



# Thaler v. Vidal: Artificial Intelligence Inventions Create Real Issues

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Artificial Intelligence (AI) systems may invent, but are they inventors? The Federal Circuit recently answered this question in *Thaler v. Vidal*, holding that an AI system cannot be listed as a named inventor on a patent application. While it may seem that this decision provided much needed clarity in the field of intellectual property protection for AI inventions, there remains a gap in how to protect such inventions while promoting innovation.

The AI system at issue in *Thaler*, Device for Autonomous Bootstrapping of Unified Sentience, or “DABUS” for short, was developed by physicist Dr. Stephen Thaler. In 2019, Dr. Thaler tested the limits of patent law by filing patent applications in more than a dozen countries for two inventions created by DABUS. In the applications before the United States Patent and Trademark Office (USPTO), Dr. Thaler, instead of listing an inventor’s last name, wrote that “the invention [was] generated by artificial intelligence.” The USPTO denied Dr. Thaler’s applications on the grounds that “a machine does not qualify as an inventor.” Dr. Thaler challenged the USPTO’s decision in the U.S. District Court for the Eastern District of Virginia. The District Court agreed with the USPTO and concluded that an “inventor” under the Patent Act must be an “individual,” and the plain meaning of “individual” as used in the statute is a natural person.

Dr. Thaler then appealed to the Federal Circuit, advocating for a broad interpretation of “individual” that would include AI systems. Dr. Thaler pointed to the Patent Act’s use of “whoever,” which encompasses corporations and other non-human entities for the purposes of infringement. See 35 U.S.C. § 271. Dr. Thaler also argued that protecting inventions created by AI would further the policy underlying patent law of encouraging innovation and public disclosure. The Federal Circuit steered clear of any theoretical analysis of whether an AI system can be an inventor and instead took a textualist approach, focusing on statutory interpretation of the Patent Act. The Court ultimately found that there is no ambiguity in the Patent Act requirement that an inventor listed on a patent application be a human being. The Court relied on a Supreme Court ruling that, when used “[a]s a noun, ‘individual’ ordinarily means a human being, a person.” The Court found further support in the Dictionary Act, ordinary usage, multiple dictionaries, the use of “personal pronouns – ‘himself’ or ‘herself’ – to refer to an ‘individual’” in Section 115(b) of the Patent Act, and its own precedent “that neither corporations nor sovereigns can be inventors” to support its holding that “inventors” are limited to “natural persons” under the Patent Act.

On September 19, 2022, Dr. Thaler filed a request for panel rehearing and rehearing en banc challenging the Federal Circuit’s definition of “individual.” Dr. Thaler also argued that the Court should take into consideration the final sentence of Section 103 of the Patent Act, which reads “[p]atentability shall not be negated by the manner in which the invention was made.” While the odds of overturning the panel’s decision are low, Dr. Thaler is likely to seek further review from the Supreme Court. In the meantime, it is clear that the USPTO will not issue patents where the named inventor is an AI system; however, the door has been left open for how the future of AI inventions will be treated in the intellectual property framework.

The bright line position of the USPTO and Federal Circuit that AI cannot be an inventor avoids several thorny issues that would otherwise require congressional intervention to amend the patent laws. In particular, under U.S. patent law, the inventor is the owner of a patent unless and until ownership of the invention is assigned in writing. Were a non-human to be an inventor, the rules of patent ownership would be wholly indeterminate. An AI computer cannot independently execute a written assignment, so what would it mean for the computer to own the patent? Congress would be faced with numerous potential fixes to address ownership, such as assigning ownership to the programmer of the AI software, assigning ownership to the user of the AI software, assigning ownership to the party that inputs to the AI, assigning ownership to the owner/licensor of the AI software, or even a borderline science fiction scenario where the computer owns the invention.

On the other hand, the bright line rule may have other consequences in industries in which AI is an emerging important tool for discovery, especially when those industries are reliant on patent protection. For example, AI is becoming an indispensable tool in the chemical, biological and pharmaceutical industries to facilitate cheaper, quicker and more effective discovery and development, such as by proposing, refining and even “inventing” new molecules and chemicals through iterative machine learning processes. The degree to which those discoveries made with the help of AI tools are patentable may be the next frontier of the intersection of AI and patent law.

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