

Validity Goulash: Functional Claim Language, Patent Eligibility, and Pick-up Truck Drive Shafts

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Patent - Dennis Crouch

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In *American Axle*, the Federal Circuit found the patented method of manufacturing driveshafts to be patent ineligible. U.S. Patent No. 7,774,911. The claims “tuned” the shafts in order to reduce multiple forms of vibrational resonance, and the court held that the claims were improperly directed to “Hooke’s law, and possibly other natural laws.” The majority opinion was written by Judge Dyk and joined by Judge Taranto; while Judge Moore wrote a vigorous dissent identifying the majority opinion as “validity goulash” (and not the good tasting kind).

The majority worries about result-oriented claiming; I am worried about result-oriented judicial action.

Judge Moore writing in Dissent.

American Axle has now petitioned for *en banc* review and has the support of six amici briefs. Judge Moore largely wrote the brief here via her dissenting opinion, but the patentee does a good job of explaining (1) the “realness” of its invention and (2) how the accused infringer copied their approach.

- **AAM Rehearing Petition.**
- **Amicus brief of 12 law professors.** (The court’s opinion here does not fit with either Morse (1853) or the Bell patent case (1888).)
- **BIO amicus brief.** (“Nothing in the claims or specification of the ‘911 patent recites or implies that an application of Hooke’s law to a liner is necessary or sufficient to tune the liner in accordance with the claim.”)
- **IPO amicus brief.** (“The decision may open the floodgates to section 101 challenges to mechanical inventions, which have not been the subject of recent eligibility decisions of this Court or the Supreme Court.”)
- **U.S. Startups & Inventors for Jobs.** (“From the standpoint of many entrepreneurs, inventors and investors that comprise the Invention Community, the U.S. Patent System appears to be on life support.”)
- **Michel amicus brief.** (Former Chief Judge Michel argues that the decision here ignores core rules of summary judgment – disputed issues of material fact.)

- **Doerre amicus brief.** (Patent attorney Jeremy C. Doerre argues (*inter alia*) that the law-of-nature exception does not present a fruitful approach to eliminating broadly drafted claims — the better approaches rely upon written description.)

The petition itself raises three questions:

1. Must the court identify the “precise ineligible concept the claims are allegedly directed to.”
2. Must the court consider disputed facts regarding the invention when determining whether the claims are directed toward an inventive concept?
3. Should the court interpret Section 101 narrowly in order to avoid “swallow the enablement [and written description] requirements of Section 112?”

Truthfully, these questions are rather weak because they they have all been addressed by most members of the court in some form. The strongest aspects of AAM’s arguments are the facts of the case.

With the '911 patent, AAM invented novel and unconventional methods of manufacturing improved driveshafts that include “liners”—low cost, hollow tubes made of a fibrous material (such as cardboard).

Before the '911 patent, it had only been well understood to use liners in driveshafts to attenuate a single type of vibration called “shell mode” vibration. Neapco admitted that prior art liners had only attenuated shell mode vibration, and “presented no argument or evidence to contradict that” fact on appeal. As explained in the '911 patent, prior art liners were not suitable (let alone well understood) to attenuate another type of vibration called “bending mode” vibration. And liners certainly were not well understood to attenuate both bending and shell mode vibration.

AAM solved these problems. It was the first to discover that liners could be “tuned” to attenuate bending mode vibration, or the combination of both bending and shell mode vibration. The claims of the '911 patent recite these solutions.

Petition for rehearing.

The difficulty for AAM is that the point-of-novelty for the method claims is specified as a result rather than as a process:

tuning at least one liner to attenuate at least two types of vibration transmitted through the shaft member; and positioning the at least one liner within the shaft member such that the at least one liner is configured to damp shell mode vibrations in the shaft member by an amount that is greater than or equal to about 2%, and the at least one liner is also configured to damp bending mode vibrations in the shaft member,

'911 patent Claim 1. The real question here is whether these functional claim limitations should be seen as too abstract. Or, instead, are they effective at providing a clear and limited scope once coupled with the specification disclosure and the knowledge of a skilled artisan?