

ARTICLES

***Thaler v. Vidal*: The Federal Circuit Nixes Artificial Intelligence as Inventor**

Patent prosecutors should consider drafting claims to avoid the situation where the AI is the only entity providing an inventive contribution.

By Peter A. Sullivan – October 17, 2022

Artificial intelligence (AI) is making an impact in our everyday life. AI helps us cut grass and vacuum living rooms. It helps us identify images for applications from waste sorting to medical diagnosis. AI also is making an impact in research and development. New uses arise every day, such as for the treatment of cancers and other diseases. It seems that any current process for advancing the state of the art may be enhanced by applying AI to that process.

With all its promise to enhance technology, it is not surprising that AI can function as an inventor of technology too. This was the situation in [*Thaler v. Vidal*](#), No. 2021-2347, decided on August 5, 2022, by the Federal Circuit. The patent owner in *Thaler* claimed that the inventions for which he sought patent protection were created solely by an AI software system without any human participation. Dr. Thaler listed the AI system as the sole inventor, and he disclaimed any inventive contribution from himself.

The U.S. Patent and Trademark Office (USPTO) submitted a missing parts request to Dr. Thaler to name inventors, but he refused. Because Dr. Thaler did not list a natural person as an inventor, the USPTO concluded that the application was incomplete and did not examine it. He petitioned the USPTO director to reconsider the requirement to list a human inventor, but his request was denied. Dr. Thaler then challenged the USPTO's decision to the District Court for the Eastern District of Virginia. The district court granted summary judgment in favor of the USPTO, holding that an inventor under the Patent Act requires an individual, and an individual must be a natural person under the plain meaning of the term.

Dr. Thaler appealed the district court's decision to the Federal Circuit. The appellate court considered this sole issue on appeal: "Whether an AI software system can be an 'inventor' under the Patent Act."

The court found that the statute unambiguously requires an inventor to be a natural person. The Patent Act provides that inventors are "individuals," though it does not define that term. The court relied on U.S. Supreme Court cases interpreting other statutes using the term "individual" and holding that the word "individual" refers to human beings, absent congressional intent otherwise. The Federal Circuit also noted that the Patent Act in some of its provisions uses the term "whoever," which has been interpreted more broadly than "individual" to include non-human entities.

The decision itself is not surprising and, given the statements from the court, not a close call. The court found that there was only one reasonable construction of the statute: “Here Congress has determined that only a natural person can be an inventor, so AI cannot be.” *Thaler*, No. 2021-2347, slip op. at 11 (Fed. Cir. Aug. 5, 2022).

There are three takeaways that patent practitioners should consider.

Takeaway 1

Patent prosecutors should consider drafting claims to avoid the situation where the AI is the only entity providing an inventive contribution. The ability to avoid the issue will depend on the AI’s degree of participation in aspects of the invention. In *Thaler*, the owner of the AI disclaimed any participation in the inventions, but this is likely the rare case. As AI is implemented to solve a problem, the contributions of AI may account for only one piece to a larger puzzle. Prosecutors should consider strategies concerning the contribution of AI to the claims to maximize the chances for success in pushing those claims through the USPTO. These strategies could include drafting claims in which the AI provides only minimal contribution, drafting claims that have some amount of identifiable human contribution in addition to the AI input, or a combination of the two approaches.

Takeaway 2

To this suggestion, a prosecutor may ask, What test should guide the process? This is the second takeaway. The court left open for another day the question of which test to use in assessing the patentability of inventions assisted by AI: “[W]e are not confronted today with the question of whether inventions made by human beings with the *assistance* of AI are eligible for patent protection.” *Id.* at 10. A likely starting point would be to use prior tests of inventorship, which require individuals to be listed as inventors if they provide a “not insignificant” contribution to the conception of the invention. *See, e.g., Fina Oil & Chem. Co. v. Ewen*, 123 F.3d 1466 (Fed. Cir. 1997). Where AI does not fit within that definition, the answer is easy, and perhaps prosecution strategies can be developed to enhance the chances that the inventorship of a particular claim can be firmly established in the human-only group.

The harder question is when AI satisfies the requirement for being named an inventor under the traditional test for inventorship, either as the sole inventor (with humans providing no more than information already known to persons of ordinary skill in the art) or as a joint inventor where humans also provided inventive contributions. Where AI is the only entity that can satisfy the test, *Thaler* stands for the proposition that the invention is not patentable.

In the joint inventor scenario, there is an open question regarding how courts will determine whether the invention is patentable. For a patent claim attributed to both humans and AI as inventors in a traditional sense, a court may decide that, as long as the claim meets the other statutory requirements, the invention is patentable and the human joint inventors should be listed. This approach seems to align with the expectations of practitioners. Or perhaps the court will allow an approach similar to that adopted more than 20 years ago concerning inventorship for patents claiming gene sequences, which would be similarly favorable to patentability. On the

other hand, the court could adopt a more restrictive approach and determine that claims attributed to AI as an inventor, even with human co-inventors, are not patentable. It will take more decisions from the courts to clarify the test.

Takeaway 3

The last takeaway is that there may be a gap in the ability to protect otherwise patentable inventions, depending on how the courts apply the inventorship test. In that circumstance, Congress would need to pass legislation to allow for AI-invented patents. Assuming that there is political will to enact such legislation, expect a challenge that issuing patents to AI inventors is beyond the scope of Article I, Section 8, Clause 8 of the Constitution, which grants Congress the power to “secur[e] for limited times to authors and inventors the exclusive right to their respective writings and discoveries.” The courts would need to decide whether “inventors” under the Constitution should be limited to human inventors.

Perhaps there is another way to protect this form of intellectual property, either through federal legislation or through the states. State and federal trade secret law is another alternative to patent protection, but protection for trade secrets is based on the ability to maintain the invention as confidential, which may not be feasible in many instances.

With *Thaler v. Vidal*, we have a clear indication regarding how AI-invented patents will be treated, but more clarification is required to understand how patentability will be addressed where AI is but a part of the equation.

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