

# International Comparative Legal Guides

## Patents 2021

A practical cross-border insight into patent law

**11<sup>th</sup> Edition**

### Featuring contributions from:

Bird & Bird LLP

Cedar White Bradley IP LLC

Chuo Sogo Law Office, P.C.

CPST Intellectual Property

Daniel Law

DDPV Studio Legale

Duane Morris LLP

Eric Silwamba, Jalasi and Linyama  
Legal Practitioners

Gleiss Lutz

Gorodissky & Partners Ukraine

Gowling WLG

Haynes and Boone

Kadasa Intellectual Property  
(in association with Rouse & Co. International)

Law Office of KRAdamo

LexOrbis

Mintz

Nestor Nestor Diculescu Kingston Petersen

Ofo Ventura Intellectual Property & Litigation

OLIVARES

Patrinos & Kilimiris

PETOŠEVIĆ Russia

Pham & Associates

Reinhold Cohn Group

Reising Ethington P.C.

Rouse

Setterwalls

Shook Lin & Bok

SyCip Salazar Hernandez & Gatmaitan

TIPLo Attorneys-at-Law

**ICLG.com**



ISBN 978-1-83918-066-8  
ISSN 2044-3129

Published by

**glg** global legal group

59 Tanner Street

London SE1 3PL

United Kingdom

+44 207 367 0720

info@glgroup.co.uk

www.iclg.com

**Consulting Group Publisher**

Rory Smith

**Publisher**

James Strode

**Editor**

Jane Simmons

**Senior Editor**

Sam Friend

**Head of Production**

Suzie Levy

**Chief Media Officer**

Fraser Allan

**CEO**

Jason Byles

**Printed by**

Ashford Colour Press Ltd.

**Cover image**

www.istockphoto.com

Strategic Partners



# International Comparative Legal Guides

## Patents 2021

11<sup>th</sup> Edition

**Contributing Editor:**

**Katharine Stephens  
Bird & Bird LLP**

**©2020 Global Legal Group Limited.**

**All rights reserved. Unauthorised reproduction by any means, digital or analogue, in whole or in part, is strictly forbidden.**

### Disclaimer

This publication is for general information purposes only. It does not purport to provide comprehensive full legal or other advice. Global Legal Group Ltd. and the contributors accept no responsibility for losses that may arise from reliance upon information contained in this publication.

This publication is intended to give an indication of legal issues upon which you may need advice. Full legal advice should be taken from a qualified professional when dealing with specific situations.

## Expert Chapters

- 1** **The Relevance of Compulsory Licensing in the Fight Against the COVID-19 Pandemic**  
Neil Jenkins & Georgina Straughan, Bird & Bird LLP
- 4** **A New Fault Line in the Modern Era of U.S. Patent Eligibility**  
Corey M. Beaubien, Reising Ethington P.C.
- 8** **Ownership of Patent Rights and Standing to Sue in US Courts**  
D. Stuart Bartow, Duane Morris LLP
- 12** **Appealing a PTAB Post-Grant Final Decision: The Need for Standing**  
Kenneth R. Adamo & Eugene Goryunov, Law Office of KRAdamo | Haynes and Boone
- 17** **Gulf Co-operation Council Countries – Patent Landscape**  
Sara Holder & Mohammad Jomoa, Kadasa Intellectual Property (in association with Rouse & Co. International)

## Q&A Chapters

- 21** **Australia**  
Bird & Bird LLP: Jane Owen & Rebecca Currey
- 29** **Brazil**  
Daniel Law: Rana Gosain & Ricardo Nunes
- 37** **Canada**  
CPST Intellectual Property: Anthony Prenol & Brett Slaney
- 45** **France**  
Gowling WLG: Céline Bey & Clémence Lapôtre
- 61** **Germany**  
Glæss Lutz: Dr. Matthias Sonntag & Dr. Herwig Lux
- 69** **Greece**  
Patrinos & Kilimiris: Constantinos Kilimiris
- 75** **India**  
LexOrbis: Joginder Singh, Varun Sharma & Rajeev Kumar
- 84** **Israel**  
Reinhold Cohn Group: Adv. Eran Bareket & Dr. Ronnie Benschafut
- 93** **Italy**  
DDPV Studio Legale: Luciano Vasques & Chiara Sciarra
- 102** **Japan**  
Chuo Sogo Law Office, P.C.: Naoko Nakatsukasa
- 110** **Malaysia**  
Shook Lin & Bok: Michael Soo & Wendy Lee Wan Chieh
- 117** **Mexico**  
OLIVARES: Daniel Sanchez y Bejar & Sergio L. Olivares, Jr.
- 127** **Myanmar**  
Rouse: Fabrice Mattei & Moe Mynn Thu
- 134** **Philippines**  
SyCip Salazar Hernandez & Gatmaitan:  
Vida M. Panganiban-Alindogan & Anna Loraine M. Mendoza
- 142** **Romania**  
Nestor Nestor Diculescu Kingston Petersen:  
Sorina Olaru, Daniela Savin (Ghervas) & Alina Tace (Dumitru)
- 150** **Russia**  
PETOŠEVIĆ Russia: Natalia Osipenko & Mayya Pak
- 157** **Saudi Arabia**  
Kadasa Intellectual Property: Mohammad Jomoa & Sara Holder
- 164** **Sweden**  
Setterwalls: Martin Levinsohn & Per Lidman
- 171** **Taiwan**  
TIPLo Attorneys-at-Law: J. K. Lin & H. G. Chen
- 180** **Thailand**  
Rouse: Fabrice Mattei & Manoon Changchumni
- 188** **Turkey**  
Ofo Ventura Intellectual Property & Litigation:  
Özlem Futman & Yasemin Aktas
- 197** **Ukraine**  
Gorodissky & Partners Ukraine: Oleg Zhukhevych & Maksym Bocharov
- 206** **United Arab Emirates**  
Cedar White Bradley IP LLC: David Harper
- 212** **United Kingdom**  
Bird & Bird LLP: Katharine Stephens & Audrey Horton
- 224** **USA**  
Mintz: Michael T. Renaud & Matthew A. Karambelas
- 232** **Vietnam**  
Pham & Associates: Pham Vu Khanh Toan
- 240** **Zambia**  
Eric Silwamba, Jalasi and Linyama Legal  
Practitioners: Joseph A. Jalasi & Andrew Simunyola

# A New Fault Line in the Modern Era of U.S. Patent Eligibility

Reising Ethington P.C.



Corey M. Beaubien

## Introduction

The law of patent eligibility remains unclear. Despite efforts by the courts and the U.S. Patent and Trademark Office (USPTO), what is and is not eligible for patent protection is hazy years after taking its modern form in *Mayo*<sup>1</sup> and *Alice*.<sup>2</sup> The topic continues to pester patent stakeholders, with promises of better guidance from time to time.

Until recently, the issue has struck inventions related to computer-implementations and life sciences, and has spared inventions in the mechanical field. But now the decision in *American Axle & Manufacturing, Inc. v. Neapco Holdings LLC*<sup>3</sup> touches a mechanical technology for the first time under the current patent eligibility framework, drawing a new fault line in its jurisprudence. The case obscures this area of patent law further, and has mechanical stakeholders, once able to largely avoid the issue, thinking about patent eligibility perhaps more than ever. This chapter looks at the decision and what it could mean for mechanical inventions.

## Background

The statute governing patent eligibility, 35 U.S.C. § 101, has deceptively broad terms. Under the statute, a patent may be obtained for “any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof”.<sup>4</sup> But courts attribute less breadth than the words imply, holding that the section contains an implicit exception making laws of nature, natural phenomena, and abstract ideas not eligible for patent protection.<sup>5</sup> The rationale often cited for the exception is a concern that tying up basic tools of science will impede innovation rather than promote it. Against this lies the reality that all inventions at some level embody one or more of these judicial exceptions.

The U.S. Supreme Court re-tooled the law of patent eligibility in *Mayo* and *Alice*, setting up the modern analytical framework and, perhaps unknowingly, dooming many computer-implemented and life science patents. *Mayo* involved a life science innovation viewed by the Court as a law of nature, while *Alice* involved a computer-implemented innovation viewed as an abstract idea. The claims in both cases lacked eligible subject matter. After the decisions, lower courts began finding more and more patents in the two fields ineligible, and the USPTO began rejecting more and more patent applications in the fields on the same basis. The decisions chilled the filings of an untold number of patent applications on inventions of these kinds. The troubles more or less persist today.

The analytical framework drawn from *Mayo/Alice* has two steps: i) determine whether the claims at issue are directed to a law of nature, natural phenomenon, or an abstract idea; and

ii) if so, then determine whether the claims recite an element or a combination of elements ensuring that the claims amount to significantly more than a patent on the judicial exception itself (i.e., a search for an inventive concept).<sup>6</sup> To date, only modest clarity accompanies the application of these steps.

## *American Axle & Manufacturing, Inc. v. Neapco Holdings LLC*

Before the *American Axle* decision, many thought that patent eligibility and the two-step framework were chiefly the concern of patent stakeholders in the computer-implemented and life science fields, letting those in the mechanical field take up the topic out of interest rather than necessity. This case challenges that notion.

The patent in dispute in *American Axle* describes ways to attenuate vibrations in automotive propshafts – a technology far from the more vulnerable computer-implemented and life science innovations. In the case, the U.S. Court of Appeals for the Federal Circuit considered whether claims that call for tuning liners for the purpose of reducing multiple types of vibrations in propshafts were eligible for patent protection under § 101. It concluded that the claims were not.<sup>7</sup>

The claims ultimately held ineligible are manufacturing method claims. The controversial claim language from representative claim 1 recites the step: “tuning at least one liner to attenuate at least two types of vibration transmitted through the shaft member.” A liner, in general, is a hollow tube made of a cardboard-like material that is placed inside of the particular shaft member. The settled construction of the term “tuning” involved controlling the mass and stiffness of the liner in order to match the relevant frequencies. Unlike what was known, the asserted advance centred around reducing two types of vibrations in propshafts at the same time, one of the types being bending mode vibrations.

The claims failed to withstand the court’s scrutiny under steps one and two of the *Mayo/Alice* analytical framework. Under step one, the Federal Circuit found that the claims were indeed directed to one of the judicial exceptions – here, to a law of nature.<sup>8</sup> The main focus of the claims was on tuning liners. The court viewed tuning liners as involving an application of Hooke’s law, a law of nature that mathematically relates the mass and/or stiffness of an object to the frequency with which that object vibrates. The court attributed little else to the claims: “[b]ut, the claims’ general instruction to tune a liner amounts to no more than a directive to use one’s knowledge of Hooke’s law, and possibly other natural laws, to engage in an *ad hoc* trial-and-error process of changing the characteristics of a liner until a desired result is achieved.”<sup>9</sup> Merely applying Hooke’s law was

seen by the court as at odds with the re-tooled law of patent eligibility: “[t]hus, the problem is that the claims’ instruction to tune a liner essentially amounts to the sort of directive prohibited by the Supreme Court in *Mayo*—i.e. ‘simply stat[ing] a law of nature while adding the words ‘apply it.’”<sup>10</sup>

Still, the cause of greatest discomfort for the Federal Circuit was the result-focused nature of the claim language invoking the judicial exception, and the absence of the means for achieving the result. The court leaned on Supreme Court caselaw preceding *Mayo* and *Alice* for solace: “[t]he Supreme Court’s analysis in *Parker v. Flook* reinforces our conclusion that a claim to a natural law concept without specifying the means of how to implement the concept is ineligible under section 101.”<sup>11</sup> The court observed parallels in the ineligible claims in *Flook* and those at issue: “as in *Flook*, where the patent did not disclose how variables were measured nor the means by which the alarm system functioned, the claims here do not disclose how target frequencies are determined or how, using that information, liners are tuned to attenuate two different vibration modes simultaneously.”<sup>12</sup> The court contrasted the asserted claims with those in another Supreme Court case, *Diamond v. Diehr*, which were held eligible: “[t]he invention [in *Diehr*] involved a new rubber-curing process with a specific and detailed series of steps (one of which included the use of a natural law) that limited the possibility of preempting the natural law itself.”<sup>13</sup>

Lastly, while the vibration attenuation technology at issue may have been more complex than a simple application of Hooke’s law, the court wanted to see more in the claims themselves: “[w]hat is missing is any physical structure or steps for achieving the claimed result of damping two different types of vibrations. The focus of the claimed advance here is simply the concept of achieving that result, by whatever structures or steps happen to work.”<sup>14</sup> The court hence concluded that the claims were indeed directed to a law of nature under step one of the *Mayo/Alice* analytical framework.<sup>15</sup>

The claims fared no better under step two. In a brief analysis, the court found nothing in the claims that constituted an inventive concept and amounted to significantly more than a patent on the law of nature itself.<sup>16</sup> Here, the court remained unimpressed by the claimed advance of tuning a liner to reduce two types of vibrations in propshafts at the same time: “. . . this direction to engage in a conventional, unbounded trial-and-error process does not make a patent eligible invention, even if the desired result to which that process is directed would be new and unconventional.”<sup>17</sup>

Falling short in each step, the Federal Circuit concluded that the claims were not eligible for patent protection under § 101.<sup>18</sup>

A sharp dissent accompanied the majority decision. Among the faults it found, the dissent viewed the majority’s analyses under steps one and two of the *Mayo/Alice* framework as flawed,<sup>19</sup> and viewed the majority’s unease with the result-focused nature of the claims as an issue more appropriately addressed by another section altogether of the patent statute, enablement under § 112.<sup>20</sup>

And in a rare move, a day after *American Axle* was decided by the Federal Circuit, a U.S. congressman and member of the House Judiciary Committee, the body whose oversight includes the federal courts and intellectual property law, released a statement criticising the court’s finding of ineligibility in stark terms.

### Update – *American Axle & Manufacturing, Inc. v. Neapco Holdings LLC II*

As evidence of how controversial the case remains, the Federal Circuit modified and reissued its original opinion in *American*

*Axle* 10 months later, and on the eve of this chapter’s publication. The modified opinion, *American Axle II*,<sup>21</sup> followed a combined petition for a panel rehearing and a rehearing *en banc*.

Among the changes in *American Axle II*, the court drew a distinction between representative claims 1 and 22. The court concluded that claim 22 was still not eligible under § 101, but remanded to the lower court to address whether claim 1 can withstand scrutiny under another basis of ineligibility – the abstract idea judicial exception rather than the law of nature exception. What saved claim 1 at this turn is the claim’s more general recitation of “tuning”, compared to claim 22’s recitation “tuning a mass and a stiffness of at least one liner”. The more general language of claim 1, the court observed, could involve controlling variables other than mass and stiffness. Moreover, unlike claim 22, claim 1 calls for “positioning the at least one liner”.

### Comments

The *American Axle* decision is a first of its kind in the modern era of U.S. patent eligibility. Contemporary eligibility issues had kept a safe distance from mechanical technologies and from the method of manufacturing claims, but now make their way to automotive propshafts and tuning liners in the case. While possibly roused by the decision, an onset of eligibility woes as unsettling as that experienced in the computer implemented and life science fields after *Mayo* and *Alice*, is less likely in the mechanical field. Claim protection for mechanical inventions can often be shaped in more concrete ways than inventions in these other fields, and the claims at issue in *American Axle* were method claims and not apparatus claims which are more common for mechanical inventions.

Still, the decision is an unpredictable turn for an already unpredictable area of law, and mechanical practitioners are wise to proceed with caution. Claim language that is result-focused in nature – and imprecise and even silent as to the means for achieving the result – is not uncommon for claims of all kinds, including those to mechanical inventions. Indeed, it can be an effective strategy to secure desired claim breadth when injected at the point of novelty and when permitted by the prior art. But result-focused claim language should be employed wittingly, and mindful of the potential patent eligibility risks posed, especially when an application of a judicial exception is involved and the means to achieve the result are less apparent. Should the claims be found to too heavily invoke one of the judicial exceptions, like a law of nature, the claims will have to withstand eligibility scrutiny alone and without reliance on the detailed description.

The key is sensing when claims lean on a judicial exception too much, putting them at risk. This is the challenge. A helpful guide is through the lens of claim breadth and preemption. In *American Axle*, the court’s protests against claiming the result without the means, and the accompanying generous breadth, is also a concern about undue preemption of Hooke’s law. Broader claim language tends to preempt the use of a judicial exception (when invoked) more than that of the narrower sort, and hence may invite more scrutiny under the law of patent eligibility moving forward for mechanical inventions. Having good antennae is useful here. Of course, the usual advice to prepare claims of varying scope – some more result-focused in nature, and others more means-focused in nature – could strengthen mechanical claims against patent eligibility challenges.

## Conclusion

Where the fault lines for patent eligibility begin and end and lie in-between is unclear. Absent further guidance from the U.S. Supreme Court or the legislature, one can expect the lines to remain fluid. In the meantime, the U.S. patent community in all technology fields is accustomed to living with uncertainty in the patent laws. This is the state of things in the post-America Invents Act (AIA) era and with the Supreme Court's appetite for patent matters in the previous decade or so. One constant is patent quality. Readyng patent protection for whatever challenges lie ahead begins with rigor in preparation: thorough understanding of the technology; thoughtful independent claims, backed by strong dependent claims; in-depth descriptions; and careful attention to evolving patent laws. At least that much is clear.

## Note

The views expressed in this chapter are those of the author.

## Endnotes

1. *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 132 S.Ct. 1289 (2012).
2. *Alice Corp. Pty. Ltd. v. CLS Bank International*, 573 U.S. 208, 134 S.Ct. 2347 (2014).
3. 939 F.3d 1355 (Fed. Cir. 2019).
4. 35 U.S.C. § 101 (2012).
5. *Diamond v. Diebr*, 450 U.S. 175, 185 (1980).
6. *Alice*, 573 U.S. at 217–18, and *Mayo*, 566 U.S. at 72–73.
7. *American Axle*, 939 F.3d at 1368.
8. *Id.* at 1366.
9. *Id.* at 1364.
10. *Id.* at 1362.
11. *Id.* at 1365.
12. *Id.* at 1366.
13. *Id.*
14. *Id.* at 1366–67.
15. *Id.* at 1366.
16. *Id.* at 1367.
17. *Id.*
18. *Id.* at 1368.
19. *Id.* at 1369–73.
20. *Id.* at 1373–74.
21. 2020 WL 4380419 (Fed. Cir. July 31, 2020).



**Corey M. Beaubien** is a shareholder at Reising Ethington P.C. He joined Reising in 2002 and currently serves on the firm's management committee. His day-to-day practice focuses on developing and managing domestic and international patent portfolios, but his IP experience is more wide-ranging. Corey prepares and prosecutes utility patent applications in the mechanical and electro-mechanical technology fields, and renders opinions on patent infringement and invalidity issues. Further, he has considerable experience with industrial design patents. Corey works with innovators in the automotive, medical, aerospace, and robotics industries, and works with professors at prominent U.S. universities.

**Reising Ethington P.C.**  
755 West Big Beaver Road  
18<sup>th</sup> Floor, Suite 1850  
Troy, Michigan, 48084  
USA

Tel: +1 248 689 3500  
Email: [beaubien@reising.com](mailto:beaubien@reising.com)  
URL: [www.reising.com](http://www.reising.com)

Since its founding in Detroit in 1865, Reising Ethington has specialised solely in the practice of intellectual property (IP) law. Areas of expertise include IP prosecution and litigation, managing worldwide patent and trademark portfolios, post-grant proceedings, trade secrets, licensing, and other IP-related agreements. The firm represents some of the world's most innovative and foremost IP owners, including automotive manufacturers and suppliers, medical technology companies, aerospace companies, universities, industrial equipment makers, robotics companies, and consumer product companies.

Reising enjoys a rich history of partnership with many of its clients, including in the automotive industry where the firm worked to protect the ideas of automotive pioneers Ransom E. Olds, David Buick, and the Fisher

Brothers. Dating back several decades, attorneys at Reising have authored seven editions of the U.S. law school textbook *Cases and Materials on Patent Law Including Trade Secrets*, published by West Academic Publishing.

[www.reising.com](http://www.reising.com)



# ICLG.com

## Current titles in the ICLG series

Alternative Investment Funds  
Anti-Money Laundering  
Aviation Finance & Leasing  
Aviation Law  
Business Crime  
Cartels & Leniency  
Class & Group Actions  
Competition Litigation  
Construction & Engineering Law  
Consumer Protection  
Copyright  
Corporate Governance  
Corporate Immigration  
Corporate Investigations  
Corporate Tax  
Cybersecurity  
Data Protection  
Derivatives  
Designs  
Digital Business

Digital Health  
Drug & Medical Device Litigation  
Employment & Labour Law  
Enforcement of Foreign Judgments  
Environment & Climate Change Law  
Environmental, Social & Governance Law  
Family Law  
Fintech  
Foreign Direct Investment Regimes  
Franchise  
Gambling  
Insurance & Reinsurance  
International Arbitration  
Investor-State Arbitration  
Lending & Secured Finance  
Litigation & Dispute Resolution  
Merger Control  
Mergers & Acquisitions  
Mining Law  
Oil & Gas Regulation

Outsourcing  
Patents  
Pharmaceutical Advertising  
Private Client  
Private Equity  
Product Liability  
Project Finance  
Public Investment Funds  
Public Procurement  
Real Estate  
Renewable Energy  
Restructuring & Insolvency  
Sanctions  
Securitisation  
Shipping Law  
Telecoms, Media & Internet  
Trade Marks  
Vertical Agreements and Dominant Firms