

## *Upstream Inventions*

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One of patent law's most important goals is to grant legal rights that are properly calibrated to incentivize invention without unduly stifling innovation, and one of its greatest struggles is to provide the appropriate level of protection for foundational, widely applicable inventions. Although many scholars have addressed the law's difficulties with patents on such "upstream" inventions, a systematic treatment of upstream patents has proven elusive. This Article adds to the literature by identifying an as-yet unrecognized requirement of patentability, here termed "the completeness requirement," which the courts have used to limit patent protection on some upstream inventions. The Article argues that, although policy justifications for the completeness requirement are generally sound, its judicial implementation has been subjective and inconsistent at best, and damaging to innovation policy at worst. It also explains that the remedy of completely invalidating or disallowing patents on upstream inventions is disproportionate to the perceived harm of such patents. The Article proposes two improvements. First, it posits that decision-makers should abandon the current hodgepodge of doctrines that collectively house the completeness requirement, and calls for the creation of a new statutory provision that explicitly recognizes it as a condition of patentability. Making completeness a standalone requirement would help reduce the problems associated with the courts' ad-hoc, technology-specific implementation of it. Second, the Article proposes the Research Patent - a new form of intellectual property protection for patent claims that meet recognized patentability requirements but fail completeness. Unlike a regular utility patent, the Research Patent would only permit its owner to negotiate a royalty for the use of the subject technology with potential users, or, failing that, to pursue a claim for a limited amount of damages before a specialized tribunal. The Research Patent would offer two benefits: it would provide incentives for creating upstream inventions and decrease the potential for stifling downstream innovation caused by granting full patent protection to those inventions.

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