



HIGH COURT OF AUSTRALIA

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IN THE HIGH COURT OF AUSTRALIA
SYDNEY REGISTRY

No. S40 of 2022

BETWEEN: ARISTOCRAT TECHNOLOGIES AUSTRALIA PTY LTD
(ACN 001 660 715)
Appellant

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and

COMMISSIONER OF PATENTS
Respondent

INTERVENER'S SUBMISSIONS

Part I:

1. I certify that this submission is in a form suitable for publication on the internet.

20 **Part II:**

2. The Fédération Internationale des Conseils en Propriété Intellectuelle (**FICPI**) seeks to make the following submissions as *amicus curiae* for the hearing of the Appellant's appeal in this proceeding.

Part III:

3. FICPI wishes to make submissions with respect to the position under US law, and as it is practised in that jurisdiction, on the requirement for patent eligible subject matter. The Appellant describes that position as "*in chaos*": Appellant's appeal submissions filed 20 April 2022 (**AS**) at [43]. FICPI's proposed submissions, set out below, support that sentiment.

30 4. FICPI was founded in 1906 and is a professional body with more than 5,000 members from about 80 countries and regions around the world. FICPI represents the interests of intellectual property attorneys in private practice and is driven by a shared interest among like-minded professionals to promote common solutions and advocacy in respect of intellectual property issues. FICPI liaises with national and regional IP offices as well as other groups, such as the World Intellectual Property Organisation, to provide input from the perspective of IP users, being the clients of FICPI members, in relation to intellectual property protection, and to foster

international co-operation within the profession of intellectual property attorneys. FICPI members serve clients ranging from individuals and small businesses, to large multinationals, as well as universities, government and non-government bodies and other organisations that require representation in patent, trade mark, design, copyright, trade secrets and other forms of IP.

5. FICPI members engage with each other through FICPI's committee structure and, in the course of their work, in the prosecution of their clients' patent applications and patents in numerous jurisdictions. These practices afford FICPI members the ability to become familiar with the legal principles, and their application, in jurisdictions outside the country in which they principally work.
6. FICPI members, through the various Commission d'Etude et Travail (ie. Study and Work Committees, known as **CETs**), represent manufacturers and developers of a kaleidoscope of inventions, including inventions implemented on computers, which are then sought to be patented across multiple jurisdictions. Relevant to the issues in the present appeal, FICPI's 'CET 6' considers software, high-tech and computer-related issues facing innovators in these areas. CET 6 comprises FICPI members from around the world. CET 6 is also responsible for monitoring and staying current with trends around the world related to patent subject matter eligibility issues affecting these technology areas, including judicial pronouncements on patentability.
7. CET 6 is the principal voice and authority within FICPI on issues and trends related to all emerging digital technologies and IP practice-related issues for practitioners representing clients in these technology fields. The views expressed in these submissions on behalf of FICPI essentially reflect the work undertaken, and views held, by CET 6 in recent years in its evaluation and assessment of patent subject matter eligibility issues affecting software, high-tech and computer-related innovations.
8. FICPI considers it is therefore in a unique position to make submissions with respect to:
 - (a) The position under US law, and as it is practised in that jurisdiction, on the requirement for patent eligible subject matter, in particular with respect to inventions that are implemented on computers; and

- (b) The concerns held by FICPI members with respect to the application of the Full Federal Court’s test in *Commissioner of Patents v Aristocrat Technologies Australia Pty Limited* [2021] FCAFC 202 (*Aristocrat*) for patentability of computer-implemented inventions.

Part IV:

9. **Introduction:** FICPI supports the Appellant’s appeal generally because FICPI considers (a) the decision in *Aristocrat* is inconsistent with authority of this Court, (b) incorrectly introduces into the threshold for patentable subject matter concepts that overlap with the novelty and inventive step requirements, and (c) is inconsistent with Article 27(1) of the TRIPS Agreement¹ by limiting (or restricting) the patentability of products and processes in all fields of technology. Further, FICPI supports the Appellant’s summary of the US position at AS [40]-[43].
10. **FICPI joins with Appellant and IPTA:** In addition to AS, FICPI has been provided with the submissions proposed to be made in this appeal by the Institute of Patent and Trade Mark Attorneys of Australia (**IPTA**). With respect to matters (a), (b) and (c) referred to above, FICPI supports the submissions made by the Appellant and IPTA with respect to those matters (to the extent their respective submissions address those matters).
11. As to matter (c), FICPI wishes to add and draw attention to the position in New Zealand. As with Australia, New Zealand is a signatory to the TRIPS Agreement. Article 27(1) of the TRIPS Agreement provides that “*patents shall be available for any inventions, whether products or processes, in all fields of technology, provided that they are new, involve an inventive step and are capable of industrial application*”. Paragraphs (2) and (3) of Article 27(1) provide that a member may exclude certain treatments or processes from patentability via their local legislation.
12. In 2013, a new *Patents Act* was enacted in New Zealand to replace the *Patents Act 1953*. Prior to the enactment of the new *Act*, inventions directed to computer programs were deemed patentable subject matter provided they produced a

¹ World Trade Organisation Agreement on Trade-Related Aspects of Intellectual Property Rights made at Marrakesh on 15 April 1994 (**TRIPS Agreement**).

commercially useful effect in accordance with the principles enunciated in *NRDC*² and *GEC*³ with respect to manner of manufacture.⁴

13. However, the *Patents Act 2013* now provides that computer programs are considered “not an invention and not a manner of manufacture”⁵, and that a claim in a patent (or patent application) “relates to a computer program as such” if the actual contribution made by the alleged invention lies solely in it being a computer program.⁶ This “as such” exclusion was included to make the legislation consistent with New Zealand’s obligations under the TRIPS Agreement.⁷ The UK, also a signatory to the TRIPS Agreement, has a similar provision which excludes computer programs from patentability: see *Patents Act 1977*, s1(2)(c).

14. FICPI wishes to draw attention to the fact that in order to remove “computer programs as such” from patentability, and thereby carve such inventions out from the breadth of operation of the principles enunciated in *NRDC* and *GEC*, it was necessary for legislative intervention in New Zealand.

15. It is then appropriate to turn to the principal matter upon which FICPI seeks to make submissions.

16. **US position:** The starting point for consideration of the US position is the statutory provision concerning patent eligible subject matter. The relevant provision, 35 US Code §101 (titled “*Inventions patentable*”), provides as follows:

20 “Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.”

17. Section 101 is a broad statement of potentially patentable subject matter. It may be discerned as mandating the following for patentability of an alleged invention:

“any new and useful:

[1] process;

² *National Research Development Corporation v Commissioner of Patents* (1959) 102 CLR 252.

³ *GEC’s Application* (1943) 60 RPC 1.

⁴ The leading authority in New Zealand for the adoption of the *NRDC* test in that jurisdiction is *Swift and Co v Commissioner of Patents* [1960] NZLR 775, see in particular the remarks at 779 (lines 29-32) and 781 (lines 20-27).

⁵ *Patents Act 2013* (NZ), s 11(1).

⁶ *Patents Act 2013* (NZ), s 11(3).

⁷ See *Patents Bill 235-2* (NZ), which was amended by the House of Representatives (NZ) Supplementary Order Paper No 120, 28 August 2012 (see in particular the explanation provided in the Explanatory Note).

[2] machine;
[3] article of manufacture; or
[4] composition, or
any new and useful improvement thereof.”

18. It may be observed that the statute does not include ‘information’ or ‘ideas’. Those matters fall outside the statutory definition.
19. Section 101 acts as a broad gatekeeper based on clearly defined prerequisites. On the face of the provision, matters concerning the merits of an invention, such as
10 inventive step, play no part in assessing patentability. As the US Supreme Court explained in *Diamond v Chakrabarty*: “[t]he subject-matter provisions of the patent law have been cast in broad terms to fulfill the constitutional and statutory goal of promoting ‘the Progress of Science and the useful Arts.’”⁸
20. About ten years ago, the law of patent eligible subject matter took a stark turn in a different direction by reason of the US Supreme Court’s decision in *Mayo Collaborative Services v Prometheus Laboratories Inc.*, 566 US 66 (2012) (**Mayo**), followed shortly thereafter by *Alice Corporation Pty Ltd v CLS Bank International*, 573 US 208 (2014) (**Alice**). It is the impact of *Mayo* and *Alice* on patent practice in the US which has resulted in considerable uncertainty and confusion, which the
20 Appellant correctly describes as “chaos”: AS [43].
21. In *Mayo*, the patents in issue concerned the use of thiopurine drugs in the treatment of autoimmune diseases. The patents claimed methods of optimising therapeutic efficacy for treatment of these diseases by measuring metabolites in the bloodstream in order to calibrate the appropriate dosage of thiopurine drugs. Scientists already understood that the levels in a patient’s blood of certain metabolites, including those claimed, were correlated with the likelihood that a particular dosage of a thiopurine drug could cause harm or prove ineffective. But those in the field did not know the precise correlations between metabolite levels and likely harm or ineffectiveness. The patents claimed processes embodying researchers’ findings that identified these
30 correlations with some precision (*Mayo* at 69-70).
22. The US Supreme Court found that the claims were patent-ineligible because they set forth laws of nature – namely the relationship between concentrations of certain

⁸ *Diamond v Chakrabarty*, 447 US 303, 315 (1980) (quoting US Const art 1 § 8, cl 8).

metabolites in the blood and the likelihood that a dosage of thiopurine drug will prove ineffective or cause harm (*Mayo* at 73). The US Supreme Court then analysed the elements of the claims and determined that nothing set out in the claims was sufficient to transform the nature of the claims into a patent eligible invention (*Mayo* at 74). By this analysis, the US Supreme Court adopted a new framework for assessing the requirements of Section 101.

23. ***Mayo/Alice test***: As stated at AS [42], the US Supreme Court’s interpretation of Section 101 requires a two-step test (*Alice* at 214):

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“In [*Mayo*] we set forth a framework for distinguishing patents that claim laws of nature, natural phenomena, and abstract ideas from those that claim patent-eligible applications of those concepts. First, we determine whether the claims at issue are directed to one of those patent-ineligible concepts. If so, we then ask, “[w]hat else is there in the claims before us?” To answer that question, we consider the elements of each claim both individually and “as an ordered combination” to determine whether the additional elements “transform the nature of the claim” into a patent-eligible application. We have described step two of this analysis as a search for an “inventive concept”—i.e., an element or combination of elements that is “sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the [ineligible concept] itself.” (*References omitted, emphasis added*).”

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24. The Appellant rightly draws attention to the words “*inventive concept*” as part of its criticism of the second enquiry involving an overlap with other matters concerning the merits of an invention and whether an invention is, ultimately, patentable.

25. In *Alice*, the patents in suit related to a computerised scheme for mitigating “settlement risk” (ie. the risk that only one party to an agreed-upon financial exchange will satisfy its obligation) (see *Alice* at 209-210). In particular, the claims were designed to facilitate the exchange of financial obligations between two parties by using a computer system as a third-party intermediary. The intermediary created “shadow” credit and debit records (ie. account ledgers) that mirrored the balances in the parties’ real-world accounts at “exchange institutions” (eg. banks). The intermediary updated the shadow records in real time as transactions were entered, allowing “only those transactions for which the parties’ updated shadow records indicated sufficient resources to satisfy their mutual obligations.” At the end of the day, the intermediary instructed the relevant financial institutions to carry out the “permitted” transactions in accordance with the updated shadow records, thus mitigating the risk that only one party will perform the agreed-upon exchange.

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26. The Court applied the framework it developed in *Mayo* to find that the claims in *Alice* were patent ineligible (see *Alice* at 214, 216, 222-223). In applying the first step, the Court found that the claims in *Alice* were directed to a patent-ineligible concept: the abstract idea of intermediated settlement, ie. the use of a third party to mitigate settlement risk (*Alice* at 216). Turning to the second step, the Court found that the claims in issue amounted to nothing significantly more than an instruction to apply the abstract idea of intermediated settlement using some unspecified, generic computer. This was not “*enough*” to transform an abstract idea into a patent-eligible invention (*Alice* at 222-223).
- 10 27. ***US judicial observations regarding Mayo/Alice test:*** In applying the *Mayo/Alice* test, various US Courts have expressed considerable frustration as to the confused state of US law on patent eligible subject matter. Those judicial pronouncements are significant, and include the following in the Courts of the US Federal Circuit.
28. In *Axle & Mfg Inc v Neapco Holdings LLC*⁹, Moore J¹⁰ (as she then was) said in relation to *Alice*:
- "A disturbing amount of confusion will surely be caused by this opinion, which stands for the proposition that claims can be ineligible as directed to a natural law even though no actual natural law is articulated in the claim or even the specification."
- 20 29. In *Interval Licensing LLC v AOL Inc*¹¹, Plager J¹² said:
- "The law, as I shall explain, renders it near impossible to know with any certainty whether the invention is or is not patent eligible. Accordingly, I also respectfully dissent from our court's continued application of this incoherent body of doctrine."
30. In *Athena Diagnostics*¹³, Lourie J¹⁴ observed:

⁹ *Am. Axle & Mfg., Inc. v. Neapco Holdings, LLC*, 966 F.3d 1347, 1357 (Fed. Cir. 2020) (Moore J, dissenting from denial of rehearing *en banc*).

¹⁰ Chief Judge Moore (her present title) was appointed to the United States Court of Appeals for the Federal Circuit in 2006 and assumed the duties of Chief Circuit Judge on 22 May 2021. Prior to her appointment, Moore CJ was a Professor of Law specialising in IP from 1997 to 2006 at various US law schools including George Mason University School of Law, University of Maryland School of Law, and Chicago-Kent College of Law.

¹¹ *Interval Licensing LLC v. AOL, Inc.*, 896 F.3d 1335, 1348 (Fed. Cir. 2018) (Plager J., concurring-in-part, dissenting-in-part).

¹² Judge Plager was appointed to the United States Court of Appeals for the Federal Circuit in 1989. Prior to his appointment, Judge Plager served in the Executive Office of Presidents Reagan and Bush and as Counselor to the Under Secretary of the United States Department of Health and Human Services. Before coming to Washington, Judge Plager was Dean and Professor at the Indiana University School of Law; Professor, Faculty of Law, at the University of Illinois; and Professor, Faculty of Law, at the University of Florida, as well as visiting professor at Stanford University, University of Wisconsin, and Cambridge University, England.

“The laws of anticipation, obviousness, indefiniteness, and written description provide other filters to determine what is patentable. But we do not write here on a clean slate; we are bound by Supreme Court precedent.... Accordingly, as long as the Court's precedent stands, the only possible solution lies in the pens of claim drafters or legislators. We are neither.”

31. In *Ariosa Diagnostics, Inc. v. Sequenom, Inc.*¹⁵, Linn J¹⁶ said:

"But for the sweeping language in the Supreme Court's *Mayo* opinion, I see no reason, in policy or statute, why this breakthrough invention should be deemed patent ineligible."

10 32. Two further non-judicial statements ought be noted. In relation to a Senate sub-
committee hearing held in 2019 regarding intellectual property laws in the US, the
following was said from two eminently experienced perspectives in relation to the
test for patent eligible subject matter since *Mayo/Alice*. The Hon Paul R Michel
(ret'd Chief Judge of the United States Court of Appeals for the Federal Circuit¹⁷)
said: "*If I, as a judge with 22 years of experience deciding patent cases on the
Federal Circuit's bench, cannot predict outcomes based on case law, how can we
expect patent examiners, trial judges, inventors and investors to do so?*"¹⁸
Additionally, the Hon David Kappos (former USPTO Director¹⁹) said: "*Our current
patent eligibility law truly is a mess. The Supreme Court, Federal Circuit, district
20 courts, and USPTO are all spinning their wheels on decisions that are
irreconcilable, incoherent, and against our national interest.*"²⁰

33. **Academic writing confirming confused state of US law:** The expressions of
frustration by US Courts have been echoed in academic writings on the confused
state of US law. US academics have been highly critical of the *Mayo/Alice* test.

¹³ *Athena Diagnostics*, 927 F.3d at 1334 (Lourie J., concurring in denial of rehearing *en banc*).

¹⁴ Judge Lourie was appointed to the United States Court of Appeals for the Federal Circuit in 1990. Prior to his appointment, Judge Lourie was Vice President, Corporate Patents and Trademarks and Associate General Counsel at SmithKline Beecham Corporation.

¹⁵ *Ariosa Diagnostics, Inc. v. Sequenom, Inc.*, 788 F.3d 1371, 1381 (Fed. Cir. 2015) (Linn J., concurring).

¹⁶ Judge Linn was appointed to the United States Court of Appeals for the Federal Circuit in 1999. Prior to his appointment, Judge Linn was a partner and practice group leader at Foley and Lardner from 1997 to 1999 and a partner and head of the intellectual property department of Marks and Murase from 1977 to 1997. Judge Linn also served as a Patent Examiner from 1965 to 1968.

¹⁷ The Hon. Paul R. Michel was appointed to the United States Court of Appeals for the Federal Circuit in 1988. He served as Chief Judge from 2004 to 2010, and retired on 31 May 2010.

¹⁸ *Hearing Before the Subcomm. on Intellectual Property of the S. Comm. on the Judiciary*, 116th Cong. (2019) (statement of Hon. Paul R. Michel).

¹⁹ The Hon. David J. Kappos served as Under Secretary of Commerce for Intellectual Property and Director of the U.S. Patent and Trademark Office (USPTO) from 2009 to 2013.

²⁰ *Hearing Before the Subcomm. on Intellectual Property of the S. Comm. on the Judiciary*, 116th Cong. (2019) (statement of David J. Kappos).

34. An authoritative critic is Professor David O. Taylor²¹ who has written extensively²² about the negative impact of the *Mayo/Alice* test. Professor Taylor’s statement below with reference to *Alice* (and *Bilski*²³) serves as a convenient and useful example of the views commonly expressed in US academic literature:

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“Notably, the Supreme Court struggled to identify why the claims at issue were directed to abstract ideas. All the Court could do was summarize its precedent and then conclude that the claim was directed to an abstract idea. Even worse, as already described, only by ignoring claim limitations has the court concluded that a claim merely describes a natural law, physical phenomenon, or abstract idea. Particularly with respect to the abstract idea exception, this logic is circular. It is hardly surprising that an abstraction of the actual claim language is found to be abstract.”²⁴

35. In similar vein he observed later in the same paper (at p235):

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“Ironically, while the underlying policies have been confused and the proper analysis of patent eligibility under the Supreme Court’s recent precedent lacks administrability, the result of all this confusion is seemingly clear: the result seems to be that, when challenged, patent applications and issued patents in certain technology areas (software and biotechnology most prominently) probably do not satisfy the requirement of eligibility. This is because of the two overarching problems with the current test governing eligibility, the unfettered access the test provides to the smorgasbord of supporting policies justifying different limits on patentability, and the test’s subjective nature.”

36. Administrability refers to the extent to which a judicial test is able to be applied in practice by, for example, other Courts, examiners of the US Patent & Trade Marks Office (**USPTO**), and patent practitioners. Consistent with FICPI’s experience, Professor Taylor has observed:

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“The outcry for more clarity and guidance, regarding the governing test for eligibility in particular, has been deafening. Indeed, one of the most significant problems with the current approach to patent eligibility is its lack of administrability.”²⁵

37. ***Concerns held by FICPI members in the US regarding Alice/Mayo test:*** Prior to the *Mayo/Alice* cases there were only a handful of precedential Federal Circuit decisions on patent eligible subject matter. However, in the ten-year period between 2009 and 2019, CET 6 is aware that there have been 129 precedential decisions on abstract idea, 12 decisions on law of nature, and 2 decisions on natural phenomenon. FICPI regards that this data reveals the significant uncertainty that has occurred since

²¹ Southern Methodist University, Dedman School of Law and Director of the Tsai Center for Law, Science and Innovation.

²² For example, “*Amending Patent Eligibility*”, 50 U.C. Davis Law Review 2149 (2017), “*Patent Eligibility and Investment*”, 41 Cardozo Law Review 2019 (2020).

²³ *Bilski v Kappos*, 561 US 593 (2010).

²⁴ “*Confusing Patent Eligibility*”, 84 Tennessee Law Review 157 (2016) at p230.

²⁵ Ibid at p235.

the *Mayo/Alice* decisions, which has led to an exponential increase in litigation on the issue of patent eligible subject matter.

38. In CET 6's experience since the *Mayo/Alice* decisions, US practitioners regard the two US Supreme Court decisions as having conflated obviousness with patent eligibility. Particularly in the application of step two of the *Alice* test by both the Courts and also by examiners at the USPTO, US practitioners have found decisions to appear to turn largely on whether the decision-maker considers an alleged invention to have inventive merit, or not. That has led to a large body of case law from which it has not been possible to discern a clear objective standard.

10 39. With respect to computer-implemented inventions, US practitioners consider the application in practice of step two of the *Alice* test does not properly recognise the extent to which computers have assumed prevalence in the implementation of innovations. In that way, computer-implemented technologies have become regarded in practice as extremely difficult to patent. FICPI considers this has adversely impacted the development of innovations in the US in fields where computer-implemented technologies are used (which FICPI considers to be most fields these days).

40. ***Concerns held by FICPI members regarding Aristocrat:*** In its review of international decisions as part of its work, CET 6 has considered the two step test set out in the decision of Middleton and Perram JJ in *Aristocrat* (at [26]-[27]). CET 6's assessment of the *Aristocrat* test is that, in practice, it is highly likely to have the same chilling effect on innovation in Australia as has been experienced in the US with respect to the *Mayo/Alice* test. By restricting patentable computer-implemented inventions to those able to be described as an "*advance in computer technology*" (*Aristocrat* at [26]), the *Aristocrat* test risks excluding many (and likely all) *applications* of computer technology in different fields. Many cutting-edge inventions involve innovative uses for computing, such as applying artificial intelligence to medicine or analytics, and in the control of manufacturing processes. The *Aristocrat* test, when applied, will almost always exclude such inventions from patentability. Further, it is expected that the requirement to show an "*advance*" in computer technology is susceptible to the same sorts of inconsistencies amongst decision-makers that perpetuate in the administrability of the *Mayo/Alice* test in the US.

41. FICPI is therefore very concerned that the *Aristocrat* test will, in practice in Australia, lead to a similar state of confusion and chaos to that which is found in the US by reason of the *Mayo/Alice* test.

42. **Conclusion:** FICPI submits that the abovementioned matters galvanise the Appellant's submission that the US law on patent eligible subject is not an appropriate reference point for considering the issues arising in the appeal.

43. FICPI is unaware of any jurisdiction other than Australia which provides a two step test devised for determining the patentability computer-implemented technologies (which includes a requirement to show "*an advance in computer technology*"), being a distinctly different test to that which is applied for inventions in other fields of endeavour. In FICPI's view, the *Aristocrat* test puts Australia out of step with every other jurisdiction around the world.

44. FICPI submits the Appellant's appeal should be allowed.

Part V:

45. FICPI is willing, but does not seek, to be heard at the appeal hearing. If the Court would wish to hear from FICPI, it estimates that approximately 20 minutes would be required for its oral argument.

Dated: 4 May 2022



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ANNEXURE

Patents Act 2013 (NZ) – as at 28 October 2021

Patents Bill 2008 (2010 No 235-2) (NZ)

NZ House of Representatives - Supplementary Order Paper No. 120 dated Tuesday, 28 August 2012

Patents Act 1977 (UK)- as at 2 May 2022

10 World Trade Organisation Agreement on Trade-Related Aspects of Intellectual Property Rights made at Marrakesh on 15 April 1994