

PRACTICAL REMEDIES FOR THE DEPRESSING BOOM OF CONTINUATION AND DIVISIONAL APPLICATIONS FOR PATENT POOL

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ABSTRACT

Nowadays, patent pool has received increasingly attraction by enterprises and antitrust practitioners. However, both of the current royalty allocation rules: numeric and value proportional rules provide incentives to patentees for filing more divisional patents and continuation patents into patent pool to maximize royalty received. Through analyzing derived defections of continuation and divisional application in patent pool, this paper aims to introduce constructive and practical remedies for depressing the uncontrolled and costly boom of divisional and continuation applications for patent pools.

Keywords: Patent pool, royalty allocation, continuation application,
divisional application

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I. Introduction

Patent system, provides the patentee exclusivity as a reward for innovation, has surely been a spur to innovation overall. However, the vast number of patents currently being issued creates a patent thicket: an overlapping set of patent rights requiring that those seeking to commercialize new technology obtain licenses from multiple patentees.¹ Patent thicket is what new entrants to a market may face when attempting to innovate, or enter into within a technology space with existing intellectual property rights.² The underuse caused by patent thicket can harm patentees as well as the consumers who face excessive royalties or high transaction costs from multiple patent rights.³

One efficient way to avoid patent thickets is patent pool.⁴ A patent pool is an agreement between two or more patent owners to license one or more of their patents to one another or to third parties. Patent pools were introduced to serve as a remedy for patent thicket problem and excessive litigation. The purposes and policy objectives of patent pools are heterogeneous. Some are organized in order to promote the interests of monopolists or cartels. Others are formed to promote competition and benefit the users of patents.⁵ Patent pools may provide competitive benefits by integrating complementary technologies, reducing transaction costs, clearing blocking positions, and avoiding costly infringement litigation.⁶ Moreover, successful patent pools can offer an opportunity for further technological developments based on the pool technology.⁷

However, both of the current royalty allocation rules of patent pool: numeric and value proportional rules provide incentives to patentees for filing more patents into patent pool to maximize royalty received. To save the research expenditure and time on new invention, the classic way to introduce

¹ See Carl Shapiro, *Navigating the Patent Thicket: Cross Licenses, Patent Pools, and Standard-Setting*, in 1 INNOVATION POLICY AND THE ECONOMY 121 (Adam B. Jaffe et al. eds., 2000), available at <http://www.nber.org/chapters/c10778.pdf>.

² See *id.* at 119.

³ See Richard J. Gilbert, *Ties That Bind: Policies to Promote (Good) Patent Pools*, 77 ANTITRUST L.J. 1, 1 (2010).

⁴ See *id.*

⁵ See David Serafino, *Survey of Patent Pools Demonstrates Variety of Purposes and Management Structures* at 4, KEI RESEARCH NOTE 2007:6 (June 2007).

⁶ See US DEP'T OF JUSTICE & FED TRADE COMM'N, ANTITRUST ENFORCEMENT AND INTELLECTUAL PROPERTY RIGHTS: PROMOTING INNOVATION AND COMPETITION 57 (April 2007), available at <http://www.justice.gov/atr/public/hearings/ip/222655.pdf> (last visited April 11, 2013).

⁷ See Keyvan Vakili, *Competitive Effects of Modern Patent Pools: Effect of the MPEG-2 Pool on the Outsiders' Performance*, in DRUID 2012 (Copenhagen) 6 (2012).

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more patents is to file as many division applications (DA), continuation application (CA), continuations-in-parts application (CIP) as possible for one invention.⁸ However, if all patentees of a patent pool utilize CA and DA frequently, it will result in the huge expenditure of filing and maintaining a patent and distort the pool's allocation of royalty and hurt cooperation between companies eventually. Although there is not necessarily a lot of information available about the royalty revenue allocation within a patent pool,⁹ this paper tries to analyze the defections in current royalty allocation practice based on Department of Justice (DOJ) reviews. This paper aims to evaluate practical suggestions for depressing the uncontrolled and costly proliferation of DA and CA in patent pools.

II. Royalty Allocation Rules Encourage Generating More Patents from DOJ's View

In assessing a successful patent pool, a regime of patent pool should deliver value to licensees by providing a one-stop shop for essential patents; on the other hand, it should address a fair royalty allocation rule for pool licensors. Patent pools vary widely in their license terms and in the allocation of any royalties to pool members. Only few pools adopt royalty-free licensing rules to attract firms to participate in order to popularize new technologies, products or services. For example, the Bluetooth Special Interest Group provides its members with a non-exclusive, royalty-free, perpetual license to each member's patents that are necessarily infringed by the Bluetooth Specification and are required to make, use or sell Bluetooth-compliant products.¹⁰

Many patent pools adopt numeric proportional rule, while few adopt value proportional rule. Several DOJ review letters which commented ON main royalty allocation regimes and their effect on introducing more patents in pool are described as follows.

A. Value Proportional Rule

Hundreds even thousands of patents which are included in one patent pool may vary greatly on their value. It is reasonable that patent with high value can be distributed more royalties by attracting more licensees. Usually, value

⁸ See Ruud Peters, *One-Blue: A Blueprint for Patent Pools in High-Tech*, 2011(September/October) INTELLECTUAL ASSET MANAGEMENT 38, 40 (2011).

⁹ See Naotoshi Tsukada, *On Quality of Patent and Application Behavior Related to Patent Pool*, 2008 IIP BULLETIN 206, 206-214 (2008), available at http://www.iip.or.jp/e/e_summary/pdf/detail2007/e19_23.pdf.

¹⁰ See Article 5 of the Bluetooth Patent/Copyright License Agreement, available at https://www.bluetooth.org/DocMan/handlers/DownloadDoc.ashx?doc_id=67.

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proportional rule is not decided by one factor. Many variables such as the age of patents, the number of claims, and the number of times the patents are infringed can change the value of patent. The formula of value proportional may depend on agreements or negotiations between members. For example, the DOJ stated,

After deducting its licensing-administrator fee, Toshiba will distribute the remaining royalties among the licensors pursuant to an agreed allocation formula set forth in the Ground Rules for Royalty Allocation. This formula takes into account how often a licensor's "essential patents are infringed by either manufacture or sale of licensees' products, the age of the patents, and, in the case of patents "essential" to disc standards, whether the Licensor's patents relate to optional or mandatory features of the standard.¹¹

Thus, the DVD 6C allocation was based on a mechanical application which included multiple factors rather than on a subjective evaluation by the expert.

As to this kind of value proportional rule, although the royalty allocation is unaffected by each licensor's share of the patents in the portfolio license, patentee will still try to increase its share of patents in the patent pool by introducing more its patents into the pool.¹² For example, the DOJ stated that "although the formula weights the patent count with other factors, each Licensor will benefit monetarily from the exclusion of other Licensors' non-"essential" patents and accordingly has a strong incentive to encourage the expert to review other licensors' patents critically."¹³ Therefore, patentee might have incentives to exclude other licensors' patents and introduce more patents into a pool to get monetary benefit. Thus, both numeric and value proportional rules provide incentives to firms for increasing their share of patents in the pool.

B. Numeric Proportional Rule

Regarding the above value proportional royalty allocation, it is difficult for members to reach agreement on the specific value of each individual

¹¹ See Letter from Joel I. Klein, Assistant Att'y Gen., Antitrust Div., DOJ, to Carey R. Ramos, Esq., Paul, Weiss, Rifkind, Wharton & Garrison 7 (June 10, 1999) [hereinafter, "DOJ Business Review Letter for DVD6C"], available at <http://www.usdoj.gov/atr/public/busreview/2485.pdf>.

¹² See Justus Baron & Henry Delcamp, *Strategic Inputs into Patent Pools* at 6, CERNA MINES PARISTECH WORKING PAPER NO. 2010:05 (June 1, 2010), available at http://hal.archives-ouvertes.fr/docs/00/48/82/72/PDF/BARON_DELCAMP_Strategic_Inputs_into_Patent_Pools_CWP_2010-05.pdf.

¹³ See DOJ Business Review Letter for DVD6C, *supra* note 11, at 13.

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patent in comparison to others.¹⁴ As a result of the complexity of measurement of each patent's value, almost all royalty allocation rules of the current patent pools are based on the number of patents. Once a patent is deemed essential and can enter a pool, the same value is attached to each individual patent. In the MPEG-2 patent pool, the amount of royalties to be allocated is determined according to the percentage accounted for by the essential patents held by each licensor in all of the patents in the pool.¹⁵

In the case where royalties are allocated according to the percentage accounted for by the essential patents held by each company, patentee will try to increase its share of patents in the patent pool by introducing more its patents into the pool. Rather than investing research expenditure and time on new invention, pool member is likely to increase his own percentage through low-quality patents by utilizing continuing applications, and thus might lead to distortion of the allocation of royalties.¹⁶

III. The Defections of CA and DA Boom in Patent Pool

A. CA, DA and CIP

In general, CA, DA and CIP are related to the filing of the prior filed patent application by a claim of priority. A CA is a second application for the same invention claimed in a prior non-provisional application and filed before the original prior application becomes abandoned or patented. The CA may be filed under 37 C.F.R. § 1.53(b) (or § 1.53(d), if the application is a design application). A CIP patent application is utilized when the applicant has found matters to be added to the content of disclosure of the invention by continuing R&D.¹⁷ It is an application filed during the lifetime of an earlier nonprovisional application, repeating some substantial portion or all of the earlier nonprovisional application and adding matter not disclosed in the said earlier nonprovisional application (37 C.F.R. § 1.53(b)). The utilization of CA is shown as Fig. 1.

¹⁴ See Peters, *supra* note 8, at 41.

¹⁵ See Letter from Joel I. Klein, Acting Assistant Att'y Gen., Antitrust Div., DOJ, to G[al]rrard R. Beeney, Esq., Sullivan & Cromwell 3 (June 26, 1997) [hereinafter, "DOJ Business Review Letter for MPEG2"], available at <http://www.usdoj.gov/atr/public/busreview/215742.pdf>.

¹⁶ See Tsukada, *supra* note 9, at 208.

¹⁷ See *id.* at 209.

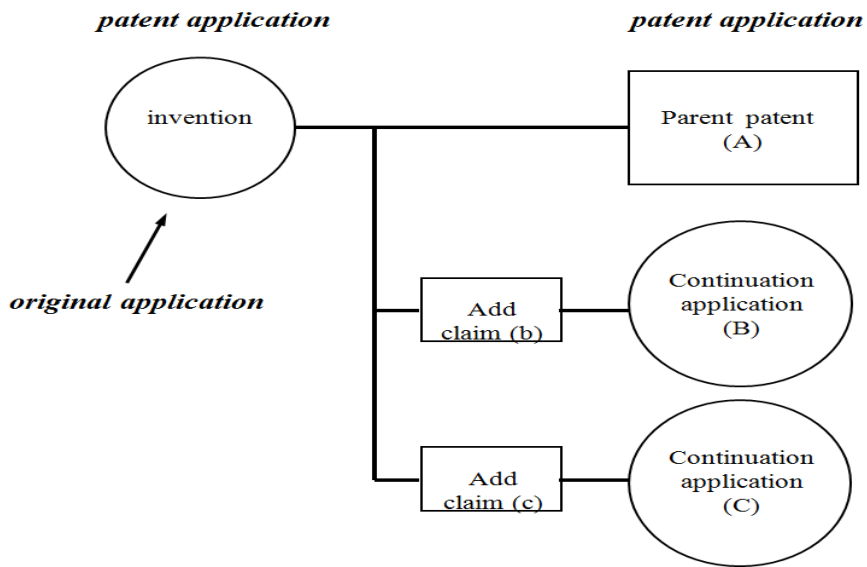


Figure 1: Continuation application.

A DA is known as a later application for an independent or distinct invention, carved out of a pending application and disclosing and claiming only subject matter disclosed in the earlier or parent application. Utilizing DA system, patentee can extract some inventions from a patent application which includes more than two inventions and file the extracted inventions as new patent applications.¹⁸ The utilization of DA is shown as Fig. 2.

¹⁸ See Kohki Wajima, Atsushi Inuzuka, & Toshiya Watanabe, *Empirical Study on Essential Patents in DVD and MPEG Standards Patent Pools 3*, IAM Discussion Paper Series #016 (2010).

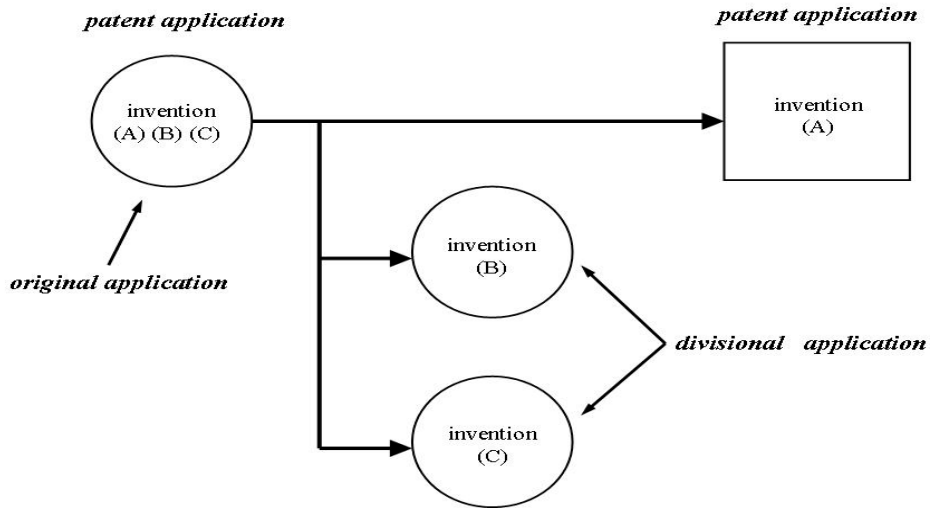


Figure 2: Divisional application (Source: Wajima et al., 2010).

Under the United States patent law, a CA and DA must reference a previously filed application and must contain only matters disclosed in the previous application.¹⁹ From innovation perspective, the technical content of CA and DA are similar with parent patents. However, a CIP has the same priority date as an earlier application and duplicates some of the disclosures therein,²⁰ and it may contain new matter not previously disclosed and therefore represents a modest level of innovative quality. Therefore, only CA and DA, similar with parent patent technically, will be analyzed in the following section.

B. CA and DA Boom in Patent Pool

Tsukada (2008) mentioned that among the 290 U.S. essential patents in the patent pools managed by MPEG LA LLC, there were 120 patents, or 40% of the total, for which a continuation in part, a continuation application or a divisional application was utilized during the process of completion.²¹ Nagaoka et al. (2008) also summarizes how the patentees of the essential patents have used these practices, including continuations, continuations-in-parts and divisions in acquiring essential U.S. patents as shown in Table 1.²² The ratio of the patents which were obtained by using

¹⁹ See 37 C.F.R. § 153(d).

²⁰ See 37 C.F.R. § 153(b).

²¹ See Tsukada, *supra* note 9, at 209.

²² See Sadao Nagaoka, Tomoyuki Shimbo, & Naotoshi Tsukada, *The Structure and the*

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these practices amounts to 44% of the essential patents for MPEG 2, 46% for Digital Versatile Disc (DVD) 6C and 36% for DVD 3C. Thus, the patent applications taking advantage of earlier priority dates are extensively used for obtaining the essential patents of these standards.

Table 1: The CA, DA and CIP in three patent pools (Source: Nagaoka et al., 2008).

	MPEG 2 (10 firms)	DVD 6C	DVD 3C	Total
Number of essential patents	85	180	131	396
Those which enjoy earlier filing dates	37	83	47	167
Ratio	44%	46%	36%	42%

C. The Defections of Boom of CA and DA

Lemley and Moore analyzed several general problems with patent continuation and divisional application.²³ First, the average continuation adds over two years to the total time required to obtain a patent. Second, the applicant may change the patent claims for purely innocent reasons.²⁴ The combination of delay and changed patent claims leads to so-called “submarine patents” which are patents that issue after the applicant has deliberately delayed them in order to take a mature industry or technology by surprise.²⁵

Except for royalty-free license, either numeric or value proportional rule provides incentives to patentees seek to file as many divisional patents or continuation patents as possible by a parent patent in order to maximize royalty received.²⁶ The system of continuing applications in the U.S. may be abused. Increasing one’s own percentage through low-quality patents by

Evolution of Essential Patents for Standards: Lessons from Three IT Standards Table 5 (Hitotsubashi University Institute of Innovation Research, IIR Working Paper#06-08, Sept. 2006), available at <http://pubs.iir.hit-u.ac.jp/admin/ja/pdfs/file/683>.

²³ See Mark A. Lemley & Kimberly A. Moore, *Ending Abuse of Patent Continuations*, 84 B.U. L. REV. 63, 64 (2004).

²⁴ For example, the applicant may simply have drafted the claims poorly in the first instance and want a second chance at drafting claims of appropriate scope. See *id.* at 76.

²⁵ See Gene Quinn, *Submarine Patents Alive and Well: Tivo Patents DVR Scheduling*, IPWATCHDOG, Feb. 19, 2010, <http://www.ipwatchdog.com/2010/02/19/submarine-patents-alive-and-well-tivo-patents-dvr-scheduling/> (last visited April 26, 2013).

²⁶ See Peters, *supra* note 8.

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utilizing continuing applications leads to distortion of the allocation of royalties.²⁷ If all patentees follow this way to increase their royalty generated, that will result in the huge expenditure of filing and maintaining a patent. In addition, some scholars argued that the quality of essential patents after a DA will be lower than the non-DA essential patents.²⁸ As a result, this kind of patent pool which contains many similar and weak-quality patents makes the development of new technologies becomes more difficult. No one benefits.

IV. Practical Remedies for Depressing Boom of CA and DA

The problem of boom of CA and DA lies in the fact that the measurement of patent value acceptable to everyone has not yet been developed.²⁹ However, several practical remedies such as number limit and time limit are analyzed as follows.

A. Number Limit on CA and DA

In 2007, the USPTO announced new regulations under 37 CFR regarding continuation application to minimize the abuse of the patent continuation application system. The proposed rules would have limited an inventor to filing two continuation applications for each type of invention disclosed in an original patent application, unless the applicant can show "good cause" for filing additional continuations. Nevertheless, the proposed rules were overruled by a preliminary injunction which was granted by the United States District Court of the Eastern District of Virginia on October 31, 2008.³⁰ In October 2009, USPTO withdrew proposed changes to continuation rules.

However, limiting the number of continuations may be the most direct and helpful way to eliminate multiple CA problems. The One-Blue, an innovative patent pool for Blu-ray Disc products, have utilized this idea from 2011. One-Blue takes a maximum number of CA or DA into account for royalty sharing purposes for each parent patent. In addition, the total weighting of all CA and DA related to one parent patent cannot exceed the weighting of their parent. Exceptions will be accepted only where a divisional or continuation application can prove that its invention is different from the parent patent.³¹

²⁷ See Tsukada, *supra* note 9, at 208.

²⁸ See Wajima et al., *supra* note 18, at 3.

²⁹ See Tsukada, *supra* note 9, at 214.

³⁰ See Jim Singer, *Court Issues Permanent Injunction against USPTO Patent Rule Changes*, April 1, 2008,

<http://ipspotlight.com/2008/04/01/court-issues-permanent-injunction-against-uspto-patent-rule-changes/> (last visited April 26, 2013).

³¹ See Peters, *supra* note 8, at 41.

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One-Blue believes this is the best way to counter the uncontrolled and costly proliferation of CA and DA in patent pool.

B. Time Limit on CA and DA

European Patent Office (EPO) has stated that the DA practice was too broad and could result in abuse of the European patent system. Therefore, it should be limited. On April 1 2010 the European Patent Convention was amended to add new rules 36(1) (a) and (b) to effectively limit the current practice for filing DA. A 24-month term is set for filing a voluntary divisional, calculated from the first Examination Office action of the earliest application.³² As a result, the practice of filing a divisional at any time during the period when the parent application is still pending is no longer possible. In the similar manner, the patent pool could introduce time limit on the filing of CA and DA for accounting royalty sharing purposes. Patent pool could establish a royalty allocation regime that after the time limit has expired, no CA and DA can be taking into account for royalty allocation.

V. Conclusion

The patent pool is a system established with cooperation between patentees in order to avoid the tragedy of the patent thickets. The boom of CA and DA may possibly distort the pool's allocation of royalty and hurt cooperation between companies. This paper analyzes the defections of CA and DA in patent pool such as time delay, patent claims change, higher filing and maintaining costs. Then, the paper highlights and introduces practical and innovative solutions such as number limit and time limit to depress the boom of CA and DA. Moreover, the number limit have utilized by the One-Blue patent pool to counter the uncontrolled and costly proliferation of CA and DA. Although it remains to be seen how participants will benefit from these innovative improvements in patent pool. It would have been great if the patentee could make a careful consideration of whether one or more continuation or divisional applications are needed to pursue important subject matter of an application is required at an earlier stage in prosecution of the application.³³ It will enhance the success of patent pool and technology

³² See Hans Jongste, *New Rules for Divisional Patent Applications: Patent Strategy Will Need to Change* at 49, in BUILDING AND ENFORCING INTELLECTUAL PROPERTY VALUE 2010 48 (Joff Wild eds., 2010), available at <http://www.iam-magazine.com/issues/Article.ashx?g=a3a03819-4ab6-4e98-bb41-66a4606c7250>.

³³ Mewburn Ellis LLP (2012), *Effects of the New Rules-Divisional Applications*, <http://www.mewburn.com/library/information-sheets/effects-of-the-new-rules-divisional-applications>.

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