Examiner's Report 2018
FD4 – Infringement and Validity

Patent Examination Board

Introduction

The background to this year's paper was not complex. The client is a business that supplies electrification systems to towns and cities to allow trams and/or trolley cars to use the existing road infrastructure. The client has just lost a tender to supply such a system to Mains Town.

The client has a patent (document A) which has recently granted and the task at hand was to determine if the patent could be used to stop the successful tenderee, "Me2 Limited" from deploying its competing system in satisfaction of the tender.

It is clear that the client would be put to a significant loss if it was unable to prevent Me2 Ltd from using its system, both in relation to the Mains Town contract and future, unspecified, contracts.

The underlying technology related to various components which together provided a system for electrification, including a pair of gantries, an overhead cable, a carrier cable, a rigid connection and a resilient biaser. The underlying concept was that the use of weights could be avoided by use of a rigid/resilient connection of the carrier cable to the gantries to provide the required amount of tension in the cable.

The patent was a relatively short document with 3 1/3 pages of specification and five Claims, an independent Claim to a system, three dependent Claims (with only one multiple dependency) and an independent Claim to a cable.

In this year's paper there was one infringement, namely the system of Me2 Ltd, as set out in the press release of document B. The press release was a modest document of one page of writing and three figures.

There were **three** pieces of prior art to consider this year. The relevant disclosures were (i) the background section to document A, (ii) document C and (iii) document D. The background section of document A was specifically stated as being prior art in both the text of the patent and on the drawings. It concerned a single example of an electrification system for a train. Document C was an article from a trade magazine. Again, this was a modest document of a single page length. Document D was an article from an old (1980) trade magazine which was similarly short in length, disclosing a single embodiment of a system for supporting electricity cables for trains.

As with previous years there was a lot of feedback from candidates that the examination was time-pressured. A review of the exam scripts shows that most candidates were able to provide their thoughts on each section of the paper.

This year a spare set of Claims was provided for use by the candidates. This appears to have been well received and will be repeated in future years. Note has been taken that candidates would like the lines of the spare set of Claims to be spaced more widely.

With regards to candidates' answers, again the standard of handwriting was generally satisfactory. The examiners again considered that it was easier to mark papers where candidates wrote on alternate lines and spaced their answers, especially in light of any amendments made thereto during the course of the examination.

It has been recognised that this year's paper did appear to provide a significant challenge to candidates. In the light of statistical and other evidence, by applying the minimum pass descriptor, the pass mark has been reduced to 47.

The pass rate this year is 33.8%.

In an examination such as FD4 it is impossible to capture all the points that candidates might develop in their answers. Accordingly, candidates are reminded that the mark scheme is an indicator of the Examiner's preferred answer and does not detail all possible responses that can achieve marks. All answers which are fairly based on the materials provided, and which are internally consistent across the script, will be awarded marks.

Questions

Construction

The patent to be construed was a UK patent with two independent Claims (Claims 1 and 5) and three dependent Claims (Claims 2 – 4).

The construction section is for the candidates to explain what each of the important terms of the Claims are, and what each means in the context of the patent. The basis for the construction arrived at should be provided from the materials available. Several candidates this year did not access available marks because they failed to provide the appropriate support from the materials provided.

Candidates are reminded that the interpretation from the construction section should be applied throughout the paper. Candidates who decide a point in construction, only to change their mind in a later section about the meaning of a term will not be awarded the marks that they otherwise would have.

As a first preliminary note, Claim 1 related to a system. Many candidates did not address this point. Although not much hung on it, in terms of marks awarded the nature of the Claim is something that candidates should consider.

A second preliminary point required candidates to consider what "for providing electrical power to a road vehicle" meant. This would have important consequences for an analysis of the impact of the prior art.

The key to construction of Claim 1 related to (i) what is a pair of gantries? (ii) the support of the carrier cable, specifically at its 'ends' and (iii) what the system was attempting to achieve.

A significant number of candidates appeared to get hung up on the requirements of gantries and the physical requirements of the gantry (pair of support legs and a beam extending between the support legs). It is considered that this was adequately explained in the text of the patent.

The interpretation of a 'pair' of gantries was generally handled well. Candidates were able to explain an interpretation of gantries that did not require successive supports, vis-à-vis the carrier cable. The requirement that the carrier cable is secured at its ends again gave some candidates some difficulty but, on the whole, this was dealt with appropriately.

Many candidates did not consider the stated impact of the securement of the 'ends' of the carrier cable, namely to generate tension necessary to accommodate environmental or other factors which might cause the cable to change length.

On the whole candidates were able to pick up the majority of the 10 marks available for the construction of Claim 1.

The construction of Claim 2 was handled reasonably well. Most candidates spotted that the cable type (overhead or carrier) was not specified and made appropriate comments.

Claim 3 caused little difficulty for most candidates.

The construction of Claim 4 was not delivered particularly well. The Claim requires a particular connection of the resilient biaser itself, and its connection to the carrier cable and the gantry. Very few candidates identified the apparent error in the specification or the error in the Claim related to the 'end' of the carrier cable.

The construction of Claim 5 was handled well up to a point. Relatively few candidates gave particular weight to the requirements of a cable and whether the context would imply any physical characteristics. Most candidates were able to correctly state that 'particularly' is non-limiting.

The construction of Claim 5 also required candidates to consider what a 'relatively conductive' material was and to what it was relatively conductive. This seems clear in context given that the claim was directed to an electricity cable.

The major bone of contention for Claim 5 related to the 'not circular' cross section feature of the cable, especially in light of the prior art shown in Figure 1C of the patent. Many candidates did not adequately consider this point. That said, a significant number of candidates were able to give a sound construction based on the materials available to them. Many candidates gave sound answers in relation to the 'elastic' requirement of the material forming the sheath.

There were 19.5 marks available for construction. In general, candidates scored reasonably well in this section.

Infringement

As a headnote, this year's paper was the first to be set since the Supreme Court Judgement of *Actavis vs Lilly* and candidates were given the opportunity to demonstrate their appreciation of that judgement. However, it was also possible to consider and discuss infringement without recourse to equivalents. Marks were awarded for both approaches. Candidates could be awarded up to 2 marks for discussing the Actavis case and its implications whether they used equivalents arguments or not in discussion of infringement.

Turning to Claim 1, the principal issue to be considered was whether or not the system of Me2 incorporated gantries. Some candidates appeared to want to restrict their analysis to the portion of the tramway shown in the drawings, whereas others were able to visualise the entire tramway. Document B stated that there would be a gantry at each end of the tramway and so (subject to the candidate's construction) satisfied the gantry requirement. The issue to discuss then related

to whether the terminal gantries represented a pair. Consistency with the construction section was paramount.

Once the gantry point had been dealt with candidates needed to demonstrate how the carrier cable was supported at each gantry and then develop a conclusion as to whether or not the use of a suspension cable with one end of the suspension cable connected via an anchor bolt and one end connected via a spring would satisfy the requirements of the Claim. This was to be considered for each gantry, with reference to an anchor bolt on one gantry and a spring connection at the other gantry.

The examiners considered that this situation was arguable and awarded marks for any well-argued conclusion as to infringement/non-infringement.

In the alternative, many candidates sought to consider the buildings in the intervening portion of the tramway to be the equivalent to gantries, with the suspension cable as a beam. Again, well-reasoned arguments were awarded marks. Similar considerations applied in relation to the way in which the carrier cable was supported by the suspension cables. Candidates who sought to consider 'existing street furniture' such as street lamps and simple posts as gantries appear to find difficulty in relation to their construction of Claim 1 and the required physical features of gantries (support legs and a beam).

The examiners preferred an infringement analysis which concluded that there was direct infringement or that there was infringement as a result of equivalence. However, a number of candidates scored well for concluding that there was no infringement.

Claims 2 and 3 appeared to present little difficulty for most candidates.

An interpretation of whether Claim 4 was infringed required candidates to review the drawings as shown and understand the simple mechanical connection. There was a sparsity of information in the document and candidates which were able to point this out, arrive at a conclusion and identify that more information was needed, were able to score reasonably well.

Claim 5 did not appear to offer too much of a challenge to many candidates.

This year there were 14 marks available for this section.

As in previous years, some candidates did not achieve the marks that they might have by providing inadequate or no support for their conclusions. It is important that candidates specify exactly where a feature is to be found in the infringement to allow examiners to award the marks as appropriate.

Most candidates stated their conclusions either at the end of the section or at the end of the paper. This is to be encouraged.

It was expected that each of Claims 1 – 3 would be found to be infringed and that Claims 4 and 5 would, tentatively and subject to further information, be found to be infringed.

Novelty

There were three different documents to be considered, the background to the patent, document C and document D. All three pieces of prior art were very short documents.

All three documents were considered to be prior published. This should be stated by candidates as it is a pre-requisite for how patentability is to be assessed.

The examiners expected candidates to consider the technical content of the documents to determine against which Claims novelty would be assessed for each document. For example, it appears from a cursory review that document C has nothing whatsoever to do with electrification systems for trams/trolley cars. Accordingly, a brief discussion as to why it was not considered with respect to novelty of Claims 1 to 4 would have been appropriate. Similarly, document D was silent on the nature of the cable and so a brief discussion of why document D was not considered vis-à-vis novelty of Claim 5 would have been appropriate.

The examiners were looking for candidates to consider, in detail, document A for all of the Claims, document D for Claims 1 to 4 and document C for Claim 5. Marks were awarded for such a discussion.

No marks were awarded for lengthy consideration of the novelty of Claims 1-4 in light of document C or for consideration of the novelty of Claim 5 in light of document D.

Candidates who did not consider document A at all missed a significant number of marks (approximately 45%) for this section. This was unfortunate because both the specification and the drawings of the patent clearly stated that the background to document A was prior art. That said, it was certainly possible for candidates to achieve a pass without considering document A.

Document A discloses a train electrification system and was contrasted to the system of the invention. The principal points of difference for Claim 1 related to the use of pylons in place of gantries and the absence of a resilient biaser. On the whole, most candidates who considered document A for Claim 1 concluded that the Claim was novel.

Document D used pylons and gantries as alternatives. Accordingly, it was possible to conclude that document D did disclose the use of gantries. However, there was no information about whether the cable was rigidly connected to a gantry at a first 'end'. Candidates were also expected to determine whether the carrier cable itself was secured to the gantry by a resilient biaser within the terms of the Claim.

The examiners preferred a conclusion that Claim 1 was novel over document D.

The features of Claim 2 appear to be disclosed by document A but not by document D. Most candidates (who considered document A) arrived at the same conclusion.

Similarly, the features of Claim 3 appear to be disclosed by document D but not by document A. Most candidates (who considered document A) arrived at the same conclusion.

A consideration of the novelty of Claim 4 appeared to offer little difficulty to most candidates.

Claim 5 required two distinct analyses of the prior art documents A and C. On the first hand 'an elastic material' for the sheath and secondly what was a not circular cross section (particularly in reference to document A).

Neither document A nor document C provided any guidance as to whether the sheath was formed from an elastic material. On this basis alone, it was expected that the Claim would be deemed novel.

For the second point, document C clearly disclosed a rectangular conductive portion. An analysis of document A required a consistent approach with respect to the candidate's construction. The candidates that considered document A in novelty tended, on the whole, to have the most considered approach to construction.

A further point to be considered with respect to document C was whether or not a cable 'particularly for' overhead power systems conferred any limitation. If so, did a 'thread' or a heavier duty cable fall within the limitation?

There were 23 marks available for novelty this year. On the whole this section was not answered as well as it has been in previous years.

The examiners expected that each of the Claims would be found to be novel over the prior art.

Inventive Step

There were 25 marks available for inventive step this year. This is 6 more than last year. Inventive step is one of the key areas of any analysis of validity and this was the case for this paper.

Marks were available for discussing the relevant date of the prior art and for discussing the impact of the priority application, specifically in relation to the disclosure of the thread/cable of document C in the trade magazine, *Tram Electrification Monthly*.

In order to assess inventive step it is necessary to adopt the approach taken by the UK courts, specifically the approach set out in Pozzoli/Windsurfer.

The first step is to determine who is the person of skill in the art (PSA) and what is the common general knowledge (CGK). Unusually, this year the PSA and CGK for Claim 1 was not identical to the PSA and CGK for Claim 5. Candidates were awarded separate marks for establishing the nature of each in respect of each independent Claim.

Once the PSA and CGK has been identified the steps for undertaking an inventive step analysis are:

> *Identify the inventive concept of the claim in question or if that cannot readily be done, construe it;*
> *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;*
> *Viewed without any knowledge of the alleged invention as claimed, do those differences constitute steps which would have been obvious to the person skilled in the art or do they require any degree of invention?*

Candidates that were able to use this approach scored reasonably well on inventive step this year. Indeed, in the examiners' view candidates are increasingly obtaining a larger share of the marks available for inventive step. However, many candidates still fail to properly apply the test and as a consequence fail to receive marks in this section.

For Claim 1 it was possible to start from either document A or document D and marks were awarded for either approach.

As long as candidates carried through their analysis it was possible to conclude that the Claim lacked an inventive step starting from document D and applying CGK. If candidates started from document A it was necessary to conclude that document D represented CGK. Marks were awarded for cogent and consistent approaches.

Candidates had little problem in addressing Claims 2 and 3.

On the whole, Claim 4 appeared to cause candidates difficulty. Starting from document D (or A) it was considered to be inventive by the examiners because the spring was not connected to the gantry via a flexible connector (and there was a question mark about its connection to the carrier cable).

As stated above, Claim 5 required a different PSA and CGK to that of Claim 1. An appropriate PSA appeared to be an electrical engineer.

The examiners preferred document C as a starting point, although, once again it was possible to start from document A and candidates could receive marks for either approach.

Starting from document A with a PSA identical to that of Claim 1, it appeared difficult to apply the teaching of document C. Firstly, it was necessary to conclude that the PSA would see document C as CGK. Secondly, document C specifically relates to threads (which are said to be different to cables) with little teaching of what 'thicker gauge materials' might be or be constructed. Thirdly, the threads of document C are said to have increased bending resistance but mentions nothing about elasticity and the ability to withstand clamping forces.

Some candidates did discuss the potential impact of the priority date and the disclosure in Tram Electrification Monthly, which may well have elevated the disclosure of document C to CGK.

On the whole the examiners preferred conclusion was that Claim 5 was inventive because of the lack of disclosure of the elasticity of the coating. Document A does mention that it is known to coat cables although does not mention the material. Given that the patent does not pay too much attention to the nature of the material it would also have been appropriate to seek guidance from the client about the known coating material. Once again, candidates that gave cogent arguments either way relating to the elasticity of the coating were awarded marks

Sufficiency

Many candidates failed to spot the statement in the client's letter which suggested that the client had endured significant difficulty to get a constant force coil spring to work. This raised the possibility that the claims were not enabled across their entire scope at the filing date.

Candidates were awarded marks for discussing this and its potential impact.

There were 3 marks available for this section.

Some candidates appeared to assess sufficiency only after considering the amendment section. Candidates are advised that they should be seekng to amend the claims such that they are a) novel, b) inventive, c) sufficient, and d) provide at least some protection against the competitor's activities. Making a final decision on which amendments to propose prior to considering each of the above can result in the candidate making contradictory statements in their answer paper – like suggesting a particular form of amendment, but then noting that a particular claim feature was not sufficiently disclosed.

Amendment

There were amendments to be made to correct the Claims.

It was also necessary, in the examiners' view, to amend Claim 1 to overcome the prior art.

As with all previous years, the examiners were prepared to award marks for any supportable amendment which improved the client's position vis-à-vis the prior art and captured the infringement.

Depending on the construction and infringement positions Claim 4 may have been a suitable amendment for Claim 1. Alternatively, it was possible to amend Claim 1 to include the resilient biaser is housed in a housing or that the resilient biaser was connected to the cable by a non-rigid connection to allow relative motion.

Claim 5 may have also required amendment over the background art of document A. It was considered that the specific shapes and or a flat contact surface may have been appropriate amendments.

It was necessary to at least note why the amendment was made, how it avoided the prior art and whether it captured the infringement.

5.5 marks were available for this section.

Advice

The examiners consider that the advice section is the crux of the paper and provides candidates with the opportunity to draw together the points raised in the previous sections to place the task at hand in its commercial context.

As a representative of the client it was the candidates' task to seek to improve the client's position and to seek to satisfy his aim to "…do whatever we can to stop Me2 on the Mains Town contract." Given that the contract has been awarded it was imperative in the advice section that candidates provided points which would help the client. In the circumstances, and given the obvious time pressures for the client, applying for a UKIPO Opinion and/or seeking amendment under s.27 did not appear to be appropriate actions to take.

One issue which was not particularly well handled was threats. Most candidates recognised that the letter to Me2 was unlikely to be actionable as they are manufacturers of the system (there was an open point about whether Me2 is a manufacturer/importer of cable although that seems likely given the disclosure in document B). However, many candidates found the letter to Mains Town more of a challenge to discuss. It is clear that Me2 is likely to be aggrieved by the letter to Mains Town.

The suggestion that the client seeks to licence the patent seemed to be an unlikely course, given the specific needs of the client as noted in the paper.

The preferred route for the examiners was to suggest that the client sues with an application to amend (if necessary).

As in previous years, the examiners awarded marks for any sensible and appropriate points which further the client's aims and were soundly based on the materials at hand.

Candidates are again reminded that the advice section is not an opportunity to 'brain-dump'. Examiners want to see commercially appropriate points which fit the context of the dispute. On the whole candidates appear to have recognised this and there appeared to be fewer boiler-plate points raised.

There were 10 marks available for this section.