

## STATEMENT

I declare that PATENT OWNERSHIP: RIGHTS TO EMPLOYEE INVENTIONS is my own work and that all the sources that I have used or quoted have been indicated and acknowledged by means of complete reference.

**PATENT OWNERSHIP :  
RIGHTS TO EMPLOYEE INVENTIONS**

by

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**SUPERVISOR : MRS T PISTORIUS**

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**SUMMARY:**

A patent is an intellectual property right granted as a reward for the labours of the inventor so as to commercially exploit the invention in return for disclosure of the invention. The benefits of the patent system find perfect expression in the employment situation since the employer is better equipped to exploit the invention through provision of resources and capital whereas the employee is provided with an opportunity to develop his technical know-how. A comparative study of the laws pertaining to employee inventions in the United Kingdom, Federal Republic of Germany and the United States of America reveals a variety of approaches to the subject of employee inventions. The approach of the South African law on the subject is inadequate and legal reform is a necessity. The recommendations for such reform encapsulates a blend of the best features of each of the three national approaches to employee inventions.

**KEY TERMS:**

Patent system; Subjective rights; Intellectual Property rights; Patent ownership; Employee inventions; Comparative Study on Employee Inventions; Test for patent ownership; Employee inventor compensation; Shop right; South African law reform on employee inventions.

## 1. INTRODUCTION

Market societies produced a system which encapsulated the market spirit of enterprise and subsequent reward, namely the patent system. The system is designed to stimulate and promote competition, growth, innovation and information transfer. It creates the opportunity for societies to improve upon the existing state of the art, thereby facilitating the efficient usage of scarce resources as well as creating a technological foundation for further innovation and growth in the society. In essence a patent provides an inventor with a limited monopoly which awards exclusive rights over the commercial exploitation of the invention for a specific time frame (in South Africa the period is twenty years) in return for the disclosure of the invention. The value of a patent lies in its use within a market in order to derive a profit from such use.<sup>1</sup> The disclosure promotes technological and scientific progress within the society, which advances the interests of the society and creates market opportunities both within and outside the society. The patent system facilitates the protection of technology, which is an essential factor in maintaining the economic growth and development of world markets.

The post-war era has been characterised by an enormous increase in international trade in both goods and services as well as significant increase in the pace of technological change. This trend has facilitated an increasingly interdependent world economy, which has resulted in greater recognition of the need for an international framework to provide greater protection of intellectual property rights associated with goods and services.<sup>2</sup> The Paris Convention of 1883 embodied the recognition of this principle, which was supported by the introduction of GATT in 1947, the General Agreement on Tariff and Trade, introduced in an attempt to regulate and rationalise international trade, especially by removing barriers to trade. At the Uruguay round of GATT, emphasis was placed on intellectual property as an incentive to competition and development and not as a barrier to trade.<sup>3</sup> The result of this emphasis on intellectual property was the inclusion of a chapter in GATT known as the TRIPS Agreement (Trade Related Aspects of Intellectual Property) in 1994, which contains minimum conditions pertaining to intellectual property protection and which the signatories are bound to enforce in their respective countries if they wish to enjoy the trade benefits offered by GATT.<sup>4</sup> Even in Europe, the introduction of various conventions such as the European Patent Convention ('EPC') and the Community Patent Convention ('CPC'), was brought about by the European Economic Community's desire to create

regional economic integration in order to facilitate trade and economic growth and development in the region.

The *raison d'etre* of the various conventions and treaties pertaining to intellectual property is to provide protection for intellectual property rights within the international sphere. An inventor is more likely to be willing to launch his invention in selected countries if adequate patent protection is provided for the invention in those countries. The need to trade in inventions in countries other than the invention country is dictated by commercial advantages available to the inventor as well as an important means of staying in competition both for smaller and medium-sized industries as well as individual inventors.<sup>5</sup> Thus adequate international scale protection of patents will encourage information transfer and competition as well as stimulating trade.

Notwithstanding the distinct advantages of the patent system, the system is not without difficulties.<sup>pr</sup> In any market society, the competition principle places an onus on competitors to outperform their opponents in order to increase their market share and raise profit margins. Patents protect inventions, but also provide the means through which technical knowledge encapsulated in an invention comes into the hands of the competitor, thereby creating an opportunity for the latter to outperform the patenting competitor or "leapfrog the competitor" as aptly described by Fudenberg *et al.*<sup>6</sup> The challenge to the state is to provide protection for an invention which is not so wide that it stifles innovation but simultaneously not so narrow that it discourages inventors from disclosing their technologies by means of patents.<sup>7</sup> It is common cause that competitors often derive more profit from the invention than the inventor himself<sup>8</sup> and that many inventions are not patented.<sup>9</sup> Albeit that the patent system is no panacea for all ills found in a market society, it nonetheless is a worthwhile system which has survived for some five hundred years and has provided the foundation for constant worldwide technological growth and change.

The rationale of the patent system, recorded in patent legislation in Venice as long ago as 1474, has been recognised in South African legislation pertaining to patents.<sup>10</sup> The early South African patent legislation, namely the Cape Patents Act 17 of 1860 and the Natal Patents Act 4 of 1870, was promulgated in an attempt to encourage inventions. This view undoubtedly arose as a result of the English patent law influence over the South African patent law. The current South African patent system is still closely modelled upon the English equivalent. In *Veasey v Denver Rock Drill and*

*Machinery Co Ltd*<sup>11</sup> the Appellate Division stipulated that the design of the patent law is to reward those who make some substantial discovery or invention which adds to our knowledge and which makes a step in advance in the useful arts. The same court reiterated this view in *Letraset Ltd v Helios Ltd*<sup>12</sup> in terms of which Holmes JA stated that a patent represents a *quid pro quo*, whereby the *quid* is the monopoly conferred upon the patentee for a number of years and the *quo* is the new knowledge which he presents to the public and which, after expiry of the patent, will be available for general utilisation.

## 2. SUBJECTIVE RIGHTS

The concept of subjective rights embraces a delineation of the protection of the interests between legal subjects. Hosten *et al*<sup>13</sup> view a right as a dual relationship: on one hand the relationship between the legal subjects (the bearer of the right) and the object of the right (the thing in respect of which the right is held), and on the other hand, the relationship between the bearer of the right and other legal subjects who have a duty to respect such right.

Subjective rights are classified according to the legal objects attaching to the right, of which four categories of objects are identifiable in current legal thought,<sup>14</sup> namely:

- i) Real rights - the object is a corporeal, material thing, such as a piece of land.
- ii) Personal rights - the object is a performance or action by another person, such as an employer's rights to the services of his employee.
- iii) Personality rights - the object is allied to the person's personality, such as reputation.
- iv) Immaterial or intellectual property rights - the object consists of an incorporeal thing separate from a person's personality such as patents, copyright and trade marks.

The fourth category of subjective rights incorporates intellectual property rights, such as a patent, which flow from the ownership of inventions. Although this classification of subjective rights reveals that intellectual property rights are a separate category of rights, a recent decision of the

Durban Supreme Court, namely *Frank & Hirsch (Pty) Ltd v A Roopanand Brothers (Pty) Ltd*<sup>5</sup> blended real rights with intellectual property rights, notwithstanding the fact that both categories of rights are acknowledged to be separate categories of subjective rights. *In casu* the type of intellectual property right allegedly infringed by the respondent was copyright, which the court treated as a species of the real right of ownership. In making this decision, Booysen J relied upon common law principles of *accessio* and *specificatio*, which deal with the passing of ownership in corporeal property. However this decision was subsequently overturned on appeal in *Frank & Hirsch (Pty) Ltd v Roopanand Brothers (Pty) Ltd*<sup>6</sup> where the Chief Justice clearly distinguished between ownership and incorporeal rights such as copyright which are created by statute<sup>17</sup>. He thus accorded the intellectual property right of copyright its proper status as a separate category of subjective right and not as a species of the real right of ownership.

Inventions form the basis of the patent system. A patent represents the recognition of a person's invention and so rewards the person with an intellectual property right. South African common law has historically differentiated between real and personal rights, the former category of rights conferring the power of direct control upon the holder of the right who is then protected against interference by any other person, whereas personal rights confers a right to performance from another person upon the holder of the right. An intellectual property right is a real or absolute right which the holder of the right may enforce against all other persons and obliges all others to respect the right.<sup>18</sup> The grant of a patent thus provides the patentee with an absolute right which protects the invention from interference or abuse by other legal subjects, subject to the qualification that the right is not unlimited. In this sense, the patentee has ownership of the invention or patent.

The recent watershed in South African legal history, namely the Constitution of the Republic of South Africa Act 200 of 1993, an interim measure adopted to promote national unity and continued governance of South Africa whilst the Constitutional Assembly draughted a final Constitution, provided a novel intervention in the form of a chapter entrenching fundamental rights. The only limitation of these rights is by any law of general application to the extent that such law is reasonable and justifiable in an open and democratic society based on freedom and equality, shall not negate the essential content of the right in question and shall also be necessary in respect of certain rights. One of the entrenched rights is a property clause providing that every person shall

have the right to acquire and hold rights in property and, to the extent that the nature of the rights permits, to dispose of such rights.

The final draft of the Constitution as adopted by the Constitutional Assembly on 8 May 1996 was referred to the Constitutional Court in July 1996 ("the New Text") for certification by the Court. The Court heard objections from various interest groups pertaining to a wide range of issues. One of the issues that attracted an objection from organisations such as the Association of Marketers and leading intellectual property law firms was that the New Text failed to recognise a separate clause dealing with the protection of intellectual property rights in the Bill of Rights which, it was contended, was necessary since the current property clause deals with the ownership of property and not the coming into being of that which is the subject of the ownership, such as intellectual property, which is concerned with the creation of property. The objection to the certification of the Constitution was based upon the view that the New Text does not comply with the 34 constitutional principles set out in Schedule 4 to the Interim Constitution, in that article 2 of schedule 4 provides that everyone shall enjoy all universally acceptable fundamental rights and that these shall be provided for and protected by entrenched and justifiable provisions in the Constitution.<sup>19</sup> The counter-argument of the Constitutional Assembly was that the property clause includes intellectual property rights and that intellectual property rights are thus protected.

The Court held that there is no necessity for recognition of a right to intellectual property in the Constitution since, notwithstanding the reflection of the recognition of such right in many international conventions, it is often not encapsulated in regional conventions protecting human rights and in constitutions of established democracies. Reference was made by the Court to the express provisions protecting intellectual property in recent constitutions, especially in Eastern Europe, but this was ascribed to the histories of these countries rather than a trend internationally acknowledged and accepted. Accordingly the Court held that the objection could not be sustained.<sup>20</sup>

### **3. EMPLOYMENT CONTRACT**

The accepted rationale for the existence of the patent system, namely to promote competition and stimulate innovation, finds perfect expression in the employment situation. This contention finds support in the fact that with the increase in industrial development this century, there has been a



corresponding increase in the number of patent applications from employers for inventions produced by their employees. In England, as many as eighty to eighty-five (80 - 85) per cent of patents are held to derive from inventions made by employees in the course of their employment.<sup>21</sup> As observed by Fudenberg *et al*,<sup>22</sup> competition in market societies where the first entrant or first inventor attracts extensive financial reward resembles that of a race. Accordingly the first person who produces an invention capable of attracting patent protection will win the race. In this scenario, employers have every reason to encourage employees to produce inventions that will generate financial reward and commercial success for the employer.<sup>23</sup> Generally speaking the employer is better equipped to exploit an invention since not only does he have substantial capital and cash reserves and is thus likely to be able to obtain development loans and grants from public or private institutions, he may also have appropriate resources such as manufacturing facilities and marketing skills as well as established retail outlets for his manufactured products, whereas the employee usually does not have these assets and is thus unable to exploit the invention to its full potential.<sup>24</sup> This blend of circumstances makes the employment relationship an ideal setting for the employer, the employee and the society within which the parties are functioning. Not only does this *quid pro quo* system provide the employee with the opportunity to develop and improve upon his/her technical know-how, it also benefits society through the growth emanating from the innovation and competition and provides a means of information transfer both nationally and internationally. Ultimately in any event, the operation of a patent system is paid for by the tax-payers within the society that supports the patent system.<sup>25</sup>

The basis of any employment relationship is the employment contract, which determines the rights and obligations of each party. The employment contract provides the nexus between the parties and determines the ownership of the invention. Rattray<sup>26</sup> concludes after a study of English law that, besides situations where a fiduciary relationship alone may determine the ownership of employee inventions, the sole basis on which rights in an employee's invention may be acquired by an employer is contract, which is also the *status quo* in South Africa.<sup>27</sup> An employment contract may be express or implied and, if express, may be oral or in writing. In some circumstances, it may be difficult to establish if an employment relationship exists in order to determine the question of ownership of the invention. Traditional South African legal views on the elements regarded as characteristic of the contract of service are an agreement to make personal services available, remuneration and subordination.<sup>28</sup> However controversy surrounds the validity of these elements

and the matter is by no means settled. Thus interpreting the contract between the parties will reveal the presence of an employment relationship or not, which is ultimately the test in establishing who owns the invention in question. Although the Patents Act 57 of 1978 ('the Act') as amended does not lay down any formal test of ownership of an invention such as is found in section 39 of the Patents Act of 1977 which establishes a formal test of ownership of inventions made by an employee, it does make reference in section 59(2) to a contract of employment and stipulates that certain conditions in such contract are deemed to be null and void. However in both statutes the central issue is the nature of the relationship between the parties, since the provisions are only applicable if there is a relationship of employment between the parties.

The Act contains no definitions of 'employee' or 'employer'. A mere reference to a 'contract of employment' is found in section 59(2). The Shorter Oxford English Dictionary on Historical Principles<sup>29</sup> defines 'employee' as 'One who is employed; especially one employed for wages or a salary by a business house or by government' and 'employer' as 'One who employs; especially one who employs servants, workmen etc for wages'. The concept embodied in these definitions is that employment involves assisting with the conducting of the employer's business in return for remuneration. This concept is expanded in the Basic Conditions of Employment Act 3 of 1983 and the Labour Relations Act 66 of 1995 in that an employment relationship also subjects an employee to the direction and supervision of an employer, thereby excluding an independent contractor.

#### 4. COMPARATIVE STUDY

##### i) UNITED KINGDOM

In English law, the historical legal phenomenon of the master-and-servant relationship has significantly influenced the development of rules governing rights in inventions made whilst employed.<sup>30</sup> Traditionally the employer as the master had superiority in the employment contract and could determine employment terms in his favour, thereby delegating the employee to an inferior status. This imbalance of bargaining power found expression especially in the law pertaining to the fruits of inventions made by an employee whilst in the employer's service. The employment contract often reflected the term that the employee would assign his invention to his

employer, even where the invention was produced outside the course of the employee's duties and compensation was more often than not made *ex gratia* and was of a nominal nature.<sup>31</sup>

Before the promulgation of the Patents Act in 1949, a substantial body of common law pertaining to this area of the law existed. *In the matter of Heald's Applications for Patents*<sup>32</sup> the Solicitor General took the view that no authority existed which stipulated that the invention of a servant automatically becomes the property of the employer simply due to the fact that the invention was made during the course of the employment, namely during working hours using the employer's materials and at the employer's expense. This view was approved by Byrne J in *Worthington Pumping Engine Company v Moore*.<sup>33</sup> According to Rattray<sup>34</sup> these cases provided authority for the assertion that rights of any nature in and to an employee's invention could be established by an employer by way of contract only. The *Worthington* decision revealed that the mere existence of a contract did not *per se* preclude the employee from his entitlement to the patent for the invention made by him during the course of his employment.<sup>35</sup> It was apparent that "course of employment" was not sufficient to sustain any rights to the invention on the part of the employer, and therefore the concept of the "scope of the employment" was introduced.<sup>36</sup> Accordingly in the *Worthington* case it was held that the development of the invention fell within the course and scope of the employee's employment and that resulting patents belonged to the employer. This decision was also followed in *Edisonia Ltd v Forse*.<sup>37</sup> However a contrary view was taken in the Scottish case of *Mellor v William Beardmore & Co Ltd*<sup>38</sup> both in the court of session and on appeal where it was held that the invention belonged to the employee since it was not within the scope of the employee's employment to produce inventions for the employer.

The *Worthington* decision also encapsulated the so-called "all or nothing" principle, in terms of which the learned Judge took the view that the invention and any resulting patent belonged wholly and beneficially either to the employee or to the employer.<sup>39</sup> This "all or nothing" principle, namely that all rights in an invention or a patent belonged either to the employee or employer, was reflected in many subsequent decisions.<sup>40</sup> Furthermore, prior to the 1949 Patents Act, the common law also reflected the fact that in most cases, the employee inventor was deprived of the beneficial interest in the patent grant where there was a nexus between the invention and his employment duties or manner of performing such duties or the employer's sphere of industrial or commercial interest.<sup>41</sup> However after 1945, a popular view pervaded in the United Kingdom that the status of

inventors, whether employed or not, ought to be more favourably treated.<sup>42</sup> This view initiated the investigation into patent law reform by the Swan Committee in 1947. One of the major recommendations of the Swan Committee was that where it would be just and equitable to do so, the employee inventor should have the right to obtain an apportionment of the interest in or benefit derivable by the employer exploiting his patent or invention, where for example, the invention evolved through the joint efforts of the employer and employee.<sup>43</sup> The findings of the Swan Committee culminated in the 1949 Patents Act, including the abovementioned recommendation at section 56, which attempted to correct the common law situation of an "all or nothing" principle.

However these sterling efforts on the part of the Swan Committee and the draughtsmen of the legislation were rendered meaningless by the House of Lords decision in the infamous matter of *Sterling Engineering Co Ltd v Patchett*, where it was held by Lord Reid "...it is, in my judgement, inherent in the legal relationship of master-and-servant, that any product of the work which the servant is paid to do belongs to the master:..."<sup>44</sup> Furthermore Viscount Simonds held it was an implied term of every contract of employment that inventions made by employees in the course of their employment which it was part of their duty to make, becomes the property of the employer.<sup>45</sup> This judgment effectively deprived employees of any of the benefits attributed to them by the 1949 Patents Act since it was held that an apportionment of the benefit or interest in the invention or patent could occur only where both the employer and employee were legally entitled to the patent, a rare situation. The imbalance in the employment relationship was thereby re-established, a situation which begged for effective relief.

This relief only appeared in 1977 in the Patents Act. This legislation was prompted by the appointment in 1968 of the Banks Committee charged with the mandate of investigating the patent system and patent law.<sup>46</sup> One of the major issues that had to be tackled by the Committee was the submission that the law following the *Sterling* decision was unfair to employee inventors and that a statutory compensation system be implemented for employee inventors. However the Committee rejected this submission and recommended that employers institute a voluntary reward system for employee inventions in whatever form it deemed prudent.<sup>47</sup> Notwithstanding the rejection of a statutory compensation scheme by the Committee, the legislator intervened and introduced such a scheme in the 1977 Patents Act in an attempt to resolve the problem.

The Patents Act of 1977 contained three basic tenets, namely a) statutory codification of the test for ownership of employees' inventions, b) establishment of an employee's right to compensation and the quantum thereof and c) unenforceability of employment contracts purporting to diminish the employee's rights in respect of his invention/s.<sup>48</sup>

Section 39(i) of the Patents Act of 1977 lays down that an invention made by an employee will belong to his employer in three situations. Firstly, if it was made in the course of the normal duties of the employee or secondly, outside his normal duties but during the course of duties specifically assigned to him, both situations requiring that an invention might reasonably be expected to result from the carrying out of such duties, and thirdly, inventions made in the course of the employee's duties, and because of the nature of the duties and the particular responsibilities arising therefrom he had a special obligation to further the interest of the undertaking. Thus in the event that the employer is unable to prove that the invention falls into one of the abovementioned categories, the invention will belong to the employee. This result will follow notwithstanding the fact that the invention is made during work hours or at the employer's premises or even using the employer's facilities.<sup>49</sup> Russell<sup>50</sup> identifies one problematic aspect of the test, namely the definition of 'normal duties', and suggests that it means the duties normally carried out by the employee.

The second tenet of the Patents Act of 1977, namely the compensation payable to the employee, represents the most important and innovative departure from the common law view. Section 40 of this Act provides that, regardless of whether the invention belongs to the employer or employee in terms of section 39, the employee may apply to court or to the Comptroller for an award of compensation. However, this principle is qualified by the further provisions in the Patents Act of 1977 that the right to compensation arises only if a patent has been granted, with the result that an employer can avoid a duty to pay compensation by not applying for a patent,<sup>51</sup> and the provision that where an invention belongs to an employer in terms of section 39, and the employee seeks compensation therefor, the employee must prove that within the prescribed period he has produced an invention belonging to the employer for which a patent has been granted and that the patent is 'of outstanding benefit to the employer'. Russell<sup>52</sup> correctly points out that it is unfortunate that the employee who produces an important invention but not deemed to be of 'outstanding benefit' is denied any compensation. Wotherspoon<sup>53</sup> suggests a means of curing this stringent test by substituting the requirement of 'outstanding' with 'substantial'. Furthermore in terms of section

40(2) dealing with the situation where the invention belongs to the employee and he has sold or licensed it to his employer in terms of a contract separate from his contract of employment, the employee need merely prove that the benefit received by the employee is inadequate in relation to the benefit received by the employer's exploitation thereof and that it is just that he should receive some compensation from the employer in excess of the consideration paid to him by the employer.

The quantum of compensation is determined by the test contained in section 41(1) which awards an sum representing a 'fair share' of the benefit the employer has or may reasonably be expected to receive. The parameters of 'fair share' lie within the discretion of the court seized of the matter, but some of the criteria are the nature of the employee's duties, the pay and benefits he has received and the skill and effort with which he made the invention.<sup>54</sup> Although the statutory test of compensation awards to employees was welcomed, the parameters of the test are narrow and may exclude a large number of employee inventors from awards of compensation. The final tenet of the Patents Act of 1977 which serves to protect the interest of the weaker party to the employment contract<sup>55</sup> is section 42(2) which stipulates that any term in an employment contract which diminishes an employee's rights in inventions shall be unenforceable against him to the extent that his rights are diminished. The only exception to the prohibition contained in this section is where a relevant collective agreement provides for compensation.<sup>56</sup>

According to Merkin,<sup>57</sup> sections 39-43 of the Patents Act of 1977 are poorly drafted and have yet to result in an employee receiving compensation. Furthermore the fact that a copyright or design produced in the course of employment belongs to the employer and that many inventions will begin life as designs which attract copyright and design right, have provided the need for amendment of section 39 of the Patents Act of 1977 by the insertion of a new subsection 39(3). This subsection applies where an employee produces an invention outside the scope of his employment, thereby belonging to the employee. In these circumstances, any conduct of the employee in pursuance of a patent application or working the invention is deemed not to infringe any copyright or design right which may have come into existence in the course of the employee's employment, thus the property of the employer. This new subsection protects the interests of the employee by ensuring that the employee will not be deprived of his right to an invention based merely upon the fact that original model or drawing was produced in the course of his employment.

In summary, the current status of employee inventors in Britain still conforms to the common law 'all or nothing' principle which is reflected in the statutory ownership test. In effect, either the employee or the employer owns the invention. The equitable intervention in English law is to be found in the compensation provisions, which provide that employees have the right to compensation regardless of whether the invention belongs to the employer or employee. However, the criteria for compensation are very rigid and an employer is only obliged to provide compensation if a patent is granted for the invention.

ii) FEDERAL REPUBLIC OF GERMANY

Prior to statutory intervention in regard to employee inventions, most employment contracts assigned all inventions made by employees to the employers without remuneration. However as early as 1920, there is evidence of the recognition by employers of the importance of employee inventions and subsequent reward, namely the tariff contract regarding academic employees in the chemical industry which established guidelines for the inventions of employed chemists and their remuneration.<sup>58</sup> The Patentgesetz of 1936 recognised a differentiation between service inventions, which are inventions made in the course of employment by an employee, and free inventions, in which the employer had no rights except if obtained by agreement.<sup>59</sup> Further evidence of the important role of employee inventions is apparent in the separate legislative status of the provisions regulating the specific difficulties associated with the relationship between employers and employees in the Employee Inventions Act of 25 July 1957 ('EIA')<sup>60</sup>, which has amended on subsequent occasions, as well as the Rules regarding the EIA developed in 1959. The substantive law governing the protection of inventions is found in the German Patents Act of 1968 and the Utility Model Act of 1968.

The inherent conflict between the German labour law in terms of which the employer owns the product of hired work and the principle of intellectual property law that the inventor or author is the owner of any product of inventive activities, have resulted in the fact that the EIA is based partly on labour law and partly on the law involving intellectual property rights, mainly patent law.<sup>61</sup> Accordingly the EIA recognises the inventor's right but also ensures that the employer is able to acquire the rights to the employee's invention, which is based upon the historical differentiation by legislation and the courts between service and free inventions. A sophisticated

labour law system exists in Germany, characterised by institutions and procedures for negotiating and balancing the interests of employers and employees,<sup>62</sup> which has influenced and determined the essence of the EIA and its effectiveness in Germany. This effectiveness should be viewed in the light of the fact that ninety per cent of patented inventions in Germany are made by employee inventors.<sup>63</sup>

The EIA, in accordance with its ultimate aim to adequately resolve the inherent conflict between labour law and intellectual property law,<sup>64</sup> has two objectives, namely to protect employee inventors by providing mandatory stipulations that may not be deviated from in an attempt to deprive the employee inventor of any rights in an employment contract and to stimulate innovation.<sup>65</sup> The EIA deals with inventions capable of attracting patent or utility model protection as well as proposals for technical improvements which do not fall into the latter categories, made by employees in private and public employment. The EIA distinguishes between 'tied' or service inventions and free inventions, a continual thread woven throughout the fabric of German employee invention history. Both types of inventions must have been completed during the subsistence of the employment contract, regardless of whether the employee has worked on the invention during working hours or outside working hours.

An invention will be regarded as 'tied' in terms of section 4(2) if it either originates from the employee's work with the employer or is substantially based upon experience gained during the course of employment.<sup>66</sup> In the event that these requirements have been fulfilled, the right to the invention rests with the employee, but subject to the employer being entitled to claim the invention in return for a consideration to the employee.<sup>67</sup> Detailed rules of procedure abound in regard to 'tied' inventions in that the employee has a duty to notify the employer of the invention and provide an ample description of the invention. The employer has a period of four months grace to make an election as to whether he wants to lodge a patent application in respect of the invention, either entirely or partially, for the purposes of commercial exploitation thereof. If the employer does not exercise this right, the invention is automatically a so-called free invention, namely inventions made by employees which do not meet the requirements of the EIA in regard to 'tied' inventions.<sup>68</sup> The employer has no right to claim a free invention, but the employee must offer his employer a non-exclusive right to use the invention where the invention can be utilised in the employer's undertaking.



Any discussion pertaining to 'tied' inventions is worthless without a reference to the compensation aspect of the EIA which is in accordance with an objective of the EIA to stimulate innovation through reward. Certain aspects that are considered when assessing the quantum of the compensation are the economic value of the invention, the tasks and position of the employee in the enterprise as well as the role of the enterprise in contributing to the production of the invention.<sup>69</sup> Gertholtz<sup>70</sup> refers to the calculation of the economic value of the invention as the "Achilles heel" of the EIA. Where the quantum of the reward is not settled by agreement between the parties, a procedure is available to the employee through the Arbitration Board in the event of his being dissatisfied with the quantum of the reward. The EIA contains a network of procedural provisions which assist in creating certainty in the field of employee inventions in Germany. One such procedural provision is the appointment of the Arbitration Board, charged with the task of avoiding litigation in the courts regarding employees' inventions between the parties to employment contracts, which has proved to be successful.<sup>71</sup>

A comparison between the German and the United Kingdom systems on employee inventions reveals a striking similarity in one essential principle, namely that both legal systems are prefaced by the idea that inventions made by an employee outside the course of his employment and with his own means belong to him and that inventions made during the course of his employment belong to the employer. Under both jurisdictions where the latter situation applies, the employer is obliged to provide some financial compensation to the employee.<sup>72</sup> This similarity in principle is due to the fact that the United Kingdom's Patents Act of 1977 has been modelled on German law and other European systems. However the manner in which the two legal systems grapple with this basic principle differs substantially. The German system is flavoured with procedural and arbitration provisions, a reflection of the emphasis on mutual duties of trust and care between the employer and employee established in labour law, whereas the English legal tradition did not lend itself to this kind of theory. The manner in which the compensation for employees is dealt with in the two systems is very different since the English provisions stipulate stringent requirements like 'outstanding benefit' to justify compensation, whereas the German provisions allow compensation even where the patent is not exploited at all. According to Davis-Ferid,<sup>73</sup> the main criticism that can be levelled at the German system is that it leads to many patent applications being made, whereas in the United Kingdom, a lacuna exists in regard to the manner in which an employee can receive compensation if the employer refuses to apply for patent protection.

A summary of the essence of the German system reveals that the system distinguishes between 'service' and 'free' inventions. An invention will be deemed to be a 'service' invention and therefore belong to the employee if it originates from the employee's work or is substantially based on experience gained during the course of employment. The right to the invention will belong to the employee but the employer has the right to claim the invention upon payment of compensation to the employee. In the event that the employer does not exercise his right to claim the 'service' invention, the invention automatically becomes a 'free' invention, which the employer has no right to claim and which belongs solely to the employee. However if the 'free' invention can be utilised in the employer's undertaking, the employee must offer the employer a non-exclusive right to use the invention. 'The provision of a non-exclusive right of use to the employer in respect of 'free' inventions can be regarded as a similar concept to that of the American 'shop right' concept discussed *infra*. In conclusion, it can be stated that the German system is unique in that a separate statute exists which specifically deals with employee inventions and which is strongly characterised by labour law provisions. Accordingly a sophisticated administrative machinery has been devised for employee inventions.

iii) UNITED STATES OF AMERICA

Notwithstanding the high degree of industrialisation in the United States of America and its associated status as an economic world leader, the legal position in regard to the ownership of employee inventions is reminiscent of the traditional United Kingdom law prior to the Patents Act of 1977 in that its basis remains that of the master-and-servant relationship. In this area of the law in the United States, the employers have more or less a free rein in acquiring rights to inventions made by employees, a prerogative provided by favourable common law provisions. Although Rattray<sup>74</sup> is correct in stating that 'virtually all matter relating to rights in an employee invention are to this day governed by common law considerations', some changes are notable in certain states in the United States. For example, statutes have been introduced in Minnesota, California, Washington, North Carolina and Illinois which represent a considerable deviation from the traditional common law position, in that previously an employer obtained ownership of patents simply due to the presence of an assignment clause in an employment contract whereas the new statutory stipulations provide that assignment clauses contrary to the statutory standard are null and void.<sup>75</sup> The need for legislative reform is based upon the recognition that the

employer-employee relationship is critical to patent procurement, a fact which finds support in the statistic that eighty four percent of American patents are awarded to employed inventors.<sup>76</sup>

In the matter of *United States v Condenser Dubilier Corp*,<sup>77</sup> the common law position regarding employee inventions where no express contract existed between the parties to the employment contract, was reviewed. Three categories of inventions and rights attaching thereto were identified, namely specific inventions, shop right inventions and free inventions.<sup>78</sup> Specific inventions arise where an employee is hired and paid to create a specific invention or solve a specific problem. In such a case, the inventor implicitly agrees to assign the resulting patent to the employer based upon a contractual and equitable duty to so assign. A shop right invention or general invention exists where an employee produces an invention using the employer's resources, but the employer did not employ the employee to produce the relevant invention. The *Dubilier* case defined a shop right as an employer's royalty-free, non-exclusive and non-transferable license to use the employee's invention. The presence of an employer-employee relationship does not per se mean that a shop right exists, and the circumstances peculiar to the invention will determine whether such a right exists. It is for the employer to establish on equity that an implied contract creating a shop right exists, and factors which can be weighed in this determination include the use by the employee of the employer's facilities, time, trade secrets and other employees.<sup>79</sup> A shop right exists for the life of the patent even if the employment relationship terminates earlier.<sup>80</sup> The shop right allows the employer to make, use or sell articles which embody the invention. In essence the shop right doctrine attempts to divide the patent rights between the inventor and the employer by providing an equitable distribution of patent rights between the parties so that the employee inventor retains the patent's title and the employer is granted free use of the invention.<sup>81</sup> In my opinion, Hovell's reference to a shop right attempting to 'divide' the patent rights is not strictly correct since the patent rights belong to the employee but the right to exercise the patent is shared between the employer and employee. The third category of common law invention is that of free inventions which are owned exclusively by the employee. Free inventions are now protected in some state statutes such as the Illinois statute which prohibit any assignment of such inventions to the employer in the employment contract.<sup>82</sup> This type of provision is also contained in the Act in section 59(2)(a).

However in the United States, the employee inventor issue is also dealt with in express written contracts allocating patent rights between the employee and the employer since most modern employers are unwilling to rely upon the vagaries of the common law doctrines to determine the allocation of patent rights in employment situations.<sup>83</sup> Accordingly most employers enter into employment contracts on condition that the potential employee accepts an invention assignment clause in the contract. In most cases, save where equity is in question, these contracts are held to be enforceable and replace the common law provisions. A further consideration in United States law on the question of employee inventions is the apparent lack of compensation for employee inventions, contrary to the peremptory provisions in the United Kingdom and Federal Republic of Germany. All bills attempting to introduce compensation in the United States have met with resistance from industry and have never been introduced into law. Accordingly all compensation that is granted in specific cases is dependant upon the goodwill of the employer.

The United States common law model can produce inequitable distribution of patent rights,<sup>84</sup> a situation exacerbated by assignment provisions in employment contracts which exist due to the employer attaching such a condition to the employment of the inventor. Hovell<sup>85</sup> is of the view that the common law distribution of patent rights does not maximise inventiveness since an employer can obtain an inventor's patent right before the creation of the invention. Hovell<sup>86</sup> accordingly suggests that alternative statutory schemes could improve the common law system of allocation of patent rights. Although some states have attempted to regulate the allocation within their own regions, Congress has been unwilling to establish such a federal standard applicable to all states. This view is supported by Orkin in Phillips<sup>87</sup> in terms of which he suggests that the law pertaining to employee inventor rights must be viewed in the light of the Constitution of the United States, since the Constitution and other laws introduced by Congress are the supreme laws of the land. Thus federal supremacy will resolve any conflicts between such laws and the rights of employee inventors, determined by common law or express contracts. A solution propounded by Hovell<sup>88</sup> is that of creating a reverse shop right in the inventor where the employee would gain the license to use any patent he assigns to his employer, which would enable him to bargain for a higher salary based on the value of the invention.

In summary, the United States law pertaining to employee inventions is essentially based upon common law considerations, save for a few statutory provisions in five states within the United

States. The common law recognises three types of inventions, namely 'specific' inventions, 'shop right' inventions and 'free' inventions. A 'specific' invention is an invention made by an employee who was hired and paid to create a specific invention or solve some specific problem. Patents flowing from 'specific' inventions are implicitly assigned to the employer by the employee. On the other hand, 'shop right' inventions are produced by the employee using the employer's resources but the employee is not employed to produce the invention. In such cases the employee owns the rights in the invention, but the employer is given a shop right or a non-exclusive, non-transferable, royalty free licence in respect of the use of the employee's invention. The final common law type of invention recognised in the United States is the 'free' invention, in terms of which the employee owns the rights and the employer has no shop right. Albeit that the German and American systems both use the term 'free' to define a category of employee invention, the nature of the categories differ substantially. The American law also differs from the English and German law in one material respect, namely that no provision is made for compensation for employee inventors.

## 5. REPUBLIC OF SOUTH AFRICA

In his thesis in 1978, Rattray<sup>89</sup> commented that South Africa was 'virtually devoid of authorities' in relation to employee inventions. To date, this lamentable situation remains the *status quo*. All cases pertaining to patents deal in the main with infringements, revocations and specification disputes and are silent on employee inventions. Even the Patent Office in Pretoria does not keep records of the number of patents granted in respect of employee inventions. It is thus impossible to compare the statistics of the grant of patents for employee inventions in South Africa with the statistics mentioned above in the United Kingdom, Federal Republic of Germany and the United States. The only statistics that are available are the number of local as well as foreign patents on a monthly basis. The statutory status of employee inventions also indicates a dearth of authority on the subject. Almost two decades have passed since Rattray produced a thesis on the topic suggesting certain improvements in this area of the law, but to date, no changes have been made and the topic has been relegated to the academic bookshelves, notwithstanding the fact that a lacuna exists in South African law regarding employee inventions.

Although there are a few South African statutes dealing with employee inventions, these are mainly confined to inventions produced by employees of government institutions like the Council for

Scientific and Industrial Research which are concerned mainly with research. The Scientific Research Council Act 46 of 1988 (section 31), the Agricultural Research Act 86 of 1990 (section 24(1)) and the Standards Act 29 of 1993 (section 33(1)) all regard the public interest as paramount and provide that rights in respect of inventions produced by employees in the course of their employment shall vest in the relevant government entity, such as the CSIR. However all three statutes specifically provide that the employers may provide compensation for employee in these circumstances.

The only other statutory reference to employee inventions is section 59(2) of the Act. In the repealed Patents Act 37 of 1952 the legislator considered the possibility of disputes between employers and employees in respect of rights to inventions and introduced specific provisions at section 63(1) and (2) which dealt with a dispute between the employer and the employee in regard to the rights of the parties to an invention made by the employee or a patent pertaining to the invention. Notwithstanding this recognition by the legislator, Gerntholtz<sup>90</sup> states "...but he did very little to clarify these rights or to provide for a satisfactory procedure for solving such disputes". In terms of section 63, the Commissioner of Patents was not only empowered to determine the matter in dispute and to make such orders for giving effect to his decisions as he considered expedient, he could also order the apportionment between the parties of the benefit of the invention and of any patent or patent application pertaining to the invention in such manner as he deemed just. However the section 63 provisions finds no counterpart in the Patents Act 57 of 1978 ('the Act'). Section 28 of the Act does not specifically deal with employer-employee disputes, but is of a more general nature providing that all persons may refer their disputes regarding rights in inventions and patents to the Commissioner of Patents, who has a largely unfettered discretion. However the essence of the South African law and view of employee inventions is to be found at section 59(2) of the Act, which provides that:

'Any condition in a contract of employment which

- (a) requires an employee to assign to his employer an invention otherwise than within the course and scope of his employment; or

- (b) restricts the right of an employee in an invention made by him more than one year after the termination of the contract of employment,

shall be null and void'.

The approach of the Legislature which is apparent from this provision is that the rights to an invention made by an employee in the course and scope of his employment vests in the employer provided that a contract to such effect exists.<sup>91</sup> Burrell<sup>92</sup> suggests that a broad interpretation be given to the term 'course and scope' and that it should be equated with 'sphere' or related to his work. Once established that the invention was made in the course and scope of his employment, the next leg of the enquiry pertains to the determination of whether a contractual relationship exists between the employer and employee entitling the employer to rights in respect of the invention.<sup>93</sup> In this regard, Burrell<sup>94</sup> refers to the similarity between the law of the United States and South African law, in that both systems of law do not imply into the employment contract a duty on the part of the employee to assign his invention to his employer where the contract is silent in this regard or is unclear. Thus the service contract remains the basis for the determination of the rights of the employer to an invention of his employee. In the United States the notion of freedom of contract is strongly supported,<sup>95</sup> with the result that the service contract remains the ultimate determining factor for rights in inventions.

However as stated above, employers are traditionally the masters who are able to negotiate an employment contract with an employee which contains the stipulation that the inventions must be assigned since the employee requires the work. Accordingly the favourable common law position of no assignment being implied can be contracted out of by the parties, to the detriment of the employee. In the circumstances, a solution might be the introduction of a statutory test for ownership of the invention which provides guidelines for employers and employees entering into contracts of employment, coupled with provisions stipulating that contracts of employment may not deprive an employee of any rights granted statutorily. An example of the latter provision is section 42(2) of the Patents Act of 1977 which protects employees by stipulating that any provision in the contract of employment which diminishes his rights to inventions is unenforceable. The provisions contained in section 42(2) are similar to the provisions of section 59(2) in the Act.

Since little or no guidance is to be found in South African legal principles dealing with employee inventions, regard must be had to other legal systems in attempting to find a solution in the South African situation. Thus in formulating an appropriate statutory test for ownership of employees, the German and English systems must be considered, since they have comprehensive tests in their legislation. It is my submission that Rattray<sup>96</sup> is correct in his view that the German system is not suitable since its inherently complicated administrative machinery merely imposes bureaucratic principles in the administration of the legal system. However Gertholtz<sup>97</sup> takes the view that the German system is more advantageous and more equitable in relation to the employee. The English system is also regarded as unsatisfactory both by Gertholtz<sup>98</sup> who states that the English system favours the employer and Rattray<sup>99</sup> who regards the English system as too rigid and favours the employer unnecessarily. Both these views have merit in my opinion. Rattray<sup>100</sup> concludes that he prefers the United States system to the English 'all or nothing' system since it favours the employee, and supports the United States concept of shop rights. Burrell<sup>101</sup> also lends support to the shop right concept and recommends that South African law adopts the shop right concept, based upon equitable principles. Notwithstanding my support of Burrell and Rattray's favourable view of the shop right concept, in my view, the American system of shop rights can only be considered once the test for ownership has been established since shop rights naturally are considered only after it has been determined on a test of ownership that the invention in question belongs to the employee.<sup>102</sup>

The English statutory test of ownership is merely a codification of the common law position.<sup>103</sup> It essentially still embodies an 'all or nothing' approach, but if qualified as suggested *infra*, it may provide a solution for the South African lacuna. South African patent law is modelled on the English law and both systems have historical reliance upon the master-and-servant concept in relation to employment contracts as well as reliance upon the 'course and scope' criterion for determining ownership of inventions. The 'course and scope' criterion has lent itself to wide interpretation and created uncertainty in the parameters of the ownership test. The current English statutory test has abandoned the 'course and scope' criterion and has adopted in my opinion more specific and clear criteria for ownership which are less likely to create uncertainty of interpretation. In my view a statutory test for ownership should be introduced into South African law since statutory protection of employees' rights through a test for ownership of inventions will remove the



difficulties found in America where contracts of employment contractually diminish employee rights in inventions.

The English test as outlined in paragraph 4i) *supra* on page 11 contains three legs for determining the ownership of the invention. The first two legs, namely if the invention was made in the course of the normal duties of the employee or secondly, outside his normal duties but during the course of duties specifically assigned to him, are in accordance with the statutory law position in South Africa regarding the traditional 'course and scope' concept and do not extend the test. In the event that the two questions are answered in the affirmative, the invention belongs to the employer. However the third leg of the test contains a most stringent requirement and narrows the test in favour of the employer, namely if the invention is made in the course of the employee's duties, and because of the nature of the duties and the particular responsibilities arising therefrom he had a special obligation to further the interest of the undertaking, the invention belongs to the employer. The third leg is in my opinion is too onerous for the employee and unreasonably favours the employer. I therefore take the view that the third leg of the test should not be considered in the South African codification of the test. Russell<sup>104</sup> is of the view that the third leg is likely to be the most problematic in practice. Furthermore, I do not believe that the third leg of the test should be replaced by a further criterion since there is no real justification for extending the test beyond the present confines.

The only precedent in South African law to provide guidance on employee inventions is the matter of *Brown N.O. v Simmons*.<sup>105</sup> *In casu* the respondent was employed by the Tobacco Research Board ('TRB') solely for the purpose of conducting tests in respect of the comparative efficiency of various types of furnaces. During the course of this employment, the respondent designed a furnace, called the 'Eureka', which he was permitted to install and test. The respondent was granted a patent in respect of the Eureka. An application for revocation of the patent was subsequently brought by the Chairman of the TRB on various grounds, the salient ground for purposes of this discussion being the allegation that the TRB had employed the respondent to conduct the experiments and that whilst so carrying out his duties, he had consulted with and provided the TRB with progress reports. Accordingly the applicant alleged that he, as chairman of the TRB, was entitled to be registered as co-patentee. It was held that although the respondent had built the Eureka whilst being employed by the TRB and using its facilities, he had not been

employed to design furnaces and make the invention in question and that in the result the invention did not belong to the employer.<sup>106</sup>

In my view Rattray<sup>107</sup> is correct when he states that the *Brown* decision confirms that employment contracts are basic in the consideration of rights in an employee's invention and that the decision provides authority for the view that where an employee makes an invention which falls outside the scope (as opposed to the course) of his employment, the invention does not belong to the employer. It is clear that this decision was influenced by considerations of English law pertaining to employee inventions.<sup>108</sup> The *Brown* decision encapsulates the first two legs of the English statutory test for ownership. However it is possible that had the third leg of the test been part of legislation at the time of the decision, the judgement of the court may well have found that the respondent had a special obligation to further the interests of the undertaking and judgement may have been given in favour of the TRB.

Both Rattray<sup>109</sup> and Burrell<sup>110</sup> do not favour the 'all or nothing' approach, a view which I support. A solution must thus be found which provides a qualification to the 'all or nothing' approach. Ultimately the success of the patent system rests upon reward. In accordance with this principle, if the ownership test based on the first two legs of the English test determines that the employer is the owner of the invention, I suggest that financial reward be made available to the employee. A precedent for this kind of concept is contained in the various research Acts referred to *supra*. A financial reward for the employee will provide an incentive to continue to invent, since it is in both the employee's and employer's interests to do so. On the other hand, where the ownership test determines that the invention belongs to the employee and can be utilised in the employer's undertaking, I support the idea of a shop right being granted to the employer since the invention was made using the facilities of the employer. However where the invention is made by an employee which is not associated with the business of the employer, these inventions should be regarded as akin to the 'free' inventions found in American law, with the result that the right to the invention vests exclusively in the employee and no shop right is appropriate. Again the concept of the reward is paramount, and the employee will gain by retaining ownership of the invention for exploitation purposes whereas the employer may use the invention for his own needs.

Rattray<sup>111</sup> suggests that an equitable solution in South African law is to imply in all service contracts dealing with rights to employee inventions the basic rule that the employer will be entitled at the very least to a simple license in respect of the invention where the employee made the invention within the course and scope of his employment. In my opinion, this suggestion has merit but should be qualified in that 'the course and scope of his employment' as stipulated by Rattray should be replaced by the two legs of the English test. Phillips<sup>112</sup> illustrates the potential disadvantage of a shop right in that where the employer takes a license in respect of an employee invention and exploits it, the employee who remains employed by that employer must encounter severe difficulties in attempting to commercially exploit his invention fully. Phillips then cites the example of German law which provides that the employee who holds such a patent can compel his employer to buy it outright.

The qualified 'all or nothing' approach enshrining the reward principle in patent law may provide a solution to the lacuna in South African law. The two qualifications to the 'all or nothing' principle, namely compensation for employees and shop rights for employers are not without difficulties. As established in other legal systems, the determination of the quantum of compensation is not settled and shop rights by no means provide an ideal cure for determination of rights to employee inventions.

## 7. CONCLUSION

Phillips<sup>113</sup> states '.....it may be pointed out that there is a trend amongst industrialised democracies to establish laws that provide for the protection and the compensation of the employee inventor'. South Africa should not be an exception to this trend. Due to monumental changes within South Africa over the past two years, South Africa has been removed from its economic isolation and catapulted onto the world stage, a position which demands economic competitiveness on a worldwide scale. It is essential that trade barriers are reduced in an attempt to maximise competition and profit margins. Recognition of this principle is found in the fact that South Africa is a signatory to GATT and TRIPS as well as the Paris Convention. It can thus be said that the framework for proper recognition of intellectual property rights is established in South Africa. The recent introduction of the Constitution lends further support to the recognition of intellectual property rights by classifying such rights as property rights. Furthermore a fundamental right

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enshrined in the Constitution is that of freedom of expression which includes freedom of scientific research. Since scientific research provides an invaluable source of employee inventions, recognition of this right is important for the development of the law pertaining to employee inventions. This framework provides the means for the acceptance of the important role that employee inventors fulfil in South African society, a role which has been accepted in other democracies in the world.

The current South African law does not reflect the importance of the role of inventors. This inadequacy is acute when viewed in the light of South Africa's new-found world economic status. Since law should be dynamic and reflect the current needs of the society it serves, it is imperative that the law pertaining to employee inventions be reformed. I recommend that a statutory test of ownership of employee inventions be introduced, in terms of which the enquiry consists of two legs, namely:

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- a) Was the invention made in the course of the normal duties of the employee; or
- b) Outside his normal duties but during the course of duties specifically assigned to him.

If the two questions are answered in the affirmative, the invention belongs to the employer. In such a case, statutory relief in the form of provisions establishing adequate compensation rights for employee inventors would be welcomed. However where the questions produce a negative answer and the invention is deemed to belong to the employee, the equitable shop right concept should be introduced into South African law, perhaps by way of an implied licence in employment contracts. Furthermore the peremptory provisions of the current section 59(2) of the Act should also be retained but section 59(2)(a) should be amended to accommodate the recommended statutory test provisions. Accordingly the section should read as follows:

- (2) Any condition in a contract of employment which:
  - (a) requires an employee to assign to his employer an invention made by him otherwise than in the course of his normal duties or otherwise than outside his normal duties but during the course of duties specifically assigned to him; or

in AF 57 of 1978/

- (b) restricts the right of an employee in an invention made by him more than one year after the termination of the contract of employment,

shall be null and void.

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