



The Effect of AI Design Generation

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“Classic” AI v. Generative AI

“Classic” vs “Generative” AI

“**Classic AI**” refers to pre-existing automation and intelligent processing systems which typically use a rules-based approach to produce work product from a prompt.

“**Generative AI**” is defined herein to refer to advanced modeling tools that learn the patterns and structure of their input training data and then produce nominally original textual, graphical, or audio work product in response to a prompt.

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Courts Are Making This Distinction

“In reviewing cases and court practice rules from across the country, the Court finds that **‘Artificial Intelligence’ (‘A.I.’) is properly defined as being any technology that uses machine learning, natural language processing, or any other computational mechanism to simulate human intelligence**, including document generation, evidence creation or analysis, and legal research, and/or the capability of computer systems or algorithms to imitate intelligent human behavior. The Court further finds that A.I. can be either generative or assistive in nature. **The Court defines ‘Generative Artificial Intelligence’ or ‘Generative A.I.’ as artificial intelligence that is capable of generating new content (such as images or text) in response to a submitted prompt (such as a query) by learning from a large reference database of examples.** A.I. assistive materials are any document or evidence prepared with the assistance of AI technologies, but not solely generated thereby.”

-Matter of Weber as Tr. of Michael S. Weber Tr., No. 1845-4/B, 2024 WL 4471664 (N.Y. Sur. Oct. 10, 2024) (emphasis added)

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Inventorship in the AI World

Thaler v. Vidal, 43 F.4th 1207 (Fed. Cir. 2022)

- Artificial intelligence software system was listed as sole inventor on the patent application.
 - Thaler develops and runs AI systems “DABUS,” a “collection of source code or programming and a software program.” Thaler claims DABUS generates patentable inventions.
 - Thaler submitted (1) a declaration on behalf of DABUS; (2) a supplemental Statement of Inventorship stating that DABUS was a “creativity machine”; and (3) a document purporting to assign Thaler all of DABUS’ rights as an inventor
- PTO denied on the basis that application lacked a valid inventor, and was therefore incomplete

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Thaler v. Vidal, 43 F.4th 1207 (Fed. Cir. 2022)

- Federal Circuit holds that the Patent Act requires “inventors” to be a “natural persons; that is, human beings.”
 - Based on plain language of the Patent Act.
- “Inventor” is defined as “the *individual*, or if a joint invention, the *individuals* collectively who invented or discovered the subject matter of the invention.” 35 U.S.C. § 100(f) (emphasis added).
 - Patent Act consistently refers to inventors and co-inventors as “individuals.” See 35 U.S.C. §§ 100(g), 115.
- SCOTUS has held that an “individual” is ordinarily “a human being, a person” unless there is “some indication Congress intended” otherwise. *Mohamad v. Palestinian Auth.*, 566 U.S. 449, 454, 455 (2012).

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Thaler v. Vidal, 43 F.4th 1207 (Fed. Cir. 2022)

- No indication Congress intended “individual” to be anything other than human being in Patent Act.
 - Act uses personal pronouns rather than “itself.” 35 U.S.C. § 115(b)(2)
 - Inventors required to submit an oath or declaration unless deceased, incapacitated, or unavailable. 35 U.S.C. § 115
 - Fed Circuit doesn’t decide whether AI can form beliefs to file the declaration, but DABUS didn’t in this case. Thaler did it on DABUS’ behalf.
- Fed Circuit dismisses Thaler’s other arguments, ending with the plain reading of the Act.
- Supreme Court denied Certiorari in April 2023.

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Inventorship Guidance for AI-Assisted Inventions

USPTO - February 13, 2024

- **“The court therefore concluded that an inventor must be a natural person.** The court explained, however, that it was not confronted with “the question of whether inventions made by human beings with the *assistance* of AI are eligible for patent protection.”
- “[P]atent applications that name a machine on an application data sheet (37 CFR 1.76), an inventor's oath or declaration (37 CFR 1.63), or a substitute statement (37 CFR 1.64) as either an inventor or joint inventor will be considered by the USPTO to have improper inventorship.”
- **“In the context of AI-assisted inventions, natural person(s) who create an invention using an AI system, or any other advanced system, must contribute significantly to the invention,** as specified by the *Pannu* factors.”
- **“[T]his guidance regarding AI-assisted inventions applies not only to utility patents and patent applications but also to design and plant patents and patent applications.”**

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Pannu v. Iolab Corp., 155 F.3d 1344 (Fed. Cir. 1998)

The first *Pannu* factor - conception: Each named inventor must contribute in some significant manner to the conception (or reduction to practice) of the claimed invention

- Each named inventor must have significantly contributed to the “definite and permanent idea of the complete and operative invention as it is thereafter applied in practice.”
- Conception analysis focuses on the natural person(s) contributions
- Reduction to practice of an invention conceived by another is not enough to constitute inventorship
 - Reference to “reduction to practice” in the first Pannu factor is simply an acknowledgement of the doctrine of simultaneous conception and reduction to practice, which is sometimes pertinent in unpredictable arts.

Pannu v. Iolab Corp., 155 F.3d 1344 (Fed. Cir. 1998)

- The second Pannu factor – quality of contributions: Each named inventor must make a contribution to the claimed invention that is not insignificant in quality, when that contribution is measured against the dimension of the full invention
 - For example, providing routine or expected inputs to an AI system could be an exercise of normal skill expected of one skilled in the art that is considered insignificant in quality.
- The third Pannu factor – mere explanation of the state of the art: An inventor must do more than merely explain to the real inventors well-known concepts and/or the current state of the art.
 - For example, experts whom the inventor consulted to discuss current state of the art, but who themselves were not involved in the invention creation process would likely not satisfy this factor. See e.g., *Fina Oil and Chemical Co. v. Ewen*, 123 F.3d 1466, 1473 (Fed. Cir. 1997) (citing *Hess v. Advanced Cardiovascular Sys., Inc.*, 106 F.3d 976, 981 (Fed.Cir.1997)).

Pannu v. Iolab Corp., 155 F.3d 1344 (Fed. Cir. 1998)

- Application of *Pannu* factors to determine whether a natural person significantly contributed to an AI-assisted invention is made on a claim-by-claim and case-by-case basis
- When a single person uses an AI system to create an invention, that single person must make a significant contribution to every claim
- No requirement for a named joint inventor to contribute to every claim - a contribution to a single claim is sufficient; *but* each claim must have at least one natural person inventor
- Each inventor must make a significant contribution to the conception of the invention, and at least one inventor must have recognition and appreciation.

Authorship in Copyright of AI-Generated Works



Re: Zarya of the Dawn (Registration # VAu001480196)

Dear Mr. Lindberg:

The United States Copyright Office has reviewed your letter dated November 21, 2022, responding to our letter to your client, Kristina Kashtanova, seeking additional information concerning the authorship of her work titled *Zarya of the Dawn* (the “Work”). Ms. Kashtanova had previously applied for and obtained a copyright registration for the Work, Registration # VAu001480196. We appreciate the information provided in your letter, including your description of the operation of the Midjourney’s artificial intelligence (“AI”) technology and how it was used by your client to create the Work.

The Office has completed its review of the Work’s original registration application and deposit copy, as well as the relevant correspondence in the administrative record.¹ We conclude that Ms. Kashtanova is the author of the Work’s text as well as the selection, coordination, and arrangement of the Work’s written and visual elements. That authorship is protected by copyright. However, as discussed below, the images in the Work that were generated by the Midjourney technology are not the product of human authorship. Because the current registration for the Work does not disclaim its Midjourney-generated content, we intend to cancel the original certificate issued to Ms. Kashtanova and issue a new one covering only the expressive material that she created.

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Duty to Notify When Using AI

April 11, 2024, Patent Office Guidance (89 FR 25609):

- “While there is no per se requirement to notify the USPTO when AI tools are used in the invention creation process or practicing before the USPTO, applicants and practitioners should be mindful of their duty of disclosure. This is, **if the use of an AI tool is material to patentability as defined in 37 CFR 1.56(b), the use of such AI tool must be disclosed to the USPTO.**” (emphasis added)

March 16, 2023, Copyright Registration Guidance (88 FR 16190-01):

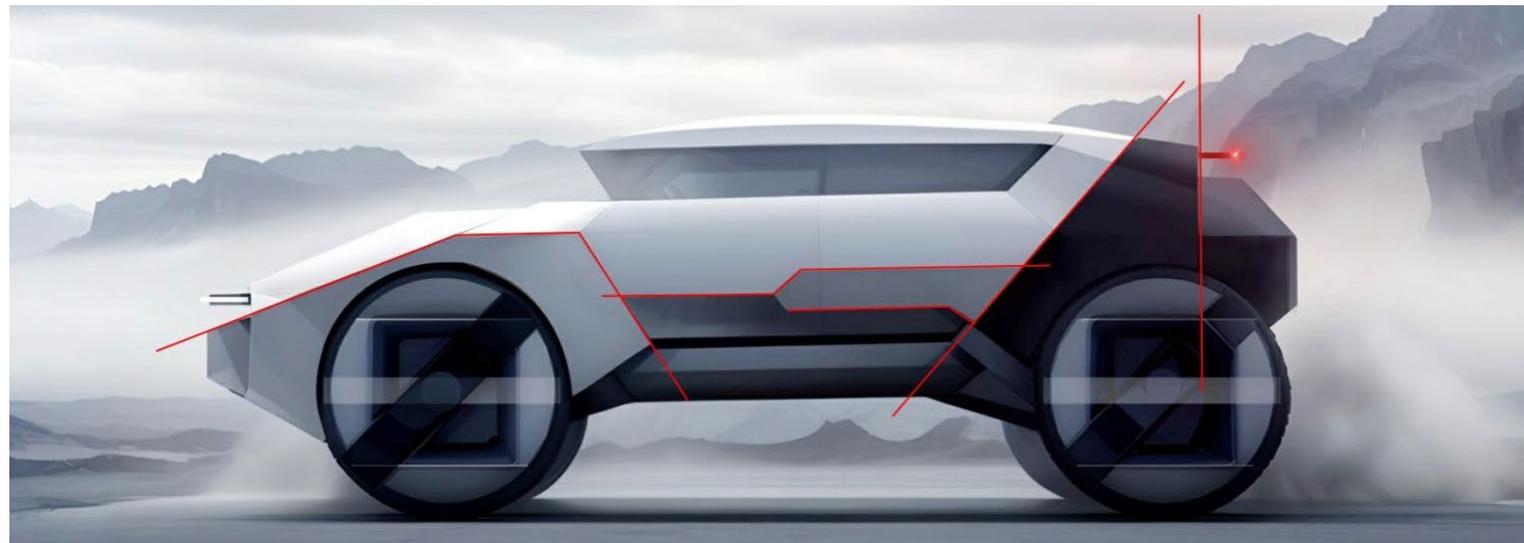
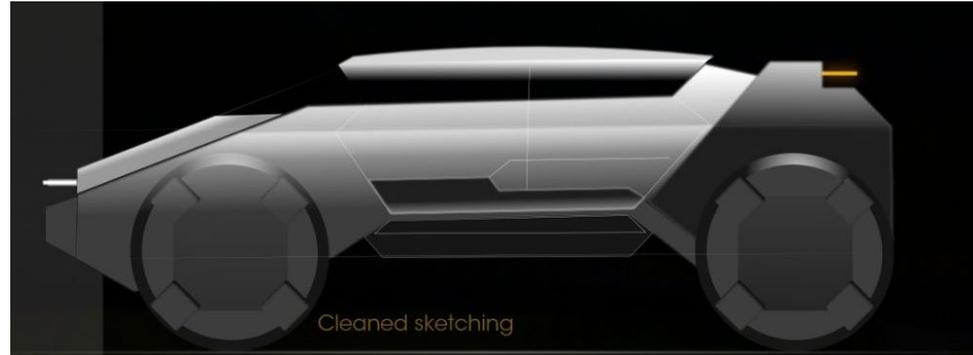
- “For applications currently pending before the Office, applicants should contact the Copyright Office's Public Information Office and report that their application omitted the fact that the work contained AI-generated material.”
- “For applications that have already been processed and resulted in a registration, the applicant should correct the public record by submitting a supplementary registration.”
- “**Applicants who fail to update the public record after obtaining a registration for material generated by AI risk losing the benefits of the registration.**”

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Inventorship Case Study: AI Tool or Contributor?

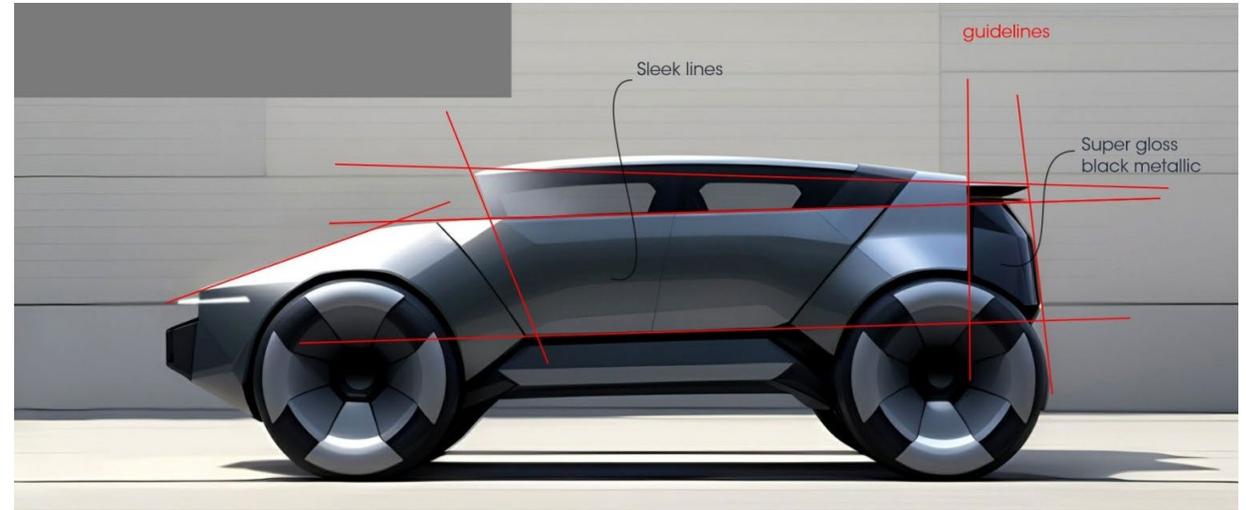
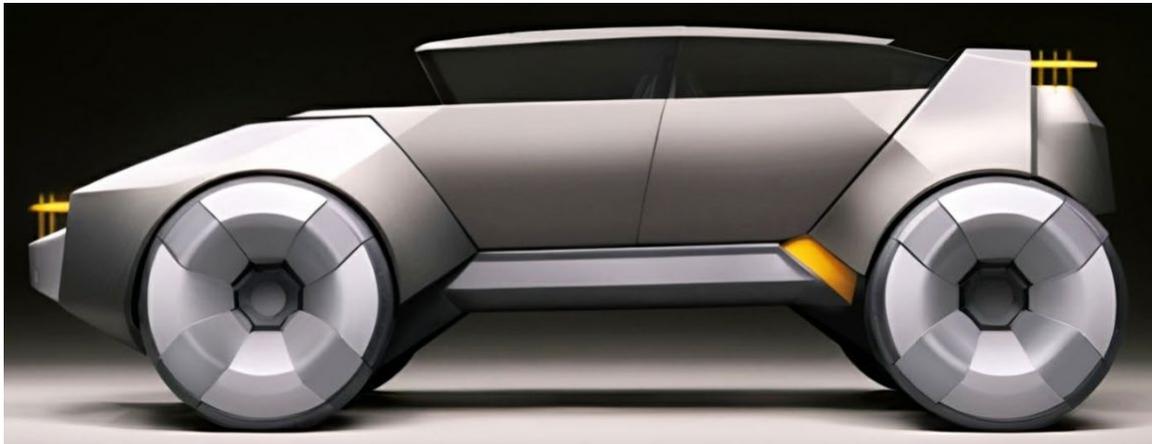
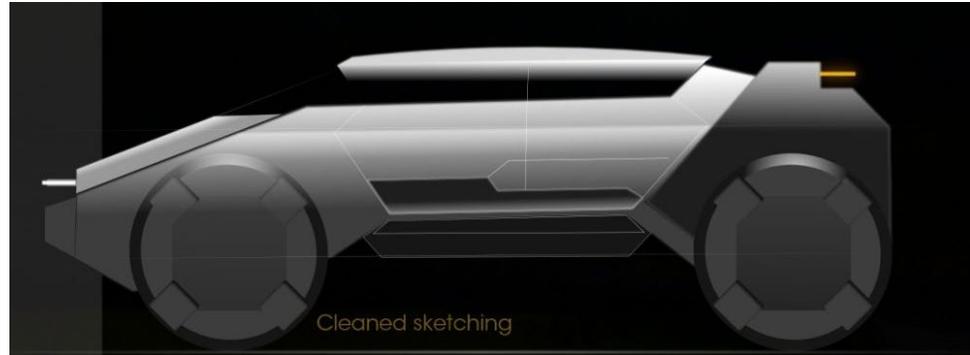
Generative AI: Tool or Contributor?



Source: Pascal Girollet, https://www.linkedin.com/feed/update/urn:li:activity:7246564785255780352/?utm_source=share&utm_medium=member_desktop

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Generative AI: Tool or Contributor?



Source: Pascal Girollet, https://www.linkedin.com/feed/update/urn:li:activity:7246564785255780352/?utm_source=share&utm_medium=member_desktop

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Generative AI: Tool or Contributor?

- Prompt (ChatGPT 4o):
“Generate an image of a design for a rocking chair for use on a southern porch.”



Here is the design of a rocking chair that would be perfect for a southern porch. Let me know if you'd like any modifications!

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Generative AI: Tool or Contributor?

- Prompt (ChatGPT 4o):
“Make this rocking chair spooky, with green skeleton motifs. It should be suitable as decoration for Halloween.”



Here is the design of a rocking chair that would be perfect for a southern porch. Let me know if you'd like any modifications!



Here is the spooky version of the rocking chair, featuring eerie green skeleton motifs, perfect for Halloween! Let me know if you'd like to make any further changes.

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Generative AI: Tool or Contributor?

- Prompt (ChatGPT 4o):
“Give the skeleton a tri-cornered hat and make him a pirate. Add glowing red LED eyes. Make the back six inches taller.”



Here is the spooky version of the rocking chair, featuring eerie green skeleton motifs, perfect for Halloween! Let me know if you'd like to make any further changes.

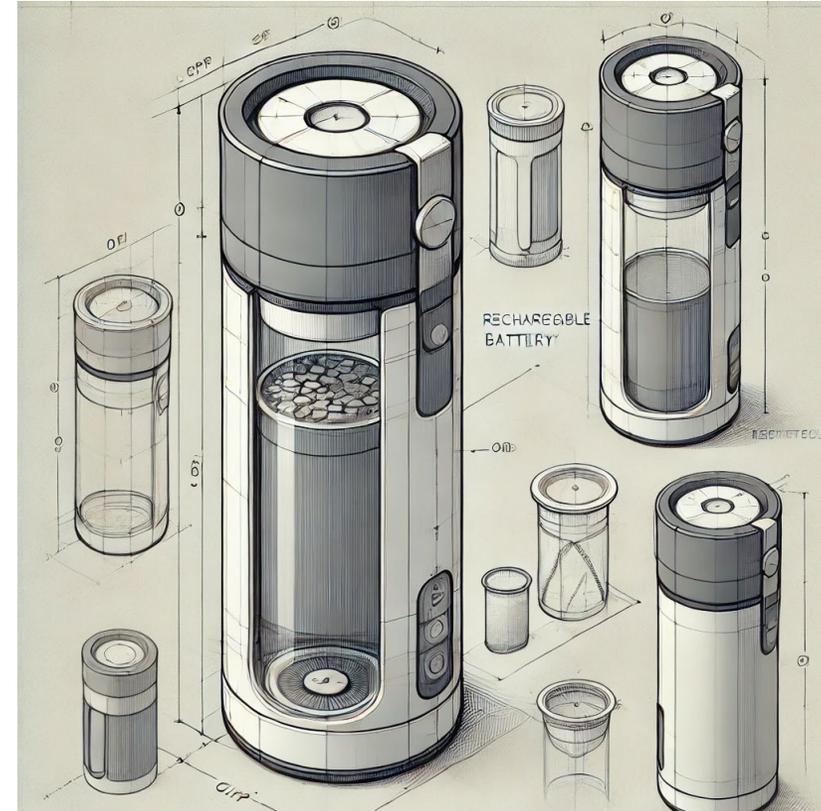


Here is the updated design with the skeleton sporting a tri-cornered pirate hat, glowing red LED eyes, and an extended backrest. The pirate-themed elements should bring a spooky, haunted pirate vibe to your Halloween decorations! Let me know if you'd like any further adjustments.

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Generative AI: Tool or Contributor?

- Prompt: “Draw a useful product.”
- Response: Here's a technical sketch of a modern and compact portable coffee maker, designed to be user-friendly and perfect for travel. Let me know your thoughts or if you'd like to adjust any features!



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Hoop v. Hoop (Fed. Cir. Jan. 30, 2002)

“The ultimate test for design-patent inventorship...is whether the second asserted invention is “substantially similar” to the first.”



Figure 1

**Sketches by
Hoop Brothers**



Figure 2

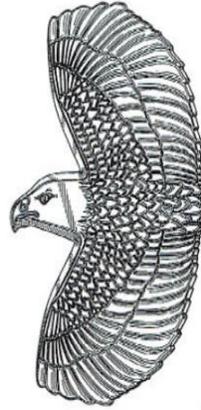


Figure 3

**Sketch by
Hoop Cousins**

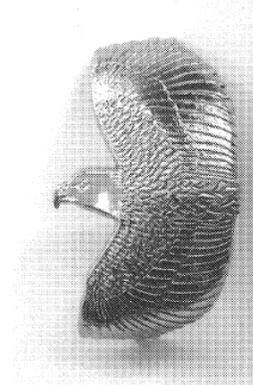


FIG. 2

**Patent to
Hoop Brothers
(Valid)**

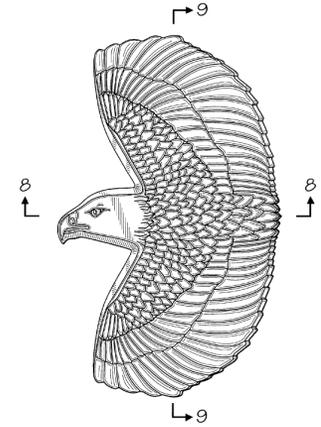


FIG. 2

**Patent to
Hoop Cousins
(Reexamined and rejected
as anticipated
by Hoop Brothers' patent)**

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Case Study

Is the final design eligible for design patent protection? Copyright protection?



Figure 1



Figure 2



Figure 3

**Initial sketches
by AI**

**Final Design by
a human designer**

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Case Study

Is the final design eligible for design patent protection? Copyright protection?



Figure 1



Figure 2



Figure 3

**Initial sketches by a
human designer**

Final Design by AI

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AI-Generated Prior Art

AI Generated Prior Art

- Nutella unica – algorithmically created – 7M unique jars



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AI Generated Prior Art

- CoPilot: “Create image for labels for 21 unique Nutella jars.”



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AI Generated Prior Art

- CoPilot: “Create 6 images showing all sides of Nutella jar.”



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AI Generated Prior Art

- Accuracy?



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AI-Generated Prior Art

- Stifle protectability of innovations
- Used as defensive publications
- Additional friction and delay for patent examination
 - Flood of references
 - Impact of references with single view
 - Questions about public accessibility
 - Added time and expense

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Public Accessibility

- “A reference will be considered publicly accessible if it was ‘disseminated or otherwise made available to the extent that persons interested and ordinarily skilled in the subject matter or art exercising reasonable diligence[] can locate it.’” *Id.* (quoting *Kyocera Wireless Corp. v. Int’l Trade Comm’n*, 545 F.3d 1340, 1350 (Fed. Cir. 2008)). MPEP 2128.
- “A reference that contains a detailed description of a specific embodiment, even if the embodiment has not been prepared or tested, may be sufficient to anticipate or render obvious a claimed invention.” MPEP 2121.04.

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In re Samuels (Fed. Cir. 2024)

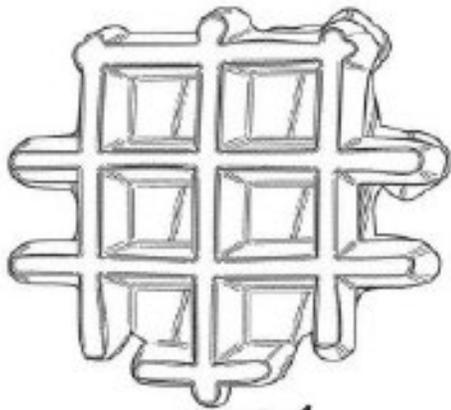


FIG. 1

J.A. 31, FIG. 1.

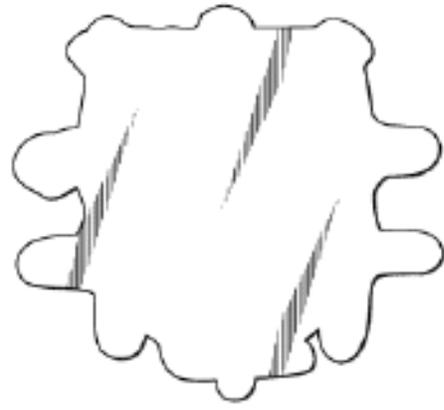
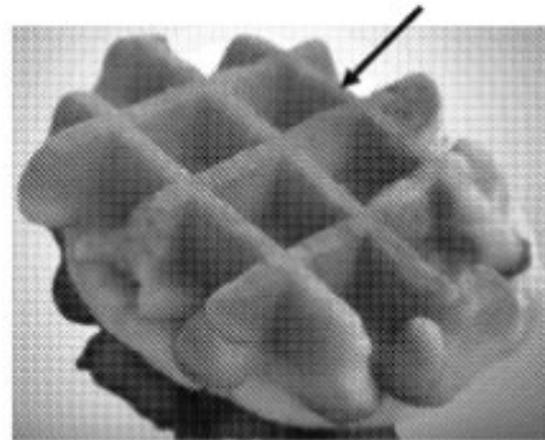


FIG. 3

J.A. 32, FIG. 3.



J.A. 159.



smooth side disclosed

J.A. 161.

Claimed Design

Prior Art

In Re Samuels , No. 22-1121 (Fed. Cir. Mar. 6, 2024)

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LKQ Obviousness Test

Selections from *LKQ*

“[A]nalogous art for a design patent includes art from the same field of endeavor as the article of manufacture of the claimed design.”

“The analogous art requirement reins in the scope of prior art and serves to guard against hindsight.”

LKQ v. GM, 102 F.4th 1280 (Fed. Cir. 2024)

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POSITA Following LKQ

“The analogous art requirement is tied to the statutory language of § 103 in that it provides the perspective of the person of ordinary skill in the art by defining that person's scope of knowledge.

The rationale is that a person of ordinary skill could not possibly be aware of every teaching in every art and thus we limit the scope of the prior art to analogous arts.”

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- Level of Ordinary Skill change with AI assistance in design?

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POSITA Following LKQ

“The scope of the prior art is not the universe of abstract design and artistic creativity, but designs of the same article of manufacture or of articles sufficiently similar that a person of ordinary skill would look to such articles for their designs.”

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- Will this be true in the future?

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