



would be considered together. Skeleton arguments were submitted by Mr Jehan on 7 November 2019 and these were explored in detail at the telephone hearing. Professor Ryan Abbott of the University of Surrey attended for the applicant but did not contribute. It was noted that the applicant had requested accelerated publication of both applications and I said that I understood that these requests would be allowed and that publication would follow in due course.

### **Preliminary issue – prejudging the applicant’s case**

- 6 In his skeleton arguments, Mr Jehan drew my attention to a recent update of the Office’s Formalities Manual<sup>1</sup> in respect of AI inventors. Paragraph 3.05 of the Manual now says that:

“Where the stated inventor is an ‘AI Inventor’, the Formalities Examiner [should] request a replacement F7. An ‘AI Inventor’ is not acceptable as this does not identify ‘a person’ which is required by law. The consequence of failing to supply this is that the application is taken to be withdrawn under s.13(2)”

- 7 Mr Jehan objected to this passage as it suggests, in his words, that “the UKIPO had prejudged the applicant’s case before having given the applicant an opportunity to present its case”. I assured Mr Jehan that this was not the case. In fact, I was not aware of this update until I saw it mentioned in his skeleton arguments. I explained that inclusion of this passage merely reflects the process that had been followed during the processing of these two applications and that it was likely added to ensure a consistent procedure would be followed in similar situations in the future. While the timing of the update was unfortunate, I explained that it was necessary for the Office to ensure consistency of practice in the absence of any existing guidance. I assured Mr Jehan that I would decide the matter based on the requirements of the Act and the Rules and upon whatever case law exists. If the practice as currently stated in the Formalities Manual is inconsistent with my finding in this decision, then that practice will need to change.

### **Issues for decision**

- 8 The applications present three issues for decision. First, can a non-human inventor be regarded as an inventor under the Act? Second, in what way has the right to the grant of a patent, which rests primarily with the inventor or actual deviser of the invention, been transferred to the applicant: is Mr Thaler entitled to apply for a patent in preference to DABUS simply because he is the owner of DABUS? Finally, if the answer to either of these two questions is no then, based upon the very clear statements provided by the applicant in respect of his involvement in these inventions, is the comptroller required to wait until the end of the 16-month period prescribed by rule 10(3) before taking the applications to be withdrawn, or can this be done immediately?

### **The Law**

- 9 The relevant law is set out in sections 7 and 13 of the Act and Rule 10 of the Rules. Section 7(2) states (with added emphasis):

*7(2) A patent for an invention may be granted -*

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<sup>1</sup> <https://www.gov.uk/guidance/formalities-manual-online-version/chapter-3-the-inventor>

(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 any foreign law or treaty or international convention, 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 or any person so mentioned and the successor or successors in title of another person so mentioned; and to no other person.

10 Section 7(3) defines what constitutes an inventor (with added emphasis):

7(3) In this Act "inventor" in relation to an invention means the actual deviser of the invention and "joint inventor" shall be construed accordingly.

11 Section 13 is concerned with the right of the inventor to be mentioned in any published application for a patent. In cases where the applicant is not the inventor, the section also requires the applicant to provide a statement indicating how the applicant derives the right to be granted a patent. The relevant parts of the section read as follows (with added emphasis):

13(1) The inventor or joint inventors of an invention shall have a right to be mentioned as such in any patent granted for the invention and shall also have a right to be so mentioned if possible in any published application for a patent for the invention and, if not so mentioned, a right to be so mentioned in accordance with rules in a prescribed document.

(2) Unless he has already given the Patent Office the information hereinafter mentioned, an applicant for a patent shall within the prescribed period file with the Patent Office a statement -

(a) identifying the person or persons whom he believes to be the inventor or inventors; and

(b) where the applicant is not the sole inventor or the applicants are not the joint inventors, indicating the derivation of his or their right to be granted the patent;

and, if he fails to do so, the application shall be taken to be withdrawn.

12 Rules 10(3) and 10(4) specify the period for filing the statement required by section 13(2) and the form it should be provided (with added emphasis):

10(3) Subject to rules 21, 58(4), 59(3) and 68(2), the period prescribed for the purposes of section 13(2) is sixteen months beginning immediately after -

(a) where there is no declared priority date, the date of filing of the application; or  
(b) where there is a declared priority date, that date.

10(4) A statement filed under section 13(2) must be made on Patents Form 7.

13 The applicant has not identified any case law of direct relevance to the questions to be decided, nor am I aware of any. I am aware that the same issue is being decided on identical applications before the European Patent Office (EPO). I understand that the EPO has raised similar objections to the ones considered in this decision, which is to be expected given that the relevant sections of the Act under consideration are broadly similar to the equivalent provisions under the European Patent Convention

(EPC). Having said that, I note that sections 7 and 13 are not specified in section 130(7) of the Act as having as nearly as practicable the same effect as the corresponding provisions of the EPC, which might lead to non-conformity in certain circumstances.

## **Arguments and analysis**

### Non-human inventor

- 14 The applicant argues that the requirement of section 7(3), namely that the inventor is “the actual devisor of the invention” supersedes section 13(2), which requires the applicant to identify the “person or persons whom he believes to be the inventor or inventors”. It is suggested that the phrase “person” is not limited to a human and is broader. Examples such as the person skilled in the art being a legal fiction and use of the term “person” to encompass a company with regards to ownership in section 7 were given to support this. The applicant suggests that the function of sections 7 and 13 is for the actual devisor of the invention to be identified, irrespective of whether it is a human person, and that failure to acknowledge this would mislead the public. Simply naming an arbitrary person in place of the actual inventor would undermine the very purpose of the concept, as there is a moral right to identify the inventor and the underlying legal principle must be respected. This would also be the case when an artificial intelligence (AI) machine is named as a joint inventor. The applicant argues that it would be disadvantageous if innovation was withheld from the public simply because patent protection would be refused due to the nature of the inventor.
- 15 At the hearing, Mr Jehan sought to establish whether the Office was in fact questioning whether DABUS is the actual inventor of the subject-matter disclosed in the two applications. I said that this was not the case and explained that Office practice is to accept the indication of inventors at face value, and that it is up to others to challenge the veracity of such an indication by way of references under sections 8, 12 and 37 (determination of questions about entitlement). To be clear, the Office accepts that DABUS created the inventions set out in the two applications.
- 16 The applicant acknowledges that section 13(2) of the Act is consistent with Rule 19(1) of the EPC and suggests that reference to the *Travaux Préparatoires* of the EPC can assist in understanding the formal requirement for mentioning the inventor under both the EPC and the Act. Mr Jehan says that while it is correct that that in connection with the naming of the inventor the delegations involved in the *Travaux Préparatoires* discussed only human inventors, the discussions were based on the assumption that the actual devisor of the invention would be human. He says that nothing was said or suggested in any of these discussions or drafted into the EPC or the Implementing Regulations that expressly excludes the patenting of inventions by, for example, an AI system. He says that this is hardly surprising given that the discussions leading to the EPC took place in the early 1960s, at a time when computer science was still in its infancy. He argues that the absence of any prohibition to the patenting of inventions made by AI systems must be contrasted with the express exclusions from patentability in the Act and the EPC to certain categories of inventions, for example computer programs, whose meaning has evolved over the years to allow for advances in technology.
- 17 Mr Jehan advanced a further line of argument. He said that in identifying a machine as the inventor, this was in effect identifying that a person was not the inventor, which should satisfy the requirements of section 7(3) because “no person” can be

considered as the actual devisor. The spirit of section 13 is met by providing an honest answer to the question of who is the deviser of the invention and the applicant should not be penalised for this.

- 18 I agree with the applicant that inventors other than natural persons were not contemplated when the EPC was drafted and also that this was never contemplated when the Patents Act was drafted. Given this, there is a clear expectation that the inventor and person for the purpose of sections 7 and 13 respectively are one and the same, namely a natural person – a human and not an AI machine. There has never been any indication from the courts that this is an incorrect interpretation and it is settled law that an inventor cannot be a corporate body. Even though the invention itself is said to have been created by DABUS, the applicant acknowledges that DABUS is an AI machine and not a human, so cannot be taken to be a “person” as required by the Act.
- 19 While the law concerning the understanding of the computer programme exclusion of section 1(2)(c) has undoubtedly evolved since the drafting of the EPC, this is intentional, as evidenced by the *Travaux Préparatoires*<sup>2</sup> (BR/168 e/72 oyd/KM/gc, page 10, paragraph 28). However, there is no indication that such an evolving interpretation was ever intended for the understanding of the concept of an inventor, as at the time it was inconceivable that an inventor would be anything but a human being, given that computer technology was in its infancy. It is thus not for the Office to take an interpretation of the law that was not intended upon implementation and where there have been no indications from the courts or legislature that a “person” should be construed as anything other than a natural person.
- 20 Since DABUS is a machine and not a natural person, I find that it cannot be regarded as an inventor for the purposes of section 7 and 13 of the Act.

#### Entitlement to inventions created by AI

- 21 In the letter accompanying the Form 7 filed on 23 July 2019, the applicant acknowledges that machines “do not have a legal personality or independent rights, and cannot own property”. This point is reiterated in paragraph 41 of Mr Jehan’s skeleton arguments and it was discussed at some length at the hearing, because it was a point I had no difficulty accepting but could not see how it supported the applicant’s position. The inevitable consequence of this is that DABUS, as a machine, cannot own intellectual property, which in this case would be the two patent applications in question. This appears problematic for the applicant because DABUS has no rights to its inventions and cannot enter into any contract to assign its right to apply for a patent to the applicant, nor am I aware of any enactment or rule of law that specifies that this should be the case. It is unclear, therefore, as to how precisely the applicant has derived the right to the inventions from their creator, DABUS.
- 22 Mr Jehan argues that ownership of DABUS is sufficient. However, section 7 specifies the circumstances where the right to apply for a patent transfers from the inventor to the non-inventing applicant. In *Nippon Piston Ring Co. Ltd.’s Applications*<sup>3</sup>, the hearing officer held that while the applicant may have identified the inventor as required by section 13(2)(a), if the applicant is not the inventor then the applicant must indicate how they derived the right to the application with reference to

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<sup>2</sup> [Travaux Préparatoires EPC 1973 – Article 52](#) – page 96

<sup>3</sup> *Nippon Piston Ring Co. Ltd.’s Applications*, RPC Volume 104, Issue 6, 1987, Pages 120–132

categories (b) and (c) of section 7(2). It is not immediately clear how ownership of the inventor falls under either of these two categories.

- 23 The applicant indicates that he acquired the rights to the patent by virtue of ownership of the inventor and is therefore the successor in title to the inventor. Mr Jehan argues that, in general, ownership of a machine transfers ownership of any products of the machine to the owner, which in this case is the applicant. However, acquiring a right to a patent by virtue of ownership of the inventor is not covered by category (b) or (c) of section 7(2) and hence the applicant has not provided a satisfactory derivation of right. There appears to be no law that allows for the transfer of ownership of the invention from the inventor to the owner in this case, as the inventor cannot itself hold property. Thus, even if I were to accept that DABUS meets the requirements of the Act to be considered an inventor, derivation of right through ownership of the inventor does not meet the requirements of section 7(2) and hence the applicant is not entitled to apply for the patents in question.

Taking the applications as being withdrawn

- 24 The applicant notes that the applications cannot be “refused” due to failure to file a Form 7 and instead can only be “taken to be withdrawn” in accordance with section 13(2). Mr Jehan argues that refusal of an application is only possible if the application does not meet the substantive legal requirements as to patentability. He says that section 13(2) does not and cannot set a substantive legal requirement to patentability, such as those set out in section 1-6, and should not have the consequence of limiting patentability to inventions made only by humans. Mr Jehan argues that to add an additional requirement as to the patentability of an invention would be inconsistent with the EPC and other international agreements.
- 25 The applicant’s position is that section 13 is concerned with the formal requirements of an application, and it allows for a failure to file a statement of inventorship to be taken as a decision that the applicant no longer wishes to pursue the application, allowing the Office to then take the application to be withdrawn. In this case, the applicant says that it has provided a statement of inventorship as required by section 13(2) and so, as a matter of fact, he has not failed to file the necessary information. It would be wrong, he says, to deem the applications withdrawn as a consequence. He says that any deemed withdrawal of the applications must be as a consequence of the applicant failing to file the statement and not whether that statement complies with an interpretation of the requirements of that statement taken from paragraph section 13(2)(a). Mr Jehan elaborated upon this at the hearing, saying that it is the actual filing of the Form 7 that ensures that the requirements of section 13(2) are satisfied, not the content.
- 26 I agree that the failure to comply with the requirements of 13(2) is not a substantive issue of patentability. As the applicant rightly points out, the Act does not lay down a requirement of patentability relating to the nature of the inventor. Section 13 sets out a formal requirement and the Office is not saying that it is refusing the application, instead it is saying that it will treat the applications as having been withdrawn due to the applicant’s failure to satisfy formal requirements, which in this case is the failure to file a Form 7 which satisfies the requirements of section 13(2).
- 27 Given the clear statements provided by the applicant which indicate that the inventor is in fact an AI machine, it seems that it will be almost impossible to demonstrate that the actual deviser of the invention was in fact a person, as opposed to DABUS. The

Office could, therefore, treat the two applications as being withdrawn immediately as opposed to waiting for the expiry of the period specified by rule 10(3). However, it is quite possible that another person could present contradictory evidence concerning the actual deviser of the inventions, for example in references to entitlement under sections 8 and 12, and the act of taking the applications as withdrawn prematurely could prejudice any future rights to the applications. Even though I consider the risk of an early treatment of withdrawal as being very small, I see no benefit in accelerating the process given that the sixteen-month period expires early next year in any case, and the Office would not take the applications as having been withdrawn until after the appeal period in this decision had lapsed, resulting in a time difference of only a few months. I consider that the applications should be taken to be withdrawn at the expiry of the sixteen-month period specified by rule 10(3).

### **Final observations**

- 28 The fundamental function of the patent system is to encourage innovation by granting time-limited monopolies in exchange for public disclosure. As the applicant acknowledges in paragraph 67 of the skeleton argument, an AI machine is unlikely to be motivated to innovate by the prospect of obtaining patent protection. Instead, the motivation to innovate will have been implemented as part of the development of the machine; in essence, it will have been instructed to innovate. Given that at present an AI machine cannot hold property rights, the question then becomes in what way can they be encouraged to disseminate information about invention? The applicant argues that enabling the owner of the machine to acquire the right to the patent is the only way to achieve this. However, I have to disagree with this assessment as dissemination of innovation from an AI machine could occur freely in a number of ways such as via the Internet. At any rate, it is not clear to me how recognising a machine as an inventor will affect the likelihood of dissemination of innovation to the public, as this decision will be down to the owner or developers of the AI machine.
- 29 As the applicant says, inventions created by AI machines are likely to become more prevalent in future and there is a legitimate question as to how or whether the patent system should handle such inventions. I have found that the present system does not cater for such inventions and it was never anticipated that it would, but times have changed and technology has moved on. It is right that this is debated more widely and that any changes to the law be considered in the context of such a debate, and not shoehorned arbitrarily into existing legislation.

### **Conclusion**

- 30 I have found that DABUS is not a person as envisaged by sections 7 and 13 of the Act and so cannot be considered an inventor. However, even if I am wrong on this point, the applicant is still not entitled to apply for a patent simply by virtue of ownership of DABUS, because a satisfactory derivation of right has not been provided. The applications shall be taken to be withdrawn at the expiry of the sixteen-month period specified by rule 10(3).

## **Appeal**

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

**HUW JONES**

Deputy Director, acting for the Comptroller