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IF THE RANGE CLAIMED IN A U.S. PATENT APPLICATION OVERLAPS WITH THE RANGE DISCLOSED IN THE PRIOR ART, EVIDENCE MUST BE PRESENTED SHOWING THAT THE CLAIMED INVENTION IS NOT OBVIOUS OVER THE PRIOR ART

By: Mel R. Quintos and Deanne M. Barrow*

The U.S. Court of Appeals for the Federal Circuit (CAFC) case of *In re Richard Alan Haase*, decided on October 30, 2013, is an appeal by applicant Richard Haase of a decision of the U.S. PTO Board of Patent Appeals and Interferences (now the Patent Trial and Appeal Board) upholding the Examiner's final rejection of all claims in a patent application as not patentable over prior art references. The Board found that the claims were anticipated and obvious over the prior art.

The patent application at issue, U.S. Patent Application No. 10/413,849, relates to methods of treating waste water that reduce turbidity using ammonium polymers, including polyacrylamides, with specified molecular weights. Claim 3, one of the claims at issue, requires, in addition to an aluminum polymer, an "effective amount of at least one cationic ammonium polymer" that must include at least one cationic ammonium polymer having a molecular weight of "at least about 5,000,000."

The Board rejected the claim as obvious over Hassick (U.S. Patent No. 4,800,039). Hassick discloses water-treatment processes for reducing turbidity that combine an aluminum polymer with an ammonium polymer, the latter having a "molecular weight [that] preferably ranges from about 1,000 to about 5,000,000."

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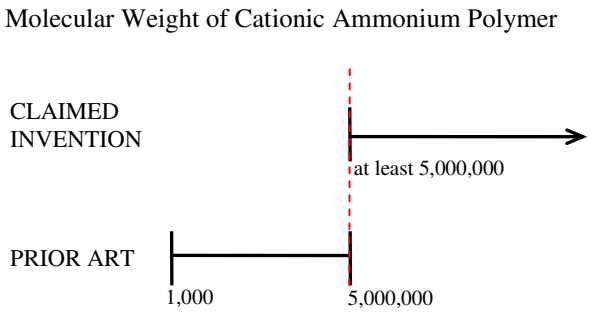
* We are pleased to announce that Ms. Deanne M. Barrow has joined our firm as an associate patent attorney. Ms. Barrow is currently a member of the New York State Bar, and is licensed to practice before the U.S. Patent and Trademark Office.

Ms. Barrow graduated from Georgia Institute of Technology with a Bachelor of Science (B.S.) degree in Chemical Engineering *with High Honors* in 2004, and from University of Cambridge in the United Kingdom with a Bachelor of Arts (B.A.) degree in Law *with First Class Honors* in 2007. She also received a Master of Laws (LL.M.) degree *with Highest Honors* from The George Washington University Law School in 2011.

The overlap between the claimed molecular weight range and the prior art range is illustrated below.



In upholding the Board's decision, the CAFC noted that the Hassick reference not only discloses a preferred molecular weight range for the ammonium polymer, but also discusses the use of different molecular weights in different ratios to reduce turbidity. These disclosures in the Hassick reference support the Board's finding that skilled artisans would have been motivated to optimize the ammonium polymer's molecular weight and that those artisans would have been led to the claimed range based on its overlap with the end point in Hassick.

Furthermore, the applicant's evidence of non-obviousness was unpersuasive. To establish unexpected results, for example, the applicant presented data derived from side-by-side tests comparing results of the invention and the prior art. On close inspection, however, it was shown that the tests failed to include a composition containing a cationic ammonium polymer falling within the claimed molecular weight "of at least about 5,000,000."

Decision: The Board's rejection of the claims at issue is AFFIRMED.

According to the CAFC, the applicant could have presented rebuttal evidence to a *prima facie* obviousness rejection of this type. Some of the evidence that the applicant could have provided to show that the claimed invention is not obvious include: (1) "that the claimed range leads to unexpected results," (2) "that the prior art teaches away from the claimed invention," or (3) that the claimed invention has been copied or has achieved commercial success.

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