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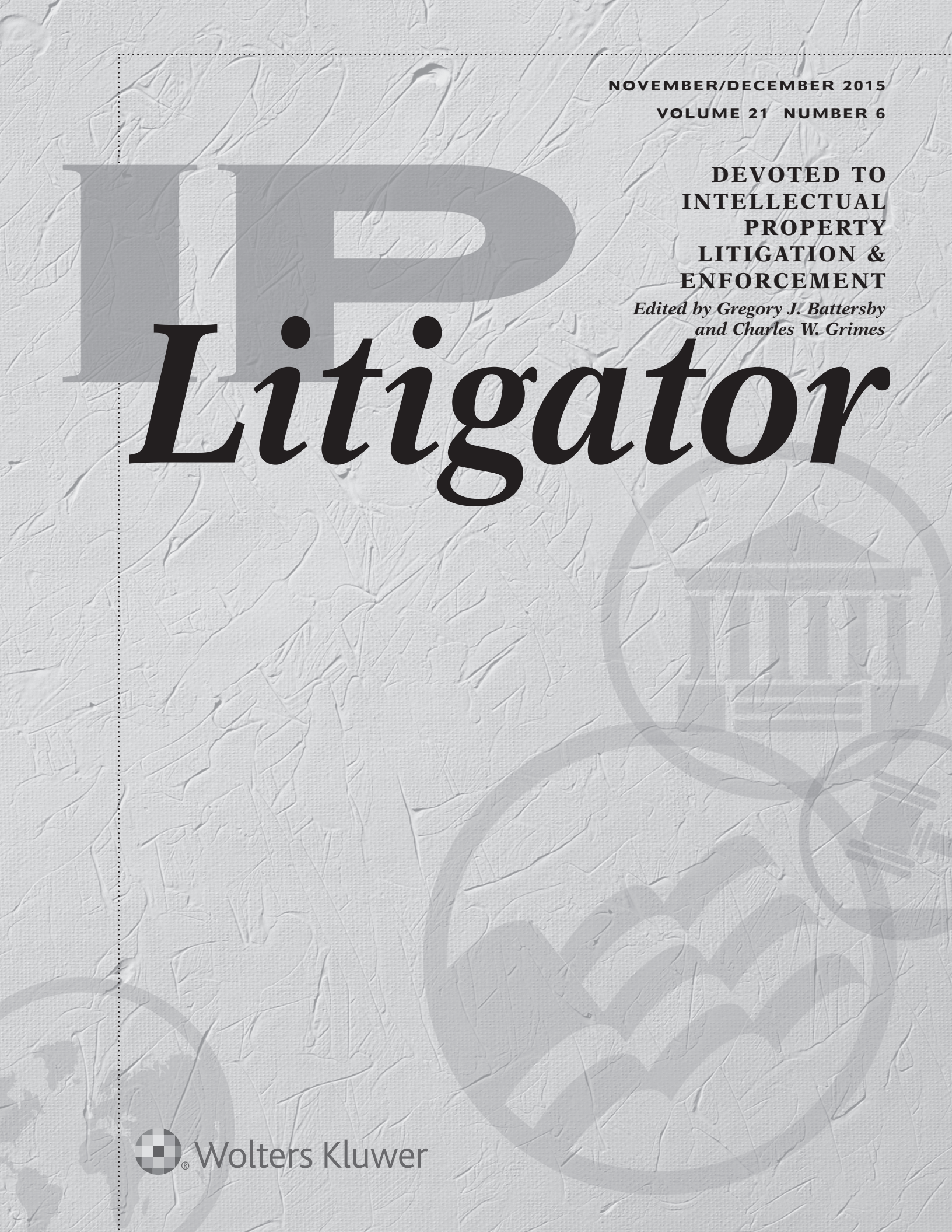

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Federal Circuit Report

Jonathan L. Schuchardt

The Federal Circuit Sees Nova's Light

The Supreme Court's decision altering the standard for claim indefiniteness in *Nautilus Inc. v. Biosig Instruments, Inc.* [134 S. Ct. 2120 (2014)], arrived too late to rescue Nova Chemicals from the jaws of Dow Chemical's patent infringement suit related to linear low density ethylene copolymers. However, Nova enjoyed a measure of revenge when the Federal Circuit reversed the award to Dow of supplemental damages for Nova's activities during January 2010 through October 2011. [*Dow Chemical v. Nova Chemicals,* Nos. 2014-1431, 2014-1462, (Fed. Cir., Aug. 28, 2015),] The court decided the case correctly, but its rationale tilts too far in Dow's favor. The decision reminded me of another odd figure in an earlier Dow polyethylene patent.

Regarding the supplemental damages award, the Federal Circuit first concluded that its prior decision (in favor of Dow) was not binding on the issue of indefiniteness because *Nautilus* changed the applicable law. Briefly, claim preclusion did not apply because the different damage periods supported separate claims. Nor did issue preclusion apply because of the intervening change in the law. Finally, the court concluded that the change in the law of indefiniteness compelled a different outcome. The third aspect is of most interest here.

Trouble with Figures in the Case

Dow asserted US Pat. Nos. 5,847,053 and 6,111,023. It suffices to consider claim 6 of the '053 patent and the disclosure related to that claim, particularly the discussion at col. 6, ll. 6-43. (I'll wait while you get a copy of the patent….) In claim 6, Dow defined certain linear low density polyethylenes having "a slope of strain hardening coefficient" (SHC) "greater than or equal to 1.3." SHC, a term coined by Dow, is calculated by multiplying the melt index (I_2) taken to the 0.25 power by the slope of strain hardening. Dow teaches that the "slope of strain hardening is calculated from the resulting tensile curve by drawing a line parallel to the strain hardening region of the resulting stress/strain curve … FIG. 1 shows the various stages of the stress/strain curve used to calculate the slope of strain hardening" (col. 6, ll. 40–43).

Unfortunately, this FIG. 1 is missing from the patent, so we are left to wonder what a "normal" stress/strain curve looks like and how to calculate a slope from the strain hardening region of any such curve. Dow's description (col. 6, ll. 29–39) at least identifies where to look for the strain hardening region in a stress/strain curve.

At trial, Dow included a "typical load-displacement curve" obtained from the prior art [see Opinion at p. 19]. Dr. Hsiao, Dow's expert, testified that a skilled person would know to measure the slope of the strain hardening curve at its *maximum* value, that is, at or near the far end of the curve. Although the Federal Circuit gave Dow the benefit of the doubt, it is unclear from the patent disclosure that the skilled person would know to use the maximum value of the slope. In fact, a skilled person might just as easily conclude that the slope should be measured at the *onset* of strain hardening, that is, at the inflection point where the slope begins a more-rapid increase (*i.e.*, at the far left of region IV). Where the slope is measured matters because (as any first-year calculus student knows) the slope of a line drawn tangent to any point on this kind of curve increases as we move from left to right along the curve, and the value of the slope will increase from values much less than one (at the far left of region IV) to values greater than one (at the maximum value, *i.e.*, at the far right of region IV).

Nevertheless, the court correctly held that claim 6 is indefinite. It reasoned that even if we assume that the *maximum* value of the slope matters, there are at least four different ways to measure it. Because different methods give different results, it "could affect whether or not a given product infringes the claims." Because neither the patent claims nor the specification provide any guidance regarding which method should be used to measure the slope, the claim fails to satisfy *Nautilus*'s "reasonable certainty" standard. The court noted similarities of this case to the "molecular weight" dispute in *Teva Pharm. v. Sandoz* [135 S. Ct. 831, 841 (2015)], and concluded that the Dow claims were even more clearly indefinite.

Trouble with figures in the '053 patent brought to mind another patent obtained by several of the same inventors, that is, US Patent No. 5,272,236. In the '236 patent, Dow introduced "critical shear stress at onset of gross melt fracture" as a way to distinguish polymers produced with "constrained geometry" catalysts from Ziegler-Natta polyethylenes.

Any engineer would envy tidy Figure 2 in the '236 patent. It plots molecular weight distribution (MWD) versus I_{10}/I_2 (melt index) ratios. The data points neatly define different linear

relationships for Ziegler-Natta polymers (a line of increasing slope) and the inventive polymers (a line of zero slope, indicating that MWD is independent of the melt index ratio). However, I have wondered how Dow would explain where that data originated. In particular, the data provided in Tables I, II, and VI do not appear to coincide with the data plotted in Figure 2. Although Figure 2 shows 11 inventive data points and 19 comparative examples, it is difficult to find this data elsewhere in the application. But I digress ….

Conclusion

The post-*Nautilus* message to inventors? Creatively claim your compositions or methods; it will surely annoy and frustrate your competition! However, provide enough detail to show how to measure—unambiguously—any "new" property upon which your claims depend. Proofread your application before filing. Ensure that any necessary figures, as well as the information used to construct them, are included. Finally, navigate well and safely using the "bright star" of *Nautilus*.

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