somewhat more expensive. Such a stairway, when not in use, is folded up and nested in a storage space just above the trapdoor in the ceiling ope. ‘Ope’, by the way, is a perfectly respectable if unusual noun, and it means an aperture or opening in the structure of a building.



5. The general idea is conveyed by the above image¹. It can be seen that there are three² ladders or stairway sections connected end-to-end by hinges. This arrangement

enables you to fold up the stairway after you have finished using it. The upper ladder carries the ceiling trapdoor and is permanently hinged to a load-bearing frame in the ceiling ope. It can also be seen that there is a pair of folding metal arms, spring-biased to keep the stairway in its stored condition; they also prevent it from falling down too forcibly when you lower it for use.

6. The metal arms at one end are pivoted to the ceiling ope frame; at the other, to the sides of the top ladder. If you look more closely, you can see that, to be more precise, the lower ends of the metal arms are pivoted to angle brackets. It is the angle brackets that are secured to the sides of the top ladder, but also to runners forming part of the ceiling trapdoor. I must stress that for the purposes of this case the above counts as an illustration, and nothing more: it may or may not have been prior art, but I am not presuming that it was.

The Parties

7. The Claimant has a factory in County Galway, Ireland. Its moving spirit is Mr Michael Burke. About 25 years ago Mr Burke was approached by a compatriot who had been living in America and had brought back a set of folding stairways; he needed to have it repaired. On making enquiries Mr Burke discovered that there was no Irish company that made folding loft stairs and perhaps one English company. Mr Burke appreciated that there was a gap in the market and so he started the Claimant company. It makes and supplies folding stairs under the brand name "Stira". The company claims to be unusual because it also installs those stairways itself, or a lot of them anyway. The "kit" from the factory comes complete with folding stairway, folding metal arms, ceiling ope frame with springs, and trap door.

8. For present purposes there have been two versions of Stira. The first, referred to in this case as "old Stira", was sold in large numbers for many years. It is cited as prior art in this case. It was not unlike the product illustrated above. The new version is said to be the subject of the patent in suit. I believe that about 18,000 sets of old Stiras had been sold before the patent in suit was applied for on 5 November 1996.

9. The Defendant company used to do business with the Claimant. It used to buy Stiras and import them into the UK and install them. The Defendant company is owned by Mr Michael Heraghty (the Second Defendant) and his wife, but it is Mr Heraghty who makes all the decisions. The parties fell out for common business

reasons. Mr Heraghty thought his company was being charged too much and so it could not make a decent margin. Mr Burke thought it was a slow payer. Anyway, there came a time when the Defendant company stopped buying Stiras and made a version of its own. The Claimant sued for infringement of patent and for infringement of unregistered design right. It did not pursue the latter claim before me.

The Genesis of New Stira

10. Rather unusually I shall start by describing, not the invention defined in the claims of the patent, but how the Claimant claims to have originated its new product. Of course that is not necessarily the same thing by any means. But it will help explain a couple of the main points in the case more easily. It will not exempt me from identifying the invention as defined in the patent on its true construction, as I shall have to do later on.

The Problem

11. There are a lot of old houses in the British Isles and the spacing between ceiling joists may vary quite a lot from house to house, perhaps according to the whim of the original builder. So ceiling opes comes in quite a range of widths. (Lengths do not matter so much. The ceiling plaster can easily be cut or made good as desired.) Therefore the supporting frame for a folding stairway has to be made to match the load-bearing joists that help to define the ceiling ope.

12. When Mr Burke looked into this he found that he would have to manufacture supporting frames in five different widths (22 to 30 inches, as measured at the ceiling trapdoor³). It would have been too expensive to manufacture ladders in five different widths too. So Mr Burke settled on a standard ladder width of 16 inches and he accommodated the difference by bending the metal support arms.

13. If the disconformity was small the metal arms would not have to be bent much. But if the disconformity was large they would have to be bent quite a lot.

14. With the benefit of hindsight it may seem something of a bodge to bend the arms to accommodate the disconformity. But a manufacturer setting out to make these folding stairs might not appreciate how much wear and tear some customers were going to impose on the arms. Some people may ascend into their loft maybe once a year to store miscellaneous junk. I believe that non-permanent stairways are not permitted for lofts that have been converted for human habitation, but in practice

there may be a grey area. For all that I know, some people may go up nearly every day – maybe they keep a computer there and use the space as an informal home office or a den for young people, and so on. Some may ascend with caution, other rumbustiously. It is conceivable that building regulations may have changed or their application relaxed over time.

15. Because the Claimant company not only made but installed these folding stairways, it got feedback from its customers. After a time it was noticed that some customers were complaining that the metal arms failed. This was because there was too much strain and wear being imposed on their pivots. (The arms have pivots because they need to fold, of course.) This problem did not occur on the narrower designs.

16. The problem was caused by the fact that the arms on the wider designs were “leaning in”. (Think how much worse it is to carry two heavy suitcases if your arms do not hang straight down.)

17. Mr Burke told me that his company was in a unique position to appreciate this problem because, unlike others, it saw to the installation of the product and got plenty of feedback.

The Solution

18. In about the year 1995 the Claimant was applying for ISO 9002 accreditation. This was an international standard, and it applied to the business, and not the product. In order to qualify, the company had to examine its manufacturing procedures so as to ensure that they were effective, properly documented, and were kept under review for defects, corrective actions and improvements. It was then appreciated that most complaints were derived from failed metal arms or their pivots. (I must say I am a little surprised that it took an ISO accreditation to bring the fact home. I should have thought that there would be fitters who would be called out to repair defective arms and they would report back to management. Still, I suppose that one object of an ISO accreditation is to get rid of a not uncommon corporate habit: burying your head in the sand, if such habit there was.)

19. Another problem that was appreciated was that there was a production bottleneck in the making of old Stiras. I need not explain the bottleneck much because the old process (as opposed to finished Stira itself) was not pleaded as prior

art nor was it shown that it had been made available to the public or had been in use elsewhere. However elimination of the bottleneck led to a change in the design of the product. Because old Stira is cited as prior art against the patent in suit I must describe this aspect.

20. A simple ceiling trapdoor consists of a sheet of plywood⁴ backed by a flat wooden frame to keep it from warping. In old Stira this flat frame was secured to the face of the stairway, being sandwiched between it and the plywood sheet. As I see it, this frame did not have much of a load-bearing function, but it served as a spacer to afford extra “toe-in” room for the user. On each side of the stairway there was an L-shaped angle bracket that connected not only to the side of ladder but also to this frame. (The lower ends of the metal support arms were pivoted to the angle bracket.) The production bottleneck, such as it was, was this. Because the frame was flat and relatively thin, its four pieces were glued or screwed together in place, and not at a separate workstation.

21. This was deemed to be less efficient and so the frame was redesigned. Instead of being made of flat pieces of wood, the two side pieces were made thicker (i.e. they stood prouder) so that they could be rebated, to connect to the end pieces. This enabled the frame to be assembled separately. I shall call this new frame “the inner frame” to distinguish it from the outer frame i.e. the frame in the ceiling ope in and immediately above which the contraption nested when stowed away.

22. The decision was also made to pivot the ends of the metal support arms to the long sides (side beams) of the inner frame, which were now load-bearing beams, instead of to angle brackets attached to the sides of the ladder.

23. This new design had a bonus – though Mr Burke did not realise it for some time. The bonus was that the width of this inner frame could easily be varied in the course of manufacture to take account of the customer’s ceiling ope width, instead of needing to bend the metal arms. All you had to do was to vary the length of the end beams of the inner frame. In other words, the disconformity problem, previously sought to be tackled by bending the metal arms, was exported to a different part of the apparatus where it could easily be accommodated during manufacture and where it would do no harm.

The Patent

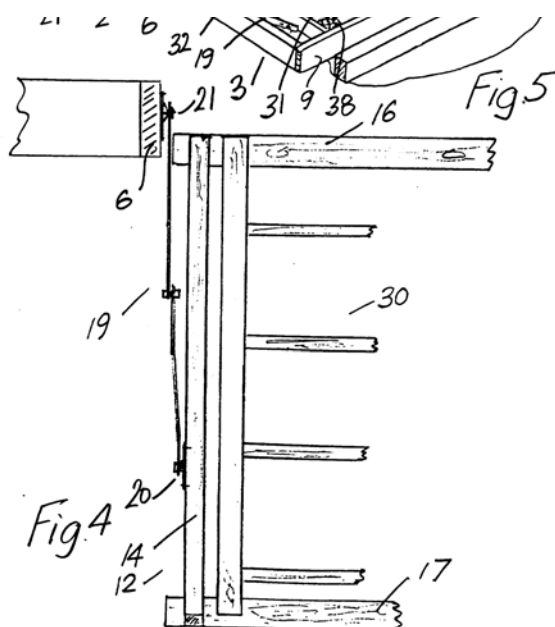
24. The patent in suit (GB 2319051) concerns a process for manufacturing a folding stairway. It has an introductory section and I shall quote it:

“It is known to provide a folding attic stairway of the type comprising a number of hingedly connected stairway sections for mounting in an opening in a ceiling. The stairway sections can be folded together and retained in a stored position in the opening when not in use and then as required folded down from the opening for access to the attic space. Generally folding support arms are pivotally mounted on each side of the stairway extending between an uppermost stairway section and a frame which is mounted in the opening. These arms may be spring biased towards a closed position to retain the stairway in the folded stored position within the opening when not in use and to act as a counter balance when folding and unfolding the stairway. As there is a gap between the side of the ladder and the side of the opening these support arms are generally cranked intermediate [their] ends to bridge the gap.”

25. That is, in general terms, a description of “old Stira”. Then the patent describes the problem, as follows:-

“However there is a limit to the size of the gap that can be tolerated. If the gap is excessive the arms will not operate freely and correctly. Further the greater the gap the more strain is applied to the pivot mounts at each end of the arm. This strain eventually leads to failure of the pivot joints. The size of the gap between the size of the stairway and the sides of the opening would depend on the size of the opening. To accommodate different sized openings different widths of stairway must be [produced]. This increases the manufacturing costs and production time.

It is an object of the present invention to overcome these problems and to provide a process for economically manufacturing a folding stairway of high quality that is reliable in operation.”



26. Figure 4 of the patent shows how the topmost ladder **30** of the stairway is secured to the outer frame **6** in the ceiling opening. It is carried by a supporting frame (the *inner frame*.) This inner frame has end beams **16**,

17 and one of its side beams **14** can also be seen. One of the metal arms **19** is shown and it is pivoted at **20** to the side beam. The other end is pivoted at **21** to the *outer frame 6* in the ceiling ope. Note the spacing between the ladder and the side beam.

27. On page 7 of the patent the advantage is stressed. It says

“The provision of an inner frame for mounting the stairway on the outer mounting frame is particularly advantageous. A standard size of stairway can be produced which is capable of being mounted in ceiling openings of various sizes. The outer frame is simply manufactured according to ope size and then the inner frame is manufactured to match the outer frame. The stairway [i.e. the three “ladders”] can conveniently be manufactured in a constant width which is obviously more convenient and efficient from a manufacturing point of view. By varying the spacing between the side beams of the inner frame to accommodate various widths of outer frame the return arms can be fitted in the optimum position without undue strain being applied to the pivots at each end of the arm which could lead to fracture of the pivot joints.”

28. Claim 1 of the patent is not for a folding stairway, but for “A *process for manufacturing* a folding stairway ...” A patent must be read through the eyes of a person skilled in the art and in the light of what was common general knowledge at the time. So I shall consider those matters before examining Claim 1 in any further detail.

The Skilled Addressee and the Common General Knowledge

29. Although the woodwork described in the patent could probably be made without difficulty by a good amateur carpenter, the document is not addressed to him. In my judgment it is aimed at one who has a factory or workshop that can fulfil numerous orders. The amateur would not be troubled by the problem the patent aims to solve. He need not worry that ceiling joist spacings can vary from house to house; he just cares about his own house; and he could make his stairway width to correspond to the joist spacing in his ceiling. The patent is addressed to a factory that cannot or does not wish to afford that luxury, because it would be too expensive to manufacture stairways in a variety of widths.

30. In short, then, I hold that this is not only a patent for a process for manufacturing folding stairways, but for doing it on a repeat basis⁵. I infer this from

the problem that the patent identifies (see paragraph 25 above) and the advantages of the solution it propounds (see paragraph 27). When this point is grasped some of the problems that beset this case will be seen to fall away.

31. The state of the art is all the knowledge in the world that had been made available to the public before a given date. Knowledge is considered to have been made available to the public if even one person was free in law to access it and use it as he pleased. Knowledge may be imparted in a document, by word of mouth or by ocular demonstration.

32. It follows – and is relevant to what I must address later in this judgment – that if a document is placed on the shelves of a public library then everything in the document is considered to be part of the state of the art. This is so even if it was utterly obscure and nobody bothered to consult it really. There is no doubt about the law. It sounds like a harsh doctrine, but there must be a bright-line rule. The point is that the public had the right to consult the document. Likewise if a product is exposed to view in a public place e.g. a street, where persons skilled in the art might examine it and understand its mode of operation, it is no answer to say that for aught that we know no skilled person did examine it in fact. The knowledge thus becomes part of the state of the art.

33. Common general knowledge is quite different. It is what people skilled in the art actually do know, or ought to know, provided that knowledge is regarded as sound. Common general knowledge is not a phrase used in the Patents Act or the European Patent Convention. It would be difficult to define the person skilled in the art in this case, or the common general knowledge, because so far as I know there is no recognised profession or calling of designing folding attic stairways. At the date of the patent nobody seems to have done it in the British Isles except the Claimant and perhaps one other company. There must have been one or more companies in America, I suppose. It is unfair to define an art too narrowly, or else you could imagine absurd cases e.g. “the art of designing two-hole blue Venezuelan razor blades”, to paraphrase the late Mr T.A. Blanco White. Then you could attribute the “common general knowledge” to that small band of persons who made those products and say that their knowledge was “common general knowledge” in “the art”. That would have the impermissible result that any prior user no matter how obscure could be deemed to be common general knowledge, which is certainly not the law.

34. However it does not make much difference in this case, because the amount of special knowledge that is required to understand the patent in suit is not great. I would identify the person skilled in the art as one who has practical experience as a manufacturing carpenter, assisted by a metal fabricator. At the date of the patent (1996) this person or team would be vaguely aware of folding stairways in general terms, at most. The actual construction of old Stira, while known to many customers, was not common general knowledge in the art, in my judgment.

The Experts

35. Expert evidence was given for the Claimant by Mr Paul Thorneycroft for the Claimant and Mr Roger Galpin for the Defendants.

36. In *Alan Nuttall Ltd v. Fri-Jado UK Ltd* [2008] EWHC 1311 (Pat) I said, largely quoting from Jacob LJ:

[27] It is worth recalling what is the proper function of expert witnesses in a patent case. It is not to act as a latter-day Sir Bernard Spilsbury. Their true function, and what makes their evidence cogent or not, was explained by Jacob LJ in *SmithKline Beecham Plc v. Apotex Europe Ltd* <http://www.bailii.org/ew/cases/EWCA/Civ/2004/1568.html> [2004] EWCA Civ 1568.

"[51] Before I go further, however, it is as well to remember what the key function of an expert witness in a patent action is - as I said in *Rockwater* (para. 12):

'Their primary function is to educate the court in the technology - they come as teachers, as makers of the mantle [i.e. of the person skilled in the art] for the court to don. For that purpose it does not matter whether they do or do not approximate to the skilled man. What matters is how good they are at explaining things.'

[52] To that I would add this: although it is inevitable that when an expert is asked what he would understand from a prior document's teaching he will give an answer as an individual, that answer is not as such all that helpful. What matters is what the notional skilled man would understand from the document. So it is not so much the expert's personal view but his reasons for that view - these the court can examine against the standard of the notional unimaginative skilled man. There is an analogy here with the well-known *Bolam* test for professional negligence - what matters is not what the

individual expert witness says he personally would have done, but whether the conduct said to be negligent falls short of what a reasonable professional would have done.

[53] Thus in weighing the views of rival experts as to what is taught or what is obvious from what is taught, a judge should be careful to distinguish his views on the experts as to whether they are good witnesses or good teachers - good at answering the questions asked and not others, not argumentative and so on, from the more fundamental reasons for their opinions. Ultimately it is the latter which matter - are they reasons which would be perceived by the skilled man?

[28] While I am touching on the topic of expert testimony, it is worth completing the quotation from the *Rockwater* case, although strictly speaking it is mainly about obviousness.... In *Rockwater Ltd v. Technip France SA* <http://www.bailii.org/ew/cases/EWCA/Civ/2004/381.html>[2004] EWCA Civ 381 Jacob LJ continued thus:-

[13] But it also is permissible for an expert witness to opine on an "ultimate question" which is not one of law. I so held in *Routestone v Minorities Finance* <http://www.bailii.org/cgi-bin/redirect.cgi?path=/ew/cases/EWCA/Civ/1996/964.html>[1997] BCC 180 and see s.3 of the Civil Evidence Act 1972. As regards obviousness of a patent Sir Donald Nicholls V-C giving the judgment of the Court of Appeal in *Mölnlycke v Proctor & Gamble* [1994] RPC 49 at p. 113 was explicit on the point:

"In applying the statutory criterion [i.e. as to whether an alleged inventive step was obvious] and making these findings [i.e. as to obviousness] the court will almost invariably require the assistance of expert evidence. The primary evidence will be that of properly qualified expert witnesses who will say whether or not in their opinions the relevant step would have been obvious to a skilled man having regard to the state of the art."

[14] But just because the opinion is admissible:

"it by no means follows that the court must follow it. On its own (unless uncontested) it would be "a mere bit of empty rhetoric" Wigmore, *Evidence* (Chadbourn rev) para. 1920. What really matters in most cases is the reasons given for the opinion. As a practical

matter a well-constructed expert's report containing opinion evidence sets out the opinion and the reasons for it. If the reasons stand up the opinion does, if not, not. A rule of evidence which excludes this opinion evidence serves no practical purpose. What happens if the evidence is regarded as inadmissible is that experts' reports simply try to creep up to the opinion without openly giving it. They insinuate rather than explicate" (*Minorities* at p. 188).

[15] Because the expert's conclusion (e.g. obvious or not), as such, although admissible, is of little value it does not really matter what the actual attributes of the real expert witness are. What matters are the reasons for his or her opinion. And those reasons do not depend on how closely the expert approximates to the skilled man.

29. In weighing the evidence in this case I have made allowances for the personal attributes and prejudices which these witnesses - like all of us - inevitably have.

37. The technology in this case is not such that it requires much expert explication, on the whole.

38. Unfortunately, I found that Mr Galpin's evidence was motivated to a considerable degree by hindsight. It may not have been his fault personally; perhaps his instructions set him down a road where it was more or less inevitable.

Construction of Claim 1

39. Claim 1 of the patent reads as follows (the emphases are mine):

“A manufacturing process for manufacturing a folding stairway comprising the steps:
forming a rectangular outer mounting frame for complementary engagement and mounting within an associated rectangular ceiling ope *of a predetermined size*, the outer frame having a pair of spaced-apart side members interconnected by end members extending between associated ends of the side members;

forming an inner stairway carrying frame for pivotally mounting on the outer frame for movement between a nesting position within the outer frame and a downwardly extending in-use position hanging downwardly from the outer frame, the inner frame having a pair of spaced-apart side beams interconnected by an associated pair of spaced-apart end beams, connecting the side beams to the end beams *such that each side beam is spaced a preset distance inwardly of the side members of the outer frame* when the inner frame is mounted within the outer frame in the nesting position;

preparing an extendable stairway which is foldable between a collapsed stored position for nesting within the outer frame and an extended in-use position;

mounting the inner frame within the outer frame by securing a hinge between an outer frame end member and an end beam of the inner frame thus pivotally mounting the inner frame on the outer frame;

mounting a folding support arm between each side beam on the inner frame and an associated side member on the outer frame, each arm being pivotally mounted on each frame and being foldable intermediate its ends between an extended position corresponding to the downwardly extending in-use position of the inner frame and a folded position corresponding to the nesting position of the inner frame,

each arm having bias means for urging the arm towards the folded position for retaining the inner frame in the nested position within the outer frame; and

mounting an inner end of the stairway between the end beams on the inner frame such that the stairway is foldable between the collapsed and extended positions when the inner frame is in the in-use position.”

40. That is an awfully long claim, but I can précis it to ease understanding. What is claimed is a manufacturing process for making folding stairways in which you

- make an outer frame “for complementary engagement and mounting within” a given ceiling ope
- make an inner frame (for carrying the stairway) by connecting side beams to end beams “such that each side beam is spaced a preset distance inwardly of the side members of the outer frame”
- make a foldable stairway that can nest within the outer frame
- hinge one end of the inner frame to one end of the outer frame
- mount spring-biased foldable support arms, one end pivoted to the side beam of the inner frame, the other end pivoted to the side beam of the outer frame, and
- mount one end of the stairway between the end beams of the inner frame so that it can fold up in use.

41. In my judgment the only point of construction that calls for any real discussion arises from the words I have italicised in the above-quoted Claim.

42. Mr James Mellor QC, who appeared for the Claimant, submitted that what they amount to is this. In the manufacturing process, the separation between the side members of the inner and outer frame, respectively, is of such a distance that not too much strain is imposed on the folding arms, and in particular, on their pivots. He said that this emerges from the purpose of the invention as disclosed in the text (see paragraphs 25 and 27 above). He accepted that the arms do not have to lie in vertical planes, and indeed in the preferred embodiment as depicted in Figure 4 (see above) it is quite apparent that the lower parts of those arms do have a discernible bend, to afford clearance. But that, he said, does not affect his point.

43. Mr Richard Davis, who appeared for the Defendants, contended that the expression “a preset distance” imposes no limitation at all. He cited the judgment of Jacob LJ in *Nikken Kosakusho Works v. Pioneer Trading Company* [2005] EWCA Civ 906:-

2. Mann J summarised the invention of the patent in paragraphs 2-6. It is for a high speed tool chuck. The patentee's proposal was to have a groove cut into a flange as shown in the drawing in the judge's judgment. He set out the relevant part of

claim 1 in his paragraph 7. The key words giving rise to the dispute before him were “an annular groove of predetermined depth” which he underlined when he set out the claim.

3. I am bound to say that it beggars belief that a patent agent could draft a claim in such words or that the Patent Office would accept them. “Predetermined depth” cries out for the question, by whom? And what does it mean? That has some effect on the current matter in dispute because it would or ought to have raised the possibility of amendment at an early stage.
4. Mann J had to make the best of these words. He decided that it meant “a groove whose depth the maker has decided in advance” (paragraph 29 of his judgment). From that there has been no appeal.

44. I must confess that this issue has caused me much trouble. However in the end I do not find I can accept either side’s submission in full.

45. With regard to *Nikken*, from a reading of the patent in that case as a whole it was hard, nay impossible, to work out what was the purpose of having a groove that was *of predetermined depth*, and according to what criterion the depth was to be predetermined. It was in that context, I think, that Jacob LJ wrote that it cried out for the questions, predetermined by whom, and what did it mean.

46. I must say I have seen ‘predetermined’ and ‘preset’ in granted patent claims on occasions too numerous to recall, and the experience of Jacob LJ in patent cases is *a fortiori*. Therefore I do not believe his stricture applies to the word “predetermined” as such. I do not have a convenient means of searching the claims of granted European patents, but as an exercise I have looked at the online database of the United States Patent Office, where the text of claims granted since 1975 is searchable electronically. I expected to find many patents with the word ‘predetermined’ in one or more claims. Even so, I was astonished. There are more than 658,000 such patents.

47. While I have not been able to perform a similar exercise for the European Patent Office, I have no doubt that it is accepted EPO practice to allow it to be used, provided the criterion that enables it to be understood is sufficiently clear. There are numerous decisions of the Boards of Appeal where the word ‘predetermined’ was used in the claims and no objection was taken to it, provided the purpose was clear.

(There are too many to read through, but see e.g. decisions T 1241/04 and T 0463/01). Indeed in the 2007 edition of the Guide for Applicants, Annex III, available on the EPO website, there is a model patent application – as if to say, “Now, let us show you the right way to do it” – with the word ‘predetermined’ in claim 1. The usage can also be found in guidance to candidates for the European Qualifying Examination in the form of acceptable examination answers, also published on that website.

48. I am unable to accept a contention that, in the context of this patent, ‘predetermined’ or ‘preset’ is meaningless and of no effect. A reader skilled in the art would think the patentee was using it in order to try to tell him something; and he would work out the purpose by reading the patent as a whole.

49. On the other hand I do not accept Mr Mellor’s submission in full either. It would mean that, in order that a third party manufacturer could determine whether his intended process would fall within or without the claims of this patent, he would have to decide as an objective fact whether “too much” strain was going to be imposed on the metal arms. But to the best of my knowledge there is no industry standard about that or recognised worst-case scenario. And it would mean that, before starting to manufacture his product, he would somehow have to know about the habits of his intended customer. How often will the product be used: once a year, or every day? Who will ascend: a lightweight person who proceeds with caution, or an impetuous 15 stone man? A third party manufacturer is entitled to know with reasonable certainty whether a proposed course of action would infringe a patent. That is the legislative policy and the Protocol to Article 69 of the European Patent Convention says as much. In any case, as Mr Davis rightly pointed out, the avoidance of “too much” strain is not what the claim says. If it had, I do not believe it would have been allowed by the Patent Office. It would correspond to no known standard that could be adjudicated.

50. In my judgment, what this feature of Claim 1 actually means, read as a matter of English and having regard to the purpose set forth in the body of the patent, can nevertheless be ascertained. The key is to notice that this is a claim for a process for manufacturing folding stairways on a repeat basis, and that the concept of that which has been determined in advance occurs twice.

51. The first time is when it is stated that the outer frame is for complementary engagement and mounting within an associated rectangular ceiling ope “of a predetermined size”. What does that mean? It can only mean that, in the manufacturing process, the size of the outer frame is made to correspond to that of the ceiling ope of the house⁶ in which the stairway is to be fitted. (More precisely, perhaps, though I do not have to decide this, it corresponds to the separation between the ceiling joists.) Those of a philosophical turn of mind will notice that the size was predetermined by the house’s builder, and he may have been in resting in his grave for a century. I cannot see that the word is objectionable.

52. The second time is when it is stated that the side beams of the inner frame are connected to the end beams “such that each side beam is spaced *a preset distance* inwardly of the side members of the outer frame when the inner frame is mounted within the outer frame in the nesting position”. This invites the question: preset by who? And the only sensible answer can be: the manufacturer, or one to whom he leaves the decision.

53. The next question is: what is the criterion according to which he presets that distance? It cannot sensibly be that he chooses any old distance, because then the word ‘preset’ would be purposeless and of no effect. As in any document, its meaning must be ascertained from its context. In *Kirin-Amgen Inc v. Hoechst Marion Rousell Ltd* [2004] UKHL 45 Lord Hoffmann said at §19:

“For present purposes, the most important provision is article 69 of the EPC, which applies to infringement proceedings in the domestic courts of all Contracting States:

‘The extent of the protection conferred by a European patent or a European patent application shall be determined by the terms of the claims. Nevertheless, the description and drawings shall be used to interpret the claims.’”

54. And at §30:-

“It came to be recognised that the author of a document such as a contract or patent specification is using language to make a communication for a practical *purpose* and that a rule of construction which gives his language a meaning different from the way it would have been understood by the people to whom it was actually addressed is liable to defeat his intentions. It is against that background that one must read the well known passage in the speech of Lord Diplock in *Catnic Components Ltd v Hill &*

Smith Ltd [1982] RPC 183, 243 when he said that the new approach should also be applied to the construction of patent claims:

‘A patent specification should be given a purposive construction rather than a purely literal one derived from applying to it the kind of meticulous verbal analysis in which lawyers are too often tempted by their training to indulge.’”

And at §48:-

“The *Catnic* principle of construction is therefore in my opinion precisely in accordance with the Protocol. It is intended to give the patentee the full extent, but not more than the full extent, of the monopoly which a reasonable person skilled in the art, reading the claims in context, would think he was intending to claim.”

55. How would the person to whom the patent is addressed understand the expression *spaced a preset distance*? In my judgment he would read the patent as a whole to find out for what purpose the distance is preset. It is evident from the passages I have quoted in paragraphs 25 and 27 above. The aim is to reduce the need to bend the metal arms too much.

56. I would therefore hold that “spaced a preset distance” means that the separation between the respective side beams is chosen by the manufacturer (or one to whom he leaves the decision) with the aim of coping with a variety of ope widths while avoiding excessive bending or cranking of the metal arms.

57. The difference between that construction and the one advanced by Mr Mellor QC is this. This time the third party manufacturer can tell – he knows for a fact – whether he is inside the claim. He can tell whether he is presetting the distance in order not to bend the metal arms too much, because he is doing it himself. It depends on his own intentions. Now, as Bowen LJ famously observed in *Edgington v. Fitzmaurice* (1885) 29 Ch D 459 at 483

“the state of a man’s mind is as much a fact as the state of his digestion. It is true that it is very difficult to prove what the state of a man’s mind at a particular time is, but if can be ascertained it is as much a fact as anything else.”

58. Therefore, although it might be difficult for the patentee to prove the necessary intent, at least that burden is cast upon him, and not upon the third party manufacturer.

59. It is true that a third party – a middleman, say – might not be able to ascertain the mind of the manufacturer from whom he might choose to purchase one of these folding stairways. But I do not believe that would be a frequent occurrence and in any case it is by no means unusual in a product-by-process case that the middleman does not know what is the process by which the product he sells was manufactured.

60. This is rather a narrow claim. A merely accidental distance of separation would not be within it. Nor would it be if the manufacturer sought to cope with the problem by varying the widths of his ladders instead, for example.

61. There is an old prejudice or tradition in patent law that words of intent should not be used in patent claims (see *Eli Lilly & Co’s Application* [1975] RPC 438, 444). It was said⁷ to go back to the early nineteenth century; but whether that is the law now

under the 1977 Act and the European Patent Convention must be questionable. We have seen an abandonment of the concept in many pharmaceutical patents whose claims are in so-called “Swiss” form. What they really mean (and nobody pretends otherwise any more) is “The use of known ingredient X for making a medicine *for* treating disease Y”, meaning *for the purpose of*, or *with the intention of*, treating disease Y. In this instance the law has moved on, and there is no doubt about it. In a recent decision of the Court of Appeal it was not even the intention to treat a different medical complaint that was the key point, but the intention to do so with a different dosage regimen (*Actavis UK Ltd v. Merck & Co Inc* [2008] EWCA Civ 444). The real reason that such claims are allowed is that, were it otherwise, the inventor would be quite unable to protect his invention at all. But they imply a test of purpose or intentionality on the part of the manufacturer. If that is permissible in pharmaceutical cases, I do not see why it could not be so in other industries. I believe the words ‘predetermined’ or ‘preset’ have long been used by patent draftsmen for the purpose of indicating intentionality, albeit rather covertly. Why not admit it openly?

62. Is there anything in patent law that prohibits such usage? There is nothing in the Act or the Convention, unless it be that a claim so characterised is directed to ‘a scheme, rule or method for performing a mental act ... *as such*’ (s.1(2)(c) of the Patents Act 1977; Art. 52(2)(c) of the European Patent Convention). But I do not see that manufacturing folding stairs according to Claim 1 and, while doing so, setting the distance between the respective side beams with the intent of avoiding excessive bending of the support arms, constitutes, as such, a scheme, rule or method for performing a mental act.

Anticipation or Obviousness Over Old Stira

63. Having construed Claim 1, I must now decide whether the invention it defines was anticipated by old Stira, or whether the invention would have been obvious to a person skilled in the art who examined a specimen of old Stira. There is no doubt that old Stira, while not part of the common general knowledge (as I have held), was part of the state of the art, because units had been supplied to numerous customers, and indeed exhibited in public.

64. The law of anticipation is too well known to require explication for present purposes. Essentially, something that would fall within the patent claim under

challenge must have been disclosed before the relevant date, in this case 5 November 1996.

65. I have no doubt that old Stira was not an anticipation of Claim 1 of the patent in suit. It could not be, for the claim is not to a product, but to a manufacturing process. I have held that the manufacturing process used for making old Stira was not pleaded as prior art nor was it shown to have been revealed to the public or used elsewhere. More fundamentally, however, even the process for making old Stiras was not an anticipation either. There was no preset distance between the side beams of the inner frame and of the outer frame, respectively, chosen with the intent of avoiding excessive bending the metal support arms. On the contrary the distance varied from unit to unit depending on the size of the customer's ceiling ope. Moreover the earlier units were manufactured without there being any concern or awareness that the support arms would fail. Later, when it was appreciated that these arms were failing, the design continued to be manufactured as before, at least as regards the separation between the said side beams. It was not until the new design (arrived at for other reasons) had been tested in the factory for some time that it was appreciated that the separation should be preset to avoid the problem or, in other words, that the separation between the side beams of the inner frame and the sides of the topmost "ladder" should be varied.

66. The law on obviousness is this. An invention cannot validly be patented if, having regard to the state of the art, it would have been obvious to a person skilled in the art at the relevant date. As I have explained, the state of the art includes anything that has been made available to the public – even a single person, if he is free in law to use the information as he pleases – whether by documentary description, ocular exposure or word of mouth. Because there is such a vast repository of prior art in the world, it is not permissible to combine two disparate items of prior art unless, for some reason, it would be obvious to the skilled person to do so.

67. In assessing whether or not an invention would have been obvious it is easy to confuse oneself e.g. by using hindsight. Therefore it has become the practice to approach the question in a step-by-step way, as first laid down in the *Windsurfing* case [1985] FSR 59 at 73. More recently it has been restated by the Court of Appeal in *Pozzoli Spa v. BDMO SA* [2007] EWCA Civ 588 at §23. In the words of Jacob LJ:-

I would restate the *Windsurfing* questions thus:

- (1)
 - (a) Identify the notional “person skilled in the art”
 - (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?

68. What does it mean to say “identify the inventive concept of the claim”? In that same case Jacob LJ has explained at §§17 and 18:

‘What now becomes stage (2), identifying the inventive concept, also needs some elaboration. As I pointed out in *Unilever v Chefaro* [1994] RPC 567 at page 580:

It is the inventive concept of the claim in question which must be considered, not some generalised concept to be derived from the specification as a whole. Different claims can, and generally will, have different inventive concepts. The first stage of identification of the concept is likely to be a question of construction: what does the claim mean? It might be thought there is no second stage – the concept is what the claim covers and that is that. But that is too wooden and not what courts, applying *Windsurfing* stage one, have done. It is too wooden because if one merely construes the claim one does not distinguish between portions which matter and portions which, although limitations on the ambit of the claim, do not. One is trying to identify the essence of the claim in this exercise.

So what one is seeking to do is to strip out unnecessary verbiage, to do what Mummery LJ described as make a précis.’

69. However Jacob LJ went on to say that one should not waste too much time identifying the inventive concept if that was going to lead to complex satellite debate: in that case, one should just construe the claim. That is why stage (2) of the *Pozzoli* approach is expressed as it is.

70. Applying that approach to the question of the obviousness of Claim 1 of the patent in suit over old Stira, I reason as follows:

The notional person skilled in the art. I identify him as a manufacturing carpenter who employs or has access to a metal fabricator.

His relevant common general knowledge. He has a sound knowledge of manufacturing carpentry. He may be vaguely aware of folding attic stairs in general terms, but the details are not present to his mind.

The inventive concept of Claim 1. I believe I have identified it in paragraph 40 above, but for present purposes I can concentrate on this. When manufacturing folding attic stairs in numbers, make an inner frame which will carry the stairway and to which the lower ends of the support arms will be pivoted and, while making the inner frame, vary the lengths of its end beams so that there will be a preset distance between its side beams and those of the outer frame that is to match the customer's ceiling ope. In particular, preset the distance with the intent that not too much bending of the support arms will be needed.

The differences between that and old Stira. By examining a specimen of an old Stira there will not be disclosed to you the concept that the space between the ladder sides and the inner frame should be varied to achieve the preset distance just described.

Whether the differences would be obvious to the person skilled in the art without hindsight. In my judgment they would not. In old Stira the sides of the inner frame were positively fixed to the sides of the ladder by an angle bracket positively screwed in to both. That points the skilled person in precisely the wrong direction. It would not cause him to think of freeing the inner frame sides (in that sense) so that, by varying the lengths of the inner frame ends during manufacture, the sides could take up the preset distance as described.

71. I therefore reject the validity attack based on old Stira.

72. I must now turn to the validity attack based on a test unit of new Stira, then still under development.

The Minister and the Photographer

73. Having got his ISO accreditation, Mr Burke decided to publicise it, for he thought it would impress architects, builders and so forth. For that purpose he invited the Irish Minister for Trade and Tourism to attend the Claimant's factory and he also invited a photographer from the Irish Times. At that stage a Stira unit according to the new design was being tested in a certain area of the factory to see how much abuse it could stand. It was not, however, under test on the day of the visit and of course it was not yet in production. I shall call it "the test unit". The purpose of the visit was not to publicise the new design, but the ISO accreditation.

74. Mr Burke told me that at that point he had not yet appreciated the bonus inherent in the new design i.e. that the spacing between the side beams could readily be varied during manufacture so that the metal support arms would not have to be bent much. I accept that explanation, because it is quite plain that Mr Burke took no security precautions at all; as he put it in his witness statement, "The photographer was given free range to take photographs of whatever he wanted". If the real merits of the new design had been appreciated I believe that the Claimant would have shrouded it or not invited the visitors into the part of the factory or would have applied for patent protection. He would not have allowed the photographer to photograph him standing in front of the test unit, as he did. The patent was not applied for until 5 November 1996.

75. On some day before 18 January 1996 the Minister and the photographer did visit the factory. We know this because the event was described in an issue of the Irish Times of the aforesaid date. Several photographs were published. One of those shows Mr Burke himself standing in front of the test unit. The photographer selected this merely as a convenient background.

76. Several questions arise. Is the invention of the patent in suit (1) anticipated or (2) obvious in the light of

- the photograph that was published in the Irish Times or

- disclosure of the test unit to the Minister or the photographer themselves?

Disclosure in the Newspaper Photograph

77. The photograph does not depict the prototype in full, but only the lower parts. The purpose of the photograph was to depict Mr Burke himself, and the prototype was a convenient background, and nothing more. There are other photographs but they have nothing to do with the test unit, and the text of the article does not mention the prototype either. In my judgment it would have done, if Mr Burke had had any wish to publicise or draw attention to the test unit.

78. A photograph must be interpreted by a person skilled in the art. I have held that the configuration of an old Stira was not common general knowledge. There was nothing to stop a person skilled in the art from seeing the photograph that appeared in the Irish times. In determining what he would have discerned it is important to appreciate two things. First, the notional person skilled in the art is a manufacturing carpenter, and not a manufacturer of folding attic stairways, as I have already held. Secondly, one must not be fooled by hindsight. We know perfectly well that this device was, if not a prototype, then certainly a forerunner of the type of product that is now manufactured according to the invention claimed in the patent in suit. At any rate, we know that it *was* a device intended to simulate a folding attic stairway. The notional skilled viewer of the photograph would not have the luxury of having that knowledge. For all he knew to the contrary, it might just be a ladder rigged up informally for some purpose or other, perhaps to gain access to some unspecified facility in the factory.

79. In my judgment the skilled viewer would have discerned this. Here was some kind of ladder, perhaps a folding ladder. It would have been apparent to him that there was a pair of arms. There is a dark area at the top of the photograph that we now know was a mocked up ceiling ope, but to what the upper ends of those arms were connected was, in my judgment, not apparent without hindsight. In the photograph one of the side beams of the inner frame can be seen, but I doubt that its function would be apparent to him. What is *not* visible, however, is that there is any separation between that side beam and the corresponding side of the ladder. In any case the photograph did not divulge the important point, namely that the thing to do was to vary the width of the inner frame according to the width of the outer frame,

itself predetermined by the width of people's ceiling eyes. Therefore I hold that the photograph did not anticipate the invention of Claim 1.

80. Turning to obviousness, I need not repeat the first three *Pozzoli* questions. Having carefully attended to the expert witnesses, I find as a fact that, without the benefit of hindsight, the design of the test unit would not have been obvious to a skilled person who examined the photograph in the Irish Times. But in any event the concept about the 'preset' distance was not suggested to him by the photograph.

Disclosure to the Minister or the Photographer Themselves

81. However the Defendants rely on the disclosure of the prototype itself to the Minister and to the photographer, irrespective of what appeared in the subsequently published photograph. I find as a fact that the photographer could have gazed at all parts of the prototype if he had wanted to, and was free to do so. So, for that matter, might the Minister, although I believe he was in the main part of the factory at the time chatting to the employees – they were potential voters. I further find as a fact that no terms as to confidentiality were imposed, so that in law the photographer and the Minister were free to impart to others whatever they *did perceive* and were able to recall. However I also find that there is no evidence that the photographer or the Minister did in fact inspect the prototype in any detailed sort of way, and it seems to me unlikely on the balance of probabilities that they would have had any interest or motivation to do so. (Maybe other casual visitors to the factory could have examined the prototype too, but there is no evidence that there were such visitors.)

82. A question I have to decide is whether, on the above facts, the design of the test unit was made available to the public before the priority date of the patent. I say "before the priority date" because it was not until later that Mr Burke came to appreciate the true value of the prototype that was under his eyes and to apply for patent protection.

83. It is clear law that, if this test unit had been in a public place e.g. a street, where anyone might have stopped to examine it, its design would be considered to have been made available to the public. In *Lux Traffic Controls Ltd v. Pike Signals Ltd* [1993] RPC 107, 132-135 prototype traffic lights were given field trials. It was not proved that any member of the public – much less an expert in traffic lights – stopped to deduce the novel *modus operandi*. Even so it was held that the new idea was made

available to the public. The principle is the same as the obscure book on the shelves of a public library that nobody consulted in fact. The law must draw the line somewhere, as I have said, and it does so by adopting the rule that inasmuch as the public had a right to be there, they are deemed to have had the right to access the information. In the same way, if it is proven that all sorts of members of the public could enter private factory premises, no obligation as to confidentiality being imposed, the law will consider that whatever could be seen there has become part of the state of the art. In those circumstances the law cannot start speculating about who did or did not see the thing.

84. In our case, however, the test unit was not in a public place at all and it was available for viewing by a small and defined class: the Minister and the photographer. They were not persons skilled in the art; and there is no evidence that they were interested in manufacturing folding attic stairs – it seems unlikely – nor that they manifested any interest in the test unit (which was not in the main part of the factory). Even so, urges Mr Davis for the Defendants, they were free to examine the unit if so minded, they were free impart to anyone in the world whatever recollection they had of it, and so its construction must be considered to have been made available to the public.

85. It is an interesting point, and not an easy one. In deciding it, I must bear in mind that a decision could cut both ways. The Claimant and Mr Burke would not be very pleased if some competitor had afterwards come up with the invention independently and patented it, yet the law said that what transpired on the day of the Minister's visit could not be cited as a prior disclosure.

86. The text of Article 54 of the European Patent Convention refers to anything that has been 'made available to the public' in any way, and I understand the French and German texts convey the flavour that this is meant in the sense of 'made accessible to the public'. Even so, it seems to me that if information that is available for viewing on private premises by a small and defined class of visitors is to become part of the state of the art, otherwise than by a legal fiction, that information must be actually imparted to at least one human *mind* which is free in law to divulge it to anyone else as he pleases. It should not be enough that it could have been imparted, but was not.

87. Several examples were offered in argument, and I shall adapt them and add to them. Would an abstruse chemical formula displayed on private premises be ‘made available to the public’ if none were present except a child who could not understand it; or a lady who was not wearing her glasses; or a man who was focusing his attention on the Cup Final on TV? Famously, Dr Watson failed to notice that there were 17 steps leading up to the room which he had ascended hundreds of times because, as Sherlock Holmes said, “You see, but you do not observe”⁸. Put in terms of well-established modern cognitive science, the human eye-brain system is not a cine camera that records everything – if it could, it would be utterly overwhelmed by the data-processing task. Instead but a tiny fraction of the visual field can be perceived in focus (foveal vision); and this requires that the eyeball be swivelled to point to the precise area; which in turn requires that the brain be motivated to make it do so, a process that is largely unconscious. That we “observe” a large field of view is an optical illusion⁹. That is why fighter pilots must learn to force their eyeballs to scan the whole sky, a task that requires considerable will-power by all accounts. It is *interest* that causes our brains to make our eyeballs swivel to bring a particular spot into focus. I would take a very different view if one of those present had been a person interested in constructing folding attic ladders.

88. In sum, then, I would hold that there is no irrebuttable presumption of law that information that is capable of being perceived by persons who are on private premises is in fact perceived by them, if the circumstances are such as to make it unlikely that those persons were interested in the subject-matter. For that would be to invent a legal fiction without necessity.

89. Neither the Minister nor the photographer gave evidence. Even so, on the balance of probabilities I would infer that if some officious person had stopped them on the way out and asked them to describe the test unit, it is unlikely that they would have been able to describe the presence of an inner frame with side beams *spaced from the sides of the ladder*. I say that because there is no reason why a normal human being, not interested in the manufacture of folding ladders, could care less.

90. However, I appreciate that I could be wrong in law about this, and so I shall go on to consider this branch of the case on the theory that what those two visitors saw was sufficient to make the actual design of the test unit part of ‘the state of the art’. But the test unit was not a universal prototype of the manufacturing *process*. It could

not disclose to those visitors that the thing to do was to vary the length of the end beams of the inner frame so as to arrive at the ‘preset distance’ from the corresponding side beams of the outer frame, as required by Claim 1 of the patent. Thus the test unit did not anticipate Claim 1.

91. Did it make the process obvious to one skilled in the art, however? That depends on the correct answer to the last of the *Pozzoli* questions. The person skilled in the art would have to decide to vary the lengths of the end beams during manufacture for the purpose explained in the preceding paragraph. It took Mr Burke and his men a considerable time – at least 6 months, on his evidence – to think of doing that (although I accept that that in itself is not very conclusive, because people do miss the obvious sometimes.) However, my evaluation is that the difference was not obvious. I am influenced by the following considerations, albeit to different degrees.

- The test unit happened to be a 24 inch design. Therefore, its metal arms had very little “lean in” anyway. So this test unit was not such as to call upon the skilled man to think of the ‘preset’ concept.
- Although the separation between the side beams *could* readily be varied if one had thought of changing the lengths of the end beams to suit, during manufacture, it still was the case that those side beams were firmly connected to the end beams. The human mind would still have to get hold of the idea that the apparently fixed lengths of the end beams need be nothing of the sort. In my judgment, it would have required a degree of lateral thinking – perhaps literally so – to appreciate that the end beams were, so to speak, “flexible” not fixed.
- It is unwise to hold that something is obvious in the absence of sufficiently cogent expert evidence (*Panduit Corp v. Band-It Co Ltd* [2002] EWCA Civ 465). Unfortunately, I did not find that the Defendants’ expert’s reasons were persuasive in this respect. His expert report did not explain, sufficiently to my mind anyway, why the skilled person would be led to go from the test unit to the process of Claim 1. And, as I have said, I found that his evidence was coloured by a considerable degree of hindsight.

- Although I suppose the penny might have dropped when the new design was eventually put into factory production, I am not very convinced that that is the right way to test obviousness.
- A skilled person could easily be led to try all sorts of other expedients to prevent the metal arms from failing e.g. stronger arms, better lubrication, and so on. That is what the Claimant tried, albeit without success in the end. Another expedient, I suppose, might have been to use a metal axle passing horizontally through the ladder (as in Lundh, below) being of sufficient length to cure the lean-in problem.

92. I therefore reject the contention that the invention of Claim 1 was anticipated or obvious having regard to the presence of the Minister and the photographer.

Lundh

93. WO 83/01638 (Lundh) was published on 11 May 1983. It belongs to the genre of folding attic stairs we have been considering, but the lower ends of the metal support arms are rigidly connected at their lower ends by an axle that passes through the uprights of the topmost ladder. I do not need to describe Lundh any further because if the Defendants cannot succeed on old Stira, which is closer prior art, they cannot succeed on Lundh. In particular Lundh has no inner frame and, in order to arrive at a product that might be manufactured according to the process of Claim 1 of the patent in suit, it would be necessary to make even more modifications, in the course of which one would have to throw away some of the special advantages which Lundh was seeking to attain. I reject the proposition that Lundh anticipates the invention or would render it obvious to one skilled in the art.

Infringement

94. There was little attempt to dispute infringement. The evidence of Mr Burke and Mr Heraghty satisfies me that the latter set out to copy the new version of Stira in all respects that are material for present purposes. Mr Burke's witness statement to that effect was not disputed by Mr Heraghty. In particular, Mr Heraghty was aware that by connecting the lower ends of the folding support arms to the side beams of the inner frame it avoided the need to angle the arms inwards.

95. It appears that the Defendant company manufactured attic stairs in two styles. One (which I shall call the Small Stair) was 22 inches wide measured at the ceiling

ope. It does not infringe the patent. The metal arms are attached directly to the sides of the ladder.

96. The other style (which I shall call the Larger Stair) was made in a range of widths (24, 26, 28 and 30 inches) and the metal arms were pivoted to the inner frame. In such samples as were made available for inspection to the Claimant's expert Mr Thorneycroft the distance between the side beams of the inner and outer frames, respectively, was such that the metal arms were (as he described them) maintained "inline". In paragraph 24 of his witness statement Mr Heraghty stated that he contacted a number of manufacturers to see if they could supply the metal components his company needed to manufacture "an equivalent" small and *large* loft stairs and in paragraph 25 he stated that his company made up "the equivalent small loft stair and the equivalent *large* loft stair".

97. I infer on the balance of probabilities that the First Defendant, acting under Mr Heraghty's direction, adopted the same arrangement for the same purpose, and in so doing infringed Claim 1 of the patent, except in the case of the 22 inch version. It follows that the supply of stairways made according to the process of Claim 1 also infringes the patent in virtue of section 60(1)(c) of the Act (Article 64(2) of the European Patent Convention). The product-by-process claims in this patent were not necessary and I have ignored them.

98. At a short hearing on 8 June 2009 to consider the draft version of this judgment the Defendants took the point that the evidence did not establish infringement by some of the sizes. Mr Davis said the question should be left to the inquiry as to damages. I thought less disproportionate procedure would be to give his clients permission to deny the facts on affidavit if so minded. If not denied, they would be taken to be as above. If denied, further argument could follow. In the event Mr Heraghty sensibly and honestly declined to submit such an affidavit. The indicated result follows.

99. It was not disputed that if the First Defendant was held liable for infringement, the Second Defendant who directed all its actions would be liable too. There is ample authority to that effect, albeit the limits of the principle may not be entirely clear. I do not have to decide those matters here.

Conclusion

I conclude that the patent in suit, albeit perhaps a narrow one, is valid and has been infringed, except by the First Defendant's 22 inch version. There must be judgment for the Claimant.

¹ I have downloaded this image from the website of an American manufacturer, Memphis Folding Stairs, Inc., of 2727 Faxon Ave., Memphis, TN 38182-0305 under section 45 of the Copyright, Designs and Patents Act 1988, but I express my gratitude to that company for the explanatory power of their image.

² The main claims of the patent in suit are not confined to any particular number of these ladders; but nothing turns on this for present purposes.

³ 30 inches may seem a lot, but the explanation is that some houses have ceiling joist separations of about 15 inches, which would be too small to admit the stairway. In those cases, therefore, one joist must be cut (and appropriately bridged), making a gap of about 30 inches.

⁴ Except in cold places like Scandinavia, where people do not want to freeze in winter. The Lundh patent cited in this case originated from Sweden.

⁵ I concede that Claim 1 is for "a process for manufacturing a folding stairway" [singular] but in my judgment that literal construction should be rejected as repugnant to the general sense of the patent when read as a whole.

⁶ Or, perhaps, a number of houses with ceiling ope widths of similar size.

⁷ But I have not been able to find that it was really so. The old case of *Stead v. Anderson* (1847) 4 C.B. 806, 2 WPC 151, cited in *Eli Lilly*, does not support the proposition. In that case the patentee had not sought to define his invention with reference to the intent of the user.

⁸ Conan Doyle, *A Scandal in Bohemia*.

⁹ The brain "paints in", or in other words fakes, the parts of the scene that are not eyeballed.