

AI as an Inventor and as a Tool at the Patent Office: Is it the end of the patent law as we know it?

Iga Bałos, PhD

The Chair of Intellectual Property Law, Andrzej Frycz Modrzewski Krakow University

ABSTRACT

The aim of the research is to present the challenges for the patent law and the patent system resulting from AI assistance throughout inventive process and at certain stages of patent examination procedure. The Commission Guidelines on trustworthy AI are taken into account.

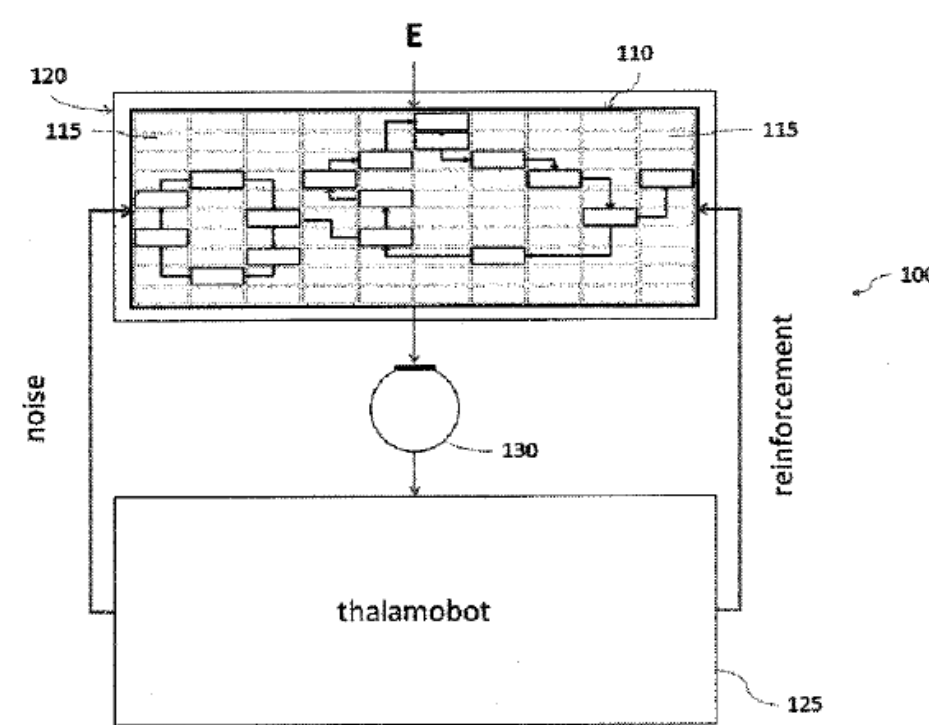


Fig. 1. Patent drawing, US10423875B2, *Electro-optical device and method for identifying and inducing topological states formed among interconnecting neural modules*. The device, partially illustrated above, is named 'DABUS' and according to its inventor, S. Thaler, is capable of generating patentable inventions by itself.

AI DURING THE INVENTIVE PROCESS

- ✓ AI-aided problem solving, design, and engineering
- ✓ analiza dotychczasowego stanu techniki
- ✓ automation for defensive patenting (Cloem's technology)
- ✓ predictive analytics
- ✓ AI generated inventions

Impact of AI on Patent System

- 1) Will the imbalance between the private and the public sectors' (patent offices included) capabilities regarding access to AI impact patent quality and the efficiency of the patent system?
- 2) Should POSITA (person of ordinary skill in the art) be replaced by AISITA (artificial intelligence skilled in the art)?
- 3) Does the concept of AI-generated inventions fit the patent system?
- 4) How to overcome trust issues regarding the effects of implementation of AI tools by the patent offices?
- 5) Does AI limit access to the patent system for underrepresented groups?

AI INITIATIVES IN IP OFFICES

- trial phases
- automatization of performing automatic patent classification
- automatization of identification the examiner whose field of expertise and experience fit best to the subject matter of invention
- prior-art search enhancement
- machine translation

Exemplary Embodiment

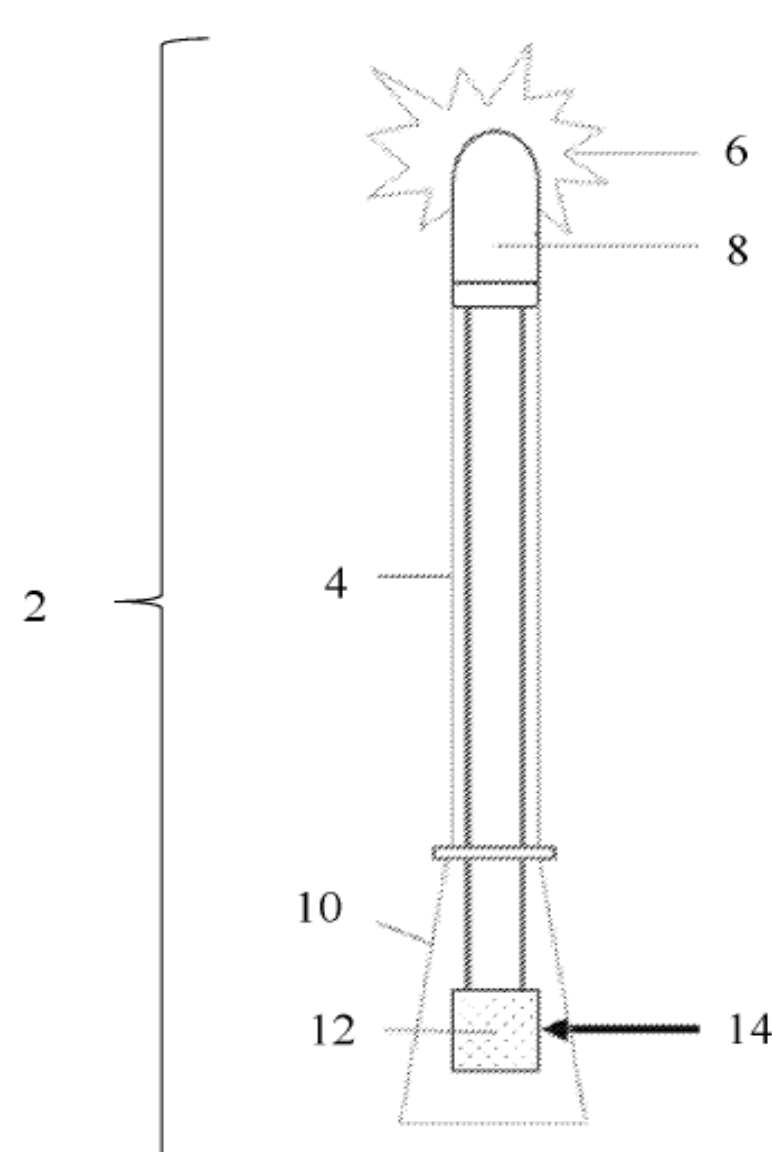


Figure 1

Fig. 2. Patent drawing, GB 1818161.0, *Devices and methods for attracting enhanced attention*. The device, partially illustrated above, according to the applicant S. Thaler, was invented by DABUS. The patent application indicating DABUS as the inventor was filed in patent offices around the world.
AI has been recognized as an inventor, so far, by The South African Patent Office and The Federal Court of Australia.

CONCLUSIONS

It is not premature to take account of AI related tools in patent prosecution and AI generated inventions and their implications for patent system!

- ✓ AI as an inventor on the background of the actual legal position of the inventors
- ☒ AI as an inventor on the background of the that AI will replace human beings

Information asymmetries between the inventors (the applicants) and the patent examiners can be reduced through the implementation of AI tools by the patent offices or even through creating a counteracting institutions at the patent offices

A sufficient description of the AI-enhanced inventions and AI tools implemented by the patent office must be provided

The understanding of the basic notions and the justification for the patent protection shall be revised

References:

1. Rai, Arti Kaur, *Machine Learning at the Patent Office: Lessons for Patents and Administrative Law* (May 24, 2019). Duke Law School Public Law & Legal Theory Series No. 2019-37, Available at SSRN: <https://ssrn.com/abstract=3393942> or <http://dx.doi.org/10.2139/ssrn.3393942>
2. Robinson, W. Keith (2021) "Artificial Intelligence and Access to the Patent System," *Nevada Law Journal*: Vol. 21 : Iss. 2 , Article 8
3. Tabrez Y. Ebrahim, *Automation & Predictive Analytics in Patent Prosecution: USPTO Implication & Policy*, 35 Ga. St. U. L. Rev. (2019)

ECOSYSTEM OF TRUST (COM(2020) 65 final; COM(2019) 168)

- ✓ human agency and oversight,
- ✓ technical robustness and safety,
- ✓ *privacy and data governance*,
- ✓ transparency,
- ✓ diversity, non-discrimination and fairness,
- ✓ societal and environmental wellbeing, and
- ✓ accountability

PATENT SYSTEM-SPECIFIC TRUST ISSUES:

- ✓ information asymmetry
- ✓ low-quality patents
- ✓ patent system being less accessible for underrepresented groups
- ✓ elimination of human factor