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Article

**PRACTICAL GUIDE TO APPLICATION OF (OR DEFENSE AGAINST) PRODUCT-BASED INFRINGEMENT
IMMUNITIES UNDER THE DOCTRINES OF PATENT EXHAUSTION AND IMPLIED LICENSE**

Amber Hatfield Rovner^{al}

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I.	Introduction: Product-Based Infringement Immunities	228
II.	Patent Exhaustion	229
	A. What Is It?	229
	B. Parameters of the Exhaustion Doctrine	230
	1. General Rule: Exhaustion Is Limited to the Product as Sold.	230
	2. Exception to General Rule: Authorized sale of unpatented components that have “no utility” outside a patented combination may exhaust patent claims covering the combination.	232
	C. How To Invoke an Exhaustion Defense	235
	D. How To Deflect an Exhaustion Defense	237
	1. Plan Ahead	237
	2. Challenge in Litigation	245
III.	Implied Licenses	246
	A. Definition of Implied License	246
	B. Interplay of Implied Licenses with Doctrine of Exhaustion	248
	C. How To Invoke an Implied License Defense	250
	1. Establish Absence of Noninfringing Uses	251
	2. Avoid Unfavorable Characterizations of Circumstances of the Sale	259
	D. How to Deflect an Implied License Defense	260
	1. Plan Ahead	260

	2. Challenge in Litigation	268
IV.	The Scope of Product-Based Infringement Immunities Down the Road - Permissible Repair vs. Infringing Reconstruction	268
	A. General Principles of Repair vs. Reconstruction and Relationship to Exhaustion and Implied License	269
	1. Distinction Between “Permissible Repair” and “Infringing Reconstruction”	269
	2. Burdens of Proof	270
	3. Application of Defense of “Repair” to Indirect vs. Direct Infringement	270
	4. Application of Defense of “Repair” to Process Claims	270
	5. Origins: Exhaustion vs. Implied License	271
	B. Repair vs. Reconstruction Spectrum - The Concept of “Spentness”	272
	1. Refurbishing Article Where Entire Article is “Spent”	272
	2. Replacing “Spent” Portion of Article	273
	3. Modifying Article Where No Part is “Spent”	277
	C. Federal Circuit’s “Safe Harbor”: Replacing “Readily Replaceable Part” Is Permissible Repair	279
	D. Imposing Restrictions on Permissible Repair	280
	1. Draft Claims To Cover More Markets	280
	2. Impose Restrictions on Use of Patented System	282
	E. Aside: Trademark Issues Raised by Refurbishment	283
V.	Concluding Remarks	286

***228 I. Introduction: Product-Based Infringement Immunities**

“Product-based infringement immunities” is a term that broadly describes the effect that an authorized sale of a product may have on a patent owner’s rights to enforce patents against that product.¹ Such “immunities” from suit are not derived from express licensing or even express permission from the patent owner. Indeed, *229 they may (and often do) arise contrary to the wishes or intent of the patent owner.² These immunities are only “product-based,” however, in that they are limited to the further use or resale of the product itself, and do not encompass additional rights under the patent (that is, to make, use, sell, offer for sale or import the invention with respect to additional products).³

Product-based infringement immunities are typically invoked through the application of two doctrines: patent exhaustion (the “first sale” doctrine) and implied license. This paper summarizes the principles and leading cases underlying each of these doctrines. It also offers suggestions for invoking (or defending against) application of these doctrines.⁴

II. Patent Exhaustion

A. What Is It?

Broadly speaking, the “exhaustion” or “first sale” doctrine divests the patent owner of its statutory rights of exclusion with respect to a product once the patent owner has sold, without limitation, an article that fully embodies a patented invention.⁵ Stated more simply, the first authorized sale of a patented product places the *230 article sold outside of the patent owner’s rights of exclusion.⁶ The principle of exhaustion of patent rights applies not only to products sold by the patent owner but also to products sold by the patent owner’s licensees.⁷

By way of a simple example: If a licensee sells a computer chip, without restriction and in accordance with its license, that fully practices one or more of the licensed patent claims, the patentee’s rights of exclusion under those claims are “exhausted” with respect to that chip.⁸ The patentee has (through its licensee) given up its rights to exclude the purchaser from subsequent use or resale of that chip vis-à-vis the applicable patent claims. The rationale underlying this doctrine is that once the patentee has received consideration for releasing the article from the patent’s sphere of exclusion, the patentee can no longer restrict the use of that article.⁹ However, the effect of exhaustion is only product-based infringement immunity, and the purchaser receives no further rights to the patent itself.

General principles underlying the application of the exhaustion doctrine, as derived from leading cases, are summarized in Section B. Section C discusses guidelines for invoking the doctrine, while Section D discusses guidelines for defending against it.

B. Parameters of the Exhaustion Doctrine

1. General Rule: Exhaustion Is Limited to the Product as Sold.

An important limitation on the doctrine of patent exhaustion is that it does not apply where the patent claims at issue do not cover the product as sold by the patentee or its licensee, as illustrated by the following cases.

Sale of a product does not exhaust claims covering a method of using the product.

For example, in *Bandag, Inc. v. Al Bolser’s Tire Stores, Inc.*,¹⁰ the Federal Circuit explained that the “first sale” doctrine does not apply to method claims, because the claims could not read on the product as sold.¹¹

*231 Recently, in one of Judge Rich’s last judicial opinions, a panel of the Federal Circuit in *Glass Equipment Development, Inc. v. Besten, Inc.*,¹² confirmed this limitation on the exhaustion doctrine.¹³ Because the license issue concerned method claims, and not apparatus claims, the Federal Circuit determined that “the first sale doctrine is inapplicable.”¹⁴

Sale of an unpatented component does not exhaust patent claims covering a combination with other products.

The patent exhaustion doctrine also does not apply where the patent owner or licensee sells only a component of a larger patented system because the patent claim at issue does not cover the product as sold. The Court of Claims’ decision in *Stukenborg v. United States*¹⁵ is illustrative of this principle, although the defense asserted in the case was described as an “implied license” defense rather than an “exhaustion” defense.¹⁶ In *Stukenborg*, the court found the accused infringer liable for making infringing combinations, even though they were made in part from individual components purchased from authorized sources.¹⁷

*232 2. Exception to General Rule: Authorized sale of unpatented components that have “no utility” outside a patented combination may exhaust patent claims covering the combination.

An exception to the foregoing general rule applies where the product as sold is “unfinished” in the sense that it has no use except as part of a claimed combination invention. This “exception,” which stems from the United States Supreme Court’s decision in *United States v. Univis Lens Co.*,¹⁸ has begun to evolve so as to nearly swallow the general rule, and thus bears careful note.

In *Univis Lens*, the Court considered whether, under the doctrine of patent exhaustion, the patent owner’s sale of a product relinquished the patent’s sphere of exclusion under incident patent claims.¹⁹ The patent owner held several patents with

claims covering various aspects of making multi-focal eyeglass lenses.²⁰ The patent owner practiced a subset of the patent claims to make lens blanks.²¹ Then it licensed and sold those blanks to wholesalers and retailers, who ground the lenses according to a customer's prescription.²² The patent owner collected a royalty from the licensee on the sale of each blank.²³ The issue presented was whether the patent owner could control the extent to which a purchaser of the blanks could practice the incident claims necessary to grind the lenses into finished lenses for eyeglasses, which infringed a different set of claims.²⁴

The Supreme Court in *Univis Lens* applied the patent exhaustion doctrine to hold that the patent owner relinquished its exclusionary rights against purchasers of the blanks, even though - being "unfinished" - the blanks did not yet embody the specific patent claims at issue.²⁵ In particular, the Court held that the "[sale] of a lens blank by the patentee or by his licensee is . . . in itself both a complete transfer of ownership of the blank, which is within the protection of the patent law, and a license to practice the final stage of the patent procedure."²⁶ In so holding, the Court observed that "each blank . . . embodies essential features of the patented device *233 and is without utility until it is ground and polished as the finished lens of the patent."²⁷

Several courts have applied the reasoning of *Univis Lens* to afford infringement immunities against patented combinations based on the sale of unpatented components of those combinations.

For example, in one case in the string of foundry cases involving Intel Corporation,²⁸ Intel asserted against Cyrix Corporation claims to a combination of components that were not embodied in the products that Cyrix purchased from its foundries (which were Intel licensees).²⁹ The products at issue in this case were microprocessors, and Intel asserted a patent having a claim covering the microprocessors alone as well as claims covering a combination of the microprocessors with external memories. By this point in the foundry saga, there was no dispute that the Intel licensees (SGS-Thomson and Texas Instruments) were authorized to act as foundries for Cyrix.³⁰ Accordingly, there was no dispute that Cyrix's "purchase" of its microprocessors from those foundries exhausted Intel's rights to the claim covering the microprocessor alone.³¹ The dispute centered on whether the microprocessors sold by the licensees also exhausted Intel's rights in the separate combination claims.³² Invoking *Univis Lens*, Cyrix argued that the microprocessors purchased from the licensees could not be used for any purpose without infringing the combination claims.³³

The district court in *Cyrix II* concluded that *Univis Lens* controlled.³⁴ The district court characterized the patent exhaustion doctrine as "so strong that it applies even to an incomplete product that has no substantial use other than to be further *234 manufactured into a completed patented and allegedly infringing article."³⁵ In evaluating application of exhaustion under the *Univis Lens* test, the district court first interpreted the patent claims at issue as requiring no more than the subject microprocessors combined with external memory.³⁶ Then the district court found that the subject microprocessors were "intended to be used with external memory" and had "no utility" otherwise.³⁷ Indeed, the district court found that the microprocessors could not "function for any purpose without external memory."³⁸ Based on this finding, the district court agreed that the microprocessors were "unfinished" unless combined with external memory.³⁹ In view of its claim construction and its findings regarding the nature of the microprocessors sold by Intel's licensees, the district court concluded that the claims at issue were "exhausted" by the authorized sale of the microprocessors alone.⁴⁰ This decision was affirmed by the Federal Circuit in an unpublished opinion.⁴¹

The *Univis Lens* "unfinished products" exception has been further refined beyond *Cyrix II* into an "essential element" test. In yet another case involving Intel Corporation (although this time as the licensed middle-man), the court in *LG Electronics, Inc. v. Asustek Computer, Inc.*,⁴² held that the application of exhaustion against claims to a patented combination hinges on whether there has been an authorized "sale [or license] of an essential element" of a patented device that has "no use other than in the [practice of the patent]."⁴³ If so, that component sale will exhaust the patentee's statutory right to exclude others from making, selling or using the entire patented device.⁴⁴

*235 *LG Electronics I* involved a license agreement between LGE (the patentee) and Intel Corporation, who sold microprocessors and chipsets to several computer manufacturers.⁴⁵ Although the microprocessors and chipsets sold by Intel were not separately covered by any of LGE's patent claims, LGE owned patents covering certain computer systems.⁴⁶ LGE sued several of Intel's customers for infringing LGE's patents covering computer systems (as well as certain related methods).⁴⁷ In so doing, LGE argued that Intel's authorized sale of the microprocessors and chipsets did not exhaust LGE's patent rights in the computer systems because, among others: (1) the products sold by Intel had noninfringing uses, and thus did not fit within the "unfinished products" exception; and (2) exhaustion could not be applied against the method claims.⁴⁸

The court summarily rejected the noninfringing uses asserted by LGE for the microprocessors and chipsets sold by Intel. The court held that limiting the purchasers to use of the components outside the United States did not count as a “noninfringing use.”⁴⁹ The court also held that use as replacement parts in LGE-licensed products was “unwise from a business standpoint,” and thus did not represent a use sufficient to defeat the exhaustion doctrine.⁵⁰

In a follow-up decision, the same court agreed that exhaustion could not be applied against LGE’s method claims, and thus the defendants were limited to an implied license defense as to those claims.⁵¹

C. How To Invoke an Exhaustion Defense

The doctrine of patent exhaustion may be invoked as a possible immunity against an apparatus claim where there has been an unrestricted, authorized sale of a product that embodies, in whole or in part, the claimed apparatus. Successful invocation of this defense hinges on determination of the following:

Does the product, as sold, embody the apparatus of the asserted claim?

- If yes, then the unrestricted authorized sale of that product “exhausts” the patent owner’s exclusionary rights in that patent claim for that particular product, meaning that the purchaser is free to use *236 or resell that product without liability to the patentee under that claim.⁵²
- If no, then the purchaser must consider whether the product has “no utility” unless it is combined into the claimed apparatus. If the product in fact lacks utility outside the scope of the asserted combination claim, then it will fall within the “unfinished products” exception articulated in *Univis Lens* and its progeny, and will thereby exhaust the combination claim as noted previously.⁵³ Otherwise, there will be no exhaustion.

Exhaustion is an affirmative defense to a claim for patent infringement, and should be raised as early as possible (that is, in answering the complaint).⁵⁴ If the accused infringer does not wish to admit infringement, exhaustion can be raised in the alternative - for example, by alleging “to the extent that” the asserted claims cover the accused products, the claims are exhausted because the accused products were acquired from an authorized source. The accused infringer will bear the burden of proving that the accused products were, in fact, acquired from an authorized source (for example, from a licensee under the asserted patents).⁵⁵

If the accused infringer must invoke the “unfinished products” exception per *Univis Lens*, then the accused infringer will bear the additional burden of proving the absence of reasonable noninfringing uses for the products as sold.⁵⁶ The burden may be satisfied initially by showing that the products sold are specially designed and specifically contemplated to be used in the patented combination.⁵⁷ At that point, the burden will shift to the patentee to refute that showing by, for example, raising additional, noninfringing uses. If the patentee can point to such noninfringing uses, the accused infringer will then bear the burden of proving that such alleged uses are not “reasonable” or are “unwise from a business standpoint.”⁵⁸

***237 D. How To Deflect an Exhaustion Defense**

1. Plan Ahead

For the patentee, deflecting the successful invocation of an exhaustion defense is best accomplished through advance planning.

i) Draft Patent Claims To Avoid Exhaustion

a) Method Claims:

As noted previously, courts have uniformly held that exhaustion will not apply to method claims. Accordingly, if it is possible to draft method claims covering the invention, this is one way to “plan ahead” against exhaustion. Of course, the accused infringer may still try to raise the defense of “implied license,” which can be invoked against method claims.⁵⁹

b) System/combination Claims:

As noted previously, system or combination claims cannot be exhausted by the sale of a mere component unless the component has “no utility” outside of the system or combination. Accordingly, including claims covering the combination of the product sold by the patentee or licensee is another way to limit application of the exhaustion doctrine. This may not be effective as against the Univis Lens exception, however, where the component to be sold is uniquely designed for use in a particular system or combination.

ii) Impose Restrictions on the Sale

If it is not feasible to draft patent claims that will effectively limit application of the exhaustion doctrine, all is not lost. It is also possible to restrict application of the exhaustion doctrine to the specific use or combination of a product sold by placing certain restrictions on the sale of the product.

a) Restrictions Directly Accompanying Sale of Product

A number of courts have addressed the extent to which a patentee may limit exhaustion through “use” restrictions that directly accompany the sale of a product. Such holdings are instructive as to the type of notice that may be needed to effectively restrict applicability of the exhaustion doctrine.

The foundation for such restrictions was laid by a few Federal Circuit decisions, which acknowledged the principles supporting the legitimacy of restrictions, but did not have the opportunity to uphold the restrictions due to the procedural posture of the cases before them. Subsequent district court decisions have, however, *238 carried the ball further. A recent trio of “seed cases” exemplifies application of these principles.

Foundational Decisions

The Federal Circuit’s decision in *Mallinckrodt, Inc. v. Medipart, Inc.*⁶⁰ is one of the more notable decisions laying the groundwork for upholding restrictions affecting invocations of the exhaustion doctrine. In this decision, the Federal Circuit held that a “single use only” restriction could preclude reuse of a patented device by the patentee’s customers, thus blocking the unfettered use that accompanies full exhaustion.⁶¹

The patentee (Mallinckrodt) owned patents on a device for trapping radioactive aerosol mist, which was used by hospitals in diagnostic imaging of patients’ lungs.⁶² Mallinckrodt labeled each device “For Single Use Only” and directed the hospitals to dispose of the units after use by sending them to a hazardous waste disposal center.⁶³ The Federal Circuit held that the hospitals operated outside their rights when they disregarded the restrictions imposed by the “single use only” notice and instead sent the units out to be recycled for subsequent re-use.⁶⁴ Even though the patentee itself in Mallinckrodt sold a device that fully practiced the asserted patent claims, the Federal Circuit rejected the contention that patent exhaustion resulted from that sale to allow unrestricted use (that is, re-use).⁶⁵

Subsequently, the Federal Circuit in *B. Braun Medical, Inc. v. Abbott Laboratories*⁶⁶ confirmed the principles discussed in Mallinckrodt by acknowledging that a violation of valid use restrictions will result in patent infringement.⁶⁷ In this case, the patentee’s attempted restriction of the use of patented products in certain systems was challenged as patent misuse. The Federal Circuit addressed exhaustion in connection with a jury instruction that stated that any attempted restriction on use of a patented product was patent misuse.⁶⁸ In rejecting this instruction, the court *239 noted that “express conditions accompanying the sale or license of a patented product are generally upheld.”⁶⁹ The Federal Circuit explained that the “exhaustion doctrine . . . does not apply to an expressly conditional sale or license.”⁷⁰ The rationale offered by the court was that “it is more reasonable to infer that the parties negotiated a price that reflects only the value of the ‘use’ rights conferred by the patentee.”⁷¹ In other words, the patentee may choose to part with all of its exclusionary rights by the sale of a product or only a subset of those rights, if the purchaser takes with actual notice of any limitations.

The Mallinckrodt and B. Braun cases suggest that restrictions accompanying the sale of a product could be effective against exhaustion. However, due to the procedural posture of the cases, the Federal Circuit in those cases did not actually hold that the restrictions were in fact effective.⁷²

The Seed Cases

The principles discussed in *Mallinckrodt and B. Braun* have recently been applied in a series of cases involving Monsanto's patents covering genetically-altered seed for soybeans and cotton. In these cases, the courts upheld Monsanto's restricting the use of the patented seed to a single growing season over defenses of exhaustion and patent misuse.⁷³

Monsanto owns several patents covering gene technology for making seeds that can be used for growing herbicide-resistant soybeans and cotton, including several claims covering the seeds themselves.⁷⁴ Monsanto sells its gene technology to seed producers under a license to use the technology in the production of cottonseed and soybeans.⁷⁵ The seed producers then sell the seed treated with the gene technology to retailers or directly to growers, both of whom must obtain separate licenses from Monsanto before selling or using the seeds.⁷⁶

In one of the earlier cases, Monsanto brought a patent infringement suit against Trantham, a farmer who had purchased soybeans and cottonseed treated with Monsanto's patented technology and then planted the seeds.⁷⁷ Although Trantham *240 bought the seeds from an authorized source, Trantham himself never obtained a license to use (plant) the seeds.⁷⁸ In response to Monsanto's infringement claims, Trantham raised a number of claims and defenses including: 1) antitrust and restraint of trade claims premised on Monsanto's alleged monopolization or attempted monopolization resulting from the restrictive licensing practices;⁷⁹ and 2) assertions of exhaustion and implied license based on Trantham's purchase of the seed from authorized seed producers or retailers.⁸⁰ The court rejected all of these claims and defenses and ultimately granted summary judgment in favor of Monsanto on every issue except damages.⁸¹

With regard to the antitrust and restraint of trade claims, the court in Trantham determined that the licensing agreements with the seed producers and the growers were "legal restrictions on use pursuant to the patent grant."⁸² Trantham alleged that the licensing agreements also contained restrictions on the licensee's ability to deal in products outside the patent grant.⁸³ The court rejected this claim on the ground that the license agreements "have not restricted competition of seed producers and retailers."⁸⁴ Accordingly, because there was no illegal or anticompetitive conduct, the court granted summary judgment in favor of Monsanto and dismissed all of Trantham's antitrust and restraint of trade claims.⁸⁵

The defenses of exhaustion and implied license raised in Trantham fared no better. With regard to exhaustion, the court noted that the doctrine does not apply to an expressly conditional sale or license.⁸⁶ The court concluded that the doctrine of exhaustion did not bar Monsanto's claims for patent infringement because the sale of the patented gene technology was expressly conditioned on the signing of a restrictive licensing agreement.⁸⁷ Specifically, the bag of seed purchased by Trantham bore the following restrictive legend:

These seeds are covered under U.S. Patents 4,535,060, 4,940,835, and 5,352,605. The purchase of these seeds conveys no license under said patents to use these seeds. A license *241 must first be obtained from Monsanto Company before these seeds can be used in any way.⁸⁸ The emphasized language is particularly notable in that it seems to obliterate the first-sale doctrine entirely. Not only is the use restricted, but it is also precluded entirely unless the purchaser signs a separate license (Technology Agreement). The Technology Agreement allowed the seeds to be planted only in a single growing season and did not permit saving any harvested seeds for use in subsequent seasons.⁸⁹ The Trantham court did not, however, seem at all troubled by this restrictive provision. Rather, the court's analysis collapsed this provision with the analysis of the restrictive license agreement, and in finding the license agreement to be itself lawful did not separately analyze the efficacy of a restricted sale whereby the purchase of a patented product does not automatically convey any license to actually use it.

The effect of Monsanto's restrictive Technology Agreement was raised in a later case involving Monsanto's same patented seeds, where the Federal Circuit rejected several defenses raised by another farmer, named McFarling.⁹⁰ Contrary to the express terms of the Technology Agreement that McFarling signed when he purchased Monsanto's patented Roundup Ready® seed from an authorized source (in which he agreed not to "save any crop produced from this seed for replanting"), McFarling saved 1500 bushels of soybean seed from his harvest and planted them the following season.⁹¹ McFarling tried to avoid Monsanto's "anti-save" restriction by alleging that it was an illegal tying arrangement in which farmers were required to buy new seed each year in order to buy the seed in the first place.⁹² The Federal Circuit rejected that argument, noting that farmers were not required to buy additional seed in later years.⁹³

The Federal Circuit in McFarling also rejected the argument that Monsanto was precluded by the doctrine of exhaustion from

enforcing the restrictions in the Technology Agreement against farmers like McFarling.⁹⁴ In rejecting the argument, the court employed a rather unhelpful reasoning process derived from the unusual circumstances of this case. The court explained that the “first sale” doctrine was not implicated because the new seeds that McFarling saved were “grown from *242 the original batch [that] had never been sold.”⁹⁵ In other words, the “original sale of the seeds did not confer a license to construct new seeds, and since the new seeds were not sold by the patentee they entailed no principle of patent exhaustion.”⁹⁶

In a subsequent case involving the same Monsanto seeds, another farmer (Swann) also challenged Monsanto’s right to restrict use of the patented seeds to a single growing season.⁹⁷ As did the farmers in the other seed cases, Swann admitted that he purchased patented seed and saved some seed from his crops for replanting the next year, which violated the express terms of the Technology Agreement that Swann signed when he purchased the seed.⁹⁸ And as did the farmers in the other cases, Swann tried to defend against the infringement claims by asserting that the doctrine of exhaustion precluded Monsanto’s attempted “single growing season” restrictions, and that such restrictions also constituted patent misuse.⁹⁹

The Swann court rejected the exhaustion claim in short order by relying on the Federal Circuit’s decision in McFarling.¹⁰⁰ The court also rejected the misuse defense in view of McFarling, but added an additional twist. The court analogized the Monsanto Technology Agreements to a lease rather than a sale of a car, in which the patentee (Monsanto) essentially “leased” the patented invention for use in a single year.¹⁰¹ Following this analogy, the court was not sympathetic to the pleas of the farmer, quipping that the farmers “are in the position of a car-lessor crying foul upon discovering he cannot retain the car after his lease expires.”¹⁰² As the court noted, the farmers were not “required” to buy additional seed in later years; rather, they had the option of “leasing another car [(purchasing new modified seed)], buying a new car [(buying unpatented seed)], or buying a used car (purchasing saved seed).”¹⁰³ In any event, the court held that the “single growing season” restrictions were not unlawful and did not constitute patent misuse.¹⁰⁴

In sum, the “use” restriction cases teach that the doctrine of exhaustion is not absolute, and may even be limited. A key to these decisions, however, is that the purchasers had actual knowledge of the restrictions because the restrictions directly *243 accompanied the sale of the products.¹⁰⁵ A more difficult situation arises where a patentee attempts to use restrictive license agreements to preclude product-based infringement immunities from being passed along to third parties through exhaustion by licensees.

c) Restriction Through License Agreement

Few decisions have addressed the extent to which the exhaustion doctrine may be precluded upstream from a sale, through contract or otherwise, particularly with regard to third parties. The most notable is the Cyrix II decision in which the district court held that an effective preclusion of the implied license doctrine in the license agreement did not preclude exhaustion because of the operation of the “unfinished products” exception.¹⁰⁶ The patentee (Intel) had sought to impose a restriction in its license with Texas Instruments with regard to combinations of licensed products (microprocessors) with unlicensed products (memory chips).¹⁰⁷ Specifically, the agreement provided:

Anything in this Agreement to the contrary notwithstanding, no release or license is granted by either party . . . either directly or by implication, estoppel or otherwise under any patent licensed hereunder, to third parties acquiring products from either party . . . for the combination of separate products licensed hereunder with each other or with any other product.¹⁰⁸ The district court held that this provision was “clear” in stating that “[n]o license may be implied for third parties to make combinations of separate products licensed under the TI-Intel agreement, either with other licensed products or with unlicensed products.”¹⁰⁹ Nevertheless, the district court found this provision ineffective against exhaustion of the combination claims covering the combination of a microprocessor and memory.¹¹⁰ In doing so, the district court held that the effect of this restriction was circumvented by the application of the patent exhaustion doctrine through the “unfinished products” exception.¹¹¹

*244 The Cyrix II decision illustrates how the doctrine of implied license, based in part on conduct,¹¹² is more susceptible to contractual restrictions. In contrast, the exhaustion doctrine, which focuses exclusively on the nature of the product sold, is not as easily restricted. Rather, courts that have upheld restrictions on applicability of the exhaustion doctrine have generally done so only where express “use-based” restrictions were imposed on the sale of a product, with notice to the purchasers.

The continued viability of the analysis in Cyrix II was confirmed in the LG Electronics cases, where the court agreed that a “no combinations” restriction similar to that addressed in Cyrix II was ineffective against the exhaustion doctrine. This provision, incorporated in the license granted by LGE to Intel, expressly disclaimed any implied license to Intel customers

who combine products covered by the LGE-Intel License with non-Intel products.¹¹³ Although the court agreed that a patentee is entitled to impose conditions on the sale of essential components of its patented products, it found the restriction attempted by the patentee (LGE) in the license to be ineffective.¹¹⁴ The court acknowledged that Intel had advised its customers of this disclaimer in the license from LGE, but nevertheless held that Intel's sale was "unconditional" in that the customers' purchase "was in no way conditioned on their agreement not to combine the Intel microprocessors and chipsets with other non-Intel parts and then sell the resultant products."¹¹⁵ Accordingly, the "no combinations" provision in the license between the patentee and the licensee/seller (Intel) did not preclude Intel from passing along product-based infringement immunities to its customers under the exhaustion doctrine.¹¹⁶

In view of the foregoing cases, placing restrictions in license agreements is not in and of itself likely to be effective in precluding invocation of the exhaustion doctrine by third parties (that is, customers of a licensee). To avoid the effect of these decisions, a patentee may consider requiring the licensee to make the sale conditional as Monsanto presumably did in the seed cases.¹¹⁷ In other words, a patentee could include in the license agreement a requirement that the licensee condition all sales of licensed products. For example, the licensing agreement may expressly require that sales under the license be subject to restrictions on use of the *245 product. A sample license provision follows (which is based on principles derived from the foregoing cases, but has not yet been tested in any legal proceeding):

With respect to any sale of Licensed Products to any third party, LICENSEE shall include on documents outlining the terms and conditions of sale, such as purchase orders, invoices and the like accompanying such sale, the following statement or one substantially similar, and shall require as a condition of sale that any transferee of such Licensed Products place the same statement on purchase orders or invoices accompanying the resale of such Licensed Products or products incorporating such Licensed Products:

The sale of products by us confers on the purchaser no rights - by exhaustion, implied license or otherwise - to use the products in the practice of any method or in combination with any other component. A separate license may be required.

2. Challenge in Litigation

As a last resort, if a patentee has been unable to "plan ahead" by drafting appropriate claims, imposing enforceable use restrictions, or negotiating appropriately restrictive licenses, the licensee may still defend against invocation of the exhaustion doctrine in litigation in a few limited ways. The following analysis is a guide:

The first inquiry is:

1) Did the accused infringer acquire the product in question from an authorized source?

- Determine scope of license agreement: Did the accused infringer purchase the product from the patentee or from a legitimate licensee?

- Review license to determine whether foundry rights were excluded: Did the accused infringer have the product made by an authorized (licensed) foundry?¹¹⁸ If the answer to both questions is "no," then the exhaustion doctrine may not apply because the sale was not authorized. If the answer to either question is "yes," then the sale was authorized, in which case the next inquiry is:

2) Does the product in question fully practice the asserted claim(s)? If the answer is "no" (that is, the patent claim covers a combination and the product sold is only a component), then exhaustion may not apply. Go to the final inquiry.

The final inquiry is based on whether the Univis Lens "unfinished product" exception may apply:

3) Does the product in question "lack utility" unless it is combined with other products to practice a patented combination?

*246 • Point out noninfringing uses for product that could defeat exhaustion doctrine: Does the product in question have any reasonable noninfringing uses outside of the patented combination?

The bottom line is that the doctrine of exhaustion is a potentially powerful tool for unlicensed parties to receive immunities under certain patent claims. By the same token, it is a potential trap for unwary patent owners who may be giving up rights of

exclusion unintentionally and unnecessarily.

III. Implied Licenses

The other principal basis for establishing product-based infringement immunity is the doctrine of implied license.

A. Definition of Implied License

Implied licenses differ from product-based infringement immunities based on the doctrine of patent exhaustion in that the exhaustion doctrine focuses exclusively on the product sold, while an implied license may result from the conduct of the patentee (or its licensee).¹¹⁹ The patentee's conduct may lead to an implied license under a number of theories, including acquiescence, conduct, equitable estoppel, or legal estoppel.¹²⁰ Although implied licenses are more difficult to invoke and easier to prevent, they also have broader potential application, covering not only patent method claims but also combination claims based on the sale of a component of the patented method or combination. This paper focuses on product-based infringement immunities arising from the sale of a product, and does not address the invocation of an implied license based directly on the parties' dealings, as in the case of implied license by legal estoppel.¹²¹

The Federal Circuit's decision in seminal decision in *Bandag, Inc. v. Al Bolser's Tire Stores, Inc.*¹²² is generally regarded as having established the framework for determining whether a license may be implied based on the purchase of a component of a patented combination or of a product for use in the practice of a patented method. This decision set forth a two-part test, derived in part from principles of equitable estoppel. Under this test, a license to practice the patented method *247 or combination¹²³ may be implied from the authorized sale of an article used in the method or combination if the accused infringer can prove two elements:

- 1) there are no noninfringing uses of the article sold outside the patented invention; and
- 2) the circumstances of the sale "plainly indicate that the grant of a license should be inferred."¹²⁴

Under this two-pronged test, the infringer may initially meet its burden by satisfying only the first prong, proving that the article sold has no noninfringing uses. In that case, the authorized sale itself is said to "plainly indicate that the grant of a license should be inferred," thus shifting the burden of going forward on the second prong to the patent owner to show that the circumstances tend to show the contrary.¹²⁵ Ultimately, however, the burden remains on the accused infringer.

If the accused infringer meets the test for an implied license, the result is only a limited product-based infringement immunity and not an unfettered right to practice the claimed invention. Moreover, as the Federal Circuit explained in *The Carborundum Co. v. Molten Metal Equipment Innovations, Inc.*,¹²⁶ the implied license extends only for the life of the purchased product and not for the life of the patent.¹²⁷ In *Carborundum*, the parties did not dispute that a license should be implied by virtue of the patentee's sale of products that had no substantial noninfringing use outside the patented combination.¹²⁸ The parties did, however, dispute the scope of the license.¹²⁹ The defendant argued that a license should be implied for the life of the patent - essentially permitting reconstruction (as opposed to mere repair) of the patented apparatus during that time.¹³⁰ The Federal Circuit disagreed, holding that "[u]nless the circumstances indicate otherwise, an implied license arising from the *248 sale of a component to be used in a patented combination extends only for the life of the component whose sale and purchase created the license."¹³¹

B. Interplay of Implied Licenses with Doctrine of Exhaustion

Although implied licenses are often analyzed separately from the doctrine of exhaustion, the two theories overlap considerably, as the Federal Circuit recently explained in *Anton/Bauer, Inc. v. PAG, Ltd.*¹³² The court addressed the extent to which the patentee's sales of a portion of a patented combination allowed the customers to complete the combination with parts purchased from unauthorized sources. The patent in issue claimed a connection for a battery pack to be joined to a video camera, comprising a "male" plate attached to the battery housing pack and a "female" plate attached to the camera itself.¹³³ Both portions, individually, were unpatented.¹³⁴ The patentee sold its female plates directly to customers for attachment to video cameras without restriction of use.¹³⁵ The patentee also sold battery packs separately with housings containing its male plates.¹³⁶ The accused infringer (PAG) sold battery packs, which included a male plate that would fit with the patentee's

female plate for attaching the battery packs to the video cameras.¹³⁷ The patentee sued PAG for contributory and induced infringement.¹³⁸

It was undisputed that the combination of PAG's battery pack with the male plate, when combined by the customer with the female plate on the video camera, infringed the asserted patent claims.¹³⁹ The only issue was whether the customers had an implied license to complete the combination based on their purchase of the female plate from the patentee. If there was an implied license, there would be no *249 direct infringement and PAG could not be liable for induced or contributory infringement.¹⁴⁰

The Federal Circuit reversed the district court's grant of a preliminary injunction, holding that the district court should have found that the customers had an implied license to complete the combination.¹⁴¹ In doing so, the court relied to some extent on principles underlying the exhaustion doctrine, noting that the Supreme Court's decision in *Univis Lens* suggested "that an implied license stems from the exhaustion of a patent right."¹⁴² A key in *Anton/Bauer* was that the customers had purchased an essentially unfinished product (the female portion of the male/female combination) from the patentee.¹⁴³ Arguably, following the teachings of *Univis Lens*, the court did not even need to reach an implied license analysis because the patentee sold the female plate "without restriction," and the female portion had "no noninfringing use" outside of the patented combination. Thus, per *Univis Lens* and its progeny, the doctrine of exhaustion should have applied to allow the customers to complete the combination.¹⁴⁴

The court did, however, continue with an implied license analysis. The court reviewed the circumstances of the sale of the female portions by the patentee and concluded that the unrestricted nature of the sales of the components was enough to support a finding of implied license to complete the combination.¹⁴⁵ The court explained that the patentee's "unrestricted sale of its female plate, useful only in performing *250 the claimed combination, plainly indicates that the grant of a license to practice the invention should be inferred."¹⁴⁶

This latest decision from the Federal Circuit, while reaffirming that the doctrines of exhaustion and implied license are alive and well, muddies the waters a bit by conflating these doctrines as applied to combination claims. The court's skipping over the "unfinished products" exception, analyzing the case instead under the implied license doctrine, raises the question of whether this exception is likely to simply be subsumed into the implied license doctrine. If that were the case, the circumstances of the sale would become critical and patentees would find it easier to avoid infringement immunities being passed along by the sale of a component of a patented combination or method.¹⁴⁷

Notably, the court in *Anton/Bauer* also delved briefly into the area of repair/reconstruction.¹⁴⁸ The patentee argued that the implied license was limited to circumstances where a repair was needed, such as to replace a "worn out" or "broken" male plate, which would limit at least the initial combination to male plates sold by the patentee.¹⁴⁹ The court held that the implied license arose upon the purchase of the female plate alone and was not dependent on the customer's purchase of an entire combination from the patentee in the first instance.¹⁵⁰ Thus, no basis existed for limiting the implied license to the repair context.¹⁵¹

C. How To Invoke an Implied License Defense

If exhaustion cannot be invoked to establish a product-based infringement immunity (for example, because the claim is a method claim), the doctrine of implied license may nevertheless be applicable. As illustrated in *Anton/Bauer*, the implied license defense should be raised in the context of combination claims even if the *Univis Lens* "unfinished products" exception arguably applies, in view of the considerable overlap (and possible merger) of the two theories in that context.

To establish an implied license to use a product (purchased from an authorized source)¹⁵² in the practice of a patented method or combination, the purchaser *251 of the product must employ the *Bandag* implied license analysis, for which the principal inquiry is as follows:

Does the product, as sold, have no reasonable or practical noninfringing use except to practice the method or combination of the asserted claim?

If "yes," then the burden will shift to the patentee to show that the circumstances of the sale do not plainly indicate that a license should be implied.¹⁵³ If "no," then no license is likely to be implied.¹⁵⁴

An accused infringer must raise this defense carefully to avoid sacrificing its noninfringement contentions.¹⁵⁵ Unless infringement is a foregone conclusion, an accused infringer could consider structuring an argument like this:

Use of the accused product does not infringe under a proper claim construction. Nevertheless, if the claims are interpreted as broadly as the patentee contends, then infringement is unavoidable. Since the infringement is unavoidable, it is immunized under an implied license because the product was purchased from the patentee or from a licensee of the asserted claims.

1. Establish Absence of Noninfringing Uses

To establish an implied license to use a product in a patented combination or method, the accused infringer must first prove that the product has no other (noninfringing) uses.¹⁵⁶ The courts appear to place a heavy burden on the accused infringer to prove the absence of noninfringing uses. Indeed, the Federal Circuit has commented that “judicially implied licenses are rare under any doctrine.”¹⁵⁷ Accordingly, a “noninfringing use” sufficient to preclude implication of a license has been broadly interpreted as encompassing any use that is “reasonable” or “practical,” even if such use would be inconsistent with the purchaser’s subjective intent.¹⁵⁸

***252** The Federal Circuit’s expansive view of noninfringing uses is exemplified by its decision in *Bandag*, where the accused infringer’s subjective hopes were certainly dashed with regard to equipment it purchased from a former licensed franchisee. In *Bandag*, the patentee owned a patent covering cold process tire recapping.¹⁵⁹ The accused infringer purchased used machinery from one of the patentee’s franchisees, assuming it would be entitled to use that machinery to practice the patented method.¹⁶⁰ The district court, sitting without a jury, ruled that the accused infringer obtained an implied license to practice the method by virtue of its purchase of the machinery.¹⁶¹

The Federal Circuit disagreed with the district court and reversed the finding of noninfringement.¹⁶² Explaining that no license can be implied where the “equipment involved has other noninfringing uses,” the Federal Circuit held that the accused infringer failed to meet its burden of proving the absence of suitable noninfringing uses.¹⁶³ For example, noted the Federal Circuit, the machinery could be sold to existing franchisees, sold piecemeal as spare parts, or the equipment could be modified so as not to practice the patented method.¹⁶⁴ The accused infringer’s failure to consider or investigate any of these options was deemed by the Federal Circuit to be fatal to its claim for an implied license.¹⁶⁵ Acknowledging that the accused infringer’s apparent plans were inconsistent with these alternatives, the Federal Circuit explained, “[a]n implied license cannot arise out of the unilateral expectations or even reasonable hopes of one party.”¹⁶⁶ In that regard, the Federal Circuit further found significant the absence of any circumstances contemporaneous with the purchase of the equipment that could reasonably have led the accused infringer to infer the grant of an implied license.¹⁶⁷

Following the Federal Circuit’s decision in *Bandag*, at least one district court raised the bar for noninfringing uses, briefly, in holding that such uses must be “commercially viable.”¹⁶⁸ Specifically, the district court in ***253** *Cyrix Corp. v. Intel Corp.*¹⁶⁹ defined “commercial viability” as “the ability to sell a device at a profit and to afford the development and continuation of an ongoing business.”¹⁷⁰ Because the Federal Circuit summarily affirmed the decision in *Cyrix II*, it did not address the novel “commercial viability” test espoused by the district court for several years. When it had occasion to address this issue again in the *Glass Equipment Development, Inc. v. Besten, Inc.*¹⁷¹ decision, however, the Federal Circuit rejected the “commercial viability” test, reaffirming that noninfringing uses sufficient to defeat an implied license defense must only be “reasonable.”¹⁷²

The following is a summary of the types of allegedly noninfringing uses that courts have evaluated in deciding whether such use is sufficient to defeat a claim of an implied license. As will be noted, no clear rule or “safe harbor” can be gleaned from the decisions. Rather, it appears that each case turns on its own facts, and in many instances, the court’s decision appears to be results-oriented rather than driven by a clear guiding principle.

i) Use of products as replacement parts in licensed systems

In *Bandag* the Federal Circuit took a relatively strong position against implied licenses and adopted a liberal view of what would constitute a reasonable noninfringing use. The court noted that “no license can be implied” to use equipment purchased in the practice of a patented method where the equipment has use even just as “replacement parts.”¹⁷³ The court then chided the accused infringer for not considering selling the equipment either as a package to existing licensees or on a

piecemeal basis for spare parts, even though such uses were hardly ones for which the equipment was intended.¹⁷⁴

District courts in the wake of *Bandag* have been less receptive of replacement parts as a noninfringing use.¹⁷⁵ These courts have distinguished *Bandag* on procedural grounds, noting that the accused infringer's lack of success in *Bandag* *254 was due principally to its failure to even attempt to prove that such an option was unreasonable and not due to the fact that such an option was necessarily "reasonable." However, as noted previously, if express restrictions accompany the sale of a product that limit use of the product to use as a replacement part in a licensed system, the court may give effect to such restrictions and reject an implied license defense.¹⁷⁶

ii) Modification of product to avoid infringement

The Federal Circuit in *Bandag* further noted that "[t]he possibility also existed to modify some of the equipment" to avoid infringement, and again faulted the accused infringer for ignoring this possible noninfringing use.¹⁷⁷ Nearly twenty years later, at least one court has acknowledged this as a possibility.¹⁷⁸

iii) Forebearance from use until patent expires

The Federal Circuit in *Bandag* also found fault with the accused infringer for failing to consider simply delaying use of the equipment for two years until the method patent at issue expired.¹⁷⁹ At least one court has acknowledged that this remains a possible noninfringing use.¹⁸⁰

iv) Use of product in noninfringing mode (refraining from use of patented features)

A fundamental issue underlying the implied license doctrine is whether the accused infringer must prove an absence of noninfringing uses for the product as a whole or only for specific portions of the product. The significance of this distinction is that a noninfringing use for the product as a whole may not put the product to its full capabilities, and hence may be contrary to the purchaser's expectations or intentions. Although court decisions have gone both ways, the prevailing view appears to be that the proper focus is on the product as a whole.

An early decision that illustrates the majority view is the decision in *Trico Products Corp. v. Delman Co.*¹⁸¹ The district court held that the patentee's sale of a motor did not give rise to an implied license for a patented automobile window washer/wiper system, even though the motor was specially constructed to operate *255 both washers and wipers in the system.¹⁸² In other words, the sale of the motor did not imply a license to use all features of the motor, including the patented wiper/washer mode.

The motive behind the patentee's challenge was simple: the patentee sold the motors to car manufacturers and included the washer controls in all motors. By including the controls to a washer, the patentee hoped to build a customer base for its separate sales of washers.¹⁸³ The patentee argued that the manufacturers were authorized to use the motors in connection with wipers alone, but did not acquire a license to make the patented washer/wiper system using washers supplied by someone else.¹⁸⁴

The *Trico Products* court agreed with the patentee. Explaining that "[t]he sale of an element of a patented combination does not imply the right to use the combination," the court noted that the motor could be used in a noninfringing manner to operate only a wiper.¹⁸⁵ Even though such a use meant foregoing use of a special feature of the motor (the controls for operating the washer) the court held it to be an adequate noninfringing use to defeat an implied license.¹⁸⁶

The *Trico Products* viewpoint was tacitly affirmed in the unpublished Federal Circuit decision *Elkay Manufacturing Co. v. Ebco Manufacturing Co.*¹⁸⁷ In *Elkay* the patented subject matter was a water dispensing system comprising a combination of a housing, a feed tube, a mounting means, and a bottle cap with a frangible connection.¹⁸⁸ Although the caps were not separately patented, the patentee granted an exclusive license to *Blackhawk* for the manufacture, use, and sale of the cap.¹⁸⁹ The accused infringer purchased the frangible bottle caps from *Blackhawk* for use in its competing water system.¹⁹⁰ In response to the patentee's claims of patent infringement, *256 the accused infringer asserted that it received an implied license to the water dispensing system based on the purchase of the frangible caps.¹⁹¹ The patentee countered that no license could be implied because the caps had a noninfringing use as a seal for the water bottles during transport, even though the caps would ultimately be disposed of without using their special "frangible" feature.¹⁹²

The district court in *Elkay* granted summary judgment in favor of the accused infringer, holding that the sale of the frangible caps by Blackhawk carried with it an implied license to use the caps for their intended purpose in the patented water dispensing system.¹⁹³ In doing so, the district court rejected the noninfringing use posed by the patentee, characterizing use in a conventional system (that is, during transport) as a “nonuse” because such use did not take advantage of the special frangible feature of the caps.¹⁹⁴

The Federal Circuit in *Elkay* reversed the district court’s grant of summary judgment for the accused infringer. Noting that the *Bandag* test “places a heavy burden on the accused infringer because a noninfringing use may be broadly understood and need only be reasonable or practical,” the Federal Circuit held that factual issues remained regarding the reasonableness of the use posed by the patentee.¹⁹⁵ In doing so, the Federal Circuit commented that two unresolved questions were: 1) “whether the frangible cap sold by Blackhawk can practicably be useful principally for the purpose of sealing water bottles during storage and transportation;” and 2) “would it be reasonable from a business perspective to use the caps in the same manner as conventional caps.”¹⁹⁶ Although the case was remanded for the district court to make further findings on these issues,¹⁹⁷ a review of the district court’s docket revealed no further entries, indicating that the case likely settled before such a determination could be made.

Thus, the Federal Circuit in *Elkay*, like the district court in *Trico Products*, was willing to accept a limited use of the product in question as a “noninfringing use.” The courts did this even though the use did not employ a key feature of the product. This significance of this point is that the broader the view that a court takes of the product sold, the more likely that some noninfringing use will be found for that product to defeat a claim of implied license for a specific use.

*257 In contrast to the *Trico Products* and *Elkay* decisions, the district court’s decision in *Universal Electronics, Inc. v. Zenith Electronics Corp.*¹⁹⁸ did not focus on the apparatus as a whole, but rather on specific circuitry. The court reached the conclusion that an implied license existed because the specific circuitry had no substantial noninfringing uses.¹⁹⁹

Zenith sold televisions with matching remote controls.²⁰⁰ The receiving circuitry in the televisions, paired with transmitting circuitry in the remote controls, practiced Zenith’s remote control invention.²⁰¹ Universal sold “universal” remote controls that could be operated with a variety of televisions, including a Zenith television. Universal Electronics brought a declaratory judgment action seeking invalidation of Zenith’s patent, which covered both a television remote control system and a method of remote control.²⁰² In response, Zenith counterclaimed against Universal, alleging contributory infringement of the patent.²⁰³ In defending charges of contributory infringement, Universal argued that purchasers of televisions from Zenith (the patentee) received an implied license to use the receiving circuitry in the Zenith televisions with any remote control device.²⁰⁴

The district court in *Universal Electronics* agreed that a license had been implied. In reaching this result, the court reasoned that the particular receiving circuitry in the Zenith televisions lacked a noninfringing use except to be used in combination with a transmitter (the remote control).²⁰⁵ Zenith apparently conceded this point, but contended that the implied license defense could be used only where the patentee sold an incomplete combination.²⁰⁶ Because Zenith sold both the television and the matching remote control as a package, Zenith insisted that no implied license could arise to replace the matching remote with a third-party remote.²⁰⁷ The court rejected that argument, explaining that Zenith’s unrestricted sales of the televisions with the circuitry useful only in carrying out the claimed invention were enough to bestow an implied license on the customers to practice the *258 claimed invention, without regard to the source of the remote control, for the useful life of the television sold.²⁰⁸ The district court reasoned that Zenith had “already received its patent royalties from its customers” and should not be permitted to effectively control the sale of unpatented transmitters.²⁰⁹

With regard to its focus on the particular receiving circuitry in the televisions sold, the district court’s analysis in *Universal Electronics* arguably finds no support in Federal Circuit precedent.²¹⁰ In restricting its focus to a subpart of the apparatus sold, the district court lost sight of the fact that the apparatus as a whole (that is, the television) could be used without a remote control, and hence without practicing the claimed invention. This would be analogous to the use of the motor in *Trico Products* without use of the controls to the washer. The court’s decision in *Universal Electronics* also could be rationalized, however, on the grounds that the patentee itself sold the entire patented system as a package. If the patentee wished to preclude use of the television’s receiving circuitry with other transmitters, it easily could have sold the televisions under a restriction to use the remote control feature with only Zenith remote controls.²¹¹ Indeed, Zenith’s silence in this regard was deemed significant by the district court.²¹²

v) Sales outside United States

Courts have split over whether use of a product outside the United States, which necessarily would not incur liability for infringing a United States patent, qualifies as a noninfringing use.

In one recent case, the district court held that any use that does not infringe the patent should be evaluated to determine if it is “unreasonable” - that is, if it is “unwise from a business standpoint.”²¹³ The case involved a claim of an implied license to a patent covering sewing needles, where the license was allegedly derived from the sale of a machine used to make the needles.²¹⁴ The court first found that limiting use of the machine to making needles to sell only in Latin America (outside the reach of the U.S. patent) was not unreasonable under the *259 circumstances. The court then held that such extraterritorial use was a sufficient “noninfringing use” to defeat the implied license defense.²¹⁵

On the other hand, in *LG Electronics I*, decided a few months later, the court flatly rejected extraterritorial use as a “noninfringing use,” explaining that “courts have uniformly emphasized that non-infringing use must be a use that does not practice the patent,” and does not include uses where there is simply no liability due to the limited reach of a United States Patent.²¹⁶ Indeed, mused the court, “[i]ncluding foreign use as an example of a reasonable non-infringing use in this context would eviscerate the defenses of patent exhaustion and implied license,” because an alleged infringer always has the option of limiting infringing activities to foreign jurisdictions.²¹⁷ In other words, the availability of extraterritorial use as a “noninfringing use” sufficient to defeat a claim of implied license would be the “use” that swallowed the defense.

Although the foregoing discussion provides some basic guidelines, no clear rule emerges on what necessarily does or does not constitute a “reasonable” noninfringing use. On the other hand, it should be noted that the trend in the decisions seems to favor implied licenses, as modern courts barely acknowledge, and have not applied, the expansive view of noninfringing uses espoused by the Federal Circuit nearly twenty years ago in *Bandag*.

2. Avoid Unfavorable Characterizations of Circumstances of the Sale

The second prong of the test for invocation of an implied license based on the authorized sale of a product is a determination of whether the circumstances of the sale “plainly indicate that the grant of a license should be inferred.”²¹⁸ It is this prong that renders the defense of implied license more easily subject to contractual restriction and avoidance by the patentee. For example, several cases have recognized the effectiveness of license provisions excluding implied licenses to “combinations” of licensed products with unlicensed products, although the same provisions were not effective to block the doctrine of exhaustion.²¹⁹

*260 The accused infringer bears the ultimate burden of proof on the defense of an implied license; however, once the accused infringer establishes the absence of reasonable noninfringing uses, the patentee will bear the burden of coming forward with evidence that the circumstances of the sale do not support an implied license.²²⁰ An accused infringer should be aware of such unfavorable circumstances and avoid them where possible. For example, in choosing a licensee as an authorized source of products on which to base a claim of implied license, a party should investigate the scope of that license to ensure that it does not contain restrictive provisions that preclude implication of licenses. In addition, documents accompanying the sale of products (whether from a licensee or directly from the patentee) should be scrutinized for exclusionary language.

D. How to Deflect an Implied License Defense

I. Plan Ahead

As in the case of the doctrine of exhaustion, a patentee should defend against implied licenses by precluding them in the first instance.

i) Draft Patent Claims To Cover Components of Patented Combinations or Methods

In some contexts it is possible to craft claims to avoid a successful implied-license defense by increasing patent coverage to include subcomponents of a patented combination (or every individual component used in the practice of a patented method). In other words, because implied licenses are generally invoked to cover the combination of an unpatented product (sold by an unauthorized source) with other products (sold by the patentee or a licensee), it may be possible to avoid such a defense by patenting the component that is likely to be sold by the unauthorized source.

This situation may arise where a patented system uses consumable components, and the patentee wishes to maintain a monopoly not only on the system but also on the consumable components. Obtaining claims specifically covering those consumable components will preclude the invocation of implied licenses by third parties who wish to sell the consumable components in competition with the patentee.

This principle is exemplified by the district court's decision in *LifeScan, Inc. v. Polymer Technology International Corp.*²²¹ In *LifeScan*, the patentee asserted several patents related to a glucose monitor and consumable test strips, including *261 one patent covering the test strips alone.²²² The district court held that regardless of whether the purchasers of the monitors acquired an implied license to the patented method of using the testing system, no implied license was extended to the patent covering the consumable test strips alone.²²³ The accused infringer had argued that the consumers' alleged right to practice the method patents would be meaningless unless Polymer was granted a corresponding right to make and sell another patented product.²²⁴ The district court characterized that argument as "frivolous as [sic] best."²²⁵ Accordingly, the district court granted the patentee's motion for summary judgment on the test strip patent.²²⁶ The district court also enjoined the further manufacture of the test strips.²²⁷

In contrast, in an earlier case against another supplier of test strips, *LifeScan* had not yet obtained its patent covering the test strips.²²⁸ Accordingly, the district court granted summary judgment in favor of the accused infringer by reasoning that purchasers of meters from *LifeScan* received an implied license to use those meters "for their intended purpose" regardless of the source of the strips.²²⁹ This opened the door for the accused infringer to continue manufacturing the strips for sale to those who purchased meters before *LifeScan* began placing restrictions. But had the test strip patent been available to *LifeScan* in that case, the result would have been very different. *LifeScan* would have been able to seek an injunction against infringement of that patent as it successfully did against *Polymer Tech*, thereby rendering the implied license issues moot except for past damages.²³⁰

Similarly, the outcome of the Federal Circuit's decision in *Anton/Bauer* would likely have been different had the patentee chosen to separately patent the components of the combination.²³¹ In this case, the court held that the patentee's customers had an implied license to complete a patented combination with unpatented components purchased from an unauthorized source.²³² If the portion of the *262 combination sold by the unauthorized source (the "male" plate) had been separately patented, the patentee could have asserted claims of direct infringement, and the defense of implied license to practice the combination claims would not have absolved the infringer of liability.²³³

ii) Impose Restrictions on Sale of Products

Restrictions on implied licenses must be made known before or during the sale; after-the-fact restrictions will not be effective to preclude an implied license.²³⁴ When limitations have been made a part of the sale, they have generally been held by courts to restrict or preclude implication of a license.

In *Virginia Panel Corp. v. MAC Panel Co.*, the court addressed whether a restrictive notice accompanying the sale of products precluded an implied license.²³⁵ The appellate opinion on this matter reveals that the patentee owned a patent on a combination of several components, including an "interchangeable test adapter" (ITA) and a "receiver."²³⁶ The accused infringer was a competing vendor of ITAs, which its customers combined with the patentee's receivers to practice the claimed invention.²³⁷ The accused infringer claimed that its customers had an implied license from the patentee by virtue of their purchase of the patentee's receivers.²³⁸ The patentee contended, however, that language in the quotation form to its customers expressly prohibited an implied license for combinations of the patentee's parts with parts purchased from third parties.²³⁹ The relevant language was as follows:

Virginia Panel Corporation Receivers are designed for exclusive use with VPC ITAs, both of which are covered by U.S. patent number 4,329,005. Use of ITAs manufactured by other suppliers with VPC Receivers or use of Receivers manufactured by other suppliers with VPC ITAs is prohibited.

*263 VPC warrants that its modular interface systems meet all design requirements. Any use of components in these systems manufactured by other suppliers will void this warranty.²⁴⁰ Applying the *Bandag* test for implied license, the district court held that the above-quoted language was sufficient to defeat an implied license for all sales made with such restriction.²⁴¹ This issue was not raised per se on appeal.²⁴²

On the other hand, the court in *LifeScan, Inc. v. Can-Am Care Corp.*²⁴³ held that even express restrictions and notices are not necessarily effective per se and may require the resolution of several factual issues.²⁴⁴ Can-Am Care involved several patents covering a system comprising a monitor and a test strip for monitoring glucose levels in a patient's blood stream.²⁴⁵ The patentee (LifeScan) sold both the monitors and the consumable test strips.²⁴⁶ When LifeScan first marketed these products, it did not mark them with the applicable patent numbers.²⁴⁷ Several years later, LifeScan began placing a sticker on its meter boxes which informed the consumer that both the meter and its use were covered by "one or more" patents.²⁴⁸ The sticker also stated:

Purchase of the device does not give a license to practice these patents. Such a license is automatically granted when the device is used with the enclosed, or separately purchased ONE TOUCH test strips. No other test strip is authorized to grant such a license.²⁴⁹

Another company (Can-Am) began marketing test strips designed specifically for use in LifeScan's meters.²⁵⁰ LifeScan quickly sued for patent infringement.²⁵¹ Can-Am raised the doctrine of implied license in its defense, arguing that LifeScan's *264 customers received an implied license to use the meters with test strips from any manufacturer.²⁵²

The district court in *Can-Am Care* granted in part and denied in part Can-Am's motion for summary judgment.²⁵³ With regard to all meters sold by LifeScan without the restriction, the district court ruled that the customers received an implied license to use the meters "for their intended purpose," meaning that they could use them with any test strip.²⁵⁴ With regard to meters sold with restrictive stickers, Can-Am argued that the restrictions were ineffective because they created an adhesion contract and failed "to reasonably inform the end users as to the terms of an effective license agreement."²⁵⁵ The district court did not resolve the question, concluding that "triable issues of fact" existed as to the effectiveness of the stickers.²⁵⁶

The district court also denied Can-Am's motion for summary judgment on the allegation of induced infringement.²⁵⁷ Can-Am argued that it could not be held liable for inducement because it placed a notice on packages for its test strips, warning consumers not to use them in LifeScan meters purchased with the restrictive sticker.²⁵⁸ The district court again determined that Can-Am's motion on that point could not be granted, explaining that a triable issue of material fact existed as to the "actual effectiveness" of Can-Am's warning label.²⁵⁹ In doing so, the district court reasoned that "[t]he fact that Can-Am provides the warning to consumers does not equate with the fact that the consumers, in fact, understand and heed the warning."²⁶⁰

More recently, the district court in *Lexmark International* upheld restrictions on implied licenses and exhaustion in the form of a "prebate" program.²⁶¹ Lexmark, *265 a manufacturer of printer cartridges, sold its cartridges at two price levels.²⁶² The higher-priced cartridges were sold without any restrictions on re-use (they could be refurbished and re-sold by competitors).²⁶³ The discounted cartridges were sold at a lower price (termed a "prebate") with the express condition that the purchaser could use the cartridges only once and then had return them to Lexmark for recycling.²⁶⁴

Competing sellers of recycled cartridges did not want the pool of available used cartridges reduced, so they claimed that the post-sale restriction on the discounted cartridges was unenforceable and that consumers were being misled by being told otherwise.²⁶⁵ The court disagreed. The court found that Lexmark's single-use condition was not obscured in the instruction manual (in contrast with the facts in *Hewlett-Packard v. Repeat-O-Type Stencil Manufacturing Corp.*²⁶⁶), but rather it was located prominently on the outside of the cartridge boxes and was very explicit in its intended restriction.²⁶⁷ The restriction read:

Please read before opening. Opening this package or using the patented cartridge inside confirms your acceptance of the following license/agreement. This patented cartridge is sold at a special price subject to a restriction that it may be used only once. Following this initial use, you agree to return the empty cartridge only to Lexmark for remanufacturing and recycling. If you don't accept these terms, return the unopened package to your point of purchase. A regular price cartridge without these terms is available.²⁶⁸

Having found that the condition was explicit and clear, the court next invoked the terms of the Uniform Commercial Code, section 2-207(2)(c),²⁶⁹ under which a purchaser that buys a product on notice of a condition is deemed to have accepted that condition.²⁷⁰ Finding that the end users were on notice of the condition, they had an opportunity to reject the condition, and that they accepted the condition in return for a discounted price, the court had little difficulty finding the end users to be deprived of an implied license to use the patented cartridges in violation of the *266 single-use only provision.²⁷¹ In turn, having found the condition to be enforceable, the court rejected the assertion that the purchasers were misled and found the

prebate program not to be a deceptive or unfair business practice.²⁷²

Many implied license cases address the situation where the accused infringer sells consumable components and invokes an implied license to use them in a patented system. A converse situation may also arise, where the patentee sells consumable components for use in its patented system, and purchasers insist that they have an implied license to build the patented system around such components. Again, precedent suggests that a patentee may be able to defeat such a claim through an express product restriction. For example, in *Radio Corp. of America v. Andrea*,²⁷³ the court refused to imply a license in the face of an express notice that components of a patented combination were restricted for use in systems already licensed.²⁷⁴ The patents covered certain oscillators (super heterodyne receivers) that used vacuum tubes.²⁷⁵ Accompanying each sale of replacement vacuum tubes by the patentee was a notice stating that the “tubes are to be used in systems already licensed for use.”²⁷⁶ Despite that notice, the defendants claimed that their purchase of the patentee’s vacuum tubes carried an implied license to make the patented oscillators.²⁷⁷

Rejecting the defendants’ implied license defense, the court in *Radio Corp.* explained that “[a] mere sale imports no license except where the circumstances plainly indicate that the grant of a license was inferred.”²⁷⁸ Because the sale of the product by the patentee was accompanied by a restriction that was “explicit and clear,” the court held that no license could be inferred.²⁷⁹ Accordingly, the defendants’ “use of the tubes [in the patented combination] was an infringement at all times,”²⁸⁰ even though the patentee conceded that the vacuum tubes had no use outside of the patented combination.

***267 iii) Draft Restrictive License Agreements**

Given that restrictions accompanying the sales of products are generally upheld as effective to preclude implied licenses, patentees who license their patents should incorporate restrictions in the license agreements to keep licensees from creating implied licenses by making unrestricted sales. Such license restrictions have generally been upheld against defenses premised on implied license, even though they have not fared as well against the exhaustion doctrine.

A common restriction in license agreements is an exclusion of any rights being passed along that would allow a licensee or its customers to combine licensed products with other unlicensed products to create a patented combination. Restrictions of this nature have been upheld by several courts.²⁸¹ Here is an example of this type of provision:

No release or license is granted by LICENSOR or any of its related companies, either directly or by implication, estoppel or otherwise, for the combination of LICENSED PRODUCTS with any other product. This is meant to exclude from the license granted under this Agreement any implied licenses to purchasers of LICENSED PRODUCTS from LICENSEE to utilize such LICENSED PRODUCTS as a component of a patented system, even if the LICENSED PRODUCTS have no substantial use other than as a part of such a combination.

As an additional precaution to avoid creating an implied license for the use of licensed products in a patented combination, a patentee should further require the licensee to provide notice to customers along with the sale of licensed products. A provision in the license agreement might state the following:

To preserve the restriction against implied licenses as stated in paragraph ___ with respect to any sale of Licensed Products to any third party, LICENSEE shall include on documents outlining the terms and conditions of sale, such as purchase orders, invoices and the like accompanying such sale, the following statement or one substantially similar, and shall require as a condition of sale that any transferee of such Licensed Products place the same statement on purchase orders or invoices accompanying the resale of such Licensed Products or products incorporating such Licensed Products:

The sale of products by us confers on the purchaser no implied license to use the products in the practice of any method or in combination with any other component. A separate license may be required.

In addition, restrictions against particular combinations or methods can be expressly stated. The goal is to ensure that the second prong of the implied license test is clearly defeated by removing any inference from the sale of a licensed product that an additional license to a patented combination or method may be implied.

***268 2. Challenge in Litigation**

An implied license defense is defeated if “reasonable” noninfringing uses exist. Although the Federal Circuit has not analyzed this issue in depth, its holdings suggest that a “reasonable” noninfringing use need merely be “possible” or “practical,” and not necessarily one subjectively desired by the accused infringer.

In *Glass Equipment Development*,²⁸² the Federal Circuit addressed and rejected the “commercial viability” test that had been employed by the district court in *Cyrix II*.²⁸³ The Federal Circuit confirmed that the burden of establishing an implied license is on the party asserting the defense, who must establish the absence of noninfringing uses.²⁸⁴ The Federal Circuit then held that the district court erred as a matter of law in its evaluation of the undisputed evidence of noninfringing uses.²⁸⁵ Characterizing the “commercial viability” test as “overly restrictive,” the Federal Circuit cited its previous decision in *Bandag*, and explained that a noninfringing use sufficient to defeat a claim of implied license “need only be reasonable.”²⁸⁶

Like the exhaustion doctrine, the doctrine of implied license is a potentially valuable defense to infringement allegations for those parties who purchase licensed products from authorized sources. The Federal Circuit authority indicates, however, that the contours of this doctrine are narrow. In addition, the “circumstances of the sale” prong suggests that application of the doctrine may be restricted contractually if done prior to or contemporaneously with the sale.

IV. The Scope of Product-Based Infringement Immunities Down the Road - Permissible Repair vs. Infringing Reconstruction

The foregoing discussion describes the basic principles underlying product-based infringement immunities. But the issue of the scope of the immunity does not end with the first sale or attempted sale of the product at issue. The question of the scope of the infringement immunity may arise again when a purchaser attempts to make repairs or modifications to the product.

The prevailing view is that “[t]he distinction between permitted and prohibited activities, with respect to patented items after they have been placed in commerce [by an authorized source], has been distilled into the terms ‘repair’ and ‘reconstruction.’” *269²⁸⁷ The law recognizes the right of the purchaser to “repair” a lawfully acquired product, as long as the “repair” does not amount to a “reconstruction,” which would constitute an act of infringement (the “making” of a patented product).²⁸⁸

Courts have long grappled with drawing the line between a “repair” and a “reconstruction.”²⁸⁹ Precedent demonstrates that a continuum lies between these concepts; litigated cases rarely reside at the poles wherein “repair” is readily distinguished from “reconstruction.” Thus, the law has developed into a body of precedent that is heavily fact-specific and, in many cases, apparently results-oriented, but reflects application of some basic principles.

A. General Principles of Repair vs. Reconstruction and Relationship to Exhaustion and Implied License

1. Distinction Between “Permissible Repair” and “Infringing Reconstruction”

The doctrine of permissible repair resides in the notion that ownership of a patented article includes the right to preserve the useful life of the original article.²⁹⁰ This is termed a permissible “repair.” Repair is generally distinguished from impermissible “reconstruction” by defining a “reconstruction” in a limited manner, namely: “[R]econstruction of a patented entity, comprised of unpatented elements, is limited to such a true reconstruction of the entity as to ‘in fact make a new article,’ after the entity, viewed as a whole, has become spent.”²⁹¹ By defining “reconstruction” in such a limited sense, courts have held that mere replacement of individual unpatented parts, one at a time, whether of the same part repeatedly or *270 different parts successively, is “no more than the lawful right of the owner to repair his property.”²⁹²

2. Burdens of Proof

Although the burden lies on the patent owner to prove infringement, once the patentee carries its burden of proof that its claims cover the article in question, the burden then falls on the accused infringer to prove that its challenged actions amount to permissible repair rather than impermissible reconstruction.²⁹³ This is because “repair” is an affirmative defense, which must be proved by a preponderance of the evidence.²⁹⁴

3. Application of Defense of “Repair” to Indirect vs. Direct Infringement

The doctrine of permissible “repair” is raised most commonly in defense to claims of indirect (contributory or induced) infringement. A common litigation scenario involves an accused infringer in the business of selling replacement components for portions of a patented system or refurbishing portions of a patented system.²⁹⁵ The patentee in such cases typically objects to these actions because they interfere with the patentee’s own business of selling replacement components or new systems. Courts have criticized the patentees in some such cases as seeking improperly to extend the patent monopoly to cover unpatented components.²⁹⁶

4. Application of Defense of “Repair” to Process Claims

The Federal Circuit has recognized that the defense of permissible repair also applies to process claims, such as “when the patented process was used in the United States and the patent right has been exhausted for the articles produced thereby.”²⁹⁷ For example, in *Jazz Photo Corp. v. International Trade Commission*,²⁹⁸ one patent-in-suit covered methods of loading “single-use” (disposable) *271 cameras with film.²⁹⁹ The accused infringer acquired used cameras and re-loaded them with film. The Federal Circuit held that the patent right for the film-loading process was exhausted once the original loaded cameras were sold in the United States, and the accused infringer had the right to “repair” the cameras by repeating the process to load new film.³⁰⁰

5. Origins: Exhaustion vs. Implied License

Courts and commentators have debated over whether permissible repair finds its roots in principles of patent exhaustion or implied license.³⁰¹ Several decisions of the Federal Circuit have addressed the repair/reconstruction question as implicating the doctrine of “exhaustion,”³⁰² while other Federal Circuit decisions have addressed the issue under the rubric of implied license.³⁰³ While these two doctrines are not always congruent, at least one district court attempting reconciliation of these different viewpoints has viewed them “as opposite sides of the same coin; [that is,] where a patentee’s rights are ‘exhausted’ through first sale, subsequent purchasers could be said to have an implied license to repair the purchased article.”³⁰⁴

The prevailing view appears to be that the right to repair is derived from the exhaustion of the patent owner’s rights upon the unconditional sale of the article. Thereafter, the patent owner cannot preclude any use of the article short of a new “making” of the article, which would constitute a new act of infringement. As the Federal Circuit explained in *Jazz Photo Corp.*, the doctrine of repair is premised on the doctrine of exhaustion:

Underlying the repair/reconstruction dichotomy is the principle of exhaustion of the patent right. The unrestricted sale of a patented article, by or with the authority of the patentee, “exhausts” the patentee’s right to control further sale and use of that article by enforcing *272 the patent under which it was first sold Thus when a patented device has been lawfully sold in the United States, subsequent purchasers inherit the same immunity under the doctrine of patent exhaustion. However, the prohibition that the product may not be the vehicle for a “second creation of the patented entity” continues to apply, for such re-creation exceeds the rights that accompanied the initial sale.³⁰⁵

Some commentators continue to advocate an approach based on concepts of implied license, which would be tied more closely to the intent and conduct of the parties. The argument is that linking permissible repair to the concept of exhaustion has resulted in legal maneuvering that is inefficient and, in some instances, illogical because it invokes a difficult-to-measure, almost metaphysical concept of “spentness.”³⁰⁶ Accordingly, these commentators argue that the exhaustion model should be replaced with a model premised on implied license, which would allow courts to focus on the parties’ expectations rather than on “spentness.”³⁰⁷

In the meantime, however, courts continue to apply the familiar “spentness” test, with evolving variations. The next section discusses how cases have been categorized according to this concept.

B. Repair vs. Reconstruction Spectrum - The Concept of “Spentness”

The cases considering the defense of “repair” do not draw a bright line between activities that constitute “repair” versus those that qualify as “reconstruction.” Rather, the holdings of these cases generally organize themselves along a spectrum according to the concept of “spentness.” This concept evokes the tale of the apocryphal axe: “This is my great-grandfather’s original axe, although the handle has been replaced five times and the head twice.”³⁰⁸ What does it take to make a new axe? Is

it reconstruction to replace the handle or the head, and does it matter which? As will be apparent from the following discussion, no clear answers emerge from the current state of the law.

1. Refurbishing Article Where Entire Article is “Spent”

The first situation, at one extreme of the spectrum, occurs when the entire patented item is “spent,” and the alleged infringer rebuilds it to make it useable again. This situation was first considered by the Supreme Court in ***273** *American Cotton-Tie Co. v. Simmons*.³⁰⁹ Cotton-Tie involved a metallic cotton-bale tie consisting of a band and a buckle.³¹⁰ After the cotton-bale tie was cut, it became scrap iron. The defendants subsequently purchased the scrap iron, riveted the pieces together, and recreated the bands. Although the defendants reused the original buckle, the Court found that the defendants “reconstructed [the band],”³¹¹ and thereby infringed the patent.³¹²

Decisions falling into this category are quite sparse, because to admit that an entire article is “spent” is tantamount to admitting that the article has reached the end of its useful life, such that a “repair” necessarily becomes a “reconstruction.”³¹³

2. Replacing “Spent” Portion of Article

Further along the spectrum is the situation in which only a “spent” part is replaced. The Supreme Court set forth the definitive (or at least most cited) test for this situation in *Aro Manufacturing Co. v. Convertible Top Replacement Co.*³¹⁴ Aro involved a combination patent on a convertible folding top of an automobile.³¹⁵ The fabric of the convertible top had a shorter useful life than the other parts of the patented combination.³¹⁶ In concluding that replacement of the worn-out fabric of the convertible top (a component of the patented combination) was a permissible repair, the Supreme Court adopted a bright-line test by holding that replacement of a spent part of a combination patent, which is not separately patented, is not impermissible reconstruction.³¹⁷ In doing so, the Court rejected any notions based on the “heart” of the invention, explaining that its holding applies no matter how “essential it may be to the patented combination and no matter how costly or difficult replacement may be.”³¹⁸

***274** Following the holding of Aro, even sequential replacement of all of the worn-out parts of a patented combination does not constitute reconstruction. This means, in the example of the apocryphal axe, replacement of the axe head followed by replacement of the axe handle is not reconstruction. The Federal Circuit has consistently acknowledged this principle in the years since the Aro decision, stating: “Mere replacement of individual unpatented parts, one at a time, whether of the same part repeatedly or different parts successively, is no more than the lawful right of the owner to repair his property.”³¹⁹

The following holdings illustrate the Federal Circuit’s adherence to this principle:

- *Bottom Line Mgmt., Inc. v. Pan Man, Inc.*: replacement of worn nonstick coating on patented cooking device held to be repair.³²⁰
- *Kendall Co. v. Progressive Med. Tech., Inc.*: replacement of used pressure sleeve in patented medical device held to be repair.³²¹
- *FMC Corp. v. Up-Right, Inc.*: replacement of worn picking heads for patented harvesting machine held to be repair.³²²
- *Everpure, Inc. v. Cuno, Inc.*: replacement of entire cartridge containing spent filter in patented water filtration system held to be repair.³²³
- *Dana Corp. v. American Precision Co.*: rebuilding patented truck clutches by replacing worn parts held to be repair.³²⁴ These principles have not only been applied to replacement of worn out components, but also to replacement of consumable components. For example, in *Jazz Photo Corp.*, the court held that replacement of used film in disposable, single-use cameras was permissible repair.³²⁵ Shortly thereafter, in a related case, the district court followed the Federal Circuit’s analysis to reach the same result.³²⁶ Similarly, in *Cannon Group, Inc. v. Better Bags, Inc.*,³²⁷ the court held that replacing the grocery ***275** bags used with a dispenser provided by the patentee was permissible repair of the patented dispenser/bag combination.³²⁸ The court reasoned that once the bags had been used up by shoppers, they were a “spent” part that required replacement.³²⁹

This approach has also been adopted by the Federal Circuit in situations where the part replaced was not physically worn out or consumed, but was “effectively spent.” In *Sage Products, Inc. v. Devon Industries, Inc.*,³³⁰ the court addressed a patent

covering a disposal system for medical waste.³³¹ The system comprised an outer container housing an inner container, which was designed to hold medical waste such as used “sharps” (sharp medical instruments).³³² The patentee labeled the inner containers as “BIOHAZARD - SINGLE USE ONLY,” instructing its customers to discard the inner containers once filled with waste.³³³ Not surprisingly, the patentee sold replacement containers; indeed, because a single system could be expected to use multiple inner containers over its lifetime, the patentee’s market in replacement inner containers was much larger than its market for the entire system.³³⁴ The accused infringer competed with the patentee in this market by also selling replacement inner containers for use in the patented system.³³⁵ The Federal Circuit affirmed the district court’s finding of noninfringement, holding that the inner containers were “effectively spent” because of the danger, extolled by the patentee itself, of reusing the filled inner containers.³³⁶ In view of this alleged danger, explained the court, the inner containers were disposable, and because they were not separately patented, their replacement was part of the permissible repair of the overall system.³³⁷

A key to the Sage Products decision (and each of the other foregoing decisions) is the fact that the replaced component was not separately patented. Separately patenting particular components of a combination or process is one way to restrict the user’s ability to repair it with components purchased from third parties rather than from the patentee.

***276** Another key to the foregoing decisions was that the systems were sold without enforceable restrictions. For example, the Federal Circuit held in *Jazz Photo Corp.* that the “single use only” wording on the disposal cameras was descriptive rather than an enforceable contractual restriction because there was no evidence of a “meeting of the minds” where the purchaser (and those obtaining the purchaser’s discarded camera for refurbishing and resale) understood that the patentee licensed the disposable camera for use with a single roll of film.³³⁸

In contrast to the foregoing decisions is the Federal Circuit’s decision in *Sandvik Aktiebolag v. E.J. Co.*³³⁹ The court considered infringement of a patented drill by a defendant who offered a repair service that retipped the drill bit when it could no longer be sharpened.³⁴⁰ Only a single component of the patented system (the drill tip) was replaced.³⁴¹ The Federal Circuit nevertheless concluded that retipping the drill was impermissible reconstruction, explaining that retipping did not involve “just attach[ing] a new part for a worn part,” but instead required “several steps to replace, configure[,] and integrate the tip onto the shank.”³⁴² In reaching this conclusion, the Federal Circuit stated several factors:

There are a number of factors to consider in determining whether a defendant has made a new article, after the device has become spent, including the nature of the actions by the defendant, the nature of the device and how it is designed (namely, whether one of the components of the patented combination has a shorter useful life than the whole), whether a market has developed to manufacture or service the part at issue and objective evidence of the intent of the patentee.³⁴³ To support its ultimate conclusion of impermissible reconstruction, the court applied these factors to make the following inferences: “[t]he drill tip was not manufactured to be a replaceable part;” “[i]t was not intended or expected to have a life of temporary duration in comparison to the drill shank;” and “the tip was not attached to the shank in a manner to be easily detachable.”³⁴⁴

The approach adopted by the court in *Sandvik* illustrates the increasing tendency of the Federal Circuit to consider the parties’ expectations in deciding whether an activity is a repair or a reconstruction. In that sense, the court is at least ***277** implicitly (if not overtly or consistently) embracing more of an “implied license” model for reasonable repair (which focuses on the intent of the parties) as opposed to an “exhaustion” model (which focuses primarily on the nature of the product).

3. Modifying Article Where No Part is “Spent”

A third category of cases covers those in which a part is not “spent” or worn out, but rather is replaced or modified to enable the machine to perform a different function. This situation, dubbed “kin to repair,” stems from the Supreme Court’s decision in *Wilbur-Ellis Co. v. Kuther*.³⁴⁵ In this case, the Supreme Court addressed whether changing the size of cans in fish-canning machines constituted reconstruction when the fish-canning machines were not spent, but merely needed cleaning and repair.³⁴⁶ The Court concluded that the “petitioners in adapting the old machine to a related use were doing more than repair in the customary sense; but what they did was kin to repair for it bore on the useful capacity of the old combination”³⁴⁷ This form of adaptation was within the scope of the purchased patent rights because the size of the cans was not “part of the invention.”³⁴⁸

The Federal Circuit has followed the holding of *Wilbur-Ellis* when addressing modification of parts of a patented product. For example, in *Hewlett-Packard v. Repeat-O-Type Stencil Manufacturing Corp.*,³⁴⁹ the court reviewed a grant of summary judgment in favor of an accused infringer (ROT) who purchased new “single use” ink cartridges from HP, modified them to

be refillable, and then resold them.³⁵⁰ ROT also sold replacement ink for the modified cartridges.³⁵¹ HP asserted several patents against ROT, including patents covering the cartridges themselves.³⁵²

The Federal Circuit in *Hewlett-Packard* affirmed the summary judgment of noninfringement.³⁵³ In so doing, the court noted that HP sold the print cartridges “without restriction,” holding that the package insert suggesting that empty cartridges be “discarded” was merely a statement of HP’s intent and was not an enforceable *278 contractual restriction.³⁵⁴ The court then held that ROT’s modification of the cartridges did not amount to a “reconstruction” because ROT used the original parts and changed only the way “in which the cap of an unused, new cartridge is connected to the remainder of the cartridge” and then replaced the ink in the cartridge.³⁵⁵ These steps, the court explained, did not extend the useful life of the cartridges, but merely preserved it because the cartridges were physically useful well beyond the life of a single reservoir of ink.³⁵⁶ ROT was within its rights to modify the new cartridges, sold by HP without restriction, and then re-sell them.³⁵⁷

Several years later, in *Surfco Hawaii v. Fin Control Systems Pty, Ltd.*,³⁵⁸ the court addressed a situation involving the modification of a patented surfboard with releasable fins.³⁵⁹ The accused infringer (*Surfco*) manufactured fins that had an additional safety feature and were interchangeable with the patentee’s releasable fins on its surfboard.³⁶⁰ The district court found that this safety feature created an incentive to replace the patentee’s fins with *Surfco*’s fins.³⁶¹ Reversing the district court’s finding of contributory and induced infringement, the Federal Circuit reiterated that permissible repair encompasses situations where even “parts that are neither broken nor worn” are replaced so as to modify the device to improve its usefulness.³⁶²

More recently, the Federal Circuit reaffirmed this reasoning to reach a similar result in *Husky Injection Molding Systems, Ltd. v. R & D Tool & Engineering Co.*³⁶³ In that case, the patent-in-suit covered an injection molding machine for making plastic articles having preform designs.³⁶⁴ The machine comprised a mold/carrier plate assembly, which would have to be changed out if the user wanted to make products according to different preform designs.³⁶⁵ The *279 mold/carrier plate assembly was not separately patented, but the patentee sold replacement mold/carrier plate assemblies.³⁶⁶ When the accused infringer began to compete with the patentee in this market, the patentee sued for contributory infringement.³⁶⁷ The Federal Circuit held that the customers’ replacement of the original mold/carrier plate assemblies with substitute assemblies was “akin to repair,” and hence was not infringement.³⁶⁸ Summary judgment in favor of the accused infringer was affirmed.³⁶⁹

C. Federal Circuit’s “Safe Harbor”: Replacing “Readily Replaceable Part” Is Permissible Repair

The doctrine of repair has recently evolved in the Federal Circuit to result in a “safe harbor.” Specifically, as the court explained in *Husky Injection*, “there is no infringement if the particular part is readily ‘replaceable.’”³⁷⁰ In reaching this conclusion, the Federal Circuit in *Husky Injection* analyzed the history of the doctrine of permissible repair along the “spontness” spectrum.³⁷¹ Struggling to find a common theme reconciling these various decisions, the court ultimately determined that courts have found replacement of a component part to be a permissible repair where the part was “readily replaceable.”³⁷² This test, reasoned the court, reconciled the *Sandvik* decision with other Federal Circuit decisions involving the replacement of a single part, on the theory that in *Sandvik*, the drill tip replaced was not “readily replaceable,” and hence the re-tipping of the drill was properly found to be reconstruction.³⁷³

This “safe harbor” is consistent with other decisions of the Federal Circuit. For example, in *Surfco* the patents in suit were directed to a surfboard having releasable fins.³⁷⁴ Citing *Aro*, the Federal Circuit noted that “the concept of permissible ‘repair’ is directed primarily to the replacement of broken or worn parts.”³⁷⁵ However, permissible ‘repair’ also includes replacement of parts that are neither *280 broken nor worn.³⁷⁶ Accordingly, the court held that “the patented surf craft [was] not ‘recreated’ by the substitution of a different set of fins, even when the new fins [were] specifically adapted for use in the patented combination.”³⁷⁷ In other words, having determined that a part is readily replaceable, the court found it to be irrelevant whether the part was an essential element of the invention.

Thus, the trend in the Federal Circuit clearly favors finding an activity consisting of replacing a component part to be a permissible repair rather than infringing reconstruction, as long as the part replaced was “readily replaceable.” Of course, such a superficially “bright-line” test cannot end the debate, but instead only raises additional questions, as in the case of the apocryphal axe. Assume an axe consisting of only two, easily separable pieces: a handle and a head. Applying the *Husky Injection* “readily replaceable” test to that axe would lead to the conclusion that either part could be replaced as a permissible “repair.” But would such a result make sense? The point is the doctrine of permissible repair does not lend itself to any bright-line rules. Rather, each case necessarily turns on its own facts.

D. Imposing Restrictions on Permissible Repair

1. Draft Claims To Cover More Markets

As is the case with the doctrines of exhaustion and implied license, the related doctrine of permissible repair is best restricted through advance planning by the patentee. One option, hinted at in many decisions, is to craft claims to cover products in each of the markets the patentee wishes to exploit.

In the typical situation in which the repair defense is raised, the accused infringer is usurping from the patentee a portion of a lucrative after-market for replacement parts into a patented system. As discussed in other parts of this work, cases uniformly hold that, by failing to separately patent the key components of these systems, the patentee is unable to control the market for those components, even though they are designed for use in the patented system. This result is logical, in that a patentee should not be permitted to effectively extend its patent monopoly to cover unpatented components of a patented system.³⁷⁸ Thus, patentees are well-advised to consider drafting patent claims (where possible) to cover key components that are likely to wear out and require replacement.

The importance of claiming was also raised, albeit in a slightly different way, in *Bottom Line Management*, where the accused infringer refurbished worn Teflon® *281 coated cooking surfaces in a commercial two-sided cooking device.³⁷⁹ Although the accused infringer followed the teachings of the patent in performing specialized welding, which was needed to restore the cooking surfaces, the court noted that the patentee had failed to actually claim the specialized welding.³⁸⁰ Explaining that the patentee could not use “this unclaimed teaching to convert repair into reconstruction,” the court affirmed the judgment of noninfringement.³⁸¹

The patentee in *Sidel v. Uniloy Milacron, Inc.*³⁸² recognized the importance of claims possibly just in time, when it sought a reissue of its patent during litigation to seek claims covering certain components of its patented system that were being sold by a competitor.³⁸³ The patent-in-suit covered a mold carrier for use with a machine that makes plastic bottles (such as for soft drinks) according to a preform design.³⁸⁴ The carrier comprised a shell holder and a shell; the shell contained the impression of the bottle to be made.³⁸⁵ The patent purported to solve a problem in the industry through a design that allowed quick changing of shells to make bottles of different sizes.³⁸⁶ The patentee made and sold not only the entire machine, but also replacement mold carriers.³⁸⁷ The accused infringer, Uniloy, made and sold only shell holders and shells for use with the patentee’s mold carriers.³⁸⁸

Shortly after suing Uniloy for infringement, the patentee sought reissue of the patent-in-suit allegedly to obtain claims covering the shell holders and shells, which, if granted, would put the patentee in the position of asserting claims of direct infringement against Uniloy.³⁸⁹ In the meantime, however, the patentee could pursue only claims of indirect infringement, and the patentee sought a preliminary injunction on those claims.³⁹⁰ The court denied the injunction, concluding that the patentee had failed to make a strong showing of infringement to overcome Uniloy’s “repair” defense.³⁹¹ In particular, the court noted a “substantial question” as to *282 whether the customers’ replacement of the patentee’s shells and shell holders with those sold by Uniloy qualified as “repair.”³⁹²

In short, one effective way for a patentee to deflect a “repair” defense is to anticipate such a defense and to draft claims to cover, where possible, all markets that the patentee may seek to exploit. One such market is the market for replacement parts in a system where components wear out or are consumed before the entire machine has reached the end of its useful life. Drafting claims to cover such components directly allows the patentee to avoid the “repair” defense to claims of contributory infringement by providing the patentee with claims for direct infringement against the makers and sellers of the replacement components.

Of course, it should be kept in mind that this approach is not always feasible or effective, as the patentee learned in *Hewlett-Packard*. There, the patentee (HP) did obtain patent claims covering many aspects of its printers, including the print cartridges themselves.³⁹³ The accused infringer, however, escaped liability for selling modified HP print cartridges because the court determined that taking new “single use” cartridges and modifying them to be refillable was a permissible “repair.”³⁹⁴ In so doing, the court was careful to note, however, that HP’s sales of the cartridges were “without restriction.”³⁹⁵ This left the door open to the possibility of imposing “single use only” contractual restrictions on the use of the print cartridges.

2. Impose Restrictions on Use of Patented System

Another option, although infrequently explored, is to impose restrictions on the sale of patented systems. The problem with such restrictions, and a likely reason it has been infrequently explored, is that such restrictions may easily run afoul of the antitrust prohibition against tying arrangements. In the patent context, a tying arrangement is one in which a patentee conditions the sale of a patented system on the additional purchase of nonpatented components.³⁹⁶ That is, the patentee uses its leverage in the patented product to force the buyer to purchase additional, unpatented products.³⁹⁷ This amounts to both an antitrust violation³⁹⁸ as well as patent ***283** misuse³⁹⁹ because the patentee is seeking impermissibly to extend the scope of its patent monopoly to cover unpatented components. Thus, for example, it is not advisable for a patentee to try to secure a market in unpatented replacement components by conditioning the sale of a patented system on the subsequent purchase of replacement components only from the patentee.

Short of running afoul of the prohibitions against “tying” arrangements, it may be possible for a patentee to impose other restrictions, such as enforceable “single-use only” restrictions. The restrictions would require the purchase of an entire new system once a key component of the system is spent. For example, in the disposable camera cases, if the “single-use only” restriction had properly been made a condition of the sale of the cameras, the restriction might have precluded subsequent “repair” and reuse of those cameras once the original film supply was used up.⁴⁰⁰ Similarly, had Hewlett-Packard made its “single use only” limitation an enforceable contractual limitation on the sale of its cartridges, it may have succeeded in preventing a third party from selling modified print cartridges suitable for reuse.⁴⁰¹

Unfortunately, the case law is relatively sparse on exactly what constitutes an enforceable contractual restriction sufficient to defeat a right to repair.⁴⁰² It can be surmised, however, that courts will likely enforce such restrictions only to the extent that they are clearly announced to the end user as conditions of the sale, and not as mere suggestions for use, as exemplified in the Seed Cases involving Monsanto’s enforced “single growing season” restrictions on its genetically-modified cottonseed and soybeans.⁴⁰³

E. Aside: Trademark Issues Raised by Refurbishment

As a final note, refurbishing a patented system may raise concerns not only of patent infringement resulting from impermissible “reconstruction,” but also concerns of trademark infringement. This problem may occur when refurbishment of a product is likely to cause confusion over the source of the article, such as when consumers are confused as to whether an article is in original condition or has been modified by another company.

***284** The Federal Circuit recently addressed such a situation in Nitro Leisure Products, LLC v. Acushnet Co.,⁴⁰⁴ which involved Nitro’s refurbishment of Acushnet’s popular “Titleist” golf balls.⁴⁰⁵ In refurbishing the golf balls Nitro did more than merely clean them. As part of the refurbishment process, Nitro repainted the balls, obliterating the TITLEIST trademark in the process.⁴⁰⁶ Afterwards, Nitro would then re-apply the TITLEIST mark without authorization.⁴⁰⁷ Nitro sold the refurbished golf balls in containers bearing a disclaimer, which purported to advise consumers that the contents were “USED GOLF BALLS,” and recited several steps that may have been used in refurbishing them.⁴⁰⁸ The disclaimer further noted that the balls did not fall under the original manufacturer’s warranty.⁴⁰⁹ Acushnet sued Nitro for infringing several of Acushnet’s patents as well as for violating Acushnet’s trademark rights under the Lanham Act.⁴¹⁰ Acushnet then sought a preliminary injunction on its trademark and patent claims.⁴¹¹ The district court denied the requested relief, and Acushnet sought review of the denial only as to the trademark claims.⁴¹²

In affirming the district court’s denial of the preliminary injunction, the Federal Circuit held that Acushnet bore the burden of proving that consumers were likely to be confused as to the source or origin of the balls.⁴¹³ The court held that Acushnet was not likely to succeed in meeting that burden due to the disclaimer and the consumers’ lowered expectations of used or refurbished goods.⁴¹⁴

In a scathing dissent, Judge Newman focused on Nitro’s actions in actually re-applying Acushnet’s TITLEIST trademark once Nitro’s refurbishment process obliterated it:

I can think of nothing more destructive of the value of a famous trademark than for the law to permit unauthorized persons to re-affix the mark to a product that is so badly cut, scarred, dented, discolored, and bruised that its defects have to be concealed before it can be resold as “used” - and then, with the scars hidden and the surface repainted to ***285** look new, the product is resold with the benefit of the

re-affixed trademark and its reputation for quality and performance. The court today holds that the trademark owner cannot object to this unauthorized, uncontrolled affixation of its famous Titleist mark, provided that the package is labeled “used/refurbished” and a disclaimer is presented.⁴¹⁵

The Ninth Circuit addressed a similar situation in *Karl Storz Endoscopy-America, Inc. v. Surgical Technologies, Inc.*⁴¹⁶ The product at issue was an expensive surgical endoscope used for exploratory surgical procedures.⁴¹⁷ Each product sold bore a “Karl Storz” name.⁴¹⁸ The accused infringer, Surgi-Tech, offered repair services ranging from minor to complete rebuilds.⁴¹⁹ In considering the plaintiff’s claims of a violation of the Lanham Act,⁴²⁰ the court acknowledged the right of property owners to repair or alter trademarked goods without violating the Lanham Act,⁴²¹ and further noted that there is “no bright-line test for determining whether a company that repairs or reconstructs goods and retains the original trademark on the goods is using the trademark in commerce.”⁴²² The court set forth several factors that it deemed to bear on the issue of whether “the company has made a different product”:

Those factors include the nature and extent of the alterations, the nature of the device and how it is designed (whether some components have a shorter useful life than the whole), whether a market has developed for service and spare parts, . . . and, most importantly, whether end users of the product are likely to be misled as to the party responsible for the composition of the product.⁴²³

The court concluded based on the plaintiff’s presentation of evidence that Surgi-Tech’s rebuilds “were the construction of a different product associated with [the plaintiff’s] trademark,” that factual issues remained and reversed the trial court’s grant of summary judgment in favor of the accused infringer.⁴²⁴

In short, parties seeking to engage in a market for permissible “repair” must keep in mind that even if such repair is permitted under the patent laws, it may run afoul of trademark laws.

***286 V. Concluding Remarks**

The doctrines of implied license and patent exhaustion have received relatively little judicial attention. Nevertheless, the tenacity with which some parties have litigated these issues (with success on both sides) confirms their significance as exemplified by a recent surge in cases, particularly those addressing sales of replacement parts in patented systems.

Ignorance of the implications of patent exhaustion and implied license can be costly in any infringement scenario. Thus, the potential implications of these doctrines should be explored as early as possible in the process, to avoid unintended consequences of allowing (or missing out on) product-based infringement immunities characteristic of these doctrines.

Although courts have struggled to define these issues with multi-factor tests, the cases addressing these issues confirm that each case necessarily turns on its own facts. Drawing from the relevant bodies of law, this paper has offered guidance both to potential infringers as well as patent owners in evaluating applicability of these doctrines to their particular situations.

Footnotes

^{a1} Senior Counsel, McKool Smith, P.C., Austin, Texas. Adjunct Professor, The University of Texas School of Law, 1997-2003.

¹ For a detailed discussion see Amber L. Hatfield, Patent Exhaustion, Implied Licenses and Have-Made Rights: Gold Mines or Mine Fields?, 2000 Computer L. Rev. & Tech. J. 1. This article was presented at the 4th Annual Advanced Patent Law Institute on November 11, 1999.

² See *id.* at 9. For example, Intel Corporation was involved in a series of cases from 1991 until 1996 battling companies that attempted to use Intel licensees as foundries for their products so as to immunize these products from Intel’s patents. As foundries, the licensees made products according to their customers’ designs and specifications, and then sold the products to those customers. Intel argued that it never intended to allow its licensees to serve as foundries and to thereby immunize others’ products against Intel’s patents. Nevertheless, the courts in several cases held that Intel’s failure to exclude foundry rights from its licenses

allowed the licensees to pass along infringement immunities when they sold to their foundry customers' products embodying Intel's patents. See *id.* at 9-15; see also *Cyrix Corp. v. Intel Corp.*, 803 F. Supp. 1200, 1205 (E.D. Tex. 1992) [hereinafter *Cyrix I*]; *Intel Corp. v. ULSI System Tech., Inc.*, 995 F.2d 1566, 27 U.S.P.Q.2d (BNA) 1136 (Fed. Cir. 1993), cert. denied, 510 U.S. 1092 (1994); *Cyrix Corp. v. Intel Corp.*, 846 F. Supp. 522, 32 U.S.P.Q.2d (BNA) 1890 (E.D. Tex. 1994) [hereinafter *Cyrix II*], aff'd without opinion, 42 F.3d 1411 (Fed. Cir. 1994); *Cyrix Corp. v. Intel Corp.*, 879 F. Supp. 666, 879 F. Supp. 672 (E.D. Tex. 1995), aff'd 77 F.3d 1381, 37 U.S.P.Q.2d (BNA) 1884 (Fed. Cir. 1996) [hereinafter *Cyrix III*]. But see *Intel Corp. v. U.S. Int'l Trade Comm'n*, 946 F.2d 821 (Fed. Cir. 1991) (holding that Intel's license agreement with Sanyo excluded foundry rights).

3 Hatfield, *supra* note 1, at 5, 26-27.

4 For additional analysis see *id.* See also Robert W. Morris, 'Another Pound of Flesh': Is There a Conflict Between the Patent Exhaustion Doctrine and Licensing Agreements?, 47 Rutgers L. Rev. 1557, 1557-64 (1995); R. Trevor Carter, Legalizing Patent Infringement: Application of the Patent Exhaustion Doctrine to Foundry Agreements, 28 Ind. L. Rev. 689 (1995); Leonard J. Hope, The Licensed-Foundry Defense in Patent Exhaustion Cases: Time To Take Some of the Steam Out of Patent Exhaustion?, 11 Ga. St. U. L. Rev. 621 (1995); Michael J. Swope, Recent Developments in Patent Law: Implied License - An Emerging Threat to Contributory Infringement Protection, 68 Temple L. Rev. 281 (1995).

5 The "statutory rights of exclusion" are those afforded by the Patent Statute, which grants to the owner of a patent the right to exclude others from making, using, selling, offering for sale, or importing subject matter covered by the claims of the patent. See 35 U.S.C. § 271 (2000) (defining acts of infringement).

6 *ULSI System Tech.*, 995 F.2d at 1568, 27 U.S.P.Q.2d at 1138; see also *United States v. Univis Lens Co.*, 316 U.S. 241, 249, 53 U.S.P.Q. (BNA) 404, 407 (1942) (acknowledging that "the authorized sale of an article which is capable of use only in practicing the patent is a relinquishment of the patent monopoly with respect to the article sold").

7 See *ULSI System Tech.*, 995 F.2d at 1568, 27 U.S.P.Q.2d at 1138.

8 See, e.g., *id.*

9 See *Univis Lens*, 316 U.S. at 251, 53 U.S.P.Q. at 408. But see discussion *infra* Section II.D.1.b (the applicability of contractual restrictions on exhaustion doctrine).

10 750 F.2d 903, 223 U.S.P.Q.2d (BNA) 982 (Fed. Cir. 1984).

11 *Bandag*, 750 F.2d at 922, 223 U.S.P.Q.2d at 996.

12 174 F.3d 1337, 50 U.S.P.Q.2d (BNA) 1300 (Fed. Cir. 1999).

13 *Glass Equip. Dev.*, 174 F.3d at 1341-42, 50 U.S.P.Q.2d at 1302-03.

14 *Id.* at 1342 n.1, 50 U.S.P.Q.2d at 1302 n.1.

15 372 F.2d 498, 153 U.S.P.Q. (BNA) 292 (Ct. Cl. 1967). The Court of Claims was one of the predecessor courts to the Court of Appeals for the Federal Circuit. Its decisions are binding precedent. *South Corp. v. United States*, 690 F.2d 1368, 1370-71, 215 U.S.P.Q. (BNA) 657, 658 (Fed. Cir. 1982).

16 *Stukenborg*, 372 F.2d at 504, 153 U.S.P.Q. at 297. The "exhaustion" doctrine is frequently characterized as a form of "implied

license.” See, e.g., *Anton/Bauer, Inc., v. PAG, Ltd.*, 329 F.3d 1343, 1350, 66 U.S.P.Q.2d (BNA) 1675, 1679 (Fed. Cir. 2003) (noting that “an implied license stems from the exhaustion of a patent right”); *LifeScan, Inc. v. Polymer Technology Int’l Corp.*, 35 U.S.P.Q.2d (BNA) 1225 (W.D. Wash. 1995) (analyzing *Univis Lens* under “implied license” doctrine); *Swope*, supra note 4, at 286 (“Under patent exhaustion theory, the purchaser of a product acquires an implied license to patent claims that cover the product and may also acquire an implied license to incident patent claims.”). However, this paper adopts the viewpoint that the exhaustion doctrine is distinct from the implied license doctrine in that exhaustion focuses exclusively on the product sold, whereas implied license admits the relevance of the parties’ intent and other circumstances surrounding the sale of the product. As a result, contractually restricting the application of exhaustion is arguably more difficult. See *Hatfield*, supra note 1, at 40-55; see also *infra* Sections II.D and III.D (discussing effectiveness of restrictions on product-based infringement immunities relative to claims of exhaustion and implied license).

17 See *Stukenborg*, 372 F.2d at 504, 153 U.S.P.Q.2d at 297; see also *Hunt v. Armour & Co.*, 185 F.2d 722, 729, 88 U.S.P.Q. (BNA) 53, 58 (7th Cir. 1950) (holding that the sale of a patented component of a machine does not exhaust the patent rights as to claims covering the machine); *National Cash Register v. Grobet*, 153 F. 905, 907 (2d Cir. 1907) (holding that the unrestricted sale of a machine does not confer the right to infringe by making a patented combination using the machine). But see *Cyrix II*, 846 F. Supp. at 541, 32 U.S.P.Q.2d at 1906 (finding exhaustion of combination claim based on authorized sale of component part that had “no utility” outside the patented combination).

18 316 U.S. 241, 249, 53 U.S.P.Q. (BNA) 404, 407 (1942).

19 *Univis Lens*, 316 U.S. at 249, 53 U.S.P.Q. at 407.

20 See *id.* at 246, 53 U.S.P.Q. at 407.

21 See *id.* at 247, 53 U.S.P.Q. at 405.

22 See *id.* at 244-45, 53 U.S.P.Q. at 405.

23 See *id.* at 245, 53 U.S.P.Q. at 406.

24 See *id.* at 248, 53 U.S.P.Q. at 407.

25 *Univis Lens*, 316 U.S. at 250-51, 53 U.S.P.Q. at 408.

26 *Id.* at 249, 53 U.S.P.Q. at 407-08.

27 *Id.*, 53 U.S.P.Q. at 407 (emphasis added).

28 In the typical “foundry” situation, Company A contracts to have Company B make products according to Company A’s manufacturing designs and specifications. Company B then “sells” those products to Company A, who then re-sells them under its own brand. By choosing licensed foundries, companies have been able to immunize the resulting products from patents within the scope of their foundries’ licensed patents - as *Cyrix Corporation* was able to do. See discussion of foundry cases supra note 2; e.g., *Cyrix Corp. v. SGS-Thompson Microelectronics, Inc.*, 77 F.3d 1381, 1383, 37 U.S.P.Q.2d (BNA) 1884, 1885-86 (Fed. Cir. 1996) (discussing foundry situation involving *Cyrix Corp.* and Intel licensees *SGS-Thompson* and *IBM*).

29 *Cyrix II*, 846 F. Supp. 522, 32 U.S.P.Q.2d 1890.

30 See *Cyrix I*, 803 F. Supp. at 1205 (E.D. Tex. 1992) (establishing SGS-Thompson's status as an Intel licensee). See generally *ULSI System Tech.*, 995 F.2d 1566 (Fed. Cir. 1993) (establishing law on foundry rights, and construing licenses to allow foundry rights unless expressly excluded).

31 See *Cyrix II*, 846 F. Supp. at 525, 32 U.S.P.Q.2d at 1892.

32 See *id.* at 530, 32 U.S.P.Q.2d at 1896.

33 See *id.* at 529, 32 U.S.P.Q.2d at 1895.

34 See *id.* at 537-38, 32 U.S.P.Q.2d at 1902-03.

35 *Id.* at 540, 32 U.S.P.Q.2d at 1904.

36 See *id.* at 536-37, 32 U.S.P.Q.2d at 1901-02. This broad construction cut off one of Intel's principal arguments. Intel argued that the combination claims covered more than just a microprocessor connected to external memory, but also required that the memory be configured in a particular way, which would occur only if the microprocessor operated in a certain mode. *Id.* at 530, 32 U.S.P.Q.2d at 1896. Intel argued that the proper inquiry for noninfringing uses was not whether the microprocessor had uses without being connected to external memory, but whether the microprocessor had uses operating in different modes that did not result in the specifically configured memory. This argument was completely foreclosed by the district court's claim construction. *Id.* at 530-531, 32 U.S.P.Q.2d at 1886.

37 *Cyrix II*, 846 F. Supp. at 529, 32 U.S.P.Q.2d at 1895.

38 *Id.* at 527, 32 U.S.P.Q.2d at 1894.

39 *Id.* at 540, 32 U.S.P.Q.2d at 1904.

40 *Id.*

41 See *Cyrix Corp. v. Intel Corp.*, 42 F.3d 1411 (Fed. Cir. 1994) (unpublished table decision), available at No. 94-1273, 1994 WL 685445.

42 65 U.S.P.Q.2d (BNA) 1589 (N.D. Cal. 2002) [hereinafter *LG Electronics I*].

43 *LG Electronics I*, 65 U.S.P.Q.2d at 1597.

44 *Id.*

45 *Id.* at 1591-92.

46 *Id.* at 1591.

47 Id. at 1592.

48 Id. at 1593.

49 LG Electronics I, 65 U.S.P.Q.2d at 1598-99.

50 Id. at 1598-1600.

51 LG Electronics, Inc. v. Asustek Computer, Inc., 248 F. Supp. 2d 912, 918 (N.D. Cal. 2003) [hereinafter LG Electronics II]; see also discussion *infra* Section III (implied licenses).

52 ULSI System Tech., 995 F.2d at 1568, 995 F.2d at 1568, 27 U.S.P.Q.2d at 1138.

53 See, e.g., *Univis Lens*, 316 U.S. at 249, 53 U.S.P.Q. at 407; LG Electronics I, 65 U.S.P.Q.2d at 1598; *Cyrix II*, 846 F. Supp. at 538, 32 U.S.P.Q.2d at 1402-03.

54 See, e.g., LG Electronics I, 65 U.S.P.Q.2d at 1593.

55 This requirement was particularly exemplified in the foundry cases, where Intel challenged the licensees' authority to provide foundry services; in the absence of such authority, no exhaustion could be invoked. See also *Hatfield*, *supra* note 1, at 9-15 (analyzing foundry cases). Compare *Intel Corp. v. U.S. Int'l Trade Comm'n*, 946 F.2d 821, 828, 20 U.S.P.Q.2d (BNA) 1161, 1168 (Fed. Cir. 1991) (holding that Intel's license agreement with Sanyo excluded foundry rights) with *Intel Corp. v. ULSI System Tech., Inc.*, 995 F.2d 1566, 1568-69, 27 U.S.P.Q.2d at 1138 (Fed. Cir. 1993) (holding that Intel failed to exclude foundry rights from its license to Hewlett-Packard).

56 *Cyrix II*, 846 F. Supp. at 535, 32 U.S.P.Q.2d at 1900; LG Electronics I, 65 U.S.P.Q.2d at 1598 n.7.

57 LG Electronics I, 65 U.S.P.Q.2d at 1598.

58 Id. at 1600. The tests for noninfringing uses under the "unfinished products" exception have been borrowed from the tests applied to implied licenses. See discussion *infra* Section III.

59 See discussion *infra* Section III; see also discussion *infra* Section III.D (discussing techniques for avoiding implied licenses).

60 976 F.2d 700, 708, 24 U.S.P.Q.2d (BNA) 1173, 1180 (Fed. Cir. 1992).

61 *Mallinckrodt*, 976 F.2d at 701, 24 U.S.P.Q.2d at 1174.

62 Id.

63 Id. at 702, 24 U.S.P.Q.2d at 1175.

64 See *id.* at 709, 24 U.S.P.Q.2d at 1180.

65 Id. at 706, 24 U.S.P.Q.2d at 1178 (“The principle of exhaustion of the patent right did not turn a conditional sale into an unconditional one.”). Note that the Federal Circuit did not hold that the restriction was actually lawful or proper; rather, the court reversed the district court’s grant of summary judgment under principles of exhaustion, and remanded for a determination of whether the restriction violated any other laws, such as antitrust laws (patent misuse).

66 124 F.3d 1419, 43 U.S.P.Q.2d (BNA) 1896 (Fed. Cir. 1997).

67 B. Braun, 124 F.3d at 1424, 43 U.S.P.Q.2d at 1901-02.

68 Id. at 1426, 43 U.S.P.Q.2d at 1901.

69 Id.

70 Id.

71 Id.

72 For further discussion in this area, see Hatfield, *supra* note 1, at 43-46.

73 Monsanto Co. v. Trantham, 156 F. Supp. 2d 855, 872 (W.D. Tenn. 2002).

74 Trantham, 156 F. Supp. 2d at 858.

75 Id.

76 See *id.*

77 Id.

78 Id.

79 Id. at 861.

80 Trantham, 156 F. Supp. 2d at 869.

81 Id. at 872.

82 Id. at 864.

83 Id. at 866.

84 Id.

85 Id.

86 *Trantham*, 156 F. Supp. 2d at 869.

87 Id. at 870.

88 Id. at 870 (emphasis added). Presumably, the seed producer was required to place this notice on seed bags before distributing them, although the decision is silent on this point.

89 Id. at 858.

90 *Monsanto Co. v. McFarling*, 302 F.3d 1291, 64 U.S.P.Q.2d (BNA) 1161 (Fed. Cir. 2002).

91 *McFarling*, 203 F.3d at 1293, 64 U.S.P.Q.2d at 1162.

92 Id. at 1297, 64 U.S.P.Q.2d at 1165.

93 Id. at 1298, 64 U.S.P.Q.2d at 1165.

94 Id. at 1298-99, 64 U.S.P.Q.2d at 1166.

95 Id. at 1299, 64 U.S.P.Q.2d at 1166.

96 Id.

97 *Monsanto Co. v. Swann*, No. 4:00-CV-1481 (CEJ), 2003 WL 1487095 (E.D. Mo. Jan. 8, 2003).

98 *Swann*, 2003 WL 1487095, at *1.

99 Id. at *4.

100 Id.

101 Id. at *5.

102 Id.

103 Id.

104 Swann, 2003 WL 1487095, at *5.

105 See also *Arizona Cartridge Remanufacturers Ass'n, Inc. v. Lexmark Int'l, Inc.*, 290 F. Supp. 2d 1034, 1045, 68 U.S.P.Q.2d (BNA) 1786, 1794 (N.D. Cal. 2003) (finding express single use only restriction to be enforceable against the exhaustion doctrine, although exhaustion is analyzed as a form of implied license); discussion *infra* note 261 and accompanying text.

106 *Cyrix II*, 846 F. Supp. at 540-41, 32 U.S.P.Q.2d at 1904-05.

107 *Id.* at 531-33, 32 U.S.P.Q.2d 1897-88.

108 *Id.* at 533, 32 U.S.P.Q.2d at 1899 (emphasis added).

109 *Id.* at 533-34, 32 U.S.P.Q.2d at 1899.

110 *Id.* at 541, 32 U.S.P.Q.2d at 1905.

111 *Id.* at 541, 32 U.S.P.Q.2d at 1905.

112 See discussion *infra* Section III.

113 *LG Electronics I*, 65 U.S.P.Q.2d at 1591.

114 *LG Electronics II*, 248 F. Supp. 2d at 916-17.

115 *Id.* at 917 (distinguishing *Mallinckrodt*).

116 *Id.* at 918.

117 See discussion *supra* Section II.D.1.ii.a (The Seed Cases). *Trantham* involved the sale of bags of Monsanto's patented seed, which bore a restrictive legend warning that no right to use the seed accompanied the purchase of the seed and stating that a separate license was required. Although the decision is silent on this point, it is likely that the sellers of the seed were contractually required to include such a warning on the bags.

118 See *supra* note 2 (listing foundry cases); see *Hatfield*, *supra* note 1, at 9-15 (discussing foundry cases).

119 See *Bandag*, 750 F.2d at 925, 223 U.S.P.Q. at 998 (invoking circumstances of the sale as element of test for implied license).

120 See *Wang Labs., Inc. v. Mitsubishi Elecs. America, Inc.*, 103 F.3d 1571, 1580, 41 U.S.P.Q.2d (BNA) 1263, 1271 (Fed. Cir. 1997) (applying legal estoppel based on patentee's conduct that led accused infringer to properly infer consent to use patented invention), cert. denied, 555 U.S. 818 (1997).

121 For further discussion on the issue of legal estoppel and its application to the doctrine of implied license, see Hatfield, *supra* note 1,
at 33-38.

122 750 F.2d 903, 223 U.S.P.Q.2d 982.

123 Notably, at least one district court has held that “the implied license doctrine is limited to method or combination patents.”
LifeScan, Inc. v. Polymer Tech. Int’l Corp., 35 U.S.P.Q.2d 1225, 1231 (W.D. Wash. 1995).

124 *Bandag*, 750 F.2d at 924-25, 222 U.S.P.Q. at 982 (citing *Hunt v. Armour & Co.*, 185 F.2d 722, 729, 88 U.S.P.Q. (BNA) 53, 58 (7th
Cir. 1950); see also *Glass Equip. Dev., Inc. v. Besten, Inc.*, 174 F.3d 1337, 1341, 50 U.S.P.Q.2d (BNA) 1300, 1302-03 (Fed. Cir.
1999) (applying implied license doctrine to method claims); *Cyrix II*, 846 F. Supp. at 540-41, 32 U.S.P.Q.2d at 1909 (applying
implied license doctrine to apparatus system claims).

125 *Met-Coil Sys. Corp. v. Korners Unlimited, Inc.*, 803 F.2d 684, 687, 231 U.S.P.Q. (BNA) 474, 476 (Fed. Cir. 1986).

126 72 F.3d 872, 37 U.S.P.Q.2d (BNA) 1169 (Fed. Cir. 1995).

127 *Carborundum*, 72 F.3d at 880, 37 U.S.P.Q.2d at 1174.

128 *Carborundum*, 73 F.3d at 878, 37 U.S.P.Q.2d at 1173.

129 *Id.*

130 See discussion *infra* Section IV regarding the doctrine of permissible repair.

131 *Carborundum*, 73 F.3d at 879, 37 U.S.P.Q.2d at 1173. The doctrine of permissible repair is similar to the implied license doctrine,
in that it excuses infringement on a product-by-product basis for certain activities involved in repairing, as opposed to
reconstructing, that product. For an excellent discussion of the doctrine of permissible repair, see Mark D. Janis, *A Tale of the
Apocryphal Axe: Repair, Reconstruction, and the Implied License in Intellectual Property Law*, 58 *Md. L. Rev.* 423 (1999).

132 329 F.3d 1343, 66 U.S.P.Q.2d (BNA) 1675 (Fed. Cir. 2003).

133 *Anton/Bauer*, 329 F.3d at 1346, 66 U.S.P.Q.2d at 1676.

134 *Id.* at 1346-47, 66 U.S.P.Q.2d at 1677.

135 *Id.* at 1347, 66 U.S.P.Q.2d at 1677.

136 *Id.*

137 *Id.*, 66 U.S.P.Q.2d at 1676-77.

138 *Id.*, 66 U.S.P.Q.2d at 1677.

139 Anton/Bauer, 329 F.3d at 1349, 66 U.S.P.Q.2d at 1679-80.

140 Id. at 1350, 66 U.S.P.Q.2d at 1679. Liability for indirect infringement, such as inducement and contributory infringement, requires proof of direct infringement by a third party. In this case it would be the customers. See *Met-Coil*, 803 F.2d at 687, 231 U.S.P.Q.2d at 476. Therefore, if the patentee's customers do not directly infringe by completing the combination, PAG could not be liable for indirect infringement. This principle was recognized in a nearly identical context by the Supreme Court years ago in *Aro Mfg. Co. v. Convertible Top Replacement Co.*, 377 U.S. 476, 141 U.S.P.Q. 681 (1964). The Court addressed allegations of contributory infringement arising out of sales of replacement fabrics used in convertible automobile tops, which were covered by a patent claiming the fabrics in combination with other components. The patent owner had granted a release to certain users of the convertible tops. As to those users, the Court determined that those users would not directly infringe by repairing the convertible tops therefore, there could be no contributory infringement arising out of sales of replacement fabric to those customers. The Court concluded, "if the purchaser and user could not be [liable] as an infringer certainly one who sold to him ... cannot be [liable] for contributing to a non-existent infringement." Id. at 498-99, 141 U.S.P.Q. at 691.

141 Anton/Bauer, 329 F.3d at 1352, 66 U.S.P.Q.2d at 1681.

142 Id. at 1350, 66 U.S.P.Q.2d at 1679.

143 See id. at 1353, 66 U.S.P.Q.2d at 1681.

144 The claims at issue in *Anton/Bauer* were apparatus claims, not method claims, and the "female" components sold by the patentee were arguably incomplete in that they had no use outside of the "male/female" combination. Obviously, concepts of women's liberation have no applicability to such mechanical parts!

145 Anton/Bauer, 329 F.3d at 1353, 66 U.S.P.Q.2d at 1681.

146 Id. at 1351-52, 66 U.S.P.Q.2d at 1680.

147 See discussion *infra* Section III.D (how to deflect an implied license defense).

148 See discussion *infra* Section IV.

149 Anton/Bauer, 329 F.3d at 1352, 66 U.S.P.Q.2d at 1680.

150 Id., 66 U.S.P.Q.2d at 1681.

151 Id. at 1353, 66 U.S.P.Q.2d at 1681.

152 The implied license doctrine also applies, as illustrated in *Anton/Bauer*, to immunize third parties from indirect infringement liability, such as where they sell other (unpatented) components of the combination to the patentee's/licensee's customers. See *Anton/Bauer*, 329 F.3d at 1348-1349, 66 U.S.P.Q.2d at 1678; see also *Hatfield*, *supra* note 1, at 38-40. For ease of discussion, this paper focuses on the direct purchase situation and claims of infringement by the patentee against its customers or the customers of its licensee.

153 *Bandag*, 750 F.2d at 924-25, 223 U.S.P.Q. at 998.

154 Id.

155 Courts have recognized that the accused infringer need not actually concede or show infringement in order to succeed on a defense of implied license. See, e.g., *McCoy v. Mitsubishi Cutlery, Inc.*, 67 F.3d 917, 920, 36 U.S.P.Q.2d (BNA) 1289, 1291 (Fed. Cir. 1995); *Travelers Express Co. v. Am. Express Integrated Payment Sys., Inc.*, 80 F. Supp. 2d 1033, 1038 n.1 (D. Minn. 1999).

156 See, e.g., *Bandag*, 750 F.2d at 925-25, 223 U.S.P.Q. at 998.

157 *Wang Labs.*, 103 F.3d at 1581, 41 U.S.P.Q.2d at 1272.

158 See, e.g., *Glass Equip. Dev.*, 174 F.3d at 1342, 50 U.S.P.Q.2d at 1303 (explaining that noninfringing uses need only be “reasonable”); see also *Elkay Mfg. Co. v. Ebco Mfg. Co.*, 99 F.3d 1160, available at No. 94-1424, 1996 WL 625474, at *2, 42 U.S.P.Q.2d (BNA) 1555, 1557 (Fed. Cir. 1996) (unpublished table decision) (“[A] noninfringing use may be broadly understood and need only be reasonable or practical.”).

159 See *Bandag*, 750 F.2d at 921-22, 223 U.S.P.Q. at 995.

160 See *id.* at 923, 223 U.S.P.Q. at 995.

161 See *id.* at 907, 922, 223 U.S.P.Q. at 984, 998.

162 *Id.* at 926, 223 U.S.P.Q. at 999.

163 *Id.* at 924, 223 U.S.P.Q. at 998.

164 See *id.* at 925, 223 U.S.P.Q. at 998.

165 *Bandag*, 750 F.2d at 925, 223 U.S.P.Q. at 998.

166 *Id.* (quoting *Stickle v. Heublein, Inc.*, 716 F.2d 1550, 1559, 219 U.S.P.Q. (BNA) 377, 383 (Fed. Cir. 1993)).

167 See *id.* at 925-26, 223 U.S.P.Q. at 998-99.

168 *Cyrix II*, 846 F. Supp. at 541, 32 U.S.P.Q.2d at 1905.

169 846 F. Supp. 522, 32 U.S.P.Q.2d 1890.

170 *Cyrix II*, 846 F. Supp. at 541, 32 U.S.P.Q.2d at 1905.

171 174 F.3d 1337, 50 U.S.P.Q.2d 1300.

172 Glass Equip. Dev., 174 F.3d at 1342-43, 50 U.S.P.Q.2d at 1303.

173 Bandag, 750 F.2d at 924, 223 U.S.P.Q. at 998; see also *In re The Singer Co.*, No. 01 Civ. 0165 (WHP), 2002 WL 999273, at *13 (S.D.N.Y. May 14, 2002) (noting that “reasonable noninfringing use” is defined broadly and can include “using the equipment as replacement parts”).

174 Bandag, 750 F.2d at 925, 223 U.S.P.Q. at 998.

175 See, e.g., *LG Electronics I*, 65 U.S.P.Q.2d at 1600 (holding, in context of exhaustion defense, that accused infringer had shown that limiting sales to existing licensees for use as replacement parts would be “unwise from a business standpoint”); *Cyril II*, 846 F. Supp. at 538, 32 U.S.P.Q.2d at 1903 (Concl. of Law No. 36) (rejecting sales for “upgrades” in licensed systems and “sales to system licensees” as noninfringing uses sufficient to preclude exhaustion).

176 See *infra* Section III.D.1.ii.

177 Bandag, 750 F.2d at 925, 223 U.S.P.Q. at 998.

178 See, e.g., *Singer Co.*, 2002 WL 999273, at *13.

179 Bandag, 750 F.2d at 925, 223 U.S.P.Q. at 998.

180 See, e.g., *Singer Co.*, 2002 WL 999273, at *13.

181 199 F. Supp. 231, 237-38, 132 U.S.P.Q. (BNA) 316, 321-22 (S.D. Iowa 1961).

182 See *Trico Prods.*, 199 F. Supp. at 238, 132 U.S.P.Q. at 322.

183 See *id.* at 237, 132 U.S.P.Q. at 322.

184 See *id.* at 238, 132 U.S.P.Q. at 322.

185 *Id.*

186 *Id.*

187 99 F.3d 1160, available at No. 94-1424, 1996 WL 625474, 42 U.S.P.Q.2d (BNA) 1555 (Fed. Cir. 1996) (unpublished table decision). Under Fed. Cir. R. 47.6, the *Elkay* decision is not citable as precedent.

188 See *Elkay*, 99 F.3d 1160, available at 1996 WL 625474, at *1, 42 U.S.P.Q.2d at 1556. “Frangible” caps are those that may be pierced when the water bottle is installed into a water cooler. The advantage of this feature is that the cap need not be removed when the bottle is turned upside down for placement into the cooler, thus eliminating spillage. Instead, a component within the cooler pokes a hole into the cap after the bottle is installed, thus releasing the water only into the cooler.

189 Id.

190 Id.

191 Id.

192 Id., 42 U.S.P.Q.2d at 1557.

193 See id., 42 U.S.P.Q.2d at 1556.

194 Elkay, 99 F.3d 1160, available at 1996 WL 625474, at *3, 42 U.S.P.Q.2d at 1558.

195 Id. at *2, 42 U.S.P.Q.2d at 1557.

196 Id. at *4, 42 U.S.P.Q.2d at 1558.

197 See id. at *5, 42 U.S.P.Q.2d at 1559.

198 846 F. Supp. 641, 30 U.S.P.Q.2d (BNA) 1853 (N.D. Ill. 1994), aff'd, 41 F.3d 1520, available at No. 94-1246, 1994 WL 636904 (Fed. Cir. 1994) (unpublished table case) (per curium).

199 Universal Elecs., 846 F. Supp. at 647, 30 U.S.P.Q.2d at 1858.

200 Id. at 646, 30 U.S.P.Q.2d at 1855.

201 See id. at 643, 30 U.S.P.Q.2d at 1854.

202 Id. at 643, 30 U.S.P.Q.2d at 1854.

203 Id. at 644-45, 30 U.S.P.Q.2d at 1855-56.

204 See id. at 645, 30 U.S.P.Q.2d at 1856.

205 See Universal Elecs., 846 F. Supp. at 646, 30 U.S.P.Q.2d at 1856.

206 See id.

207 See id. at 646-47, 30 U.S.P.Q.2d at 1857.

208 See id. at 647-48, 30 U.S.P.Q.2d at 1858.

209 Id. at 648, 30 U.S.P.Q.2d at 1858.

210 See Swope, *supra* note 4, at 303 (criticizing Universal Elecs. as a misapplication of Met-Coil).

211 Cf. Mallinckrodt, 976 F.2d at 708, 24 U.S.P.Q.2d at 1179-80 (acknowledging that a “single use only” restriction could preclude reuse of a patented device); discussion *supra* Section II.D.1.ii.a (Foundation Decisions).

212 See Universal Elecs., 846 F. Supp. at 647, 30 U.S.P.Q.2d at 1857-58. The patentee also could have sold the remote controls separately, bringing the facts more squarely within the holding of Trico Prods.

213 Singer Co., 2002 WL 999273, at *12 (citation omitted).

214 Id. at *32.

215 Id. at *35.

216 LG Electronics I, 65 U.S.P.Q.2d at 1599. Although this aspect of the decision was rendered in the context of the doctrine of exhaustion, the analysis is otherwise the same as would be employed for an implied license. The implied license defense was defeated in this case due to express restrictions in the underlying license agreement. See discussion *infra* Section III.D.

217 LG Electronics I, 65 U.S.P.Q.2d at 1599.

218 Bandag, 750 F.2d at 924-25, 223 U.S.P.Q.2d at 998.

219 See, e.g., Cyrix II, 846 F. Supp. at 533-34, 541, 32 U.S.P.Q.2d at 1890, 1899; LG Electronics II, 248 F. Supp. 2d at 918.

220 Met-Coil, 803 F.2d at 687, 231 U.S.P.Q. at 476. Ways in which a patentee may succeed in doing this are discussed *infra* Section III.D.1.iii.

221 35 U.S.P.Q.2d (BNA) 1225, 1232 (W.D. Wash. 1995).

222 LifeScan, 35 U.S.P.Q.2d at 1226.

223 See *id.* at 1232.

224 *Id.*

225 *Id.*

226 *Id.* at 1232.

227 Id. at 1241.

228 LifeScan, Inc. v. Can-Am Care Corp., 859 F. Supp. 392, 31 U.S.P.Q.2d (BNA) 1533 (N.D. Cal. 1994).

229 Can-Am Care, 859 F. Supp. at 395, 31 U.S.P.Q.2d at 1535.

230 See LifeScan 35 U.S.P.Q.2d at 1241.

231 See discussion supra Section III.B.

232 Anton/Bauer, 329 F.3d at 1352-53, 66 U.S.P.Q.2d at 1681.

233 Id.

234 See Met-Coil, 803 F.2d at 687, 231 U.S.P.Q. at 476 (“After the fact notices are of no use in ascertaining the intent of Met-Coil and its customers at the time of the sales.”).

235 Virginia Panel Corp. v. MAC Panel Co., 887 F. Supp. 880 (W.D. Va. 1995) [hereinafter Virginia Panel I], aff’d in part, rev’d in part, 133 F.3d 860, 863, 45 U.S.P.Q.2d (BNA) 1225 (Fed. Cir. 1997) [hereinafter Virginia Panel II].

236 Virginia Panel II, 133 F.3d at 862, 45 U.S.P.Q.2d at 1226.

237 Id. at 863, 45 U.S.P.Q.2d at 1227.

238 Virginia Panel I, 887 F. Supp. at 888.

239 Id. at 887.

240 Id. at 887-88.

241 See id. at 888.

242 See generally Virginia Panel II, 133 F.3d 860, 45 U.S.P.Q.2d 1225.

243 859 F. Supp. 392, 31 U.S.P.Q.2d 1533.

244 See discussion supra Section II.C.

245 Can-Am Care, 859 F. Supp. at 393, 31 U.S.P.Q.2d at 1534.

246 See id.

247 See id.

248 See id.

249 Id. at 393-94, 31 U.S.P.Q.2d at 1534.

250 See id. at 394, 31 U.S.P.Q.2d 1534.

251 Can-Am Care, 859 F. Supp. at 394, 31 U.S.P.Q.2d at 1534.

252 See id., 31 U.S.P.Q.2d at 1534-35.

253 See id. at 394-95, 31 U.S.P.Q.2d at 1535-36.

254 Id. at 394-95, 31 U.S.P.Q.2d at 1535.

255 Id. at 395, 31 U.S.P.Q.2d at 1536.

256 Id.

257 Can-Am Care, 859 F. Supp. at 396, 31 U.S.P.Q.2d at 1536.

258 See id. at 395, 31 U.S.P.Q.2d at 1536.

259 Id. at 396, 31 U.S.P.Q.2d at 1536.

260 Id.

261 Lexmark Int'l, 290 F. Supp. 2d 1034, 68 U.S.P.Q.2d 1786. Like many courts, the Lexmark Int'l court analyzed patent exhaustion as a form of implied license, and intermingled the requirements of these doctrines, stating: "To determine whether a patent holder exhausted its rights with an unconditional sale or retained them with a conditional one (which some courts define as a license), a court looks to the circumstances of the sale." Id. at 1043, 68 U.S.P.Q.2d at 1792. See generally discussion supra note 16 (discussion of exhaustion).

262 Lexmark Int'l, 290 F. Supp. 2d at 1037, 68 U.S.P.Q.2d at 1788.

263 Id.

264 Id.

265 Id. at 1037, 68 U.S.P.Q.2d at 1787.

266 123 F.3d 1445, 43 U.S.P.Q.2d (BNA) 1650 (Fed. Cir. 1997) (involving a single-use only admonition that the court found to be an unenforceable suggestion); see discussion *infra* note 353 and accompanying text.

267 Lexmark Int'l, 290 F. Supp. 2d at 1044, 68 U.S.P.Q.2d at 1793.

268 Id. at 1038, 68 U.S.P.Q.2d at 1789.

269 As codified at Cal. Com. Code § 2-207(2)(c) (2003).

270 Lexmark Int'l, 290 F. Supp. 2d at 1044, 68 U.S.P.Q.2d at 1793.

271 Id. at 1045, 68 U.S.P.Q.2d at 1793-74.

272 Id., 68 U.S.P.Q. at 1794.

273 90 F.2d 612, 34 U.S.P.Q. (BNA) 312 (2d Cir. 1937).

274 Radio Corp., 90 F.2d at 612-13, 34 U.S.P.Q. at 314-15.

275 Id. at 612-13, 34 U.S.P.Q. at 312-13.

276 Id. at 615, 34 U.S.P.Q. at 315.

277 Id. 34 U.S.P.Q. at 314.

278 Id.

279 Id., 34 U.S.P.Q. at 315.

280 Radio Corp., 90 F.2d at 615, 34 U.S.P.Q. at 315.

281 See, e.g., LG Electronics I, 65 U.S.P.Q.2d 1589; LG Electronics II, 248 F. Supp. 2d 912; Cyrix II, 846 F. Supp. at 533-534, 32 U.S.P.Q.2d at 1899.

282 174 F.3d 1337, 50 U.S.P.Q.2d 1300.

283 Glass Equip. Dev., 174 F.3d at 1342, 50 U.S.P.Q.2d at 1303 (citing Cyrix II, 846 F. Supp. at 541, 32 U.S.P.Q.2d at 1905).

284 See *id.* (citations omitted).

285 Id. at 1343, 50 U.S.P.Q.2d at 1303.

286 Id. at 1342-43, 50 U.S.P.Q.2d at 1303.

287 *Jazz Photo Corp. v. Int’l Trade Comm’n*, 264 F.3d 1094, 1102, 59 U.S.P.Q.2d (BNA) 1907, 1912 (Fed. Cir. 2001).

288 See, e.g., *Husky Injection Molding Sys., Ltd. v. R & D Tool & Eng’g Co.*, 291 F.3d 780, 784-785, 62 U.S.P.Q.2d (BNA) 1834, 1837 (Fed. Cir. 2002). For a more in-depth discussion of the historical origins of the repair / reconstruction doctrine, see, Hon. Arthur J. Gajarsa et al., *How Much Fuel To Add to the Fire of Genius? Some Questions About the Repair/Reconstruction Distinction in Patent Law*, 48 *Am. U.L. Rev.* 1205 (1999), Janis, *supra* note 131, and Note, *Building a Mystery: Repair, Reconstruction, Implied Licenses and Hewlett-Packard Co. v. Repeat-O-Type Stencil Mfg. Corp.*, 5 *B.U. J. Sci. & Tech. L.* 9 (1999).

289 See 5 Donald S. Chisum, *Chisum on Patents* § 16.03[3], at 16-159 (1997) (explaining that “[t]he line between permissible ‘repair’ and impermissible ‘reconstruction’ is a difficult one to draw and is the subject of numerous cases”).

290 *Jazz Photo Corp.*, 264 F.3d at 1102, 59 U.S.P.Q.2d at 1912.

291 Id. at 1103, 59 U.S.P.Q.2d at 1913 (quoting *U.S. v. Aluminum Co. of Am.*, 148 F.2d 416, 425 (2d Cir. 1945)).

292 Id.; see discussion *infra* Section IV.B.

293 *Jazz Photo Corp.*, 264 F.3d at 1102, 59 U.S.P.Q.2d at 1912 (characterizing repair as an affirmative defense based on exhaustion); *Dana Corp. v. Am. Precision Co.*, 827 F.2d 755, 758, 3 U.S.P.Q.2d (BNA) 1852, 1854 (Fed. Cir. 1987) (characterizing repair as an affirmative defense of implied license).

294 *Jazz Photo Corp.*, 264 F.3d at 1102, 59 U.S.P.Q.2d at 1912.

295 See, e.g., discussion *infra* Section IV.B.2.

296 See, e.g., *Sage Prods., Inc. v. Devon Indus., Inc.*, 45 F.3d 1575, 1579, 33 U.S.P.Q.2d (BNA) 1965, 1968 (Fed. Cir. 1995).

297 *Jazz Photo Corp.*, 264 F.3d at 1108, 59 U.S.P.Q.2d at 1917.

298 264 F.3d 1094, 59 U.S.P.Q.2d 1907.

299 Id. at 1108-09, 59 U.S.P.Q.2d at 1917.

300 Id. at 1109, 59 U.S.P.Q.2d at 1917.

301 See *id.*; see also Janis, *supra* note 131, at 428 (advocating that “courts should turn away from an exhaustion of rights model for analyzing the repair-reconstruction dichotomy, and instead embrace the implied license model”).

302 See, e.g., *Jazz Photo Corp.*, 264 F.3d at 1105, 59 U.S.P.Q.2d at 1914, *Surfco Hawaii v. Fin Control Sys Pty, Ltd.*, 264 F.3d 1062, 1065, 60 U.S.P.Q.2d (BNA) 1056, 1058 (Fed. Cir. 2001), *Kendall Co. v. Progressive Med. Tech., Inc.*, 85 F.3d 1570, 1573, 38 U.S.P.Q.2d 1917, 1920 (Fed. Cir. 1996).

303 See, e.g., *Bottom Line Mgmt., Inc. v. Pan Man, Inc.*, 228 F.3d 1352, 1354, 56 U.S.P.Q.2d (BNA) 1316, 1319 (Fed. Cir. 2000); *Hewlett-Packard*, 123 F.3d at 1451, 43 U.S.P.Q.2d at 1655-1656.

304 *Fuji Photo Film Co. v. Jazz Photo Corp.*, 249 F. Supp. 2d 434, 449 n.18 (D.N.J. 2003); see also *Fuji Machine Mfg. Co. v. Hover-Davis, Inc.*, 60 F. Supp. 2d 111, 118 (W.D.N.Y. 1999) (noting that the doctrines of patent exhaustion and implied license are “closely related”); Michael D. Lake, *Patent & Know-How (Technology) Licensees and Licensing Strategies*, 722 PLI/Pat. 353, 371 (2002) (commenting that exhaustion and implied license may be rationalized identically).

305 *Jazz Photo Corp.*, 264 F.3d at 1105, 59 U.S.P.Q.2d at 1914.

306 See *Janis*, supra note 131, at 491 (arguing that “the exhaustion model does not facilitate analysis of the repair-reconstruction problem in terms of parties’ expectations”); see also discussion infra Section IV.B regarding cases organized according to a spectrum of “spentness.”

307 See *Janis*, supra note 131, at 492-527 (advocating use of implied license model instead of the exhaustion of rights model; arguing that courts should consider evidence of the parties’ expectations, circumstances of the sale, and industry custom, rather than the concept of “spentness”); see also Note, supra note 288 (advocating consideration of the patentee’s intent as an important factor in determining whether an activity is permissible repair).

308 *Janis*, supra note 131, at 424.

309 106 U.S. 89 (1882).

310 *Cotton-Tie*, 106 U.S. at 90-91.

311 *Id.* at 93-94.

312 *Id.* at 95.

313 See *Jazz Photo Corp.*, 264 F.3d at 1102, 59 U.S.P.Q.2d at 1912 (noting that ownership of a patented article “does include the right to preserve the useful life of the original article,” but “does not include the right to make a substantially new article”). Logically, then, once a product has reached the end of its useful life, a “repair” to restore the article is tantamount to a reconstruction.

314 *Aro Mfg. Co. v. Convertible Top Replacement Co.*, 365 U.S. 336, 128 U.S.P.Q. (BNA) 354 (1961).

315 *Aro*, 365 U.S. at 337, 128 U.S.P.Q. at 357.

316 *Id.* at 337-38, 128 U.S.P.Q. at 357.

317 *Id.* at 345-346, 128 U.S.P.Q. at 359.

318 Id. at 345, 128 U.S.P.Q. at 359.

319 See *Surfco Hawaii v. Fin Control Sys. Pty, Ltd.*, 264 F.3d 1062, 1065, 60 U.S.P.Q.2d (BNA) 1056, 1058 (Fed. Cir. 2001).

320 228 F.3d 1352, 56 U.S.P.Q.2d (BNA) 1316 (Fed. Cir. 2000).

321 85 F.3d 1570, 38 U.S.P.Q.2d (BNA) 1917 (Fed. Cir. 1996).

322 21 F.3d 1073, 30 U.S.P.Q.2d (BNA) 1361 (Fed. Cir. 1994).

323 875 F.2d 300, 10 U.S.P.Q.2d (BNA) 1855 (Fed. Cir. 1989).

324 827 F.2d 755, 3 U.S.P.Q.2d (BNA) 1852 (Fed. Cir. 1987).

325 *Jazz Photo Corp.*, 264 F.3d at 1105-06, 59 U.S.P.Q.2d at 1914-15.

326 *Fuji Photo Film*, 249 F. Supp. 2d at 447.

327 250 F. Supp. 2d at 893 (S.D. Ohio 2003)

328 Id. at 907.

329 Id.

330 45 F.3d 1575, 33 U.S.P.Q.2d 1965.

331 *Sage Prods.*, 45 F.3d at 1576, 33 U.S.P.Q.2d at 1766.

332 Id. at 1576-77, 33 U.S.P.Q.2d at 1766.

333 Id. at 1577, 33 U.S.P.Q.2d at 1766.

334 Id.

335 Id.

336 Id. at 1578, 33 U.S.P.Q.2d at 1767.

337 Sage Prods., 45 F.3d at 1579, 33 U.S.P.Q.2d at 1768.

338 Jazz Photo Corp., 264 F.3d at 1108, 59 U.S.P.Q.2d at 1917. But see Lexmark Int'l, 290 F. Supp. 2d at 1049, 68 U.S.P.Q.2d 1797 (finding single use only restriction imposed on sale of patented printer cartridges to be enforceable).

339 121 F.3d 669, 43 U.S.P.Q.2d (BNA) 1620 (Fed. Cir. 1997).

340 Sandvik, 121 F.3d at 671, 43 U.S.P.Q.2d at 1622.

341 Id.

342 Id. at 673-74, 43 U.S.P.Q.2d at 1623-24.

343 Id.

344 Id. at 674, 43 U.S.P.Q.2d at 1624.

345 377 U.S. 422, 141 U.S.P.Q. (BNA) 703 (1964).

346 Wilbur-Ellis, 377 U.S. at 423-24, 141 U.S.P.Q. at 704.

347 Id. at 425, 141 U.S.P.Q. at 704-705.

348 Id. at 424, 141 U.S.P.Q. at 704.

349 123 F.3d 1445, 43 U.S.P.Q.2d 1650.

350 Hewlett-Packard, 123 F.3d at 1446, 1448, 43 U.S.P.Q.2d at 1652, 1653.

351 Id. at 1449, 43 U.S.P.Q.2d at 1654.

352 Id. at 1447, 43 U.S.P.Q.2d at 1652.

353 Id. at 1446, 43 U.S.P.Q.2d at 1652.

354 Id. at 1453, 43 U.S.P.Q.2d at 1657-58. But see Lexmark Int'l, 290 F. Supp. 2d at 1049, 68 U.S.P.Q.2d at 1797 (finding single use only restriction imposed on sale of patented printer cartridges to be enforceable).

355 Id. at 1452, 43 U.S.P.Q.2d at 1656.

356 Id. at 1453, 43 U.S.P.Q.2d at 1657.

357 Id. at 1454, 43 U.S.P.Q.2d at 1658.

358 264 F.3d 1062, 60 U.S.P.Q.2d 1056.

359 Surfco, 264 F.3d at 1064, 60 U.S.P.Q.2d at 1058-59.

360 Id. at 1064, 60 U.S.P.Q.2d at 1057.

361 Id. at 1065, 60 U.S.P.Q.2d at 1058.

362 Id. at 1065-66, 60 U.S.P.Q.2d at 1058-59.

363 291 F.3d at 782, 62 U.S.P.Q.2d at 1834.

364 Husky Injection, 291 F.3d at 782, 62 U.S.P.Q.2d at 1834.

365 Id., 62 U.S.P.Q.2d at 1835.

366 Id. at 782-83, 62 U.S.P.Q.2d at 1835.

367 Id. at 783, 62 U.S.P.Q.2d at 1835-36.

368 Id. at 787, 62 U.S.P.Q.2d at 1839.

369 Id. at 789, 62 U.S.P.Q.2d at 1840.

370 Husky Injection, 291 F.3d at 787, 62 U.S.P.Q.2d at 1839.

371 Id. at 787, 62 U.S.P.Q.2d at 1838-39.

372 Id. at 788, 62 U.S.P.Q.2d at 1839.

373 Id. at 787, 62 U.S.P.Q.2d at 1839.

374 Surfco, 264 F.3d at 1064, 60 U.S.P.Q.2d at 1057.

375 Id. at 1065, 60 U.S.P.Q.2d at 1058.

376 Id.

377 Id. at 1066, 60 U.S.P.Q.2d at 1059.

378 See Sage Prods., 45 F.3d at 1579, 33 U.S.P.Q.2d at 1768 (rejecting patentee’s attempt “to keep for itself a market in parts which are intended to be periodically replaced,” as an “attempt to expand patent rights to an unpatented product”).

379 Bottom Line Mgmt., 228 F.3d at 1354, 56 U.S.P.Q.2d at 1316.

380 Id. at 1356, 56 U.S.P.Q.2d at 1320.

381 Id.

382 61 U.S.P.Q.2d (BNA) 1480 (N.D. Ga. 2001).

383 Sidel, 61 U.S.P.Q.2d at 1482.

384 Id.

385 Id.

386 Id.

387 Id.

388 Id.

389 Sidel, 61 U.S.P.Q.2d at 1482.

390 Id.

391 Id. at 1484-85.

392 Id. at 1485.

393 Hewlett-Packard, 123 F.3d at 1454, 43 U.S.P.Q.2d at 1658.

394 Id. at 1452, 43 U.S.P.Q.2d at 1656.

395 Id. at 1453, 43 U.S.P.Q.2d at 1657.

396 Sulmeyer v. Coca Cola Co., 515 F.2d 835, 844 (5th Cir. 1975).

397 Morton Salt Co. V. G.S. Suppiger Co., 314 U.S. 488, 493, 52 U.S.P.Q. (BNA) 30, 33 (1942).

398 “An illegal tying arrangement has four basic characteristics: (1) two separate products (the tying product and the tied product); (2) sufficient economic power in the tying market to coerce purchase of the tied product; (3) involvement of a not insubstantial amount of interstate commerce in the tied market; and (4) anticompetitive effects in the tied market.” Sulmeyer, 515 F.2d 835, 844.

399 Senza-Gel Corp. v Seiffhart, 803 F.2d 661, 668-69, 231 U.S.P.Q. (BNA) 363, 368 (Fed. Cir. 1986) (affirming grant of summary judgment of patent misuse based on claim that patentee “tied” licensing of patented process to leasing of nonpatented machine).

400 Jazz Photo Corp., 264 F.3d at 1108, 59 U.S.P.Q.2d at 1914-15.

401 See Hewlett-Packard, 123 F.3d at 1454, 43 U.S.P.Q.2d at 1659.

402 See discussion supra Section II.D.1.ii.

403 McFarling, 302 F.3d at 1296-98, 64 U.S.P.Q.2d at 1164-67; see also Swann, 2003 WL 1487095; Trantham, 156 F. Supp. 2d 855.

404 341 F.3d 1356, 67 U.S.P.Q.2d (BNA) 1814 (Fed. Cir. 2003).

405 Nitro Leisure, 341 F.3d at 1358, 67 U.S.P.Q.2d 1815.

406 Id.

407 Id. at 1360, 67 U.S.P.Q.2d at 1817.

408 Id. at 1358, 67 U.S.P.Q.2d at 1815.

409 Id.

410 Id.; 15 U.S.C. § 1125(a) (2000).

411 Nitro Leisure, 341 F.3d at 1358, 67 U.S.P.Q.2d at 1816.

412 Id. at 1359, 67 U.S.P.Q.2d at 1816.

413 Id. at 1363, 67 U.S.P.Q.2d at 1819.

414 Id. at 1366, 67 U.S.P.Q.2d at 1821.

415 Id., 67 U.S.P.Q.2d at 1822 (Newman, J., dissenting).
416 285 F.3d 848, 62 U.S.P.Q.2d (BNA) 1273 (9th Cir. 2002).
417 Karl Storz, 285 F.3d at 851, 62 U.S.P.Q.2d at 1274.
418 Id. at 852, 62 U.S.P.Q.2d at 1274.
419 Id.
420 15 U.S.C. § 1125(a) (2000).
421 Karl Storz, 285 F.3d at 856, 62 U.S.P.Q.2d at 1277.
422 Id.
423 Id. at 856-57, 62 U.S.P.Q.2d at 1277-78.
424 Id. at 856, 62 U.S.P.Q.2d at 1277.