

SOUTH AFRICA / JUDGMENT

EMS Industries (Pty) Ltd v Inteletrack CC (PATENT 2010/01326) [2015] ZAGPPHC 696 (7 September 2015) [2015] ZAGPPHC 696

COURT

North Gauteng High Court, Pretoria

BEFORE

Jansen

CASE / FILE NUMBER

PATENT 2010/01326

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IN THE COURT OF THE COMMISSIONER OF PATENTS, GAUTENG DIVISION OF THE HIGH
COURT, PRETORIA

(REPUBLIC OF SOUTH AFRICA)

CASE NUMBER: PATENT 2010/01326

7/9/2015

Reportable

Of interest to other judges

Revised.

In the matter between: —

EMS INDUSTRIES (PTY) LTD Plaintiff/Patentee

And

INTELETRACK CC Defendant

JUDGMENT

JANSEN J

[1] This matter relates to the alleged infringement of a patent and, as defence thereto, the alleged non-infringement and the alleged

invalidity of the patent in terms of section 65(4) of the Patents Act 57 of 1978. It raises various interesting questions, not the least of which are the following two issues: —

- [2] When is a patent invalid for lack of an inventive step?
- [3] When does a term in a patent claim cover a somewhat non-conventional meaning which may or may not be stated to fall within the meaning of the term?

The subject matter of the patent:

- [4] The title of the South African patent, number 2010/01326 is: "A coupling for connecting a brake pipe hose to telemetry equipment". The complete specification of the patent was filed on 24 February 2010, claiming priority from a South African provisional patent application filed on 11 March 2009. The priority date of the patent is thus 11 March 2009. Although it is unclear from the title of the patent, the patent relates to the brake pressure of vacuum and pressure braking systems on, for example, trains, which require constant monitoring during operation to ensure the safe operation of the braking systems.
- [5] Before embarking upon an analysis of the above issues a brief background to the action is required.

The

issues:

- [6] These are conveniently set out in the defendant's heads of argument as follows: —
- [6.1] The defendant has, since at least 3 September 2010, offered for sale a coupling device or a so-called dual coupler for connecting a vacuum or pressure brake pipe hose to telemetry equipment. It sold, inter alia, 350 of these coupling devices to Transnet. It is the plaintiff's case that the offer for sale and sale of the defendant's dual coupler constitutes an infringement of claims 1 to 15 of the patent.
- [6.2] The defendant further pleads, as a defence to the alleged infringement of the plaintiff's patent, that the patent is invalid in terms of section 65(4) read with section 2(10) of the Patents Act 57 of 1978 (the "Patents Act"), that the patent is invalid in that the subject matter of claims 1 to 15 of the patent would have been obvious to a person skilled in the art of the patent at its priority date namely 11 March 2009.[1]
- [7] The specification provides a useful summary which contextualises the alleged invention: —
- [7.1] The monitoring was traditionally carried out by a person but is today carried out via a telemetry system which measures the brake pressure and transmits this data to a train driver.
- [7.2] The telemetry unit is connected to the brake pipe hose of the last car of a train so that a continuous closed brake pipe line is formed between all the brake pipe hoses of connected train cars. The telemetry unit is connected to an existing glad-hand connector of the brake pipe hose of the last car via a hose extending from the telemetry unit.

[7.3] In a pressure brake system the hose of the telemetry unit has a glad-hand connector at a free end thereof to facilitate connection thereof to the glad-hand connector of the brake pipe hose.

[7.4] Whereas the aforesaid connection can be used with facility for pressure braking systems it cannot be used for vacuum braking systems which contain a free end of hoses with a vacuum hose coupling as opposed to a glad-hand connector.

[8] Regarding the validity of the patent, the novelty of the invention was admitted. The crisp issue regarding the validity of the patent is therefore whether it involves an inventive step.

The integers of Claim 1:

[9] The parties agreed that only claim 1 of the patent need be considered for both the enquiries regarding infringement and the validity of the patent. The parties further agreed that Claim 1 can conveniently be divided into the following integers: —

“

[a] A brake hose coupling including:

[b] a body portion;

[c] a connector arranged on a first side of the body portion for permitting connection of a pressure hose to the body portion;

[d] a gasket arrangement arranged on an opposed, second side of the body portion,

[e] which gasket arrangement includes two overlaying gaskets,

[f] a first being configured and dimensioned to engage with a vacuum hose coupling of a brake pipe hose of a vacuum braking system;

[g] a second being configured and dimensioned to engage with a glad-hand connector of a brake pipe hose of a pressure braking system;

[h] a through passage extending through the connector, body portion, and gasket arrangement to permit fluid flow communication between the braking system and the pressure hose; and

[i] a locking arrangement for locking the body portion in place during connection thereof to a glad-hand connector or a vacuum hose

coupling.”[2]

[10] It was further common cause that the defendant’s defence was limited to an argument regarding whether its allegedly infringing

product contains integers (e) to (g) as set out above. In the court’s opinion integer (d) also has to be considered for reasons which will become clear from what is set out below.

[11] It was argued by the plaintiff that integers (e) to (g) clearly envisage that the interfaces need to seal. It should be borne in mind that the two overlaying gaskets, in terms of the integers of claim 1, have to be configured and dimensioned for one to engage with a vacuum hose coupling and the other with the glad-hand connector of a brake pipe hose of a pressure braking system. It is not stated that they have to engage “sealingly”. However, from a reading of claim 1 and the specification, were the gaskets not to form a seal, the braking system would fail. Hence, on a proper construction of the patent specification and the claims thereof the gaskets should cause surfaces to engage “sealingly”. (The manner in which a patent should be read and understood is set out below.)

The methodology to be adopted when interpreting the claims of a patent:

[12] Although claims form part of the body of a specification, claims were, traditionally, read separately and apart from the body of the specification save if terms used therein were ambiguous. The patent specification may, for example, disclose a wide-ranging

invention, but the claims may demarcate a much smaller monopoly than that disclosed in the specification.[3]

[13] This well-known legal principle was, to some extent, qualified by Harms JA in *Monsanto Co. v MDB Animal Health (Pty) Ltd* (formerly MD Biologics CC) 2001 (2) SA 887 (SCA) (“Monsanto”) in paragraphs [8] and [9] (although the SCA has recently remarked that “(Gentiruco) remains the leading case on the construction of patent specifications”, per Nugent JA in *Cipla Medpro v Aventis Pharma* 2013 (4) SA 579 (SCA)). A summary of these rules are: —

*“The rules relating to the interpretation of patents have often been stated and do not need any reformulation. The problem lies in their sensible application in any given case. For present purposes the following rules as they appear in *Gentiruco AG v Firestone SA (Pty) Ltd* 1972 (1) SA 589 (A) at 614A-616D may be emphasised: (a) a specification should be construed like any other document, subject to the interpreter being mindful of the objects of a specification and its several parts; (b) the rule of interpretation is to ascertain, not what the inventor or patentee may have had in mind, but what the language used in the specification means, ie what the intention was*

as conveyed by the specification, properly construed; (c) to ascertain that meaning the words used must be read grammatically and

in their ordinary sense; (d) technical words of the art or science involved in the invention must also be given their ordinary meaning, ie as they are ordinarily understood in the particular art or science; (e) if it appears that a word or expression is used, not in its ordinary sense, but with some special connotation, it must be given that meaning since the specification may occasionally define a particular word or expression with the intention that it should bear that meaning in its body or claims, thereby providing its own dictionary for its interpretation;

- (f) if a word or expression is susceptible of some flexibility in its ordinary connotation, it should be interpreted so as to conform with and not to be inconsistent with or repugnant to the rest of the specification; and (g) if it appears from reading the specification as a whole that certain words or expressions in the claims are affected or defined by what is said in the body of the specification, the language of the claims must then be construed accordingly.” [emphasis added]

[14] Hence the court must endeavour to understand what the language of the claims of the patent means by having regard to their ordinary

meaning. The words must be understood (i) as they would be understood by a person skilled in the art; and (ii) in the context of the remainder of the specification.[4] Thus, the courts in interpreting patent claims should have recourse to the full context and background of a specification in order to decide what the skilled addressee would have understood the claims to mean.[5] A term in a claim may bear a different meaning to a person skilled in the art and not its ordinary dictionary meaning. A specialist meaning of a term has to be proffered in evidence. In this matter, no specialist meaning was attributed to the word gasket in any of the expert witnesses’ summaries or their evidence. In fact, the defendant’s expert witness, Mr Bernard, expressly confirms in his written expert summary that “[t]he witness will indicate that, as the specification and the claims of the patent are in plain English, the witness will not, as presently advised, be called upon to interpret the meaning of any scientific or technical terms in the specification”. De facto, during the hearing of the evidence, Mr Bernard was never called upon to interpret the meaning of the term “gasket” differently to its dictionary meaning.

[15] Contextual interpretation was widened after his Lordship Mr Justice Milner in *Catnic Components Ltd v Hill & Smith Ltd* [1982] R.P.C. 183 rendered so-called “purposive construction” the vogue.[6] Such a purposive construction is used in construing the claims of a patent in most countries. By way of example, during 2013,[7] Canada published guidelines regarding purposive construction and stated that the doctrine was still alive and well notwithstanding the Federal Court of Appeal judgment in *O’Hara Manufacturing Ltd v Eli Lilly & Co* 1988, 20 C.P.R. (3d) 342, 18 F.T.R. 177 (F.C.T.D.); revd. (1989), 26 C.P.R. (3d) 1, 23 C.I.P.R. 166, 99 N.R. 60, 28 F.T.R. 80n sub nomine *Eli Lilly & Co. v. Novopharm (F.C.A.)* to be found at robic.com Purposive Construction in Canadian Patent Infringement cases paragraph 2 at page 2: —

“Much of the application of this doctrine involves establishing whether the strict compliance with the particular descriptive word or phrase appearing in a claim would have been intended by the patentee to be an essential requirement of the invention, so that any variant on the wording of the claim would fall outside of the monopoly, even though the variant in question would have no material effect on the way the claimed invention worked.

One of the most important elements of the doctrine therefore requires the Court, in cases of infringement in substance, to analyze the variant in order to ascertain whether it does in fact have a material effect upon the way the invention works. In *Catnic*, the House of Lords in this respect vindicated the position of Lord Reid, who had rendered the minority decision in *C. Van Der Lely N.V. v. Banfords Limited*³ ("hay rake" case)."

- [16] Three important Canadian cases^[8] applying the doctrine of purposive construction followed namely *Computalog Ltd. v. Comtech Logging Ltd* (1991), 32 C.P.R. (3d) 289, 38 F.T.R. 269 (F.C.T.D.); *revd in part* (1992), 44 C.P.R. (3d) 77, 142 N.R. 216 (F.C.A.); *Imperial Oil Ltd. v. Lubrizol Corp.* (1990), 33 C.P.R. (3d) 1, 39 F.T.R. 161 (F.C.T.D.), *affd in part* (1992), 45 C.P.R. (3d) 449, 98 D.L.R.(4th) 1, 150 N.R. 207 (F.C.A.); leave to appeal to the Supreme Court of Canada refused (1993), [1993] 3 S.C.R. vii, 50 C.P.R. (3d) v, 104 D.L.R. 94th) vii, 163 N.R. 79n (S.C.C.) and *Gorse v. Upwardor Corp.* (1989), 25 C.P.R. (3d) 166, 27 F.T.R. 256, 24 C.I.P.R. 49 (F.C.T.D.); *affd.* (1992), 40 C.P.R. (3d) 479, 140 N.R. 295 (F.C.A.).
- [17] In an article entitled "Study on Inventive Step"^[9] at paragraph 69 it is emphasised that it must be clear that the prior art would (not could) have prompted the skilled person, faced with the objective technical problem, to modify or adapt the closest prior art while taking account of that teaching, thereby arriving at something falling within the terms of the claims, and thus achieving what the invention achieves. In other words, the point is not whether the skilled person "could" have arrived at the invention by adapting or modifying the closest prior art, but whether he "would" have done so because the prior art incited him to do so in the hope of solving the objective technical problem or in expectation of some improvement or advantage.
- [18] As a result of this dictum, more emphasis was placed on essential and inessential integers and an infringement could take place when an integer was held to be inessential to the invention. Regard was had to the "pith and marrow" of an invention.
- [19] Even when the doctrine of purposive construction had already been applied in various South African cases it was held in the matter of *Nampak Products Ltd and Another v Man-Dirk (Pty) Ltd* (162/97) [1999] ZASCA 21; [1999] 2 All SA 543 (A) (26 March
- 1999) that the word "bag" in the relevant claim was to be interpreted according to its strict dictionary meaning and could not be interpreted to mean a "sleeve" which was to be found in the infringing product. This was because the doctrine of purposive construction was not regarded to be a contextualized reading of claims but rather a means to distinguish between essential and inessential integers of a claim in order to focus on the so-called "pith and marrow" of a patent.
- [20] One advantage of the doctrine of purposive construction for a patentee is that it prevents a patentee's rights from being frustrated when an element of the specification which appears to restrict the patent is found there only as an accident of form.

[21] The doctrine of equivalents[10] has thus, so would it appear, (with certain qualifications) been rendered otiose by the doctrine of purposive construction.

[22] The most important judgment to date on contextual interpretation in the United Kingdom emanated from the House of Lords in *Kirin-Amgen Inc & Others v Hoechst Marion Roussel & Others*

[2004] UKHL 46; [2005] 1 All ER 667. Lord Hoffmann set out the principles below in paragraphs 27 to 44 of the judgment: —

“There is an errant tendency to regard contextual/purposive interpretation as a vague description of some kind of divination which mysteriously penetrates beneath the language of the specification.[11] A purposive interpretation is, simply, one which gives effect to what the person skilled in the art would have understood the patentee to be claiming.[12]

‘Purposive construction’ does not mean that a patentee, in seeking to prove infringement, can extend beyond the definition of the technical matter for which it sought protection in the claims because (i) the skilled man will ordinarily assume that the patentee has chosen its language accordingly; (ii) a patent specification is a unilateral document in words of the patentee's own choosing; (iii) the words will usually have been chosen upon skilled advice; and (iv) the specification is not a document *inter rusticos* for which broad allowances must be made.[13]

The adoption of the principles of purposive/contextual interpretation “firmly shuts the door” on any doctrine which extends protection for a patentee outside of the scope of the claims.[14] Once the monopoly has “been allowed to escape from the terms of the claims, it is not easy to know where its limits should be drawn”, leading to unacceptable levels of legal uncertainty.[15]

The doctrine of equivalents, which allowed a patentee to extend protection to something outside the claims which performs substantially the same function in substantially the same way to obtain the same result, is incompatible and inconsistent with a purposive approach to interpretation because it has the effect of extending protection beyond that for which protection is claimed.[16]”

[23] In other words, the skilled addressee, even when reading the patent purposively, would not understand the “equivalent”, in the sense set out in the preceding paragraph, as being included in the claims. In this way the court does not “*incidit in scyllam cupiens vitare charybdim*”, in seeking to interpret a claim. However, much would turn, per definition, on the wording of the claim. A phrase such as “means

for connecting” could include various equivalents, which might be deemed by the skilled addressee to be included in the phrase,

whereas a specific word with a narrow ambit would usually pertain to one embodiment only.

- [24] In *Fundstrust (Pty) Ltd (in Liquidation) v Van Deventer* 1997 (1) SA 710 (A) at 726H–727B, Hefer JA stated the following regarding the use of dictionary definitions in interpreting claims: —

“Recourse to authoritative dictionaries is, of course, a permissible and often helpful method available to the Courts to ascertain the ordinary meaning of words (Association of Amusement and Novelty Machine Operators and Another v Minister of Justice and Another 1980 (2) SA 636 (A) at 660F - G). But judicial interpretation cannot be undertaken, as Schreiner JA observed in Jaga v Dönges NO and Another; Bhana v Dönges NO and Another 1950 (4) SA 653 (A) at 664H, by "excessive peering at the language to be interpreted without sufficient attention to the contextual scene". The task of the interpreter is, after all, to ascertain the meaning of a word or expression in the particular context of the statute in which it appears (Loryan (Pty) Ltd v Solarsh Tea and Coffee (Pty) Ltd 1984 (3) SA 834 (W) at 846G ad fin). As a rule every word or expression must be given its ordinary meaning and in this regard lexical research is

useful and at times indispensable. Occasionally, however, it is not.”

- [25] A similar sentiment was expressed in the context of the interpretation of a patent specification by the Full Court (per Nicholas J) in *De Beers Industrial Diamond Division (Pty) Ltd v Ishizuka* 1980 (2) SA 191 (T) at 196E – F: —

“A dictionary meaning of a word cannot govern the interpretation. It can only afford a guide. And, where a word has more than one meaning, the dictionary does not, indeed it cannot, prescribe priorities of meaning. The question is what is the meaning applicable in the context of the particular document under consideration.” [emphasis added]

- [26] The dictionary definition of a gasket is as follows[17]: —

“A shaped sheet or ring of rubber or other material sealing the junction between two surfaces in an engine or other device: oil was leaking from the gasket between the drive flange and the hub.

or

“a flat piece of soft material or rubber that is put between two joined metal surfaces to prevent gas, oil, or steam from escaping: The gasket has blown (= allowed gas, oil, or steam to escape).[18]”

- [27] The court pauses at this juncture to turn again to the principle of the “doctrine of equivalents”. In the matter of *Monsanto Co. v MDB Animal Health (Pty) Ltd* (formerly MD Biologics 2001 (2) SA 887 (A) the Appeal Court seemed to apply the doctrine of equivalents – perhaps unwittingly – without stating that it was applying the said doctrine. Vitamin E was being used as the carrier for the active ingredient bovine somatotropine. But the claim of the patent in issue required an oil as a carrier. Because vitamin E in all respects looked like an oil and had the characteristics of an oil, the Appeal Court held that infringement had been proven, notwithstanding the fact that Monsanto had made it clear that it was NOT relying on the doctrine of equivalents and that the word oil bore its ordinary dictionary meaning (save that the oil had to be in a continuous phase and biocompatible, in accordance

with the teaching of the patent). What this judgment illustrates is that when the equivalent is actually one and the same thing as that which is being claimed, whatever it may be called, it will be accepted as falling within the scope of the claim. (It bears mention that at the priority date

of the patent, the skilled addressee would not have regarded vitamin E to be an oil. However, clearly the skilled addressee would not have been interested in any nutritional value of an oil, but any substance with the physical characteristics of an oil, would have sufficed (so long as it had the further characteristics called for in the patent). There are many oils with a nutritional value, such as olive oil, peanut oil, etc.

- [28] The distinction between the Monsanto matter and this matter is that vitamin E fell within the definition of an oil whatever the oil was called but in this matter a “mating surface” is something completely different to a gasket as defined in the dictionary. The court reverts to this aspect below.
- [29] Another way of looking at the Monsanto judgment is that the Appellate Division perceived that the word “oil” was flexible enough to include vitamin E, which effectively is nothing but an oil with a certain nutritional value. In other words, the Appellate Division simply construed the claim in issue purposively.[19]
- [30] The same approach to interpretation (within the context of the law of contracts) was adopted by his Lordship Mr Justice Wallis in the recent matter of Bothma-Batho Transport (Edms) Bpk v S Bothma & Seun Transport (Edms) Bpk 2014 (2) SA 494 (SCA) at paragraph [10] where the following is stated: —

“Over the last century there have been significant developments in the law relating to the interpretation of documents, both in this country and in others that follow similar rules to our own. It is unnecessary to add unduly to the burden of annotations by trawling through the case law on the construction of documents in order to trace those developments. The relevant authorities are collected and summarised in Bastian Financial Services (Pty) Ltd v General Hendrik Schoeman Primary School. The present state of the law can be expressed as follows: Interpretation is the process of attributing meaning to the words used in a document, be it legislation, some other statutory instrument, or contract, having regard to the context provided by reading the particular provision or provisions in the light of the document as a whole and the circumstances attendant upon its coming into existence. Whatever the nature of the document, consideration must be given to the language used in the light of the ordinary rules of grammar and syntax; the context in which the provision appears; the apparent purpose to which it is directed and the material known to those responsible for its production. Where more than one meaning is possible each possibility must be weighed in the light of all these factors. The process is objective, not subjective. A sensible meaning is to be preferred to one that leads to insensible or unbusinesslike results or undermines the apparent purpose of the document. Judges must be alert to, and guard against, the temptation to substitute what they regard as reasonable, sensible or businesslike for the words actually used. To do so in regard to a statute or statutory instrument is to cross the divide between interpretation and legislation; in a contractual context it is to make a contract for the parties other than the one they in fact made. The ‘inevitable point of departure is the language of the provision itself’, read in context

and having regard to the purpose of the provision and the background to the preparation and production of the document.”[20] [emphasis added]

- [31] The court pauses to reflect on the statement that the interpretation of a document is objective and not subjective. Within the context of patent law, one must take into consideration that a patent is addressed at a skilled addressee and the court must ascertain how such an addressee would have interpreted the patent at its priority date.
- [32] Within this context one should bear in mind that the skilled addressee is a notional concept (as is the “reasonable man” within the context of negligence). Hence, the evidence of the plaintiff’s expert witness Mr Scott and that of Mr Bernard, the defendant’s expert witness, is to be assessed as opinions not harboured by them, subjectively, but as the metewand of the opinions of the notional skilled addressee. Once an expert is over-qualified and has a level of expertise which is outside the realm of a notional skilled addressee, as the term is understood in patent law, he no longer qualifies as a notional skilled addressee. In a nutshell, the notional skilled addressee is neither Nicola Tesla, nor inexperienced within a specific field of endeavour.[21]
- [33] It is for the court to assess the evidence in order to establish whether the defendant’s product infringes the claims of the plaintiff’s patent. An expert can merely guide but not prescribe. What the expert’s true role is is to explain to the court what a skilled addressee would have known at the priority date of the patent in order to enable the court to consider the meaning of the claims and what a skilled addressee would have made of the alleged infringing article at the effective date of the patent.

Who is a skilled addressee in this matter?

- [34] Mr Scott, the plaintiff’s expert, is a mechanical engineer. Mr Bernard, the expert for the defendant has a BsC (Eng) and a Master’s Degree in Engineering. Both have hands on experience in working with trains. Mr Bernard developed the first successful EOT devices in the world and he has also designed and supplied telemetry equipment for use in railway locomotives. Mr Scott, similarly, has worked in the field of the design and manufacture of mechanical parts for the railroad industry including parts for braking systems for trains. Hence both experts have academic qualifications and extensive practical experience.
- [35] A description of the allegedly infringing brake hose coupling and how it operates (with illustrations and the court’s own numbering below. The court deviated from the numbering of the patent embodiment for obvious reasons in order to prevent confusion).
- [36] Before assessing whether the defendant’s dual coupler infringes Claim 1 of the patent the allegedly infringing brake hose coupling will now be described with reference to the sectioned drawing and a photo thereof[22] depicted above.
- [37] The allegedly infringing brake hose coupling has five components – a first component 110, a second component 112, a circlip 114, a washer 116 and an “O”-ring seal 118.

- [38] The first component 110 has a main portion 120 that is generally circular and planar and has a central opening 122. Extending from the main portion 120 is a handle 124. The main portion 120 defines a planar surface 126. Securing formations 128 and 130 extend perpendicularly to the surface 126.
- [39] The second component 112 appears to be of brass and of one piece of machined material. The second component 112 has a passage 132 that passes through it. At one end the second component 112 has a spigot formation 134 for attachment to a pressure hose. Extending from the inner end of the spigot formation 134 there is a substantially circular cylindrical portion 136 that is located in the opening 122. The free end of the portion 136 has a flange 138 and a circular rim 140. An inner face of the flange 138 seats against the surface 126. The portion 136 has a groove 142 close to the spigot formation 134, in which the circlip 114 is positioned. The washer 116 and seal 118 are held in position on the portion 136 by the circlip 114, with the seal 118 seating against a surface 144 on the opposite side of the main portion 120 to the surface 126.
- [40] In use, the allegedly infringing brake hose coupling is engaged with a vacuum hose coupling or a glad-hand connector.
- [41] In the first case, a rubber seal of the vacuum hose coupling engages with the surface 126 and is held in sealing contact therewith by means of the securing formations. It will be appreciated that because there is a gap between the wall defining the opening 122 and the outer surface of the portion 136, air would be sucked into the vacuum coupling, if it were not for the seal 118 and washer 116. The negative pressure extant in the vacuum coupling is transferred to the hose connected to the spigot formation 134 via the passage 132.
- [42] In the second case, a rubber seal of the glad-hand connector engages with and seals against an outer face 146 of the flange 138, the rim 140 helping to locate the flange 138 with the seal of the glad-hand connector. Because the second component 112 is integral, the hose is hermetically connected with the glad-hand connector. The first component 110 serves merely to hold the second component 112 in engagement with the glad-hand connector. It is emphasised that there is no seal formed between the first component 110 and the glad-hand connector, and any air escaping between the seal of the glad-hand connector and the flange 138 will escape to atmosphere. Clearly, the flange 138 does not sealingly engage with the surface 126 and there is no need for it to do so.
- [43] A comparison between the allegedly infringing brake hose coupling and Claim 1, giving the term “gasket” its normal meaning follows: —
- [43.1] It was accepted by both parties that the allegedly infringing brake hose coupling is a brake hose coupling and, accordingly, integer (a) is present in the allegedly infringing brake hose coupling.

[43.2] It was accepted by both parties that the main portion 120 constitutes the “body portion” of integer (b) and, accordingly, integer

(b) is present.

[43.3] In the court’s view the spigot formation 134 can be the only item that could constitute the “connector” of integer (c). Surface 144 would then be the “first side” of the body portion specified in integer (c). Integer (c) further requires that the connector permit connection of a pressure hose to the body portion. The spigot formation 134 does permit mechanical connection of the pressure hose to the main portion 120. Accordingly, the court is satisfied that integer (c) is present.

[44] The court now turns to integer (d) that requires there to be a “gasket arrangement arranged on an opposed, second side of the body portion”. It is clear from what is stated above that the vacuum coupling seals directly against the surface 126 and that the glad-hand connector seals directly with the face 146. Further, as described above, the flange 138 does not seal with the surface 126. The plaintiff conceded that the seal 118 could not be construed as one of the gaskets of integer (d). Accordingly integer (d) is not present. It should be added, as there is no “gasket arrangement” whatsoever, the correct meaning of “arranged on” is irrelevant in the present case. (However, lest this viewpoint be incorrect, an analysis of the meaning of the term “on” is nevertheless undertaken below in an excess of caution.)

[45] If integer (d) is not present, then neither can integers (e), (f) or

(g) be present.

[46] In regard to integer (h) it is clear that the passage 132 extends through the second component 112 and the main portion 120 to permit fluid flow communication between the braking system and the pressure hose. However, because there is no gasket arrangement, integer

(h) is not present.

[47] The allegedly infringing brake hose coupling clearly has a locking arrangement as contemplated by integer (i) and this integer is present.

The meaning of the phrase “arranged on”:

[48] When seeking to assess the true meaning of the integers of claim 1, it was argued on behalf of the defendant that a reading of claim 1 emphasised the word “on” in both integers (c) and (d).

[49] From claim 1 it is clear that there has to be a: —

[49.1] Body portion which has two sides and which has[23] a connector arranged on a first side of the body for permitting connection of a pressure hose to the body and a second side on which a gasket arrangement is arranged;

[49.2] A first gasket (being the first of the two overlaying gaskets that are included in the gasket arrangement) which engages with a vacuum hose coupling; and

[49.3] A second gasket (being the second of the two overlaying gaskets that are included in the gasket arrangement) which engages with a glad-hand connector.

[50] It became apparent during the cross-examination of Mr Scott that the defendant holds the view that the word “on” is to be interpreted as being “on top of” or that one thing is to be affixed (in any manner) to another. That this is so is apparent not only from the nature of the questions that were posed by counsel for the defendant, but also the use of his wording during the questioning.

[51] It was argued by counsel for the plaintiff that a proper construction of the word “on” is simply that it must be at a certain location relative to the body portion.

[52] The Oxford Advanced Learners Dictionary: 6th edition, 2000 defines “on” as inter alia “in or into a position covering, touching or forming part of a surface”. It is clear that the word “on” can be used in a context such as the following: “The car park is on the other side of the building”. The word “on”, depending on the context, is therefore open to various interpretations.

[53] Upon analysis, it clear that all that is required therefore is that the gasket arrangement must be on an opposed (second) side of the body portion. Or it should, to use Afrikaans phraseology, be “aan die teenoorgestelde kant” and not “bo op die teenoorgestelde kant” in the manner in which the defendant sought to construe it.

[54] It was argued by Mr Michau, for the plaintiff, that the construction propounded by the defendant would mean that integer (d) should read “a gasket arrangement arranged on top of an opposed, second side of the body portion”.

[55] It is clear, when read in conjunction with integer (c), that the connector is arranged on the first side of the body portion and the gasket arrangement on an opposed second side. This underlines the fact that the word “on” does not mean that the arrangement has to be placed “on top of” the second side but that it is merely an indication as to where it is to be found relative to the connector (integer [c]), which is on the first side. In this regard, Mr Michau’s argument is accurate.

[56] The court is not persuaded that the meaning contended for by the defendant’s counsel Mr Marriott of the term “on” is accurate. One cannot isolate one word and extract it from its context in order to attach a certain meaning to it. However, the defendant’s interpretation of claim 1 to the effect that neither the gaskets nor the connector form part and parcel of the body portion of the coupler and that they are separate components, which may engage with each other, is correct.

[57] Furthermore, the focus cannot solely be on the word “on”. The word “on” is preceded by the term “arranged”. Neither the plaintiff nor the defendant paid any attention to the existence of the term “arranged”.

[58] The relevant dictionary meaning of the word “arrange” is as follows: —

“1. To put in a specific order or relation; dispose

2. To plan or prepare for.”

[59] Can something which forms part and parcel of an object legitimately be stated to be “arranged on” it? As appears from the dictionary meaning inherent in the word “arrange” is the ability to “put” an object somewhere. “Arrange on” does not equate to “attached to” or “part of”, but can mean to place an object somewhere relative to another. Thus, the gaskets and the body part on a proper construction of the specification and claim 1, are separate and distinct from each other.

[60] Hence, the entire debate regarding the meaning of the term “on” did not take the matter any further and constituted a red herring.

[61] It was argued on behalf of the plaintiff: —

[61.1] That “body portion” in claim 1 is unlimited in its definition and is not restricted to any shape, size or material. In fact, it is not limited to a single component;

[61.2] It is merely utilised to give structure to integer (c) and following;

[61.3] In fact, “body portion” is utilised in the claim to define on which side the connector is to be arranged and on which side the “gasket arrangement” is to be arranged. In other words all that is required, in terms of the teaching of the patent, is for the connector to be arranged on the “first side” and for the “gasket arrangement” to be arranged on the opposed and second side of the body.

[62] It was correctly argued on behalf of the defendant that the specification makes it clear that the body of the coupling apparatus

is distinct from the gasket arrangement and Mr Marriott quoted the following consistory clause:

—

“first gasket may be annular in shape [and] may abut against the second side of the body portion”[24] and the “second gasket may be annular in shape [and] may abut against the first gasket”.

[63] Reference was also made to the following paragraph of the specification: —

“The first gasket 24 has a diameter and thickness selected to permit engagement thereof with the vacuum hose coupling 28. The first gasket 24 is annular in shape [and – sic] abuts against the second side 22 of the body portion 12 as shown in Figures 3 and 4. The second gasket 26 has a diameter and thickness selected to permit engagement thereof with the glad-hand connector 32. The diameter of the second gasket 26 is smaller than that of the first gasket 24 as can be seen in Figures 3 and 5. The second gasket 26 is annular in shape and abuts against the first gasket 24.” [own emphasis].

- [64] It was strenuously argued on behalf of the defendant that nowhere in the specification is it stated that the body is also the first gasket. One should keep the following wording in mind: “As can be seen in Figures 3 and 5, the body portion is generally disc-shaped, and is configured and dimensioned to engage with a glad-hand connector 32 or a vacuum hose coupling 28”.
- [65] Furthermore, the specification also states that: “... the first gasket 24 is configured and dimensioned to engage with a vacuum hose coupling 28 of a brake pipe hose 30 of a vacuum braking system. The second gasket 26 is configured and dimensioned to engage with a glad-hand connector 32 of a brake pipe hose 34 of a pressure braking system”. [emphasis added] Clearly an object cannot engage with something else when it is part and parcel of the first object.
- [66] During his evidence in chief, Mr Scott stated that it is the second side of the body portion of the defendant’s alleged infringing dual coupler which is in fact the gasket which seals with the vacuum coupling. However, he was constrained to admit in his evidence that one needs a rubber seal between two metal surfaces in order to ensure that there is no leakage.
- [67] Mr Scott further emphasised that Mr Bernard did not state in his expert summary that the surface of the body portion sealingly engages with the vacuum hose coupling. Mr Bernard only said that it engages with the body surface.
- [68] According to Mr Scott (with reference to the pictures below), the horizontal surface 3 and the black body portion 1.1 are two overlying gaskets. Gasket 4 (allegedly consisting of vertical surface 2 and horizontal surface 3) fits loosely in the body part with the result that there will be a leak when the vacuum hose coupling engages with the body portion on side two of the body. According to Mr Bernard’s summary a circular resilient seal (“o-ring”) is provided on the first side of the body portion to seal any opening between the metal parts (the connector and the body part) in order to prevent leakage from the vacuum hose coupling in use. The o-ring in no way interfaces or connects with the vacuum coupling, but seals the brake hose (as would a collar) on the brake pipe connected to the telemeter. In this regard, Mr Bernard is clearly accurate.
- [69] He also identifies a gasket (numbered 4) in the middle of the defendant’s allegedly infringing coupler’s body portion,

which consists, as was stated by him and is allegedly clear from the photograph depicted below (which forms part of his expert witness summary) of two surfaces perpendicular to each other, which two surfaces were stated by the defendant's expert, Mr Bernard, to be surfaces which abut with the seal of the glad-hand of the pressure hose. (In the court's opinion, both experts and counsel failed to appreciate this fact, and sought to make the glass slipper fit. On a proper inspection of the allegedly infringing dual coupler it has no gasket – save for the one sealing the brake hose on the brake pipe.) Mr Scott refuted this allegation to some extent and testified that the vertical surface, marked number 2, was a centring device and the surface marked 3 the horizontal surface which sealingly abuts with the glad-hand due to the rubber seal in the glad-hand and the pressure applied by the locking mechanism of the dual coupler. I have no difficulty with the reference to the seal within the glad-hand. This serves as a gasket in the instant case. However, this fact does not render this surface by any stretch of the imagination, a gasket.

- [70] On the plaintiff's version the first gasket (for the vacuum) consists of the seal of the vacuum coupling and the body of the coupling device. It is a surface and the first gasket allegedly constitutes a sealing surface for the vacuum coupler. The plaintiff's expert witness Mr Scott accepted that this is how a skilled person would understand the meaning of the word "gasket" and that it is line with the dictionary meaning. The gasket, so Mr Scott opined, therefore provides a seal between the body and the vacuum coupler. However, the gasket is not the sealing surface. It is the seal within the vacuum coupler, which is the gasket.
- [71] Mr Bernard, on behalf of the defendant, testified that the plaintiff's specification includes a body portion distinct from the first gasket, which, in turn, is distinct from the second gasket.
- [72] In short, the defendant's argument is simple. A gasket cannot be part and parcel of another component.
- [73] In this regard, the court refers to the argument put forward in the defendant's heads of argument as set out below.

The defendant's version of the nature of its dual coupler:

- [74] The defendant described its allegedly infringing dual coupler as follows: The defendant's dual coupler has a body portion, which has been identified generally using the numeral 1. The defendant's dual coupler also includes a gasket, identified generally by reference numeral 4. That, allegedly, is the "second gasket" referred to in claim 1, being that which engages (exclusively) with the glad-hand connector of a brake pipe hose of a pressure braking system. (That this cannot be correct, even when the claim is purposively construed, has been set out above. In the court's opinion the component referenced by number 4 is not a gasket.)
- [75] The defendant's dual coupler does not have a "first gasket" within the meaning of claim 1. The vacuum coupling seals (directly) against the body of the dual coupler, at surface 1.1 in the figure depicted above.[25]

[76] The defendant argued strenuously that its dual coupler has only one gasket, namely that set out in integer (g). In fact the

component, namely component 4, identified by the defendant, is not a gasket. It does not act as a seal between the glad-hand connector and surface 1.1. The seal within the glad-hand acts as a gasket.[26]

[77] The expert, Mr Scott, was surprised by the interpretation placed by the defendant's counsel on claim 1 (he stated that he "had never read the claim in this manner"). He testified that surface 1.1 of the drawing above was the first gasket in the defendant's coupling device. The plaintiff further argued that the first gasket has to be arranged on an opposed second side of the body and that this is not possible if the gasket is, in fact, the body. The counterargument of the defendant was that to read the claim in this manner was counterintuitive and Mr Scott admitted that a gasket is something which sits between two materials to form a seal – the body and the vacuum coupling. Mr Scott stated, in this regard, that the patent "was not 100% accurate in terms of the dictionary definition of a gasket". This concession means that the term "gasket" could be given a meaning different to its dictionary meaning and, according to Mr Scott's concessions during cross-examination, should rather be called a mating or sealing surface. (However, this was never the argument put forward by Mr Bernard, the defendant's expert witness or the defendant's counsel.)

[78] Because of their importance, the concessions made by Mr Scott are set out below.

[79] During cross-examination of the plaintiff's expert witness, Mr Scott, answered the defendant's counsel, Mr Marriott's, question as follows: —

"Alright, fair enough. Can I then ask you? As I understand the definition of a gasket, a gasket is a piece of material which sits between two surfaces that need a sealed joint. Do you disagree with that? --- No I do not disagree with that. A gasket is a surface between a... is a sealing device between two surfaces." [emphasis added]

[80] Mr Scott further conceded that throughout the patent specification it could seem as though the body is capable of an interpretation as being separate from the two gaskets which form the gasket assembly. He said this with reference to the specification which provides that: —

"(t)he first gasket 24 has a diameter and thickness selected to permit engagement thereof with the vacuum hose coupling 28. The first gasket 24 has a diameter and thickness selected to permit engagement thereof with the vacuum hose coupling 28. The first gasket 24 is annular in shape [and – sic] abuts against the second side 22 of the body portion 12 as shown in Figures 3 and 5. The second gasket 26 has a diameter

and thickness selected to permit engagement thereof with the glad-hand connector 32. The diameter of the second gasket 26 is smaller than that of the first gasket 24 as can be seen in Figures 3 and 5. The second gasket 26 is annular in shape and abuts against the first gasket 24." (own emphasis).

[81] Mr Scott also readily conceded the following upon cross-examination by Mr Marriott, for the defendant: —

“I asked you at the outset, now I asked you just if you can pick up the... I asked the witness to pick up the alleged infringement... and I asked you at the outset whether you would understand a gasket to be a material, it does not matter what type of material, which sits between two surfaces to form a seal between those surfaces. What I want to put to you is that if you look at that device, the body portion is not the gasket. It cannot be a gasket. The body portion is one of the surfaces which needs the seal joint. The gasket must sit between the body portion and the vacuum coupler. As a on [sic] the definition and on your understanding of a gasket? --- M’Lady, the use of the word gasket in this patent to my mind has never been 100 percent accurate in terms of the dictionary definition of a gasket which as Mr Marriott points out is in fact a material, could be steel for that matter. That is sandwiched between two components. Mating surface might have been a better definition in here but yes in terms of your acknowledgement that the body cannot be a gasket... I just want to engage them... that body portion is not been sandwiched between any two surfaces because that one does not need to have sandwich between. It such itself in so, ja you could get away with the terminology but that is not a gasket in the dictionary definition of a gasket. It is a mating surface. A sealing surface is probably a better description. Likewise so is that a sealing surface when it comes to engaging with this.” [emphasis added]

[82] An important aspect of the specification is also the sentence found at page 18 of the specification to the following effect: —

“The brake hose coupling 10 does not include any rubber seals as the second side 22 of the body portion 12 and the gasket 26 engage with rubber seals of the vacuum hose coupling 28 and glad-hand connector 32 in an air tight manner.” [emphasis added]

[83] Due to the ramifications which this specific interpretation of a gasket could have for the parties regarding the question of

infringement, the court called for further heads of argument on this point.

[84] It was argued that: —

[84.1] The suggestion that the body of the defendant’s dual coupler can also be a gasket is a clear case of a plaintiff seeking to extend the scope of its monopoly beyond that which it has claimed and which the skilled person would understand the patentee to have claimed. Indeed, for the court to make a finding of infringement in this case, it would have to re-write claim 1 (and indeed the entire body of the specification) as was argued by counsel for the defendant to: —

[84.1.1] delete reference to a “gasket arrangement includes two overlaying gaskets” (integer (e)) because on the plaintiff’s version one does not need overlaying gaskets at all to infringe the claim;

[84.1.2] delete the entirety of integer (f), relating to the first gasket which engages with the vacuum coupling, because on the plaintiff’s version one does not need a first gasket at all to infringe the claim;

[84.1.3] re-write integer (b) to say that the body portion in fact forms a “mating” or “sealing surface” (not a gasket) with a vacuum coupling.

[85] However, on a proper analysis, claim 1 would have to be revised as set out below in order to allow a finding of infringement: —

[d] a gasket arrangement arranged on an opposed, second side of the body portion,

[e] which gasket arrangement includes two overlaying gaskets,

[f] a first sealing surface on a second side of the body portion being configured and dimensioned to engage sealingly with a vacuum hose coupling of a brake pipe hose of a vacuum braking system;

[g] a second sealing surface on the connector being configured and dimensioned to engage sealingly with a glad-hand connector of a brake pipe hose of a pressure braking system;

[h] a through passage extending through the connector and body portion, and gasket arrangement to permit fluid flow communication between the braking system and the pressure hose; and

[i] a locking arrangement for locking the body portion in place during connection thereof to a glad-hand connector or a vacuum hose coupling.”

[86] One can only wonder how claim 1 would have to be rephrased if one were to substitute the words "sealing surface" for "gasket". Claim 1, as it would have to be amended is set out below (with the term “sealing surface”

substituted for the word “gasket”): —

[c] a connector arranged on a first side of the body portion for permitting connection of a pressure hose to the body portion;

[d] a sealing surface arrangement arranged on an opposed, second side of the body portion,

[e] which sealing surface arrangement includes two overlaying sealing surfaces,

[h] a through passage extending through the connector, body portion, and sealing surface arrangement to permit fluid flow communication between the braking system and the pressure hose; and

[i] a locking arrangement for locking the body portion in place during connection thereof to a glad-hand connector or a vacuum hose coupling.” (It should read and a vacuum hose coupling.)

[87] It can be seen that integer (d) then requires a "sealing surface arrangement" and integer (e) "two overlaying sealing surfaces". It is difficult to comprehend how one can have an "arrangement" of sealing surfaces and "overlaying" sealing surfaces. Thus, if one merely reads "gasket" as "sealing surface" Claim 1 becomes difficult to understand. Claim 5, which provides that the first gasket has a diameter and thickness, becomes more problematic as a

surface cannot have a thickness. Claim 6 would provide that the first sealing surface must "abut against" the second side of the body portion. It is incomprehensible how a "surface" can "abut against" a side. Claim 7 has a similar problem to Claim 5 in respect of the second sealing surface. Claim 8 is similar to Claim 6 in regard to the difficulties encountered when a second sealing surface is introduced.

[88] Given the fact that both the plaintiff and the defendant accepted and presented their case on the basis that the word "gasket"

bore its ordinary dictionary meaning, and upon a careful perusal of the evidence and the parties' supplementary heads of argument, the court holds that: —

[88.1] The body portion 120 and the flange 138 of the defendant's coupler cannot be "gaskets" in the ordinary meaning of the word. A gasket is compressed between two surfaces in order to seal against both surfaces.

[88.2] In use, the surface 146 of the flange 138 seals against a rubber seal of a glad-hand connector (pressure implementation) and the surface 126, of the body portion 120, seals against a rubber seal of a vacuum hose coupling (vacuum implementation).

[89] In the pressurised implementation, because the coupler 112 is integral, no further sealing is required. However, in the

vacuum implementation, because the handle 124 must be rotatable relative to the coupler 112, the "O" ring seal 118, washer

116 and circlip 114 are provided, with the seal of the vacuum coupler providing a seal between the body portion 120 and the coupler. .

[90] Neither the flange 138 nor the body portion 120 is compressed between two surfaces to provide sealing between them.

[91] The seals of the glad-hand connector and the vacuum hose coupling act as "gaskets".

[92] In the premises, the court holds that the defendant's dual coupler does not infringe the plaintiff's patent, as it has no gaskets, and no gasket arrangement as envisaged by the patent and, as stated above, the defendant's dual coupler does not have integers (d) to (h) inclusive of Claim 1.

[93] All the claims are dependent on claim 1. Given the fact that claim 1 is held not to be infringed then all the claims are not infringed, in particular claim 10, which relates to a locking mechanism (absent from the defendant's dual coupler as conceded by the plaintiff's expert Mr Scott).

Lack of inventive step:

[94] In terms of section 25(1) read with section 25(10) of the Patents Act, an invention must constitute "an inventive step" (i.e. not be obvious).

[95] In *Ausplow (Pty) Ltd v Northpak Trading* [2011] ZASCA 123 (7 September 2011) at paragraph [9] the test for obviousness is as follows: —

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

- (b) Identify the relevant common general knowledge of that person (i.e. the state of the art[27]);
- (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? [28]”

[96] The expert’s evidence regarding the nature of the step claimed to be inventive, the state of the art as at the priority date and the respect in which the step goes beyond the state of the art or differs therefrom constitute the primary evidence.[29]

The person skilled in the art:

[97] The parties were *ad idem* regarding who such a person would be for purposes of this patent. He would probably be a person who would have an engineering qualification in the mechanical or electrical discipline, would clearly have an understanding of how pressure and vacuum braking systems and their couplings are used and work, and is likely to have some practical experience in designing couplings or connectors for use with hoses employed in pressure or vacuum systems (whether as part of the braking systems of trains or otherwise).

The state of the art:

[98] There were two types of braking systems employed on trains: pressure and vacuum braking. Vacuum braking was prevalent. End of train (“EOT”) telemetry units were available which could monitor the braking pressure in both species of the braking system. Nonetheless, Transnet in South Africa never employed telemeters on trains with vacuum braking systems (except for research), even though most trains in South Africa had vacuum braking systems.

[99] A telemetry unit is connected to the EOT brake pipe hose of the last car of a train via a telemetry hose. A glad-hand and a dummy glad-hand connector arrangement were used to couple the EOT brake pipe hose to the telemetry hose.

[100] Two dummy glad-hand connectors were known before the effective date of the patent. They are depicted below.

- [101] In use, the glad-hand dummy connector was attached to the telemetry hose and coupled to a glad-hand (which would in turn be attached to a pressure pipe of the train).[30] The sealing surface of the dummy connector would abut and seal against the surface “E1” shown in figure 1 of Mr Bernard’s summary, while the locking formations would engage with complementary locking formations on the glad-hand to secure the dummy connector to the glad-hand connector.[31]
- [102] Although no telemetry systems were operationally installed on vacuum trains in South Africa, a vacuum coupler had been in use in South Africa for a century or longer to connect vacuum pipes, as shown in the photograph below.
- [103] Although never used in commercial applications, telemeters were used on vacuum-braking trains for test and engineering applications in research projects.
- [104] For purposes of research, both the plaintiff and the defendant manufactured various types of adapters. Apparently no sales of such adapters ever took place.
- [105] It is important to appreciate that an adapter would have been used because, prior to 2010, telemeters were standardly fitted with a glad-hand or a quick-release coupler. Adapters were obviously more useful than a coupler (which attaches directly to the pressure pipe) where the glad-hand was already attached to the telemetry hose; not least because it avoided the need to remove the glad-hand from the pipe and then later replace it (once the trial was complete). Of course, when one is looking for a permanent attachment to a telemetry hose, you would not choose to use an adapter; “you would look for something in the line of the dual coupler”.
- [106] It can therefore not be argued that there was a long-felt want which was fulfilled by the plaintiff’s patented invention. The moment telemeters were introduced on vacuum trains the dual-coupling device was designed and manufactured.
- [107] The plaintiff’s coupling device provides for the device to be coupled with a glad-hand connector and with a vacuum coupling.
- [108] It would have been clear to an inventor that a coupling was needed which could serve this dual function. The dummy initially produced was to weld the two types of couplings together.
- [109] As to locking the vacuum coupling device, this would be dictated by the lugs of the vacuum coupler which already existed. These lugs complementary to those in the photograph above would have to be used which would result in the plaintiff’s invention claimed in its patent.
- [110] Claim 1, however, is not limited to any particular locking mechanism and any locking mechanism would do. The inventive step cannot lie in anything pertaining to the locking mechanism.

[111] Mr Scott, when pressed, stated that the invention lies in connecting a pressure coupler, and a standard glad-hand and attaining the right tolerances and furthermore ensuring that the locking mechanisms do not interfere with each other. It was put to him by counsel for the defendant that the specification does not refer to tolerances, which he conceded. However, he conceded that this process could be perfected through trial and error. It was allegedly so easy to develop a prototype making provision for a vacuum braking system and a pressure braking system that the witnesses Messrs Jordaan and Bernard agreed that it took basically no time at all to develop such prototypes. Mr Jordaan alleged that he simply created CAD drawings which he perfected over a few weeks. The evidence of Mr Bernard as set out in his expert summary was as follows: —

“a person skilled in the art of the patent would immediately appreciate that the components of the two connectors shown in figure 2 [the vacuum coupler] and figure 5 [the dummy glad-hand connector] are configured in a way that by simply super-imposing one connector on top of other, it is clear that all of the components of both connectors can be accommodated in one unit, without overcoming any technical difficulties, and that the combined connector would still be able to connect to either a complementary vacuum coupler or a glad-hand in the same way that each component did previously”[32]

[112] Merely superimposing one coupler on another, so it was argued on behalf of the defendant, cannot be inventive.

[113] One could also ask: is the invention a mere “collocation”? The law in this regard was set out in *De Beers Industrial Diamond Division (Pty) Ltd v Ishizuka*, where the court approved views expressed in *Deller’s Walker*: —

“Aggregation is not invention either in methods, machines or manufactures. Mere aggregation of a number of old parts or elements which, in aggregation, perform or produce no new or different function or operation than that theretofore performed or produced by them is not patentable invention.”

and in *Frost R. Patent Law and Practice* London: Stevens and Haynes 1891:

“not every collocation of parts is a combination which is capable of protection by patent, but to be patentable the combination must be a collection of inter-communicating parts, which by virtue of their inter-communication produce a definite specific result. Thus, where it appears that each collocated member merely gives its own result, and there is no result which flows from the collocation of parts, there is no combination.” [33]

[114] It was argued that the invention was a mere collocation. The court cannot agree. It is trite that only a scintilla of inventiveness is called for. Mr Scott testified that he was impressed when he saw the invention for the first time. It is common cause that by trial and error a rather straightforward methodology of marrying the two existing couplers was devised. That may be so, but it should be kept in mind that creating a coupler which could accommodate both a vacuum hose coupling and pressure hose coupling which actually worked, would, due to the vast differences between the two couplings, appear to be a

daunting task.

[115] It was also argued by counsel for the plaintiff that telemeters are today only sold with a dual coupler. Laddie J in Pfizer Ltd's Patent

[2000] EWHC 49; 2001 FSR 16 at paragraphs [63] and [64]: —

"Doing what is obvious can be commercially successful. Commercial success comes into its own as a secondary indication of inventiveness"

where both the relevant prior art has been available and the need for a solution to a known problem has been sought for a long time. Failure to make the step which is covered by the patent in those circumstances may be some indication that it is not as obvious as it might at first appear. That has no application here where the gap between the prior art and the priority date is so very short."

[116] It was also argued that both Mr Jordaan, as co-inventor of the invention and Mr Bernard came up with the same solution. The evidence demonstrates this allegation was correct but that Mr Jordaan and Mr Bernard did so independently. When regard is had, for example, to the locking mechanisms, they are completely different, which supports this conclusion.

[117] The defendant's counsel argued that this was demonstrative of the fact that a skilled addressee would, by mere trial and error, end up with the same invention (with minor non-material differences). This argument is without merit. History has demonstrated that various ground-breaking inventions were conceived on opposite poles of the earth practically simultaneously. What both the expert witnesses conceded was that the perfection of the invention would take trial and error. I do not read their evidence to be indicative of the fact that conceiving of the solution did not require a scintilla of inventiveness.

[118] In the matter of Veasey v Denver Rock Drill and Machinery Co Ltd 1930 AD 243 at page 281, the following was held: —

"... On the issue of subject-matter ["obviousness"] the difference between the plaintiff's invention and prior common

knowledge must be measured and valued. If there is no difference, there is no subject-matter; if there is a difference but it calls for no inventive ingenuity to bring it about, there is also no subject-matter ["obviousness"]; but if there is a real

inventive step forward, no matter how small, that is sufficient to give subject-matter to the patent. On the question of novelty there is again comparison, in this case, however, not with prior common knowledge but with prior publication (or public user). And when comparison is made with a prior publication and it is found that the two are not substantially the same, the defence of anticipation fails. It is no support to this defence to say that the difference between the two called for no inventive ingenuity to bring it about; though that enquiry may be relevant to the defence of want of subject-matter."

[119] It shall be recalled that in the seminal case of *Windsurfing International Inc. v Tabur Marine (Great Britain) Ltd* [1985] RPC 59 the following approach was adopted to the question of assessing obviousness or lack of inventive step: —

“(i) *identify the claimed inventive concept*;

(ii) assume the mantle of the normally skilled but unimaginative addressee in the art at the priority date and to impute to him what was, at that date, common general knowledge of the art in question;

(iii) identify what, if any, differences exist between the matter cited as being "known or used" and the alleged invention;

(iv) decide, without any knowledge of the alleged invention, whether these differences constitute steps which would have been obvious to the person skilled in the art or whether they require any degree of invention.”

[120] This test was modified in the matter of *Pozzoli SPA* (a company incorporated under the laws of Italy) and *BDMO SA* (a company incorporated under the laws of Belgium), *Moulage Industriel de Perseigne SA* [2007] EWCA Civ 588 (22 June 2007)[2007] EWCA Civ 588; ; [2007] FSR 37 as follows: —

“14. The place of "inventive concept" in relation to obviousness also calls for some discussion. It will be recalled that it forms the first step of the well-known Windsurfing test of Oliver LJ [1985] FSR 59 at 73. The test provides a structured approach to the problem and is often useful. I set it out adding my own numbering:

- (1) The first step is to identify the inventive concept embodied in the patent in suit.
- (2) Thereafter, the court has to assume the mantle of the normally skilled but unimaginative addressee in the art at the priority date and to impute to him what was, at that date, common general knowledge in the art in question.
- (3) The third step is to identify what, if any, differences exist between the matter cited as being "known or used" and the alleged invention.
- (4) Finally, the court has to ask itself whether, viewed without any knowledge of the alleged invention, those differences constitute

steps which would have been obvious to the skilled man or whether they require any degree of invention.”

[121] After quoting the Windsurfer test with approval, His Lordship Mr Justice Jacob qualified the test as follows (at paragraphs 15 to 18 at page 4): —

“15. I think the test requires some restatement and elaboration. First one must actually conduct the first two operations in the opposite order – mantle first, then concept. For it is only through the eyes of the skilled man that one properly understand what such a man would understand the patentee to have meant and thereby set about identifying the concept.

16. Next, that first step actually involves two steps, identification of the attributes of the notional "person skilled in the art" (the statutory term) and second identification of the common general knowledge ("cgk") of such a person.
17. What now becomes stage (2), identifying the inventive concept, also needs some elaboration. As I pointed out in *Unilever v Chefaro*

[1994] RPC 567 at page 580:

It is the inventive concept of the claim in question which must be considered, not some generalised concept to be derived from the specification as a whole. Different claims can, and generally will, have different inventive concepts. The first stage of identification of the concept is likely to be a question of construction: what does the claim mean? It might be thought there is no second stage – the concept is what the claim covers and that is that. But that is too wooden and not what courts, applying *Windsurfing* stage one, have done. It is too wooden because if one merely construes the claim one does not distinguish between portions which matter and portions which, although limitations on the ambit of the claim, do not. One is trying to identify the essence of the claim in this exercise.

18. So what one is seeking to do is to strip out unnecessary verbiage, to do what Mummery LJ described as make a *précis*.”[34]

[122] His Lordship Mr Justice Jacob was quick to state *op cit.* at paragraphs 19–20, that if seeking to arrive at the “inventive concept” results in too convoluted a process

one should simply work with the features of the claim. He restated the test as follows: —

“(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 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 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?”

[123] These steps are summarised in the WIPO Standing Committee “Study on Inventive Step” article supra at paragraph 44 as follows, when summarising the common approach followed by countries:—

“44. The following paragraphs describe various methodologies applies in Member States. While a great amount of commonalities are found in those methodologies, a particular attention may be drawn to the following aspects:

- as a starting point, which prior art should be compared with the claimed invention;
- how to identify the closest prior art or the most suitable prior art;
- how to evaluate the differences between the claimed invention and the prior art;
- if the technical problems or effects play an important role in the assessment of an inventive step, how to assess the non-technical

elements in the claimed invention.”

[124] In the article entitled, Study on Inventive Step”[35] the law of various jurisdictions pertaining to the test of obviousness of a patent is analysed. It is concluded in the article that: —

“In practice, there are many common or similar elements that characterize the level of skill of the person skilled in the art (PSIA) across the jurisdictions. These elements may be summarized as follows.

- (i) The PSIA is presumed to have had access to all publicly available state of the art information.
- (ii) The PSIA is able to comprehend all technical matters in the relevant art.”

In the United States of America, factors that may be considered in determining the level of ordinary skill in the art may include: (i) type of problems encountered in the art; (ii) prior art solutions to those problems; (iii) rapidity with which innovations are made; (iv) sophistication of the technology; and (v) educational level of active workers in the field. In a given case, every factor may not be present, and one or more factors may predominate.

[125] The mere fact that an invention is simplistic does not detract from its inventiveness, as was held in Mantella Trading 310 (Pty) Limited and Kusile Mining (Pty) Limited (191/2014) [2015] ZASCA 10 (12 March 2015) at page 26 at paragraph [59] with reference to the matter of Roman Roller CC and another v Speedmark Holdings (Pty) Ltd [1995] ZASCA 78; 1996

- (1) SA 405 (AD) at page 417J-418A Corbett CJ stated the following: —

“An Inventive Step? The next and final question in regard to the issue of obviousness is whether the patent involves an inventive step. This must be judged by asking oneself whether, in the light of the state of the art at the time, the step forward taken by the invention would have been obvious to the skilled addressee. Simplicity is no obstacle. Experience has shown that a number of simple inventions have constituted patentable subject matter. Moreover, one must guard against the snare of hindsight, while at the same time not over-compensating for this factor.”

[126] This point is emphasised in the comprehensive assessment of the WIPO Standing Committee “Study on Inventive Step” article supra at paragraph [101].

[127] The primary evidence in establishing whether an invention is obvious, is to establish, with the aid of expert witnesses, what the nature of the step is which is claimed to be inventive, the state of the art as at the priority date of the invention and the respect or respects in which the step differs from the state of the art.[36]

[37] Only then secondary evidence such as a long felt want for such an invention, the commercial success thereof, etc may be employed to test the strength of the primary evidence.

[128] Examples of reasoning that may be used to demonstrate the lack of inventive step are set out in the WIPO Standing Committee “Study on Inventive Step” article supra as follows:

“112. While the detailed explanations about such exemplary reasoning or rationales go beyond the scope of this document, some guidelines

provide the following rationales as examples of reasoning that may be used to demonstrate the lack of inventive step:

- (i) simple substitution of a known element for another to obtain predictable results or interchange of material with another known material having analogue effects;
- (ii) use of known technique to improve similar products, processes or devices in the same way;
- (iii) mere replacement by an equivalent means;
- (iv) simple and direct extrapolation of known facts, such as a change of size, form or proportion, without any unexpected effect;
- (v) applying a known technique or workshop modification to a known product ready for improvement to yield results that are predictable to a PSIA; and
- (vi) selection from a number of alternative possibilities without any unexpected effect.”

[129] The state of the art at the priority date of the patent was the welding together of a glad-hand and a vacuum coupling which resulted in a heavy, cumbersome object which was demonstrated to the court. It certainly did not constitute a deft but rather a clumsy solution to the problem.

[130] Hence, the inventive concept was to create a dual coupler which could seal with both a vacuum coupling and a glad-hand of a pressure coupling which was compact and easy to handle. The dual coupler which was invented may seem simplistic, but on face value it would have appeared impossible to marry two such different couplings. Conceiving of the invention in itself would require some ingenuity.

[131] The step forward was the plaintiff's invention, which resulted in a neat, lightweight and attractive dual coupler, which was clever and impressed the plaintiff's expert Mr Scott immensely. He had not thought that such a simple solution was possible because, when regard is had to the vast differences in a vacuum coupling and a glad-hand one would not believe a simple solution to be possible. Clearly, the plaintiff's invention was a great improvement on the clumsy dummy coupler used previously. It married the two couplings in an ingenious manner, albeit, with hindsight, an apparently simplistic manner. In fact, it is its very simplicity which infused it with inventiveness.[38]

[132] It was argued on behalf of the defendant that merely placing the one component over the other, adjusting the pins and the tensions, would lead to the claimed invention set out in claim 1. The converse seems to be true. As was stated in *Union Carbide v BP* [1998] RPC 1, 13: —

"Invention can lie in finding out that that which those in the art thought ought not to be done, ought to be done. From the point of view of the purpose of patent law it would be odd if there were no patent incentive for those who investigate the prejudices of the prior art."

[133] If the solution to the problem were as easy as the defendant seeks to make it out to be, one can only wonder why the initial solution was to weld together a glad-hand connector and a vacuum coupling.

[134] In the result the following order is made —

Order

1. The defendant's dual coupler is held not to infringe claim 1 of the plaintiff's patent.
2. The plaintiff's patent is held to be non-obvious and valid.
3. The plaintiff is to pay two thirds of the defendant's costs.

JUDGE OF THE HIGH COURT

For the Plaintiff Advocate R Michau SC

Instructed by Smit and Van Wyk (012 349 7800)

For the Defendant Advocate GD Marriott

Instructed by Adams and Adams (012-4326000)

- [1] A person skilled in the art (the skilled addressee) is a person with practical knowledge and experience of the kind of work in which the invention was intended to be used and in light of what was generally known by such persons at the priority date of the patent. See *Multotec Manufacturing (Pty) Ltd v Screenex Wire Weaving Manufacturers (Pty) Ltd* 1982 BP 421 (A); *Stauffer Chemical Company and Stauffer Chemical (South Africa) (Pty) Ltd and FBC Agrochemicals (Pty) Ltd v Safsan Marketing and Distribution Company (Pty) Ltd and Chemtrade (Pty) Ltd and Kempton Produce Supply (Pty) Ltd* 1983 BP 209 (CP) at 262. The definition of the “expression skilled in the art” in the PCT International Search and Preliminary

Examination Guidelines, paragraph 13.11 is also illustrative: — “13.11 The person skilled in the art should be presumed to be a hypothetical person having ordinary skill in the art and being aware of what was common general knowledge in the art at the relevant date. He should also be presumed to have had access to everything in the “prior art,” in particular, the documents cited in the international search report, and to have had at his disposal the normal means and capacity for routine experimentation. If the problem on which the invention is based and which arises from the closest prior art prompts the person skilled in the art to seek its solution in another technical field, the person skilled in the art in that field is the person qualified to solve the problem. The assessment of whether the solution involves an inventive step must therefore be based on that specialist’s knowledge and ability. There may be instances where it is more appropriate to think in terms of a group of persons, for example, a research or production team, than a single person. This may apply, for example, in certain advanced technologies such as computers or telephone systems and in highly specialized processes such as the commercial production of integrated circuits or of complex chemical substances.”

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[2] It is the court's opinion that the term "or" should be read conjunctively.

[3] Ensign-Bickford (South Africa) (Pty) Ltd and Others v AECl Explosives and Chemicals Ltd 1999

(1) SA 70 (SCA) at 77H – 78B.

[4] See, in addition to Monsanto, Aktiebolaget Hässle and Another v Triomed (Pty) Ltd 2003

(1) SA 155 (SCA), para [1] and Vari-Deals 101 (Pty) Ltd v Sunsmart Products (Pty) Ltd 2008

(3) SA 447 (SCA), para [11].

[5] RG Murray v Vodacom (Pty) Ltd & Another 2008 BP 31 (CP) para [78].

[6] Although the doctrine of purposive construction and the so-called doctrine of equivalents are regarded by certain courts to be

mutually destructive, this is not the case, in the court's opinion, as set out in this judgment.

[7] Counsel for the defendant, Mr Marriott, relied on various Canadian authorities which were handed to the court. In terms of the Constitution the court should have regard to the law of other jurisdictions when appropriate.

[8] "Purposive Construction in Canadian Patent Infringement cases since O'Hara" by Bob H. Sotiriadis (www.robic.ca - info@robic.com).

[9] Standing Committee on the Law of Patents Twenty-Second Session Geneva, July 27 to 31, 2015 Document prepared by the Secretariat.

[10] The doctrine of equivalents was, and still is, espoused by certain jurisdictions. Refer "Constitutional Law – Doctrine of Equivalence in UK Law" www.lawteacher.net. It entails that an integer which is the equivalent of that, which is claimed, could result in an

infringement. However, this doctrine was resorted to when the interpretation of a claim was in isolation and purely textual.

With the advent of the doctrine of purposive construction, such an equivalent will fall within the wording of the claim.

[11] Kirin-Amgen supra para 33.

[12] Kirin-Amgen supra para 44 (see also para 32).

- [13] Kirin-Amgen supra para 34. It is in these respects that the interpretation of a patent may differ from that of a contract or a statute.
- [14] Kirin-Amgen supra para 44.
- [15] Kirin-Amgen supra para 39 and 40.
- [16] Kirin-Amgen supra para 39.
- [17] Oxford Dictionary (British and English).
- [18] British English Dictionary and Thesaurus.
- [19] The definition of oil – The Free Dictionary (also found in: Medical, Legal, Financial, Acronyms, Idioms, Encyclopedia, Wikipedia.) — oil n. 1. Any of numerous mineral, vegetable, or synthetic substances or animal or vegetable fats that are generally slippery, combustible, viscous, liquid or liquefiable at room temperatures, soluble in various organic solvents such as ether but not in water, and used in a great variety of products, especially lubricants and fuels.
- [19] The definition of oil – The Free Dictionary (also found in: Medical, Legal, Financial, Acronyms, Idioms, Encyclopedia, Wikipedia.) —
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- [20] See also paragraph 18 of Joint Natal Municipal Pension Fund V Endumeni Municipality 2012 (4) SA 593 (SCA).
- [21] An interesting perspective is put forward by Jeffrey J Seeman, Series Editor ‘Profiles, Pathways, and Dreams’ in the book “To See the Obvious”. Arthur J Birch American Chemical Society, Washington DC 1995. According to him an inventor is a person with the capacity to see the obvious and the not converse.
- [22] The parties were specifically asked whether the sectional drawing was accurate, which was admitted. It is useful to have a

cross-sectional drawing of an allegedly infringing product. The parties gave the court all the parts referred to in this

judgment for its perusal and understanding of the patent specification and the defendant’s dual coupler in order to facilitate an understanding of the evidence.

- [23] The phrase “gasket arrangement” also indicates that the first and second gaskets are arranged together in a certain way. This interpretation is further borne out by the fact that both the first and second gaskets are stated to be included in the gasket arrangement. They are also expressly stated to be overlaying gaskets.
- [24] Mr Scott sought to suggest that the use of the word “may” could suggest that the first gasket may not abut against the body. The following was argued on behalf of the defendant in respect of this opinion expressed by Mr Scott:— “Of course, not being someone who reads patent specifications often, he would not have been expected to appreciate that page 13 and 14 of the specification contain the consistory clauses where “may” is used simply as an expedient to provide support for the claims. Simply by way of example, at p 14, line 3 it is suggested that “the pressure hose may in use be connected to a telemetry unit”. The pressure hose obviously cannot be connected anywhere else. The use of “may” does not therefore imply that it “may not”. In any event, claim 1 does not use the word “may”; and there is no description anywhere in the patent of the body also being the first gasket.” What this argument misses is that the notional skilled addressee is presumed to be able to read and understand a specification. One cannot therefore seek to use this type of reasoning to argue away the interpretation put forward by an expert whose ability to guide the court as a notional skilled addressee has not been attacked and who has also stated that he has read and understood the patent. Furthermore, the specification makes it clear that the pressure hose does not have to be attached to a telemetry unit. It is stated: “It is however to be appreciated that the coupling can be used for any application in which a vacuum or pressure brake pipe hose is to be connected to another element”. Thus, the defendant’s argument in this regard flounders as it is a play with semantics.
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another element”. Thus, the defendant’s argument in this regard flounders as it is a play with semantics.

[25] The copper “gasket” is not sealed against the aperture in the body, so an O-ring is placed on the opposite side of the body to prevent leakage from the vacuum hose coupling, in use. The O-ring could be a gasket, but it does not engage with the vacuum coupling at all.

[26] It should be pointed out that the surfaces, identified in the embodiment of the patent specification, could be gaskets as they

could, for example, be made from elastic material. Even then, the seal within the glad-hand would act as a gasket.

[27] Ausplow para [27].

[28] Ausplow para [34].

[29] Schlumberger Logelco Inc v Coflexip SA 2003

(1) SA 16 (SCA) para [34].

[30] Bernard expert summary, p. 68 – 70, para 29 – 31. The illustration combines figures 4 and 5 referred to in these paragraphs.

[31] Ibid. Figure 1 appears at p. 61 of the pleadings bundle.

[32] When it was put to Mr Scott that in fact the two devices could easily be combined without interfering with each other, he “challenged” the plaintiff to perform the same exercise by including a pipe. There was shown to be no difficulty in doing so.

[33] 1979 BP 135 (T) at 151 D-E.

[34] In the suit between VPG Systems v Air-Weigh [2015] EWHC 1862 (IPEC), the honourable High court Judge Hacon ruled that the patent in suit was invalid for lack of inventive step. He adopted the four-step Windsurfing/Pozzoli approach. 1a) Identify the notional “person skilled in the art” 1b) Identify the relevant common general 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 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? In relation to the second step, HHJ Hacon noted that the inventive concept is not the same as the inventive step the identification of the inventive concept comes before the assessment of the prior art and therefore does not vary. The standing committee on the law of Patents (WIPO) has released a study on Inventive Step to be found at <http://www.wipo.int/edocs/mdocs/scp/en/scp22/scp.22.3pdf>. The document deals with

tests used across the globe to determine inventive step. It is interesting to note (see paragraph 24 of the WIPO Study supra) that in various jurisdictions the test for a skilled addressee, or a person skilled in the art, differs according to the issue which he/she has to address. In India, the Intellectual Property Appellate Board (iPAB) pointed out the difference in the words “a person skilled in the art” used in the legal provision with respect to the requirement on inventive step and the words “a person who has average skill and average knowledge” used in the provision concerning the enabling disclosure requirement. While the iPAB did not articulate the difference between those two expressions, it stated that a person skilled in the art relevant to the assessment of the inventive step “has read the prior art and knows how to proceed in the normal course of research with what he knows of the state of the art. He does not need to be guided along step by step. He can work his way through. [...] he is neither picking out the ‘teaching towards passages’ like the challenger, nor is he seeking out the ‘teaching away passage’ like the defender. A person skilled in the art need not be guided step by step but can proceed in the normal course of research with what he knows of the state of the art.

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[35] Standing Committee on the Law of Patents Twenty-Second Session Geneva, July 27 to 31, 2015 Document prepared by the Secretariat.

[36] Schlumberger Logelco Inc v Coflexip SA 2003

(1) SA 16 (SCA) at para 34.

[37] In the suit between World Wide Technical Services N.V. v Panasonic Marketing Europe GmbH and Panasonic Manufacturing UK Ltd, District Court of The Hague, the Netherlands, 15 July 2012, Case number 460236 / HA ZA 14-228 the court found that the patent lacked inventive step and World Wide Technical Services was ordered to pay EUR 199.747.93 to Panasonic to compensate the costs of the proceedings. (Our courts have not yet adopted the doctrine of inventive concept.)

[38] Cf Schlumberger Logelco Inc v Coflexip SA 2003

(1) SA 16 (SCA).

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Prepared on 10 October 2026 · Esheria