

AMERICAN AXLE & MANUFACTURING, INC., v. NEAPCO HOLDINGS LLC, Appeal No. 2018-1763 (Fed. Cir. October 3, 2019). Before Dyk, Moore and Taranto. Appealed from D. Del. (Judge Stark).

Background:

American Axle & Manufacturing (AAM) owns a patent that is directed to a method for manufacturing driveline propeller shafts with liners that are configured to attenuate vibrations through a shaft assembly. In particular, claim 1 recites a method comprising:

- (i) providing a hollow shaft member;
- (ii) tuning at least one liner to attenuate at least two types of vibration transmitted through the shaft member; and
- (iii) 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, the at least one liner being tuned to within about $\pm 20\%$ of a bending mode natural frequency of the shaft assembly as installed in the driveline system.

AAM filed an infringement suit against Neapco, and in turn Neapco filed a motion for summary judgment arguing that AAM's claims are invalid under 35 U.S.C. §101. The district court granted the motion reasoning that AAM's claims amounted to merely instructing one to apply the abstract idea of Hooke's law to achieve the desired result of attenuating certain vibration modes and frequencies without reciting how to craft the liner and propeller shaft. AAM appealed.

Issue/Holding:

Did the district court err in granting the motion to dismiss and holding that the claims of AAM's patent were ineligible under §101? No, affirmed.

Discussion:

AAM argued that the claims were not merely directed to Hooke's law, and that tuning a liner involves more than adjusting a spring with a single stiffness. Rather, a liner is "a complex, distributed object with different stiffnesses in different directions," which depends on the location of the applied force and the measured displacement. AAM also argued that liners had never been used previously to damp two different vibration modes simultaneously, and thus the claims recited an inventive concept rendering the claims patent-eligible.

The Federal Circuit found that AAM's claims do not recite specific variables that would need to be changed to produce the multiple frequencies required to achieve a dual-damping result, or to tune a liner to dampen bending mode vibrations. The Federal Circuit determined that AAM's claims "simply instruct the reader to tune the liner" which "merely amounts to an application of a natural law (Hooke's law) to a complex system without the benefit of instructions on how to do so," and thus ruled that AAM's claims were directed to an abstract idea under Step 1 of *Alice*. The Federal Circuit also ruled that AAM's claims do not recite an inventive step under Step 2 of *Alice* because it is well known in the automotive industry to test for natural frequencies and damping of propeller shafts, and that the claimed features of "engaging 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."

Judge Moore filed a dissenting opinion arguing that the proper inquiry was whether the invention was enabled under 35 U.S.C. §112.