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The Debate over Second-Tier Patent Protection in the United States*

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Unlike most of the other jurisdictions discussed in this book, the United States (US) does not currently have, nor did it ever have, a utility model or other system of second-tier patent protection. This being said, discussion and debate over the institution of such a system in the US has been ongoing for more than a century. In this chapter, we discuss the history and current status of this debate, as well as alternative approaches that US agencies and legislators have taken to address the needs and concerns of small and medium-sized inventors.

16.1 CURRENT FORMS OF INVENTION PROTECTION IN THE US

16.1.1 *Utility Patents*

Like most countries, the US grants patent protection for inventions that meet statutory requirements for patentable subject matter, utility, novelty, and nonobviousness,[1] as these requirements have been interpreted by the US Patent and Trademark Office (USPTO) and the courts over the years. These patents are formally referred to as "utility patents" (to distinguish them from design patents and plant patents, discussed below), though they are often referred to simply as "patents".[2]

Applications for patent protection are examined by the USPTO and involve repeated interactions between the examiner and the applicant. The average prosecution time (the period from filing through final disposition) for US patents is

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[1] 35 U.S.C. §§ 101, 102, 103.

[2] Burk and Lemley 2009, 8–9.

slightly more than two years, increasing to slightly less than four years for applications that include a request for continued examination, more than five years for continuation applications and nearly eight years for divisional applications.[3]

The cost of obtaining a patent in the US includes both governmental filing fees as well as attorney and search fees. Patent application filing and issuance fees range from approximately $1,000 to $2,000.[4] The amount of attorney fees varies based on the complexity of the invention, with one estimate of fees ranging from $5,000 to $7,000 for an "extremely simple" invention to more than $16,000 for "software, automated systems, business methods" patents.[5] The same commentator estimates search costs of $1,000 to $3,000 per application.

Applicants in the US are also given the opportunity to file a "provisional" patent application, which may contain less information than a full patent application.[6] If the applicant wishes to proceed with a full patent application, it must file a patent application corresponding to the provisional application within 12 months.[7] The option to file a provisional patent application reduces the cost of the initial filing and gives the applicant the ability to limit its further costs if it elects not to move forward with the application.

16.1.2 *Design Patents*

In addition to utility patents, the US Patent Act allows for the registration and protection of industrial designs.[8] Like applications for utility patents, applications for design patents are examined by the USPTO, though design patents are granted for terms of 15 years from the date of grant, rather than 20 years from the date of application. The major distinction between design and utility patents is in their subject matter. Whereas utility patents are directed toward "any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof",[9] design patents are directed toward "any new, original and ornamental design for an article of manufacture."[10] Thus, while a patentable invention must perform a useful function, a patentable design must possess an "ornamental" visual appearance, meaning an appearance that is not dictated by function.[11] It must also meet other criteria, including the requirement of nonobviousness, to be protectable.[12] Moreover, US design patents resemble copyrights in the scope of their

[3] U.S. Patent & Trademark Off. 2023d.
[4] U.S. Patent & Trademark Off. 2023e.
[5] Quinn 2015.
[6] 35 U.S.C. § 111.
[7] 35 U.S.C. § 119.
[8] 35 U.S.C. §§ 171–173.
[9] 35 U.S.C. § 101.
[10] 35 U.S.C. § 171(a).
[11] See Du Mont and Janis 2012, 264.
[12] 35 U.S.C. § 171(b).

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protection, as copyright law also seeks to account for functional features in assessing visual similarity of protected and accused designs.[13]

The US system for design protection was originally proposed in 1841 as a registration system similar to the copyright-based system created by the UK Design Registration Act of 1839 (see Section 3.1 in Chapter 3). As noted in Section 3.1 of Chapter 3, the UK design protection system was bifurcated shortly thereafter, with ornamental designs continuing to be protected under a registration-based system pursuant to the Ornamental Designs Act of 1842, and designs "having reference to some purpose or utility" being subjected to a patent-like pre-grant examination system under the 1843 Utility Designs Act. For these useful designs, the 1843 Act sought to overcome the many impediments and weaknesses of the then-prevailing UK patent system.

No comparable bifurcation occurred in the United States. When the US Congress enacted patent protection for "any new and original design for a manufacture" (Act of August 29, 1842, ch. 263 § 3, 5 Stat. 543), this new design patent scheme addressed ornamental designs that were not already eligible for patent protection. And, as noted above, the US design patent system as ultimately enacted included a pre-grant examination procedure and fee schedule resembling that of the utility patent system. Thus, the United States wound up with examination-based systems for both ornamental designs and inventions, and did not enact an additional examination-based system for useful designs, as the United Kingdom did in its 1843 legislation.

16.1.3 *Specialty Protection Regimes*

Two specific types of functional designs – semiconductor chip layouts and marine vessel hulls – may be protected in the US under domain-specific statutory regimes that were seemingly enacted to fill the gaps between utility patent protection for functional inventions, on one hand, and design patent and copyright protection for ornamental designs, on the other.

The Semiconductor Chip Protection Act of 1984[14] protects the physical three-dimensional layout of a semiconductor chip's circuitry from copying. While the logical circuit design of a semiconductor chip may be protectable by utility patents, the physical layout of that circuit design can usually be accomplished in multiple ways, just as the software embodiment of a patentable algorithm may be coded in many different ways. But while software has been interpreted to constitute a "work of authorship" under the Copyright Act, a chip design, with fewer creative authorial elements characteristics, may be less amenable to copyright protection. As a result, the SCPA creates a sui generis protection scheme for semiconductor chip layouts – largely to protect them from "slavish" copying.[15]

[13] See Du Mont and Janis 2013, 843.
[14] 17 U.S.C. §§ 901–914.
[15] See Kasch 1992.

The Vessel Hull Design Protection Act of 1998[16] gives a 10-year period of protection to the designs of marine vessel hulls and decks that are registered with the US. Copyright Office. To be eligible for protection, the design must be used in "a useful article which makes the article attractive or distinctive in appearance to the purchasing or using public"[17] – thereby combining the features of innovations protectable by utility patents (functionality) and design patents and copyrights (ornamentality).

While still on the books, both the Semiconductor Chip Protection Act and the Vessel Hull Design Protection Act are seldom used and of largely historical interest.[18]

16.1.4 *Plant Protection*

Before 1980, new plant varieties were not considered to be eligible for protection by US utility patents.[19] As a result, two earlier protection regimes were established to protect new plant varieties in the US: Plant Patent Act of 1930[20] and the Plant Variety Protection Act of 1970 (PVPA).[21]

In 1930, the Plant Patent Act established a special "plant patent" form of protection for "any distinct and new variety of plant" that is invented through asexual reproduction (i.e., produced by grafting). In effect, plant patents are similar to other utility patents, save for the specific subject matter of their coverage.

Forty years later, the PVPA introduced a certificate protection scheme for "any novel variety of sexually reproduced plant" (i.e., produced by selective breeding). For most plants, protection under a PVPA certificate lasts for 20 years from the certificate's issuance (25 years in the case of a tree or vine). Unlike the Plant Patent Act, the PVPA requires that a protected plant variety be both uniform and stable.[22] In addition, the PVPA contains compulsory licensing provisions for plant varieties that the Department of Agriculture finds necessary to address food supply in the US,[23] an explicit research exemption,[24] and a provision that allows farmers to save and replant seed on their own farms.[25]

16.1.5 *Copyright for Functional Items*

The US Copyright Act extends copyright protection to all works of authorship, including visual works in two and three dimensions. Though in its earliest forms copyright in visual works existed only in works of "fine art" and did not extend to

[16] 17 U.S.C. §§ 1301–1332.
[17] 17 U.S.C. § 1301(a)(1).
[18] See Kasch 1992; Olson 2007.
[19] *Diamond* v. *Chakrabarty*, 447 U.S. 303, 311 (1980).
[20] 35 U.S.C. § 161.
[21] 7 U.S.C. ch. 57.
[22] 7 U.S.C. § 2402(a).
[23] 7 U.S.C. § 2404.
[24] 7 U.S.C. § 2544.
[25] 7 U.S.C. § 2543.

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industrial products or designs, this changed with the Copyright Act of 1909, which expanded the scope of copyrightable subject matter to all works of authorship, including industrial designs.[26] With the recognition under the 1976 Copyright Act of copyright in computer software, it became clear that entire categories of functional works could become the subjects of copyright protection.

Yet, even today, copyright only extends to the ornamental and nonfunctional features of useful objects. Thus, sub-patentable innovations that serve a useful function, but which fall short of utility patent protection, remain unprotectable in the US, except in the special categories noted above.

16.2 THE DEBATE OVER SUB-PATENT PROTECTION IN THE US

Despite the assortment of special-purpose statutes described above, the US does not have a general system for the protection of functional innovations that fall below the threshold for utility patent protection. This absence, and the discrepancy between US law and that of many other large economies including Germany, France, China, Japan, and South Korea has led to ongoing discussion of a utility model or other sub-patent innovation system in the US.

16.2.1 *Critiques of the US Patent System for Sub-patentable Innovation*

Many of the proposals for utility model protection in the US arise from critiques of the utility patent system. One of the principal critiques of the utility patent system is that it is too slow, burdensome, and expensive to meet the needs of individuals and small and medium entities (which we refer to collectively as SMEs).[27] That is, SMEs may lack the funds or other resources to prosecute a utility patent application to completion. Moreover, competitive pressures may make the years-long wait for the issuance of a patent impractical for SMEs (e.g., if a competing business engages in infringement, it may drive the inventor out of business before a patent is issued). The low-cost and rapid availability of utility models may be seen as a remedy for these issues.[28]

A second critique is that the criteria for patentability are too stringent, thereby failing to protect worthy and socially beneficial innovations. This critique has become particularly intense following the US courts' tightening of criteria for both patentable subject matter under Section 101 of the Patent Act (rendering many

[26] Act of March 4, 1909, ch. 320, § 4, 35 Stat. 1075, 1076. See Du Mont and Janis 2013, 851.

[27] See Janis 1999, 151; Robinson 2014.

[28] This sentiment is reflected in the comments of a U.S. Senator at a recent hearing on patent issues. After noting that many of her constituents are individuals with single patents, often relating to the automotive industry, she asked the witness, "What about the two-tier system like Germany has? Where you can get the petty patent, or the smaller patent, or the gold-plated patent . . ." U.S. Senate Judiciary Committee, Subcomm. on Intellectual Property, Hearings – Protecting Real Innovations by Improving Patent Quality, June 22, 2021 (question by Sen. Marsha Blackburn (R-TN) posed to Prof. Jorge Contreras).

innovations relating to software and medical diagnostics unpatentable)[29] and enablement and written description under Section 112 (rendering some biological innovations with large numbers of possible structures, such as antibodies, unpatentable).[30] The gist of this critique is generally that patentability thresholds should be lowered so that more innovations become eligible for utility patent protection.

A final avenue of critique, pioneered by Jerry Reichman, seemingly accepts the existing contours of utility patent law, but argues that innovations that fail to meet the criteria for utility patent protection may still be deserving of some form of legal protection.[31] Reichman observes that these "small scale innovations" are particularly vulnerable to appropriation because they are often readily discerned from products distributed on the open market and thus difficult to keep secret. As a result, this type of innovation may be discouraged, even though it may have significant social value, particularly on a cumulative basis.

16.2.2 *Academic Proposals regarding a US Sub-patent Innovation System*

Though there have been occasional legislative proposals in the US to implement a utility model or other sub-patent protection system,[32] none has, to our knowledge, ever gained serious momentum. Nevertheless, a number of proposals for sub-patent innovation protection systems have been made in the academic literature.

16.2.2.1 Traditional Utility Models

Some commentators, largely responding to SME cost and access concerns, have suggested that the US adopt a utility model system akin to that found in Germany and other countries.[33] Arguing for the adoption of a utility model system in the US, Karl Jorda reasons that "individual inventors, entrepreneurs, startups and small entities would welcome a lower-cost alternative to a utility patent."[34]

16.2.2.2 Research-Promoting Innovation Patents

Responding to the stringency of current utility patent requirements, Dmitry Karshtedt proposed the creation of a "research patent" that would provide a limited set of enforcement rights to the inventors of "upstream" innovations that do not yet fully meet the thresholds for utility patent protection (primarily utility, enablement and eligible subject matter).[35] Sean Seymore proposes the creation of a slightly different "research patent" that overcomes the need for chemical discoveries to have

[29] Karshtedt 2015; Lefsin et al. 2018.
[30] Karshtedt 2015; Lemley and Sherkow 2023.
[31] Reichman 2000.
[32] E.g., the Article Protection Act of 1995 proposed in the U.S. House of Representatives, which would have established a three-year term of protection for certain sub-patentable innovations. Jorda 2007, 3.
[33] Brack 2009; Jorda 2007.
[34] Jorda 2007, 3.
[35] Karshtedt 2015, 1015–1017.

a known utility.[36] Both of these proposals are directed toward the incentivization of scientific research through the granting of sub-patent rights when utility patent protection is not otherwise available.

16.2.2.3 Relaxed Examination Standards

Ann Bartow has taken a different tack, proposing a second-tier "origination patent" system that includes most of the requirements of the current utility patent system, but eliminates nonobviousness as a ground for invalidation (though leaving non-obviousness in place as a requirement for issuance).[37] Origination patents would have terms of only three to five years and have an accelerated examination pathway of no more than one year. The mechanism would, in theory, permit innovators to obtain quick, short-duration rights for minor innovations (she mentions toothbrushes and hairbrushes), while at the same time "strengthening the obviousness inventiveness requirement of traditional patents by diverting less innovative but currently patentable inventions into second tier protection, in a manner that benefits society and offers advantages to the second tier patentee."[38]

16.2.2.4 Further Domain-Specific Protection

The domain-specific protections afforded under US law for sub-patentable innovations such as vessel hulls, semiconductor layouts and plant varieties have been widely criticized and are not used heavily.[39] Nevertheless, scholars concerned about innovation in particular industries have proposed a variety of additional domain-specific protection schemes for technologies including software,[40] DNA sequences[41] and environmental technologies.[42]

16.2.2.5 Liability Rule Frameworks

Jerry Reichman, critical of the continued expansion of exclusive property-like rights to sub-patentable innovations, argues against the definition of new domains for patent-like protection.[43] Yet recognizing that the lack of protection for "small scale innovations" results in reduced incentives for the creation of these socially valuable innovations, Reichman proposes a "liability rule" scheme whereby the creators of sub-patentable innovations would be entitled to compensation for the use of those innovations, but do not have the right to exclude others from using them.[44]

[36] Seymore 2021.
[37] Bartow 2000.
[38] Bartow 2000, 13.
[39] Burk and Lemley 2009, 98–100.
[40] Long 2004, 546 n. 194 (collecting and summarizing proposals).
[41] Holman and Munzer 2000.
[42] Derzlm 1996.
[43] Reichman 2000.
[44] Reichman 2000. See also Rutschman and Reichman 2023.

In a similar gesture toward liability rules, Toshiko Takenaka has proposed a novel "inclusive patent" system that would entitle any user of a covered innovation to obtain a compulsory license from third party holders of blocking patents.[45] Though Takenaka's inclusive patent would be granted without substantive examination, its scope appears to be comparable to that of a utility patent.

16.2.2.6 Rational Ignorance and Registration Systems

Other authors have looked critically at the US patent examination system and its frequent failure to screen out "bad" patents.[46] Assessing this situation, Mark Lemley famously, and counterintuitively, concluded in 2001 that "the PTO doesn't do a very detailed job of examining patents, but we probably don't want it to. It is 'rationally ignorant' of the objective validity of patents, in economics lingo, because it is too costly for the PTO to discover those facts."[47] That is, the cursory examination given to patents may be warranted, as most patents are never licensed or asserted, and the validity of valuable patents can be tested in litigation. F. Scott Kieff took this reasoning a step further in 2003, arguing that the most efficient patent system would require only registration, with no substantive examination at all, leaving any determination of validity to post-issuance litigation and thereby removing any presumption of validity for issued patents.[48]

Neither Lemley nor Kieff explores, nor even mentions, the registration-based systems used for utility models in many countries. Nevertheless, the persistence of scholarly ruminations about registration-based systems for patents suggests that such systems may have salience even in the US. This being said, registration-based systems have obvious drawbacks, particularly for SMEs, by allowing the unrestricted creation, exploitation and enforcement of tentative rights in an environment where litigation is costly and lengthy. As the Supreme Court observed in *Lear* v. *Atkins*, issued but invalid patents pose a threat the market by encumbering "the important public interest in permitting full and free competition in the use of ideas which are in reality a part of the public domain."[49]

16.2.3 *Potential Features of a US Utility Model System*

As discussed in the other chapters of this book, utility model systems differ from patent systems in significant ways. The table below presents some of the potential differences that a utility model system in the US might have from the existing utility patent system. As in other countries, these differences would be directed at

[45] Takenaka 2021a.
[46] Lemley 2001, 1495–1496 (collecting sources).
[47] Lemley 2001, 1497.
[48] Kieff 2003, 70–72.
[49] *Lear, Inc.* v. *Atkins*, 395 U.S. 653 (1969). See also Contreras 2021, 8–9 (enumerating market risks arising from the circulation of "bad" patents).

TABLE 16.1 *Comparison of principal features of US utility patents, design patents and hypothetical utility models*

Feature	Utility patent	Design patent	Utility model (hypothetical)
Examination	Yes	Yes	No or abbreviated
Nonobviousness requirement	Yes	Yes	No (novelty only or novelty plus some "soft" nonobviousness requirement)
Term	20 years from date of application	15 years from date of grant	Shorter (e.g., 10 years from date of application)
Presumption of validity	Yes	Yes	No

making it easier and less costly for individuals and small businesses to obtain a low level of protection for sub-patentable innovations. Table 16.1 summarizes how these distinctions might play out were the US to adopt a utility model system.

16.3 REFLECTIONS ON THE FUTURE OF UTILITY MODELS UNDER US LAW

In 1999, one of us (Janis) examined the history and then-existing practice of second-tier patent regimes outside the US (incorporating within that label utility models and a variety of subsidiary patent regimes), and argued that the US should not create a utility model system.[50] As of the time of this writing – nearly a quarter century later – much has changed in US patent law and policy, and in approaches to second tier patents around the globe. And, still, a good deal has remained the same. A fresh look is warranted at the issues likely to arise if the US were to contemplate introducing a utility model system today.

We have divided the discussion into three parts. First, we consider the doctrinal issues concerning the grant of utility model rights, focusing on the nonobviousness doctrine. Second, we consider how the existence of a utility model system might change the patent enforcement landscape in the US. Finally, we address a few key questions about the politics and political economy of utility model rights.

16.3.1 *Obtaining Utility Models: The Soft Nonobviousness Problem*

Utility model skeptics and proponents alike surely would agree that the critical issue in designing protectability rules for a utility model system concerns nonobviousness – specifically, whether to incorporate the invention patent standard, dispense with a nonobviousness requirement altogether, or fashion a new doctrine that is less

[50] Janis 1999.

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stringent than the invention patent standard but that performs a similar function of tuning the system's ex ante incentives on a case-by-case basis with greater sensitivity than is feasible through the use of loss-of-right provisions alone.

For invention patents, nonobviousness[51] remains the "ultimate condition of patentability"[52] and the most important hurdle to patentability for most types of subject matter[53] from a practical perspective, and from a theoretical perspective as a tool for fine-tuning ex ante patent incentives. Given the high stakes surrounding nonobviousness determinations, it is not surprising that the contours of nonobviousness doctrine in US patent law remain in ferment.

The Supreme Court's 2007 decision in *KSR* v. *Teleflex*[54] has not eliminated debates over fundamental aspects of the nonobviousness inquiry. The Court in *KSR* warned against the use of "rigid" approaches to the teaching/suggestion/motivation element of the nonobviousness calculus but stopped short of eliminating or replacing that element.[55] Unsurprisingly given *KSR*'s ambiguities, some commentators have characterized the decision as a watershed, while others have viewed it as considerably less momentous. What *KSR* has perhaps most clearly shown is that nonobviousness is likely to be the subject of perpetual cycling between strict and relaxed applications, perhaps reflecting deep divides among judges about the ultimate economic function of the patent grant.[56]

In addition, the US invention patent system has undergone a major process shift in the past decade: many nonobviousness determinations today arise from *inter partes review* (IPR) proceedings conducted in the first instance by the Patent Trial and Appeal Board (PTAB) of the USPTO, rather than in district court litigation. The long-term ramifications of this shift for patentability doctrines such as nonobviousness are yet to be worked out.

What might we expect if the US were to implement a utility model system? First, we would expect to see statutory language that is configured to leave much of the development of the second-tier nonobviousness standard (whatever that might be) to the courts and the PTAB. This is a familiar pattern in US patent legislation.[57] Nonetheless, it suggests that the validity of hypothetical US utility model rights would be subject to an initial period of instability and uncertainty as the jurisprudence of second-tier nonobviousness developed. Compounding the problem, if the frequency

[51] 35 U.S.C. § 103.
[52] Witherspoon 1980.
[53] For some types of software and biotechnology inventions, eligibility may have eclipsed obviousness in importance in recent decades.
[54] *KSR Intern. Co.* v. *Teleflex Inc.*, 550 U.S. 398 (2007).
[55] Ibid. at 415.
[56] Holte and Sichelman 2019.
[57] See, e.g., *Graham* v. *John Deere & Co.*, 383 U.S. 1, 16 (1966) (explaining that when Congress added the obviousness provision to the patent statute, the provision was intended to partially codify existing judicial practice and allow space for further judicially developed tests to be worked out).

of litigation (and post-grant administrative challenges) is considerably lower than for utility patents, as seems possible, then the period of instability may be protracted.[58] Moreover, constructions of Section 103 in utility patent law proceeded against the backdrop of a century of common law development. Constructions of a second-tier nonobviousness provision would proceed in a vacuum, comparatively speaking.

Second, we would expect that the standard for second-tier nonobviousness would be defined relative to the invention patent standard. This may set in motion an uneasy push-and-pull between the invention patent and utility model regimes, the consequences of which might not be foreseeable. At a minimum, it would suggest that changes in the invention patent nonobviousness jurisprudence necessarily would trigger corresponding changes in the utility model jurisprudence. It might also suggest the analogous phenomenon in reverse: decisions that modify the second-tier nonobviousness standard could have knock-on effects on the invention patent obviousness standard. One possible outcome is that equilibrium is never reached; instead we might see cycles of movement as one standard shoves the other and vice versa. Alternatively, if decisionmakers find it all but impossible to establish a uniform conceptual space between the invention patent nonobviousness standard and its second-tier counterpart, they might eventually give up the task, with the result that one comes to resemble the other.[59] Scholars who are already concerned that the invention patent nonobviousness standard is too generous may find it eroded still further. Or, conversely, those who believe that second-tier patents would fill a gap in intellectual property rights by providing some protection for innovations that do not quite rise to the level of invention patents may be disappointed to discover that second-tier nonobviousness is not materially different from invention patent nonobviousness, subverting the primary goal of having second-tier protection.

16.3.2 *Enforcing Utility Models: Utility Model Thickets?*

According to the now-familiar anti-commons argument popularized by Heller and Eisenberg in the 1990s[60] and carried forward by many other scholars, in technology areas where patent rights are abundant and their ownership is fragmented, technological innovation may be inefficiently underused due to the high costs of assembling commercially viable clusters of patent rights. Many scholars have used the

[58] Design patent law or plant patent law may furnish appropriate analogs, but in those regimes applications are examined ex parte for nonobviousness, which leads to the development of some norms and practices at the USPTO. That would be absent for utility models if those applications are not examined ex parte.

[59] Not everyone is daunted by the difficulty of distinguishing between nonobviousness and soft nonobviousness. See Kennedy 2015 (arguing for the addition of a "partial obviousness" criterion to utility patent law).

[60] Heller 1998, 621; Heller and Eisenberg 1998, 698–701.

metaphor of "patent thickets" to describe a type of anti-commons problem or the conditions that might give rise to an anti-commons.[61]

The patent thicket/anti-commons argument is relevant for utility models because the very nature of utility model protection suggests the potential for congestion of rights. The introduction of utility model protection would increase the sheer aggregate number of exclusive rights, and individual utility models are likely to be narrow in scope, suggesting the prospect of highly fragmented ownership.[62]

But rights congestion arising from the presence of numerous separately owned utility models is only one of the conditions that might give rise to a thicket of rights and an anti-commons problem. The other has to do with the technological resource to which a particular cluster of utility models attaches. For example, how likely is it that a cluster of utility models would cover inputs that a third party might need to incorporate in manufacturing a complex product? How probable is it that third parties would confront the need to investigate and work around utility model rights in order to enter a market? We suspect that there is no general answer to these questions.

Even where the conditions appear favorable for the development of an anti-commons, it does not invariably follow that this is problematic – that is, it is not clear that the problem of inefficient underutilization necessarily (or even frequently) results when an anti-commons exists. Transaction-cost-reducing mechanisms such as patent pooling arrangements or group commitments to grant licenses on specified (e.g., FRAND) terms, as is seen with heavily patented technical standards, may be brought to bear.[63] Third parties may simply choose to infringe and rely on the high cost of enforcement to discourage rights-holders from suing.[64]

A word may be in order here about technological prospects. Early fears about anti-commons emergence focused on the patenting of gene fragments uncovered in genome mapping projects (or used as research tools in those projects). Prompted in part by these fears, the PTO and courts deployed the utility requirement[65] to curtail patent grants (and thus technological prospecting) in genomics.

Most discussions of utility model protection appear to assume that these events have little to do with utility model systems. To be sure, it is probably safe to predict that the usual subject matter of utility model protection would be modest (sub-patentable) but commercially desirable modifications to mechanical devices. But, in theory, utility models could become an avenue for attempts to secure protection for subject matter such as research tools, medical diagnostic methods, business methods, or the like. This may suggest the need for carefully crafted utility and eligibility rules for utility models, and might in turn suggest that the utility model

[61] Egan and Teece 2015.
[62] Janis 1999.
[63] See Chapter 18 (discussing FRAND licensing commitments applied to utility models that are declared essential to certain standards).
[64] For discussions of these and other mechanisms, see Eisenberg 2008; Teece 2017.
[65] In re Fisher, 421 F.3d 1365 (Fed. Cir. 2005).

scheme could become a new front for litigation over those rules, akin to the wars over subject matter eligibility that have typified recent US invention patent law.

16.3.3 *Who Would Benefit from a US Utility Model System?*

We now turn from doctrine and theory to pragmatic political questions. Who would most benefit from the creation of a utility model system in the US? What does that tell us about whether creating such a system would advance US patent policy goals?

16.3.3.1 SMEs?

Perhaps the most common argument voiced in support of the creation of utility model systems is that it would offer SMEs a reduced-cost alternative to invention patents (see Section 16.2.1). These assertions indulge several important assumptions: first, that SMEs are a significant source of socially valuable innovation; second, that much of this innovation may be of the sub-patentable variety (chiefly because it may be deemed obvious in view of the prior art under applicable invention patent standards); and, third, that the sheer cost of obtaining and enforcing invention patent rights reduces the level of R&D investment that SMEs might otherwise command, or thwarts SMEs entirely from inventing and disclosing their inventions. Accepting *arguendo* the first two assumptions, we are left with questions about whether creating a utility model system in the US would address the problem of cost. It would not surprise us if the cost issue were a focal point of any future debate in Congress about whether to create a utility model system.

Of course, if the cost of invention patent protection is the crucial problem, attacking it directly may be more efficient than creating a new form of intellectual property right and all the administrative infrastructure that would be required to support it. Indeed, within the past two decades, the US has put in place mechanisms designed to facilitate access to the existing utility patent system, and we expect that US utility model skeptics would argue that these mechanisms could be refined (and are being refined) on an ongoing basis at relatively low administrative costs.

One such mechanism is fee discounts for SMEs. For example, effective in 2013, the PTO established a "micro-entity" status available to applicants who meet the small entity requirement,[66] have a gross income falling below a specified cap, and who have not filed more than five patent applications.[67] Micro entities receive an 80 percent reduction in government filing fees.[68]

In addition, under current UPSTO rules,[69] any applicant may request deferral of an application for up to three years from the earliest date of filing. The USPTO will

[66] 37 CFR 1.27.
[67] 37 CFR 1.29.
[68] U.S. Patent & Trademark Off. 2023b.
[69] 37 CFR 1.103(d).

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not grant such a deferral request until all required fees (including search and examination fees) have been paid and the application is complete. In an effort to make the patent system more accessible to small and medium enterprises (SMEs), in 2023 USPTO proposed a "Track Three Pilot Program" that would permit qualifying "micro entity" applicants to delay payment of search and examination fees for 30 months from the earliest filing date claimed.[70] This fee deferral, if adopted, would permit SME applicants to "test the waters" regarding the viability of the market for the products subject to their patent applications before incurring the more substantial costs of examination.[71]

To reduce another major source of cost of obtaining patents – attorney fees – the USPTO has partnered with law schools, bar organizations, and other nonprofits to create a nationwide network of patent hubs that seek to match SMEs with patent lawyers who provide pro bono patent application services.[72] In addition, several law schools now offer patent-related pro bono clinical services to qualifying SMEs, including the preparation and prosecution of patent applications.[73]

These efforts, of course, do not address the costs associated with enforcing patent rights – costs that are surely prohibitive for many SMEs. And there is no sign that those costs are easing. While the US introduced expanded forms of administrative patent validity challenges through the America Invents Act,[74] it is not evident that those mechanisms have reduced the overall cost of resolving disputes over validity, even though administrative challenges are now frequently used. Moreover, although Congress passed legislation in 2020 establishing a small claims tribunal for copyright disputes,[75] no analogous patent small claims court exists in the US, although interest in exploring the feasibility of such a court continues.[76]

This being said, an appreciable number of patent infringement suits in the US are brought by attorneys on a contingency fee basis, in which they receive payment only if the patentee receives a damages award or the case is settled with a payment.[77] Moreover, the use of third party litigation financing by patent litigants has also increased in recent years,[78] a development that, in theory, could make the assertion of patents by SMEs more accessible.

[70] U.S. Patent & Trademark Off., Request for Comments on a Proposed Track Three Pilot Program with a Pre-Examination Search Option, 88 Fed. Reg. 34,136 (May 26, 2023).

[71] See ibid. ("The USPTO recognizes that under-resourced applicants may need a low-cost option with minimal requirements to allow them additional time for commercialization efforts and to ascertain the value of their inventions.")

[72] U.S. Patent & Trademark Off. 2023c.

[73] U.S. Patent & Trademark Off. 2023a (describing the USPTO's program for certifying law school clinics).

[74] See 35 U.S.C. §§ 311–319 (inter partes review); 35 U.S.C. §§ 321–329 (post-grant review).

[75] U.S. Copyright Off. 2023 (noting the creation of the Copyright Claims Board); Copyright Alternative in Small-Claims Enforcement Act (CASE Act) of 2020, Pub. L. No. 116-260, Title II, § 212.

[76] See Administrative Conf. of the U.S. (ACUS) 2023; U.S. Patent and Trademark Off. 2022.

[77] Schwartz 2012.

[78] Wild 2023.

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Utility model skeptics might point out that utility model systems as historically implemented have seemed to contemplate that utility models would be enforced in the same way as invention patents – through existing civil litigation channels (both in the courts and at the International Trade Commission, an independent executive agency that has played an increasingly prominent role in patent litigation but whose authority over sub-patentable innovation protection would need to be addressed via its own governing statute). Indeed, many discussions about utility models may assume that utility models will rarely be the subject of enforcement actions. But the cost of enforcement should not be overlooked, and it may weigh heavily in debates in the US, where the notoriously high cost of civil discovery and the American rule against attorney-fee-shifting may present policymakers with a cost/benefit analysis for utility models that differs significantly from that of other parts of the globe.

16.3.3.2 Non-practicing Entities?

Proponents of utility model systems should also be prepared to deal with the argument that a US utility model system would create a new fertile environment for litigation on the part of non-practicing entities (NPEs). NPE interest in utility models would seem virtually inevitable. Indeed, NPEs are sometimes characterized as market intermediaries who facilitate the enforcement of patent rights by carrying out enforcement actions more efficiently than individual rightsholders might be capable of doing, and this surely describes the circumstances of the prototypical SME utility model owner. Add to that the prospect that utility models would be issued with limited or no pre-grant substantive examination, and one may wonder whether NPEs might perceive utility models as an irresistible new vehicle for litigation.[79] Indeed, as shown in Chapter 16, a significant number of the few enforcement actions involving standards-essential utility models have been brought by NPEs.

At minimum, then, it would seem that any modern legislative proposal for utility models in the US would need to contend with the specter of NPE litigation. Contemporary patent jurisprudence provides some relevant insights. Discussions about the availability of permanent injunctive relief for NPEs in *eBay*,[80] about retaining an objective element in the test for willful infringement to guard against aggressive NPE assertions,[81] about the good faith belief in invalidity as a defense against indirect infringement allegations (especially those made by NPEs),[82] and about NPE forum shopping[83] may all be germane to the design of a utility model system for the US.

[79] There are mitigating considerations: utility models are likely to be of very limited scope and would have a short duration. But it seems to us a tricky path for utility model proponents to tread, saying on one hand that utility models would confer significant private value on their SME holders, but on the other hand that utility models would not be of such value as to attract NPEs.

[80] *eBay Inc.* v. *MercExchange, L.L.C.*, 547 U.S. 388 (2006).

[81] *Halo Elecs., Inc.* v. *Pulse Elecs., Inc.*, 579 U.S. 93 (2016).

[82] *Commil USA, LLC* v. *Cisco Sys., Inc.*, 575 U.S. 632 (2015).

[83] *TC Heartland LLC* v. *Kraft Foods Group Brands LLC*, 581 U.S. 258 (2017).

16.3.3.3 The Usual Suspects?

The debate over passage of the America Invents Act revealed a critical fissure in US patent politics between interests associated with the pharmaceutical/life sciences industry and those associated with the software/tech industry. We wonder whether a proposal to bring utility model protection to the US would trigger a similar clash, with the software industry opposing utility model protection and the pharmaceutical industry favoring it.

One reason that the pharmaceutical industry might support utility model protection is that the industry may see utility model protection as an avenue for capturing the value of a wide range of sub-patentable innovation that is incidental to drug development. Suppose, for example, that a pharmaceutical company holding a soon-to-expire invention patent on a pioneer drug sought utility model protection on novel (but obvious) dosage formulations, packaging, or the like. Some might regard this as a new form of evergreening,[84] suggesting that the arrival of utility model protection might add to what is already one of the most contentious debates in contemporary patent law.

In the law of invention patents, the typical doctrinal response to concerns about evergreening is to strengthen the nonobviousness doctrine,[85] or, relatedly, the obviousness-type double patenting doctrine,[86] which is "intended to prevent a patentee from obtaining a time-wise extension of patent for the same invention or an obvious modification thereof."[87] If utility model protection were introduced, we may begin to see litigation over the complexities of patent-to-utility model obviousness-type double patenting. More importantly, we might see calls for boosting the utility model nonobviousness standard. But this would in turn presumably make it harder for SMEs to obtain utility model protection, and thus would seem to undermine a key argument for introducing utility model protection in the first place.

16.4 CONCLUSION

The US is one of the few major patent-granting jurisdictions that lacks a utility model or other sub-patent innovation protection regime. While a number of domain-specific protection regimes have arisen over the years to fill this gap for

[84] But *cf.* Lietzan 2019, 805 (questioning the use of the terminology).

[85] Or for applying inherent anticipation vigorously. *Scherer Corp.* v. *Geneva Pharms.*, 339 F.3d 1373 (Fed. Cir. 2003) (ruling that the disclosure of a compound inherently disclosed metabolites of the compound).

[86] See, e.g., In re Cellect, 81 F.4th 1216 (Fed. Cir. 2023) (ruling that the expiration date for purposes of an obviousness-type double patenting analysis where a patent has received patent term adjustment for PTO delays is the date that includes the patent term adjustment).

[87] In re Lonardo, 119 F.3d 960, 965 (Fed. Cir. 1997).

specialized technologies such as semiconductor topographies and vessel hulls, a broad, generalized sub-patent protection regime has never been established or meaningfully considered.

Part of the intuitive aversion to sub-patent systems in the US may arise from the canonical American myth of the "lone genius" inventor exemplified (largely inaccurately, from a historical standpoint) by folk heroes such as Thomas Edison, Robert Fulton, Eli Whitney and the Wright Brothers.[88] Patents, according to the myth, should reward "extraordinary inventions", with more ordinary innovations accepted only grudgingly. During the mid twentieth century, this perception even seemed to find favor among some Supreme Court justices. As Justice Douglas wrote in 1950:

> It is not enough that an article is new and useful. The Constitution never sanctioned the patenting of gadgets. Patents serve a higher end – the advancement of science. An invention need not be as startling as an atomic bomb to be patentable. But it has to be of such quality and distinction that masters of the scientific field in which it falls will recognize it as an advance.[89]

Against this backdrop, it is not surprising that the US has not adopted a formal regime of sub-patent protection. Yet in its absence, scholars and the USPTO have proposed a range of mechanisms that could address perceived cost and access issues with the invention patent system. Any such proposals, if implemented, would invariably result in conflicts with, and potential alteration of, the invention patent system in ways whose benefits are far from clear. As such, it does not appear that a utility model or similar system is likely to emerge in the US in the foreseeable future.

[88] Lemley 2012.

[89] *Great Atlantic & Pac. Tea Co.* v. *Supermarket Equip. Corp.*, 340 U.S. 147 (1950) (Douglas, J., concurring).