Beyond Hybrid Licenses—Strategies for Post Patent Expiration Payments in the United States

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I. Introduction
The United States patent system grants patent holders exclusive rights in their invention for 20 years from the application filing date. During the period of exclusivity patent holders often elect to offer licenses in exchange for royalty payments. At the end of the patent term the invention is dedicated to the public and post-patent expiration royalty payments are “unlawful per se” under the 1964 United States Supreme Court holding in Brulotte v. Thys. Co. In the 2015 case Kimble v. Marvel Entm’t, LLC the Court had the rare opportunity to overturn the controversial restriction on post-patent expiration payments. The Court, relying on stare decisis and defaulting to Congressional authority, reaffirmed the Brulotte decision. Often misunderstood, the holding prohibits royalty payments in the post-patent period calculated from post-patent expiration sales period, but not collection of royalties based on pre-patent expiration sales. As a result, this manuscript will explore strategies for licensing agreements that extend into the post-patent expiration period. This article, focused on the United States patent system, will discuss the Kimble and Brulotte decisions, application of the decisions to traditional licensing arrangements, and licensing agreements that do not violate Brulotte including amortized royal payments.

II. The Brulotte and Kimble Decisions
A. Brulotte v. Thys Co.
Brulotte is oft-criticized as “unduly limiting the right to negotiate financial terms in a license agreement.” In Brulotte, Thys sold a hop-picking machine to Brulotte that required pre- and post-patent royalty payments. Brulotte refused to pay post-patent royalty payments and Thys sued. The Court sided with Brulotte, holding that a royalty agreement that extends beyond the expiration date of the patent is unlawful per se. Thys, by charging the same rate and enforcing the same restrictions in the pre- and post-expiration periods, attempted to artificially extend the patent term. In response, the majority held that the patent terms were “a monopoly power in the post-expiration period when ...the patent has entered the public domain.”

B. Kimble v. Marvel Entertainment, LLC
In 1990 Stephen Kimble was awarded U.S. Patent No. 5,072,856 for a toy comprised of a glove attached to a pressurized container containing foam string delivered to the glove by flexible tubing. Kimble noted in his patent application that the Toy Web Shooting Glove “allows children (and young-at-heart adults) to role-play as a ‘spider person’ by shooting webs—really pressurized foam string—from the palm of the hand.”

Kimble met with Marvel Entertainment, makers of Spider-Man products, seeking to sell or license the ‘856 patent but the parties failed to execute a licensing agreement. Instead, Marvel began selling the “Web Blaster,” its own web-shooting glove, absent any license or contract. Kimble sued and was granted breach of contract but not patent infringement.

1. The content of this manuscript was first presented by the authors at the 2015 Licensing Executives Society (USA and Canada), Inc. Annual Meeting.
2. 35 U.S.C 154.
5. Id. at 2415.
7. 85 S.Ct. at 177.
8. Id. at 177-78.
9. Id. at 170.
10. Id. at 176.
11. Id. at 179-80.
13. Id. at 2406.
14. Id.
Both sides appealed and settled, with Kimble agreeing to sell Marvel the ‘856 patent for a $500,000 lump sum and a three percent royalty on Marvel’s future sales of the Web Blaster and related products.\(^\text{16}\) The parties, unaware of \textit{Brulotte}, set no end date for royalty payments, instead agreeing royalties would continue “for as long as kids want to imitate Spider-Man.”\(^\text{17}\)

Shortly after establishing the royalty agreement Marvel uncovered \textit{Brulotte}, discovering that binding precedent meant prohibited royalty payments beyond the 2010 patent expiration date.\(^\text{18}\) The District Court of Arizona agreed with Marvel that the “royalty provision was unenforceable after expiration of the Kimble patent.”\(^\text{19}\) The Court of Appeals for the Ninth Circuit reluctantly affirmed, criticizing \textit{Brulotte} as “counter-intuitive [with] rationale [that] is arguably unconvincing.”\(^\text{20}\) In response Kimble petitioned the Supreme Court to overrule \textit{Brulotte} and was granted certiorari.\(^\text{21}\)

Kimble, and his \textit{amicus}, argued that \textit{Brulotte} should be overruled because 1) the holding rests on a mistaken view of the competitive effects of post-expiration royalties and 2) \textit{Brulotte} suppresses technological innovation and as such harms the nation’s economy.\(^\text{22}\) The Court, in a 6-3 decision, was not convinced a “special justification” or something significantly more than a belief “that the precedent was wrongly decided” was offered that justified overturning \textit{Brulotte}.\(^\text{23}\) Justice Kagan, writing for the majority, acknowledged that “a broad scholarly consensus supports Kimble’s view of the competitive effects of post-expiration royalties, and we see no error in that shared analysis.”\(^\text{24}\) She continued, “[I]t is usually ‘more important that the applicable rule of law be settled than it be settled right,’” subtly hinting that \textit{Brulotte} may provide a less than ideal economic solution. In the end the Court dismissed any negative economic-impact of \textit{Brulotte} and defaulted to \textit{stare decisis} writing that “Kimble’s reasoning may give Congress cause to upset \textit{Brulotte}, but does not warrant this Court’s doing so.”\(^\text{25}\)

Important to the outcome, Kimble failed to provide any empirical evidence that \textit{Brulotte} negatively impacted innovation or licensing arrangements. As a result, the Court re-emphasized that “\textit{Brulotte} leaves open various ways, involving both licensing and other business arrangements to accomplish payment deferral and risk-spreading.”\(^\text{26}\) The Court continued, “[although the] alternatives may not offer parties the precise set of benefits and obligations they would prefer, they might still suffice to bring [parties] together…and ensure that inventions get to the public.”\(^\text{27}\) Finally, the Court provided examples of licensing arrangements allowed under \textit{Brulotte}, including business arrangements other than royalties, deferred payments in the post-expiration period for pre-expiration use of a patent, royalties in patent packages, and post-expiration royalties not tied to a patent-right.

In dissent, Justices Alito, Thomas and Roberts agreed with Kimble noting, “\textit{Stare decisis} does not require us to retain this baseless and damaging precedent.”\(^\text{28}\) Justice Alito, writing for the dissent criticized \textit{Brulotte} as not “based on anything that can plausibly be regarded as interpretation of the Patent Act . . . instead on an economic theory that has been debunked.”\(^\text{29}\) The dissent was adamant that \textit{Brulotte} unnecessarily “erects an obstacle to efficient patent use” while interfering with negotiation of licensing agreements that “reflect the true value of a patent.”\(^\text{30}\)

In summary, \textit{Kimble} maintains precedent that licensing agreements cannot include royalty payments after patent expiration. Interestingly, although the Court appears to recognize that such a rule makes little sense, the majority was unwilling to challenge. Instead, the Court implied other types of “business arrangements” allowed for compensation to be paid in the post-patent expiration period. However, such arrangements must be free of anti-trust law violations such as \textit{per se} tying (\textit{i.e.} patent owner ties the purchase a separable, staple, non-patented good to purchase of the patented good) and within the rule of reason (\textit{i.e.} agreement doesn’t restrain trade).

\textbf{III. \textit{Brulotte} and Traditional Licensing Agreements}

Under \textit{Brulotte} a number of licensing agreements, referred to here as traditional licensing agreements, were invalidated. In large-part, the agreements failed to clearly identify pre- and post-patent expiration terms. The courts, as a result, held that the terms effectively extended patent rights into the post-patent expiration period. Traditional licensing agreements including con-

\begin{itemize}
  \item 16. \textit{Id}.
  \item 17. \textit{Kimble}, 135 S. Ct. at 2406.
  \item 18. \textit{Id}.
  \item 20. \textit{Kimble} 727 F.3d at 857.
  \item 22. \textit{Kimble}, 135 S. Ct. at 2412.
  \item 23. \textit{Id} at 2409.
  \item 24. \textit{Id}.
  \item 25. \textit{Id}.
  \item 26. \textit{Id} at 2414.
  \item 27. \textit{Id}.
  \item 28. \textit{Id} at 2415.
  \item 29. \textit{Id}.
  \item 30. \textit{Id}.
\end{itemize}
tracts signed prior to patent issuance, patent packages and hybrid agreements have all been invalidated for lack of clarity in contract language.

A. Agreements Prior to Patent Issuance & Deferred Payments

The Sixth Circuit invoked Brulotte to prevent enforcement of an agreement that called for immediate filing of a patent application in exchange for royalty payments for 25 years by the defendant, regardless of patent issuance. The parties eventually disagreed over calculation of royalties and Kenner, in counter-suit, claimed that they were no longer obligated to pay royalties. The Sixth Circuit overruled the District Court, invoking Brulotte, and holding patent misuse when a pending patent is used as leverage to extend contract-ed patent royalties beyond the term of the patent. Importantly, the Brulotte Court noted that identical payment terms in the pre- and post-expiration periods signify an attempt to collect royalties payments that violate the per se rule.

B. Patent Packages

In contrast to Bogglid, in Schieber v. Dolby Laboratories Inc. the parties agreed to establish a lower royalty rate for a package that would extend until all patents in the package expired. The Seventh Circuit reluctantly invalidated the agreement, noting the vagueness of the language and Brulotte. However, in his writing, Judge Posner challenged the economic principles of Brulotte, noting that “charging royalties beyond the term of the patent does not lengthen the patentee’s monopoly; it merely alters the timing of royalty payments.” In the end the majority invalidated the agreement because “[The Seventh Circuit] has no authority to overrule a Supreme Court decision no matter how dubious its reasoning appears to be.”

C. Hybrid Licenses (Patent and Non-Patent Right)

Hybrid licensing agreements contain provisions for patents and non-patent assets such as trade secrets. Under Brulotte, a single royalty payment negotiated for both patented and non-patented assets is unenforceable once the patent expires. Instead, aligning with Brulotte, the courts seek evidence that the non-patented assets are offered at a discounted rate, indicating a lack of patent leverage that would extend the patent life.

For instance, in Chromalloy Am. Corp. v. Fischmann, the Plaintiff acquired patent license, related know-how and business assets needed to produce the “Scorpion,” a carpet cutting machine. In exchange Chromalloy agreed to pay royalties of three percent on future sales of the “Scorpion” and two percent on accessory equipment within the scope of the patent. Chromalloy sought declaratory judgment and the Ninth Circuit held that if the original transaction had only involved the patent, Chromalloy’s obligation to pay would have ended after filing the invalidity claim. However, because know-how and business assets were also included in the hybrid-agreement, the case was remanded to determine damages owed Fischmann to compensate for the non-patent assets.

D. Summary of Traditional Licensing Agreements

In summary, under Brulotte, courts invalidate licensing agreements that seek to extend patent life. Thus, traditional licensing agreements require clear and concise terms for pre- and post-patent expiration periods or risk being invalidated by the court. This is especially important in hybrid agreements where patents leverage can artificially extend the life of a patent.

This presents a hurdle with long to fruition technologies such as biomedical research. The Kimble Court suggested the answer in long to fruition fields is a joint venture arrangement that shares the risks and rewards of commercializing long-to-market technologies. However, risk-sharing in the early stages of biomedical research is rarely a preferred investment strategy. As a result, traditional biomedical licensing must expand to meet the unique licensing needs of biomedical research.

IV. Brulotte, Biomedical Research and Alternative Licensing Agreements

Biomedical research is burdened by delayed clinical and regulatory lead times, difficulty in licensing early stage technology and a 20-year, filing date based patent term. This translates into sales of products that often occur near the end, or after, a patent expires. As a result, academic and federal biomedical research facilities face a revenue “patent cliff.”

For example, at the National Institutes of Health (NIH), 18 of the top 20 revenue generators disclosed on their website are based on IP largely set to expire in the next few years. Financially, the result looks to

32. Id. at 1317.
33. Id. at 1320.
34. 85 S. Ct at 32.
35. 293 F.3d 1014 (7th Cir.).
36. Id. at 1016-18.
37. Id. at 1018.
38. Id.
39. 85 S.Ct. at 178-81.
40. Kimble 727 F.3d at 857.
41. 716 F.2d 683, 684 (9th Cir. 1983).
42. Id.
43. Id. at 685.
44. 135 S. Ct. at 2408.
be a likely staggering drop in annual royalty income. Moving forward, biomedical licensing arrangements must diversify, striking a balance between sharing commercial proceeds while still adhering to federal guidelines, as well as university and business practices. Fortunately, companies recognize the contributions of biomedical research institutions and often seek to license patented and non-patented contributions through technology transfer agreements. As a result, a patent-only licensing portfolio can be potentially diversified with biomaterial licenses, know how licenses, reach-through licenses to later expiring patents, and equity in lieu of royalties.

A. Biomaterial Licenses

Biomaterials are “those materials—be it natural or synthetic, alive or lifeless, and usually made of multiple components—that interact with biological systems and are used in medical applications to augment or replace a natural function.” Often defined by their application, the materials are created during biomedical discovery. The value of biomaterials is material dependent and because they are produced during development of or even in lieu of the primary IP, royalties for biomaterials can be collected over a longer term than a traditional patent term. Biomaterial licensing agreements are traditionally five to seven years after the first commercial sale but can extend into the post-patent expiration period if a reduced royalty rate is often charged.

Biomaterial licensing has caveats. First, not all biomedical discoveries produce usable materials. The ability to separate commercially valuable biomaterials from the large number of biomaterials typically generated by research institutions poses a challenge. Second, advances in science and technology means that some once novel materials, such as peptides, are now easy to make and thus carrying little commercial value as materials themselves. Third, clinical grade materials while often more desired by licensees are typically the most difficult for research institutions to generate due to their cost and difficulty of production despite having the most significant financial values in license agreements. Furthermore, the goals and policies of public research institutions concerning biomaterial licensing will be different than that from a private company. As a result, academic institutions may favor non-exclusive, over exclusive, licenses to encourage wider distribution and utilization rather than trying to maximize the immediate financial return. Finally, academic institutions rarely have the production capabilities of commercial organizations. As a result, academic institutions may have limited opportunities for biomaterial licensing by simply not having materials in excess of those needed and consumed in their own laboratories.

B. Licensing of “Know-How”

Licensing “know-how,” or subject matter expertise, offers a second alternative biomedical licensing strategy. In these agreements the licensing arrangement centers on the knowledge and expertise of a particular researcher or laboratory. The licenses are executed in similar manner to biomaterial licenses. These agreements, however, can be invaluable for recipient laboratories in uncovering methodology-based nuances. As with biomaterials, exclusive “know-how” licenses from academic institutions are generally not possible as wide dissemination of such information is again the goal of these institutions. In addition, despite having some of the most valuable “know-how,” federal laboratories lack legal authority to enter into licensing agreements for their intellectual aptitude alone. Finally, the “publish or perish” environment of academia may mitigate licensing efforts as the “know-how” will eventually reach the public domain via conferences, academic papers, student theses or other forms of dissemination. Despite this, licenses for “know-how” can be used to leverage research collaboration and IP agreements.

C. “Reach-Through” Licensing

In a reach-through licensing agreement, a patent holder grants current use of a research tool in exchange for a “reach-through” to future royalty payments based on a percentage of sales or usage of a downstream product created with the patented technology. For example, under a reach-through agreement, a patentee would allow use of the patented technology to identify lead-drug candidates absent an upfront or ongoing use payment. Instead, they would then “reach-through” and receive a royalty based on future sales of the drug. The agreement is independent of the tool patent term, and instead based on the term of the resultant drug company patent.

Reach-through agreements are hypothetically advantageous, as low value research tools in theory could be used to generate high value end products with huge potential revenues. In addition, validation of the tool technology can generate benchmark payments for the patentee and benefits the licensee with limited up-

48. Id., 93-94.
49. Id.
front funds.50 Finally, licensing agreements in concept could be structured to allow the patentee to license back the final product generated using the patented tool or technology.51

Patentees must construct reach-through agreements carefully, with awareness of other licensors. Royalty-stacking, or when royalties are owed to multiple licensors, can impede collection of royalty payments and impair downstream market innovation. Further, the patentee may encounter difficulty in collecting such royalty payments from products with long development cycles. In response to these and other competitive concerns the NIH (through its Research Tool Policy) discourages, and large companies also similarly disfavor, reach-through license agreements.

D. Equity in Lieu of Royalties

Equity in lieu of upfront royalties is independent of patent term and thus advantageous. Further, in contrast to reach-through agreements, which are based on the success of a single product, the value of an equity payment would be based on the eventual (hopefully) overall success of a company.

Equity in lieu of royalties is commonly utilized by early stage companies with little capital. The shares are often high risk because they are offered by companies with no profit history and small, non-liquid current equity values. In contrast, established companies have little reason to provide equity. Noteworthy, federal and academic institutions often have difficulty in holding and dealing with equity and will typically sell at the first opportunity if they handle it all. Further, critics note that equity agreements: (1) increase risk for the institution, (2) move the institution away from a role as a knowledge generator, and (3) subject the institution to adverse publicity.52

E. Summary of Alternative Licensing Agreements

Biomedical science patentees have multiple options for navigating potential post-patent expiration payments. Materials licenses, “know-how” licenses, reach-through licensing, and equity in lieu of royalty payments are a few of these alternatives. Each has its own set of risks and benefits that must be assessed prior to entering into an alternative licensing agreement. In addition to the alternative licenses noted above, the Court in *Kimble* expressly approved amortizing royalty payments.53 The practical considerations of royalty amortization are discussed below.

V. *Brulotte*, Patent Royalties And Amortization

Critics of *Brulotte* argue that agreements that extend into the post-patent expiration period allow cash-limited licensees to license technology at a lower royalty rate...54 Critics further maintain that post-patent expiration agreements help balance risk and reward allocation in fields where long-term development is required to bring a patented product to market.55 *Brulotte* (and *Kimble*) do not restrict payment timing, but require that post-patent expiration royalty-payment licenses be clearly defined. Specifically, *Brulotte*-friendly licensing agreements should include a deferral schedule and terms, payment terms, a market royalty rate, a deferred royalty rate, and interest rate for deferred payments.56

The courts refer to agreements that defer payments in exchange for extending payments beyond the patent expiration date as patent amortization.57 Consistent with this, the terms of the royalty payments must be structured to ensure the terms comply with *Brulotte*. Payment timing is largely discretionary and can be made (1) before or after patent expiry, (2) using a series of fixed term bonds, (3) in installment payments, or (4) through an accelerated-payment arrangement.58

A. Annual Royalty Payments

Annual royalty payments can be collected exclusively before or after expiration of the patent. If collected in the post-patent expiration period, annual royalties during the patent term are deferred to the corresponding year in the post-patent expiration period. Frequently, as the patent matures more sales will be generated and as a result, royalty payments will start low and end high. Financial foresight, by the licensor, is required in order to adjust to the change in royalties that is likely to occur at the start or end of the patent term. Critical to royalties paid in the post-patent expiration period, a clear distinction must be made between accruals and payments to ensure payments are based on royalties only accruing prior to patent expiration.59

B. Fixed-Term Bond Payments

Fixed-term bonds provide a second mechanism for payment of deferred royalties. Assuming 10 years are left on the patent, the deferred royalties would be

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54. Id.
55. Id.
57. Id.
58. Further explanation and detailed examples of payment timing are provided in D. Crichton, *Post-Patent Term Royalty Amortization After Kimble* (forthcoming).
59. *Brulotte* 85 S. Ct. at 179.
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made as a series of 10 year bonds. The deferred royalties in year one of the patent term would serve as the principal bond amount. The current prime interest rate would be applied to the bond, the maturity date in 10 years, or in year one of the post-patent expiration period. Nine additional 10 year bonds would be established in the same manner over the remainder of the patent term. Royalty payments would occur exclusively in the post-patent expiration period. The nature of a bond makes the creditor a stakeholder in the company which provides advantage in terms of creditor repayment.

C. Installment Payments

Installment payments, or straight line amortization, spread the costs evenly over the post-patent expiration term. In this payment scheme, the cumulative deferred royalties plus interest expense constitute the principal. The total balance is then divided by the contractual established term of deferred royalty payments to establish payment terms.61

D. Accelerated Payments

Accelerated payments using a double declining amortization schedule, provide higher payments early in the post-patent expiration period with payments declining over the subsequent years.62 Briefly, the straight line depreciation rate is calculated based on the number of payments in the post-patent expiration period.63 The depreciation rate is doubled and applied to the total deferred royalties plus interest in the post-patent expiration period. Because the total royalties owed will decrease, the depreciation rate is applied to smaller total value every year. The result is larger repayments in the initial years and smaller repayments near patent expiration.

The licensee benefits from lower upfront costs associated with amortization of royalties. This is especially beneficial to start-ups and other licensees with limited capital.64 The licensor benefits from being able to commercialize their product while simultaneously enlarging the amount of royalties accrued up to expiration of the patent.65 Licensor due diligence should assess that: (1) the licensee remains an ongoing concern during the term of the contractual agreement, and (2) the licensee maintains a sales level that supports royalty payments.

E. Summary of Patent Royalty Payment Amortization

In summary, amortization provides the licensor a mechanism to collect royalties in the post-patent expiration period in exchange for the licensee delaying initial royalty payments when working capital may be limited. The four amortization payment methods described offer differing royalty profiles. Annual royalty payments start low and steadily increase, peaking in later years when demand for the patented technology is expected to peak.66 10 year bond payments have a similar royalty payment profile.67 The bond payments in the post-patent expiration period are equal to the royalties plus interest from the corresponding year of the patent term.68 Installment royalty payments are calculated on total royalties, resulting in constant payments throughout the post patent-expiration term.69 Finally, accelerated payments, because they use a double amortization rate, provide high initial post-patent expiration payments that fall rapidly in subsequent years.70 Clear contract language, including deferral methodology terms, is critical to ensure payment terms are not associated with post-patent expiration sales.71

VI. Conclusion

The Court in Kimble invoked stare decisis noting there is “no special justification” for departing from Brulotte.72 Although royalty payments cases on post-patent expiration sales violate Brulotte, multiple alternatives exist for collection of royalties once the patent expires. The biomedical sciences have multiple unique licensing alternatives to patent-based royalties. These include licensing of biomaterials, know-how, reach-through licensing and equity in lieu of royalties.

If structured correctly, Brulotte does not prevent collection of patent royalties in the post-patent expiration period. Royalty amortization can take the form of annual royalty payments, bonds, constant royalty amortization, and accelerated amortization payments. Amortization agreements require clearly defined financial details including deferral term, payment term, interest rates, defermint method utilized and amortization schedule in order to comply with Brulotte. Finally, costs of royalty amortization and the long-term fiscal position of the licensee must be evaluated.

Available at Social Science Research Network (SSRN): https://ssrn.com/abstract=2896190

60. D. Crichton, Post-Patent Term Royalty Amortization After Kimble (forthcoming).
61. Id.
62. Id.
63. Id.
64. Id.
65. Id.
66. Id.
67. Id.
68. Id.
69. Id.
70. Id.
71. Id.
72. 135 S. Ct. at 2415.