

No. 20-891

IN THE

Supreme Court of the United States

AMERICAN AXLE & MANUFACTURING, INC.,
Petitioner,

—v.—

NEAPCO HOLDINGS LLC and NEAPOCO DRIVELINES LLC,
Respondents.

ON PETITION FOR A WRIT OF CERTIORARI TO THE UNITED STATES
COURT OF APPEALS FOR THE FEDERAL CIRCUIT

**BRIEF FOR THE NEW YORK CITY BAR ASSOCIATION
AS *AMICUS CURIAE* SUPPORTING PETITIONER**

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**STATEMENT OF INTEREST OF
*AMICUS CURIAE***

The New York City Bar Association (“Association”), through its Committee on Patents, submits this *amicus curiae* brief in support of granting the petition for certiorari that was docketed in this case on January 5, 2021. The Association files this brief in support of petitioner American Axle & Manufacturing, Inc. in accordance with Rule 37 of the Supreme Court Rules. The parties to this appeal have been given notice of and have consented to the filing of this amicus brief.¹

The Association is a private, non-profit organization of more than 25,000 members who are professionally involved in a broad range of law-related activities. Founded in 1870, the Association is one of the oldest bar associations in the United States. The Association seeks to promote reform of the law and to improve the administration of justice in support of a fair society and the public interest in our community, our nation, and throughout the world through its more than 150 standing and special committees. The Committee on Patents (“Patents Committee”) is a long-established standing committee of the Association, and its membership reflects a wide range of corporate, private practice and academic experience in patent law. The members of the Patents

¹ Pursuant to Supreme Court Rule 37.6, counsel for the *amicus curiae* states that no counsel for a party authored this brief in whole or in part; and that no party or counsel for a party made a monetary contribution intended to fund the preparation or submission of this brief. No person other than *amicus curiae* or its counsel made a monetary contribution to this brief’s preparation or submission.

Committee are dedicated to promoting the Association's objective of improving the administration of the patent laws.

FACTUAL BACKGROUND

The patent in this case, U.S. Patent No. 7,774,911 (“the patent-in-suit” or “the '911 patent”) is about an invention relating to automobile driveshafts. The Federal Circuit addressed claim 1 and claim 22 of the '911 patent that share many similarities including the same preamble:

A method for manufacturing a shaft assembly of a driveline system, the driveline system further including a first driveline component and a second driveline component, the shaft assembly being adapted to transmit torque between the first driveline component and the second driveline component.

Both claims also include a “tuning” step, but the specific details differ:

Claim 1: “tuning at least one liner to attenuate at least two types of vibration transmitted through the shaft member”

Claim 22: “tuning a mass and a stiffness of at least one liner”

Hence, claim 22 of the '911 patent refers to mass and stiffness, whereas claim 1 does not. The district court held that claims 1 and 22 is not directed to patentable subject matter. The Federal Circuit “vacate[d] the district court’s] judgment as to claim 1 . . . and remand[ed] the case for the district court to address [an] alternative eligibility theory . . .” but

upheld the district court's holding that claim 22 is not directed to patentable subject matter, based on the reference to mass and stiffness in claim 22. *See infra* Argument II(B).

SUMMARY OF THE ARGUMENT

The Federal Circuit's ruling in this case improperly expands the umbrella of patent ineligible subject matter under Section 101 of the Patent Act of 1952 well beyond this Court's precedents, in several ways. First, and most significantly, while the Federal Circuit's decision professes to rely on this Court's Section 101 jurisprudence in holding certain of the patent claims at issue invalid as "directed to the use of a natural law," here—in contrast to this Court's prior cases on the issue—the allegedly-invoked "natural law" is not explicitly recited in the patent claims nor explicitly in the patent specification. Moreover, the Federal Circuit could not even agree on a single definition of what the natural law(s) were. Further, and indicative of the inappropriate weight placed on what should be a threshold eligibility test in Section 101, the Federal Circuit's decision ruled that a mechanical device (an automobile driveshaft) is not patentable subject matter at the threshold Section 101 stage, even if it were to be novel and nonobvious. The discordant nature of the Federal Circuit's conclusion is confirmed by its finding that a patent claim that recited *more* structure was invalid as claiming an ineligible natural law whereas a patent claim with *less* structure may be within the ambit of patentable subject matter.

Were it allowed to stand, the ruling would diminish the value of patents by interjecting more uncertainty into the reach of ineligible subject

matter, risking throwing off balance the incentives to innovation that the patent system is designed to promote.

The Association urges that the Court grant certiorari in order to clarify the scope of patent eligibility under Section 101, and correct the Federal Circuit's improper expansion of ineligible subject matter, in an area of patent law that desperately needs this Court's attention and clarification.

ARGUMENT

I. THE FEDERAL CIRCUIT'S RULING IMPROPERLY EXTENDS SUBJECT MATTER INELIGIBILITY TO UNRECITED NATURAL LAWS AND THREATENS THE PATENT ELIGIBILITY OF SUBJECT MATTER THAT HAS LONG BEEN PATENTABLE AS LONG AS THE SEPARATE REQUIREMENTS OF SECTIONS 102, 103, AND 112 ARE MET

In *Mayo*, this Court held that when a patent claim is directed to a “natural law” or “natural relation”, the patentable subject matter question is whether the claims do “significantly more than simply describe these natural relations.” *Mayo Collaborative Servs. v. Prometheus Labs., Inc.*, 566 U.S. 66, 77 (2012). And, where any additional steps in the claims beyond the natural law merely “consist of well-understood, routine, conventional activity already engaged in by the scientific community, and those steps, when viewed as a whole, add nothing significant beyond the sum of their parts taken separately,” those steps do not suffice to transform an unpatentable natural law into patentable subject matter. *Mayo*, 566 U.S. at 80.

In *Mayo*, the claims at issue *expressly* stated a natural relation: “*if* the levels of 6–TG in the blood (of a patient who has taken a dose of a thiopurine drug) exceed about 400 pmol per 8×10^8 red blood cells, *then* the administered dose is likely to produce toxic side effects.” *Mayo*, 566 U.S. at 77; *cf. Diamond v. Diehr*, 450 U.S. 175, 177 (1981) (holding that a claim for “a process for curing synthetic rubber which *includes in several of its steps the use of a mathematical formula* and a programmed digital computer is patentable subject matter under 35 U.S.C. § 101”) (emphasis added); *Parker v. Flook*, 437 U.S. 584, 585 (1978) (holding that a claim, “[t]he only novel feature of [which] is *a mathematical formula*,” was patent ineligible) (emphasis added).

Here, the Federal Circuit goes further than *Mayo*, *Diehr* and *Flook* by finding patent claims supposedly grounded in natural laws not explicitly recited in the claims to be nonpatentable subject matter. *Am. Axle & Mfg., Inc. v. Neapco Holdings LLC*, 967 F.3d 1285, 1304 (Fed. Cir. 2020) (“*Axle II*”) (Moore, J., dissenting) (“[T]he majority finds claims *directed to* natural laws, yet they clearly contain no such natural law.”).

The Federal Circuit’s expansion of patent ineligible subject matter from a *recited* natural law to include an *unrecited* natural law is not grounded in this Court’s precedents and disrupts the incentives and expectations of our innovative industrial economy. It is also a stark departure in expanding patent ineligible subject matter to a mechanical device (an automobile driveshaft), as opposed to the computer-implemented methods and biotechnology that have been the subject of this Court’s recent

patent subject matter jurisprudence. *Alice Corp. Pty. Ltd. v. CLS Bank International*, 573 U.S. 208 (2014) (computer-implemented method); *Mayo* (biotechnology); *Ass’n for Molecular Pathology v. Myriad Genetics, Inc.*, 569 U.S. 576 (2013) (biotechnology); see also Dennis Crouch, *Hey Mechanical Engineers: Your Patents are Also Ineligible*, <https://patentlyo.com/patent/2019/10/mechanical-engineers-ineligible.html> (last visited Jan. 29, 2021) (commenting on *Am. Axle & Mfg., Inc. v. Neapco Holdings LLC*, 939 F.3d 1355 (Fed. Cir. 2019) (“*Axle I*”)).

As Judge Newman noted in dissenting from denial of en banc rehearing of *Axle I*: “[a]lthough the majority has dialed back its original decision to some degree on panel rehearing, one can still reasonably ponder whether foundational inventions like the telegraph, telephone, light bulb, and airplane—all of which employ laws of nature—would have been ineligible for patenting under the majority’s revised approach.” *Am. Axle & Mfg., Inc. v. Neapco Holdings LLC*, 966 F.3d 1347, 1364 (Fed. Cir. 2020) (“*Axle III*”) (Newman, J., dissenting); cf. *Eibel Process Co. v. Minnesota & Ontario Paper Co.*, 261 U.S. 45, 57-58 (1923) (upholding patentability of a paper making machine that relied on adjusting slope as an aid to drainage by gravity).

The potential logical extension of the Panel’s holding only heightens the issues raised. For example, any claim reciting a moving element necessarily “invokes” a natural law in Newton’s laws of motion. Yet, “[i]t cannot suffice to hold a claim *directed to* a natural law simply because compliance with a natural law is required to practice the method.” *Axle II*, 967 F.3d at 1308 (Moore, J.,

dissenting). Such claims may easily fall prey to a judicially-retoothed Section 101 if the claims contain conventional components that interact (as they logically must) according to the laws of physics – albeit arranged in novel and nonobvious ways and enabled in order to satisfy the requirements of Sections 102, 103, and 112 of the Patent Act. Moreover, the majority’s “Nothing More rule” would foreclose further consideration of the alleged natural law. *Axle II*, 967 F.3d at 1298 (“Claim 22 here simply instructs the reader to tune the liner to achieve a claimed result, without limitation to particular ways to do so. This holding as to step 1 of *Alice* extends only where, as here, a claim on its face clearly invokes a natural law, and *nothing more*, to achieve a claimed result.”) (emphasis added). And it would render superfluous Sections 102, 103, and 112, which disqualify inventions that are anticipated and/or obvious in light of the prior art, and/or not enabled, and are separate from Section 101’s patentable subject matter threshold requirement. *See* 35 U.S.C. §§ 102, 103, 112. Prior to enactment of the 1952 Patent Act, the relevant House Committee stated that:

The corresponding section of existing statute is split into two sections, section 101 relating to the subject matter for which patents may be obtained, and section 102 defining statutory novelty and stating other conditions for patentability.

H.R. REP. NO. 82-1923, at 17 (1952).² The corresponding Senate report has identical language. S. REP. NO. 82-1979, at 17 (1952); *see also* P. J. Federico,³ *Commentary on the New Patent Act*, reprinted in 75 J. PAT. & TRADEMARK OFF. SOC'Y 161, 176 (1993) (“In the new code, this section has been divided into two sections, section 101 relating to the subject matter for which a patent may be obtained, and section 102 which defines statutory novelty and states other conditions for patentability.”).

Indeed, “[t]here is simply no justification for the majority’s application of its new *Nothing More* test other than result-oriented judicial activism.” *Axle II*, 967 F.3d at 1305 (Moore, J., dissenting). It is unclear what the majority’s basis is for its assurance that “our holding should not be read as an invitation to raise a validity challenge against any patent claim that requires the application of an unstated natural law; our ruling as to claim 1 should make that clear enough” (*id.* at 1301), given the sweeping language of

² The provision on obviousness was included in the 1952 Patent Act, also outside of Section 101, to codify then-existing law: “Section 103, for the first time in our statute, provides a condition which exists in the law and has existed for more than 100 years, but only by reason of decisions of the courts.” H.R. REP. NO. 82-1923 at p. 7; S. REP. NO. 82-1979 at 6. Section 112 was a separate provision in then-existing law and remained as such. H.R. REP. NO. 82-1923 at p. 19; S. REP. NO. 82-1979 at 19.

³ P.J. Federico was a chief patent examiner at the U.S. Patent Office, and wrote the first draft of the 1952 Patent Act and participated in revisions thereto. As a special consultant to the House subcommittee, he was principal author of House Report No. 82-1923, which is substantially the same as Senate Report No. 82-1979, both cited herein. *Paulik v. Rizkalla*, 760 F.2d 1270, 1277 (Fed. Cir. 1985) (Rich, J., concurring).

its ruling as to claim 22 and the strong likelihood that future litigants would attempt to distinguish the ruling as to claim 1 on the facts.

II. THE FEDERAL CIRCUIT'S DECISION IS GROUNDED IN NONSENSICAL INCONSISTENCIES THAT FURTHER UNDERMINE THE PATENT ELIGIBILITY OF PATENT CLAIMS

The Federal Circuit is internally inconsistent both in its attempts to define “Hooke’s Law” and its disparate treatments of claims 1 and 22 of the patent-in-suit. The inconsistencies undermine its holdings and any predictability as to what patentable subject matter constitutes.

A. The Federal Circuit’s Inconsistent Definitions of the “Natural Law” Supposedly Invoked By Petitioner’s Claims Undermine Any Finding of Invalidity Grounded In Allegedly Claiming Only a Natural Law And Illustrate The Federal Circuit’s Stark Departure From This Court’s Precedents

The consistent vein in this Court’s Section 101 jurisprudence is that a patent claim expressly reciting a natural law, without more, is not directed to patentable subject matter. *See supra* § I. But, here, there is little agreement at the Federal Circuit of what exactly the “natural law” implicated by the patent claims at issue is. The majority stated, without apparent support, that “Hooke’s law is an equation that describes the relationship between an object’s mass, its stiffness, and the frequency at

which the object vibrates.” *Axle II*, 967 F.3d at 1291. In contrast, Judge Newman noted, in dissenting from denial of the petition for rehearing en banc, that “Hooke’s law is not defined in the parties’ briefs” but stated that:

Mathematically, Hooke’s law states that the applied force F equals a constant k times the displacement or change in length x , or $F = kx$. The value of k depends not only on the kind of elastic material under consideration but also on its dimensions and shape.

Axle III, 966 F.3d at 1359 (Newman, J., dissenting) (quoting Encyclopædia Britannica, <https://www.britannica.com/science/Hookes-law>).

Thus, while Hooke’s Law was the subject of three appellate decisions below that led to this certiorari petition, the Federal Circuit’s substantively disparate characterizations of the “natural law” at issue only underscore the fraught nature of the attempt to read an *unrecited* natural law into patent claims that at best merely “invoke” that law. This discrepancy illustrates how far the majority has strayed from this Court’s jurisprudence, from a mathematical formula (*Flook*), the Arrhenius equation (*Diehr*), and a correlation (*Mayo*), to any vague “relationship” as implicated here.

The effects of the Federal Circuit’s vagueness are apparent in the majority’s opinion because Petitioner “insists that the process of tuning a liner according to natural laws may involve extensive computer modelling, including finite element analysis (‘FEA’), and experimental modal analysis (that is, trial and

error).” *Axle II*, 967 F.3d at 1294; *see also Axle I*, 939 F.3d at 1364 (“The trial-and-error process for determining the desired frequencies was well-known.”). If the method of claim 22 is, as the majority urges, a mere application of a natural law such as that in *Mayo*, one wonders why extensive computer modeling is needed. Rather, the vague “relationship” on which the majority relies demonstrates the distance traveled from this Court’s decisions in *Flook*, *Diehr*, and *Mayo*.

Further adding to the confusion, in *Flook*, *Diehr*, and *Mayo*, this Court considered whether a claim expressly reciting a single natural law was directed to patentable subject matter. *See supra* § I. Yet the Federal Circuit majority states that *two* natural laws are at issue: Hooke’s law and friction damping, which “is a natural phenomenon whereby damping ‘occur[s] due to the resistive friction and interaction of two surfaces that press against each other as a source of energy dissipation.’”) *Axle II*, 967 F.3d at 1291. Significantly, the majority seemingly uses these natural laws interchangeably:

As the dissent observes, the “directed to” inquiry does not look for all natural laws that are “involved” in a claimed method. Dissent Op. 1307-08. Yet that is the most one can say about *friction damping in the language of claim 22*. What claim 22 says is that “tuning a mass and stiffness of at least one liner” achieves both the attenuations stated in the “wherein” clauses—each of which requires a “tuned” liner. *Tuning a mass and stiffness, as explained above*,

*without further guidance is nothing but
an invocation of Hooke's Law.*

Axle II, 967 F.3d at 1303 (emphasis added). If Hooke's Law and friction damping are the natural laws involved, it is not clear if there is a relationship between them. If there is, does one predominate or are they equal in importance? The majority glossed over these important issues.

As such, the Federal Circuit's multiple and different identifications of what natural law the subject patent claims implicate undermine any conclusion of patent ineligibility.

**B. The Federal Circuit Counterintuitively
Found That a Patent Claim with More
Structure was Patent Ineligible
Whereas a Patent Claim with Less
Structure Was Patent Eligible**

Perhaps the clearest indication of the unjustified expansion of unpatentable subject matter is the Federal Circuit's holding that claim 22 was directed to patent ineligible subject matter whereas claim 1 was not, even though claim 22 actually recited more structure than claim 1. Specifically, claim 22 recites: "tuning a mass and a stiffness of at least one liner," whereas claim 1 recites "tuning at least one liner to attenuate at least two types of vibration transmitted through the shaft member," without reference to mass and stiffness. *Axle II*, 967 F.3d at 1290, 1299. To be clear, and as discussed above, neither claim actually recites Hooke's law or any other natural law. Yet the Federal Circuit found that claim 22—because of its inclusion of mass and stiffness—"requires use of a natural law of relating frequency to mass and

stiffness—i.e., Hooke’s law” and thus was not directed to patentable subject matter. *Id.* at 1293-94. On the other hand, as to claim 1 that does not mention mass and stiffness: “we cannot say claim 1 as construed is directed to a particular natural law and nothing more.” *Id.* at 1300.

As such, the inclusion of sufficient structure in claim 22 to supposedly invoke Hooke’s Law leads to an invalid claim under the majority’s reasoning. In contrast, yet in the same opinion on the same patent claim, the majority faulted the patentee for reciting *insufficient* structure. *Id.* at 1295 (“Claiming a result that involves application of a natural law *without limiting the claim to particular methods of achieving the result* runs headlong into the very problem repeatedly identified by the Supreme Court in its cases shaping eligibility analysis.”) (emphasis added).

The Federal Circuit’s inconsistent treatment of claims 1 and 22 further undermines the concept of patent eligible subject matter and is inconsistent with its own admonitions that sufficient structure should be included in order to achieve a patent eligible claim.

The inconsistent definitions of the natural law implicated by the claims, and inconsistent treatment of the claims in the patent-in-suit, serve to highlight the unpredictability as to patent eligible subject matter that the Federal Circuit’s ruling will exacerbate. Judge Newman’s dissent from the denial of en banc rehearing of *Axle I* provided further context on the unpredictability of the Federal Circuit’s patentable subject matter rulings:

The court's rulings on patent eligibility have become so diverse and unpredictable as to have a serious effect on the innovation incentive in all fields of technology. The victim is not only this inventor of this now-copied improvement in driveshafts for automotive vehicles; the victims are the national interest in an innovative industrial economy, and the public interest in the fruits of technological advance It is essential to restore the incentive role of the system of patents, for technology is the foundation of the nation's economy, trade, and strength.

Axle III, 966 F.3d at 1357 (Newman, J., dissenting).

Judge Newman's concerns mirror those of stakeholders throughout the innovation economy, and highlight the importance of this Court granting certiorari in order to clarify the scope of patent eligible subject matter and correct the Federal Circuit's further expansions and unpredictability in this regard.

CONCLUSION

For the reasons stated above, the petition for a writ of certiorari should be granted.

Respectfully submitted,

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