

OPINION UNDER SECTION 74A

Patent	GB 2591134 B
Proprietor(s)	Linear Building Innovations Limited
Exclusive Licensee	
Requester	The Access Panel Company Ltd
Observer(s)	
Date Opinion issued	17 April 2024

The Request

1. The comptroller has been requested by The Access Panel Company Ltd (“the requester”) to issue a validity opinion in respect GB 2591134 B (“the patent”) in the name of Linear Building Innovations Limited.
2. The request was received on 18 January 2024 and was accompanied by a statement explaining the request. The requester has also provided the following documents accompanying the request:
 - D1: GB 2560349 A
 - D2: US 2006/0048466 A1
 - D3: GB 2309728 A
 - D4: GB 2405172 A
 - D5: A page captured on 13 December 2017 by the Internet Archive from the website www.gyproc.ie showing a metal faced ceiling panel.
 - D6: A page captured on 20 October 2017 by the Internet Archive from the website www.accesspanels.co.uk showing an example of the Value Range Plasterboard Access Panel.
 - D7: An enlarged view of the Value Range Plasterboard Access Panel extracted from D6 to show the bead more clearly.
3. The request asks for an opinion on whether the claims of the patent lack an inventive step over D1 in view of what is considered conventional in the art as illustrated by

D2-D4 and D5-D7. Each of documents D1-D7 has a publication date prior to the earliest date or were available to the public prior to the earliest date of the patent and form part of the state of the art under Section 2(2).

Observations

4. No observations have been received.

Allowance of the request

5. The requester has asked for an opinion on the validity of the patent on the basis of whether the claims lack an inventive step in light of D1-D7. D2 and D3 were considered by the examiner during the examination process. Section 3.4 of the Opinions manual¹ explains that an opinion request should be refused if the request does no more than repeat arguments already considered pre-grant. Allowing such a request is considered inappropriate and should be refused under section 74A(3)(b). Therefore, is the request merely repeating arguments already considered pre-grant?
6. The examiner will have inevitably considered inventive step in light of D2 and D3 when re-examining the claims that were ultimately granted as the claims of the patent. However, the argument put forward in the request uses D1 as a starting point for consideration of inventive step. D2 and D3 have not been considered by the examiner in light of D1. Therefore, I consider this to be a new question and it to be appropriate for me to reconsider D2 and D3 in this opinion.

The Patent

7. The Patent is titled "Door seal". It was filed on 17th January 2020, published on 21st July 2021 and granted on 11th May 2022. The patent remains in force.
8. The Patent relates to a door seal assembly, in particular for riser doors, for assisting with fire and smoke resistance in a building. One of the functions of a door and door frame in a building is to slow down fire and smoke from spreading throughout buildings. Such doors can be specifically designed for this purpose - so called fire doors. Fire doors slow the spread of fire and also provide a means for closing the route of escape behind a user to maintain or enforce that protection.
9. Fire doors may be provided with intumescent seals to aid in slowing down the spread of fire and smoke. The useful characteristic of these intumescent door seals is that when an ambient temperature rises, e.g. due to a fire, the seal can swell to seal the gap between the door and the frame. This can prevent smoke transmission and will help to delay the spread of fire.
10. Figure 1 shows a doorset (or door assembly) 12 for a riser. The doorset 12 provides a frame assembly 14 with top, bottom and side frame components and a hinge-line near a left side frame 48. The illustrated doorset 12 includes a door 10 which fits

¹ <https://www.gov.uk/government/publications/opinions-manual/opinions-manual>

inside the frame assembly 14. The frame assembly might not include a bottom frame component, as it might be for fitting above an existing threshold.

11. The frame assembly 14 is formed by a plurality of identifiably separate frame components 48, 50, 52 and they may be formed separately and then bolted, welded or otherwise joined together. The frame components are made of folded metal.

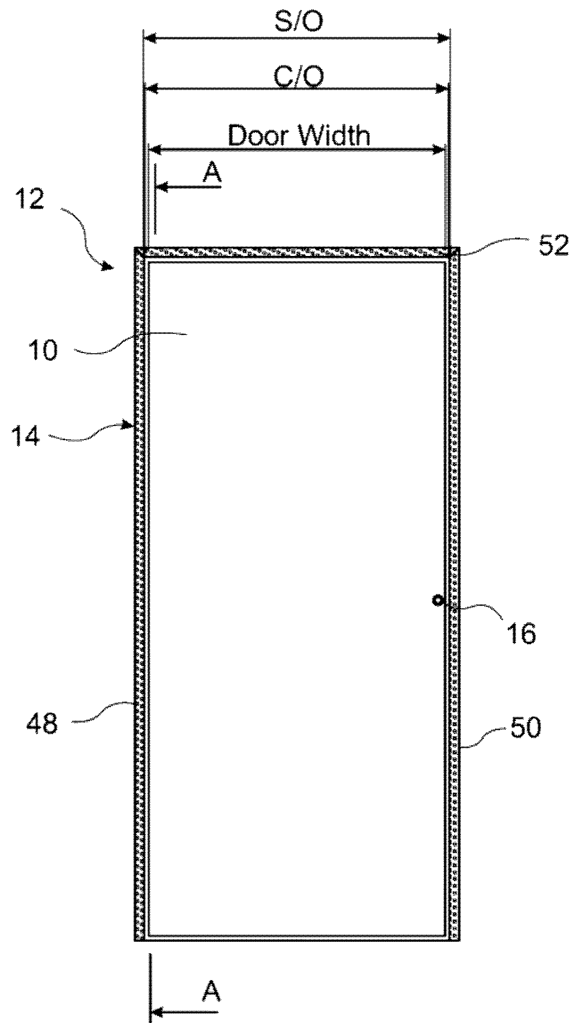


FIG. 1

12. Figure 3 shows an enlargement of the top sub-assembly 20 of the doorset 12. The top sub-assembly 20 comprises the top sectional component 52 of the frame component 14, plus also a sprung pivot pin 24, an intumescent strip 18, an upper portion of the door 10 and a conventional door seal 28. The intumescent strip 18 is attached to an outside face of the sectional component 52. The sprung pivot pin 24 fixes the door 10 to the frame component 14, allowing the door 10 to rotate about the sprung pivot pin 24 to open. The intumescent strip 18 is placed on the surface of each of the frame components that form the sides and top of the frame assembly. It is thus fixed around the outside face of the frame components to form an intumescent barrier around the frame between the frame and the wall.

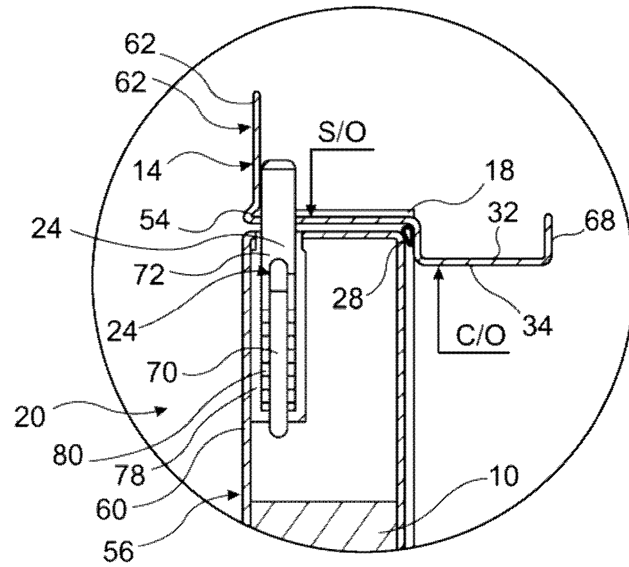


FIG. 3

13. The frame component 14 of figure 3 is shown in greater detail in figure 5 below. The frame component comprises a four-times-folded metal sheet, thus defining five generally planar plates, with at least one of the folds forming a projecting bead 54. Two of the sectional components with this section are longer than the third, and define side components 48, 50, and the third defines a top frame component 52 as shown in figure 1. A plaster-receiving flange 62 is perforated to facilitate the fixing of plaster thereto during installation of the frame components 14 within an opening in a wall. With perforations the frame component can also be more easily attached to the wall e.g. with nails or screws. The bead 54 extends around the side and top perimeter of the door to provide a guide for a plasterer that corresponds to the level to which plaster will be applied over sides 62 of the frame components 14 during the installation of the doorset or door assembly 12. Intumescent strip 18 is fixed to an outer face of the frame.

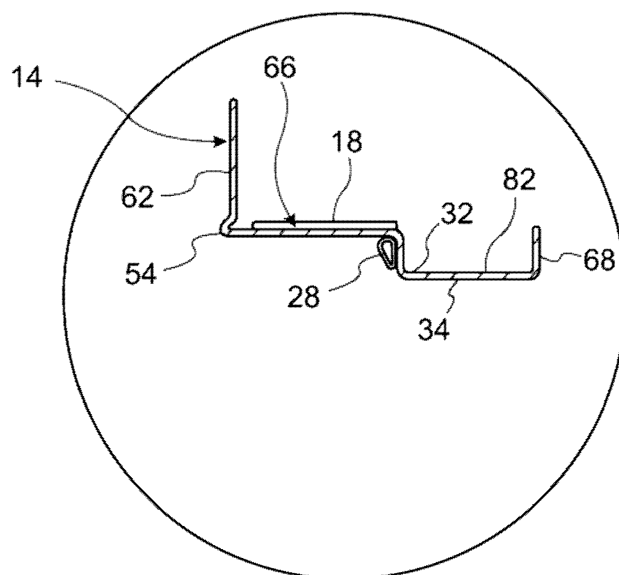


FIG. 5

14. The patent has eighteen claims including independent claim 1. Adopting the references used by the requester, independent claim 1 of the patent reads:

1. A frame assembly for a doorset or door assembly comprising

- a. at least a frame forming a closing area for a fire door, the frame comprising frame components in the form of two frame uprights and a frame head or lintel and*
- b. the frame assembly comprising a pre-applied intumescent strip applied to an outer face of the frame such that it will be located between the frame and a wall when the frame assembly is installed in an opening in the wall,*
- c. wherein the frame components are each formed as a metal frame section,*
- d. the metal frame section being formed to comprise a bead member along its length for defining guide for a plasterer*
- e. and having extending from the bead, as a wall-return for the frame component, a perforated flange for receiving and better enabling adhesion of plaster.*

15. I will consider the dependent claims should that become necessary after my assessment of claim 1.

Claim construction

16. Before considering the inventive step issues raised in the request, I need to construe the claims of the patent – that is to say, I must interpret them in the light of the description and drawings as instructed by Section 125(1):

125(1) For the purposes of this Act an invention for a patent for which an application has been made or for which a patent has been granted shall, unless the context otherwise requires, be taken to be that specified in a claim of the specification of the application or patent, as the case may be, as interpreted by the description and any drawings contained in that specification, and the extent of the protection conferred by a patent or application for a patent shall be determined accordingly.

17. In doing so I must interpret the claims in context through the eyes of the person skilled in the art. Ultimately the question is what the person skilled in the art would have understood the patentee to be using the language of the claims to mean. This approach has been confirmed in the High Court in *Mylan*² and the Court of Appeal in

² Generics UK Ltd (t/a Mylan) v Yeda Research and Development Co. Ltd & Anor [2017] EWHC 2629

*Actavis*³.

18. The requester has not put forward any argument concerning the construction of the claims. I also have no issue with the claims and consider them to be clear when read in light of the description and drawings. In my opinion the skilled person would have no issue with understanding the meaning of claims.

The law

19. Section 1(1)(a) and (b) of the Patents Act (henceforth ‘the Act’) reads:

1(1) A patent may be granted only for an invention in respect of which the following conditions are satisfied, that is to say –

- (a) the invention is new;*
- (b) it involves an inventive step;*

20. The provisions in relation to inventive step are found in section 3 which states:

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

21. The Court of Appeal in *Windsurfing*⁴ formulated a four-step approach for assessing whether an invention is obvious to a person skilled in the art. This approach was restated and elaborated upon by the Court of Appeal in *Pozzoli*⁵. Here, Jacob LJ reformulated the *Windsurfing* approach as follows:

- (1)(a) Identify the notional “person skilled in the art”*
- (1)(b) Identify the common general knowledge of that person;*
- (2) Identify the inventive concept of the claim in question or if that cannot be readily 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 that would have been obvious to the person skilled in the art or do they require any degree of invention?*

22. I will begin by considering the validity of the invention as defined by claim 1. Only if I find it to be invalid will I consider the dependent claims.

The inventive step argument

23. The requester has not provided any argument based on the four-step *Windsurfing*

(Pat)

³ *Actavis Group & Ors v ICOS Corp & Eli Lilly & Co.* [2017] EWCA Civ 1671

⁴ *Windsurfing International Inc. v Tabur Marine (Great Britain) Ltd*, [1985] RPC 59

⁵ *Pozzoli SPA v BDMO SA* [2007] EWCA Civ 588

approach as outlined above in paragraph 21 for assessing whether an invention is obvious to a person skilled in the art. The inventive step argument advanced by the requester would appear to be based upon D2-D7 disclosing features that are considered conventional in the art and as a result the skilled person would consider it obvious to include those features in the door assembly of D1 as a routine way of improving the fire resistance performance of the frame.

24. To determine whether or not the invention as defined in claim 1 is obvious in light of the listed prior art, I will use the four-step test outlined above.

(1)(a) Person skilled in the art

25. The requester has not put forward a definition of the person skilled in the art. I consider the person skilled in the art to a person engaged in the design and manufacture of doorsets or door assemblies.

(1)(b) Common general knowledge

26. The common general knowledge (CGK) of the skilled person would include well-known designs and methods of manufacturing, installing and fitting doorsets and door assemblies including those for fire doors. The person skilled in the art would be familiar with conventional features of doorsets or door assemblies which aid in finishing, installation and fitting such as features which aid plastering. The skilled person would also be aware of the standard requirements for fire doors which are assessed through standardised test procedures, such as those defined by British Standards or other industry Standards.
27. The requester's argument relies upon what is conventional in the art i.e. what constitutes the CGK of the person skilled in the art at the filing date of the patent. The requester has identified two inventive concepts of the claimed invention – (i) a pre-applied intumescent strip applied to an outer face of the frame so as to be located between the frame and a wall when the frame assembly is installed in an opening in the wall; and (ii) the frame components are each formed as a metal frame section, the metal frame section being formed to comprise a bead member along its length for defining guide for a plasterer and having extending from the bead, as a wall-return for the frame component, a perforated flange for receiving and better enabling adhesion of plaster.
28. The requester relies upon D2-D7 as evidence of what is conventional in the art. Therefore, I must consider whether D2-D7 constitute the CGK of the person skilled in the art at the filing date of the patent. Whilst the material contained in D2-D7 pre-dates the patent and forms part of the prior art, this does not mean that they necessarily form part of the CGK of the person skilled in the art. In *Raychem Corp*⁶ Laddie J explained CGK as follows:

“The common general knowledge is the technical background of the notional man in the art against which the prior art must be considered. This is not limited to material he has memorized and has at the front of his mind. It includes all that material in the field he is working in which he knows exists,

⁶ *Raychem Corp's Patents* [1998] RPC 31

which he would refer to as a matter of course if he cannot remember it and which he understands is generally regarded as sufficiently reliable to use as a foundation for further work or to help understand the pleaded prior art. This does not mean that everything on the shelf which is capable of being referred to without difficulty is common general knowledge nor does it mean that every word in a common text book is either. In the case of standard textbooks, it is likely that all or most of the main text will be common general knowledge. In many cases common general knowledge will include or be reflected in readily available trade literature which a man in the art would be expected to have at his elbow and regard as basic reliable information."

29. The requester has relied upon patent specifications D2-D4 as evidence that feature (i) from above forms part of the CGK of the skilled person. I note that the contents of individual patent specifications and isolated documents do not normally form part of the relevant CGK. The statement by Sachs LJ in *General Tire & Rubber Co*⁷ is of particular interest because it sets out the relationship of patent specifications to the CGK ("it is clear that individual patent specifications and their contents do not normally form part of the relevant common general knowledge"). With regard to patent specifications Sachs LJ explained:

"...it is clear that individual patent specifications and their contents do not normally form part of the relevant common general knowledge, though there may be specifications which are so well known amongst those versed in the art that upon evidence of that state of affairs they form part of such knowledge, and also there may occasionally be particular industries (such as that of colour photography) in which the evidence may show that all specifications form part of the relevant knowledge."

30. I have no evidence before me which suggests any of D2-D4 are patent specifications falling into the categories discussed above by Sachs LJ and thus forming part of the CGK.
31. The requester has relied upon webpages D5-D7 as evidence that feature (ii) from above forms part of the CGK of the skilled person. D5-D7 are webpages captured by the Internet Archive. I have no evidence before which suggests any of D5-D7 are well-known and falling into the categories discussed above by Laddie J in *Raychem Corp* to be forming part of the common general knowledge. D5-D7 are merely webpages showing metal access panels and riser doors and cannot be considered to form part of the CGK of a person skilled in the art.

(2) Inventive concept of claim 1

32. As set out in paragraph 27 above, the requester has identified two inventive concepts in claim 1. I agree with this assessment of the inventive concept of claim 1. The inventive concept of claim 1 lies in a frame assembly comprising (i) a pre-applied intumescent strip applied to an outer face of the frame such that it will be located between the frame and a wall when the frame assembly is installed in an opening in the wall, and (ii) the frame components are each formed as a metal frame section, the metal frame section being formed to comprise a bead member along its

⁷ *General Tire & Rubber Co v Firestone Tyre & Rubber Co Ltd* [1972] RPC 457

length for defining guide for a plasterer and having extending from the bead, a perforated flange for receiving and better enabling adhesion of plaster.

33. Turning to claim 1 and using the references used by the requester to identify the features of claim 1 as set out in paragraph 14 above, inventive concept (i) relates to feature b and inventive concept (ii) relates to features c, d and e.

(3) What differences exist between D1 and the inventive concept of claim 1?

34. Figure 1 of D1 below discloses an access panel having a rectangular mounting frame 1 with a peripheral flange 2 at the uppermost part thereof, formed from perforated material and intended to locate against a plasterboard surface surrounding an aperture provided in a false wall or ceiling for access to services. The perforated material serves to key a plaster skim when the wall or ceiling is subsequently plastered. A door 3 is formed as a second rectangular frame 4 having a recess receiving a plasterboard sheet 5 secured to the second frame 4 by means of screws 6. The door 3 is received in the mounting frame 1 so that it can only move outwardly of the frame.

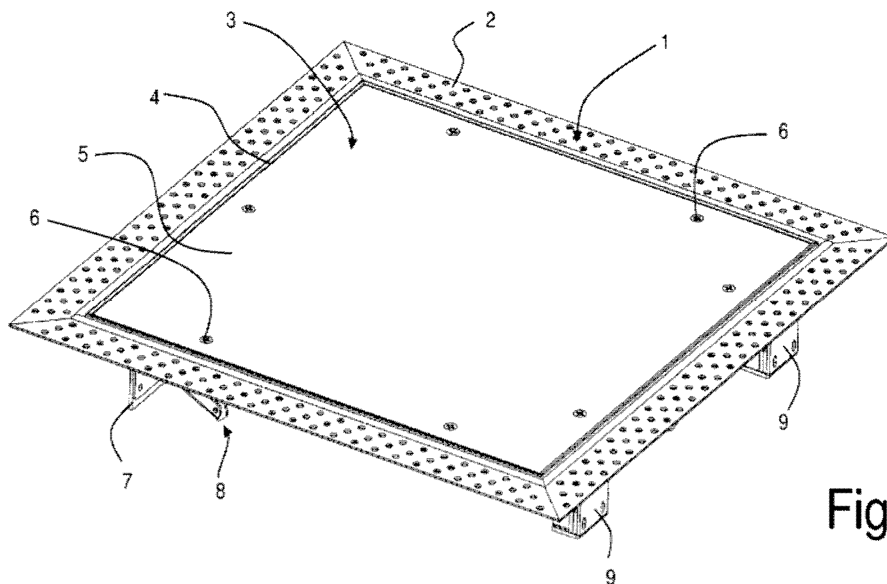


Fig 1

35. The requester explains that D1 does not disclose the frame 1 being made of metal. However, the door 3 is described as being a rectangle frame formed of L-section metal. The requester states that access panels are conventionally formed of metal to ensure an adequate fire rating.
36. The requester considers figure 1 of D1 above to show the frame as having a bead member. I am not convinced it does. No bead member is referenced in the figure nor is there any mention of a bead member in the specification. D1 specifically discusses the provision of perforated material for the frame which serves to key a plaster skim when the wall or ceiling is subsequently plastered. But in discussing this feature to aid plastering, fails to disclose the presence of a bead on the frame. Furthermore, figure 3 of D1 below illustrates a further embodiment where frame 31 has a flat front face with no bead.

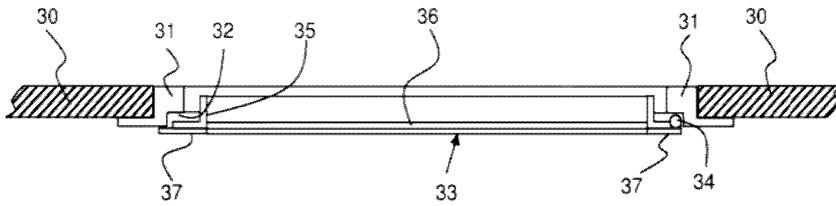


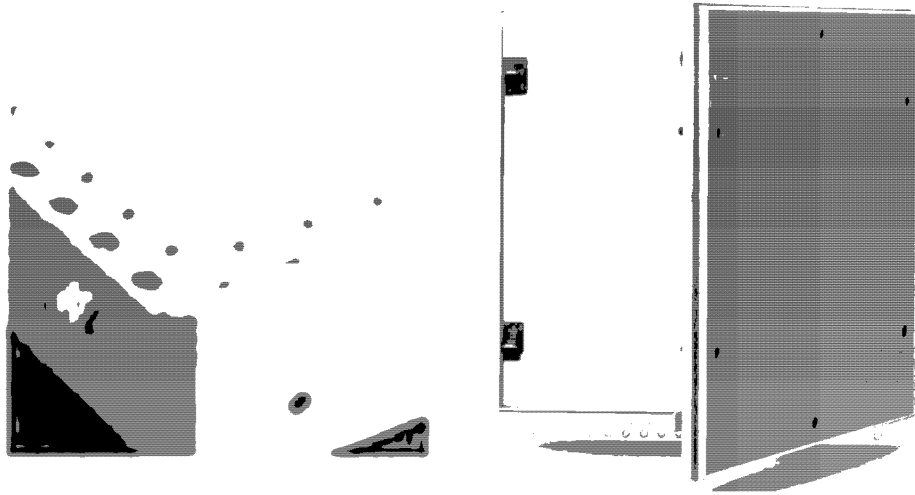
Fig 3

37. Therefore, D1 in my view, fails to disclose features c and d of claim 1.
38. D1 also fails to disclose feature b of claim 1, namely the frame assembly comprises a pre-applied intumescent strip applied to an outer face of the frame such that it will be located between the frame and a wall when the frame assembly is installed in an opening in the wall.

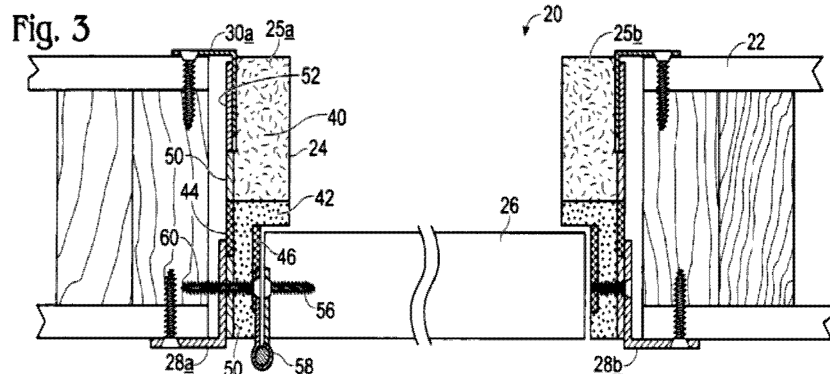
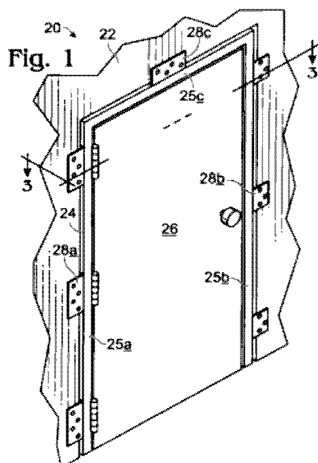
(4) Are the differences obvious to a person skilled in the art

39. The requester argues that these differences are conventional and thus forming part of the CGK of the person skilled in the art. As a result, the skilled person would consider it obvious to provide the access panel of D1 with a pre-applied intumescent strip in a metal frame structure having a plastering bead and perforated flange. The skilled person would do so as a routine way of improving the fire resistance of the frame. Therefore, the requester considers claim 1 of the patent to not involve an inventive step.
40. As discussed above, I consider D1 to not disclose features b, c and d of claim 1. Further, it is my opinion that D2-D7 do not constitute the CGK of the skilled person at the filing date of the patent. Therefore, I consider feature b - a pre-applied intumescent strip applied to an outer face of the frame so as to be located between the frame and a wall when the frame assembly is installed in an opening in the wall; and features c and d - the frame components are each formed as a metal frame section, the metal frame section being formed to comprise a bead member along its length for defining guide for a plasterer, based on the evidence before me, to not be conventional in the art. As a result, in my opinion it is not obvious to modify the access door of D1 to include features b, c and d in light of the CGK of the skilled person.
41. The requester has not provided any argument regarding whether it is obvious to modify D1 to include features b, c and d in light of D2-D7. I will now consider the disclosures of D2-D7 in relation to features b, c and d of claim 1. The requester has relied upon D2-D4 as evidence that feature b is conventional in the art and D5-D7 as evidence features c and d are conventional in the art. For convenience, I will consider D2-D4 and D5-D7 grouped in this way, starting with D5-D7.
42. The webpages of D5-D7 appear to disclose features c and d. They disclose access doors having frame components each formed as a metal frame section, the metal frame section being formed to comprise a bead member along its length for defining guide for a plasterer and having extending from the bead, as a wall-return for the frame component, a perforated flange for receiving and better enabling adhesion of

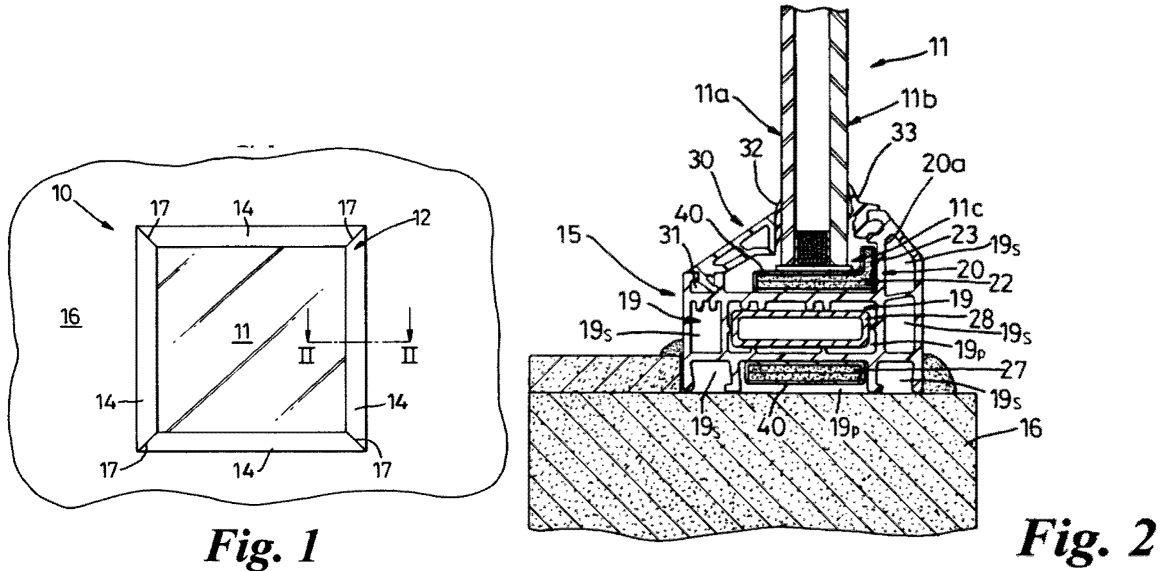
plaster. The access doors disclosed D5-D7 are reproduced below. Both access doors include metal frames having a bead member and perforated flange.



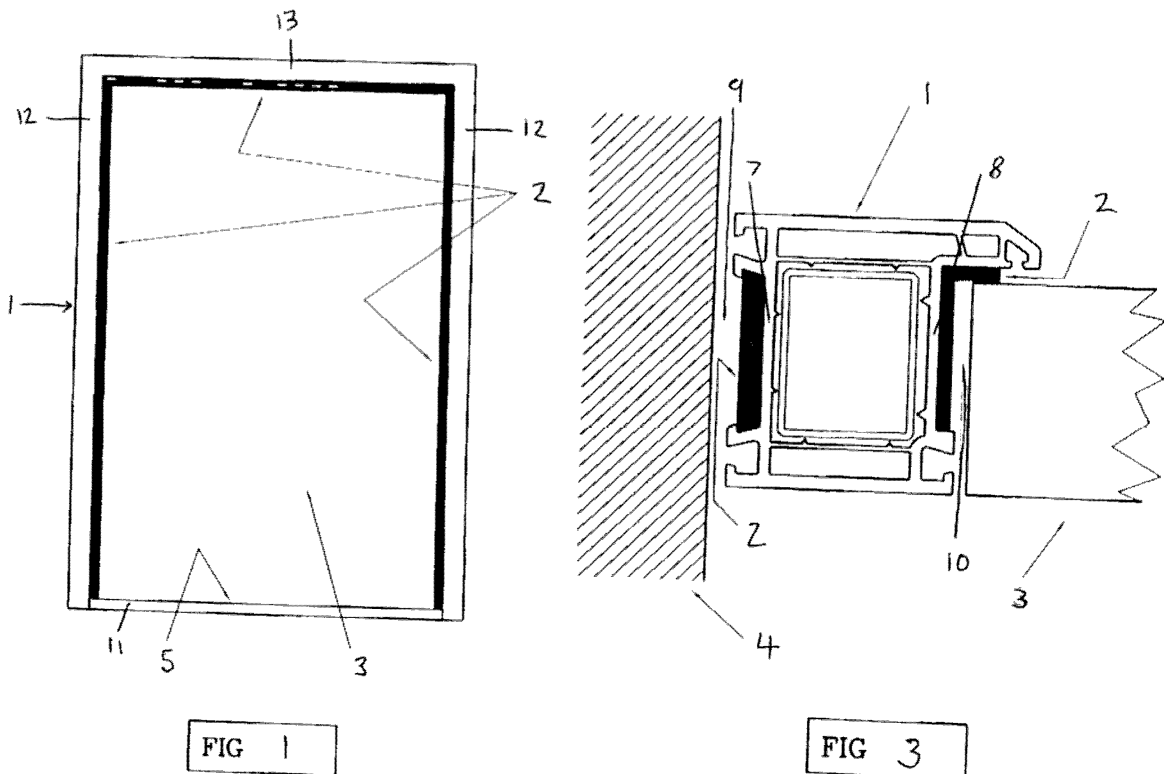
43. Returning to D1, the door in D1 is disclosed as being made of metal and the frame is provided with a perforated flange to aid plastering. In my opinion, the skilled person would consider it obvious to modify the access door of D1 in light of D5-D7 to include metal frames having a bead member. To do so, in my view, would not require significant modification.
44. Claim 1 of the patent further requires the frame assembly to have a pre-applied intumescent strip applied to an outer face of the frame so as to be located between the frame and a wall when the frame assembly is installed in an opening in the wall i.e. identified feature b. The requester relies upon D2-D4 as disclosing feature b in their argument that it is a conventional feature in the art.
45. Figures 1 and 3 of D2 below discloses a frame assembly for a fire door 26 and a door jamb 24. Jamb 24 includes three main components: hinge leg 25a, strike leg 25b, and header 25c. Intumescent strip 44 is provided to an outer face of the jamb 24 so as to be located between the jamb 24 and a wall when the frame assembly is installed in an opening in the wall (see figure 3). The intumescent strip 44 would appear to be pre-applied as it is provided beneath hinge bracket 28a and between hard board sheets 50.



46. Figures 1 and 2 of D3 below together show a window assembly 10 having frame members 14 where each frame member is provided with intumescent material 27 in cavity 19_p. The intumescent strip 27 is provided between frame 14 and wall 16. The intumescent strip 27 would need to be pre-applied before installation of the window in order for it to be located in cavity 19_p.



47. Figures 1 and 3 of D4 are reproduced below. They disclose a fire door assembly including door 3 and frame 1 where the frame is provided with intumescent material 2 located in groove 7. The intumescent material 2 is located between frame 1 and wall 4. The intumescent material 2 would need to be pre-applied before installation of the frame in order for it to be located in groove 7.



48. Whilst each of D2-D4 discloses a frame assembly having a pre-applied intumescent strip applied to an outer face of the frame so as to be located between the frame and a wall when the frame assembly is installed in an opening in the wall, it is important to approach the question of inventive step without any knowledge of the invention as claimed. It may appear to be very simple to apply an intumescent strip to an outer face of the frame as required by claim 1. With knowledge of the invention, it is all too easy to think it obvious.
49. The requester argues that the skilled person would consider it obvious to modify D1 to include an intumescent strip as required by claim 1 as a routine way of improving the fire resistance of the frame. However, D1 does not disclose a fire door or provide any mention of fire safety and its requirements. As a result, the skilled person is not provided with any motivation to improve the fire resistance of the frame in D1.
50. Furthermore, in order to arrive at the invention of claim 1, the skilled person would be required to modify the access door in light of D5-D7 to include features c and d and then to further modify the door in light of D2-D4 to include feature b. The skilled person is not provided with any motivation to further modify D1 in light of any of D2-D4 if having already modified it in light of D5-D7 to include a metal frame with a bead.
51. None of D2-D4 discloses a metal frame. Figure 3 of D2 discloses the intumescent material being pre-applied between hard board sheets 50 and D3-D4 require that the intumescent material is pre-applied in cavity 19_p and groove 7 respectively of the relevant plastic frames. Therefore, D2-D4 teaches the skilled person to provide the pre-applied intumescent material between material or within a cavity/groove. To my mind, it would not be obvious to further modify D1 in light of any of D2-D4 to include a pre-applied intumescent strip as to do so would, in my view, require significant modification of the access door of D1.
52. I am therefore of the opinion that the invention of claim 1 is inventive with respect to D1 and the CGK of the person skilled in the art and also with respect to D1 in light of D2-D7.

Conclusion

53. On the basis of the evidence put forward regarding documents 1-7, I am of the opinion that claim 1 of granted patent GB 2591134 B involves an inventive step under section 3 of the UK Patent Act 1977.

Marc Collins
Examiner

NOTE

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