THE "VERONICA BUCKET" AND THE INVENTIVE STEP REQUIREMENT UNDER THE PATENT LAW OF GHANA

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ABSTRACT

The Veronica bucket, a hand washing mechanism consisting of a bucket with a tap fixed at the bottom, mounted at hand height, with a bowl at the bottom to collect wastewater has played a pivotal role in the fight against the Covid-19 pandemic through the promotion of good hand washing habits. The popularity of the Veronica bucket led its Ghanaian inventor in an interview on a radio station in Accra, Ghana in March 2021 to express her regrets for failing to obtain a patent for her product. Her statement, which dominated the headlines of major social media platforms and generated public discussion demonstrates the misconception about the grant of a patent. This paper adopts the doctrinal legal research methodology in an attempt to analyse the requirements for the grant of a patent under Ghanaian law, particularly the inventive step requirement to ascertain whether the Veronica bucket is indeed patentable under Ghanaian law. The paper argues, after a careful analysis of the patentability requirements under Ghanaian law that, even though the Veronica bucket is industrially applicable, it would have failed to meet the inventive step requirement to warrant the grant of a patent. The paper further argues that even if a search was to be conducted to reveal that the invention underpinning the Veronica bucket was new at the material time, such an invention would instead entitle its inventor to a Utility Model Certificate under Ghanaian law, which only requires the product concerned to be new and industrially applicable.

Keywords: Patentability, Inventive step, Utility Model Certificate

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Introduction

Contemporary history seems to establish that technology and knowledge are critical factors for economic growth and development. Since the creation of the first mechanism to protect inventions in the 15th century, the patent system has evolved to promote innovation and encourage economic development. Hence an appropriate patent system that protects inventions is key towards achieving these goals. These goals are realised through the exclusive rights vested in a patent holder, based upon which he/she is granted protection for a limited period to exploit the invention economically to the exclusion of others, after which the information concerning the invention falls into the public domain for use by the general public. Therefore, for a developing country like Ghana, a robust patent regime that serves as a catalyst for innovation and creativity is key towards the achievement of the requisite level of economic growth and development.

One such creative product by a Ghanaian which has played an important role in the promotion of good hand washing habits during this Covid-19 pandemic era is the Veronica bucket. This hand washing mechanism is made up of a bucket with a tap fixed at the bottom, mounted at hand height, with a bowl at the bottom to collect wastewater. The usage of the bucket has gained currency not only in Ghana but in other African countries such as Nigeria, to stop the spread of the virus, ⁵ and is now a common feature in most schools, hospitals, and other public buildings in Ghana.

The popularity of the Veronica bucket has therefore propelled to stardom its inventor, who in an interview on Joy FM's Personality Profile, a leading radio station in Accra, Ghana in March 2021 expressed her regrets for failing to have the bucket patented. She also highlighted some frustrations she encountered in her bid to have the bucket patented, which led her to eventually give up on the patent registration. This statement of hers has garnered a lot of public interest and discussion following its widespread

² Economic Development and Patents, World Intellectual Property Organisation. Available at https://www.wipo.int/patent-

 $[\]label{lawen/developments/economic.html\#:\sim:text=Since\%20the\%20creation\%20of\%20the,innovation\%20and\%20encouraging\%20economic\%20development.&text=|t%20also%20promotes%20investment%20to,the%20fruit%20of%20the%20innovation. Accessed 20/11/21$

³ Ibid

⁴ Ibid

⁵ Ani, Emmanual. "COVID-19: Ekiti shuts down schools, institutions" https://dailypost.ng/2020/03/20/covid-19-ekiti-shuts-down-schools-institutions. Accessed 13/4/21

 $^{^6}$ I regret not patenting the veronica bucket- Veronica Bekoe https://www.myjoyonline.com/news/national/i-regret-not-patenting-the-veronica-bucket-veronica-bekoe/ Accessed 13/04/21

reportage on various social media platforms in Ghana. The aforementioned statement of the Ghanaian inventor and the extensive media reportage it has garnered bring into sharp focus the misconceptions about the grant of a patent under Ghanaian law, particularly the inventive step requirement.

The central thesis of the paper is that the Veronica bucket fails to meet the inventive step requirement, which would warrant the grant of patent protection, despite being industrially applicable. The paper further argues that the inventor of the Veronica bucket mechanism would instead be entitled to a Utility Model Certificate, commonly referred to as 'petty or small' patents, which has a lower threshold requirement under Ghanaian law, only if a search filed revealed that it was new at the material time.

In Ghana, there is a paucity of research and publication materials on the patentability requirements under Ghanaian law. Over the years, and even in more recent times, the discussions and publications have concentrated on the features of Ghana's repealed Patents Act, the role of intellectual property rights protection in stimulating innovation and creativity, as well as a general analysis of the Patents Act of Ghana, 2003 (Act 657). For instance, Mills, in his article, discusses some of the features of Ghana's repealed Patents Act which became operative in December 1992, by highlighting some of the changes introduced into the patent regime of Ghana by the said Act. Also, Adoma's work examines the role, prospects, and challenges associated with exploring intellectual property systems to stimulate Ghana's domestic creativity and innovation and recommends, among others, a review of the existing intellectual property laws to correspond to modern trends, to enhance Ghana's creativity and innovation. Manteaw's article, on the other hand, provides a general critique of the Patents Act of Ghana,

⁷ Some of the news portals include Ghanaweb: Had I known: Inventor of Veronica bucket regrets not patenting her product https://www.ghanaweb.com/GhanaHomePage/NewsArchive/Had-I-known-Inventor-of-Veronica-Buckets-regrets-not-patenting-the-product-1209439 Accessed 10/4/21; on TV3 network facebook page https://www.facebook.com/TV3GH/videos/inventor-of-veronica-bucket-veronica-bekoe-regrets-not-patenting-the-invention/225810441850988/ Accessed 10/4/21

⁸ DM Mills, Some Observations on the new Patent Law of Ghana, World Patent Information, vol. 17, issue 4, December, 1995, pages 235-240.

⁹ D Adoma, The Role of Intellectual Property Rights Protection in Stimulating Creativity and Innovation: The Case of Ghana, Dissertation submitted to University of Ghana, Legon in partial fulfilment of the requirements for the award of the Master of Arts Degree in International Affairs, 2016. Available at http://ugspace.ug.edu.gh/handle/123456789/27460 Accessed 31/10/21

¹⁰ SO Manteaw, Ghana's Patent Law and Practice: A Critical Analysis of Patents Act, 2003, Act 657 (2016) 29 UGLJ 1

¹¹ See note 8

¹² See note 9

¹³ See note 10

2003 (Act 657) and concludes that although the patent regime of Ghana is well crafted, it has gaps that need to be worked on. Towards this end, Manteaw recommends, among others, much attention in the form of law reforms, education, and training in respect of the patent regime of Ghana to enable it to be well understood and utilised to facilitate innovation. In effect, the law on the patentability requirements under Ghanaian law has not been critically examined, hence the subject matter area remains under-researched. This paper thus aims at contributing to knowledge in the research area, by providing an in-depth analysis of the patentability requirements under Ghanaian law, particularly the inventive step requirement, in a bid to ascertain whether the Veronica bucket is indeed patentable under Ghanaian law.

The paper adopts the doctrinal legal research methodology in an attempt to discuss the issues involved in the paper. The doctrinal legal research methodology deals with studying existing laws, related cases, and authoritative materials analytically on some specific matter. The paper adopts the doctrinal research approach because it is important to analytically study the Patents Act of Ghana, 2003 (Act 657), and other works, such as related case law, journal articles, etc., in order to determine whether the Veronica bucket is indeed patentable under Ghanaian law.

The paper is organised as follows. The first section provides background information on the Veronica Bucket. The second section discusses the nature of patent rights and their justification, followed by a discussion on the Veronica bucket and the patentability requirements under Ghanaian law. The next section of the paper focuses on the argument for the eligibility of the Veronica bucket invention to protection by way of a Utility Model Certificate, followed by a general conclusion.

Background Information on the Veronica Bucket Hand Washing Mechanism

The Veronica bucket, which is named after its Ghanaian inventor and biological scientist, Madam Veronica Bekoe, is a hand washing mechanism, consisting of a bucket with a tap affixed to it at the bottom which must be manually opened and closed, and mounted at height and a bowl at the bottom to collect wastewater. According to its inventor, she was inspired to come out with the device sometime in 1993 while working as a biological scientist at the Public Health Reference Laboratory in Accra, Ghana, and realised that it would be necessary to create a water source that prevented contamination. ¹⁵

covid-19-related-inventions.html Accessed 12/04/21.

¹⁴ A Kharel, (2018), Doctrinal Legal Research, SSRN Electronic Journal. Available at https://www.researchgate.net/publication/323762486_Doctrinal_Legal_Research Accessed 27/10/21
¹⁵ Graphic online: Protecting Covid-19 related inventions https://www.graphic.com.gh/features/opinion/protecting-

Apart from Ghana, the bucket is also in use in other Africa countries like Nigeria, where the governor of Ekiti State, Kayode Fayemi, gave a directive for all public places to procure the bucket to promote frequent hand washing, as part of the Covid-19 protocol measures to stem the tide of the virus. ¹⁶

The Nature of Patent Rights

Patent law deals with new and industrially applicable inventions. The patent system guarantees a limited term of protection for a person's invention in return for the inventor's undertaking to divulge the details of his invention and to eventually abandon his rights in the invention after the limited period. Disclosure, which is at the very heart of a grant of a patent must be total as the proprietor is required to disclose all relevant information pertaining to his invention to make it possible for others to work the invention after the limited term of protection. The nature of the level of disclosure expected of a proprietor of a patent was described by Grove J in *Young v Rosenthal* as follows:

'Then he (the applicant) is bound so to describe it in his specification as that any workman acquainted with the subject...would know how to make it; and the reason of that is this, that if he did not do when the patent expired he might have some trade mystery which people would not be able actually to use in accordance with his invention (although they had a right to use is after his invention had expired) because they would not know how to make it.'17

Once granted, a patent gives the proprietor monopoly over the invention for a limited period. During the said period, the proprietor can exclude all others from making use of the invention. The patent holder, during the period of monopoly, will have exclusive economic rights over the invention, such as selling, offering for sale, making the product, etc. It is, however, worth noting that the monopoly a proprietor enjoys over an invention is not absolute, since a mechanism, such as compulsory licence or non-voluntary licence is in place to serve as a safeguard against abuse of such monopoly rights. As is the case with other intellectual property rights, a patent is a form of personal property that may be assigned, licensed, or even charged by way of a mortgage.

Ani, Emmanual. "COVID-19: Ekiti shuts down schools, institutions" https://dailypost.ng/2020/03/20/covid-19-ekiti-shuts-down-schools-institutions. Accessed 13/4/21

¹⁷ (1884) 1 RPC 29 at page 31.

Justification for Patent Rights

There is the need to protect the knowledge associated with an invention from unlawful use, for at least a period of time, to promote industrial development and economic growth. A robust patent regime serves as a tool in the achievement of those objectives. Various reasons have thus been proffered to justify the existence of the patent regime. The justification for a patent system was succinctly captured by Aldous J in *Chiron Corporation v Organon Teknika Ltd (No 10)* when he said that almost every country has adopted a patent system because:

'...it is generally accepted that the opportunity of acquiring monopoly rights in an invention stimulates technical progress in at least four ways. First, it encourages research and invention; secondly, it induces an inventor to disclose his discoveries instead of keeping them secret; thirdly, it offers a reward for the expense of developing inventions to the state at which they are commercially practical and, fourthly, it provides an inducement to invest capital in new lines of production which might not appear profitable if many competing producers embarked on them simultaneously... It is inherent in any patent system that a patentee will acquire a monopoly giving him a right to restrict competition and also enabling him to put up or at least maintain prices. That affects the public and is contrary to the public interest, but it is the recognised price that has been accepted to be necessary to secure the advantages to which I have referred.' 18

In line with the reasons stated by Aldous J in *Chiron Corporation v Organon Teknika Ltd (No 10)*, ¹⁹ various theories have been propounded as justification for the existence of a patent system which are still of relevance today. ²⁰ The focus of the paper, at this stage, will be a discussion on the underpinning philosophies of these various theories, as well as their influence on the patent regime. The various theories are as follows:

- (1) The contract theory
- (2) The reward theory
- (3) The incentive theory
- (4) The natural law or moral rights theory

¹⁸ (1995) FSR 325 at 332

¹⁹ Ibid

 $^{^{20}}$ H I. Dutton, (1984), The Patent System and Inventive Activity during the Industrial Revolution, 1750-1852, Manchester University Press, Chapter 1.

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The Contract Theory

The contract theorists are of the view that there is the need for temporary protection to be afforded inventions in exchange for making such knowledge associated with the invention available to the public after the limited period of protection. The information available to the public after the limited period of protection will stimulate the creation of new technologies and increase industrial activity. This theory is manifested through the monopoly rights associated with the patent regime, based upon which a patent holder is granted protection for a limited period of time to exploit the invention economically to the exclusion of others, after which the information concerning the invention falls into the public domain for use by the general public.

The Reward Theory

This school of thought is of the opinion that inventors should be rewarded as a result of their useful inventions. Theorists belonging to this school of thought, therefore advocate for the law to be used as a device to safeguard this reward to ensure that inventors can receive sufficient compensation or enjoy the fruits of their invention. It is in line with this theory that the patent regime grants the proprietors of inventions the right during the limited period of monopoly to exclude all others from making use of their inventions. For instance, under Act 657 of Ghana, during the limited period of monopoly, the patent holder will have exclusive economic rights over the invention, such as selling, offering for sale, making the product, among others.²¹

The Incentive Theory

This theory builds on the reward theory, which focuses on the compensation packages associated with being a patent holder. Towards this end, proponents of this theory advocate for a strong patent system, whereby inventors are rewarded for their inventions, which will incentivise others to also come out with new inventions, as well as to invest the necessary time and capital. This theory has influenced the patent regime through the protection granted to a patent holder for a limited period of time to exploit his/her invention economically to the exclusion of others. The economic benefits associated with this monopoly right, it is believed, will encourage others to come out with other inventions for the public good.

²¹ Section 11(1) and (2) of Act 657

The Natural Law/ Moral Rights Theory

This theory accords with the views on property rights held by philosophers like John Locke. Proponents of this theory hold the view that individuals have a property right in their own ideas, which has to be protected from being infringed upon by others. The main tenets of this theory is that law stems from morality and that morality is derived from nature. Pursuant to this theory, the patent regime is required to put in place punitive measures to serve as a deterrent to others from infringing upon the rights of patent holders. For example, under Act 657 of Ghana, a person who knowingly infringes upon the rights of a patent holder is liable to a fine or to a term of imprisonment, unless the exploitation of the patent is by the government or authorised agent for public interest reasons; the exploitation is based on a non-voluntary or compulsory licence and in instances where the exploitation falls within the stated category under section 11(4) of the Act. ²³

It has however been noted by Mazzoleni and Nelson that, ²⁴ the lines between the above-discussed theories are sometimes blurry since they can overlap. For instance, being rewarded for an invention, which falls within the ambit of the reward theory, can invariably motivate others to come out with new inventions (incentive theory). Also, the monopoly for a limited period in return for the dissemination of information in respect of the invention, which is attributable to the contract theory, invariably accords with the natural law or moral rights theory, which advocates for the protection of the inventive ideas and frowns up any infringement of such idea. It is thus opined that neither of the theories functions on its own and that a patent regime made up of the combination of all the theories is necessary for the justification of patent rights.

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²² J Cirasa, Natural Law and the American Patent System, (2019), Law School Scholarship. Available at https://scholarship.shu.edu/cgi/viewcontent.cgi?article=2018&context=student scholarship Accessed 1/11/21

²³ See Section 37 of Act 657. Section 11(4) of Act 657 provides instances where the patent rights granted to a patent holder shall not be extended to, which include: acts in respect of articles which have been put on the market in any country by the owner of the patent or with the owner's consent; or the use of articles on aircraft, vehicles or vessels of other countries which temporarily or accidentally enter the airspace, territory or waters of Ghana; or acts done only for experimental purposes relating to a patent invention; or acts performed by a person who in good faith, before the filing or, where priority is claimed, the priority date of the application on which the patent is granted in the country, was using the invention or was making effective and serious preparations for the use.

 $^{^{24}}$ R Mazzoleni & RR. Nelson, The benefits and costs of strong patent protection: a contribution to the current debate, Research Policy 27 (1998) 273-284.

Patent Rights under Ghanaian Law

The Patents Act of Ghana, 2003 (Act 657) is the legislation that governs the protection and enforcement of patents in Ghana. A patent has been defined by the Act as the title granted to protect an invention.²⁵ An attempt has also been made under the Act to define an invention to mean an idea of an inventor which permits in practice the solution to a specific problem in the field of technology.²⁶ An invention under the Act may also be in respect of a product or process.²⁷ Patents are territorial, as a result of which a grant of a patent in Ghana gives the inventor the rights and protection of the invention only within Ghana.

Effect of a Grant of Patent under Ghanaian Law

The grant of patent vests in an inventor, exclusive rights of the invention in Ghana for a period of twenty (20) years commencing from the date of filing the patent application, ²⁸ during which period the inventor enjoys the exclusive use of the invention. Annual renewal is however required, failing which the patent risks being lapsed. ²⁹ The prior consent of the inventor is necessary to exploit the patented invention, which involves the making, importing, offering for sale, selling and using the product or process, or stocking the product for the purposes of offering for sale, selling, or using. ³⁰ The patent owner can also institute legal proceedings against anyone who infringes the patent by exploiting it without his consent. ³¹ An invention can however be exploited by the Government of Ghana without the prior consent of the owner for public interest reasons and for anti-competitive practices, subject to the payment of adequate remuneration to the patent owner. ³²

Basic Requirements for the Grant of Patent under Ghanaian Law

Before a discussion on the basic requirements for the grant of a patent under Ghanaian law, it is pertinent to state that an application for a patent in Ghana will not be granted if the specification does not disclose the invention in a manner sufficiently clear and complete for the invention to be carried out by a person having ordinary skill in the art. The invention is also required to particularly indicate, at least, one mode known to the

²⁵ Section 1(1)

²⁶ Section 1(2)

²⁷ Section 1(3)

²⁸ Section 12(1) of Act 657

²⁹ Section 12(2) of Act 657

 $^{^{\}rm 30}$ Section 11(1) and (2) of Act 657

³¹ Section 11(3) of Act 657

³² Section 13 of Act 657

applicant for carrying out the invention. The claim or claims must also define the matter for which protection is sought. 33 These requirements are necessary to ensure that an applicant for a patent does not withhold any important information necessary to work the invention by a person skilled in the art when information in respect of the invention falls within the public domain after the monopoly period is over. In line with this patent law principle, in *Novartis AG v Johnson & Johnson Medical Ltd*, 34 the English Court of Appeal revoked a patent for extended wear contact lenses for insufficiency. Jacob LJ was of the view that the instructions contained in the patent did not enable the skilled person, lacking inventive skill, to work the invention over the whole area claimed.

On the issue of the basic requirements of patentability under Ghanaian law, it can be gleaned from Act 657 that in order for an invention to receive patent protection it has to be new, it must involve an inventive step, it must be industrially applicable, ³⁵ and must not also be excluded from patent protection under the Act. ³⁶ It is important to add that all the aforementioned requirements must be met before a patent application will be granted under Ghanaian law. Since there is nothing about the Veronica bucket that suggests that it is excluded from patent protection under the Act, the paper will at this stage analyse the patentability of the Veronica bucket through the lenses of the novelty, industrially applicable requirements, and more particularly the inventive step requirement, to ascertain whether the bucket meets the patentability requirements under Ghanaian law.

Novelty Requirement

To qualify for the grant of a patent, the invention is required to be new. In the contemporary world where most inventions build on prior knowledge, the novelty and inventive step requirements are in place to ensure that patents protect technology that crosses the threshold of triviality, in order to prevent a situation where a slight improvement in an existing technology can substitute an earlier patent, thereby depriving the current patent holder of his profit.³⁷

Section 3(2) of Act 657 of Ghana has assigned a special meaning to the term 'new' as an invention that is not anticipated by the prior art. The prior art has also been defined by the Act as consisting of everything disclosed to the public, anywhere in the world, by

³³ Section 5(5)-5(7) of Act 657

^{34 (2011)} ECC 10

³⁵ Section 3(1)

³⁶ Section 2 of Act 657

 $^{^{37}}$ J.R Green & S. Scotchmer (1995), On the Division of Profit in sequential Innovation' RAND Journal of Economics 26 (1): 20-33

publication in tangible form or by oral disclosure, by use or in any other way, prior to the filing or, where appropriate, the priority date, of the application claiming the invention. The disclosure to the public of the invention shall not be taken into consideration if it occurred within twelve months preceding the filing date or, where applicable, the priority date of the application, and if it was by reason or in consequence of acts committed by the applicant or the applicant's predecessor in title or of abuse committed by a third party with regard to the applicant or the applicant's predecessor in title. The provided is a specific product of the applicant or the applicant

Disclosure to a person or persons in confidence does not invalidate a patent but disclosure to a person in the absence of an implied or express obligation of confidence will destroy the novelty, even if the person chooses on his own to keep it a secret. This is known as a de facto secrecy which destroys the novelty of the invention. 40 Oral disclosures will however not destroy the novelty of an invention if they are made in confidence, whether implied or express. 41 The prior art consists of everything disclosed to the public, anywhere in the world, and the acts or series of acts that constitute the publication of the invention do not have to be done on a wide scale. Thus, in *Windsurfing International Inc v Tabur Marine (Great Britain) Ltd*, 42 an application for the grant of a patent in respect of a sailboard was declared invalid for lack of novelty (as well as lack of inventive step), because a similar sailboard had earlier been built and used in public for a few weekends at a caravan site at Hayling Island in Hampshire by a 12-year-old boy.

If the disclosure in respect of the invention is made even to a single member of the public under circumstances that would not impute confidence, either implied or express, that would suffice to make it available to the public. 43

The definition of the prior art under section 3(3) of Act 657 of Ghana demonstrates that the novelty step basically deals with whether or not the invention has been anticipated by a previous patent, or by publication, either in tangible form or orally or use anywhere in the world. The prior art is in effect intended to establish that there is no evidence that the invention was already published as at the filing or the priority date. It is instructive to note that a patent claim may be anticipated in two ways by the prior

39 Section 3(4)

³⁸ Section 3(3)

⁴⁰ Per Floyd J in MMI Research Ltd v Cellxion Ltd (2009) EWHC 418

⁴¹ Visx Inc v Nidek Co Ltd (1999) FSR 405

^{42 (1985)} RPC 59. Hereinafter referred to as Windsurfing

⁴³ Lux Traffic Controls Ltd v Pike Signals Ltd (1993) RPC 107

art: either where the prior art describes something which is within the scope of the claim such that it enables the invention as claimed to be worked, or where the unavoidable consequence of performing what has been described in the prior art falls within the claim. 44

In respect of the first mode of anticipation by the prior art, an example is where the prior art describes an industrial process, which is at the heart of what is claimed, and an example of the second mode is where performing the prior art process necessarily results in a product or technical effect which is now claimed. 45

The Veronica Bucket and the Novelty Requirement under the Patents Act of Ghana, 2003 (Act 657)

Under patent law, unlike the other patentability requirements, to ascertain whether an invention satisfies the novelty requirement, a search must be filed with the relevant patent authority. In Ghana, the Patent Registry under the Registrar General's Department of the Ministry of Justice is the appropriate authority in this regard. ⁴⁶ It is also worth mentioning that the novelty requirement is based on the time of filing the search. In other words, it is the state of the prior art at the time of filing the search which determines if an invention meets the novelty requirement under the law or not.

Under the circumstance, it is only a search conducted at the material time that would reveal whether or not the invention underpinning the Veronica bucket was new.

Inventive Step Requirement

For an invention to qualify for the grant of a patent under Ghanaian law, it must also embody an inventive step. An invention shall be considered as embodying an inventive step if, having regard to the prior art relevant to the application claiming the invention and as defined in subsection (3), it would not have been obvious to a person having ordinary skill in the art.⁴⁷

The word 'obvious' has not been defined by Act 657 of Ghana. However, it has been stated that it is not necessary to go beyond the dictionary definition but to take it to mean 'very plain'. ⁴⁸ The ordinary skilled person in the art does not need to have inventive faculties but can be someone or a team of persons with a wide knowledge of the

⁴⁴ Inhale Therapeutic Systems Inc v Quadrant Healthcare plc (2002) RPC 21 per Laddie J at para 43.

⁴⁵ DI Bainbridge, Intellectual Property, 9th edition, 2012, Pearson Education Limited

⁴⁶ Section 31(1) of Act 657

⁴⁷ Section 3(5) of Act 657

⁴⁸ General Tire & Rubber Co v Firestone Tyre & Rubber Co. Ltd (1972) RPC 457.

technology within which the invention lies.⁴⁹ The critical issue is therefore whether the invention would be obvious to such ordinary skilled person(s). In *Pfizer Ltd's Patent*, ⁵⁰ this ordinary skilled person in the art has been described as someone who is required to offer an objective test and someone who neither misses the obvious nor stumbles on the inventive; one who has looked at and read publicly available documents and who knows of public uses in the prior art.

Whether or not an invention is obvious is a question of law and fact. For instance, in *Lux Traffic Controls Ltd v Pike Signals Ltd*, ⁵¹ the defendant claimed that the plaintiff's second patent in relation to traffic signal controls was invalid on a number of grounds. The defendant without adducing any evidence to substantiate its claim argued that the second patent was obvious. However, owing to the lack of evidence to buttress this claim, the court expressed surprise that the invention had not been proposed before it if that was the case.

Due to the difficulty associated with the determination of the inventive step requirement, the courts have proffered guiding principles to aid in such determination. In *Windsurfing International Inc v Tabur Marine (Great Britain) Ltd,* 52 the four-step formulation principle to test the obviousness of an invention is as follows:

- (1) Identify the 'inventive step' embodied in the patent
- (2) Impute to a normally skilled but unimaginative addressee what was common general knowledge in the art at the priority date;
- (3) Identify the differences, if any, between the matter cited as part of the state of the art and the alleged invention; and
- (4) Decide whether those differences, viewed without any knowledge of the alleged invention, constitute steps that would have been obvious to the skilled man or whether they require a degree of innovation.

The four-step formulation in *Windsurfing* was subsequently reformulated by the Court of Appeal in *Pozzoli SpA v BDMO SA*⁵³, where Jacob LJ suggested that the *Windsurfing* test would be better restated as follows:

(1) (a) Identify the notional 'person skilled in the art';

⁵¹ (1993) RPC 107

⁴⁹ DI Bainbridge, Intellectual Property, 9th edition,2012, Pearson Education Limited

⁵⁰ (2001) FSR 16

⁵² (1985) RPC 59

^{53 (2007)} EWCA Civ 588; (2007) FSR 37 at 14-23(Hereinafter referred to as Pozzoli)

- (b) Identify the relevant common knowledge of that person.
- (2) Identify the inventive concept of the claim in question or if that cannot readily be done, construe it;
- (3) Identify what, if any, differences exist between the matter cited as forming part of the 'state of the art' and the inventive concept of the claim or the claim construed;
- (4) Viewed without any knowledge of the alleged invention as claimed, do those differences constitute steps that would have been obvious to the person skilled in the art, or do they require any degree of invention?

Jacob LJ's reformulation of the test has been applied in a number of cases, such as Aerotel Ltd v Wavecrest Group Enterprises Ltd, 54 Dyson Technology Ltd v Samsung Gwangju Electronics Co Ltd 55 , etc.

Despite the popularity of the *Windsurfing/Pozzoli* test among judges, section 3(5) of Act 657 of Ghana gives a statutory definition of an inventive step, which is straightforward and needs just a one-step test, which is whether the invention is not obvious to a person having ordinary skill in the art. The one-step test under Act 657 can be formulated to enquire whether, based on the opinion of a person with total knowledge of the state of the art, the invention was obvious at its priority date.

Analysis of the Inventive Step Requirement under the Patents Act of Ghana, 2003 Act 657 in Relation to the Veronica Bucket Mechanism

In applying the one-step inventive requirement under Act 657 of Ghana, the important question to be posed is whether the Veronica bucket would have been obvious to a person skilled in the art. It is respectfully submitted that the answer to such a question is most likely to be a yes. This is based on the fact that the Veronica bucket mechanism is essentially made up of a bucket and a tap affixed at its bottom, which is merely a combination of two known older inventions to achieve a known result without more, a situation which demonstrates that it does not possess sufficient inventive step. As noted, granting patents to seemingly obvious inventions is contrary to public policy, as well as the aim of patent law, whose object has always been to encourage genuine

⁵⁴ (2009) EWCA Civ. 2008

^{55 (2009)} FSR 15

inventions without imposing undue restraint upon normal industrial development. Merely taking two known older inventions and sticking them together to achieve a known result without more will not necessarily be regarded as an inventive step. For example, in *Williams v Nye*, the plaintiff took out a patent for an improved mincing machine made up of a combination of two old machines: a mincing machine and a filling machine. What the plaintiff did was to take the cutter from one machine and simply replace it with the cutter from the other machine. When the plaintiff sued the defendant for infringement of the patent, the defendant claimed that the patent was invalid, and this claim was successful because the court held that there was an insufficient invention. The court per Cotton LJ reasoned as follows:

...in order to maintain a patent, there must be a sufficient exercise of the inventive power or inventive faculty. Sometimes very slight alterations will produce very important results, and there may be in those very slight alterations very great ingenuity exercised or shown to be exercised by the patentee.

Even though, per the dictum of Cotton LJ in *Williams v Nye*, the court accepted that a slight alteration which produces important results can be the result of ingenuity and thus be considered as having an inventive step, it is submitted that the same cannot be said of the Veronica bucket mechanism, which is essentially an assembly of two known older inventions without any form of ingenious alteration, to achieve a result which would be obvious to a person skilled in the art, as earlier stated. In effect, the facts of *Williams v Nye* are akin to the Veronica bucket situation to the extent that they both entail the assembly of two known older inventions to produce known results, without more. It is worth noting that an invention can be said to lack an inventive step where it merely relies on some combination features from the prior art which does not have a surprising effect. ⁵⁸

⁵⁶ Spruson & Ferguson, Inventive in 1952, Not so Inventive in 2014, (February, 2014). Available at https://www.spruson.com/patents/inventive-in-1952-not-so-inventive-in-2014/ Accessed 11/05/2021 ⁵⁷ (1890) 7 RPC 62

⁵⁸ S Ulrich, M Quodbach, SD Marty & D E Constantine, Biopatent Law: European vs US Patent Law, Springer, 2014 at page 12

Analysis of the Decision in Haberman v Jackel International Ltd⁵⁹ on the Inventive Step Requirement in Relation to the Veronica Bucket Mechanism

In order to put matters into proper context, I will set out the salient facts and holding of the court in *Haberman*. This case had to do with a relatively uncomplicated invention, comprising a cup known as the 'Anyway cup', which design involved what was a simple idea, which is the use of a simple slit valve to prevent leakage of fluid from the outlet of a training cup for infants to assist young children in making the transition from suckling to proper feeding. Against the patent, it was argued that what had been proffered was a simple solution to a known problem, using readily available materials. On the patentee's part, it was asserted that the inventiveness lay in the fact that the cup sealed between sips and so avoiding leakage. The court however held that the patentee had crossed the threshold of inventive step and thus held as follows:

'Mrs. Haberman has taken a very small and simple step but it appears to me to be a step which any one of the many people in this trade could have taken at any time over at least the preceding ten years or more. In view of the obvious benefits which would flow from it. I have come to the conclusion that had it really been obvious to those in the art it would have been found by others earlier...(but) it fell to a comparative outsider to see it. It is not obvious... Mrs. Haberman's patent discloses something sufficiently inventive to deserve the grant of a monopoly.'60

Although the decision of the court in *Haberman* is praiseworthy to the extent that it seeks to promote innovations that involve small steps, provided they embody sufficient invention, it is respectfully submitted that the line of reasoning by Laddie J in that case which seems to suggest that 'if the invention had been obvious to those in the art it would have been found by others earlier,' is problematic. This is because that line of reasoning seems to suggest that an invention is not obvious simply because others have not taken the steps to come out with that invention within a particular art. It is further submitted that such a line of reasoning runs the risk of whittling down the inventive step requirement, thereby granting monopolies easily.

The decision in *Haberman* can however be contrasted with the decision in *Williams v Nye* because whereas in *Haberman*, the improvement introduced by the invention was based on an appreciable level of ingenuity due to its ability to automatically prevent leakage,

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 $^{^{59}}$ (1999) EWHC Patents 269; (1999) FSR F999) EWHC Patents 269; (1999ncluded that the patentee has crossed the threshold of inventive step and also that training cups683 (Hereinafter referred to as Haberman) 60 Haberman at paragraph 45 of judgment.

which was a remarkable improvement on the existing technology, in *Williams v Nye*, the plaintiff merely combined two older inventions to achieve a known result without more. The plaintiff simply took the cutter from one machine and replaced it with the cutter from the other machine. It was on that basis that the court held that there was an insufficient invention.

In relating the decision in *Haberman* to the Veronica bucket mechanism, it is submitted that even though the product in *Haberman* and the Veronica bucket are both uncomplicated innovations, the facts of Haberman can be distinguished from the Veronica bucket mechanism, in the sense that in Haberman, the invention involved an inventive step as identified by the court, due to its ability to automatically prevent leakage from the outlet of the training cup, which was a remarkable improvement on the technology known in that trade as at that material point in time. It is however argued that the same cannot be said of the Veronica bucket mechanism. This is because, the Veronica bucket, unlike the *Haberman* invention, apart from assembling two older known inventions does not seem to demonstrate any ingenuity and thus lacks the requisite inventive step under the law. As has been noted, due to the importance of the inventive step requirement, the test for the inventive step has been made progressively more stringent, as a result of the progressively widening of the prior art base and this has, in turn, raised the threshold of patentability, making it harder for inventors to obtain patents. 61 This is the situation because the proper functioning of a patent system is very much dependent on the inventive step requirement, as a result of which it has been described as the final gatekeeper of the patent system. 62 Thus, an invention such as the Veronica bucket, which entails the assembly of two known older inventions to produce a known result, it is argued, would have failed to meet the stringent inventive step patentability requirement under Ghanaian law. The obviousness of the Veronica bucket is buttressed by the fact that it is currently being produced on a large scale by local artisans in different variations. 63

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⁶¹ Spruson & Ferguson, Inventive in 1952, Not so Inventive in 2014, (February, 2014). Available at https://www.spruson.com/patents/inventive-in-1952-not-so-inventive-in-2014/ Accessed 11/05/2021

⁶² RP Mergers & JF Duffy, Patent Law and Policy: Cases and Materials, 7th ed. (2017), Durham, North Carolina: Carolina Academic Press

⁶³ Citinewsroom: Traders cash in on Veronica bucket as demands go up due to Covid-19. Available at https://citinewsroom.com/2020/03/traders-cash-in-on-veronica-buckets-as-demand-goes-up-due-to-covid-19/ Accessed 12/05/21.

Industrial Applicability Test

The next requirement under section 3(1) of Act 657 is that the invention is capable of industrial application. According to Act 657, an invention shall be considered industrially applicable if it can be made or used in any kind of industry. ⁶⁴ It can be gleaned from the definition of the industrial applicability concept under Act 657 that this requirement simply requires that the invention should be something that can be produced or used industrially. It has also been noted that from the definition of an industrial application under section 3(1) of Act 657, it appears there is no limit as to which industry the invention could be applicable. ⁶⁵ It is this industrial application requirement that distinguishes patents from other forms of intellectual property such as original works of copyright, and also demonstrates the practical nature of patent law. The meaning of the term 'industry' was construed broadly to include all manufacturing, extracting, and processing activities of enterprises that are carried out continually, independently, and for financial (commercial) gains. ⁶⁶

This patentability requirement though often not a subject of dispute has become an issue in a few cases. For instance, in *Hiller's Application* 67 , an application for a patent for an improved plan for underground service distribution schemes for housing estates, which involved the location of gas and water mains, electricity cables, and storm and foul water drains was turned down by the court. An appeal against the decision was refused on the grounds that the scheme could not constitute a 'manner of manufacture'. Also in C's Application, 68 an application in respect of an invention made up of musical notation, in which sharps and flats were printed in various colours and sizes compared to natural notes, was turned down.

The Veronica Bucket and the Industrial Applicability Requirement under the Patents Act of Ghana, 2003 (Act 657)

It is submitted that this is a requirement that the Veronica bucket mechanism satisfies. This is because, it is easy for the Veronica bucket mechanism to either be made or used

⁶⁴ Section 3(6) of Act 657

⁶⁵ SO Manteaw, Ghana's Patent Law and Practice: A Critical Analysis of Patents Act, 2003, Act 657, (2016)29
LIGIJ 1

⁶⁶ Case T870/04 MAX-PLANCK/BDPI Phosphatase (2006) EPOR 14

^{67 (1969)} RPC 267

^{68 (1920) 37} RPC 646

industrially, a situation buttressed by its mass production in this Covid-19 pandemic era in different variations, to promote hand washing.⁶⁹

Conclusion on whether the Veronica Bucket Meets the Patentability Requirement under Ghanaian Law

As earlier concluded on the patentability requirements of the Veronica bucket, the novelty requirement is based on the time of filing the search. In other words, it is the state of the prior art at the time of filing the search which determines if an invention meets the novelty patentability requirement under the law. Also, even though the product would meet the industrial applicability requirement, it is likely to fail the inventive or non-obvious test. However, because all the patentability requirement steps under Ghanaian law need to be satisfied before a patent application can be granted, even if a search were to be conducted to reveal that the invention underpinning the Veronica bucket was new at the material time, it is respectfully submitted that the Veronica bucket mechanism would not have met the patentability threshold under Ghanaian law, particularly the inventive step requirement.

The Case for a Utility Model Certificate for the Veronica Bucket Mechanism

The fact that it is possible to have a product that may pass the novelty and industrial applicability patentability requirements and yet fail the inventive step under Ghanaian law which would warrant the grant of a patent was not lost on the drafters of the Patents Act of Ghana, 2003 (Act 657). Thus, in order to also motivate and promote innovations of products that are considered new and industrially applicable, but which fail to meet the inventive step requirement within the meaning of Act 657 of Ghana, the Act states that in such a situation, an inventor of such product may be entitled to a Utility Model Certificate (UMC), which has a lower requirement threshold than a patent. UMC, among others, encourages local innovation so that local industries can produce more goods, and it is particularly advantageous to small-medium enterprises, especially in developing countries, such as Ghana. ⁷⁰ Thus, under Ghanaian law, an invention qualifies

⁷⁰ U Suthersanen, Utility Models and Innovation in Developing Countries, February 2006, United Nations Conference on Trade and Development (UNCTAD)- International Centre for Sustainable Development 9 ICSTD) Project on Intellectual Property Rights and Sustainable Development. Available at https://unctad.org/system/files/officialdocument/iteipc20066 en.pdf Accessed 13/05/21

⁶⁹ Citinewsroom: Traders cash in on Veronica bucket as demands goes up due to Covid-19. Available at https://citinewsroom.com/2020/03/traders-cash-in-on-veronica-buckets-as-demand-goes-up-due-to-covid-19/ Accessed 12/05/21

for a UMC if it is new and industrially applicable.⁷¹ Terms such as 'petty patent', 'innovation patent', 'short term patent', 'minor patent', and 'small patent' are generally considered to fall within the definition of 'utility model'.⁷²

Due to the lower requirement threshold for the grant of a UMC, unlike a patent that lasts for a non-renewable period of twenty years, a UMC lasts for a non-renewable period of seven years. ⁷³ During this seven-year period, the owner of the UMC shall have a monopoly of the use of the invention within which period he can exclude everyone from the use of the invention. Due to the monopoly right associated with UMC, it has been described as a right to prevent others, for a limited period of time, from commercial using protected invention without the authorisation of the right holders. ⁷⁴

It is however worthy of note that some principles associated with the eligibility for a patent are also applicable in respect of UMC. For instance, an application for a UMC, just like the case of a patent must disclose the invention in a manner sufficiently clear and complete for the invention to be carried out by a person having ordinary skill in the art, and the invention is also required to particularly indicate, at least, one mode known to the applicant for carrying out the invention. The claim or claims must also define the matter for which protection is sought. This requirement just like in the case of a patent is necessary to ensure that an applicant for a UMC does not withhold any important information necessary to work the invention by a person skilled in the art when information in respect of the invention falls within the public domain after the monopoly period is over.

From the foregoing, it is argued that if a search were to be conducted to reveal that the invention underpinning the Veronica bucket was new at the material time, then although it would fail the inventive step requirement because of its obviousness as earlier argued, its Ghanaian inventor would instead be entitled to a UMC under Ghanaian law. This is so because, in such a situation, the Veronica bucket would have met the novelty and industrial applicability requirements under the law to warrant the grant of a UMC.

⁷¹ Section 17(1) of Act 657

 $^{^{72}}$ KM Mott, The Concept of the Small Patent, in The International Business Executive, 5 February 2007, Volume 5, Issue 3, pp 23-24. See also WIPO Lex-Indonesia Intellectual Property Laws and Treaties. Available at https://wipolex.wipo.int/en/legislation/members/profile/ID Accessed 14/05/21

⁷³ Section 17(4) of Act 657

Practical Advice-Seeking Utility Model Protection Instead of Patent Protection. PCT Newsletter. WIPO 95/2018),
 May 2018. Available at https://www.wipo.int/pct/en/newslett/practical_advice/pa_052018.html Accessed 14/05/21
 Section 17(6)(b) of Act 657

Conclusion

In March 2021, Madam Veronica Bekoe, the Ghanaian inventor of the popular Veronica bucket which has played an important role in the fight against the Covid-19 pandemic through the promotion of good hand washing habits, in an interview on Joy FM's Personality Profile, a leading radio station in Accra, Ghana, expressed her regret for failing to obtain a patent in respect of her product. Her statement dominated major social media platforms in Ghana and generated public interest and discussion on the issue. Against this backdrop, this paper set out to ascertain whether the Veronica bucket is indeed patentable under Ghanaian law. This paper has argued, after a comprehensive analysis of the patentability requirements under Ghanaian law, that, even though the Veronica bucket is industrially applicable, it would have failed to meet the inventive step requirement necessary to warrant the grant of a patent, even if a search conducted disclosed that the invention underpinning the bucket was new at the material time. The basis of this paper's argument that the Veronica bucket would have failed to meet the inventive step requirement is that it is merely an assembly of two older known inventions, to wit: a tap and a bucket, to achieve a known result, and therefore fails to demonstrate any ingenuity because of its obviousness to a person having ordinary skill in the art. The paper has further argued that although the Veronica bucket is ineligible for patent protection under Ghanaian law because it would have failed to meet the inventive step requirement, its inventor would nevertheless be eligible for a Utility Model Certificate under Ghanaian law, which has a lower requirement threshold compared to a patent and only requires the invention to be industrially applicable and new, provided a novelty search filed disclosed that the Veronica bucket was new at the material time.

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