

OPINION UNDER SECTION 74A

Patent	GB 2473159
Proprietor(s)	McAlpine & Co. Ltd
Exclusive Licensee	
Requester	Urquhart-Dykes & Lord LLP
Observer(s)	
Date Opinion issued	16 February 2021

The request

1. The comptroller has been requested to issue an opinion as to whether the invention claimed in GB 2473159 (“the patent”) is novel and inventive in light of certain prior art documents.
2. No observations have been received from the proprietor.

Preliminary matters

3. According to Section 74A(3)(b) of the Patents Act 1977 *The comptroller shall issue an opinion if requested to do so under subsection (1) above, but shall not do so ... if for any reason he considers it inappropriate in all the circumstances to do so.*
4. Section 3.4 of the Opinions Manual explains that this provision is used to refuse requests which “*did no more than repeat arguments already considered pre-grant*”.
5. This request refers to multiple patent documents and acknowledges that a number were cited either during the prosecution before the Intellectual Property Office (“the Office”) of the application leading to the patent or during the prosecution of a related patent application before the European Patent Office, ultimately granted as EP 2300670. That European patent derives from the same international application as the patent.
6. It seems to me that this request, to the extent that it refers to documents already considered during prosecution before the Office, is doing no more than repeating arguments already considered. I will therefore only consider documents from the request that have not already been cited before grant by the Office. The documents that were not cited by the Office are WO 99/51824, FR 2333905, EP 1229174, EP 1640518, US 4263138 and GB 2429216, referred to in the request as documents D,

E and I to L. They were all published before the priority date of the patent. Of those documents WO 99/51824, EP 1229174, EP 1640518 and US 4263138 are only referred to in the request in combination with other documents for inventive step purposes regarding dependent claims.

The patent

7. The patent was granted with effect from 30 January 2013 and remains in force.
8. The title of the invention is "*Improved waste trap*" and the field of the invention is described on page 1 of the patent as a waste trap for a bath or a shower.
9. Two embodiments are described, the first of which is shown in figure 1:

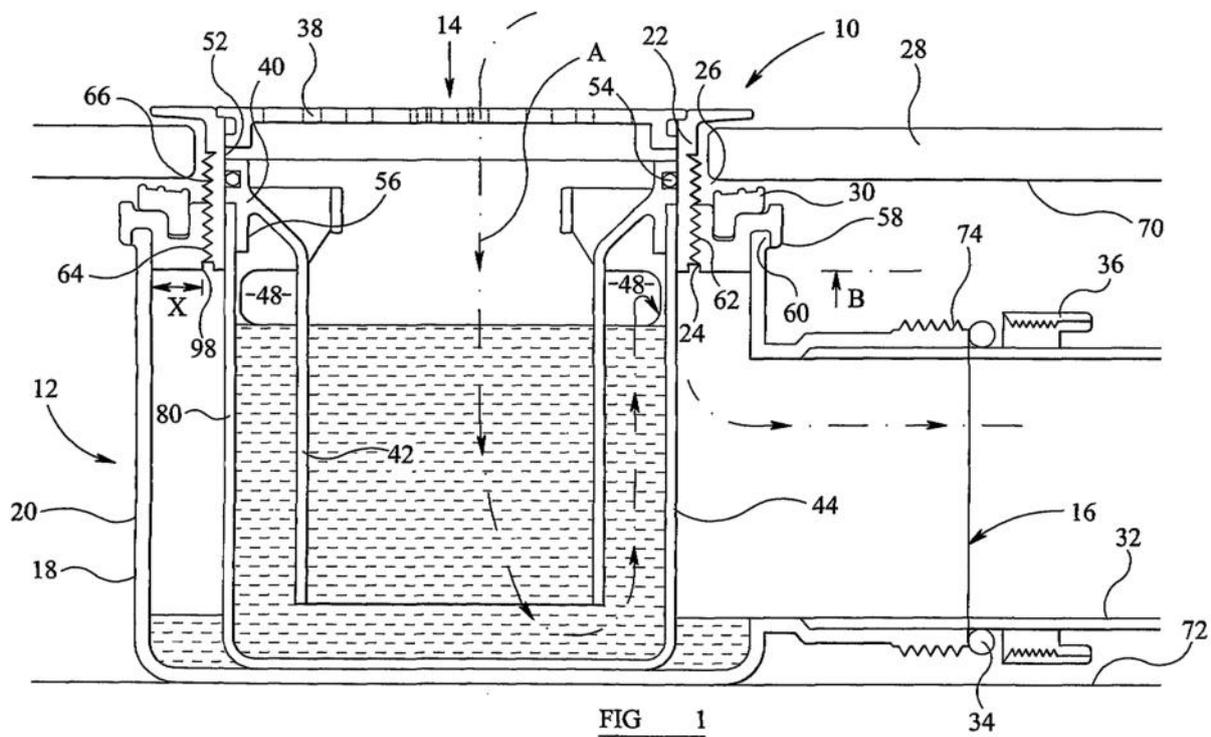


FIG 1

10. This is described on pages 8 and 9:

Figure 1 is a section view through a waste trap, generally indicated by reference numeral 10, according to a first embodiment of the present invention. The waste trap 10 is shown located between a shower tray 28 and a soil pipe 32, and is adapted to provide a water seal between the tray 28 and the soil pipe 32 to prevent the backflow of gases from the soil pipe 32.

The waste trap 10 comprises a housing 12, the housing 12 having an inlet 14, an outlet 16 and a body 18 having a cylindrical wall 20. The trap 10 further comprises a threaded sleeve 22, the sleeve 22 being threadedly engageable with a housing inlet surface 24. Particularly, a sleeve thread 66 is releasably connected to an inlet surface thread 64.

The sleeve 22 defines a flange 26, the flange 26 and the housing 12 being arranged to trap the outlet of a shower tray 28 and an annular seal 30 therebetween. The seal 30 is provided to prevent leakage of waste water from the shower tray 28 leaking between the shower tray 28 and the trap 10.

As can be seen from Figure 1, the body wall 20 is spaced away from the housing inlet surface 24 by a distance "X".

The housing inlet 24 is defined by an annular ring 58. The annular ring 58 is attached, by spin welding, to an upper edge 60 of the body wall 20. The housing outlet 16 is connected to a soil pipe 32 and secured in place by compression of a seal element 34 by an outlet nut 36.

The housing 12 further comprises an inlet grill 38, to cover the housing inlet 14, and a trap insert 40. The insert 40 comprises a rigid tubular portion 42 and a rigid cup 44. The insert 40 defines the water seal by the provision of a convoluted flow path, indicated by a broken line marked "A", and forms the water seal indicated by a body of water 46 between the housing inlet 14 and the housing outlet 16.

As the shower is used, water in the shower tray 28 flows through the inlet grill 38 and fills up the tubular portion 42 and the cup 44. Once the cup 44 is full, the waste water flows out of the cup 44 through a number of apertures 48 defined by a cup wall 50. The cup 44 is also shown in Figure 2, a side view of the cup 44 of Figure 1. In this Figure, the apertures 48 defined by the cup wall 50 can be seen more clearly.

The insert 40 is arranged to be removable through the housing inlet 14 without deformation. This facilitates cleaning of the trap 10. As can be seen from Figure 1, the insert 40 is arranged to be in contact with the internal surface 52 of the threaded sleeve 22. The tubular portion 42 is sealed against the sleeve internal surface 52 by means of an o-ring 54 and the cup wall 50 is trapped between the sleeve internal surface 52 and a tubular portion lip 56.

Claim construction

11. Firstly 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). 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.
12. Section 125(1) of the Act states that:

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

13. Claim 1 is the only independent claim and reads as follows:
 1. *A waste trap, the waste trap comprising:
a housing having an inlet, and outlet and a body, the body having at least one wall; and
a threaded sleeve, the sleeve being threadedly engageable with a housing inlet surface defining a thread, the sleeve having flange, the flange and the housing being arranged, in use, to receive a bath or shower outlet therebetween;
wherein the at least one body wall is spaced away from the housing inlet, and the threaded sleeve extends below the housing inlet threaded surface.*
14. For the most part the claim seems to me to be clear. That said, two aspects of the claim merit discussion.
15. Towards the end of the claim it specifies that “*the at least one body wall is spaced away from the housing inlet*”. The claim itself does not specify in what direction or manner the wall and inlet should be spaced. However, on page 8 the description states “*As can be seen from Figure 1, the body wall 20 is spaced away from the housing inlet surface 24 by a distance “X”.*”. The second embodiment in figure 4 shows a similar spacing. I believe that the skilled reader would understand “*spaced away*” to mean that the body wall should have a greater lateral extent than the inlet.
16. The requester takes the same view regarding the body wall being spaced away from the housing inlet. In the context of comparing document E with claim 1 they state that “*This feature by itself is nearly meaningless*”, but go on to say “*Looking at the description of the McAlpine patent, a horizontal spacing from the inlet to the vertical walls appears to be intended*”.
17. The second aspect I should consider is the final requirement of the claim that “*the threaded sleeve extends below the housing inlet threaded surface.*”. Such an arrangement is not in fact shown in either figures 1 or 4 illustrating the two embodiments. This is explained on page 10 “*the sleeve 22 can, as the shower base 28 is compressed against the seal 30, extend below the inlet bottom edge 98, and particularly below the last turn 62 of the inlet thread 64 into the body 18 itself.*”. In other words figures 1 and 4 show the waste trap before the shower base is compressed against the seal and only once the seal is compressed does the threaded sleeve extend below the housing inlet surface. It seems to me that the skilled reader would understand this final requirement to relate to the waste trap in use or when assembled. Put another way the requirement means that the threaded sleeve is capable of or suitable for extending below the housing inlet threaded surface when assembled or in use. In practice this is largely a function of the relative dimensions of the threaded surfaces and the thickness of the base of the shower or bath with which the waste trap is to be used.
18. The request draws my attention to part of a European Patent Office examination report dated 17 September 2015 which discusses the final requirement of the claim. This states that the feature of the claim “*is not a technical feature of the claimed device (a waste trap), but rather to the device in use. Such use features cannot distinguish a claimed device (an entity) from a prior art device, as long as the prior*

has multiple walls and many of them are remote from the trap inlet, so anticipating this feature. Although the overflow basin 5 and dip tube 6 have walls, I do not believe that these can be described as body walls in the sense of claim 1. The wall in figure 1 equivalent to the body wall of claim 1 is the outer wall of body 2. I have construed “*spaced away*” to mean that the housing should have a greater lateral extent than the inlet. This is not the case in figure 1 of FR 2333905. There is no spacing in figure 1 of FR 2333905 equivalent to X in figure 1 of the patent. The request also argues that the requirement of claim 1 is present in FR 2333905 since “*the surface defining the inlet curves inwards*”, referring to the curved surface shown in figure 1 forming the top part of dip tube 6. I do not think that the curved surface of dip tube 6 can be considered as the housing inlet. In the language of the patent dip tube 6 is equivalent to rigid tubular portion 42, part of the insert 40, and not equivalent to body wall 20.

23. The final requirement of claim 1 is that “*the threaded sleeve extends below the housing inlet threaded surface.*”. In figure 1 of FR 2333905 I assume that the threaded surface of body 2 would extend no lower than the top of outlet 10, since extending the threaded surface lower would serve no purpose. Much like figure 1 of the patent it seems to me that figure 1 of FR 2333905 shows the trap before it is finally assembled and before seal 4 is compressed against surface 1 between the flanges of body 2 and part 3. Once the gap shown in figure 1 of FR 2333905 between the flange of body 2 and receiver 1 is closed by screwing part 3 into body 2 and compressing seal 4 it seems inevitable that part 3 would extend below the threaded surface of body 2. I say this because the lower end of part 3 is shown adjacent to the top of outlet 10 before the gap is closed and the seal compressed. Any further downward movement of part 3 must take its lower end below the top of outlet 10, where I assume the threaded surface of body 2 ends. Having construed this final requirement of claim 1 to relate to the device in use, it seems to me that the device shown figure 1 of FR 2333905 meets the requirement.
24. Since I have concluded that FR 2333905 does not disclose a body wall spaced away from a housing inlet, claim 1 is not anticipated by FR 2333905. It follows that none of the claims dependent upon claim 1 are anticipated by FR 2333905.

Inventive step

25. The request seeks an opinion as to whether the claims are obvious in view of what is shown in FR 2333905, document E, or GB 2429216, document L.
26. To determine whether or not an invention defined in a particular claim is inventive over the prior art, I will rely on the principles established in *Pozzoli SPA v BDMO SA [2007] EWCA Civ 588*, in which the well-known Windsurfing steps were reformulated:

- (1)(a) *Identify the notional “person skilled in the art”;*
- (1)(b) *Identify the relevant common general knowledge of that person;*
- (2) *Identify the inventive concept of the claim in question or if that cannot readily be done, construe it;*
- (3) *Identify what, if any, differences exist between the matter cited as forming part of the “state of the art” and the inventive concept of the*

claim or the claim as construed;

(4) Viewed without any knowledge of the alleged invention as claimed, determine whether those differences constitute steps which would have been obvious to the person skilled in the art.

27. As an alternative to the novelty argument based on FR 2333905, the requester argues that claim 1 lacks an inventive step in view of FR 2333905 combined with document L, GB 2429216.
28. Considering the first Windsurfing/Pozzoli step they suggest that the notional person skilled in the art is a designer of plumbing fittings, including drains and waste traps, and that their common general knowledge would include common waste trap designs such as what they term the “tube-in-tube” siphon design shown in the patent and would further include an appreciation that drain fittings must be capable of being used with different outlet thicknesses. The requester provides no evidence for all this, but it seems reasonable to me and I will accept their view.
29. Rather than identifying the inventive concept of the claim the requester highlights the claim feature that “*the threaded sleeve extends below the housing inlet threaded surface.*” and describes the benefits that this feature brings. They then go on to identify this feature as being the difference between FR 2333905, the matter cited, and the inventive concept of the claim.
30. I do not feel that anything turns on the absence of an identified inventive concept from the requester and I have already construed the claim.
31. In considering novelty earlier I concluded that FR 2333905 does disclose a threaded sleeve that extends below the housing inlet threaded surface and it follows that I do not feel this is a difference between the matter cited and the inventive concept. However, for the purposes of this part of my opinion I will accept the contention of the requester. I do though believe that there is a second difference between FR 2333905 and the inventive concept of the claim, namely that in FR 2333905 the body wall is not spaced away from the housing inlet. I explored this when discussing novelty above.
32. For the final Windsurfing/Pozzoli step the requester argues that the skilled person would test the apparatus in FR 2333905 with a range of outlet surfaces. They go on to suggest that, if these tests showed that the top of the trap protruded above the surface to too great an extent then it would be obvious to either reduce the length of the trap or increase the depth of the housing. They suggest that GB 2429216 shows such an arrangement and that the skilled person would have no difficulty combining these disclosures.
33. For my part I do not believe that the skilled person would have no difficulty combining the disclosures “*without any knowledge of the alleged invention as claimed*” or without the benefit of hindsight. There is no explanation in the request how the skilled person would be aware of GB 2429216 and no evidence that what it shows simply exemplifies what was commonly known.
34. There remains the second difference that in FR 2333905 the at least one body wall is not spaced away from the housing inlet. Obviously the requester makes no

argument on the point and in the absence of hindsight I can see no reason why the skilled person would be motivated to modify the body wall shown in FR 2333905 to space it away from the housing inlet.

- 35. Consequently in my opinion each of the two differences constitutes a step which would not have been obvious to the person skilled in the art.
- 36. In the request claim 1 is also said to be obvious in view of document L alone. Figure 1 of document L or GB 2429216 shows a floor drain:

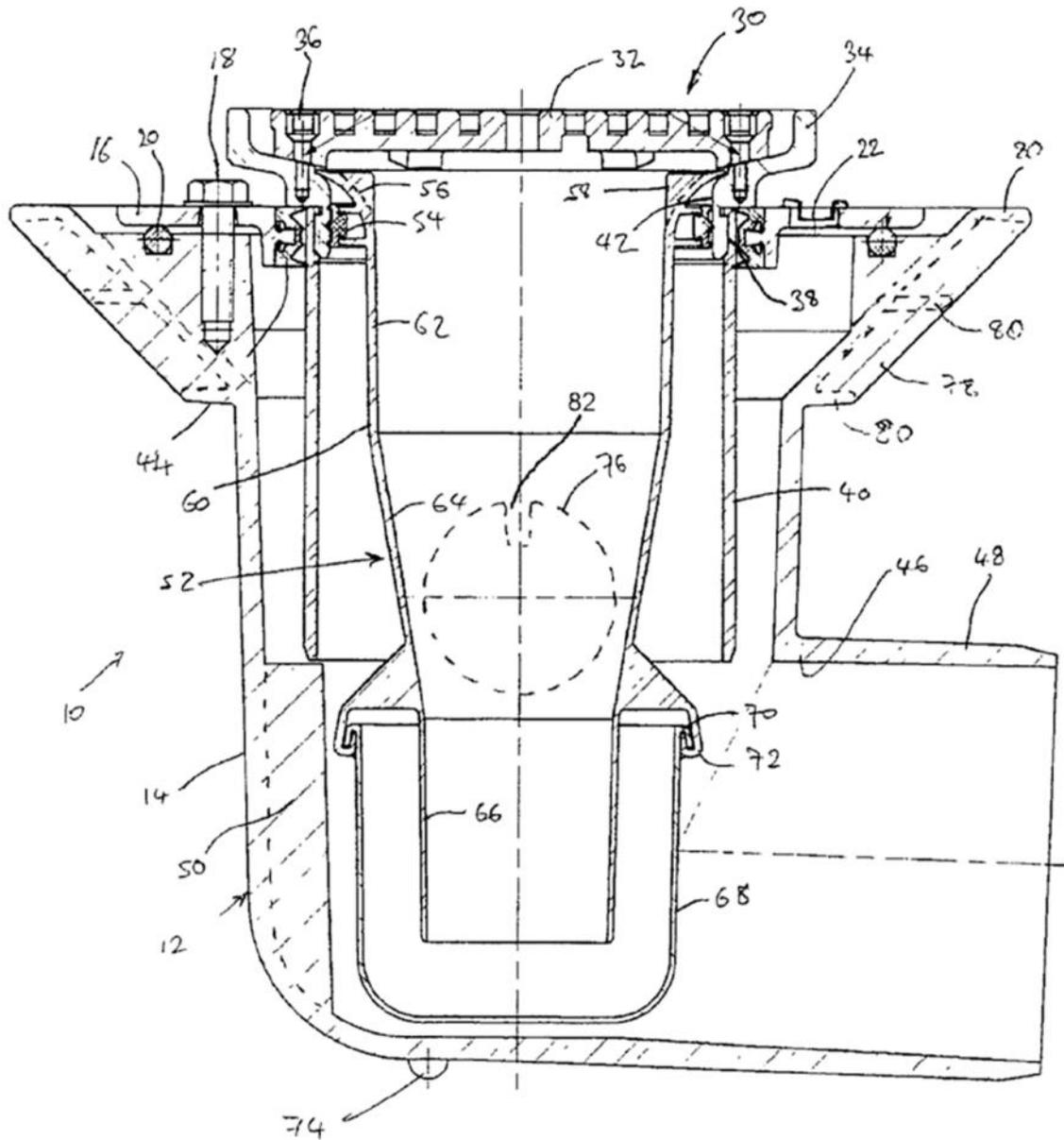


Fig. 1

- 37. The floor drain is described as follows:

The floor drain 10 shown in Figure 1 comprises a body assembly 12 consisting of a

cast aluminium body 14 and a clamping collar 16. The clamping collar 16 ensures a watertight seal between the flooring damp proof membrane or bitumastic layer and the drain body.

The membrane (not shown) is held against the drain body by the clamping collar and sealed by compression via three retaining bolts 18 (only one shown) over an 'O' ring 20 set in a groove in the drain body. The collar also incorporates an airtight bung 22 which can be removed, thus creating a weep hole for the relief of screed saturation especially in a tiled floor.

The floor drain 10 further comprises a grate assembly 30, consisting of a machined grate 32 attached to a bezel 34 by screws 36. The bezel is attached via a threaded connection 38 to an adjustable smooth sliding throat 40. The threaded connection is to the inside of the throat leaving a smooth sealing area 42 inside the bezel for sealed reception of the trap assembly as discussed below. The drain body assembly 12 telescopically receives the grate assembly 30 by passing the smooth sliding throat 40 through a seal ring 44 mounted in the central aperture of the clamping collar 16. Any suitable form of seal ring 44 can be used: for example an "O" ring as shown in Figure 2. The throat is therefore conveniently formed from a length of UPVC pipe. The throat is vertically adjustable relative to the collar to allow for different floor thicknesses above the body assembly 12. The grate assembly 30 is supported in the surrounding floor structure (not shown), e.g. cast into a floor screed. As shown in Figure 1, the grate assembly 30 is in its lowest possible position relative to the body assembly 12. In this position, the lower rim of the throat 40 is level with the apex 46 of a horizontal outlet spigot 48 extending from the bottom of the body 14. Longer throat tubes 40, where used, are prevented from intruding further into the body 14 and obstructing the outlet 48, by one or more fins or bosses 50 which protrude from the inside of the body 14.

38. According to the requester the only difference between claim 1 and document L is that document L does not explicitly disclose the use of the drain for a bath or shower. I disagree that this is the only difference.
39. Bezel 34 is threaded to throat 40 which is received in housing 12 and sealed by seal ring 44. I am not convinced that this amounts to a threaded sleeve threadedly engageable with a housing inlet surface, as required by claim 1 of the patent. In this respect the requester points to a passage on page 1 which says "*The throat is either screw threaded or telescopically fitted to a drain body assembly*". However, this is describing the state of the art rather than the invention of document L.
40. Bezel 34 projects outwards, but in the sense of claim 1 this does not form a flange arranged in use to receive a bath or shower outlet, or any other component, between the flange and the housing. There is a similar arrangement in document L in that the flooring damp proof membrane or bitumastic layer is received between clamping collar 16 and the drain body and this ensures a watertight seal by clamping the membrane against O ring 20.
41. The wall of body 14 is not spaced away from housing inlet or grate 32 in the manner of claim 1 as I have construed it. It is not entirely clear from figure 1, but it does not appear that bezel 34 extends below the threaded surface of throat 40. In any case, I have noted that bezel 34 and throat 40 do not correspond with the threaded sleeve

and housing inlet surface of claim 1.

42. There is no reason to suppose that all of these differences taken alone or in combination would have been obvious to the person skilled in the art.

Conclusion

43. It is my opinion that the invention claimed in the patent is novel and involves an inventive step over the prior art documents that I have considered.

Karl Whitfield
Examiner

NOTE

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