AI AND INVENTORSHIP IN PATENT LAW: A COMPARATIVE ANALYSIS OF INDIA, EUROPE AND THE UNITED STATES

Chandramani Bhaskar, ILS Law College, Pune

ABSTRACT

Patent law traditionally assumes that an invention can be attributed to a human mind. Artificial intelligence challenges that assumption when a system does more than assist research and is said to generate the technical solution itself. This article uses the DABUS litigation as a common factual reference point to compare the United States, the European patent system and India. It distinguishes AI-assisted invention, where a human remains responsible for inventive conception, from AI-generated invention, where conception is attributed to the machine. The comparison examines Thaler v Vidal, the United States Patent and Trademark Office's revised 2025 guidance, the EPO decisions in J 8/20, J 9/20 and T 0528/25, Germany's Federal Court of Justice decision in X ZB 5/22, and India's 2026 DABUS refusal. It argues that the jurisdictions converge on human inventorship but diverge on how AI involvement should be recorded and how inventive step and disclosure should respond to AI-enabled research. The article proposes a technology-neutral human-contribution standard, proportionate AI disclosure and an AI-aware approach to the skilled person.

Keywords: Artificial Intelligence; Inventorship; Patent Law; DABUS; AI-Assisted Inventions; Inventive Step; Disclosure

I. INTRODUCTION

Patent law has rarely needed to ask what it means to invent because the inventor was ordinarily understood to be a person who conceived a technical solution. AI systems now complicate that assumption. In materials science, drug discovery and engineering, AI may search large solution spaces and produce combinations that no researcher specifically anticipated. The legal question is therefore not simply who owns an AI-generated result, but who can lawfully be treated as its inventor.

Stephen Thaler's DABUS applications turned that question into a comparative experiment. He named the Device for the Autonomous Bootstrapping of Unified Sentience (DABUS) as inventor of inventions including a food container. The same basic attribution was tested under different patent systems. This article asks three questions: whether existing law requires a human inventor; how AI assistance should be distinguished from AI-generated conception; and how inventive-step and disclosure rules should respond when AI becomes a routine research tool.[1]

The analysis is doctrinal and comparative. It uses DABUS as a common factual reference point while keeping inventorship, patent eligibility, ownership, inventive step and disclosure analytically separate.

II. AI-ASSISTED AND AI-GENERATED INVENTION

The distinction between AI-assisted and AI-generated invention is fundamental. In an AI-assisted invention, a human identifies the technical problem, directs the research process, evaluates outputs and forms the definite and permanent idea of the claimed invention. AI may perform extensive prediction, optimisation or searching without becoming the legal inventor. In an AI-generated invention, by contrast, the applicant asserts that the system itself identified the technical combination that solved the problem and that the human contribution was limited to creating, operating or recognising the system's output.[2]

DABUS tested the second proposition. Yet inventorship remains distinct from patentability: an invention may be novel and useful but attributed to the wrong inventor, while a valid human

[1]Thaler v Vidal, 43 F 4th 1207, 1210 (Fed Cir 2022).
[2]Burroughs Wellcome Co v Barr Laboratories Inc, 40 F 3d 1223, 1228 (Fed Cir 1994), citing Sewall v Walters, 21 F 3d 411, 415 (Fed Cir 1994).

inventor may still fail novelty, inventive step or subject-matter requirements.

III. THE UNITED STATES

A. Human Inventorship and Patent Eligibility

Section 100(f) of the US Patent Act defines an inventor as the 'individual' who invented or discovered the subject matter. In Thaler v Vidal, the Federal Circuit held that this statutory term refers to a natural person and rejected DABUS as inventor. The Supreme Court declined review in 2023. The decision resolved inventorship, not the patentability of inventions produced with AI assistance.[3]

A separate question arises under §101. The Alice/Mayo framework excludes claims directed to abstract ideas unless the claim contains an inventive concept that transforms the exception into a patent-eligible application. Thus, even a human inventor cannot obtain a patent merely by claiming an abstract AI model or algorithm; the claim must satisfy the applicable subject-matter requirements.[4]

B. From the 2024 Pannu Framework to the 2025 Guidance

The USPTO's February 2024 guidance adapted the significant-contribution factors from Pannu v Iolab Corp to AI-assisted inventions. In November 2025, the USPTO rescinded that guidance and returned to the ordinary inventorship standard, expressly stating that the same legal test applies regardless of AI use. AI systems are treated as tools, not inventors. The revised approach is technologically neutral, although it leaves an evidentiary problem: as AI becomes more autonomous, reconstructing which human decisions amounted to conception may become difficult.[5]

IV. EUROPE: EPO AND GERMANY

The European Patent Convention is not an EU instrument. Under Articles 60(1) and 81 EPC,

[3]35 USC § 100(f); Thaler v Vidal, 43 F 4th 1207, 1213–14 (Fed Cir 2022); Thaler v Vidal, cert denied, 143 S Ct 1781 (2023).
[4]Alice Corp Pty Ltd v CLS Bank International, 573 US 208, 216–18 (2014); Mayo Collaborative Services v Prometheus Laboratories Inc, 566 US 66, 70 (2012).
[5]US Patent and Trademark Office, 'Revised Inventorship Guidance for AI-Assisted Inventions' (26 November 2025), confirming that the ordinary inventorship standard applies regardless of AI use and rescinding the February 2024 guidance; see also Pannu v Iolab Corp, 155 F 3d 1344, 1351 (Fed Cir 1998).

inventor designation is linked to entitlement and application formalities. In J 8/20 and J 9/20, the EPO Legal Board of Appeal held that a machine is not an inventor within the EPC. The decisions did not make AI-generated technical subject matter categorically unpatentable; they maintained the separate requirement of valid inventor designation.[6]

The later EPO decision T 0528/25 is particularly important. Thaler designated himself as inventor but simultaneously stated that DABUS had conceived the invention and that he was not an inventor under traditional criteria. The Board held that the documents did not provide a clear and unambiguous designation under Article 81 and Rule 19 EPC and dismissed the appeal. The decision shows that simply naming a human while expressly denying human inventorship is not a workable formal solution.[7]

Germany illustrates a different national approach. In X ZB 5/22 (11 June 2024), the Federal Court of Justice held that only a natural person can be an inventor but accepted that a natural person may be designated where AI was used to find the claimed technical teaching. The German decision therefore preserves human inventorship while permitting the AI's role to be acknowledged. The contrast with T 0528/25 demonstrates that 'Europe' is not institutionally uniform: the EPO and national systems may approach the same attribution problem differently.[8]

V. INDIA

A. Statutory Framework and DABUS

The Patents Act 1970 does not separately define 'inventor'. Section 2(1)(y) defines 'true and first inventor' negatively, while sections 6, 7 and 10 regulate application, derivation of rights and inventor designation. Thaler argued that the absence of an express natural-person requirement left room for DABUS to be named inventor. The counterargument is structural: entitlement and derivation provisions presuppose a legally recognisable inventor.[9]

In April 2026, the Indian Patent Office refused application No 202017019068, concerning the

[6]European Patent Convention, arts 60(1), 81; J 8/20 (EPO Legal Board of Appeal, 21 December 2021); J 9/20 (EPO Legal Board of Appeal, 21 December 2021).
[7]T 0528/25 (EPO Board of Appeal, 5 February 2026), application 21216024.6, 'Designation of inventor/DABUS'.
[8]Bundesgerichtshof [Federal Court of Justice], X ZB 5/22, DABUS (11 June 2024), ECLI:DE:BGH:2024:110624BXZB5.22.0.
[9]Patents Act 1970 (India), §§ 2(1)(y), 6, 7, 10.

DABUS food-container invention. The Controller treated the statutory scheme as requiring a legally recognised inventor and also found substantive patentability objections, including inventive step. The decision is significant but should not be overstated: it is a Controller-level determination. The earlier version of this article treated an alleged Delhi High Court proceeding as an established appellate development; that claim has been removed because a primary judicial order could not be verified for this patent matter as of 15 August 2026.[10]

B. Section 3(k) and Current Indian Guidance

Inventorship must also be distinguished from subject-matter eligibility. Section 3(k) excludes a mathematical or business method, a computer programme per se or an algorithm. Indian case law, including Ferid Allani v Union of India, has emphasised technical effect or technical contribution in assessing computer-related inventions. The 2025 CRI Guidelines, published in April 2026, provide updated examination guidance. India has also published Guidelines for the Use of Artificial Intelligence in Patent Examination Procedures on 7 August 2026. These developments do not settle AI inventorship, but they demonstrate that India's administrative response now extends beyond the DABUS case.[11][12]

VI. COMPARATIVE ANALYSIS

Issue	**United States**	**EPO / Germany**	**India**
AI as inventor	No	No	No, under 2026 IPO decision
AI-assisted invention	Ordinary human-conception test	Human inventor required; Germany permits AI role to be stated	Human inventor remains operative position
Subject matter	§101; Alice/Mayo	EPC Arts 52–57	§3(k); CRI Guidelines
Inventive step	§103	Art 56 EPC	§2(1)(ja)
Disclosure	§112(a)	Art 83 EPC	§10(4)

The convergence is therefore narrower than it first appears. All three systems reject machine

[10]Controller of Patents and Designs, Order under § 15, Patent Application No 202017019068, 'Food Container and Devices and Methods for Attracting Enhanced Attention' (15 April 2026).
[11]Ferid Allani v Union of India, W.P.(C) 7/2014, Delhi High Court, 12 December 2019; Intellectual Property India, Guidelines for Examination of Computer Related Inventions (CRIs)–2025 (published 29 April 2026).
[12]Intellectual Property India, Guidelines for the Use of Artificial Intelligence in Patent Examination Procedures (published 7 August 2026).

inventorship, but the harder question is attribution in ordinary AI-assisted research. The United States applies ordinary conception; Germany shows how human inventorship may coexist with an express acknowledgment of AI involvement; the EPO's T 0528/25 shows the limits of a designation that contradicts itself; and India has resolved only the extreme DABUS fact pattern so far.

The next frontier is inventive step. If AI tools become ordinary in a field, should the skilled person be assumed to have access to them? Mere availability should not automatically make an invention obvious. Accessibility, cost, adoption, reliability, reproducibility and the likelihood of success should matter. Otherwise, patent law risks treating every result that an AI system can produce retrospectively as obvious.[13]

Disclosure raises a related issue. Patent law requires sufficient disclosure of the claimed invention, not necessarily every step in the research process. Applicants should not automatically have to disclose every prompt or model weight. But where AI is integral to reproducing the technical teaching, information about the model, data, parameters or validation may become relevant. The appropriate standard should be proportionality and reproducibility.[14]

VII. REFORM PROPOSALS

First, jurisdictions should preserve the human-inventor requirement but clarify the ordinary human-contribution standard with practical examples. A researcher who defines the problem, structures the research, evaluates AI outputs and forms the claimed combination should remain an inventor; mere receipt of an autonomous solution should not be enough.[15]

Second, patent offices should consider a separate mechanism for recording material AI involvement without treating AI as an inventor. Germany's approach shows the value of transparency, while T 0528/25 shows why the formal inventor designation must remain coherent.

Third, offices should develop AI-aware inventive-step guidance. The skilled person should be assessed by reference to realistic access to AI tools at the relevant date, not by assuming either

[13]35 USC § 103; EPC art 56; Patents Act 1970 (India), § 2(1)(ja).
[14]35 USC § 112(a); EPC art 83; Patents Act 1970 (India), § 10(4).
[15]See Bundesgerichtshof, X ZB 5/22, DABUS (11 June 2024); US Patent and Trademark Office, Revised Inventorship Guidance for AI-Assisted Inventions (26 November 2025).

that AI is unavailable or that it is an infallible discovery engine.

Finally, India would benefit from targeted statutory clarification of section 2(1)(y): a true and first inventor should be expressly understood as a natural person, while AI-assisted research should remain compatible with human inventorship. The law should avoid making every use of AI a disclosure event.

VIII. CONCLUSION

DABUS has produced a clear headline result: an AI system cannot presently be named as the legal inventor in the United States, the EPO system, Germany or India. But that is only the starting point. The more difficult problem is deciding when human participation in an AI-enabled research process still amounts to invention.

Patent law does not need to grant AI legal personality to respond to this problem. It needs a clearer, technology-neutral account of human conception; proportionate transparency where AI materially contributes to the inventive process; and an evidence-based approach to inventive step and disclosure. India's recent administrative guidance provides a useful foundation, but statutory clarification would reduce uncertainty. The enduring question is therefore not whether a machine can think, but when the human contribution to an AI-enabled process is sufficient to constitute the legal act of invention.