



BL O/095/04

1 April 2004

PATENTS ACT 1977

BETWEEN

(1) Roger Michael Elliott
(2) BSP International Foundations Limited

Claimants

and

Expotech Limited

Defendant

PROCEEDINGS

Application under section 13 of the Patents Act 1977, and
reference under section 37, in respect of patent GB 2,351,111

HEARING OFFICER P Hayward

DECISION

- 1 This dispute is concerned with patent GB2351111, standing in the name of Expotech Limited (“Expotech”). The patent names two people as inventors, John McHattie and Duncan Hart. The first claimant, Roger Michael Elliott, asserts that he was the inventor, not Mr McHattie and Mr Hart, whilst the second claimant, BSP International Foundations Limited (“BSP”) asserts that the patent should belong to them. These two claims are related, because it is not in dispute that if Mr Elliott was the inventor, whatever he invented belongs to BSP by virtue of employment and/or contract. Thus the real issue is: who was the inventor? Everything else flows from that.

- 2 At the heart of this dispute are two companies who were collaborating in the period prior to the time the patent was applied for but are no longer doing so. One of those companies was BSP. The other was Clark Civil Engineering plc (“Clark”), to whom Expotech are the successors in title. Both sides have provided a number of witness statements to establish what was going on at the relevant time. There are severe conflicts between the evidence of the two sides, and one of my key tasks is to decide from all this evidence what really did happen.

- 3 There is, however, another important issue: what is the invention whose inventorship I am supposed to be determining? As in many previous entitlement disputes, this issue

did not receive the attention it needed during the earlier stages of these proceedings. The claimants' statements were presented as though the only invention to be considered is that set out in claim 1 of the patent, but later in the proceedings it became apparent the position is not as clear cut as that. This issue had the potential to derail the proceedings at a late stage, but in the end the parties were both prepared to adopt a somewhat pragmatic approach to it, and I am grateful to them for that.

- 4 The case came before me for a four-day hearing on 25th, 26th, 27th and 28th November 2003. Peter Colley, instructed by Dummett Copp, appeared for the claimants and Michael Hicks, instructed by Jensen & Son, appeared for the defendants. Much of the four days was taken up with cross examination of the witnesses. Given the conflicts of evidence, that cross examination was of considerable help to me in trying to determine the true history of events.

The invention(s)

- 5 The patent is concerned with driving construction piles into the earth. The piles are typically in the form of profiled plates for forming a wall or barrier during excavation. Rather than use a dedicated pile driving machine, the device described in the patent allows contractors to use a conventional excavator. The device body can be mounted on the end of the boom of an excavator in place of the normal bucket or scoop. The device includes a vibrator to help drive the piles and has two grippers to grip a pile. One gripper extends sideways (ie horizontally) in the driving position, to grip a pile from the side, part way along its length. With the pile so gripped, it can be driven part way into the ground. The gripper can then be repeatedly re-positioned higher up the pile to drive the pile down further in stages. The other gripper extends downwardly and is used to grip the remaining protruding upper end of the pile and drive it further into the earth. I shall refer to this latter gripper as the "bottom gripper". The device can also be used to remove piles from the earth, the bottom gripper being used initially to pull the pile up part way, and the side gripper then being used to continue pulling the pile upwards.
- 6 The side gripper actually comprises two pairs of jaws. Various constructions for the grippers are disclosed. All involve the use of at least one ram and include:
- C a fixed jaw with a cooperating ram-operated jaw, wherein the ram may have a fixed piston and a movable cylinder;
 - C a pair of opposed ram-operated jaws, wherein again each ram may have a fixed piston and a movable cylinder;
 - C a pair of opposed ram-operated jaws, wherein one ram of each pair is movable to a fixed predetermined location before the other ram completes its movement
- 7 The device as a whole can swivel through 360° about a vertical axis in use, can pivot about the two axles provided at the end of the boom where it normally couples to the bucket and can pivot about a further axis perpendicular to the other axes. This freedom of movement allows the operator to manipulate the boom and the attached device to pick up piles lying horizontally on the ground and manoeuvre them into

desired vertical positions for driving.

8 It is common ground that the device was conceived as an improvement over a prior art device which was known as the “Movax” machine and based on EP 0648297 B1. Clarks were at one stage selling the Movax machine in cooperation with its Finnish inventor, Yrjö Raunisto. The Movax machine drives piles in much the same way, but it has just a single gripper which can be pivoted to allow gripping from the side or from above. The jaws of the gripper are opened and closed by means of pivoting, piston-operated lever arms. Ingenious though the Movax design may seem on paper, in the tough conditions of real use it was not robust enough and frequently suffered mechanical failure. The device described in the patent came about from attempts to develop a more robust design. In particular, it uses the separate side and bottom grippers, rather than trying to use one gripper for both purposes, and it also uses a different jaw operating mechanism to avoid the transmission of vibratory forces through pivot pins.

9 When these proceedings were launched, the claimant approached matters as though the provision of separate side and bottom grippers was the only invention. Recognition that there was also potential invention in the jaw operating mechanism only emerged later in the proceedings. At the hearing, Mr Hicks and Mr Colley agreed that I should approach the case on the presumption that there two inventions or inventive concepts, namely:

(a) the provision of the two grippers for gripping the pile from the side and from the top respectively, rather than just one which can be pivoted between these two positions;

(b) the provision of direct acting hydraulic cylinders for the jaws.

In the patent, (a) is the characterising feature of the independent claim 1 and (b) is the substance of subordinate claims 2-6. The last claim, claim 7, is an ‘omnibus’ claim, relating to everything described with reference to the drawings.

10 Thus I need to consider inventorship and entitlement in respect of each of these two inventions, not just the first. The position could have been even more complex because, as I explained earlier, invention (b) actually embodies a number of different designs. However, the parties were content for me to treat (b) as a single invention.

The law

11 The application under section 13(1) and 13(3) of the Act is concerned with who is the inventor. Section 7(3) is relevant to this because it identifies the “inventor” as the actual deviser of the invention.

12 The reference under section 37(1) is concerned with entitlement, and for this we must turn first to section 7(2). This states that:

“A patent for an invention may be granted -

(a) primarily to the inventor or joint inventors;

(b) in preference to the foregoing, to any person or persons who, by virtue of any enactment or rule of law . . . or by virtue of an enforceable term of any agreement entered into with the inventor before the making of the invention, was or were at the time of the making of the invention entitled to the whole of the property in it (other than equitable interests) in the United Kingdom;

(c) in any event, to the successor or successors in title of any person or persons mentioned in paragraph (a) or (b) above . . .”

- 13 One “enactment or rule of law” for the purposes of section 7(2)(b) is section 39(1), which defines the circumstances in which the invention is taken to belong to the inventor’s employer if the invention was devised while the inventor was in employment. In the present case, there is no dispute that by virtue of sections 7 and 39, whatever Mr Elliott invented belongs to BSP, whilst whatever Mr Hart and/or Mr McHattie invented now belongs to Expotech.
- 14 The onus is, of course, on the claimants to prove their case on the balance of probabilities. So far as entitlement is concerned, this is expressly spelt out in section 7(4), which states that the person who applies for a patent is entitled to that patent except so far as the contrary is established.
- 15 I was referred to a number of prior cases. I will only mention them briefly because, at the end of the day, I did not sense any real disagreement about the principles I should apply. Several of the cases - *Viziball’s Application* [1988] RPC 213, *Egerton’s patent* BL O/219/98, *Derbyshire Maid’s Patent* BL O/40/97 - go to the question of identifying the inventive concept or concepts whose entitlement I must decide. Because Mr Hicks and Mr Colley agreed on the answer to this question at the hearing, I do not need to discuss these cases further.
- 16 Mr Hicks also drew my attention to *Henry Brother (Magherafelt) Ltd v. Ministry of Defence and the Northern Ireland Office* [1977] RPC 693 and [1999] RPC 442 and *Minnesota Mining and Manufacturing Co’s International Patent Application* [2003] RPC 28. These discuss the approach to be adopted in entitlement cases and in part also go to the question of identifying the relevant invention or inventions. The subsequent step as identified in *Minnesota Mining* is to identify who was responsible for each inventive concept, that person or those persons constituting the “actual deviser” for the purposes of section 7(3). *Henry Brothers* warns against chopping up a claim into individual elements and then seeking to identify who contributed each element, though I observe this was in the context of an invention which lay in the combination of elements. I do not think it can be read as meaning that where individual elements in a claim came from can never be relevant.
- 17 Mr Colley also drew my attention to *Amateur Athletic Association’s Applications* [1989] RPC 717 and *Brueton’s Patent* BL O/104/90, which highlight the relevance of the degree of detail in the evidence provided by the rival parties in determining entitlement

Outline history

- 18 Whilst there is considerable disagreement about many of the details, there is broad agreement about the main sequence of events. I will start with the position in Clark in 1997. Clark had been using a Movax machine themselves for a number of years and indeed had been involved in a joint venture with its inventor, Raunisto, to sell them. Mr McHattie had been taken on by Clark as a consultant to try and get the company out of some financial difficulties. Towards the end of the year, Mr McHattie asked Mr Hart, who was employed by Clark, to explore with other companies whether they would be interested in the manufacture of a pile driving machine based on the Movax.
- 19 Accordingly in December 1997 Mr Hart approached David Redhead, managing director of BSP. BSP were interested, but needed more information. Consequently, the capabilities of a Movax machine currently operating on a piling contract for Clark in Bonneybridge, west Scotland, were demonstrated on 21 January 1998 to Roger Elliott, Director of Engineering for BSP. The operator of the machine was James Stewart. There is dispute about what may or may not have been said at the time about problems that had been experienced with the Movax design and possibilities for overcoming them. There is also dispute about the actual sequence of events at the demonstration.
- 20 BSP recognised the potential of the device and entered into further discussions with Clark over how the collaboration might proceed. The question of Mr Raunisto's patent rights came into the discussion, and indeed Mr Raunisto himself was briefly involved in the discussions, though it quickly became apparent that including him in some trilateral collaboration was a non-runner.
- 21 BSP assert that from April 1998 onwards, discussions started between Mr Elliott and BSP's Chief Engineer, Robert Storey, about the development of the device and improvements to the weak design of its pivoting gripper and the lever-arm operated jaws. Mr Elliott and Mr Storey allege that it was round about this time Mr Elliott came up with the idea of replacing the pivoting gripper with fixed side gripper and a fixed bottom gripper: the first invention. Mr McHattie and Mr Hart, on the other hand, allege that this idea had come to Mr Hart much earlier because of all the problems they had been experiencing with repairing Movax over the previous periods, and that they had told Mr Elliott about it.
- 22 Both sides were aware that because Mr Raunisto was not going to be involved in the collaboration, it would be necessary for them to get round his patent (or patent application as it then was) for the Movax machine. At the beginning of May 1998, BSP received confirmation from their patent agent, Dummett Copp, that a device with a fixed bottom gripper would not infringe the Raunisto patent. Whilst that is not disputed, Mr McHattie asserts that he had already established this earlier from Clark's own patent agent, Cruickshank & Fairweather.
- 23 Discussions between the two companies continued throughout May and June, without any final agreement being reached. Mr Elliott retired at the end of May, but was retained as a part-time consultant thereafter. Clark went into liquidation in early July. A new company was incorporated on 15 July 1998 and the name changed to Expotech

on 31 July. Negotiations continued, now between BSP and Expotech. Draft agreements were sent by Mr McHattie to Mr Redhead, but nothing was finalised, partly because of disputes over the ownership of the IP.

- 24 There is dispute about what drawings may have passed from Mr Hart to BSP during all this, but BSP certainly had some drawings of the Movax machine and a parts list by late August 1998. On 27 August, Mr Storey provided Mr Redhead with an engineering report, based on the information available so far. This referred to circumvention of the Raunisto patent by having two simpler, independent grippers, one for gripping the side of the pile and one for gripping the top end. The report also included a discussion of reliability issues, commenting for example on the lightweight nature of the construction and the materials used and the need to improve the overall durability. It then considered what changes to the design were necessary, discussing for example whether a pile could be gripped off-centre, nearer the 'clutch' - the rolled over edge portion that engages with an adjoining pile - and whether the top gripper could be replicated at the bottom. The report included a copy of the drawings of the Movax, and a list of parts shown in the drawings with annotations on how these might change. Most of the report was communicated by Mr Redhead to Mr McHattie of Expotech the next day, 28 August 1998.
- 25 From this point onwards most of the effort seems to have been devoted to developing a better jaw-operating mechanism. There is quite a lot of evidence from the claimants about design activity on this at BSP, involving in particular Tony Jessup and Steve Codd from their drawing office. For example, on 22 October, a task list was created by BSP relating to design activities to be carried out by Mr Jessup and Mr Codd, including the side grippers and the end gripper. There is also evidence of some communications between BSP staff and Mr Hart. In particular on 22 and 26 October Mr Hart sent schematic sketches of side grippers with hydraulic rams to Mr Storey to examine for stress failure, and Mr Storey responded on 28 October.
- 26 In January BSP started working on a design which appears in the patent specification and which uses one ram per gripper pad. This design change was communicated by Mr Storey to Mr Hart in a letter dated 18 January along with explanatory sketches showing beefier rams with a single die (pad) each. There were further communications in February and March. Finally, Mr Codd prepared a "general arrangement drawing" coded 89090001, showing the whole device in detail. This was issued by the BSP drawing office on 7 April. Two months later, on 14 June 1999, Expotech applied for the patent, naming Mr Hart and Mr McHattie as inventors.

The witnesses

- 27 Before I can begin to address the question of who made the invention, I need to assess the credibility of the six key witnesses in the light of their performance under cross examination.
- 28 I will start with James Stewart, the operator of the Movax machine at the Bonneybridge site. As he is no longer employed by Clark or Expotech, he had no particular allegiance to either side, and indeed, supplied statements to both of them. What happened was that, during the evidence rounds, BSP submitted a statutory

declaration from Mr Stewart, dated 16th June 2003. Expotech responded by saying that they too had been in contact with Mr Stewart, and that he had agreed to the text of an affidavit for them in May, although it wasn't formally sworn until 28 June. It was not, they said, wholly consistent with the statutory declaration submitted by BSP. BSP then responded by filing a third statutory declaration by Mr Stewart which purported to explain the apparent discrepancies.

29 Given this rather strange situation, at the hearing I allowed both Mr Hicks and Mr Colley to cross examine Mr Stewart. He came across as a reliable witness. He answered questions directly, and showed a generally good recollection of events. The reliability of his recollection was reinforced by his willingness to admit when he couldn't recall a specific detail. He did not dress up opinions as fact, and I found his explanation of the alleged inconsistencies in his evidence to be convincing - it all depended on whether you were talking about the normal way of working with the Movax machine at Bonneybridge, the way in which the Movax machine was used at other sites where some of the constraints at Bonneybridge did not apply, or what Mr Stewart did at Bonneybridge when asked to give a demonstration. I am satisfied that I can rely on his evidence.

30 The next witness was Roger Elliott, BSP's Engineering Director, now retired. I found him rather less convincing, and felt that much of his evidence, both oral and written, was based not on any clear recollection of what happened but on a reconstruction in his own mind of what he thought might have happened. This was illustrated by a number of inconsistencies in his own evidence. For example, having asserted firmly in his first statutory declaration that the only people he saw and talked to during the Bonneybridge visit were Mr Hart and Mr Stewart, in his second declaration he conceded he had also spoken to the site Foreman, a Mr Hultman. Again, in his written report of the Bonneybridge visit he said that having seen one pile driven "perhaps two more piles were driven before I got a chance to have a close look", but under cross examination, when trying to explain away other inconsistencies, he said he could only be sure he saw one pile driven.

31 These might be dismissed as relatively minor instances of imperfect recollection, but there were more serious instances. For example, in his second statutory declaration he said:

"I refute absolutely Hart's version of what happened at the demonstration at Bonney bridge. The Movax machine was demonstrated to me as I described in my previous declaration. A crane was most definitely not used to lift and position the piles as described by Hart. The piles were lifted, positioned and driven as I described in my previous declaration using the Movax machine."

However, during cross examination, even though he tried to maintain this line, he eventually had to concede that his own photographs taken at Bonneybridge showed that a crane had been used to lift and position a pile that was being driven by the Movax machine.

32 There were several other inconsistencies in his evidence, but there was also one more-worrying admission under cross examination. In his written evidence he had exhibited

an undated report of the Bonneybridge visit, which he introduced in his statutory declaration as follows:

“I attach as exhibit 2 to this declaration a copy of my report of this visit. Although the visit report merely says that the visit took place in January, I have confirmed from my diary that the visit actually took place on 21 January 1998.”

In its context, this conveys the clear impression the report was a contemporaneous one and thus lends strong support to the presumption that what he was saying had happened had indeed happened. In cross examination, however, he admitted that the report had only been written about a year ago, ie about the time these proceedings were launched and nearly five years after the event. In the light of that, I find the reference to the report in his statutory declaration seriously and inexcusably misleading. That combined with all the inconsistencies have led me to the conclusion that I cannot rely on Mr Elliott’s evidence.

- 33 BSP’s Chief Engineer, Robert Storey, was the next witness. He was clearly nervous, and cautious in his replies. He was not cross examined for long, which gave me only a limited opportunity to assess him. There was one issue that gave me a little cause for concern. In his second statutory declaration he had explained how Roger Elliott’s “report on the demonstration at Bonney Bridge” had focussed his attention on certain aspects when design work started in August 1998. Roger Elliott had, of course, just admitted his written report was made in 2002, and when tackled on this, Robert Storey said the “report” had been an oral one. I felt this explanation lacked conviction. Nevertheless I was left with the impression that I could accept Mr Storey’s evidence so far as it was concerned with engineering issues with which he had been directly involved. I am not satisfied I can rely on those parts of his evidence which are relating what others such as Roger Elliott did or did not do. I should also say that certain parts of his second statutory declaration are comments on what conclusions should be drawn from evidence that had by then been submitted by other witnesses. This is a matter for me, not the witnesses, and I have ignored these passages. Indeed, I have little doubt that these words were simply put into Mr Storey’s mouth by his legal advisors.
- 34 The last of the claimant’s witnesses to be cross examined was its Managing Director, David Redhead. He was very cautious, and as a result I didn’t feel his oral contribution was very helpful. Although he denied it, I got the impression that his statutory declarations had been strongly influenced by his legal advisers as there were parts he was unable to explain, and I was certainly not convinced they represented what he had believed at the time. In short, I do not feel I can rely on his evidence.
- 35 I now turn to the first of the defendant’s witnesses, Duncan Hart. He was very assertive in the witness box, but on several occasions what he was vigorously asserting under cross examination to be the case was shown to be wrong. For example, he insisted that he had already visited Mr Redhead, given him a Movax brochure and told him about the improvements he envisaged before Mr Redhead sent him a letter on 15 December 1997. He stuck adamantly to this line through a series of questions that were showing it to be quite implausible, before eventually being forced to concede his first discussion on improvements was with Mr Elliott on 21 January 1998. Even then he went on insisting he had visited Mr Redhead about a week before the letter of 15

December when it was abundantly clear that could not have happened. To give another example, in his written evidence he asserted that Clark had gone into liquidation in early July 1998 but that Expotech had been created in late June to develop piling technology. In the witness box he confirmed the accuracy of this date three times, before conceding in the face of the Companies House record that the company had not been incorporated until 15 July and did not change its name to Expotech until 31 July.

- 36 Similarly, in his written evidence he had asserted that the two faxes dated 22 and 26 October 1998 from him to Robert Storey were the first time that BSP became aware of the idea of using hydraulic rams, despite assertions in BSP's evidence that they had drawings and calculations relating to the use of hydraulic rams dating to the end of September and beginning of October. It was only in the morning of the second day of the hearing that Mr Hart, forced to concede in the light of the evidence that BSP's assertions were in fact correct, withdrew his assertion by correcting his affidavit. If this had been a minor detail, it might have been excusable as a lapse of memory, but this assertion by Mr Hart related to a crucial plank of one aspect of Expotech's case and was something on which great emphasis had been put. To give one more example, he agreed in the witness box that he had been involved in the drafting of the counterstatement, which denies that the drawing in the patent specification was copied from a BSP drawing. Under cross examination, in the face of incontrovertible evidence, he accepted that it had been copied and was unable to explain why he had denied this.
- 37 I have quoted some examples of the inconsistencies in Mr Hart's evidence, but there were a number of other instances in which emphatic assertions by Mr Hart turned out to be wrong. By the time he had finished in the witness box I had concluded that he was an totally unreliable witness. I therefore reject his evidence in its entirety.
- 38 Finally, I must consider the second of the defendant's witnesses to be cross examined, John McHattie who was a consultant to Clark. He got off to a bad start with some evasive answering on whether one drawing had been copied from another, but thereafter his credibility was enhanced as cross examination continued. He was able to give a lot of useful and credible background on the circumstances in which the companies were operating at the time, and in doing so provided a plausible explanation as to why documents that one might have expected to exist did not exist. His ability to confirm some recollections by ancillary events provided welcome reassurance that he was not making things up. However, he was not infallible. For example, like Mr Hart, he had to concede that his written evidence was wrong in asserting that the faxes of 22 and 26 October 1998 were not the first time hydraulic rams had been considered. I got the impression that his evidence was probably reliable where it related to business matters with which he had been personally involved, but it could not be relied on in respect of technical matters, where he was largely dependant on what others such as Mr Hart told him.
- 39 Written evidence had also been submitted by Mr Codd for the claimants and Mr Mieztis for the defendants. They were not cross examined and their evidence was not challenged, so I shall take it at face value.

40 In summary, then, in trying to determine what happened I must rely primarily on the submissions of Mr Stewart and Mr Codd plus, with reservations I have indicated, those of Mr Storey and Mr McHattie. I shall ignore all the submissions of Mr Elliott, Mr Redhead and Mr Hart. Moreover, Mr Elliott's misleading Bonneybridge report shows that I cannot even rely in an unquestioning way on the various documents Messrs Elliott, Redhead and Hart exhibited to their written evidence. However, I can rely on those documents insofar as they were accepted by the other side or are supported by other, credible, evidence.

41 I can also in principle rely on the evidence of Mr Mieztis, but as that evidence only goes to the circumstances in which a statement was obtained from Mr Stewart, it does not actually help to establish the history of events. Its main value was in helping to determine Mr Stewart's credibility.

Assessment of the evidence

42 I must now try to work out, from the evidence that I have found to be believable, what actually happened. I will start with Bonneybridge. I do not really need to worry about what exactly Mr Stewart did or did not demonstrate as it does not affect the underlying issues I have to resolve. These details only became significant in the proceedings because they were being used to test the credibility of the witnesses. What I need to determine is what was or was not discussed about the problems with the Movax machine and any possible modifications to it. With Mr Stewart's as the only reliable evidence of events at Bonneybridge, all I can say on this score is that I am satisfied Mr Elliott was alerted to the fact that, whilst the Movax machine was generally effective in driving piles, it was prone to breakages and unreliability.

43 For events beyond that at BSP, I must rely primarily on Mr Storey's evidence. In his first declaration he says that from April 1998 onwards he had informal discussions with Roger Elliott about improvements to the Movax. He says those improvements included the ideas of a fixed bottom gripper and some replacement for the lever mechanism for operating the jaws. He is vague about precisely when these particular ideas were first mooted, though in his second declaration he dates the idea of a fixed bottom gripper to May. There is support for that in one of the documents exhibited by Mr Elliott the genuineness of which has not been challenged by the other side. This is a letter dated 6 May to Mr Elliott from BSP's patent agents which, amongst other things, discusses whether a modified version of the Movax machine which had a fixed bottom gripper and a fixed side gripper would infringe the Raunisto patent. This does not, of course, tell me whether this was Mr Elliott's own idea or whether it had been suggested to him by Mr Hart, but it certainly confirms BSP was considering the idea by that stage. Mr Storey asserts in his second declaration that it was Mr Elliott's, but this is the sort of evidence from Mr Storey on which I feel I cannot rely.

44 It was not until August that Mr Storey was given instructions to start preparing drawings for a machine to replace the Movax. I am satisfied from the engineering report he prepared on 27 August that a decision had by then been taken to have a fixed bottom gripper and two side grippers. I am also satisfied from the report that the possibility of replacing the lever mechanisms for the jaws of the side grippers was being considered, though it is clear from Mr Storey's own admissions that the form the

replacement should take had not yet been decided. As I have said, most of the substance of Mr Storey's report was sent to Mr McHattie the following day in a letter from David Redhead. Interestingly, the letter makes no reference to the fixed bottom gripper but still incorporates the annotated table of parts. This is a clear indication that both parties knew about this idea by then - it was not something that needed to be mentioned in the letter.

45 Mr Storey's evidence goes on to show that design work continued at BSP. By the time of a meeting with Mr Hart on 10 September, Mr Storey had made calculations that had satisfied him the lever mechanism for the jaws on the Movax could not produce sufficient clamping force. It was agreed at that meeting that BSP would, as a matter of priority, consider whether it would be possible to grip the pile closer to its edge, thereby allowing a different jaw actuating mechanism which would be able to generate a higher clamping force. I note that the action placed on Expotech at that meeting was simply to supply some parts, and this confirms that the design work was concentrated at BSP, not Expotech. Indeed, this point is also reinforced by a BSP task list dated 22 October.

46 There is evidence from both Mr Storey and Mr Codd of detailed calculations for a design which used linearly-moving rams each carrying two gripper pads, and I am satisfied from the evidence that those calculations had been made by 2 October. On 22 October Mr Storey received the fax from Mr Hart showing a possible design for the side grippers and asking Mr Storey to evaluate it. He sent a second fax on 26 October with another, similar design. Both these designs also used linearly-moving rams, and in the second design at least, each ram operated two gripper pads. This, of course, is the type of arrangement Mr Storey and his staff had been working on, though Mr Hart's designs permitted a wider opening between the jaws when fully retracted. Mr Storey responded on 28 October expressing doubts about the fatigue life of Mr Hart's designs, in part because of the wide opening, and also saying that because of the tight time schedule, he didn't have time to explore them further. Instead, he sent Mr Hart a drawing of the design he and his staff had been working on.

47 It is clear from Mr Storey's evidence that BSP continued to be concerned about the stresses and their impact on fatigue life. He says - and I am satisfied this is true - that the grippers were redesigned again by Mr Elliott, Mr Codd and himself, with no input from Mr Hart, in December and January. The redesigned grippers used one ram per gripper pad, rather than having one ram driving two gripper pads. Further drawings of the redesigned grippers were produced by BSP in February and March, and sent to Expotech. Finally, a general arrangement drawing (comprising five sub-drawings) of the whole vibrator was produced by BSP at the beginning of April and sent to Expotech. The close similarity between two of the sub-drawings and the drawings in the patent specification in June leave me in no doubt that the drawings in the patent specification were based on this BSP general arrangement drawing, and indeed Mr Hart conceded as much under cross examination, though Mr McHattie was more evasive.

48 So much for the events from BSP's perspective, but what of the events from Clark/Expotech's perspective? For this, I only have the evidence of Mr McHattie, and one thing that is clear from that is that Mr McHattie was not personally involved in

making any technical developments. He was a business consultant and troubleshooter, and all his information on technical matters came from others. He asserts - and I believe him - that he was well aware of the reliability problems of the Movax machine because he personally was for ever having to deliver spare parts for it when it broke down. He also says that in December 1997, when Clark approached BSP, Clark intended that BSP would manufacture a modified Movax having a fixed bottom gripper and two side grippers, because Mr Hart had already come up with this idea. Indeed, he was adamant that he had already concluded this would get round the Raunisto patent. He was cross examined at length on this, in particular exploring why he couldn't produce any evidence that his patent agent, with whom he had been having discussions, had given an opinion on whether a Movax machine so modified would infringe the Raunisto patent, and also why he had continued negotiating with Raunisto after he had allegedly found a way round his patent. I felt Mr McHattie gave plausible explanations on these two points. On balance of probabilities, I have come to the conclusion that Mr Hart did indeed have the idea of modifying the Movax machine in this way, if not by December 1997 certainly fairly early in 1998.

- 49 I have also come to the conclusion, again on balance of probabilities, that Mr McHattie is right when he asserts that BSP were told about this idea. I note particularly a letter from BSP dated 3 June in which Mr Redhead says:

“It is the opinion of our Patent Agent, confirming your information, that there is no infringement of patent.”

The crucial clause here is “confirming your information”. That is consistent with Clark telling BSP about the idea and also telling them they felt it got round the Raunisto patent, with Mr Elliott seeking an opinion on infringement from BSP's patent agent merely to confirm that what Clark was asserting about infringement was indeed correct. It sits less comfortably with the possibility that the idea had come from BSP.

- 50 This letter from BSP also goes on to discuss royalty payments from BSP to Clark. This too is more consistent with Clark telling BSP about the idea than vice versa. If it was BSP who had worked out how to get round the Raunisto patent, why was it volunteering royalty payments so readily? Indeed, there are other documents in the same vein. For example, a BSP memo from Mr Redhead dated 19 June, but actually 19 July, after Clark had gone into liquidation and Expotech had been set up, acknowledges that the intellectual property relating to the vibrators was now in the ownership of Expotech.
- 51 Returning now to the evidence of Mr McHattie, he has little to say on subsequent technical developments. The only relevant assertion he makes is that Mr Hart's faxes of 22 and 26 October are evidence that Mr Hart thought of the idea of using rams, and this is an assertion that Mr McHattie then had to retract. I therefore have no credible evidence from Expotech to support its assertion that the opposed rams idea came from Mr Hart or was invented independently by Mr Hart. All the credible evidence points to the idea having come out of BSP.
- 52 There is one other point I must consider. The claimants assert, amongst other things, that Mr McHattie was not an inventor. There was nothing in his written evidence to

suggest he had any technical input into the features I have been considering. When pressed on this in cross examination, he conceded that his only technical input to what is in the patent specification is that he supplied the upper part of the device as shown in the drawings. This upper part couples the vibrating head to the boom of the excavator. It does so in a way which both cushions the vibrations and allows rotation of the head in two planes. Mr McHattie said that he found a proprietary coupling device in Sweden that was being used for a different purpose, and got the manufacturers to modify it so that it could be used for the vibrating head. The coupling device is mentioned in the preamble to claim 1, but there is nothing in the patent specification to suggest there is anything inventive about it. Indeed I note that the Raunisto patent also shows a coupling means - albeit of different design - which appears to do everything required of the coupling means by the present claim 1. I am not therefore satisfied that sourcing this particular coupling means is sufficient to say that Mr McHattie is an inventor of any invention in the present patent.

Conclusion

- 53 In summary, then, Expotech have satisfied me that the idea of modifying the Movax machine by using a fixed bottom gripper and two side grippers - ie the first invention - came from Mr Hart. Indeed, on this point I observe that even if Expotech had supplied no evidence, BSP would still have failed on onus because I have rejected all their evidence on this point. Mr Hart is therefore correctly named as an inventor so far as this feature is concerned, and it follows that this invention belongs to Expotech.
- 54 However, BSP have satisfied me that the idea of using direct acting hydraulic cylinders for the jaws came from them, not from Mr Hart or anyone else at Expotech. It is a moot point on the evidence whether the inventor of that idea was Mr Elliott alone or Mr Elliott jointly with Mr Storey and/or Mr Codd, but as the latter two are not asserting inventorship, I am content to say for present purposes that the inventor of that feature was Mr Elliott. It follows that this second inventive concept belongs to BSP, not Expotech.
- 55 For completeness, I should add that I am satisfied Mr McHattie should not be named as inventor for either invention.
- 56 In principle, then, BSP and Expotech are entitled to joint ownership of the patent. However, I am acutely aware that joint ownership causes problems at the best of times, and is a recipe for disaster if the joint owners are daggers drawn. I would therefore strongly urge the parties, in their own interests, to try and negotiate some settlement or compromise in the light of my findings. There are a number of options which I am sure their legal advisors will discuss with them, but they include giving ownership to one with a right to work to the other.
- 57 I will allow the parties two months to consider this and come back to me. I am allowing a fairly long time so they have adequate opportunity to consider the commercial consequences of the various options. If they agree on an option, I will happily make an order that gives effect to it. If they are unable to agree, I will consider their separate submissions but may, if all else fails, be forced to order joint ownership. I will in any case give appropriate directions on the naming of inventors.

58 It was agreed at the hearing that the parties would make submissions on costs after they had seen the present decision. Those submissions should also be filed within two months.

Appeal

59 Under the Practice Direction to Part 52 of the Civil Procedure Rules, any appeal must be lodged within 28 days.

P HAYWARD

Divisional Director acting for the Comptroller