



*When the amendments are proposed to distinguish the invention from specified prior art they must be such that the invention is both novel and involves an inventive step having regard to the specified prior art when considered in the light of common general knowledge and of the prior art taken into account during examination of the application for the patent.*

7 There is no suggestion that the attorneys disagree with the above long-established approach. In order to decide whether to allow the application to amend, I must decide if the proposed amendments result in a claimed invention that is both novel and has an inventive step.

8 Section 2 sets out what novelty means; subsections (1) and (2) are relevant here:

*(1) An invention shall be taken to be new if it does not form part of the state of the art.*

*(2) The state of the art in the case of an invention shall be taken to comprise all matter (whether a product, a process, information about either, or anything else) which has at any time before the priority date of that invention been made available to the public (whether in the United Kingdom or elsewhere) by written or oral description, by use or in any other way.*

9 The attorney points out that a disclosure is only novelty-destroying if it is an enabling disclosure – that is to say, it enables the skilled person to perform the invention in question. *SmithKline Beecham plc's (Paroxetine Methanesulfonate) Patent* [2006] RPC 10 is referred to in this respect.

10 Section 3 sets out the meaning of an inventive step:

*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).*

11 The attorney agrees, in order to assess inventive step, that I must follow the test established in *Pozzoli SPA v BDMO SA* [2007] EWCA Civ 588. This comprises taking the following steps:

*(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.*

12 In terms of construing the claims, section 125(1) says this:

*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 I must interpret the proposed claims in the light of the description and drawings. As the attorney correctly submits, it is well established that this is done through the eyes of the person skilled in the art, thus determining what the skilled person would understand the patentee to be using the language of the claim to mean.

### The invention

- 14 As the opening part of the description explains, the patent is concerned with a retaining wall and a method of constructing such a wall. A retaining wall in this context holds back and prevents movement of soil, rock or water and may be in the form of a cofferdam or bulkhead. A single embodiment is described and shown in figures 1 and 2:

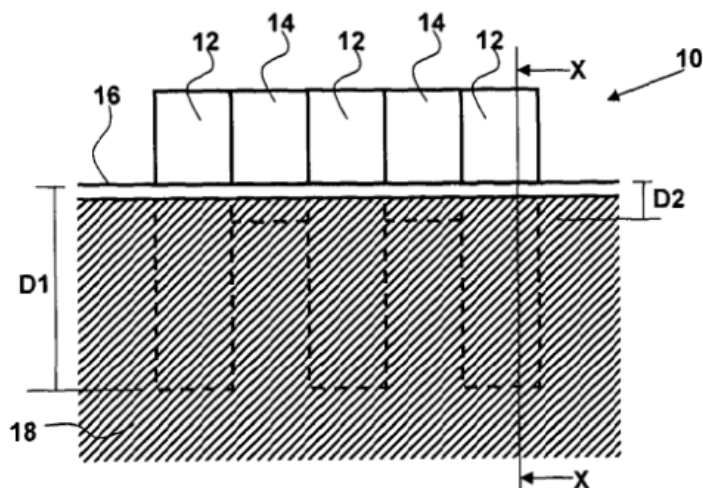


Figure 1

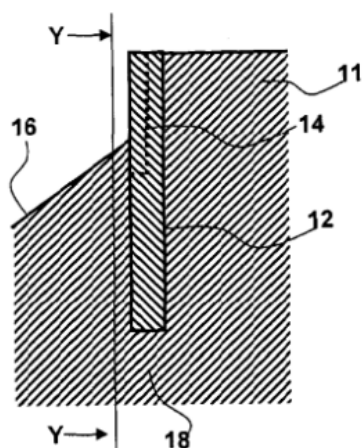


Figure 2

15 Retaining wall 10 holds back material 11 and comprises intermediate panels 14 spanning the gaps between primary sheet piles 12 which are spaced from one another. The primary sheet piles 12 are driven into the sloped surface 16 of a supporting body 18 to a depth D1 and provide the main structural support to the wall. The intermediate panels 14 are driven into the supporting body 18 to a depth D2 which is less than depth D1.

16 There are independent claims to a retaining wall and to a method of constructing a retaining wall, and these claims share an inventive concept. The invention as currently claimed in independent claims 1 and 6 is as follows:

1. *A retaining wall for retaining matter on a side thereof comprising:*

*a plurality of upwardly projecting primary structural members spaced apart from each other and having first structural properties comprising at least one of: weight; size; strength; and depth to be installed in a supporting body; and*

*one or more intermediate panels of material arranged so as to span horizontally the gap between a pair of primary structural members and thus retain the retained matter between the primary structural members,*

*wherein the primary structural members are sheet piles, and*

*wherein the one or more intermediate panels project downwardly into the supporting body and have second structural properties different from the first structural properties, such that the sheet piles are adapted to provide the main structural restraint to bending and shear in the wall.*

6. *A method of constructing a retaining wall for retaining matter on a side thereof, wherein the method comprises the steps of:*

*arranging a plurality of primary structural members so that the primary structural members are spaced apart from each other and project downwardly into a supporting body, the primary structural members having first structural properties comprising at least one of weight, size, strength and depth to be installed in a supporting body; and*

*arranging one or more intermediate panels so as to project downwardly into the supporting body and span horizontally the gap between a pair of primary structural members and thus retain the retained matter between the primary structural members;*

*wherein the primary structural members are sheet piles, and*

*wherein the one or more intermediate panels have second structural properties different from the first structural properties, such that the sheet piles are adapted to provide the main structural restraint to bending and shear in the wall.*

### **The proposed amendments**

17 The proposed amendments make certain changes to claims 1 and 6, and also delete dependent claim 7. Otherwise the claims are unchanged, apart from renumbering. The amendments to claims 1 and 6 are as follows:

1. A retaining wall for retaining matter on a side thereof comprising:

a plurality of upwardly projecting primary structural members spaced apart from each other and having a first structural propertyies comprising ~~at least one of weight, size, strength, and depth to be installed in a supporting body;~~ and

one or more intermediate panels of material arranged so as to span horizontally the gap between a pair of the primary structural members and thus retain ~~the retained~~ matter between the primary structural members,

wherein the primary structural members are sheet piles, and

wherein the one or more intermediate panels project downwardly into the supporting body to a lesser depth than the primary structural members so as to and have a second structural propertyies different from the first structural propertyies,

wherein the vertical offset between the bottom of the intermediate panels and the primary sheet piles is more than 1m,

and wherein the one or more intermediate panels are only adequate to retain the matter such that the ~~sheet piles~~primary structural members are adapted to provide the main structural restraint to bending and shear in the retaining wall.

6. A method of constructing a retaining wall for retaining matter on a side thereof, wherein the method comprises the steps of:

arranging a plurality of primary structural members so that the primary structural members are spaced apart from each other and project downwardly into a supporting body, the primary structural members having a first structural propertyies comprising ~~at least one of weight, size, strength and depth to be installed in a supporting body;~~ and

arranging one or more intermediate panels so as to project downwardly into the supporting body to a lesser depth than the primary structural members so as to have a structural property different from the first structural property and to span horizontally the gap between a pair of the primary structural members and thus retain ~~the retained~~ matter between the primary structural members;

wherein the primary structural members are sheet piles, and

wherein the vertical offset between the bottom of the intermediate panels and the primary sheet piles is more than 1m,

wherein the one or more intermediate panels ~~have second structural properties different from the first structural properties;~~ are only adequate to retain the matter such that the ~~sheet piles~~primary structural members are adapted to provide the main structural restraint to bending and ~~sheer~~shear in the retaining wall.

- 18 Amendments to the description are proposed which are consistent with the amendments proposed to the claims. They have no bearing on my decision and consequently I will not consider them further here.

## **The matters to be decided**

- 19 In the application to amend, the proprietor identifies a number of pieces of potentially relevant prior art. These are numbered D1 to D8 (with a further document D9 being a translation of prior art document D8). The proprietor contends that the claims as proposed to be amended define an invention which is both novel and inventive in light of this prior art.
- 20 The examiner's position is that the proposed claims lack novelty in light of prior art document D6, and lack an inventive step in light of documents D1 and D8. No objection to the proposed claims is made in relation to the other prior art documents mentioned in the application to amend. The documents in question are:

D1: US patent number 1,942,163 (Di Zoppola)

D6: An extract from "EAU, 2004. Recommendations of the Committee for Waterfront Structures Harbours and Waterways" 8th Edition; translation of the 2004 10th German Edition (Ernst & Sohn, Berlin)

D8: Third party observations filed at the EPO in relation to European patent application number EP09785505.0

- 21 My decision will therefore focus on whether the proposed claims are novel in light of D6, and are inventive in light of D1 and D8.
- 22 At this point, I note that the application to amend includes a document D10 from Mr Duncan Nicholson, a civil engineer and sheet pile expert. D10 sets out Mr Nicholson's views on certain relevant matters, and is referred to by the proprietor and Mr Nicholson himself as an affidavit. My understanding is that an affidavit needs to have been formally sworn or affirmed before a person authorised to administer oaths, and it is not clear to me from the application documents that this has been done. However, in the circumstances I have considered the contents of D10 fully, and I have not found it necessary to give it any less weight simply because it has not been sworn or affirmed. The same applies equally to a short Supplement to D10 from Mr Nicholson, submitted by the attorney with further submissions during the course of the amendment application.

## **Relevant prosecution history**

- 23 As mentioned in the Introduction, this is not the first application to amend the patent under section 27. None of the previous applications to amend progressed to allowance. In particular, one such application to amend was opposed, and was refused in a decision on behalf of the comptroller on 1 March 2017 (BL O/092/17 – "the previous decision"). That decision was not appealed.
- 24 The amendments to claims 1 and 6 now proposed are the same as those which were considered and decided upon in the previous decision, except that the claims now proposed contain the additional feature:

*"wherein the vertical offset between the bottom of the intermediate panels and the primary sheet piles is more than 1m"*

25 The previous decision considered claims 1 and 6 as proposed at that time, made some findings in relation to claim construction, and concluded that the proposed claims lacked novelty in light of D1, D6 and D8. Whilst this previous decision is acknowledged in the application to amend of 16 January 2018, the proprietor and their attorney argue strongly and for a number of reasons that the previous decision should not give rise to any degree of estoppel in relation to the newly proposed amendments to the claims. It seems right that I should consider these arguments first before going on to consider the substantive issues.

### **Estoppel**

26 Some of the estoppel arguments are presented by the attorney acting for the proprietor. Others, as the attorney explains on page 13 of the amendment application, are the proprietor's own representations which are included at the proprietor's request. I have considered all of the estoppel arguments equally and I have not made any distinction between, or given any different weight to, those made by the attorney and those coming directly from the proprietor.

27 First, it is clear that the proprietor does not accept the outcome of the previous decision. They say that the fact they did not appeal the previous decision "should not and cannot be construed as having constituted acceptance of the arguments therein". Furthermore, the proprietor says that the Hearing Officer "did not fully understand the meaning of Claim 1 and the technical subject matter it referred to". They argue that it is "abundantly clear to a person skilled in the art that, had the Hearing Officer properly understood Claim 1, he could not possibly have ruled that D6 and D8 disclose the features of Claim 1".

28 Second, the proprietor explains that they regarded an appeal as "a disproportionate, costly and time-consuming way of addressing the issue". Rather than appeal, they chose to submit this further application to amend the patent.

29 They considered that this course of action would allow "the IPO the opportunity to consider the issue afresh with further clarified claim wording, and armed with requisite skilled person advice". They contend that the document D10 from Mr Nicholson is "admissible" and not subject to any estoppel issue, pointing out that it was not relied upon in previous amendment applications. The additional submissions in a fresh amendment application give, in their view, an opportunity to "minimise the possibility of an Examiner misunderstanding D6 and D8", and would allow the proprietor to respond to any such lack of understanding.

30 The proprietor then runs a number of specific arguments as to why estoppel does not apply in respect of the previous decision. They say that, since the newly proposed claims have an additional feature, "all features of newly amended Claim 1 should be considered". They contend that applying the principle of estoppel to "selected elements of newly amended Claim 1" would "constitute a ruling in accordance with the letter of the law rather than the spirit and intent of the law", and would not be consistent with the duty to act fairly.

31 They further rely on the Hearing Officer's "fundamental lack of understanding", and that he did not "seek further opinion from a suitably skilled person" as a basis for contending that the previous decision "arguably does not constitute the judgement of

a court of competent jurisdiction". They go on to make the point that, in litigation, each party must have had the opportunity to put forward their case fully and to respond to representations of fact that are clearly incorrect. They contend that there was no opportunity to do so before the previous decision was issued.

- 32 The proprietor does go on fully to accept that they agreed to a decision on the papers. But they submit that – in making that choice – they were “entitled to expect that the Hearing Officer would be competent to form a judgement from the viewpoint of a person skilled in the art and that, if he felt he was not, he would seek advice from a suitably skilled person”.
- 33 A further specific argument is made in respect of the previous decision’s treatment of D6, which was said to have been done “superficially” and “without detailing the whereabouts of each claim 1 feature within D6”. Since, it is submitted, this was not done it means that “the specific arguments over the presence of all of the claimed features in D6 cannot be taken to be concluded upon”.
- 34 In later correspondence from the attorney, a further point is made with regard to estoppel and inventive step. It is pointed out that the previous decision considered only novelty, and so for inventive step purposes “the claims should be considered afresh in their complete construction”.
- 35 The matter of estoppel concerns, in this case, the principle of estoppel by record. Where a relevant judgment has been given on a matter, the principle of estoppel by record means that the judgment then stands as between the parties, unless of course it is modified or overturned by any appeal. The principle extends to decisions of tribunals and so applies to decisions made by the comptroller in his tribunal capacity.
- 36 Therefore, once an issue has been determined in such a decision, neither party is free to fight that issue again. The way for a party to challenge that decision is to appeal it. What they cannot do is launch a fresh process in an attempt to get the issue looked at again, and expect to be able to relitigate the point or have it reconsidered.
- 37 It barely needs saying, but it is of course the case that a party is estopped in this way even where they disagree strongly with the outcome of the previous decision, or where they had reasons for not wanting to appeal it. Nor is estoppel avoided simply by coming back to the issue with more detailed arguments, or with different or more extensive evidence.
- 38 The previous decision is a decision of the comptroller to which such estoppel applies. For these reasons, that is the position in which the proprietor finds itself in the present case.
- 39 The proprietor cannot escape from this estoppel by arguing that the previous decision itself or the process was flawed, or by attacking the level of detail contained in the reasoning which supports the decision (unless, of course, those arguments are made by way of an appeal). The proprietor’s strongly-held views about the previous Hearing Officer’s lack of understanding, the perceived lack of a certain level or depth of reasoning, and the contention that the Hearing Officer should have sought further

advice “from a suitably skilled person” before issuing the decision, all get the proprietor no further down the road. I give absolutely no indication of their merit, but they are all points which could have been considered on appeal.

- 40 The submission talks at one point about fairness – but the principle of estoppel by record is itself concerned with fairness and the concept of finality in litigation. It is fair to litigating parties that they get a final answer, and can then move on and not have to fight the same battles all over again. What is not fair is for parties to engage in the time and cost of litigation, and to arrive at a final answer (including any appeal), only for one party later to be given the chance to reopen or reargue findings with which it disagreed or considered flawed.
- 41 I have read the previous decision carefully. So far as is relevant to the present case, the Hearing Officer made findings in relation to the construction of the proposed claims as they then stood. He also held that proposed claims 1 and 6 lacked novelty in light of each of D1, D6 and D8. These are the findings which the proprietor is estopped from challenging afresh, and they provide the starting point from which my decision must proceed.
- 42 In particular, given that the present proposed claims differ only from those in the previous decision by the additional wording “*wherein the vertical offset between the bottom of the intermediate panels and the primary sheet piles is more than 1m*”, my decision must start from the position that all of the features bar this one are disclosed in D1, D6 and D8. Although I agree with the attorney that the previous decision did not make any findings in relation to inventive step, it is clear that my analysis of both novelty and inventive step issues must adhere to the previous finding that all of the features bar the latest one are disclosed in each of those three documents.
- 43 That all means, inevitably, that I am not in a position to consider, weigh up and decide upon many of the detailed technical submissions that have been made concerning the working of the invention, and the nature of the prior art. The analysis which follows will reflect that position.

### **Claim construction**

- 44 The proprietor makes a number of submissions relating to claim construction. Mr Nicholson also gives his views on claim construction in the document D10.
- 45 As I have noted, in the previous decision the Hearing Officer made findings in relation to the construction of significant parts of the proposed claim wording currently before me. Whilst it appears that a number of the proprietor’s current submissions on construction are not inconsistent with the previous decision, it is nevertheless the case that points on claim construction already decided upon in the previous decision are, for the reasons given above, not open to be revisited.
- 46 It follows that the only point for me to consider is whether any issues of construction arise from the additional proposed wording that did not feature in the previous decision – namely “*wherein the vertical offset between the bottom of the intermediate panels and the primary sheet piles is more than 1m*”. The proprietor submits that the interpretation of the new feature is straightforward.

47 I can find one reference to this dimension in the granted patent, between lines 26 and 29 on page 4 of the description:

*For example, in embodiments of the invention, the bottom of the one or more intermediate panels is vertically offset with respect to the bottom of the pair of primary sheet piles example, by more than 10cm, preferably more than 50 cm, and even more preferably more than 1m.*

48 The passage immediately preceding lines 26 to 29 is also instructive:

*It will, however, be understood that "vertically offset" in the context of this invention should be taken to mean being deliberately and knowingly vertically offset as opposed to being offset by a small amount due to construction tolerances when attempting installation at substantially equal depths. That is, "vertically offset" should be understood to not encompass the situation where sheet piles have been intended to be installed at substantially equal depth in a supporting body but, due to construction difficulties and/or tolerances, are slightly vertically offset from each other.*

49 I take this to mean that a reference in a claim to “vertically offset” is not to be understood as the invention encompassing walls whose elements are inadvertently or unavoidably vertically offset due to construction difficulties or tolerances. Having the claims refer specifically to an offset of more than 1m seems to reinforce this point. This appears consistent with Mr Nicholson’s view – see paragraph 13 of D10.

50 With that in mind, I agree with the proprietor that interpretation of the additional newly-proposed feature of the claims is straightforward, and means what the proprietor says it does.

### **Novelty**

51 I have already held that the starting point for my novelty analysis is the finding in the previous decision that all of the proposed features of the independent claims, bar the latest one to be proposed, are disclosed in D6. I must determine whether the addition of the words “*wherein the vertical offset between the bottom of the intermediate panels and the primary sheet piles is more than 1m*” renders the proposed claims novel, in light of that starting point.

52 In the initial application documents and in later correspondence, the attorney provides extensive reasoning to explain why, in the proprietor’s view, proposed claims 1 and 6 are novel over D6. A key part of this reasoning focusses on the present invention requiring the primary structural members alone to withstand the maximum bending moment, given the depth to which the intermediate members are driven, with those intermediate panels spanning horizontally and not making a meaningful contribution to the vertical bending capacity of the wall.

53 Detailed arguments are also made in respect of the D6 figures in this respect, as well as how D6 is concerned with “sheet piles that are designed solely for the calculated stresses in the wall” and that it addresses the desire to stagger the piles for technical or economic reasons. It is said that D6 explains the requirements for determining maximum stagger length, and that it identifies a point at which the longer pile requires the assistance of the shorter pile to resist the structural forces.

- 54 Hence, it is argued, this all points to the intermediate members being expressly required to contribute to the bending and shear capability of the wall in the vertical direction. This is said to be “incontrovertibly different” from the present invention with its feature that the intermediate panels are only adequate to retain matter between the primary structural members, such that those members provide the main structural restraint to bending and shear in the wall. Further submissions also set this out in terms of the present invention’s use of horizontal spanning of the intermediate panels, such that they are not required to contribute to the vertical spanning restraint in the retaining wall.
- 55 A line of argument in later correspondence focusses on how any increased vertical offset would still, following D6’s teaching, be relatively small in relation to pile length, thus leading to primary and intermediate piles being of significant penetration depths – as opposed to the present application’s teaching which would allow the intermediate piles to penetrate “only a nominal distance into the supporting body”.
- 56 Furthermore, the document D10 from Mr Nicholson sets out his views on the teaching of the current specification and the teaching of D6, particularly in relation to the contribution made to the vertical bending capacity by the intermediate piles. And the Supplement to D10 from Mr Nicholson emphasises his view that it would be clear to the skilled person that the staggered pile walls of D6 function differently from the “horizontal spanning principles” of the patent.
- 57 These submissions all invite me to revisit and depart from the finding already made in the previous decision with regard to D6. As I have already explained, I do not believe I am in a position to do so.
- 58 In D6, the section in the extract provided is headed “8.2.10 Staggered embedment depth for steel sheet piling”. Sheet pile walls are shown with their ends driven to different depths, see for example figure R 41-1:

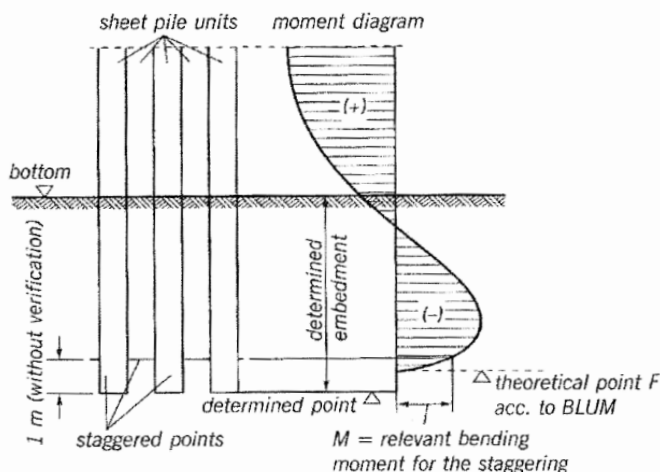


Fig. R 41-1. Staggered toe of sheet piling for a sheet pile wall fully fixed in the soil

- 59 The term “staggering” is used to refer to the piles being driven to different depths – what D6 calls the “difference in embedment length”. The third paragraph of section 8.2.10.1 states “A length of 1.0 m is usual for the staggering. In practice, it has been

*found that a structural check of the longer piles is unnecessary. For a greater staggering, it is necessary to verify the loadbearing capacity of the deeper piles with respect to multiple stresses due to bending moment combined with longitudinal and shear forces”.*

- 60 In later correspondence, the attorney raises a point about a lack of enablement in D6. Initially it is said that the disclosure is not enabling since there is “no teaching of how to actually verify and implement staggering in excess of 1 m”. However, this is finessed in a later submission, where it is clarified that the point being made is that any enablement in D6 is only for how to design a fully vertically-spanning staggered pile wall, whereas in the present invention there is no need to check the ability of the intermediate piles to contribute to the vertical spanning ability of the wall.
- 61 Again, I think this leaves me back at the estoppel point. However much the proprietor and attorney press the point and provide further technical analysis about the difference between vertical spanning in D6 and horizontal spanning in the present invention, the proprietor cannot escape the fact that the previous decision has already held that D6 discloses this feature, as it is defined in the claims.
- 62 The additional claim feature is the simple statement that the offset is more than 1 metre. The present specification mentions that the vertical offset is “*more than 10cm, preferably more than 50 cm, and even more preferably more than 1m*”. There is no further specific teaching in the specification about technical barriers which need to be overcome if the greatest of these offsets is to be achieved.
- 63 It seems clear to me that the simple statement in D6 which mentions that offsets of 1 metre or more are possible is therefore, in the present circumstances, an anticipation of that simply-expressed additional claim feature.
- 64 Given this finding, and the point from which I must start in terms of what else is anticipated by D6, I find that the proposed independent claims would not be novel in the light of D6. That is a sufficient basis for the application for post-grant amendment to be refused, but I shall nevertheless consider inventive step.

### **Inventive step**

- 65 My analysis will follow the established *Pozzoli* steps but, as I have already held, it must recognise the previous decision’s findings as to the disclosure of D1 and D8.
- 66 The first step is to identify the notional skilled person and their common general knowledge. The attorney submits in the application document that this person would be someone in the field of construction and, in particular, a civil, geotechnical or structural engineer familiar with sheet pile retaining wall design and construction. As part of further submissions made on 3 August 2018, he modifies this slightly with specific reference to the design of sheet piles as defined in BS EN 1993-5:2007. I have no difficulty accepting any of these points.
- 67 The attorney initially submits that the skilled person’s common general knowledge would include different types of retaining wall construction, and the principles in the “Piling Handbook”, as well as principles concerning bending moments. He expands

on these points in the 3 August 2018 submissions, and again I am happy to accept what he puts forward in this respect.

- 68 There is however one point to clarify in terms of common general knowledge. In the August 2018 submissions, the attorney points to the reference in paragraph 3.20 of the *Manual* that the skilled person “will generally not be aware of individual patent specifications”. He points to other *Manual* references and case-law too, which support this view. However, he appears to suggest that these references are reasons why “nothing in D1 can legitimately be used in an attempt to impugn the fact that Claim 1 is inventive”.
- 69 I think it is worth being clear that I accept fully that D1 does not form part of the common general knowledge. That is entirely consistent with the case-law and guidance referred to by the attorney. But that is very different from saying more generally that the document cannot then be used in any capacity to demonstrate lack of inventiveness. The point, it seems to me, is that D1 can perfectly properly be considered as prior art under step three of the *Pozzoli* steps, and so form part of the consideration of inventiveness on that basis.
- 70 I turn to step two – identifying the inventive concept of the claims. The attorney submits that it concerns the use of primary structural members in combination with shallower intermediate members that span horizontally onto the primary members, such that the primary members provide the main structural restraint to bending and shear in the wall. The intermediate members are only adequate to retain matter locally. The vertical offset between the primary and intermediate members is “selected according to the matter to be retained” but is also selected to be more than 1 metre. The intermediate members are not required to contribute to resisting the vertical bending of the wall. Once again I am happy to agree with these submissions.
- 71 Step three is to identify what, if any, differences exist between the cited prior art and the inventive concept identified in step two.

D1 – US patent number 1,942,163 (Di Zoppola)

- 72 As its opening paragraph states, this document is concerned with “*structures for bulkheads, jetties, groins, sea-walls and the like, and the present invention relates more particularly to such structures made of sheet piling of the laterally interlocking type with some of the piling elements of longer length and heavier weight than others to provide beam strength at given intervals with shorter elements between to form a continuous, uninterrupted barrier for holding soil or sand against shifting*”.
- 73 A single embodiment is shown (see figure 1 reproduced below) which comprises “*long and heavier pilings 10, 10 which extend deeply into the stationary, harder penetration material 11, the intermediate length and lighter pilings, 12, 12 extend to a lesser depth into said harder penetration material 11, and the comparatively short and lighter pilings 13, 13 extend just through the shifting soil or sand 14 and for a short distance into said harder penetration material. A wale or binding bar 15 secures said pilings, 10, 10, 12, 12, and 13, 13 together at their upper ends by means of the bolts 16, 16*”.

74 There is a later reference to “the long and heavier pilings 10, 10 which serve as master piles and beams as well as elements in the bulkhead or seawall and short elements 13, 13 which have their chief function as elements of the bulkhead or seawall because they have little or no penetration into the harder penetration material 11”. There is no mention of specific distances to which the pilings extend into the harder penetration material nor of any other dimensions.

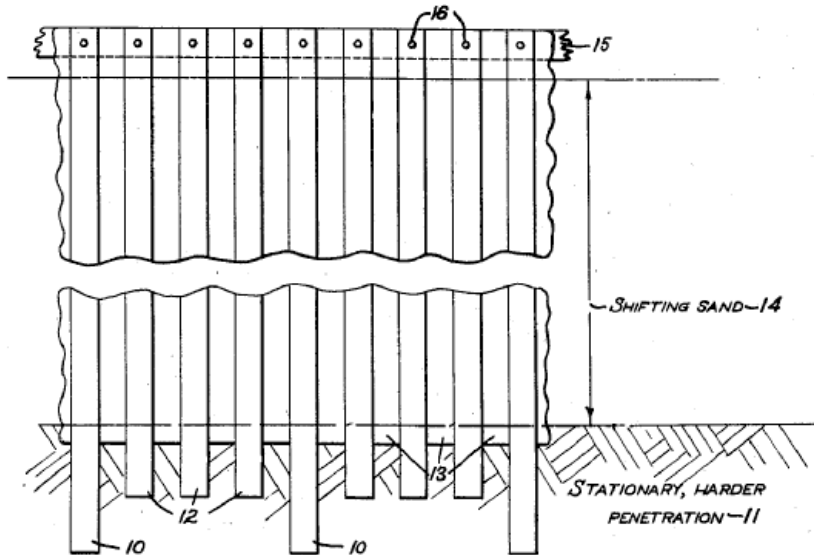


Fig. 1

D8 – Third party observations filed at the EPO in relation to European patent application number EP09785505.0

75 These have been provided by the proprietor along with a translation into English, and it is the translation that I have considered. The observations provide an extract from an article “New Experiences in the Formation and Production of Sheet Piling Structures” by Dipl.-Ing. Brackemann. An arrangement is shown in figure 13 below:

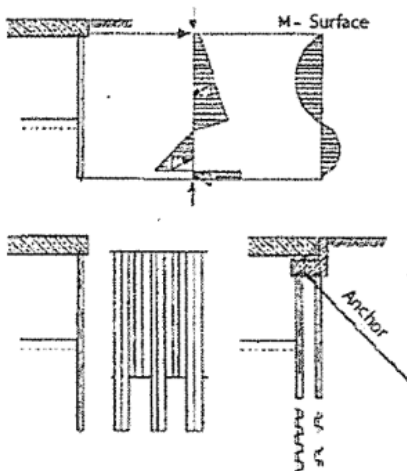


Fig. 13: Transfer of vertical forces into the substrate

- 76 In this arrangement it is said that “*it may be to the purpose for only every second or third double pile, or another driven element in the wall composite, to be driven deeper*” although nothing is said about the actual depths involved.
- 77 Thus now turning to step three, I note the lengthy submissions arguing that the D1 and D8 disclosures do not teach the skilled person that the shorter piles are “only adequate” to retain material, nor that the shorter piles of the prior art are relieved from resisting bending and shear by reliance on the adjacent primary members. Neither, it is said, are the disclosures clear for various reasons, and nor do they teach or envisage horizontal spanning of the intermediate piles onto the adjacent primary members. Thus it is said for example that the skilled person would not take the shorter elements of the bulkhead or seawall in D1 as equivalent to the intermediate panels of the present invention. The statement from Mr Nicholson endorses the key points made in these submissions.
- 78 Some wider points are also made about industry recognition and the invention’s success, how it represents “a step change in the 120-year-old sheet piling industry” and how these points reinforce that the claimed invention cannot be considered obvious. Some further points in this regard are made in Mr Nicholson’s supplement to D10, concerning the reaction to the invention amongst industry experts.
- 79 However, all of these submissions seek to persuade me that there is a greater and more significant difference between the claimed invention and the D1 and D8 disclosures than the previous decision held there to be. For the reasons already set out, this means that I must put those submissions to one side as they seek to reopen the finding of the previous decision in relation to the D1 and D8 disclosures.
- 80 I start from the previous decision’s finding that both D1 and D8 disclose all of the proposed features of the independent claims, except for the latest “more than 1 metre” feature (which was not before the Hearing Officer in the previous decision). As I have already noted, both D1 and D8 are silent on particular dimensions and on the size of any vertical offset. Thus the difference between the inventive concept and each of D1 and D8 is the claimed feature of a vertical offset between the bottom of the primary and intermediate panels of more than 1 metre.
- 81 The fourth step is to determine whether, without knowledge of the claimed invention, that difference constitutes a step that would have been obvious to the skilled person.
- 82 Many of the submissions on this final step put forward arguments based on a different conclusion with regards to step three – because they once again seek to take a fresh view of what D1 and D8 disclose, which is not consistent with the previous decision. For example, it is from this viewpoint that the August 2018 submissions provide a detailed analysis of the *Haberman* questions and point to passages in the *Manual* and case-law on inventive step. But they do not look at those questions or passages from the position under step three at which I have arrived, and so they do not assist me in deciding whether having a vertical offset of greater than 1 metre is inventive or not.
- 83 I do not find anything in the specification which assists me on the specific question of whether an offset of more than 1 metre is inventive. While the specification sets out

some advantages of the invention, it seems silent on any specific advantages which arise in choosing an offset greater than 1 metre.

- 84 The attorney points out that D1 fails to discuss the offset magnitude, and that the skilled person would observe that “although non-dimensioned drawings are not definitive, based on the width of sheet piles available at the time, D1 illustrates offset lengths of less than 1m”. If correct, this does not seem to get the proprietor beyond the accepted point that D1 does not destroy novelty.
- 85 The attorney also puts some points forward as to whether the skilled person would have found the prior art and given it serious consideration when faced with the problem to be solved. Particularly for D1, these points go to the nature and age of the disclosure, as well as the title. For D8, the point made – and reinforced in Mr Nicholson’s statement – is that the skilled person would see that D8 concerns extending selected piles (for particular reasons) deeper than that required for performing the retaining wall function itself. Although this results in a vertical offset, the reasons for it arising are different from those which the skilled person would be considering when they thought about how to shorten intermediate piles, including to a depth which is only a short distance into the supporting matter at all.
- 86 These are points which are not subject to the estoppel issue. It is well-established that a publicly-available document is novelty-destroying no matter how obscure it may be. So the previous decision’s finding that D1 and D8 anticipated the proposed claims (as they stood) does not say anything about the obscurity or relevance of D1 and D8 to the skilled person. These are points that the proprietor is not estopped from arguing, and I am free to take them into account.
- 87 The examiner says that it cannot be inferred from the prior art drawings that an offset of greater or less than 1 metre is intended. But he then goes on to say that the offset “cannot be significantly less” than 1 metre if it is to be more than a construction tolerance. I am wary of placing any reliance on this, as I have no evidence in the material before me to make an assessment of what a common construction tolerance might be. That leaves me with significant doubt over whether it is usually a matter of millimetres or metres. Only further evidence would be able to address that.
- 88 Neither am I convinced that, because D1 says that the invention provides for considerable savings, the examiner is on entirely safe ground in saying that “a stagger distance significantly less than 1 m would result in minimal savings”. The conclusion he reaches is that the skilled person would naturally be drawn to maximise savings and thus maximise the offset to greater than 1 metre. Again, this seems to me to be a point which would need expert evidence in order for it to be determined properly. I am not in a position to assess at all whether an offset of less than 1 metre would result in minimal or significant savings. I also have my doubts about the examiner’s assertion that the offset distance itself “was not of great import” to the writers of D1 or D8. The attorney takes the opposite view, but I do not think I have evidence to determine that point either way.
- 89 The presence of inventive step is a question of fact, to be decided on the balance of probabilities. The attorney makes a number of points about doubt, including pointing to paragraphs 3.68 and 3.69 of the *Manual* and also the case of *Blacklight Power Inc v the Comptroller* [2009] RPC 6 referred to therein.

90 In *Blacklight*, there was substantial doubt about the scientific validity of the basis of the invention. The comptroller had refused the patent application but, on appeal, it was held that the examiner should consider whether the evidence provided by the applicant gave rise to a reasonable prospect that, if the issue were to be fully investigated at trial with the benefit of expert evidence, it would be resolved in the applicant's favour. The *Manual* says this:

*3.68 An objection of obviousness should not be pursued if there is a genuine possibility that there is an inventive step. The possibility must however be real and it is far from sufficient in rebuttal of an objection that there is merely a case to be answered, or that the applicant asserts that there is doubt. The matter should be decided on the balance of the evidence available.*

*3.69 [...] If expert evidence would be required for [the examiner] to judge whether the applicant's reply to an objection establishes that there is invention, only then must the applicant be given the benefit of the doubt.*

91 The attorney does not argue that there is doubt. On the contrary, he firmly submits that it is established beyond all doubt that the proposed claims are inventive. For the reasons already given, I do not agree that the matter is beyond doubt. However, given the particular circumstances of this case and the arguments and evidence presented, there seems to me to be considerable doubt over the question of whether it would be obvious to the skilled person to start from either D1 or D8, and end up with the proposed claims with a specific vertical offset of greater than 1 metre. I have already said that I think this is a case where expert evidence focussed on that point would have assisted in determining that question. There is in my view a reasonable prospect that, if this point was fully investigated at trial with the benefit of expert evidence, it would be resolved in the proprietor's favour.

92 On that basis, the proprietor is entitled to the benefit of the doubt. I decline to find that the proposed claims lack an inventive step in light of D1 and D8. As such, no further basis is provided for refusing the post-grant amendment which is sought.

### **Conclusion**

93 Claims 1 and 6 as they are proposed to be amended are not novel in light of the prior art document D6. As a result, the proposed amendments do not distinguish the invention from the prior art and do not effect a proper cure for the defect that they are intended to rectify. I refuse the application to amend the patent.

### **Appeal**

94 Any appeal must be lodged within 28 days after the date of this decision.

**J E Porter**

Deputy Director, acting for the Comptroller