

2. THE SPECIFICATION IN LIGHT OF THE LEGAL REQUIREMENTS

Patent specifications are drawn to deal with conflicts. Even where they form the basis for licensing, their real significance arises only when the collaboration begins to turn sour. A specification must strive to provide protection against those looking for ways of side-stepping it; at the same time, it must not break any of the validity rules. The basic principles, which we have now looked at in some detail, interact in a complex manner. We have reached the point where it is useful to summarise some crucial points in these interrelations. **6-28**

(1) The description

There are a variety of pressures upon the draftsman to include in his description of the invention a fair amount of detail, going beyond the minimum that may satisfy the requirement of a complete and clear disclosure: **6-29**

- (1) There is the danger that if particular versions of the invention are not mentioned, room may be left for a competitor to secure an improvement or selection patent at the very point where the patentee wants himself to operate; whereas specific description will put paid to this possibility from the moment that the application is filed, provided that the application (or one claiming priority from it) is later published. ³⁹
- (2) There is the need (at least before the patent office) to show support in the description for the claims, particularly the broadest.^o
- (3) A case must be developed to support the presence of an inventive step; where the subject-matter is an improvement over known art, rather than a breakthrough with a mechanical principle, chemical substance, or new micro-organism, this means spelling out the advantage that gives inventive character."
- (4) The limitations upon amendment condition the possibility of introducing changes during prosecution of the application"; the governing rule that there must be no new disclosure over the contents of the specification originally filed makes it crucial to start with all that may later be needed. It is important to put enough into any "informal" application to ground priority round the world."

(2) The claims

The aim is to cover all imaginable alternatives, while avoiding the inclusion of things that are anticipated or obvious. In the United Kingdom in the past, this meant that if, for instance, the inventor has found a way of making a material has **6-30**

³⁹ See paras. 5-14, 5-15, above.

^o See paras. 5-98-5-102, above.

⁴¹ In the case of a selection, advantage is also necessary to disclose what makes the invention novel;

see paras. 5-14, 5-15, above.

See paras. 4-31-4-34, above.

⁴² See paras. 4-10-4-13, above.

that is then used in a production process, it has been desirable to include claims for making the material, the material itself, and its use in the subsequent process. To some extent, the introduction of "indirect" infringement⁴⁴ has reduced the importance of doing this. However, it is more secure to cover the matter directly. At the other end, the rule that a process claim covers only its direct products⁴⁵ is stricter than the former British approach; so where, for instance, a series of chemical syntheses are involved, it is important to cover those at the end as well as those at the beginning.

(3) Pitfalls of saying too much .

6-31 So much for the pressures to be as complete as possible: now consider the dangers inherent in this course.

A would-be patentee may endanger his own chances by any sort of publicity: we have already noted the severity of the new European concordat in the matter of "periods of grace".⁴⁶ Equally there are dangers that one of his specifications will prejudice others that come later, whether they are attempts to cope more successfully with what is essentially the same invention or they deal with some distinct improvement. It is worth drawing together the points at which earlier applications tell against later:

- (1) The arrangements for according priority are limited by the requirement that the later application or applications be made within 12 months of the first application to disclose the invention. The only exception discounts earlier applications that are totally abnegated without having been published.⁴⁷
- (2) If an application is made for patent protection in the United Kingdom (to either the British Office or the EPO) and the application reaches the stage of being published, its content is treated for novelty purposes as forming part of the art from the priority date claimed. So before the applicant allows this publication to take place, he must consider whether he is prejudicing any of his own later applications, not claiming the same priority, which attempt to patent any invention disclosed in the published form of the application. Gone is the confinement of this issue to a question of prior claiming. But it does not, for this interim period, matter that the later invention is obvious in the light of the earlier.
- (3) Once an application is published, "like any other publication, it joins the state of the art for all purposes. Improvements that are obvious in the light of its revelation cannot be patented. No longer is there the old patent of addition, which allowed the engrafting of improvements *even* though they marked no inventive step over the main patent.

⁴⁴ See paras. 6-17-6-19, above.

⁴⁵ See para. 6-12, above.

⁴⁶ See para. 5-16, above.

⁴⁷ See para. 4-12, n. 50, above.

" As to this, see *Bumside* (1980) 9 CIPA 266.

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All in all the patent system calls for acute awareness of the hazards and the highest attention to getting the whole thing right from the outset More than ever, it is a game that only the highly professional can hope to play with much success.

PROPERTY RIGHTS AND EXPLOITATION

This Chapter draws together a number of themes concerned with the ownership of patent rights and the exploitation of those rights through consensual dealings. The question of initial entitlement to a patent arises from the making of the invention onwards. It may be important before any application is made, during the application and after grant. The person or persons thus entitled may deal with their rights, disposing of them by assignment or permitting others to act within the scope of the monopoly, by giving them a licence to do so. These two aspects of property rights in patents are considered in the first part of this Chapter. The second part deals more specifically with the content of patent and allied licences and takes account of the competition law criteria which they must now meet, particularly the requirements of E.C. law. The third part is closely related to this, since it deals with the application of Community law to the importation of patented products. The last two parts move on to other public policy considerations—the provisions seeking to correct under-exploitation by allowing for the grant of compulsory licences, and the provisions which allow for Crown use upon payment of compensation. 7-01

1. INITIAL ENTITLEMENT AND PROPERTY DEALINGS

(1) The right to grant: general

In contrast with the former law, the 1977 Act allows anyone to apply for a patent but restricts those to whom a patent may be granted.¹ At the moment of invention, section 7(2) confers the right to be granted a patent upon one of three categories of persons: (1) the inventor or co-inventor²; or (2) the employer of the inventor when the invention is made during employment³; or (3) where foreign law⁴ applies by virtue of private international law rules,⁵ the person entitled by 7-02

PA 1977, s. 7(1), following EPC, Arts. 58, 60(1); PA 1949, S. 1, by contrast, defined the classes of persons entitled to apply.

¹ "Inventor" means actual deviser: PA 1977, s. 7(3); see para. 4-06, above. A person who contributed one of two main ideas in an invention is a co-inventor: *Norris' Patent* [1988] R.P.C. 159; likewise one who contributed an idea thought by the collaborators to be essential, without regard to whether it was known or obvious: *Viziball's Application* [1988] R.P.C. 213; and see Lloyd (1979) 8 CIPA 11.

² An employer who is only entitled to part of the property right—for instance, because his employee has worked with an outsider to make the invention—should, it appears from PA 1977, s. 7(2)(b), take an assignment from his employee so as to acquire a right under s. 7(2)(c).

³ Including rights created in foreign law by treaties or conventions (in countries where, contrary to English law, international obligations may take effect directly upon ratification).

⁴ This could be the law of the place of invention, or that governing the inventor's contract of employment. Such a question has never been explored in English private international law; but see

⁵ para. 7-10, below.

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that law.' Whoever is given this initial entitlement to the patent can assign it; or it may devolve upon a successor because of death, bankruptcy and the like. An assignee or successor is then entitled to the grant in place of his predecessor. The right to an assignment may be implied from the circumstances in which an invention was made.^{6a}

(2) The right to grant: employees⁷

(a) Common law rules

- 7-03** In free-market economies it is an assumption, by now largely unremarked, that the products of labour belong to the owner of the business. Even so, it took some time for the first industrial countries to apply this assumption to intellectual property rights without some measure of reserve. In England it was left to Lord Simonds, in the age of corporate capitalism, to declare that "it is an implied term in the contract of service of any workman that what he produces by the use of his arm or the skill of his hand or the inventive faculty shall become the property of his employer".⁸ Before that, emphasis tended to be placed on the need to show either a positive contract in the employer's favour or an implied duty of trust.⁹ Indeed, it was said that the invention might be the employee's even though, made in the employee's time and his ingenuity.¹⁰ The tendency to increase the presumption in favour of his employer—probably grew as cases arose in which employees were trying to stop their employer from using the invention in his own business. The implied term adopted by English courts may be contrasted with the handling of similar problems by United States courts. There, in cases where the employer's claim to entitlement is doubtful, he is given only a "shop right": he is entitled to a free licence to use himself, but has no general power to stop the employee from licensing his invention to others."
- 7-04** In English law, there have been two kinds of arrangement. Where an employee has been obliged to hold his invention for his employer, as where the employee was employed to use his skill and inventive ingenuity to solve a

The mention in PA 1977, S. 7(2)(b) of entitlement by virtue of a "pre-invention" agreement seems meaningless, as far as English law is concerned, since such an agreement can only be to assign future property rights and that can at most create an equitable interest: yet the paragraph specifically excludes equitable interests.

Goddin and Rennie's Application [1996] R.P.C. 141 (C. of Sess.).

See also Cornish in Vitoria (ed.) *The Patents Act 1977* (1978) p. 79 and [1992] E.I.P.R. 13; J. Phillips and M. Hoolahan, *Employees' Inventions in the United Kingdom* (1982); J. Phillips (ed.) *Employees' Inventions: A Comparative Study* (1981).

Patchett v. Sterling (1955) 72 R.P.C. 50. Who is an employer in this context is left to be judged by common law tests, which are discussed in connection with copyright: paras. 12-05, 12-06, below.

An express agreement not to treat a person as an employee is binding: *SJD Engineering v. Baruch Sharon* [1994] E.I.P.R. D-51.

⁹ See *Marshall and Naylor's Patent* (1900) 17 R.P.C. 553 at 555; *Edisonia v. Forse* (1908) 25 R.P.C. 546 and 549, both citing *Frost on Patents*.

¹⁰ See *Worthington v. Moore* (n. 16, below) at 48; *Mellor v. Beardmore* (1927) 44 R.P.C. 175 at 191, I.H.

" See Stedman in Neumeier, *The Employed Inventor in the United States* (1971) Chap. 2. An attempt to introduce an apportionment of benefits into the same "grey area" (PA 1949, s. 56(2)) was held to have no effect in the absence of a contractual agreement to divide: *Patchett v. Sterling* (n. 8, above).

technical problem—where he was "employed to invent". Thus an engineering draftsman who was instructed to design an unbraked crane was obliged to hold a resulting patent on trust for his employer." An assistant engineer employed to design linings for colliery tunnels was sent at his own request to a particular colliery and in consequence produced an inventive solution to its problem: the arrangement of the visit was held to place him under a duty to make over the consequent patent." But a man employed purely as manager to sell valves and to deal with customer problems in the first instance was not obliged to hold an invention concerning the valves for his employers. They referred serious difficulties to the Swiss firm from whom they acquired the technology.¹⁴ Equally, a hospital registrar employed by a health authority to treat patients was held to be under no duty to his employer to devise improvements to ophthalmic equipment. It made no difference that, in doing so, he was using associated university facilities in pursuit of an academic career.¹⁵

Moreover, where the employee occupied a senior managerial position and so owed a general duty of fidelity to his employer.¹⁶ Thus, in *Worthington v. Moore*, an American pump manufacturing corporation put a man in charge of its English business at a high salary and commission and made him a vice-president of the corporation; he was held liable under an obligation of good faith to account for patents relating to developments in pumps.¹⁷ More recently, an employee who was a chief technician, employed *inter alia* to give technical advice on the design and development of soda siphons, but not to design the particular kind of siphon that he actually invented, was held accountable." But the manager of a lampshade business (not a director of the concern) was held entitled to keep a patent for a method of coating wire frames, an idea which amongst other uses could be applied to lampshades.¹⁸

The employee's duty under either head applied to rights in the invention from its conception onwards. Until a patent application had been filed, his obligation

¹² *British Reinforced Concrete v. Lind* (1917) 34 R.P.C. 101.

¹³ *Adamson v. Kenworthy* (1932) 49 R.P.C. 57.

¹⁴ *Harris' Patent* [1985] R.P.C. 19 (decided under PA 1977, s. 39—see n. 23, below); and see *Spinal v. Putti* (1976) 64 D.L.R. (3d) 280.

¹⁵ *Greater Glasgow Health Board's Application* [1996] R.P.C. 207.

¹⁶ Not easily distinguished in scope from the duties imposed in equity upon fiduciaries, such as company directors, to account for profits where there has been a conflict of personal interest and duty: see now *Canadian Aero v. O'Malley* (1973) 40 D.L.R. (3d) 371, S.C. (Canada); and as to the duty of a managing director to exploit all new opportunities: *Fine Industrial Commodities v. Fowling* (1954) 71 R.P.C. 254 at 258.

¹⁷ (1903) 20 R.P.C. 41. Note that there was evidence that the defendant was patenting the work of other employees.

¹⁸ *British Siphon Co. v. Homewood* [1956] R.P.C. 225 at 231:

"Now, would it be consistent with good faith, as between master and servant, that he should in that position be entitled to make some invention in relation to a matter concerning a part of the Plaintiff's business and either keep it from his employer, if and when asked about the problem, or even sell it to a rival, and say: 'Well, yes, I know the answer to your problem, but I have already sold it to your rival?'" Roxburgh J. held not.

¹⁹ *Selz's Application* (1954) 71 R.P.C. 158. It was emphasised that the manager had not tried to keep knowledge of the invention or patent application from his employer.

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coincided with his duty to keep confidential any information about his employment which was more than mere general knowledge and skill.^o

- 7-05** The common-law principle operates within a regime of free contract; express agreement could alter its operation. Receipt of an invention by an employee does not exclude it therefrom from being a positive contract and not a mere "understanding".²⁰ One common practice was for employers, both industrial and governmental, to require employees to give over rights in all inventions made during the time of the employment, rather than just in its course, at least if the invention related to the employer's business. But such a term has been held ineffective as being an unreasonable restraint of trade: a vacuum cleaner company could not require a senior storekeeper to surrender rights in an invention made at home, even though it consisted of an adapter for vacuum cleaner bags.²¹

(b) *The changes in the 1977 Act*

- 7-06** If the only purpose of the patent system in a private enterprise economy is to stimulate that economy, it may be logical to exclude employed inventors from the benefits of employment patents: one has simply to accept that the incentives—towards instituting research, development and publication—will only affect the employer. In other words, the bait of a patent or patent share is unlikely to incite the employed inventor to greater effort. As an assumption this may seem more or less plausible. However, the shift of opinion in the employee's favour has not turned upon this sort of psychological calculation. Rather it expresses a resurgent feeling for the demands of natural justice—a belief that an inventor should not go unrewarded for the fruits of his intellectual endeavour. This inspiration has coalesced with the recent tendency to cast legal protection around contracting parties who as a class may well not appreciate the unfavourable consequences of their bargains.

The "new deal" in the 1977 Act is, however, a strictly limited concession to the demand for fairness towards the inventor. Just what has been given is in any case still obscure, since much of the hard decision-making is left to the courts and the Comptroller.²² What the Act does is to lay out a framework of rights, which can nevertheless be replaced if certain provisions of the scheme are observed.

(c) *Basic entitlement under the 1977 Act*

- 7-07** Section 39 in effect codifies the common law principles which determine whether employer or employee is initially entitled to an invention.²³

^o See para. 8-30, below.

²⁰ *Patchett v. Sterling* (n. 8, above).

²¹ *Electrolux v. Hudson* [1977] F.S.R. 312. The Banks Committee (Cmnd. 4407, 1970) had recommended legislation to similar effect, though it wanted no further compulsion to be placed upon employers: Chap. 16; see now PA 1977, s. 42(2), para. 7-12, below.

²² This is in striking contrast with the statutory scheme in Germany, whose detailed regulations lay down methods of weighting and calculation. From these there is much of interest to be learnt: see, e.g. Schade (1972) 11 Ind. Prop. 249 and [1979] Ann I.P.L. 169; Schippel (1973) 4 I.I.C. 1.

²³ In *Harris' Patent* (n. 14, above), however, Falconer J. refused to accept that this statutory provision necessarily embodied the common law.

The employer takes the invention (1) when made either in the course of the employee's normal or his specifically assigned duties, provided that an invention might reasonably be expected from carrying them out²⁴; and (2) where the employee has a special obligation to further the interests of the employer's undertaking "because of the nature of his duties and the particular responsibilities arising from the nature of his duties".²⁵ This reflects the two types of case where the decisions held employers entitled, and they are likely guides to future decisions. In all other cases the employee has the initial rights in his own invention.

(d) *Compensation and employers' inventions*

Where the invention belongs to the employer, the inventor may nevertheless have a statutory right to what is called "compensation", that is a special bonus. This arises when (1) the patent for the invention is of outstanding benefit to the employer,²⁶ and (2) it is just that compensation should be awarded; in assessing which, tribunals are under the ambiguous instruction to have regard, among other things, to the size and nature of the employer's business.²⁷ It is the patent, not the invention, which must be of outstanding benefit, and a patent is a right to prevent others from infringing; so the prime issue is, how much has the employer made, or how much could he have made, from licensing the patent? This may be difficult to assess, but perhaps explains the sense in which the size and nature of the employer's own business are to be considered relevant.²⁸ If there are no competitors, or if competitors would use some alternative to the patented invention, then there may well be no outstanding benefit from the patent. If the employer supplies the patented product to a single firm with which it has long had an established relationship, the sales may be explained by that relationship, rather than by the patent.²⁹

Once this basic test is satisfied, the 1977 Act directs that the assessment of compensation is to allow the employee "a fair share (having regard to all the circumstances)", treating for the purpose dealings between the employer and a person connected with him as if an "arm's-length dealing" had taken place between them.³⁰ A number of factors are specified to which the tribunal must have regard, but only among other things: (1) the employee's duties, remuneration and other advantages from employment or "in relation to" the invention; (2)

²⁴ PA 1977, s. 39(1). The invention must accordingly be one expected to be achieved by carrying out the employee's duties: *Harris' Patent* (n. 14, above).

²⁵ PA 1977, s. 39(2). By amendment in 1988, the employee entitled to a patent may use material in support of his application in which the employer owns copyright or design right: s. 39(3).

²⁶ "Outstanding" implies a superlative, and so means more than significant: *Memco-Med's Patent* [1992] R.P.C. 403. The onus is in general on the employee, which makes the test hard indeed to satisfy: *ibid.* Cf *GEC Avionics' Patent* [1992] R.P.C. 107; *British Steel's Patent* [1992] R.P.C. 117.

²⁷ PA 1977, s. 40(1).

ⁿ The *Memco-Med* judgement offers no elucidation of this mysterious factor.

²⁹ *Memco-Med* (n. 26, above): patent for lift-entrant detectors all sold to a major lift manufacturer: no outstanding benefit proved.

³⁰ PA 1977, s. 41; and note, in PA 1977, s. 41(3), the further provision governing free licences by the Crown and Research Councils.

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the employee's effort and skill; (3) the effort and skill of others—co-inventors, whether employees or not, other employees who give advice and assistance; and (4) the employer's contribution—by the provision of advice, facilities and other assistance, the provision of opportunities, and managerial and commercial skill and activities. 3'

(e) *Compensation and employees' inventions*

- 7-09 Where the patent is the employee's, the employer will be entitled to use the invention only if he has acquired rights from the employee by assignment or licence. "Compensation" falls to be paid by the employer when the consideration for this transaction is inadequate in comparison with the benefit derived by the employer from the patent, and it is just that it should be paid." The general principles for the assessment of compensation are the same as those for employers' inventions. But the list of factors to be brought into account differs somewhat: while account must be taken of the contribution of any co-inventor and the employer, the employee's own employment is not relevant; but conditions in licences (granted, presumably, by the employer) are."

(f) *Scope of the provisions*

- 7-10 The compensation provisions apply to inventions 34 made after June 1, 1978 by a person who is an employee 36 mainly employed in the United Kingdom. 37 They appear to apply only between the employer and the employee at the time of making the invention—something that is likely to cause difficulty, given the lapse of time before a claim is made. 38 They do require that benefits received under foreign patents and equivalent protection be brought into account. 39

(g) *By-passing the Act: collective agreements*

- 7-11 A collective agreement may replace the statutory scheme for compensation if it is made by or on behalf of a trade union to which the employee belongs and by an employer or an employer's association to which the employer belongs and the

" *Ibid.*, s. 41(4).

" *Ibid.*, s. 40(2).

³³ *Ibid.*, s. 41(5).

³⁴ *le.* "inventions for the purposes of this Act", and so not the "things" in *ibid.*, s. 1(2).

³⁵ For the question, when is an invention made? see *Dupont's Patent* [1961] R.P.C. 336, C.A.; *Bristol Myers v. Beecham* [1978] R.P.C. 521.

³⁶ Not an independent contractor, nor a director without a service contract: *e.g. Parsons v. Parsons* [1979] F.S.R. 254, C.A.; see paras. 2-07-2-08, above.

³⁷ Or if not mainly employed anywhere, or it is not possible to determine where he is employed, but he is attached to a U.K place of business of the employer: PA 1977, s. 43(2). This follows the formula in EPC, Art. 60(2) for determining which national law shall decide employer -employee questions over European patents. If such a connection does not exist with the U.K, but (exceptionally) English law applies to the question, the common law rules will apply.

³⁸ Benefits to the personal representatives of the employer must be brought into account; and the personal representatives of the employee may claim in his shoes: PA 1977, s. 43(4), (5); but these exceptions serve to show that other substitutions are not to be made.

³⁹ *Ibid.*, s. 43(4).

agreement is in existence at the time of making the invention. ⁴⁰ The agreement does not have to procure any particular level of benefit to the employee in order to be effective. The broad definition of "trade union" allows a temporary group (for example a research team) to negotiate a collective agreement. This possibility may enable a shop agreement to be reached where (as may well be the case) the research employees are not members of a regular union." With the spread of white-collar unionism, such collective agreements may become commoner. They may well seek to spread bonus moneys amongst all the staff concerned with the development and marketing of the invention.

(h) *By-passing the Act: individual agreements*

As with the latter-day extension of the public policy considerations in common law doctrine, ⁴² the Act renders unenforceable contractual terms which diminish an "employee's rights in inventions ... or in or under patents for those inventions or applications for such patents". ⁴³ The contracts covered are those that he makes with his employer or any third party at the employer's request or in pursuance of the contract of employment, before the date on which the invention was made." This provision is beset with uncertainty, but, given the extension of common law doctrine, it may well be generously construed. It clearly applies to a provision in an employment contract requiring an employee in advance to give up his rights of initial ownership where there is no distinct consideration for this." But if (say) a reasonable sum is to be paid for these rights, it might well be held that they were not "diminished" (if the sum to be paid were an undervalue, it could in any case be the subject of "compensation")."

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More importantly, can the inventor make a pre-invention contract to surrender his rights to compensation when the patent belongs initially to the employer? The Act says he may not, if by doing so, he diminishes his rights "under" the patent; and arguably this is the case. A contract made after the invention is not affected by the statute and so by implication would seem a matter of free bargaining. Certainly, if the invention belongs to the employee he cannot make a contract with his employer, before or after the invention, which deprives him of "compensation" which would adjust the price paid to him."

⁴⁰ *Ibid.*, s. 40(3), (6).

The definition of "trade union" is that in the Trade Union and Labour Relations Act 1974: see ss. 28, 29.

⁴¹ See *Electrolux v. Hudson* (n. 21, above).

⁴² PA 1977, s. 42(2).

⁴³ *Ibid.*, s. 42(1), (2). Duties of confidentiality owed by employee to employer must be respected: s. 42(3).

⁴⁴ Equally, an employer could not require the employee to seek his consent to any patent application. However, it would not diminish the employee's rights if he were required to notify the employer of the invention and any patent application.

⁴⁵ PA 1977, s. 40(4).

⁴⁶ *Ibid.*