Stephen Thaler v. Katherine K. Vidal 43 F.4th 1207 (Fed. Cir. 2022)

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BACKGROUND

Appellant Stephen Thaler ("Thaler") is a software developer and operator of artificial intelligence ("AI") systems, including the Device for the Autonomous Bootstrapping Unified Science ("DABUS"), a software program which he claims creates inventions that qualify for patent protection.[1]

Appellee Katherine K. Vidal ("Vidal") serves as the Under Secretary of Commerce for Intellectual Property and Director of the United States Patent and Trademark Office ("USPTO").

In July 2019, Thaler submitted two patent applications to the USPTO for a "Neural Flame," which he described as a "light beacon that flashes in a new and inventive manner to attract attention" and a "Fractal Container," which he described as a beverage container based on fractal geometry." Thaler claimed both inventions were invented solely by DABUS.[2]

Thaler prepared a supplemental Statement of Inventorship with his patent application to satisfy the inventor's oath and declaration obligation required by Section 115 of the Patent Act.[3] The statement explained that DABUS is a connectionist AI system listed as a "Creativity Machine" that reassigned DABUS' inventor rights to Thaler. Thaler claims he was not involved in the conception of the inventions and that any adequately skilled person could have reduced DABUS' output into practice.

The USPTO found both of Thaler's patent applications incomplete for failing to specify a valid inventor, consequently sending Thaler a "Notice to File Missing Parts of Nonprovisional Application" for each. Thaler unsuccessfully petitioned to vacate the notices, and the USPTO denied his subsequent request for reconsideration on the basis that a machine does not qualify as an inventor.

PROCEDURAL HISTORY

Thaler sought judicial review of the USPTO's decisions on his petitions under the Administrative Procedure Act.[4] Both Thaler and the USPTO agreed that the United States District Court for the Eastern District of Virginia

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1. Thaler v. Vidal, 43 F.4th 1207, 1209 (Fed. Cir. 2022).
2. Thaler v. Hirshfeld, 558 F.Supp.3d 238, 241 (E.D. Va. 2021).
3. 35 U.S.C. § 115.
4. 5 U.S.C. §§ 702-704, 706.

would hear the case based on the administrative record only, without discovery. The parties filed cross-motions for summary judgment. The district court found that an inventor on a patent application must be a natural person, so the trial court granted summary judgment in favor of the USPTO and denied Thaler's request to reinstate his patent applications.[5] Thaler appealed to the United States Court of Appeals for the Federal Circuit.

ISSUE

May an artificial intelligence (AI) software system qualify as an inventor on a patent application?

DECISION

The Court of Appeals for the Federal Circuit affirmed the district court's decision to grant summary judgment for the USPTO and deny Thaler's motion for summary judgment, finding that AI cannot be an inventor because Congress has established that an inventor under the Patent Act can only be a natural person.

REASONING

The Federal Circuit follows the Fourth Circuit's *de novo* standard of review for statutory interpretation.[6] The Administrative Procedure Act applies when reviewing challenges to the USPTO's petition decisions. The appellate court may set aside an administrative judgment only in limited circumstances, such as inconsistency with legal doctrine or reaches beyond statutory "jurisdiction, authority, or limitations."[7]

The Federal Circuit first analyzed the statutory interpretation of the word "individuals" under the Patent Act, establishing that an analysis need not continue if the text is unambiguous.[8] Since the passing of the Leahy-Smith America Invents Act in 2011, the Patent Act has defined an inventor as the "individual(s)" who created or discovered the invention.[9] The court also identified other instances in the Patent Act in which inventors are referred to as individuals, such as within the definition of "coinventor" and in describing the inventor's required statements in a patent application.[10]

Per Supreme Court precedent, mention of "individuals[s]" in statutes presumptively refers to humans unless there is some suggestion that Congress intended otherwise.[11] The court acknowledged that "individual" is not

5. *Thaler*, 43 F.4th at 1210 ("The district court 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.").

6. *Id.* (citing Facebook, Inc. v. Windy City Innovations, LLC, 973 F.3d 1321, 1330 (Fed. Cir. 2020)).

7. *Id.* (citing 5 U.S.C. § 706).

8. *Id.* (citing BedRoc Limited, LLC v. United States, 541 U.S. 176, 183 (2004)).

9. 35 U.S.C. § 100(f).

10. *Thaler*, 43 F.4th at 1211.

11. Mohamad v. Palestinian Auth., 566 U.S. 449, 545 (2012).

explicitly defined in the Patent Act but reasoned that the ordinary use of the word within the dictionary definition as a noun supports that "individual" means a human being and natural person.[12]

Here, the court found that the Patent Act does not suggest that Congress intended for "individual" or "inventor" to mean anything other than a human being due to the use of personal pronouns such as "himself" and "herself" throughout the Patent Act. As well, the Patent Act requires an oath or declaration that the individual "believes himself or herself" to be the inventor—like the one Thaler submitted on behalf of DABUS .[13] The absence of words such as "itself" highlight that Congress did not intend to allow non-human inventors.[14]

Thaler made several arguments in favor of interpreting the meaning of "inventor" broadly—to include AI. First, Thaler highlighted the language of section 101 and section 271 of the Patent Act which refer to non-human entities, including corporations.[15] Section 101, specifically, states that "whoever" creates or discovers an invention may acquire a patent and section 271 uses "whoever" to include non-human entities in delineating what establishes patent infringement.[16]

However, the court rejected Thaler's argument by asserting that the ability of non-humans to infringe on patents does not indicate that non-humans may also be inventors under the Patent Act.[17] The court highlighted that section 201 requires that patents meet the rest of the requirements of the Patent Act, including the definition of "inventor."[18]

Second, Thaler highlighted that failing to include AI software programs as inventors would make obtaining a patent dependent on the way an invention was made, which would violate section 103 of the Patent Act, which provides that routine testing or experimentation may lead to discovering inventions.[19] Still, the court concluded that this provision does not override who may be an inventor as defined under section 100(f).[20]

Lastly, Thaler contended that context of the language and the statute must determine the interpretation of an "inventor."[21] The court agreed, holding that its previous statutory analysis affirms that "inventors" must be natural humans under the Patent Act based on both the plain meaning and legislative intent.

In response, the court turned to its own precedent to support its holding that inventors must be natural persons while corporations and sovereigns may

12. *Individual*, Oxford English Dictionary (2022).
13. 35 U.S.C. § 115(b)(2).
14. *Id.*
15. *Thaler*, 43 F.4th at 1212.
16. 35 U.S.C. § 101.
17. *Thaler*, 43 F.4th at 1212.
18. 35 U.S.C. § 201.
19. 35 U.S.C. § 103.
20. *Thaler*, 43 F.4th at 1212 (discussing 35 U.S.C. § 100(f)).
21. Yates v. United States, 574 U.S. 528, 537 (2015).

not be inventors.[22] While precedent does not directly address whether an AI program may be an inventor, prior Supreme Court reasoning confirms that "inventors" under the Patent Act are intended to be natural persons. Applying precedent, the Federal Circuit reasoned that, since the language is unambiguous, further analysis is unnecessary.

Finally, the court addressed Thaler's policy arguments in turn. First, Thaler argued that inventions created by AI should be eligible for patents to promote innovation and public disclosure. The court rejected this argument for lack of basis and because Congress' choice of words prevails over a vague request of the statutory purpose.[23] Second, Thaler appealed to the canon of constitutional avoidance by arguing that failure to acknowledge AI as an inventor weakens the progress of science and art, which is the purpose of patents as provided by the Constitution.[24]

In response, the court held that constitutional avoidance does not apply because under the Commerce Clause—the constitutional provision Thaler relied on—grants legislative power to Congress, which Congress used to pass the Patent Act.[25] Lastly, Thaler stated that DABUS is the inventor of patents granted by South Africa. The court held that this does not affect its holding because South African patents do not apply to the Patent Act.

For these reasons, the Federal Circuit affirmed the lower court's ruling that an inventor must be a natural person.

22. *See* Univ. of Utah v. Max-Planck-Gesellschaft zur Förderung der Wissenschaften E.V., 734 F.3d 1315, 1323 (Fed. Cir. 2013) ("[I]nventors must be natural persons and cannot be corporations or sovereigns."); Beech Aircraft Corp. v. EDO Corp., 990 F.2d 1237, 1248 (Fed. Cir. 1993) ("[O]nly natural persons can be 'inventors.'").

23. Sw. Airlines Co v. Saxon, 142 S. Ct. 1783, 1792–93 (2022).

24. U.S. CONST. art. I, § 8.

25. *See* Veterans4You, LLC v. United States, 985 F.3d 850, 860–61; Warger v. Shauers, 574 U.S. 40, 50 (2014).