



## PATENTS ACT 1977

APPLICANT Adam Geoffrey Huggett and Hugslock Systems Ltd

ISSUE Whether application number GB 1300974.1  
complies with sections 1(1)(a), 1(1)(b), 14(3) and  
14(5)(d) and 76(2) of the Act

HEARING OFFICER Dr Jim Houlihan

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### DECISION

#### Introduction

- 1 Patent application GB 1300974.1 entitled "Hugslock Systems Phase 2" was filed on 20 January 2013 in the name of Adam Geoffrey Huggett and Hugslock Systems Ltd and relates to a manhole cover (secure pit lid) housing various sensors. Following objections made during a preliminary examination a set of amended claims was filed on 7 February 2013. The application was published on 19 November 2014 as GB2514079.
- 2 A combined search and substantive examination report under sections 17 and 18(3) was issued on 23 May 2013 in which the examiner raised fundamental objections on the grounds of insufficiency and novelty and/or obviousness. He maintained these objections in five rounds of correspondence and in more than one instance advised Mr Huggett to consider withdrawing his application as he could not see the basis for a patentable claim in it. The examiner also pointed out that if Mr Huggett intended to proceed with the application he would need to amend his claims and referred him to the IPO factsheet on claims, particularly to ensure that the claims relate to a single invention. The examiner strongly advised Mr Huggett to seek the assistance of a patent attorney. Mr Huggett submitted arguments at each stage and filed amendments to both the claims and the description on 2 December 2014 (letter dated 1 December 2014).
- 3 In light of the impasse between the examiner and Mr Huggett he was offered a hearing. This offer was accepted and the examiner summarised all of his objections in his letter of 8 September 2015 under the headings of lack of unity of invention, clarity, novelty, obviousness, sufficiency and added matter.

## The Hearing

- 4 A telephone hearing was arranged for 22 October 2015 but a few days beforehand the applicant asked for it to be postponed. It was rearranged for 3 December 2015. Here, it quickly became clear that Mr Huggett did not have copies of all of the documents with him or sufficient time available to consider the issues. In light of the overriding objective for this case, as with all cases, to be dealt with fairly, (Re. Rule 74 of the Patents Rules 2007 (as amended)) I decided to adjourn the hearing to ensure that Mr Huggett had the documents and the time to consider them fully.
- 5 The hearing was rearranged for 22 February 2015 and Mr Huggett attended in person. Also present were the examiner and my assistant, Ms Mary Taylor.
- 6 Following the hearing, my assistant wrote to Mr Huggett to draw his attention to two issues in relation to claim 8 which had not been pointed out previously. These were a feature in a prior art document US2007/0103324 (paragraph 87 below) and the case law on collocation *SABAF SpA v MFI Furniture Centres Ltd*<sup>1</sup> (paragraph 82 below). I also referred Mr Huggett to *Biogen v Medeva*<sup>2</sup> in relation to claim 10, although it transpired I did not need to refer to this case law. Mr Huggett was invited to comment on these issues and responded on 24 April 2016 in relation to claims 8 and 10.

## The invention

- 7 The alleged invention lies in the field of manhole covers. The application as filed describes a manhole cover that houses sensors for detecting chemical and biological agents and environmental conditions such as temperature, wind speed, weather conditions and pollution. It goes on to set out a range of other things that a manhole cover may include: electronic counter measures and the ability to utilise a range of measures including transmission mapping of mobile data, downloading information from ANPR and airwave systems, a rugged LCD display, sensors to record power usage, the capability to generate Internet service provision, voice recording equipment, the ability to automate systems, software and sensing equipment to assist the tracking of individuals and the ability to connect to fibre optic street cabinets for remote locking options for street cabinets.

## The law

- 8 Section 1 of the Patents Act 1977 requires that (emphasis added):

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

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<sup>1</sup> *SABAF SpA v MFI Furniture Centres Ltd* [2005] RPC 10

<sup>2</sup> *Biogen Inc V Medeva Plc* [1997] RPC 1.

(a) *the invention is new;*

(b) *it involves an inventive step...*”

- 9 Section 2 makes it clear that what is new is not limited to information from the UK or authored by people other than the applicant when it says:

“2(1) *An invention shall be taken to be new if it does not form part of the state of the art*

*2(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 way.”*

- 10 Section 3 of the Act requires that:

**“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 Whether or not an invention defined by the claims involves an inventive step is assessed using the four-step test first formulated by the Court of Appeal in *Windsurfing International Inc. v Tabur Marine (Great Britain) Ltd*<sup>3</sup> and restated by the court in *Pozzoli SPA v BDMO SA*<sup>4</sup>:

“(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, 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?”*

- 12 Section 14(3) of the Act requires that:

**“The specification of an application shall disclose the invention in a manner which is clear enough and complete enough for the invention to be performed by a person skilled in the art.”**

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<sup>3</sup> *Windsurfing International Inc. v Tabur Marine (Great Britain) Ltd*, [1985] RPC 59

<sup>4</sup> *Pozzoli SPA v BDMO SA* [2007] EWCA Civ 588

- 13 In *Eli Lilly v Human Genome Sciences*<sup>5</sup> Kitchin J gave the following summary of the relevant principles, which are to be applied when assessing whether an application satisfies section 14(3) of the Act:

*"The specification must disclose the invention clearly and completely enough for it to be performed by a person skilled in the art. The key elements of this requirement which bear on the present case are these:*

*(i) the first step is to identify the invention and that is to be done by reading and construing the claims;*

*(ii) in the case of a product claim that means making or otherwise obtaining the product;*

*(iii) in the case of a process claim, it means working the process;*

*(iv) sufficiency of the disclosure must be assessed on the basis of the specification as a whole including the description and the claims;*

*(v) the disclosure is aimed at the skilled person who may use his common general knowledge to supplement the information contained in the specification;*

*(vi) the specification must be sufficient to allow the invention to be performed over the whole scope of the claim;*

*(vii) the specification must be sufficient to allow the invention to be so performed without undue burden."*

- 14 Section 14(5) of the Act specifies a number of requirements that the claims must fulfil for a patent to be granted. It states:

*"14(5) The claim or claims shall –*

*(a) define the matter for which the applicant seeks protection;*

*(b) be clear and concise;*

*(c) be supported by the description; and*

*(d) relate to one invention or to a group of inventions which are so linked as to form a **single inventive concept.**"*

- 15 Section 76(2) of the Act relates to added subject matter and states:

*"(2) No amendment of an application for a patent shall be allowed under section 15A(6), 18(3) or 19(1) if it results in the application **disclosing matter extending beyond that disclosed in the application as filed.**"*

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<sup>5</sup> *Eli Lilly v Human Genome Sciences* [2008] RPC 29

## **Plurality**

- 16 I think it is important in the first instance for me to consider the requirement of section 14(5)(d) of the Act. I made it clear to Mr Huggett at the hearing that if the claims are not linked by a single inventive concept then the application is not allowable.
- 17 The subject matter common to each of the claims 1-4, 6-10 is a manhole cover containing electrical devices. Mr Huggett's previous patent, GB2442763, and the prior art cited in these proceedings (US2010289651 ('651), EP2369062 ('062) KR20120088201 ('201) and US2007/0103324) clearly show that this subject matter was already well known. Even the subject matter of claim 5 which relates to a manhole covers with sensors was already known as it is disclosed in '763.
- 18 Therefore, I hold that none of claims 2-9 have unity of invention with claim 1. By itself this finding is sufficient for me to refuse to grant the application in its present form. In this event, I am not bound to consider claims 2-9. However, I appreciate that the format of these claims may result from defects in claim drafting which might be due to Mr Huggett's unfamiliarity with the requirements of patent law. At this stage the possibility existed that if I found in favour of Mr Huggett on the other objections, that the defect in unity of invention could be overcome by amendment.
- 19 I am minded that my overriding duty is to deal with the application as efficiently as possible at this stage and to give the applicant his opportunity to be heard in order to reach a fully reasoned decision. Thus, I think I should consider all of the outstanding objections here as it is practical to do so.

## **Claim construction**

- 20 In the circumstances, I will address each claim in turn and my first task in each instance is to construe the claim. In doing so I note that several of the claims include the phrases "*has the ability to*" or "*has the capability to*". I think I should make a general comment here about how I propose to interpret these phrases when construing the claims. I consider "*has the ability/capability to*" as equivalent to "suitable for", which is not limiting, in the absence of a particular teaching in the specification as to the technical characteristics required to achieve the "*ability/capability*" in question.
- 21 I will now consider each of the latest versions of the claims in turn as filed on 2 December 2014. The header indicates the objection raised by the examiner to the claim.

## **Claim 1 - novelty**

- 22 The latest version of claim 1 reads:

1. A secure pit lid (manhole cover) that houses additional sensors as follows,

*The sensors are chemical and biological agent detection, environmental monitoring such as temperature, wind speed, weather conditions, pollution (mentioned in previous patent)*

- 23 In his letter of 8 September 2015 the examiner objected that this claim is not new on account of the disclosure of US2010289651 ('651) (published on 18 November 2010). Also, I note that the words "mentioned in previous patent" were added in the claims filed on 7 February 2013 and will disregard this phrase as Mr Huggett agreed it represented added matter.
- 24 I construe this claim as relating to a manhole cover that houses sensors which are capable of detecting biological or chemical agents and monitoring the environment which can include monitoring temperature, wind speed, weather conditions.
- 25 The examiner referred to '651, paragraph 12, which describes a manhole cover or door and then in paragraph 25 it says "*the invention is also useful to monitor in real time, the storage of hazardous material...to ensure there is no leakage that might pollute a facility or the environment*". Paragraphs 64 and 65 refer to chemically active materials which may be found in explosives or biological hazards which may be detected by the optical fibre sensors in the manhole cover. Also, '763 discloses a manhole cover with water level sensors and a gas sensor.
- 26 Mr Huggett submitted that this claim was novel because the sensors were "integrated" in the manhole circuitry whereas in the prior art they were not. I asked him if he could point to a passage in the description which supported this. He referred to page 1, paragraph 3 which reads "*the command and control procedures will be directed through the covers....*". I note paragraph 7 refers to the "integration" of mobile applications in the manhole covers. However, I cannot see anything in the specification as a whole that distinguishes the "integration" of the sensors in the present application from the sensors in either '651 or '763.
- 27 Mr Huggett accepted that chemical and biological agents had been previously disclosed but did not accept that the environmental monitoring (wind speed, weather conditions, temperature) had been disclosed. The examiner pointed out in his correspondence that the use of the phrase "*such as*" means that the features of (wind speed, weather conditions, temperature) are alternatives. I agree with the examiner here. In claim 1 as I have construed it, a disclosure of any one of these features would anticipate this claim.
- 28 Mr Huggett said that he had not meant the features detailed in the claim to be optional but meant it to include all of them, pointing to the phrase "as follows" in the previous line. This is an important point which I pressed Mr Huggett on in order to be clear about his intentions about the invention he was trying to protect in claim 1.
- 29 Mr Huggett confirmed that the claim could, in the alternative, be read as comprising all of the features listed. He said it was his intention to cover sensors to all of the features detailed in the claim. I note that an alternative version of the claim was not submitted either before or during the hearing and that the examiner had repeatedly warned Mr Huggett about the clarity of the claims. This was a significant submission

which I have considered subsequently. However, it is clearly not reflected in the claim as presently on file.

30 Nonetheless, I will briefly consider the possibility that the claim is reframed to make all of the features listed essential components of the claim. Having reviewed the specification, I find there is no basis in the description that links these features in a single inventive concept. The description makes it clear that the biological and chemical sensors are intended for warning against biological and chemical attacks. It says "*with additional environment sensors calculation of agent can be established potentially saving lives. The environment can also be monitored for other benefits such as weather recording, pollution levels etc*". I am of the view that "*chemical and biological agent detection*" are environmental features and that "*temperature*", "*wind speed*", "*weather conditions*" and "*pollution*" are also environmental conditions. The prior art, '651 and '763 describes manhole covers with sensors for environmental conditions. Therefore, in my view there is no single inventive concept linking these features as a single invention in a manhole cover.

31 I hold that claim 1 is not novel on account of the disclosures of both '651 and '763.

### **Claim 2 - novelty and sufficiency**

32 The latest version of claim 2 reads:

*2. A secure pit lid (manhole cover) which includes electronic counter measures and the ability to utilize a range of applications as per customer specifications.*

*The applications include but are not limited to transmission mapping of mobile data*

33 There were two separate objections to claim 2, novelty and insufficiency. In his letter of 8 September 2015, paragraph 18, the examiner says "*GB2442763 shows a manhole cover with electronic counter measures (for example motion sensor 5, CCTV 8, code access 2, and CPU 9). It is considered that the computer (main CPU 9) disclosed in this document has "the ability to utilize a range of mobile applications". That is, in use the computer would inevitably use a variety of applications to interface with the various sensors, networking devices, and locking mechanisms*".

34 Furthermore, under the header of insufficiency, the examiner considered that there was not enough information for a skilled person to work the invention, as there was no definition of "*transmission mapping of mobile data*".

35 I pointed out to Mr Huggett that this claim is formed of two sentences which is not an accepted form of claim. However, I will consider both aspects of the claim.

36 I construe this claim as relating to a secure manhole cover which includes electronic counter measures and has the ability to utilize a range of applications which include the transmission mapping of mobile data as specified by customers.

37 Mr Huggett said during the hearing that the sensors were not just any sensors but were "*specifically equipped to jam certain frequencies*". I asked him where this was

supported by the description. He pointed to the sixth paragraph which reads “*electronic counter measures are part of the design as they can offer protection against remote controlled explosive devices at high profile locations for example*”. He submitted that electronic counter measures are not disclosed in his previous patent, ‘763.

- 38 In ‘763 the CPU, motion sensors and CCTV could be considered as electronic counter measures. Given that lack of information which relates to how mobile data may be transmitted in the present application, I believe that the disclosure ‘763 has the ability to utilise a range of applications that could include transmission mapping of mobile data which could be detailed in customer specifications.
- 39 Therefore I hold that claim 2 is not novel on account of the disclosure of ‘763.
- 40 For completeness, I will consider the sufficiency of claim 2. Mr Huggett admitted that he could have expanded on the transmission mapping of mobile data and that the sixth paragraph of the description merely explains what the applications can do. He also said the invention could be made, as electronic counter measures are well known and that based upon the patent application the invention could be constructed. He said that this is what his outsourcing team had done and therefore the patent application provided sufficient information to work the invention. He also said he had deliberately made “*his application restrictive...so other people could not ‘egg up’ on the way to do things (make the invention)*”. Nonetheless, he submitted that the specification gave enough information for a skilled person with a computer to make a manhole cover with ‘counter measures’ and transmit mobile data.
- 41 However, claim 2 does not at all embody Mr Huggett’s intention for counter measures which specifically jam frequencies nor is there sufficient information in the application about how the manhole cover could be configured to do this. More to the point, there is no disclosure in the specification at all that relates to interpreting and jamming certain frequencies. Mr Huggett admitted the description does not set out how this would be done.
- 42 Next, I turn to the question of whether the specification as a whole enables the skilled person to make this invention. I consider that the skilled person would be an engineer who works with manhole covers who would be aware of manhole technology, including the ability to include sensors and CPU within them.
- 43 The critical question is would this skilled person or persons, armed with their common general knowledge and the information provided in the specification as a whole, be able to make the invention defined within claim 2 as I have construed it. In one sense the skilled person could put ‘counter measures’ in a manhole cover. However, to my mind the ability to “*utilize a range of mobile applications as per customer specifications*”, “*perform transmission mapping of mobile data*”, and “*install transmission mapping of mobile data*” does not teach the skilled person how to install those applications. The customer specifications could include a whole host of applications which necessarily would vary in each instance.
- 44 My view is that the skilled person on reading the specification is left in a quandary about how to work this claim. Also the potential infringer would not be clear about the scope of the claim, whether they were working within it or outside it. Therefore, I

consider the specification is not clear enough or complete enough in providing the skilled person with an adequate level of information about how to perform the “invention” in this claim.

45 I also hold that claim 2 is insufficient.

### **Claim 3 - novelty**

46 The latest version of claim 3 reads:

*3. A secure pit lid (manhole cover) with the capability to interface with and download information from ANPR enabled vehicles and Airwave systems.*

47 The examiner in paragraph 19 of his letter of 8 September 2015, objecting under novelty said that wireless connectivity had already been disclosed in ‘763 and that this would enable any data, including ANPR (automatic number plate recognition) and airwave systems, to be downloaded.

48 In construing this claim I reviewed the description to see whether there was any specific information that would help me interpret the phrase “*with the capability to interface with and download information*”. I could not find any and therefore construe the claim as it reads interpreting “*capability to*” as non-limiting.

49 Mr Huggett said that the prior art did not disclose ANPR capture and was therefore novel. He pointed to the ninth paragraph of the description which reads “*Having the capability for police officers to download ANPR information and airwave information will save police time and money and will offer a less labour intensive method of downloading information. The theory is that a particular vehicle can drive over a manhole cover and download information into the manhole cover system via a secure wireless connection.*” He submitted that the skilled person in ANPR or airwave systems, given a CPU and transmission device, could implement the invention.

50 In my opinion, the claim is defined by a result - by the information it captures not by the technical features which enable capture of ANPR or airwaves. The description does not teach how these features could specifically be captured. To my mind, the claim relates to the capture and download of data. Mr Huggett admitted that downloading data by a wireless connection is disclosed in ‘763. Capturing data can be considered as part of the downloading process.

51 I hold therefore that claim 3 is not novel on account of the disclosure of ‘763.

### **Claim 4 - inventive step**

52 The latest version of claim 4 reads:

*4. A secure pit lid (manhole cover) with a rugged LCD display screen for the purposes of providing a visual display to a diverse audience.*

- 53 In his letter of 8 September 2015 the examiner objected to this claim on the basis that it was obvious. In addition, he said that “*to a diverse audience*” was unclear. Mr Huggett conceded that the claim related to just a visual display and the phrase “*to a diverse audience*” did not impart any further meaning on the claim. I agree. I construe the claim as relating to a manhole cover with a rugged LCD display screen for providing a visual display.
- 54 The examiner in his letter of 8 September 2015 said he considered that EP2369062 ('062) shows a projection unit from a manhole cover and KR20120088201 ('201) shows an LED screen on a manhole cover. As neither document is in English, the examiner had provided machine translations. Mr Huggett was content to refer to these translations. Mr Huggett expressed his concerns about the scope of the claims of the Korean patent application and whether the IPO could do something about them. I said this was of no relevance here. What is relevant is the disclosure of this document.
- 55 To consider this objection in detail I will follow the four steps in the well established *Pozzoli* test which I have referred to above.

Step 1 – Identify the notional skilled person and their common general knowledge

- 56 In his letter of 8 September 2015 the examiner identifies the skilled person as a civil engineering technician who works with manhole systems. He goes on to say that the skilled person would be aware of commonly used manhole technology, including the use of sensors, and existing manhole security systems. The examiner considered that the skilled person would be aware of the range of common place digital displays such as LEDs and LCDs. In my view, the examiner is right to identify the skilled person in this way and I note that Mr Huggett did not object to this description of the skilled person either in his correspondence or at the hearing.
- 57 '062 states “*the projection units*” 111 – 114 may be any “*agents that are capable of rendering the information for humans visible and/or audible*”. It is clear from the case law that individual patent specifications and their contents do not normally form part of the common general knowledge. Nonetheless, I think the disclosure of '062 typifies what could be considered as common general knowledge - that manhole covers housing various forms of digital projection units were known in the art.

Step 2 – Identify the inventive concept

- 58 Mr Huggett said that the inventive concept is using an LCD screen in a manhole cover and that “nowhere” was this disclosed in either the '062 or '201. I agree with his construction of the inventive concept.

Step 3 – identify the differences between the state of the art and the inventive concept

- 59 Mr Huggett initially submitted that in '201 light was projected onto the manhole, whereas in his application the light is projected from the manhole cover. Moreover, he referred to the abstract of '201 and said it was about powering the LEDs with sunlight. However, on scrutinizing '201 at the hearing Mr Huggett said the LEDs were installed in the manhole cover. Passages in the abstract and paragraphs 7 and

20 of the translation of '201 indicate that the LEDs are intended to project from the manhole cover.

- 60 In his letter of 1 August 2014 Mr Huggett said "*EP2359062 again it refers to LED and mentions projecting an image onto the cover which is nothing to do with installing an LCD screen in the base unity and completing all of the associated complexities.*"
- 61 To me it is clear from the abstract of '201, at least, that it refers to the projection of a LED from a manhole cover. In the first three paragraphs (023-026) of the "description of the embodiments" in '062 it is clear that the projection units are housed in the superstructure which is part of the manhole cover. Therefore in my view the projection units in '062 also project from the manhole cover.
- 62 I conclude that the difference between the inventive concept of claim 4 and the state of the art is that claim 4 relates to the use of an LCD rather than an LED as a display means in a manhole cover.

Step 4 – is the difference obvious to the skilled person?

- 63 In determining step 4 I need to consider whether the specification teaches a particular reason for using LCDs as a display unit.
- 64 I asked Mr Huggett for his views about the differences between LEDs and LCDs. He said LCDs and LEDS were quite separate and "*entirely different*". That may be the case. However, what matters here is whether they are similar in application. By way of analogy, a garden chair may be made of wood, plastic or metal which are very different materials but without a particular reason one could reasonably substitute one for the other.
- 65 I could not find a particular reason in the specification for choosing LCDs as a display means. In both his letters of 1 August 2014 and 1 December 2014 Mr Huggett said that "*LEDs are enclosed as a simple chip to allow reading of basic information such as open/close status and this is more of a chip device installed over something much more complex as an LCD display which requires a number of items to run correctly. These are wireless or broadband connections, power supply and media devices all of which are included in my design and previous patent.*" He reiterated this point in his letter of 6 July 2015.
- 66 Although I am not entirely certain of Mr Huggett's point here, I think he is saying that LEDs are usually used for binary information such as open and close, whereas an LCD is used for a number of interconnected items.
- 67 I put the question to Mr Huggett more specifically as to why the expert would not use LEDs and LCDs interchangeably. He did not have any comment on this, apart from saying that '201 does not document it. Having considered the specification and Mr Huggett's submissions at the hearing and his correspondence, I cannot see any basis for using LCDs, in particular, in a manhole cover. In the absence of such information, as LEDs and LCDs are commonplace digital display materials, I consider on the balance of probabilities it would be obvious for the skilled person to use an LCD in the projection units as described in '062 or as an alternative to an LED display in the manhole cover described in '201.

68 Therefore, I hold that claim 4 does not include an inventive step.

### **Claims 5-7 - novelty**

69 The latest version of claims 5-7 read:

*5. A secure pit lid (manhole cover) with sensors to record power usage (covered in published patent)*

*6. A secure pit lid (manhole cover) that has the capability to generate Internet service provision through Internet coverage via wireless and broadband networks (Covered in published patent)*

*7. A secure pit lid (manhole cover) that can be connected to a mains power supply (covered in published patent).*

70 The examiner had objected in his letter of 8 September 2015 on the basis that all of claims 5 - 7 are disclosed in the applicant's earlier patent '763. I note that claim 7 was not in the original filing of 20 January 2013 but was included in the set of claims filed on 7 February 2013. The examiner had objected that the mains power supply represents added matter. I agree. I can see no basis for this in the description as filed.

71 During the hearing Mr Huggett accepted this and agreed that the subject matter of claims 5 -7 was disclosed in his earlier patent and also that claim 7 contains added matter. Mr Huggett was content to withdraw claims 5-7.

72 I hold that claims 5-7 are not novel on account of the disclosure of '763 and that claim 7 also contains added matter.

### **Claim 8 - inventive step**

73 The latest version of claim 8 reads:

*8. A secure pit lid (manhole cover) that houses voice recording equipment and has the ability to automate systems when connected to them.*

74 In his letter of 8 September 2015 the examiner objected to this claim on the basis that it was obvious to include voice activated door locks. I need to pay particular attention to the construction of this claim as on plain reading it is not clear.

75 It is apparent from the examiner's letter that he had construed the claim as linking the voice recording equipment and the automation of systems. I asked him to clarify this at the hearing. Emphasising "and" and "to them" in the claim the examiner said he "took it to mean that the systems were activated when connected to the voice recording equipment. In other words the effect of that was a voice activated system".

- 76 However, in his efforts to identify an automated system the examiner focussed on electronic locking systems, for example in '763 and in particular door locking systems. I consider that is too specific. The claim merely refers to automated systems. While these might encompass door locks, door locking is not a feature of the claim.
- 77 Mr Huggett's interpretation of the claim was significantly different. He submitted that the "*voice recording aspect was stand alone*" and that "*automated systems were an aside....the sole purpose of this claim is to house voice recording equipment*".
- 78 I found Mr Huggett's submissions here surprising and a little confusing. In a nutshell he is asking me to consider the voice recording and automated systems separately and says the sole purpose of the claim is voice recording equipment but he also refers to it interacting with automated systems.
- 79 To my mind when the claim says "*and has the ability to automate systems when connected to them (my emphasis)*" it means that the manhole cover automates systems when connected to them. Thus, I construe the claim as relating to a manhole cover that (i) houses voice recording equipment and (ii) is able to automate systems when connected to them.
- 80 The first question I must ask before considering whether the claim has an inventive step is to determine whether the two components form a single invention or whether they are two separate inventions. In other words, I need to decide whether the claim relates to a collocation.
- 81 In *SABAF SpA v MFI Furniture Centres Ltd* Lords Hoffman gave the following summary of the law of collocation:

*"before you can apply s.3 and ask whether the invention involves an inventive step, you first have to decide what the invention is. In particular, you have to decide whether you are dealing with one invention or two or more inventions. Two inventions do not become one invention because they are included in the same hardware. A compact motor car may contain many inventions, each operating independently of each other but all designed to contribute to the overall goal of having a compact car. That does not make the car a single invention."* [paragraph 24]

In referring to the EPO guidelines on Substantive Examination on combination vs. juxtaposition or aggregation (Chapter 4) he went on to say:

*"The EPO guidelines say that "the invention claimed must normally be considered as a whole". But equally, one must not try to consider as a whole what are in fact two separate inventions. What the Guidelines do is to state the principle upon which you decide whether you are dealing with a single invention or not. If the two integers interact upon each other, if there is synergy between them, they constitute a single invention having a combined effect and one applies section 3 to the idea of combining them. If each integer "performs its own proper function independently of any of the others", then each is for the purposes of section 3 a separate invention and it has to be*

*applied to each one separately. That, in my opinion, is what Laddie J meant by the law of collocation” [paragraph 26]*

- 82 I pressed Mr Huggett at the hearing on the point of whether there are one or two separate inventions in claim 8. In reply he said “*I don’t think there is any specific link-they are two separate things*” I drew his attention to *Re Sabaf* in a letter after the hearing. He replied saying “*Reference claim 8 please consider the features separate but my idea was to include provision for a voice automated system which interacts with a voice recording equipment, which I believed this claim covered*”.
- 83 Again, I find Mr Huggett’s submissions a little confusing in that he is saying that the two features are separate but interact with each other.
- 84 In this event I have carefully considered the specification for any information about the interaction of these two features. The only reference I can find to recording equipment is in paragraph 11 of the description which reads “*The inclusion of recording equipment would be subject to a major legislation issue around privacy laws. I am just looking to patent the idea which if allowed could be utilised in future designs for covert agencies for instance.*”
- 85 I cannot find any evidence in the specification for synergy or interaction between the voice recording equipment and the ability to automate systems. I am minded that on more than one occasion, both at the hearing and in correspondence, that Mr Huggett submitted that these two features are separate. I will therefore proceed to consider these features separately in relation to inventive step.
- 86 Firstly, the voice recording concept. US2007/0103324 (paragraph 79) discloses a microphone in a manhole cover to record audio signals which can be transmitted to remote monitoring station. This feature was drawn to Mr Huggett’s attention in the official letter after the hearing as it had not specifically been put to him prior to or during the hearing. He did not comment. I consider this disclosure anticipates the voice recording “invention” of claim 8.
- 87 Next I turn to the ‘automated systems’ concept. Looking at the disclosure of the specification I find it difficult to understand what this means. Mr Huggett pointed to the thirteenth paragraph in the description which reads “*When commenting on automated systems I am referring to smarter cities technology and by including this option I can for instance implement systems that can run utility services more efficiently*”.
- 88 Mr Huggett said that “*someone working on smarter cities technology would know*” how to automate systems and would just be using it as a platform. I put it to Mr Huggett that a person skilled in this field would already know how to automate systems and would understand this and Mr Huggett said “*absolutely, you’re just giving him a platform to do so*”. Mr Huggett admitted that in light of the prior art, his patent ‘763, it might be obvious for a skilled person to automate systems within a manhole cover.
- 89 Even though Mr Huggett himself suggested that automated systems might not be inventive, I will briefly look at this concept under the *Pozzoli* test.

Step 1 – Identify the notional skilled person and their common general knowledge

- 90 In line with my analysis under claim 4 above I consider the skilled person as a civil engineering technician who works with manhole systems and would know how to installed electronic circuitry within them and would be aware of automated systems. Mr Huggett did not make any submissions to the contrary.

Step 2 – Identify the inventive concept(s)

- 91 This is the ability to automate systems from a manhole cover, which Mr Huggett and I agree on.

Step 3 – identify the differences between the state of the art and the inventive concept

- 92 There are very little, if any, differences here. An engineer would know about electrical manhole covers and also be aware of automated systems.

Step 4 – is the difference obvious to the skilled person?

- 93 To my mind, the answer to step 4 is “Yes”. An engineer would use his/her combined knowledge to automated systems by manhole cover circuitry. As Mr Huggett himself suggested it is an obvious thing for an engineer to do.
- 94 Finally to check my earlier conclusion about collocation, having considered both concepts individually, I cannot see any indication that they interact with each other to produce an effect which is greater than the sum of the parts. In other words, I cannot see any synergy between them.
- 95 I have found that claim 8 represents a collocation of two inventions; one is not novel and the other is not inventive. As stated above, the law established in *Re Sabaf* makes it clear that a collocation of two separate concepts which are each either not novel or not inventive cannot form an inventive step.
- 96 I therefore hold that claim 8 does not involve an inventive step.

**Claim 9 - novelty**

- 97 The latest version of claim 9 reads:

*A secure pit lid (manhole cover) that has software and sensing equipment located in the base unit which when activated can assist in the tracking of tagged individuals.*

- 98 The examiner in his letter of 8 September 2015 objected under novelty as he considered ‘763 disclosed equipment which can be used to assist in the tracking of individuals, in particular a wireless connection and broadband Internet.

- 99 I construe claim 9 as it reads with the caveat that “*can assist*” is not limiting; that is when activated the sensing equipment is capable of tracking tagged individuals.
- 100 In his letter of 6 August 2013 Mr Huggett says “*tracking tagged individuals would be via wireless protocols which again are covered previously*” and he accepted during the hearing that the CPU and Internet equipment were already disclosed in his earlier patent, ‘763. I said it would help distinguish his invention from the prior art if Mr Huggett could point to a passage in the description which explained how the tracking would be performed. He referred to the 13<sup>th</sup> paragraph which reads “*to assist public safety I have included technologies that would allow for the tracking of criminals electronically tagged by the police*”. Mr Huggett also said it was “*not switched on permanently*”. I do not find a basis for this in the specification as filed. In my view, in the absence of any technical information in the specification about how individuals could be tracked, the claim relates to equipment which could be used, e.g. programmed, to assist in tracking of tagged individuals.
- 101 ‘763 discloses a wireless connection and a CPU which could be programmed to track tagged individuals.
- 102 Therefore, I hold that claim 9 is not novel on account of the disclosure of ‘763.

### **Claim 10 - added matter, sufficiency and novelty**

- 103 The latest version of claim 10 reads:
- A secure pit lid (manhole cover) which has the ability to connect to fibre optic street cabinets for the purposes of providing remote locking options for street cabinets.*
- 104 In his letter of 8 September 2015 (paragraph 9) the examiner objected to this claim on the basis that it did not disclose enough information to allow the skilled person to work the invention and also that it was unclear as it was defined by the result.
- 105 In construing this claim I need to take account of Mr Huggett’s submission. At the hearing he said that the street cabinets have an initial access manhole cover about a metre away and this claim is “*about connecting those initial access pits to the doors of the street cabinets to provide the same functionality on the doors of the cabinet*”. He said this was set out in the last paragraph of the description. He went on to refer to two sentences added at the end of the description in his amendments filed on 2 December 2014. These read: “*There is a further option which will see a fibre optic cable installed between a door and access cover to alarm the solution. Both options use the wireless and hardwired transmission methods*”.
- 106 I cannot find an antecedent for the features referred to in these sentences in the specification as filed - a fibre optic cable installed between the door and an access cover to alarm solutions. On reading the original specification it is not clear that the fibre optic cables are referred to in connection with the street cabinets. Also, it is not clear from the original specification that there is a fibre optic cable between the manhole cover and street cabinets. There is no disclosure of an alarm function. The preceding sentence in the specification refers to the Hugslock system which is the

title of '763. However, '763 discusses a range of issues and features that could be part of manhole covers and this does not relate to the last two sentences. I therefore hold that the last two sentences of the description as amended on 2 December 2014 represent added matter and will disregard them in my construction of Claim 10.

- 107 The last paragraph of the description, without the last two sentences, reads "*In the case of all utility networks that rely on additional street furniture such as fibre optic street cabinets for example I have included the ability to extend the remote locking function from the initial street furniture access pit to the street cabinet itself. The reason for this option is to provide the most advanced level of protection for street furniture, essentially making it any [sic] extension of the Hugslock product.*"
- 108 I construe the claim as a manhole cover which can connect to fibre optic street cabinets in order to provide remote locking function of street cabinets.
- 109 The examiner has said that this does not provide enough information to work the invention. Mr Huggett disagreed. He said "*extending the remote locking function from the street cabinet to the manhole function is very simplistic to do for the guy who knows what he's doing - he could make a mains connection, he could install the locking mechanism onto the doors - it's quite easy for an engineer to do*". In his correspondence of 24 April 2016 Mr Huggett said that claim 10 "*described the Hugslock technology and how it connected to the cabinet. This is the same technology as used in the manhole cover and the connections are the same as those patented with the Hugslock.*"
- 110 Mr Huggett has also emphasised in his submissions that a person skilled in this art would know how to configure the manhole cover to connect to a street cabinet. In his letter of 16 April 2014 referring to claim 10 he says "*connections are to be both wired and wireless which I believe is covered in published patent GB244763*".
- 111 I can understand that the invention of claim 10 includes communicating between the manhole cover and street cabinets by either wireless or wired means. However, I am unclear about the "remote locking functions" aspect of the claim. Looking at the description as filed it is not clear what is locked or how it is locked. Granted, doors come to mind - but that involves a level of speculation. However, locking is also a term used to close down systems e.g. a computer network lockdown, or to shut particular devices that could be in the street cabinets, for example the transmission of data in the fibre optic cables. Furthermore, I think it is reasonable to ask the question given that locking is remote how this would be achieved. For example, how would the locking be controlled - what would the parameters be, under what conditions would locking take place?
- 112 I cannot take account of Mr Huggett's submissions in relation to doors as this feature has no basis in the application as originally filed. If the only thing that could conceivably be locked was a door then silence on that might not prove detrimental. However, that is not the case.
- 113 I consider that the specification as filed does not describe the invention of claim 10 clearly enough or completely enough for the skilled addressee to perform it. I think the skilled addressee would have to necessarily resort to some inventive ingenuity

beyond normal trial and error to achieve locking of cabinets and that he/she would not be clear about what is to be locked.

- 114 Reflecting on the claim as I have construed it and taking into account Mr Huggett's comments in his letter of 16 April 2014 and his correspondence of 24 April 2016 referred to above, I am of the opinion that claim 10 is also not novel on account of '763. My view is that the disclosure in '763 is a manhole cover with the ability to connect to fibre optic street cabinets. Because the remote locking functions are not described in the application as filed, this aspect of the claim is not limiting. I am not making a formal finding on this point as I appreciate it has not been put to Mr Huggett and therefore he has not had the opportunity to argue it. If I am wrong on the question of novelty, it remains that I consider that the claim is insufficient and lacks unity of invention with claim 1.
- 115 I hold that claim 10 is insufficient, at least.

### **Conclusion**

- 116 I consider that the applicant has had an adequate opportunity to amend his claims during the prosecution of this application and to make his submissions both in writing and verbally at the hearing.
- 117 I hold that each of claims 2-10 do not have unity of invention with claim 1 and therefore do not meet the requirements of section 14(5)(d). I also hold that:
- claims 1, 2, 3, 5-7, claim 8 (in part) and claim 9 are invalid due to lack of novelty;
  - claim 2 is also invalid due lack of sufficiency;
  - claim 4 is invalid due to lack of inventive step;
  - claim 7 is also invalid due to added matter;
  - claim 8 is also invalid due to lack of inventive step;
  - claim 10 is invalid due to lack of sufficiency.
- 118 I therefore refuse the application under Section 18(3) of the Act.

### **Appeal**

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

**Dr Jim Houlihan**

Deputy Director, acting for the Comptroller