

Blocking Patents and the Process of Innovation

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Abstract: It is the very essence of patents to prevent others from using the protected invention. This does not mean, however, that there are no legal limits to exclusion. Competition law, for example, has a general scope of application that does not stop before intellectual property rights. In particular, dominant firms must not abuse their dominant position no matter if their market power is based on immaterial or material positions. It is recognized that the acquisition of patents by fraud on the patent office may constitute such an abuse. Moreover, in EU law, the refusal to licence intellectual property rights may, in exceptional circumstances, be qualified abusive as well. This paper goes one step further and asks the question if the mere acquisition of a patent, without any misleading representations to the patent office and independently of subsequent licensing strategies, may, in exceptional circumstances, constitute an abuse as well. It will be shown that this question has to be answered in the affirmative: There are situations where the grant of a patent comes into conflict with the basic rationale of patent protection, which is the encouragement of innovation. A four-prong test is proposed here, which allows identifying situations in which patents abusively block the process of innovation.

1 Starting Point

Patents may be exploited internally in order to generate new products and services or to improve internal processes. Or they may be exploited externally by transactions, like sale or licensing. The third possibility is – no use at all: According to the European PatVal Study, 36% of European patents are not used. In some fields of chemical-based and electronic-based industries, the number of unexploited patents

is even higher than 75%.¹ One, albeit not the only reason for the non-use of patents, is the intense use of patent strategies. For instance, “smoke screen” patenting means that a high number of patent applications are filed in order to hide the important subject matter; “patent clusters” and “patent thickets”, on the other hand, rely on overlapping patents that make it harder for competitors to “invent around” the protected technology. It is part of these strategies, that only few patents are actually used. Blocking strategies, finally, do not aim at all at protecting one's own inventions, but their purpose is to block competing products. It is inherent to blocking patents that they are not exploited for creating something new but to prevent the development of new products and processes by competitors.

The European Commission, in its final report on the Pharmaceutical Sector Inquiry, has put such “use” of patents under special surveillance:

With regard to competition between originator companies in particular, defensive patenting strategies that mainly focus on excluding competitors without pursuing innovative efforts and/or the refusal to grant a license on unused patents will remain under scrutiny in particular in situations where innovation was effectively blocked.²

Apparently, the use of patents as spokes in competitors' wheels is sceptically viewed by the European Commission. Moreover, the special surveillance is not restricted to the refusal to grant licences but extended to blocking strategies in general including the acquisition of patents as such. This perspective raises a number of fundamental questions: Is the acquisition of blocking positions anti-competitive? After all, it is inherent to the exclusive rights that they block. Besides, how can one prove that a certain patent is solely used to block competing products and does not at the same time protect its owner's interest of further development in the future? Moreover, even if such a perspective can be excluded, is it anti-competitive to prevent the introduction of innovative products which would compete with one's own existing products? There seems to be a legitimate interest to secure one's own inventions by neighbouring or secondary patents.

The topic of blocking patents has not received full attention so far.³ One of the reasons is the absence of real precedents, as will be shown in this article. The case law with the closest connection to our problem regards the ability to assert one's rights through the courts as a general principle of law.⁴ However, the phenomenon of blocking patents starts one stage earlier: It is about the acquisition of IPRs which in a next step may be enforced in court. The fundamental right to bring an action in

¹ European Commission 2012, 5. See also *The Economist* 2015(1): “Studies have found that 40-90% of patents are never exploited or licensed out by their owners”.

² European Commission 2009, n. 1571.

³ For a comprehensive survey on competition law problems in the pharmaceutical sector see for example Hancher and Sauter 2016 and the country reports in Kobel, Këllezi and Kilpatrick 2017.

⁴ See e.g. General Court, Case T-111/96 *ITT Promedia/Commission* [1998] ECLI:EU:T:1998:183, n. 60.

court does not apply to this first stage.⁵ The absence of case law only concerns the primary acquisition of patents. There is case law with respect to secondary acquisitions, i.e. the transfer of intellectual property rights (IPR's) or exclusive licensing. In this sense, the General Court has already clarified in 1990 that the acquisition of an exclusive license may – in light of the specific circumstances of the case – constitute an abuse of a dominant position. This is for example the case if the acquisition of the exclusive licence prevents or at least delays market access of new competitors.⁶ Recently, in the *Servier* case, the European Commission has not only dealt with pay for delay-agreements but also with the derivative acquisition of blocking patents which were never put to use but merely served to “strengthen the defence mechanism”.⁷

Before going deeper into the question if these concepts should be extended to the primary acquisition of patents, this paper will deal with the fraudulent acquisition of patents since the pertinent case law has brought important clarifications for the relationship between patent and competition law highly relevant for the central topic of blocking patents. Thereafter, the EU cases *Boehringer* and *Servier* will be analysed. Although they are no real precedents on blocking patents, they contain important statements that cannot be disregarded in order to develop a solution. Finally, a four-prong test is proposed, whose purpose is to identify situations in which abusive blocking occurs.

2 Fraud on the Patent Office

A patent may be defined as fraudulent if the applicant intentionally submits incorrect or misleading indications to the patent office, respectively, if he conceals information known to that individual to be material to patentability in violation of a duty of disclosure. Rules on patent fraud may be found in patent as well as in competition law. The rules differ considerably between US and EU law.

2.1 Patent Granting and Review Procedures

Patents are registered rights that require filing, examination and a grant. The details on the information which the patent applicant has to provide and the extent of the examination which the patent office has to carry out differ between the various jurisdictions, as does the design of the opposition procedures and revocation actions

⁵ See Devlin 2016, 8.121. For a comparison between EU law and the US-American Noerr-Pennington Doctrine see Devlin 2016, 8.126 et seq.

⁶ General Court, Case T-51/89 Tetra Pak/Commission [1990] ECLI:EU:T:1990:41, n. 23.

⁷ European Commission, 9.7.2014, Case AT.39612 – Perindopril (Servier), n. 149.

which may be used against the patent grant. For the topic dealt with here, these rules are of highest importance: Patents which do not fulfil the legal prerequisites, but which have been granted nevertheless prevent competitors from using the protected technology although substantive patent legislation does not justify such exclusion. Consequently, there is a public interest in eliminating patents, which have been granted in the absence of the legal conditions. Competition law supports this goal by banning no-challenge clauses: A licensor cannot oblige the licensee not to attack the validity of the licensed patent in review procedures provided for this purpose.⁸

Is the existence of such review procedures sufficient in order to remove unjustified blocking positions? An answer in the affirmative would be hardly satisfying, at least in situations where applicants hope to reap profits by unequitable conduct. The mere revocation of the patent in question is not a deterrent. Especially if the applicant may keep the advantages obtained until such revocation. US patent law goes furthest in pronouncing severe sanctions against applicants who deceive the patent office or try to do so.

2.2 US Law

In US patent law, there is the principle of ‘Candour and Good Faith’ with respect to the US Patent and Trademark Office (USPTO).⁹ Fraud or inequitable conduct excludes the grant of the patent, and – if the patent already has been granted – renders all patent claims unenforceable, not only those which are affected by the lack of candour.¹⁰ The Court of Appeals for the Federal Circuit employed a drastic expression in this context: ‘the remedy for inequitable conduct is the “atomic bomb” of

⁸ For the EU see Art. 5(1) lit. b of Commission Regulation (EU) No 316/2014 of 21 March 2014 on the application of Article 101(3) of the Treaty on the Functioning of the European Union to categories of technology transfer agreements, OJ L 93/17. For US law see *MedImmune, Inc. v. Genentech, Inc.*, 549 U.S. 118 (2007).

⁹ 37 C.F.R. [Code of Federal Regulations] 1.56 Duty to disclose information material to patentability, lit. a: "Each individual associated with the filing and prosecution of a patent application has a duty of candor and good faith in dealing with the Office, which includes a duty to disclose to the Office all information known to that individual to be material to patentability as defined in this section".

¹⁰ See Section 2016 of the USPTO Manual of Patent Examining Procedure <www.uspto.gov/web/offices/pac/mpep/s2016.html>.

patent law'.¹¹ This far-reaching legal consequence is comparable to the patent misuse doctrine of US law, according to which a patent cannot be enforced against anyone if it has been misused (for example by illegal tying).¹²

Patent law is supported by US antitrust law: According to long-standing case law, "the enforcement of a patent procured by fraud on the Patent Office may violate § 2 of the Sherman Act, provided all other elements to establish a § 2 monopolization charge are proved".¹³ The enforcement agencies (U.S. Department of Justice and the Federal Trade Commission) have inserted this insight into their 'Antitrust Guidelines for the Licensing of Intellectual Property' of 1995, revised in 2017.¹⁴ Hence, the use of exclusive rights may amount to illegal monopolization triggering the severe sanctions imposed for a violation of antitrust law, like for example fines and imprisonment. It has to be added, that this so-called 'Walker Process Doctrine' only refers to the subsequent enforcement of a fraudulent patent, not to the vicious acquirement of the patent as such.¹⁵ We will see that EU competition law goes one step further by declaring already the fraudulent acquisition as anti-competitive.

2.3 EU Law

The severe consequences in US law of a lack of candour when dealing with the patent office are rooted in the common law principle of equity. It does not come as a surprise, therefore, that many civil law countries in continental Europe do not have comparable sanctions for fraud on the patent office. They content themselves with the possibility of withdrawing the affected patents in review procedures. In part, competition law steps in in order to provide for deterrent sanctions in cases of fraud on the patent office.

The leading case in EU law is *AstraZeneca (AZ)*.¹⁶ The European Commission fined this firm "for misusing the patent system and the procedures for marketing

¹¹ *Therasense Inc. v. Becton, Dickinson and Co.*, 649 F.3d 1276, 1288 (Fed. Circ. 2011).

¹² See the landmark case of the U.S. Supreme Court in *Morton Salt Co. v. G.S. Suppiger Co.*, 314 U.S. 488 (1942). Recently, the misuse doctrine has been confirmed in *Kimble v. Marvel Entertainment, LLC*, 576 U.S. (2015).

¹³ *Walker Process Equipment, Inc. v. Food Machinery & Chemical Corp.*, 382 U.S. 172 (1965).

¹⁴ Number 6 of the US Antitrust Guidelines for the Licensing of Intellectual Property, issued by the US Department of Justice and the Federal Trade Commission, January 12, 2017 <www.justice.gov/atr/IPguidelines/download>. The agencies add that inequitable conduct that falls short of fraud may still violate section 5 of the Federal Trade Commission Act (ibid.).

¹⁵ See Hovenkamp 2008.

¹⁶ See for example Podszun 2014.

pharmaceuticals to block or delay market entry for generic competitors”.¹⁷ The aspect relevant for our context concerns the misleading information submitted by the firm to several patent offices (in particular with respect to the date of the first authorization to place the product on the internal market) in order to obtain supplementary protection certificates (SPCs). The Commission, confirmed by the General Court and the European Court of Justice, considered this behaviour an abuse of a dominant position. The Court of Justice explained:

AZ’s consistent and linear conduct, as summarised above, which was characterised by the notification to the patent offices of highly misleading representations and by a manifest lack of transparency, [...] and by which AZ deliberately attempted to mislead the patent offices and judicial authorities in order to keep for as long as possible its monopoly on the PPI market, fell outside the scope of competition on the merits.¹⁸

It has to be underlined that the Court of Justice, according to settled case-law, applies the principle of ‘competition on the merits’ in order to distinguish between legal and anti-competitive behaviour. The *AstraZeneca* case demonstrates that this concept – contrary to frequent criticism¹⁹ – is at least a good starting point in order to identify behaviour which puts the functions of the competitive process at risk. Success in the market should be based on better, more innovative or cheaper products, not on lying to the patent office.²⁰ This does not mean that the task of competition law is to ensure moral conduct. The crucial point is the fact that misleading representations to the patent office may lead to the grant of an unfounded exclusive right and thus to the exclusion of legitimate competition.

The *AstraZeneca* decision has been criticized for its alleged overshooting: Are dominant firms now always to be punished when they make incorrect presentations to regulatory authorities? The Court of Justice has given a clear answer: Dominant firms do not have to be “infallible in their dealings with regulatory authorities”, and the General Court did not hold “that each objectively wrong representation made by such an undertaking constituted an abuse of that position, even where the error was made unintentionally and immediately rectified”.²¹ Instead, the establishment of an abuse has to be made *in concreto* and on the basis of all circumstances of the specific case.²²

¹⁷ European Commission, Press Release IP/05/737 in case COMP/A.37.507/F3 of 15 June 2005.

¹⁸ ECJ, Case C-457/10 P *AstraZeneca v. Commission* [2012] ECLI:EU:C:2012:770, n. 93.

¹⁹ See for example Geradin 2014.

²⁰ In the *AstraZeneca* case, even the intent of the firm to hide the date of the first market authorization had been shown. As the concept of abuse is an objective one, such intent is not a necessary condition, but can be taken into consideration in an overall analysis, see General Court, Case T-321/05 *AstraZeneca v. Commission* [2010] ECLI:EU:T:2010:266, n. 356, 359.

²¹ ECJ, Case C-457/10 P *AstraZeneca v. Commission* [2012] ECLI:EU:C:2012:770, n. 99.

²² *Ibid.*

The fundamental question therefore is how much truth is normally necessary when dealing with public authorities. In our view, in the context of patent applications, the question should be asked if all information has been given which is relevant for a reasonable observer. If there are objective grounds for an applicant to doubt the correctness or completeness of the indications submitted to the authority, the information should be checked and, where required, rectified.²³

Similar principles as developed with respect to Art. 102 TFEU apply to Art. 101 TFEU, i.e. restrictive agreements. In the *F. Hoffmann-La Roche* case, the Court of Justice has held that an arrangement between two parties on the dissemination of misleading information on off-label use in the pharmaceutical sector “with a view to reducing the competitive pressure resulting from such use on the use of the other medicinal product, constitutes a restriction of competition ‘by object’”.²⁴ The background of this case is the fact that, sometimes, certain medications are used for indications other than the one which has been approved by the competent authorities. In general, pharma law including EU law does not prohibit the prescription of a medicinal product outside the conditions laid down in its marketing authorisation. In the case at hand, Roche's oncology medication *Avastin* was used off-label in the field of ophthalmology thus engaging in competition with *Lucentis* manufactured by Novartis on the basis of a license granted by Roche. According to the findings of the Italian competition authority, licensor and licensee had agreed on spreading the information that *Avastin* is less secure for ophthalmologic therapy than *Lucentis* although there was no scientific basis for this assertion.

The Court of Justice qualified such behaviour – as already mentioned – as a restrictive agreement by object. Moreover, the Court rejected a justification based on Art. 101(3) TFEU since misleading information cannot be considered indispensable in order to achieve legitimate goals. The case shows that fraud or misleading information is likewise important for Art. 101 and 102 TFEU.²⁵

2.4 Conclusions

Whereas US patent law provides for severe legal consequences for a lack of candour and good faith in one's dealings with the patent office, patent law in Europe contents itself with revocation of a patent which has been acquired fraudulently. On the other hand, the treatment of fraud on the patent office is more severe in EU competition law than in US antitrust: Whereas the latter only refers to subsequent enforcement of the fraudulent patent, EU competition law already applies to the incorrect patent grant as such.

²³ See Heinemann 2017, 473-475.

²⁴ ECJ, Case C-179/16 *F. Hoffmann-La Roche et al.* [2018] ECLI:EU:C:2018:25, n. 95.

²⁵ For additional case law on this question see Tayar 2014.

For an assessment, a distinction has to be made between patent and competition law. Regarding patent law, the US approach seems preferable. The European neglect of meaningful reactions to fraud in patent law reduces the incentives to behave responsibly in one's patent applications. The menace of competition law is not a sufficient compensation since this solution is based on the prohibition of abuse of a dominant position and thus restricted to the rather narrow category of dominant firms. The goal of preventing fraudulent behaviour vis-à-vis the patent office can only be achieved if every applicant is made accountable for inequitable conduct with respect to patent applications.

Regarding competition law, the EU solution seems convincing: To apply competition law only to the subsequent enforcement of a fraudulent patent and not already to the fraudulent acquisition of the exclusive right as such neglects the fact that the "mere possession by an undertaking of an exclusive right normally results in keeping competitors away" as the EU General Court has put it.²⁶ Hence, already holding a patent has an immediate market effect.²⁷ If the patent is obtained by fraud, the ensuing blocking position illegally impedes the process of innovation. It is therefore indispensable to complement the revocation mechanisms provided for in IP law by the application of competition law.²⁸

For the overall topic of this article, it can be stated that the intentional acquisition of blocking positions by dominant or colluding firms on the basis of fraud or misleading representations is anti-competitive. In the following chapters, the much more challenging question will be asked if also the "correct" acquisition of blocking positions may raise competition law problems. In order to illustrate the problem, the cases *Boehringer* and *Servier* will be dealt with first.

3 *Boehringer*

Boehringer is – after *AstraZeneca* – the second case in which the European Commission initiated a procedure for "misuse of the patent system".²⁹ According to the competitor *Allmirall*, *Boehringer*, the market leader regarding drugs for the treatment of the chronic obstructive pulmonary disease (COPD), "had filed for unmeritorious patents" by combining three categories of active substances treating COPD

²⁶ General Court, Case T-321/05 *AstraZeneca v. Commission* [2010] ECLI:EU:T:2010:266, n. 362.

²⁷ Drexl 2013, 296.

²⁸ Cf. General Court, Case T-321/05 *AstraZeneca v. Commission* [2010] ECLI:EU:T:2010:266, n. 366: "the existence of remedies specific to the patent system is not capable of altering the conditions of application of the prohibitions laid down in competition law".

²⁹ European Commission, Press Release in case COMP/B2/39246 – *Boehringer* of 29.3.2007; cf. supra note 17.

with a new active substance which had been developed by the competitor. The latter was afraid that the patent applications would considerably delay market entry of its competing medicines.³⁰ The European Commission closed its investigation after the parties had reached a mutually agreed solution removing obstacles to market entry. It motivated the discontinuation of the procedure by the argument that “a settlement between the parties is the most efficient and speedy way to ensure that consumers will be able to benefit from Almirall's product”.³¹

Due to this pragmatic solution, the underlying questions remained open: Is it a “misuse of the patent system”, or, to put it more precisely from a competition law perspective, an abuse of a dominant position, to file patent applications which render market access of competitors more difficult or block it altogether? The sparse details which can be found in the related press releases do not allow any compelling conclusions. However, there seems to be an initial suspicion that the application for a combination patent which includes a substance developed by a competitor and which threatens the competitor's ability to bring this mono-product or her own combination medicines to the market may constitute an abuse. It has to be added that the case is embedded in a context of intense use of patent strategies: Apparently, patent quality was low since the combination patent granted by the European Patent Office was later revoked because of the absence of an inventive step. Moreover, the strategy of filing divisional patent applications carried the risk of prolonging patent procedures considerably.

Even if *Boehringer* has not become a real precedent for the topic of blocking patents, the concerns revealed by this case have been one of the reasons for the European Commission to launch the pharmaceutical sector inquiry in early 2008 which led to the final report in 2009³² and to the monitoring of patent settlements with respect to pay-for-delay practices.³³ Such reverse payments agreements are not the topic of this article.³⁴ But one of the pay-for-delay decisions of the European Commission, i.e. the *Servier* case, has a strong link to the problem of blocking patents and deserves particular analysis in the following chapter.

³⁰ European Commission, Press Release IP/11/842 in case COMP/B2/39246 – *Boehringer* of 6.7.2011.

³¹ *Ibid.*

³² European Commission 2009.

³³ More information can be found at «ec.europa.eu/competition/sectors/pharmaceuticals/inquiry».

³⁴ See for example Colangelo 2017.

4 *Servier*

4.1 *The European Commission's Decision*

Servier has the blockbuster blood pressure control medicine Perindopril. The central patent on the Perindopril molecule expired in 2003, while some secondary patents relating to processes and form remained. Generic companies sought market access. According to the findings of the European Commission, “virtually each time a generic company came close to entering the market, *Servier* and the company in question settled the challenge.”³⁵ Moreover, the company acquired alternative patents (respectively patent applications), which then were never put to use but merely served to “strengthen the defence mechanism”.³⁶ This caused generic producers to delay market entry. The European Commission found a violation of Art. 101 TFEU (settlements) and 102 TFEU (settlements plus the acquisition of competing technologies) based in essence on the argument that market access was delayed by buying off competition: Whenever generics attacked the validity of *Servier's* patents, the company settled. Moreover, whenever potential competitors succeeded in inventing around, i.e. in developing technologies which did not infringe *Servier's* patents, the company acquired these technologies. The European Commission imposed fines of 428 million Euro on the originator and the generic companies.³⁷

4.2 *Blocking Patents*

For our context, it is important to note that the fact-finding of the European Commission reveals the strong presence of blocking strategies. In fact, the *Servier* decision contains an impressive description of the reality of blocking patents. Some quotations from internal documents as reported by the European Commission shall illustrate this aspect:

Between 2000 and 2005, *Servier* applied for and obtained a number of process and crystalline form patents, which *Servier* internally referred to as ‘*blocking patent’ or ‘*paper patent’. According to *Servier's* own assessment, some of them involved ‘zero

³⁵ European Commission, Press Release IP/14/799 in case AT.39612 – Perindopril (*Servier*) of 9.7.2014.

³⁶ European Commission, 9.7.2014, Case AT.39612 – Perindopril (*Servier*), n. 149.

³⁷ The decision of the European Commission has been annulled in part by the General Court, Case T-677/14 [2018] ECLI:EU:T:2018:922 et al.; the corrections are not relevant for our context.

inventive activity'.³⁸

*All synthesis routes that can potentially be industrialised should be blocked by blocking patents.³⁹

*[...] As we already considered, it would be quite effective to apply for blocking patents on other production processes using alternative paths in order to create a process patent thicket around the molecule. Patent applications being published only 18 months after their filing, the best would be for the publication of these new process patents to occur before October 2001, so that third parties become aware of them.⁴⁰

The patenting strategy devised and implemented by Servier therefore consisted of filing as many blocking patents as possible. The patents covered all aspects associated with the molecule, its synthesis, production processes, polymorphic forms, etc..⁴¹

As these quotations suggest, at least some of the relevant patents have poor quality, which in plain language means that not all patent requirements are fulfilled. For example, the European patent number 1296947 (the so-called “ ‘947 patent””) for the “alpha crystalline form” of Perindopril, which was considered by generic companies as the most significant obstacle to market entry, was later annulled by certain national jurisdictions and eventually revoked by the European Patent Office.⁴² The Court of Appeal (England and Wales) found in this context:

The ‘947 patent is invalid. And very plainly so. It is the sort of patent which can give the patent system a bad name”.⁴³

4.3 Conclusions

In spite of these findings, the European Commission did not apply a separate competition law analysis to the acquisition of blocking patents or to the filing of a patent which – also according to the conviction of the applicant – does not fulfil the patent requirements. The findings of the European Commission rather constitute the overall context which helps to understand the originator's strategies with respect to generic companies. The Commission does not consider the originator's strategy of filing blocking patents a violation of competition law. Instead, it focuses on the originator's reactions to the generics' activities and finds competition law violations in the systematic acquisition of non-infringing technologies which then are not used, and in the reverse-payments settlements aiming at buying out competition. Thus,

³⁸ European Commission, 9.7.2014, Case AT.39612 – Perindopril (Servier), n. 5.

³⁹ European Commission, 9.7.2014, Case AT.39612 – Perindopril (Servier), n. 117.

⁴⁰ European Commission, 9.7.2014, Case AT.39612 – Perindopril (Servier), n. 2770.

⁴¹ European Commission, 9.7.2014, Case AT.39612 – Perindopril (Servier), n. 118.

⁴² European Commission, 9.7.2014, Case AT.39612 – Perindopril (Servier), n. 5.

⁴³ Servier v Apotex [2008] EWCA Civ 445, n. 9.

the decision leaves open the question if already the original filing for blocking patents may – in certain circumstances – constitute a violation of competition law. It is the goal of the following reflections to go one step further and to examine this question in detail.

5 The Economics of Intellectual Property Protection and the Limits of Exclusive Rights

5.1 The Patent Rationale

Whereas in former times patents were justified by the idea that the fruit of one's own efforts should be rewarded by exclusive rights, there is a more forward-looking perspective today: Patents are granted as an incentive to invest into innovation and to make inventions. Moreover, they are part of a deal with society: In return for the grant of the patent, inventors have to disclose their inventions to the public, which will enrich the technological basis for other inventors.⁴⁴ The exclusive rights granted by a patent restrict competition by imitation in order to promote competition by innovation, respectively by substitution. Hence, restrictions of competition in the short run are necessary in order to have better results in the long run. Without patent protection, the incentives to innovate would be lower since everybody could take a free ride on the efforts of others.

Of course, these general remarks need qualification: It is an empirical question to what extent exclusive rights spur investment into Research and Development (R&D). Innovation research has shown that R&D investment depends on many different factors, and that patent protection is only one of them.⁴⁵ Today, the insight is widespread that patent protection must not be maximal but optimal: Not only underprotection, but also overprotection has to be avoided since IP protection, which goes too far stands in the way of follow-on innovation.⁴⁶ There is certainly a high degree of controversy regarding the optimal scope and duration of IPRs. But, from the perspective of competition law, it is important to note that – no matter how broad or how narrow IPRs in general and patents in particular are defined – the basic rationale of patent protection has to be taken into consideration: If the goal of the patent applicant is neither to prevent imitation by others nor to promote its own

⁴⁴ See Art. 29(1) TRIPs Agreement: "Members shall require that an applicant for a patent shall disclose the invention in a manner sufficiently clear and complete for the invention to be carried out by a person skilled in the art and may require the applicant to indicate the best mode for carrying out the invention known to the inventor [...]".

⁴⁵ See for example Kerber 2017.

⁴⁶ Instead of the vast literature see The Economist 2015(1).

innovation, but is just an instrument in order to refrain competitors from developing substitutes, the goal of patent protection is missed.⁴⁷

In this context, the meaning of “substitute” has to be distinguished from the normal use of this word in competition law. Ordinarily, the term is used in the context of market definition: All products are part of the same relevant market, which are interchangeable or substitutable from the perspective of the other market side.⁴⁸ The basic goal of patent protection is not restricted to relevant markets, though. The existence of exclusive rights is supposed to spur innovation on the same relevant market or on completely different markets, ultimately on markets which do not even exist yet. For example, a patent on a GPS navigation device may motivate competitors to develop an alternative technology for a device competing in the same market. Or it may induce technology firms to come up with something completely new, e.g. a smartphone navigation app which does not require a special navigation device any longer and which belongs to a different relevant market. The replacement of CD's and DVD's by digital downloads and streams is another example. Accordingly, the term of ‘innovation’ has been broken down into two different forms: ‘sustaining’ innovations improve the existing technology but remain within the existing business model whereas ‘disruptive innovations’ take place outside the value network of the established firms and create a completely new market eventually destroying the existing one.⁴⁹

For our context, it is important to underline that the goal of patent protection is to prevent imitation in order to avoid free riding on the achievements of others. However, inventing around should remain possible be it by incremental or radical, by sustaining or disruptive innovation. Hence, competition “by substitution” has to be construed broadly and encompasses all kinds of innovation taking place on the same or on different markets including markets which do not exist yet.

5.2 Categories of Unused Patents

If there is a mismatch between the grant of a specific patent and the general rationale of patent protection, the decisive question is how such a discrepancy should be corrected. It is conceivable to tackle the problem within patent law. The most radical solution would be to introduce a use requirement – well-known from some trademark legislations⁵⁰ – into patent law for example by adopting a “use it or lose it”

⁴⁷ Drexl 2013, 312 et seq.; Lamping 2010, 138–139, 228–229; Volkmann 2013, 236; Zech 2011, 318. Dissenting Kjølbbye 2009, 186–188, who links the existence of an abuse to a clear ‘plus factor’, for example misleading representations before the patent office (in line with the AstraZeneca case).

⁴⁸ See for example European Commission 1997, n. 7.

⁴⁹ Seminally Bower and Christensen 1995.

⁵⁰ See Art. 19 TRIPs Agreement.

rule so that patents would expire if the invention is not implemented neither by the patentee nor by licensees.⁵¹ However, in our view, such a general rule would go too far since there may be legitimate reasons why inventions are not brought to the market. The mere non-use of a protected technology in itself does not allow to find a misuse of the patent system. A deeper analysis is required. Therefore, the different patent strategies have to be looked at in the following section.

According to the findings of the European Commission, basically three categories of unused patents may be distinguished: “Sleeping patents” refer to inventions for which there is no market, at least not at present. “Patents defending the freedom to operate” may be used, in the hand of rivals, to challenge one’s own products or processes. And “blocking patents” in the proper sense are patents, which block rivals from using a technology even though the patent holder does not use them himself and which are not necessary to keep open his own alleys of research.⁵² Whereas the first category concerns patents whose market potential is unclear, the second category serves to defend one’s own activities. This is the difference to the third category, which is not about securing one’s own achievements but entirely about encroaching on the development opportunities of other firms. The term “defensive patent” should be reserved for the second category. If the purpose of the patent is not safeguarding one’s own innovations but impeding competitors, it is not a “defensive”, but an “offensive” or “aggressive” strategy based on blocking patents.

5.3 Function in the Competitive Process

The overall context of the patent acquisition should matter in competition law analysis. The starting point is that patent strategies are a legitimate way of accompanying the launch and the marketing of one's own products and to defend them against competition.⁵³ However, there are limits to this principle. In the *Servier* case, the European Commission has introduced a distinction between patent strategies resorting “to measures representing competition on the merits (competition on product quality, strength of the patented technologies and similar)” and strategies which “deviate from competition on the merits and are capable of producing foreclosure effects”.⁵⁴ In the case of non-used patents, the distinction between legitimate and abusive patent strategies should be made based on the different motivations which may stand behind the non-use and which have been identified above. The application of Art. 102 TFEU is particularly case-specific, so that the respective context has to be fully taken into account.

⁵¹ This is the proposal in *The Economist* 2015(2). For the general context of such a rule in patent law see Zech 2011, 321-322.

⁵² European Commission 2012, 6.

⁵³ In this sense Hull and Clancy 2017, 207.

⁵⁴ European Commission, 9.7.2014, Case AT.39612 – Perindopril (*Servier*), n. 2766.

Regarding “sleeping patents”, everybody has to assess by themselves the prospect of success. If patent owners do not see a market for their invention, they are free to wait and see and not to use the patent in the meantime. In other terms: The principle of freedom of contract also applies to licensing agreements. Exceptions are provided for by the rules on compulsory licenses in patent law (see for example Art. 31 and 31^{bis} TRIPs) and competition law (see e.g. cases *Magill*⁵⁵ and *IMS Health*⁵⁶). If there is a “sleeping patent” in the sense described here, the non-use of the patent cannot be qualified as abusive. However, the category of “sleeping patents” is not pertinent if the patent owner does not at all have the intention to make use of the invention one day.

It is also legitimate to file for “patents defending the freedom to operate”. Their goal is to prevent competitors from interfering with one’s own products and processes as these rights, in the hands of competitors, could be used against oneself. It appears perfectly legitimate to block competitors from blocking. Therefore, no abuse is discernible in this group of cases either. The existence of these two categories of unused patents is the deeper reason why the principle of “use it or lose it” should not be introduced into patent law. Such a rule would take away the possibility to wait for positive business prospects or to defend one’s own technology against competitors. At the same time, these two situations make clear that many patent strategies exist which are perfectly legitimate.

This is different in the third category, that of “blocking patents”: Competitors are prevented from proposing alternatives. Here, we enter into a conflict with the basic principle of IP protection: Patents exclude competition by imitation in order to spur competition by substitution. If the purpose of a patent application consists in preventing such competition by substitution the patent system as such is in jeopardy.⁵⁷ Therefore, an abuse of a dominant position occurs if a patent is acquired for which there is no perspective of any use in the future (contrary to the first category of unused patents described above) and which does not protect the interest of their owner in developing further their own technologies or research (contrary to the second category described above) but whose sole goal consists in blocking competitors.⁵⁸ Along these lines a test shall be proposed, which aims at identifying situations in which, exceptionally, the acquisition of a patent has to be qualified as abusive.⁵⁹

⁵⁵ ECJ, Joined Cases C-241/91 P and C-242/91 P RTE and ITP/Commission [1995] ECLI:EU:C:1995:98.

⁵⁶ ECJ, Case C-418/01 *IMS Health* [2004] ECLI:EU:C:2004:257.

⁵⁷ See EU competition commissioner Vestager 2017, 3: It is “important to have intellectual property rights that make sure innovators can be rewarded for their work. But those rewards can’t include the right to stop others from developing alternatives”.

⁵⁸ For a specific scenario meeting these conditions see Ullrich 2013, 268-269.

⁵⁹ It is not convincing to reject the application of competition law with the argument that competition law can only be applied to the exercise, but not to the existence of IPR’s (in this sense Straus 2009, 103, 106). The ECJ has given up this artificial distinction a long time ago and prefers substantial arguments based on the concept of competition on the merits. In a

6 Proposal of a Test

6.1 The Test for Abusive Blocking

Based on the preceding analysis, abusive blocking occurs if:

- (1) the patent in question is not exploited (internally or externally);
- (2) the patent excludes competition by substitution (as opposed to competition by imitation);
- (3) the patent owner uses it (or plans to use it) in order to block competitors' innovations (for example by threatening them with infringement actions);
- (4) the patent does not defend its owner's freedom to operate (e.g. by securing further alleys of research).

The following factors are not constitutive for an abuse, but may form additional arguments: On the one hand, according to the general principles on the application of Art. 102 TFEU, it is not necessary to prove intention for an abuse to occur. The concept of abuse is an objective one and does not require subjective elements. On the other hand, low patent quality is not a necessary requirement since patents, which undoubtedly fulfil all patent requirements may likewise be used in order to block illegally the innovations of others.

6.2 Explanations

The first condition reflects the fact that abusive blocking cannot occur if the patent owner uses their patent. Internal or external use is what patents are granted for in the first place. The only question which may be asked in this context is if there really is a substantial use, or if the use is only pretended in order to avoid the accusation of blocking. The distinction between appearance and reality has to be drawn according to the circumstances of the specific case.

The second condition takes up the fundamental discrepancy of blocking patents: If patents are not used in order to exclude competition by imitation but aim at sabotaging novelties the overall goal of patent protection is missed. The grant of a patent prevents free-riding and imitation in order to spur competitors' efforts to find new approaches. If patents are used in order to prevent new solutions, the process

similar way, US antitrust law does not apply neither per se illegality nor immunity to the acquisition of patents but provides for a broad substantive analysis, see e.g. Devlin 2016, 10.1 et seq.

of innovation is seriously impaired.⁶⁰ This insight applies both to “sustaining” and to “disruptive” innovation.⁶¹ Sustaining innovations, i.e. developments taking place in the same market, is more frequent. Therefore, in most cases, blocking will aim at preventing advancement of a rather incremental nature. However, it is also conceivable that patents are used in order to block developments of a disruptive nature taking place in other markets and leading to more radical changes. It is important to stress that the second precondition of the test proposed here extends to all kinds of innovation no matter if they take place in the same relevant market or in other markets. Hence, all strategies trying to prevent something new to be brought up by competitors exclude competition by substitution in the sense developed here. By contrast, it is perfectly legitimate to prevent mere imitation.

The third condition starts from the idea that it is very complex to assess all possible uses of a patent. The reproach of abusive blocking should not be based on merely hypothetical uses but should receive a reliable basis. Therefore, the blocking character of a patent should require either the actual use of a patent in order to prevent competitors' innovations (for example the seeking or announcing of injunctive relief), or the plan of outmanoeuvring competing innovators should result from the business strategy of the dominant firm (to be proven for example by internal messages, like in the *Servier* case, section 4.2).

Finally, the fourth condition describes a legitimate business reason for the acquisition of a blocking position. It appears to be perfectly legitimate to apply for a patent, which, in the hand of others, could be used in order to restrict one's own freedom to operate. It is essential that the own prospects remain as open as possible and will not become the victim of the patent strategies of other firms. Certainly, it would also be possible to secure one's own innovative potential by publishing the invention thus destroying novelty and the possibility for others to get a patent on that invention. However, defensive publication cannot completely exclude the acquisition of the patent by others and creates the risk of novelty disputes in opposition and annulment procedures. Moreover, there might be the need to describe the invention even clearer in such publications than in the application at the patent office. Therefore, the acquisition of blocking positions may be justified by the goal of securing further alleys of research. Of course, it is not admissible to use this argument as a mere pretext. On the contrary, the patent owner has to substantiate to which extent the patent is necessary to support their future innovations.

⁶⁰ Therefore, we do not share the view of Straus 2009 who rejects the application of Art. 102 TFEU to the filing of blocking patents and points among others to the possibility of compulsory licensing. The prejudice to the innovative process cannot be prevented by compulsory licences since they would come too late. Moreover, the proposal made here does not reduce the incentives to innovate of the blocking firm since the competition law intervention only applies to destructive strategies. To the contrary, the incentives to innovate will be even increased since innovation competition will be strengthened.

⁶¹ For this distinction see section 5.1.

Regarding the two aspects that are not necessary conditions for abusive blocking (i.e. intention and low patent quality), but which may constitute supplementary arguments, the following lines can be drawn: It is not necessary to prove the intention to block other firms. However, if the intention of blocking competitors' innovations can be shown, and if it is not about protecting one's own developments, it will be easier to prove the conditions of the four-prong test proposed here.⁶² A similar argument may be made with respect to patent quality: Even if obvious absence of the patent requirements is not a necessary condition, poor patent quality may be used as an additional argument for an abuse to occur. This is particularly the case if the party in question knows that the patent application actually does not meet the requirements.⁶³

6.3 Legal Consequences

According to the rules in place, the legal consequence of abusive blocking is not the revocation of the patent in question since such close interaction between competition and patent law is not provided for by the law. Hence, the blocking effect has to be removed by licensing: The owner of the blocking position has to grant a license to the victim of the abuse, i.e. to the firm whose substitutes are abusively prevented by the blocking patent.⁶⁴ Contrary to "ordinary" competition-law based compulsory licenses,⁶⁵ the license should be free of charge since, in the case of blocking patents, it is not the refusal to licence which is considered abusive but the acquisition of the exclusive right in itself. If already the existence of the patent has to be qualified as abusive the award of licensing fees would not be adequate. From a legal policy point of view, the question has to be asked if the intense entanglement of patent and competition law should not be reflected in the law: It seems advisable to provide for annulment of a patent if a final judgment confirms that the patent in question has been acquired in violation of competition law.

In addition, the usual sanctions provided for by the law apply: If Art. 102 TFEU is intentionally or negligently infringed, a fine may be imposed. The deterrent effect of pecuniary sanctions is particularly important in our context: In Europe, filing for blocking patents does not trigger any particular consequences under patent law which go beyond the risk that the patent is not granted or later revoked or annulled if the patent requirements are not met. Competition law may therefore be useful in order to prevent overconfident patent applications, whose only purpose is to restrict the room for manoeuvre of competitors. If no effective sanctions were available,

⁶² See for example the evidence in the *Servier* case, section 4.2.

⁶³ See again the facts found by the European Commission in the *Servier* case, section 4.2.

⁶⁴ See Ullrich 2013, 269-270; Volkmann 2013, 236 et seq.

⁶⁵ See ECJ, Joined Cases C-241/91 P and C-242/91 P RTE and ITP/Commission [1995] ECLI:EU:C:1995:98; ECJ, Case C-418/01 IMS Health [2004] ECLI:EU:C:2004:257.

there would be incentives to file for unjustified patents in order to realize profits in the transitional period until the patent has been annulled or a competition law violation has been found. This is even more important if the patent applicant is known for sharp infringement procedures in the past and if therefore potential competitors are deterred from accessing the market.

7 Outlook

Patents are an important instrument to foster innovation. The grant of exclusive rights prevents free-riding on the innovative efforts of others. These rights are limited in time: After twenty years, counted from the filing date, the invention falls into the public domain. Even before, the disclosure requirement ensures that the technological achievement is shared with the public. Competition law also aims at promoting innovation but has a different perspective that is complementary to the patent law approach: Markets are to be kept open and shall remain contestable. The vast majority of patent strategies is compatible with this starting point. As long as they belong to the field of “competition on the merits” and therefore strive for success based on quality and innovativeness, no conflict of patent and competition law occurs. However, a need for competition law control arises if patents are not drawn on in order to exclude competition by imitation or to secure one’s own research and development plans but when they are used in order to prevent the innovations of competitors.

The objective of this article is to submit specific conditions under which a blocking strategy has to be considered abusive. In order to counter possible misunderstandings, the following clarifications have to be added to the test proposed above. Only dominant firms are the addressees of Art. 102 TFEU. The existence of a patent does not in itself lead to the assumption of a dominant position, but the general principles on market definition apply which require a thorough analysis of the economic context. Market analysis decides on the extension of the relevant market and the existence of a dominant position on that market. Second, the test proposed here does not lead to a generalized system of competition law-based compulsory licences. To the contrary, the finding of an abuse is made subject to strict conditions requiring a clear deviation from the patent rationale. There will be only few cases where these conditions will be met. This statement may be illustrated by the scarcity of compulsory licences in competition law. The cases *Magill* and *IMS Health* have not led to a wave of compulsory licences. On the contrary, they have remained the rare exception in extraordinary constellations.⁶⁶ And third, as the *Servier* case has

⁶⁶ ECJ, Joined Cases C-241/91 P and C-242/91 P RTE and ITP/Commission [1995] ECLI:EU:C:1995:98; ECJ, Case C-418/01 *IMS Health* [2004] ECLI:EU:C:2004:257. See also Anderman 2015, 58: “Competition law offers a reserve power, available in occasional egregious cases”.

shown, it is often the grant of low quality patents which allows the development of abusive blocking strategies. As *William D. Nordhaus* has so aptly put it: “The best way to prevent abuse is to ensure that trivial inventions do not receive patents”.⁶⁷

The preceding analysis shows that even in cases where patent protection and competition law clash, there is common ground between both fields of law: The goal of competition law is not the protection of short-term competition by imitation, but ongoing competition by innovation as it is the goal of patent law. This congruence shows that abusive blocking misses the vocation of both fields of law and thus causes harm to the process of innovation.

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⁶⁷ Nordhaus 1972, 430-431. In the same line Anderman 2015, 58: Competition law „cannot be a substitute for the world of patent and industrial copyright law getting its house in order to achieve a more appropriate balance between initial and follow on and cumulative innovation“.

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