



THE SUPREME COURT OF APPEAL OF SOUTH AFRICA
JUDGMENT

Reportable

Case no: 1226/2019

In the matter between:

GROUNDPROBE PTY LTD

FIRST APPELLANT

GROUNDPROBE SOUTH AFRICA (PTY) LTD

SECOND APPELLANT

and

REUTECH MINING (PTY) LTD

FIRST RESPONDENT

**REUNERT APPLIED ELECTRONIC
HOLDINGS (PTY) LTD**

SECOND RESPONDENT

REUTECH (PTY) LTD

THIRD RESPONDENT

Neutral citation: *Groundprobe Pty Ltd and Another v Reutech Mining (Pty) Ltd and Others* (Case no 1226/2019) [2021] ZASCA 22 (19 March 2021)

Coram: PONNAN, DAMBUZA and MOLEMELA JJA and LEDWABA and GORVEN AJJA

Heard: 26 February 2021

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website and release to SAFLII. The date and time for hand-down is deemed to be 10:00 am on 19 March 2021.

Summary: Intellectual property law – patent – revocation – not involving an inventive step.

ORDER

On appeal from: The Court of the Commissioner of Patents (Neukircher J):

The appeal is dismissed with costs, including those of two counsel.

JUDGMENT

Ponnan JA (Dambuza and Molemela JJA and Ledwaba and Gorven AJJA concurring)

[1] Over a century ago, Lord Herschell observed that:

‘ . . . [T]he mere adaptation to a new purpose of a known material or appliance, if that purpose be analogous [to a purpose to which it has already been applied, and if the mode of application be also analogous] so that no inventive faculty is required and no invention is displayed in the manner in which it is applied, is not the subject-matter for a patent.’¹

An observation, that is particularly apt to this appeal, which raises for consideration the question of whether claims 1 and 27 of the patent in suit are invalid for lack of inventive step.

[2] The issue turns on the question of whether it is inventive to mount a known radar system used to monitor slope system stability in open cast mines on a motorised automobile vehicle. This, in circumstances where the same radar system

¹ *Morgan and Co v Windover and Co* [1890] 7 RPC 131 (HL) at 137.

was previously mounted on a trailer that was hitched to a motorised automobile vehicle.

[3] The matter commenced in the Court of the Commissioner of Patents as a patent infringement action instituted by the appellants against the respondents. The first appellant, Groundprobe Pty Ltd, an Australian company, is the proprietor of South African patent 2012/08400 (the patent) entitled ‘Work Area Monitor’. The second appellant, Groundprobe South Africa (Pty) Ltd, is a licensee under the patent. The appellants claimed relief consequent upon the alleged infringement of the patent by one or more of the respondents. The three respondents are related companies: the first respondent is Reutech Mining (Pty) Ltd; the second, Reunert Applied Electronic Holdings (Pty) Ltd; and the third, Reutech (Pty) Ltd.

[4] The appellants alleged that the respondents were infringing the patent by making, using, offering for sale and selling work area monitors known as the MSR 060V and MSR 120V systems, both of which are mine slope monitoring systems comprising a radar and an interferometric processor mounted on the back of a light delivery vehicle (commonly referred to as a bakkie in this country). The third respondent admitted that: (i) it manufactured, used, offered for sale and sold the systems; (ii) the systems fell within the scope of product claims 1 to 4, 10, 12 to 14, 16 to 18, 20, 21, 23 and 26 of the patent; and (iii) it had carried out the method of claims 27, 28 and 30 of the patent. As a result of these admissions, there has never been any dispute between the parties on the question of the infringement.

[5] The respondents counterclaimed for revocation of the patent on several grounds. Neukircher J, sitting as the Commissioner of Patents, dismissed the appellants’ action and upheld the respondents’ counterclaim, finding that each of the

claims of the patent were obvious to the person skilled in the art of the patent at the priority date, namely 16 August 2011. On appeal, which is with the leave of the learned judge, the respondents restrict themselves to only one ground for revocation, namely lack of inventive step.

[6] The issue is thus whether the invention, to the extent that it differs from the state of the art, has inventive merit. Section 25(1) of the Patents Act 57 of 1978 (the Act) provides that, subject to certain limitations and exclusions a patent may be granted ‘for any new invention which involves an inventive step and which is capable of being used or applied in trade or industry or agriculture’. In terms of s 65(4) of the Act, in any proceedings for infringement a defendant may counterclaim for the revocation of the patent and, by way of defence, rely upon any ground on which a patent may be revoked.

[7] In *Roman Roller CC and Another v Speedmark Holdings (Pty) Ltd*,² Corbett CJ stated:

‘One of the requirements of patentability prescribed by sec 25(1) is that the new invention must involve "an inventive step". The meaning of this term is defined by sec 25(10), the relevant portion of which reads:

". . . an invention shall be deemed to involve an inventive step if it is not obvious to a person skilled in the art, having regard to any matter which forms, immediately before the priority date of any claim to the invention, part of the state of the art by virtue only of subsection (6) . . ."

[Subsection (6) provides:]

"The state of the art shall comprise all matter (whether a product, a process, information about either, or anything else) which has been made available to the public (whether in the Republic or elsewhere) by written or oral description, by use or in any other way."

² *Roman Roller CC and Another v Speedmark Holdings (Pty) Ltd* 1996 (1) SA 405 (SCA).

As sec 25(1) indicates, an invention is deemed to involve an inventive step if it is not obvious to a person skilled in the art, having regard to the state of the art at the relevant time. Conversely, if the invention is obvious to such a person, then the invention is deemed not to involve an inventive step and to be invalid on the ground of obviousness.³

[8] Obviousness is a factual question in respect of which the onus rests on the respondents. This means that the respondents had to prove that the patent was not inventive, namely ‘that it was obvious and not due to any inventive ingenuity’.⁴ In *Ausplow (Pty) Ltd v Northpark Trading 3 (Pty) Ltd*,⁵ Harms AP quoted from the judgment of Sir Robin Jacob LJ in *Nichia Corp v Argos Ltd*:⁶

‘The structured approach to considering obviousness is well settled (see per Oliver LJ in *Windsurfing v Tabur Marine* [1985] RPC 59 at 73). I recently restated it in *Pozzoli* [2007] EWCA Civ 588 at [23]: (1) (a) Identify the notional “person skilled in the art”; (b) Identify the relevant common general knowledge of that person; (2) Identify the inventive concept of the claim 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 as construed; (4) Viewed without any knowledge of the alleged invention as claimed, do those differences constitute steps which would have been obvious to the person skilled in the art or do they require any degree of invention?’⁷

[9] The patent in suit relates to a work area monitor that employs radar to detect movement of a slope and raise the alarm if dangerous movement is detected. Slope movement is detected by interferometry. For some background: Slope stability is a

³ *Roman Roller CC* fn 2 above at 209-210.

⁴ *B-M Group (Pty) Ltd v Beecham Group Ltd* 1980 (4) SA 536 (A) at 557D-E.

⁵ *Ausplow (Pty) Ltd v Northpark Trading 3 (Pty) Ltd and others* [2011] ZASCA 123; [2011] 4 All SA 221 (SCA) para 34.

⁶ *Nichia Corp v Argos Ltd* [2007] EWCA Civ 741 paras 12-16.

⁷ In *Ensign-Bickford (South Africa) (Pty) Ltd and Others v AECI Explosives and Chemicals Ltd* 1999 (1) SA 70 (SCA), Plewman JA restated the enquiry as follows:

1. What is the inventive step said to be involved in the patent in suit?
2. What was, at the priority date, the state of the art (as statutorily defined) relevant to that step?
3. In what respect does the step go beyond, or differ from, that state of the art?
4. Having regard to such development or difference, would the taking of the step be obvious to the skilled man?’

critical safety and production issue for mines. ‘Major wall failures can occur seemingly without warning, causing loss of lives, damage to equipment and disruption to the mining process.’⁸ Open cast mines often have very substantial mine slope faces, which can be unstable. Mineworkers are exposed to the dangers associated with the partial or total collapse of mine walls. It has been known since at least the 1970s that small precursor movements of the rock wall (slope) occur for an extended period (weeks to months) before the wall collapses.⁹ Since about the mid-1990s, radar has been employed to monitor mine slope walls for signs of these precursor movements, thus making it possible to predict a major collapse of the wall before it occurs. The idea of using radar to detect precursor movements (and sound an alarm before the collapse of the wall) was commercialised in the 2000s.

[10] The invention is embodied in a product produced by the appellant referred to as the SSR. The features of the SSR are described broadly in the patent and in greater detail in United States Patent 6,850,183 B2, in respect of a Slope Monitoring System by Inventors Bryan Reeves et al (the Reeves patent). The appellants developed and sold the SSR, while the respondents developed and sold a product described as the MSR from about 2006. The MSR slope monitoring systems that had been sold before the priority date included the MSR 100, MSR 200 and MSR 300.

[11] The fact that the SSR was in use before the priority date is acknowledged in the patent in the section headed ‘background to the invention’. It is there stated:

‘[The Reeves patent] describes a slope monitoring system that consists of a radar module that records radar images of a selected slope and a video module that records visual images of the same slope. A data processor performs coordinate registration to align the radar images and the visual

⁸ United States Patent 6,850,183 B2.

⁹ D C Wyllie and C W Mah *Rock Slope Engineering* 4 ed (2004) at 329-331; United States Patent 6,850,183 B2.

images. Slope movement is detected by interferometry. The invention is embodied in a product produced by GroundProbe Pty Ltd that is referred to as the SSR.

The SSR product has been used very successfully to monitor the stability of large slopes in open-cut mines. The SSR has detected and provided an alarm prior to many hundreds of large slope failures and is widely recognised as an essential mine safety tool. Nonetheless, the SSR is not ideal for all situations.’

[12] The MSR and SSR are both work area monitors, which include a radar, interferometric processor and stabilisation apparatus mounted on a non-automated vehicle, such as a trailer. The radar module scans a selected field of view and collects radar images. The processor processes the radar images interferometrically to extract and analyse slope movement data. The stabilisation apparatus eliminates disturbances caused by movement. The stabilisation apparatus of the MSR 200 and 300 systems consisted of three extendable legs – two at the rear and one at the front of the trailer, which served to level the trailer when in use and reduce disturbances caused by wind and trailer movement. The SSR had a more complicated stabilisation system, which took much longer to deploy than that used on the MSR. It involved deploying one set of legs to lift the trailer and the radar, dropping another set of legs to the ground which supported only the radar and then separating the trailer from the radar by lowering the trailer to the ground.

[13] Whether a patent is actually inventive depends on the expert evidence establishing the common general knowledge of the person skilled in the art and the

teaching of the cited prior art.¹⁰ Three experts were called by the parties: (a) Dr Declan Vogt, an electrical engineer with particular experience in ground-penetrating interferometric radar systems; (b) Professor Pieter van der Walt, the former Dean of the Faculty of Engineering and now Emeritus Professor of Stellenbosch University, who has been involved in the development and testing of radar systems (including mining radar systems for the detection of slope movement) for several decades; and (c) Mr Cornelius Nel, a mechanical engineer. The first testified on behalf of the appellants, the other two for the respondents.

[14] However, as shall presently become apparent, the patent does not disclose any advance in radar technology. The patent is not therefore addressed to a person having a particular expertise in radar. The person skilled in the art of the patent is, rather, a mechanical engineer with experience in mounting and stabilising radar systems. Mr Nel was thus the only expert qualified to give evidence on the question of inventive step. The court below therefore correctly disregarded the evidence of Dr Vogt and Professor van der Walt insofar as it related to inventive step. The evidence appertaining to inventive step led by the respondents (through Mr Nel) thus stands uncontradicted.

¹⁰ *Ausplow (Pty) Ltd v Northpark Trading 3 (Pty) Ltd* fn 5 above para 28. In *Marine Construction and Design Company v Hansen's Marine Equipment (Pty) Ltd* 1972 (2) SA 181 (A) at 193A, Botha JA stated:

‘The test whether an invention lacks subject-matter and is invalid for obviousness, has been authoritatively stated to be whether or not the ordinary person skilled in the relevant art could, if faced with the problem solved by the invention, and having regard to what was common knowledge in the art at the time, and using his intelligence, easily have provided the solution or taken the step taken by the patentee (*Veasey's* case, *supra* at pp. 269 - 71; and *Gentiruco v Firestone*, *supra* at pp. 223 and 227).’

[15] The inventive step of the patent must be found in the claims.¹¹ Claim 1 is the product claim. Claim 27 is the method used, when deploying the system of claim 1. Claim 1 is broadly framed. It claims:

‘A Work Area Monitor comprising:
a radar module that scans a selected field of view and collects radar images;
a processor that processes the radar images interferometrically to extract slope movement data and analyse the slope movement data;
a motorised automobile vehicle mounting the radar module and the processor; and
a stabilisation apparatus that eliminates disturbances caused by vehicle movement.’

[16] Claim 27 is similarly very broad. It covers:

‘A method of scanning a work area for slope failure including the steps of:
positioning and stabilising a motorized automobile vehicle adjacent a slope to be monitored for failure in a work area;
directing a field of view of a radar module mounted on a motorized vehicle at the slope;
selecting a region of slope to be monitored with the field of view;
collecting and interferometrically processing radar images to produce slope movement.’

[17] The appellants contend that the invention claimed is the combination of a number of elements that interact in a particular manner. Accordingly, so the contention proceeds, the combination should not be dissected into its constituent

¹¹ As it was put in *Ausplow v Northpark* fn 5 above para 32:

‘The question whether an invention is new or inventive is determined with reference to the invention claimed in each claim and not in relation to the description of the invention in the body of the specification.’

This was reaffirmed in *Sandvik Intellectual Property AB v Outokumpu OYJ and Another* [2019] ZASCA 115; 2020 (4) SA 441 (SCA) in these terms:

‘A claim is a portion of the specification which fulfils a separate and distinct function. It, and it alone, defines the monopoly; and the patentee is under a statutory obligation to state in the claims clearly and distinctly what is the invention which it desires to protect.’

elements and each element examined in order to see whether its use was obvious or not, the real question being whether the combination was obvious or not.¹²

[18] It bears noting that here, however, the method described is no different to that used when the MSRs and SSRs were deployed, save that the radar module is said to be mounted on a motorised automobile vehicle, whereas the MSR and SSR systems were mounted on a trailer. When regard is had to the difference between claims 1 and 27, on the one hand, and the MSR or SSR, on the other, it would be fair to say that the only conceivable candidate for inventive step lay in the idea of mounting a radar used for monitoring slopes on a motorised automobile vehicle. The inventive step must therefore relate to this feature.

[19] There are various examples in the record of radar mounted on the back of vehicles. Radars used in other applications, such as in the military, have been mounted on motorised automobile vehicles since at least World War II. The evidence showed that: (i) the same mounting platforms are often used in both military and mining applications; (ii) there is a cross-pollination of ideas between the military and mining; (iii) it is common for ‘innovations’ first devised for military use to be later used in industrial applications; and (iv) military and mining systems are frequently marketed together. Prior art military radar systems are therefore clearly relevant and regard would be had to them by the skilled person in developing

¹² In *De Beers Industrial Diamond Division (Pty) Ltd v Ishizuka* 1980 (2) SA 191 (T) at 201C-E, Nicholas J quoted the following with approval from *Albert Wood and Amicolite v Gowshall Ltd* (1937) 54 RPC 37 at 40:

‘The dissection of a combination into its constituent elements and the examination of each element in order to see whether its use was obvious or not is, in our view, a method which ought to be applied with great caution since it tends to obscure the fact that the invention claimed is the combination. Moreover this method also tends to obscure the fact that the conception of the combination is what normally governs and precedes the selection of the elements of which it is composed rather than that the obviousness or otherwise of each active selection must in general be examined in the light of this consideration. The real and ultimate question is: Is the combination obvious or not?’

other types of radar systems. Indeed, the evidence revealed that ‘radar engineers have been placing radars on vehicles for many, many years’.

[20] The appellants seek to make much of the stabilisation feature of claim 1. They contend that it is not merely the idea of moving the radar from the trailer onto the bakkie that constitutes the invention, but also overcoming an alleged ‘stability’ problem associated with using a bakkie to deploy a radar and an interferometric radar. However, the requirement in claim 1 that the system includes stabilisation apparatus, to eliminate disturbances, including those caused by movement of the vehicle, is true of most radar systems, including the SSR and MSR. The inventive concept cannot therefore reside in the fact that the system includes a stabilisation apparatus that eliminates disturbances. As the evidence reveals stabilising the radar is a ‘physical fact’.

[21] According to the evidence, the stabilisation system on the SSR ‘eliminated disturbances caused by vehicle movement’ by separating the radar from the vehicle in question. Once this is so, it does not matter what vehicle one uses to deploy the radar – the method of elimination or stabilisation will be effective in respect of all vehicles. Importantly, both parties used the identical stabilising effect on their bakkie mounted system, as they had used on their trailer mounted system. They took the stabilising apparatus that they had used in their trailer-based systems, which were in the public domain at the priority date of the patent, and simply deployed them as they had previously done, but on a bakkie as opposed to a trailer. In truth, stabilisation was never an issue, having been resolved in the prior art.

[22] There can thus be no doubt that the only conceivable candidate for the ‘inventive concept’ is the idea of mounting a radar used for monitoring slopes on a

motorised automobile vehicle. I do not think that this can be said to constitute a step forward upon the state of the art and least of all a step that is inventive. Nothing therefore remains of the patent. To borrow from Davis AJA in *Miller v Boxes & Shook*:

‘After all, while it is just and in the public interest that a patent should be granted if the objector fails to discharge the *onus* of establishing some one or more of his grounds of objection, it is clearly not in the public interest that patents should be granted indiscriminately for so-called inventions, where, taking everything into consideration, there exists a sufficiently strong probability that they are not really inventions at all; these should not be allowed even temporarily to hamper the trade and industry of the country.’¹³

[23] In the result the appeal must fail and it is accordingly dismissed with costs, including those of two counsel.

V M Ponnar
Judge of Appeal

¹³ *Miller v Boxes & Shook (Pty) Ltd* 1945 AD 561 at 581.

APPEARANCES

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