THE SUPREME COURT OF APPEAL OF SOUTH AFRICA

CASE NUMBER: 4/95

In the matter between:

ENSIGN BICKFORD (SOUTH AFRICA) (PROPRIETARY) LIMITED FIRST APPELLANT
BULK MINING EXPLOSIVES (PROPRIETARY) LIMITED SECOND APPELLANT
DANTEX EXPLOSIVES (PROPRIETARY) LIMITED THIRD APPELLANT

and

AECI EXPLOSIVES AND CHEMICALS LIMITED RESPONDENT

CORAM: VAN HEERDEN DCJ, HARMS, SCHUTZ, SCOTT and PLEWMAN JJA

DATE OF HEARING: 17 and 18 AUGUST 1998

DATE OF JUDGMENT: 21 SEPTEMBER 1998

JUDGMENT

PLEWMAN JA

This appeal concerns the validity and alleged infringement of South African Letters Patent No 79/3210 in respect of an invention entitled "Low-energy fuse consisting of a plastic tube the inner surface of which is coated with explosive in powder form". The appellants were the defendants in two infringement actions consolidated at the trial stage. The respondent, the plaintiff in the actions, is the proprietor of the patent having acquired it by assignment on 2 April 1992. McArthur J, sitting as Commissioner of Patents, decided the case in the plaintiffs favour but granted leave to appeal to this Court. It will be convenient to refer to the parties as plaintiff and defendant or defendants as the context may require.

The plaintiff is a leading South African company in the explosives field. The original patentee, Nobel Nitro AB of Sweden (Nobel), is a company of even greater renown in this field. The first defendant is the local subsidiary of a corporation registered in the United States of America, Ensign-Bickford (E-B America), a large

manufacturer of products of the type covered by the patent. The other defendants were its customers.

The patent was granted under the Patents Act No 57 of 1978 (the Act), on a convention application dated 18 June 1979, claiming a priority date, based on the original Swedish application by Nobel, of 8 August 1978. The inventors were three persons who were employees of Nobel at the time of the development of the product. The plaintiff was initially a licensee under the patent and seems to have acquired it for the purposes of the litigation. E-B America, for its part, had been a licensee of Nobel under an earlier 1971 pioneer patent in the field. This was the Pers-Anders Persson US Patent 3590739. The products, produced in accordance with the Pers-Anders Persson patent, became known as the Nonel mono tubes. Nonel was a Nobel trade mark. A number of variations of the original product appear to have been manufactured from time to time both by Nobel and its licensees. The licence with E-B America included a technical

exchange agreement which (though the matter was not investigated at trial in any depth) appears to have involved a mutual obligation to exchange information concerning technical advances on or improvements made with the product. The evidence establishes that both E-B America and Nobel before and at the time of the application for the patent now in issue were actively pursuing research in order to improve their respective products. Some of the variations will be mentioned below. The plaintiff itself was still manufacturing the mono tube in 1994 and had not, even at that date, undertaken commercial production of the patented tube.

Fuses of the type covered by the patent are known as shock tubes. A short explanation of the art or science in question must be given. Shock tubes were introduced to the mining, quarrying and construction industries in the early 1970's as a method of initiating explosions which was safer than other then known methods. Shock tubes became a substitute for electrical initiating methods and for

conventional detonation cord. Shock tubes consist of plastic tubes with an outside diameter of approximately 3 millimetres, the inside wall of which is coated with a fine layer of explosive dust. A detonator is attached to the tube by a process known as crimping. The tube operates by the propagation of a shock wave the initiation of which at one end of the tube causes the progressive detonation of the explosive agent (it being self propagating) which, at the far end, initiates the main or intended explosion by means of the detonator. All the shock tubes dealt with in evidence used a make or grade of Surlyn - a plastic tubing, provided by a firm Du Pont. It seems that Surlyns were well known and readily available in a range of grades. Explosive powders were also readily available in the market.

The trial had some unusual features. Not only had Nobel and E-B America, for the reasons already given, insight into the technical developments of the other but the plaintiff itself also seems to have had some relationship and communication on a technical level with

E-B America (though this too was not investigated). E-B, however, was the manufacturer of the tubes sold locally which were alleged to infringe the patent. What had a large influence on the proceedings was the fact that prior to the South African litigation there had been litigation (on the counterpart American patent) between Nobel, a company known as Ireco and E-B America. As is usually the case with American litigation depositions (an adverse party procedure related to discovery which allows parties to take evidence on oath of the other party's officers) were taken from a number of persons including one of the inventors, Mr Hans Lundborg. Both the plaintiff and the defendants made extensive use in cross-examination of the American depositions and of documents discovered in the course of taking such depositions. As far as the defendants are concerned it must have been the fact that Lundborg's deposition was available to them that led them to apply before the trial in South Africa commenced to take his evidence on commission in Stockholm. In the

application for such leave it was stated that the witness would be able to support the counterclaim for revocation of the patent by reason of his knowledge of, inter alia, the details of the development of the patented shock tube; details of the problems encountered with the prior art products which the patentee sought to overcome; the commercial success of the patented product, and tests conducted on the patented product and the prior art. When Lundborg's evidence was led not all these promises were fulfilled. It is reasonably clear that the defendants had not had access to Lundborg for the purposes of consultation before deciding to lead his evidence. An expert summary relating to his evidence was filed but this he himself had not seen at the time of giving evidence. It was presumably prepared by defendants on the basis of his deposition. Since Lundborg is one of the inventors of the patent and an ex-employee of Nobel the procedure would seem to have been a slightly ambitious attempt by defendants to advance their case. It was, in the end result, not entirely

unhelpful to their cause.

The onus of proof on the issue of infringement was on the plaintiff and on the issue of invalidity on the defendants. The plaintiff led the evidence of only one witness, Dr Viljoen - a well qualified scientist in the plaintiffs employ, but only since January 1992. The defendants thereafter called a number of witnesses (who will be identified later) in support of their contention that the patent was invalid.

At trial three grounds of invalidity were relied on. In the pleadings additional grounds had been advanced but these were not pursued. The objections with which the defendants persisted were a contention that the patent was not patentable in terms of s 25 of the Act as it was not new in the light of the use or sale before the priority date of two products known as H D Nonel (novelty); a contention that the patent did not involve an inventive step (obviousness), and a contention that the claims were, in terms of s 61(l)(f)(i), not clear

(ambiguity). The last of these was so faintly urged in this Court that it can be disregarded. McArthur J, as has been stated, found against the defendants on all the grounds for revocation and on the issue of infringement.

I turn then to the specification. The general introduction I have given above in relation to shock tubes is also set out, in a broad sense, in the specification. It must be said, however, that the specification is a very terse document and, as I will show, in a material sense uninformative. In terms of s 32 of the Act a specification must be framed in what is now a conventional manner and the present specification broadly takes this form. (To the extent that it would seem not to do so no issue was made thereof in the pleadings and such shortcomings are now irrelevant.) There is a brief discussion in the specification of the prior art as it has been explained. The plastic material produced by Du Pont (a grade of Surlyn) is identified in the specification as a suitable material for the plastic tube. The document

then proceeds to discuss the problems said to have been encountered with the prior art products. The object of the invention and a brief consistory clause follow. It will be of assistance if I quote the specification. It reads:

> "It has been found that explosive in powder form which is applied on the inner surface of the plastic tube does not adhere sufficiently firmly to this surface, the explosive powder often becoming dislodged from the inner surface during transport or storage. During handling the powder may form blockages in the tube or fall down into said detonator. If a shock wave encounters such a blockage it will terminate at this point. If the explosive powder falls down into the detonator, this may be destroyed without effecting the desired ignition of the explosive substance it is intended to cause to explode.
>
> The object of the present invention is to prevent there being a sufficient quantity of loose explosive powder inside the plastic tube to enable plugs of explosive agent to be formed. According to the invention this object can be achieved by using a plastic tube of sandwich-type. The tube consists of two parts, an outer part and an inner part. The outer part endows the plastic tube with

> resistance to external damage and the inner part is provided with an inner surface with such adhesion that explosive agent applied thereon is dislodged substantially only by a shock wave."

The specification then contains some brief paragraphs amplifying the description of the invention and there follow details of certain tests performed by the patentee giving the experimental data.

As in all patent actions the first task of the Court is to construe the claims in order to ascertain what the invention is which is claimed. I shall deal presently with the submissions of defendants* counsel in this regard but it will assist if, before so doing, I recite the main claim (which is all that need be considered) divided for convenience into its essential integers. It is in the following terms:

(1) Low-energy fuse consisting of a plastic tube, the inner surface of which is coated with explosive in powder form,

(2) characterised in that the plastic tube is of sandwich-type comprising two parts,

(3) an outer part endowing the plastic tube with resistance to external damage, and

(4) an inner part the inner surface of which has such adhesion that explosive agent applied thereon is dislodged substantially only by a shock wave.

On the face of it, it is therefore a claim of wide ambit in the sense that it is left to the person skilled in the art to select, according to his skills and wishes, the grade or type of plastic tube or tubes which are to make up the "sandwich-type"plastic tube. So too, the core loading (that is the amount of the explosive powder used) is not quantified and is therefore also a matter of choice. What is of particular importance is that no specific relationship between the requirements of integers (c) and (d) is specified.

It will have been seen that in setting out the objects of the invention it was said in the body of the specification that "according to the invention this object (namely the prevention of a sufficient quantity of loose explosive powder collecting inside the plastic tube

to permit plugs of explosive to be formed) can be achieved by using a plastic tube of sandwich-type." This would suggest that a relationship between the sandwich type tube to be employed and the difficulty of ensuring powder adherence was or was going to be proposed. However nothing further in the specification describes any process or means of achieving this balance. (1 should add that even if it had, the claims could not be affected by this for the reasons I give in dealing with defendants' counsel's main submission.)

Defendants' submission was that the claim was to be construed as being limited to certain powder loadings mentioned in the body of the specification. This was what counsel termed the "narrow construction". It involved importing into the claim from the body of the specification particularity as to the powder loadings given in the experiments. The purpose of this argument was, it is clear, to show that the patent had not been infringed because these loadings had not been found or used in the tubes alleged to infringe. This submission

does not bear scrutiny. It will, I think, suffice to say that nothing contained in the body of the specification in this regard purports to provide a dictionary for the claims or even (in a more limited sense) to affect the wording of the claims. To construe the claims in this way would offend against a fundamental principle of patent law, namely that found in the famous dictum of Lord Russel in the case of Electrical and Musical Industries v Lissen 56 RFC 23 at 39. It is a rule adopted by this Court in the case of Power Steel Construction (Pty) Ltd v African Batignilles 1955 (4) SA 215 (A) at 224 D-F. The dictum reads:

> "…… The claims must undoubtedly be read as part of the entire document, and not as a separate document; but the forbidden field must be found in the language of the claims and not elsewhere. It is not permissible, in my opinion, by reference to some language used in the earlier part of the specification, to change a claim which by its own language is a claim for one subject-matter into a claim for another and a different subject-matter, which is what you do when you alter the boundaries of the forbidden territory ...

> ..... A claim is a portion of the specification which fulfills 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 he desires to protect."

See also Gentiruco AG v Firestone SA (Pty) Ltd 1972 (1) SA 589 (A) at 613D-618G.

The only evidence relevant to the construction of the specification was that of Dr Viljoen who explained the nature and functioning of the patent and the meaning of technical words. What is important is that she said that the process of co-extrusion was simply a means of depositing an outer layer over the chosen inner layer. She thus in effect conceded that no synergy between the outer and inner layer was described or claimed.

What is claimed is then a tube having the characteristics described and identified by the division of the claim into separate integers made earlier. That, in counsel's terminology is the "wide

construction". The distinction between the narrow and the wide construction for the purposes of this appeal is that defendants' counsel conceded that if the claim was to be construed in the wide manner set out above infringement had been proved. The defendants' further contention was however that such a construction rendered the patent open to revocation on the grounds mentioned above and I turn to consider this question.

The evidence established that in the late 1970's E-B America was producing a shock tube known as H D Nonel. The letters H D stood for "heavy duty" and the word Nonel was an abbreviation for "non-electric". This product was the product invented by Nobel in 1971 - the Nonel mono tube - which was licensed by Nobel to E-B America from 1975 to 1977. The defendants called two witnesses, a Mr Feasler and a Mr Spragg, who were in a position to talk of the events of that time as employees or ex-employees of E-B America. The characteristics and shortcomings of this shock tube were

explained. The tube was apparently not sufficiently waterproof and lacked tensile strength and abrasion resistance. This led (as has been stated) to investigations, tests and experiments to improve the product. One attempt involved the over-braiding of the tube with polypropylene yarn and the application of a wax, which was a mixture of a polymer and a resin, to the yarn. "Braiding" (as the judgment in the court below explains) involves the interweaving or plaiting of the yarn over the plastic tube or (as the court below put it) the "wrapping" of a covering around the plastic tube. The over-braided product did not solve all the problems which it was intended to eliminate and, indeed, introduced other difficulties. One was that the stretching qualities of the plastic tube were inhibited. Another was that problems arose with the seal between the tube and the detonator shell. As a result further modifications were considered. One was a process of over-extrusion. As early as 1976 E-B America conducted laboratory tests in which the plastic (Surlyn) tube was over extruded

with polyurethane. The immediate object was to improve the waterproofing of the product. The result was a tube with an inner part and an outer part. E-B does not seem to have been satisfied with the product and it concentrated for a while on the production of a "thick-walled" mono tube. After a period during which its main commercial production was the thick-walled mono tube E-B America reverted to the production of an over-extruded product which it then put into commercial production. An E-B America Construction Standard (a document used to control manufacture) dated 22 September 1979 covering the manufacture of an over-extruded shock tube was proved in evidence. The tube was made of a Surlyn sub tube of a certain grade manufactured by Du Pont over-extruded with polyethylene. Thereafter this product or similar over-extruded products were produced and widely sold by E-B America. It was common cause that it was this type of a sandwich tube manufactured by E-B America which the plaintiff alleged infringed the patent. E-B had, it seems,

supplied the defendants.

The defendants' first argument was that the over-braided and over-waxed H D Nonel itself was an anticipation of the invention. This was rejected in the court below and in my view correctly so as the product, to any practical understanding, was a single or mono tube. The main contention however was that the over-extruded product did so and the defendants sought to establish, through the evidence of Feasler and Spragg, that E-B America had marketed the over-extruded product before August 1978. This both witnesses claimed to be in a position to assert positively (despite the passage of sixteen years). The bulk of the record relates to the evidence and cross-examination on this issue. The witnesses were able to identify a large number of documents (all of which seem to have been exhibits in the American litigation) which reflected, in one form or another, experimentation with or reports related to the over-extruded product. It is not necessary for the purposes of this judgment to particularise

the documents or to discuss the efforts of the witnesses to date the commercial exploitation of the product. Much of the evidence related to an ultimately unsuccessful effort to date an advertising poster on which an over-extruded product was depicted. The problem which the witnesses could not overcome was the fact that in all this mass of documentation not a single document establishing the sale or commercial use of an over-extruded product, (such as an invoice, delivery note or any similar record) could be found. The evidence in this regard was carefully analysed in the judgment by the learned judge in the court a quo and he concluded that the defendants had failed to prove the prior commercial use of the over-extruded product. I have not been persuaded that he erred in this regard. It has not been suggested that the learned judge then erred in holding that the subject matter of the invention had on this view of the evidence not "been made available to the public (whether in the Republic or elsewhere) by use or in any other way" before the priority date.

What remains is the issue of obviousness. The objection based on a lack of inventiveness is one of long standing in our patent law. It was to be found in both the 1916 and 1952 Patents Acts. In terms of s 23(1)(d) of the 1952 Act, it was a ground for revocation of a patent that the invention was "obvious in that it involves no inventive step having regard to what was common knowledge in the art at the effective date". Under that Act the concept of common knowledge was fundamental to the enquiry. See Gentiruco v Firestone, supra, at 654 A and B-M Group (Pty) Ltd v Beecham Group Ltd 1980 (4) SA 536 (A) at 553 B-F. It is, I think, important to note that the starting point under the present Act is somewhat different. This has eliminated a number of difficult factual inquires which arose under the earlier legislation, such as the question as to what degree of general acceptance of knowledge was necessary to constitute common knowledge.

Lack of inventiveness is a ground for revocation under the

present Act by reason of the provisions of s 25(1), (6) and (10) read

with s 61(c). The relevant provisions of s 25 are as follows:

> "25. Patentable inventions. - (1) A patent may, subject to the provisions of this section, 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.
>
> (6) 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.
>
> (10) Subject to the provisions of section 39(6), 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) (and disregarding subsections (7) and (8))."

These provisions constitute a statutory code. In effect all available knowledge is the starting point and lack of

inventiveness only arises

as an issue if the invention has, as it were, survived the attack on

novelty. Expressions used and tests formulated in earlier judgments must be used with care.

As is pointed out in Roman Roller CC and Another v Seedmark Holdings (Pty) Ltd 1996 (1) SA 405 (A) at 413, in order to apply these provisions to a particular case it is necessary to determine what the art or science to which the patent relates is, who the person skilled in the art is and what the state of the art at the relevant date was. But the inquiry, in my view, must then proceed further. After those factors have been determined, a more structured inquiry must be undertaken. For this it is appropriate to adopt tests formulated in certain English authorities. The tests proposed do not differ from some of the inquiries suggested in the earlier practice in our courts but they are conveniently arranged in a suitable sequence in the case of Mölnlycke AB and Another v Procter & Gamble Limited and Others (no 5) [1994] RPC 49 (CA) at p 115. Four steps are

identified. They include or restate in part what has been said above

but may be taken to conveniently list the inquiries to be made:

(5) What is the inventive step said to be involved in the patent in suit?

(6) What was, at the priority date, the state of the art (as statutorily defined) relevant to that step?

(7) In what respect does the step go beyond, or differ from, that state of the art?

(8) Having regard to such development or difference, would the taking of the step be obvious to the skilled man?

In the judgment of the court below the learned judge held that what was available to the public was "the mono tube which in the course of time was provided with a wax over-braiding". He also held that the technique of over-extrusion, particularly for detonator cords, was well known in the mid 1970's. He concluded that there were

obvious ways to overcome the difficulties with the known tubes such

as asking Du Pont to provide a tube with greater adhesive properties or to reduce the core load or particle size of the powder. The evidence bears all this out. The learned judge then held that "All the points taken individually may well be correct. But it does not follow that the invention in its totality is obvious. That approach smacks of the armchair critic and fails to take into account that each problem had first to be overcome and then everything has to be integrated to produce an article which is acceptable in the market place". This proposition calls for further consideration. It, in my view, does not sufficiently or adequately formulate the question to be posed. Firstly the question to be determined is whether what is claimed as inventive would have been obvious not whether it would have been commercially worthwhile. See Windsurfing International Inc v Tabur Marine (Great Britain Ltd [1985] PPC 59 at p 72. Secondly the emphasis must lie on the technical features. A passage in the

judgment of Sir Donald Nicholls, Vice Chancellor, in the case of

Mölnlycke v Procter Gamble, supra, bears repetition. At p 113 the

Vice Chancellor said:

> "In applying the statutory criterion and making these findings the court will almost invariably require the assistance of expert evidence. The primary evidence will be that of properly qualified expert witnesses who will say whether or not in their opinions the relevant step would have been obvious to a skilled man having regard to the state of the art. All other evidence is secondary to that primary evidence. In the past, evidential criteria may have been useful to help to elucidate the approach of the common law to the question of inventiveness. Now that there is a statutory definition, evidential criteria do not form part of the formulation of the question to be decided.

> What with hindsight, seems plain and obvious, often was not so seen at the time. It is for this reason that contemporary events can be of evidential assistance when testing the experts' primary evidence. For instance, many people may have been industriously searching for a solution to the problem for some years

> without hitting upon the allegedly obvious invention.
>
> ……Yet again, evidence of the commercial success of the
> invention can lead into an investigation of the reasons for this success; there may be commercial reasons for this success unrelated to whether the invention was or was not obvious in the past.
>
> Secondary evidence of this type has its place and the importance, or weight, to be attached to it will vary from case to case. However, such evidence must be kept firmly in its place. It must not be permitted, by reason of its volume and complexity, to obscure the fact that it is no more than an aid in assessing the primary evidence."

Whilst the objection of lack of inventiveness was seriously contested on appeal very limited attention seems to have been paid to it in the evidence. The result is that the primary evidence is not particularly helpful. What it amounted to is the following: Dr Viljoen in evidence discussed a series of prior publications (in the main patent specifications relied upon in the pleadings in support of an attack on novelty which was ultimately abandoned). She was then asked, under the rubric of inventiveness, if there was any difference

"between the teachings of those documents and the teachings of this

patent". Her answer was that not one of the (other) patents she had read described a low energy fuse or a shock tube in which it was mentioned that it was important that the inner layer had adhesive properties and that the outer layer be resistant to abrasion. Nor, she said, "(that) you could achieve this by actually using two different types of polymers". This she said was different from the earlier descriptions and that it would not have "been that easy" to come from a single tube and to "realise that you could solve a lot of problems by adding another plastic layer". The only other evidence she gave is that which was principally relied on in defendants' heads of argument in this Court namely her assent, when confronted with a 1990 publication, to a statement therein that "the obvious method of overcoming the disadvantages of Surlyn tubing while retaining the advantageous properties, was to produce a bi-laminated tube where an inner tube of Surlyn was over coated with an outer layer of

polyethylene".

As far as the defendants were for their part concerned, the technical evidence amounted to little more than the fact that the same extract was read to Mr Spragg and that he (not unexpectedly) also assented thereto.

There is this to be said about this evidence by Dr Viljoen and Mr Spragg. Dr Viljoen's evidence based on and related to the earlier documents is not sufficiently focussed to the inquiry which must be addressed in relation to inventiveness in terms of the tests discussed earlier. Secondly the questions themselves were not properly directed to the invention defined by the claims. The objection of lack of inventiveness is not an objection to "teaching" in the body of the specification. It is the claims which must be considered and there is nothing to suggest that this distinction was clear to Dr Viljoen. As far as the extract from the 1990 publication is concerned it does not seem to have been raised in cross-examination in a context which would

have suggested that inventiveness was under consideration. Seen in that light it would, I think, be unwise to hold this answer against Dr Viljoen or to set too much store on the response by Mr Spragg to a leading question equally unrelated in its context to what I must assume was the actual purpose of the question. The only other technical evidence was that of Lundborg.

Lundborg stated that he was employed by Nobel from 1969 to 1978 during which time he worked on shock tube products which had been commercialised by Nobel and were being sold under the trade mark Nonel. A complaint was received from a site in northern Sweden, where the product was used in an open pit, where misfires had been experienced. These had been attributed to the dislodgment of the explosive powder in the tube leading to the formation of a plug of powder which terminated the propagation of the shock wave. It was, he said, a marginal problem. The problem was, however, discussed and three solutions were suggested. The first was to reduce

the core load. This proved impractical and led to an increase in the misfires. The second was to use finer explosive powder. This was rejected because the powder supplier was unable to provide Nobel with sufficient quantities of finer powder. The third solution was (so one must read into his evidence) to look at a two part tube in which the outer part was more resistant to abrasion. Stated in these simple terms and considering the logic of the situation his evidence seems to indicate that the suggestion of a tougher outer layer must have been obvious. In the result the technical evidence does not suggest that any inventive step was called for.

There remains only the question of the secondary evidence. This usually takes the form of evidence of commercial success which then serves as a salutary counter to the wisdom of hindsight. In this case the secondary evidence was again of an unconvincing nature. Lundborg was asked in cross-examination how long his department had worked on the improved tube before it arrived at the solution it

provided. He answered "about two years". The matter was not

further investigated. In particular no attempt to establish why it had taken two years; no reports by his department reflecting what work was being done and what progress was being made (such as one is accustomed to seeing in patent cases) were produced. Seen in this light his answer is, in my view, of no consequence. It does not assist in showing that the advance made was an inventive one. The only other evidence of a secondary nature was an attempt in the cross-examination of Mr Spragg (by the use of an answer given in one of the American depositions) to show that a product, which I will assume was sufficiently identified as a sandwich type tube, had "succeeded beyond (E-B America's) expectations". This evidence was, in my view, inconclusive and quite insufficient to show either commercial success or inventiveness. It should be noted that there was no evidence of commercial success in South Africa; no evidence of success by the patentee and only, somewhat curiously, an attempt to

rely on the success of an alleged infringer with no investigation of the

reasons for such success.

In this Court, counsel for the plaintiff was invited to suggest precisely what the inventive step taken was. While I do not purport to give the ipsissima verba of his submission it came down to a suggestion that the inventive step was the provision of the abrasive resistant outer part of the sandwich type tube (and no more). This then poses a very simple inquiry and one which I consider can be addressed in the light of the broad picture which has emerged from the evidence taken as a whole. Before doing so I should refer to the manner in which the court a quo dealt with the matter. It posed, as the question to be answered, whether the invention was a step forward from the mono tube with or without the waxed over-braiding. The learned judge held that, if regard was had to the technical difficulties which the invention overcame (such as resisting abrasion, giving added strength and an improvement on the waterproofing) coupled

with the commercial success of the product, there was a real step forward. It would seem to me, with respect to the learned judge, that there was in fact no evidence suggesting technical difficulties in overcoming any of the suggested problems. To the further question then posed, namely whether the step was obvious, the learned judge answered in the passage which has already been quoted which concluded with the observation "everything has to be integrated to produce a product which is acceptable in the market place". Here again, with respect to the learned judge, the question posed is not entirely appropriate nor is the answer correct. The step forward was simply the provision of a more resistant outer coat. The manner of "integration" of that feature with the other features of the tube is not a part of the invention.

The fact is that it was known that resistance to external damage could be improved by the provision of an outer wrapping or by strengthening the outer coat by thickening the tube. It was known

how to over-extrude plastic tubes and also to use over-extrusion to

provide protection for example in the manufacture of detonator cords.

In what respect then did the "step" go beyond or differ from that state of the art? It would seem to me not at all. But even if it did, the further question arises namely, was such a step obvious? Once one is limited to a step which met the need for protection of the outer surface of the tube of plastic material, the answer seems to me to be that the solution must have been obvious to persons who would, in terms of the claim, in any event, be required to choose and combine the plastic tube or tubes to be used to his satisfaction.

I thus find myself in disagreement with the finding in the court below. It follows that the claim for revocation on the ground of lack of inventiveness must succeed and the appeal be upheld.

In matters of this nature it is customary for the court to afford the patentee an opportunity to apply for an amendment which may save the patent. See Gentiruco case, supra, at 665 where reliance was

placed in this situation on the provision of s 54 of the 1952 Act. S 61(3) in the present Act is in similar terms. However counsel for the plaintiff made no application or request that this section be invoked. There, furthermore, seem to me to be factors present which render a suspension of an order of revocation so as to allow an application for amendment inappropriate. The first is that it seems an inevitable corollary of Dr Viljoen's evidence that the specification is, at least in its failure to provide instruction as to how the balance between integers (c) and (d) is to be achieved, insufficient. Since s51 precludes a patentee amending this patent by introducing new matter it is difficult to see how the patent could be improved. More important, however, is the fact that the patent has now expired so that no amendment could in any event be applied for or be effective.

There are further matters with which I must deal. The appellant sought, in the event of success, an order for the qualifying fees of its expert witnesses without specifying any particular witness. In my

view there is, having regard to the nature of the evidence given by the

appellants' witnesses, no warrant for any such direction.

The next matter is the form of the heads of argument filed by the parties. This Court had recently had occasion to comment on the function and form of heads of argument. See Caterham Car Sales & Coachwork Ltd v Birkin Cars (Pty) Ltd and Another 1998 (3) SA 938 at 955 B-F. The defendants' heads in this appeal cover 115 pages. The first 55 pages consist of a dissertation on the defences raised, the law, and a review of the evidence of witnesses. None of this is related to any specific argument or contention to be made. As far as the only point upon which the appeal has succeeded is concerned there is, in this part of the heads, a reference to an authority and a two line observation that the law on obviousness is trite and need not be repeated. In the remainder of the heads 5 pages are devoted to this topic. These pages consist of a quotation from the document put to the witnesses (to which I have referred) and another memorandum,

and of summaries of what other witnesses have said. No process of reasoning is set out. I give this only as an example. The same may be said quite generally about the heads.

The heads of the plaintiff also consist of lengthy quotations and a recital of facts which in themselves are of no great assistance - again with little mention of any process of reasoning directed to submissions to be made. Attention is again directed to para 38 in the Caterham judgment.

In the result I make the following order:

(9) The appeal is upheld with costs including the costs of two counsel.

(10) The order of the court a quo is altered to read:

"The claim is dismissed and the counterclaim is upheld with costs including the costs of two counsel. Patent No 79/3210 is revoked."

PLEWMAN JA

CONCUR:

VAN HEERDEN DCJ
HARMS JA
SCHUTZ JA
SCOTT JA