Can artificial intelligence be designated as an inventor in a patent application?

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Author

Benoit Yelle

Partner, Patent Agent

Artificial intelligence (“AI”) is becoming increasingly sophisticated, and the fact that this human invention can now generate its own inventions opens the door to new ways of conceptualizing the notion of “inventor” in patent law. In a recent ruling, the Supreme Court of the United Kingdom (“UK Supreme Court”) however found that an artificial intelligence system cannot be the author of an invention within the meaning of the applicable regulations under which patents are granted. This position is consistent with that of several courts around the world that have already ruled on the issue. But what of Canada, where the courts have yet to address the matter? In this bulletin, we will take a look at the decisions handed down by the UK Supreme Court and its counterparts in other countries before considering Canada’s position on the issue.

In *Thaler (Appellant) v Comptroller-General of Patents, Designs and Trade Mark,*[1] the UK Supreme Court ruled that “an inventor must be a person”.

Summary of the decision

In 2018, Dr. Stephen Thaler filed patent applications for two inventions described as having been generated by an autonomous AI system. The machine in question, DABUS, was therefore designated as the inventor in the applications. Dr. Thaler claimed that, as the owner of DABUS, he was entitled to file patent applications for inventions generated by his machine. That being so, he alleged that he was not required to name a natural person as the inventor. Both the High Court of Justice and the Court of Appeal dismissed Dr. Thaler’s appeal from the decision of the Intellectual Property Office of the United Kingdom not to proceed with the patent applications, in particular because the designated inventor was not valid under the *Patents Act 1977*.

The UK Supreme Court, the country’s final court of appeal, also dismissed Dr. Thaler’s appeal. In a unanimous decision, it concluded that the law is clear in that “an inventor within the meaning of the 1977 Act must be a natural person, and DABUS is not a person at all, let alone a natural person: it is a machine”.[2] Although there was no doubt that DABUS had created the inventions in question, that did not mean that the courts could extend the notion of inventor, as defined by law, to include

machines.

An ongoing trend

The UK Supreme Court is not the first to reject Dr. Thaler's arguments. The United States,[3] the European Union[4] and Australia[5] have adopted similar positions, concluding that only a natural person can qualify as an inventor within the meaning of the legislation applicable in their respective jurisdictions. The UK ruling is part of the Artificial Inventor Project's cross-border attempt to ensure that the DABUS machine—and AI in general—is recognized as a generative tool capable of generating patent rights for the benefit of AI system owners. To date, only South Africa has issued a patent to Dr. Thaler, naming DABUS as the inventor.[6] This country is the exception that proves the rule. It should however be noted that the Companies and Intellectual Property Commission of South Africa does not review applications on their merits. As such, no reason was given for considering AI as the inventor. More recently, in February of this year, the United States Patent and Trademark Office issued a guidance on AI-assisted inventions. The guidance confirms the judicial position and states in particular that "a natural person must have significantly contributed to each claim in a patent application or patent".[7]

What about Canada?

In 2020, Dr. Thaler also filed a Canadian patent application for inventions generated by DABUS.[8] The Canadian Intellectual Property Office ("CIPO") issued a notice of non-compliance in 2021, establishing its initial position as follows:

Because for this application the inventor is a machine and it does not appear possible for a machine to have rights under Canadian law or to transfer those rights to a human, it does not appear this application is compliant with the Patent Act and Rules.[9]

However, CIPO specified that it was open to receiving the applicant's arguments on the issue, as follows:

Responsive to the compliance notice, the applicant may attempt to comply by submitting a statement on behalf of the Artificial Intelligence (AI) machine and identify, in said statement, himself as the legal representative of the machine.[10]

To date, CIPO has issued no notice of abandonment and the application remains active. Its status in Canada is therefore unclear. It will be interesting to see whether Dr. Thaler will try to sway the Canadian courts to rule in his favour after many failed attempts in other jurisdictions around the world, and most recently in the UK Supreme Court.

At first glance, the *Patent Act*[11] (the "Act") does not prevent an AI system from being recognized as the inventor of a patentable invention. In fact, the term "inventor" is not defined in the Act. Furthermore, nowhere is it stated that an applicant must be a "person," nor is there any indication to that effect in the provisions governing the granting of patents. The *Patent Rules*[12] offer no clarification in that regard either. The requirement implied by the clear use of the term "person" in the wording of the relevant sections of the law is important: It was a key consideration that the UK Supreme Court analyzed in *Thaler*.

Case law on the subject is still ambiguous. According to the Supreme Court of Canada, given that the inventor is the person who took part in conceiving the invention, the question to ask is "[W]ho is responsible for the inventive concept?"[13] That said, however, we note that the conclusion reached was that a legal person—as opposed to a natural person—cannot be considered an inventor.[14] The fact is that the Canadian courts have never had to rule on the specific issue of recognizing AI as an

inventor, and until such time as the courts render a decision or the government takes a stance on the matter, the issue will remain unresolved.

Conclusion

Given that Canadian law is not clear on whether AI can be recognized as an inventor, now would be a good time for Canadian authorities to clarify the issue. As the UK Supreme Court has suggested, the place of AI in patent law is a current societal issue, one that the legislator will ultimately have to settle.[15] As such, it is only a matter of time before the Act is amended or CIPO issues a directive. Moreover, in addition to having to decide whether AI legally qualifies as an inventor, Canadian authorities will have to determine whether a person can be granted rights to an invention that was actually created by AI. The question as to whether an AI system owner can hold a patent on an invention generated by their machine was raised in *Thaler*. Once again, unlike the UK's patent act,[16] our *Patent Act* does not close the door to such a possibility. Canadian legislation contains no comprehensive list of the categories of persons to whom a patent may be granted, for instance.

If we were to rewrite the laws governing intellectual property, given that the main purpose such laws is to encourage innovation and creativity, perhaps a better approach would be to allow AI system owners to hold patent rights rather than recognizing the AI as an inventor. Patent rights are granted on the basis of an implicit understanding: A high level of protection is provided in exchange for sufficient disclosure to enable a person skilled in the art to reproduce an invention. This ensures that society benefits from such inventions and that inventors are rewarded. Needless to say, arguing that machines need such an incentive is difficult. Designating AI as an inventor and granting it rights in that respect is therefore at odds with the very purpose of patent protection. That said, an AI system owner who has invested time and energy in designing their system could be justified in claiming such protection for the inventions that it generates. In such a case and given the current state of the law, the legislator would likely have to intervene. Would this proposed change spur innovation in the field of generative AI?

We are collectively investing a huge amount of "human" resources in developing increasingly powerful AI systems. Will there come a time when we can no longer consider that human resources were involved in making AI-generated technologies? Should it come to that, giving preference to AI system owners could become counterproductive.

In any event, for the time being, a sensible approach would be to emphasize the role that humans play in AI-assisted inventions, making persons the inventors rather than AI. As concerns inventions conceived entirely by an AI system, trade secret protection may be a more suitable solution. The professionals on our intellectual property team are at your disposal to assist you with patent registration and provide you with a clearer understanding of the issues involved.

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1. [2023] UKSC 49 [*Thaler*].
2. Ibid., para. 56.
3. See the decision of the United States Court of Appeals for the Federal Circuit in *Thaler v Vidal*, 43 F. 4th 1207 (2022), application for appeal to the Supreme Court of the United States dismissed.
4. See the decision of the Boards of Appeal of the European Patent Office in J 0008/20 *(Designation of inventor/DABUS)* (2021), request to refer questions to the Enlarged Board of Appeal denied.
5. See the decision of the Full Court of the Federal Court of Australia in *Commissioner of Patents v Thaler*, [2022] FCAFC 62, application for special leave to appeal to the High Court of Australia denied.
6. ZA 2021/03242.
7. Federal Register: Inventorship Guidance for AI-Assisted Inventions.
8. CA 3137161.
9. Notice from CIPO dated February 11, 2022, in Canadian patent application 3137161.
10. *Ibid*.
11. R.S.C., 1985, c. P-4.
12. SOR/2019-251.
13. Apotex Inc.v. *Wellcome Foundation Ltd.*, 2002 SCC 77 at paras. 96–97.

14. *Sarnoff Corp.* v. *Canada (Attorney General)*, 2008 FC 712, para. 9.
15. *Thaler*, paras. 48–49, 79.
16. Ibid., para. 79.