IN THE HIGH COURT OF JUDICATURE OF BOMBAY

11 July 1968

CORAM

MR. JUSTICE VIMADALAL

Farbwerke Hoechst A.G. ... Plaintiffs

v.

Unichem Laboratories and others ... Defendants

T. A. Blanco White, K. S. Shavaksha, M. P. Laud and S. P. Shah, appeared for the plaintiffs, M. J. Mistree and S. P. Bharucha appeared for the defendants.

JUDGMENT

Vimadalal, J. -- This is a suit for infringement of patent under section 29 of the Indian Patents and Designs Act, 1911 filed by the plaintiffs who are the legal owners and proprietors ofIndian patent No. 58,716 in respect of the manufacture of new sulphonylureas, salts of those compounds and of antidiabetic preparations containing such compounds. The application for the said patent was made by the plaintiffs on 23rd October 1956 and was accepted on 7th November 1957, but the same took effect from 8th May 1956 by reason of the provisions of section 78A of the Patents and Designs Act. On of the chemical compounds comprised in the said patent is tolbutamide, and since 1957 the plaintiffs have ben marketing the same as an anti-diabetic drug in India and all over the wordl under the trade mark PASTINON. The suit was originally filed only against the present first defendants who, according to the plaintiffs, have since May 1961 wrongfully and with full knowledge of the plaintiffs' said patent No. 58,716 infringed the said patent by manufacturing, preparing and selling UNI-TOLBID tablets or tolbutamide manufactured in accordance with and by the use of the invention disclosed in the plaintiffs' said patent "and claimed in claims 1 and 11"

thereof. The first defendants admit having manufactured or sold the said tablets had been manufactured by the application of the processes mentioned in another patent, being patent No. 64,323 held by the Haffkine Institute of Bombay, which is owned by the present second defendants State under a licence granted to them by the second defendants for the manufacture and sale thereof. The second defendants have, by an order dated 6th February 1967, been made party-defendants to this suit on their own application at their own costs throughout, but it may be mentioned that no relief has been claimed against them in the present suit by way of amendment of the plaint after their joinder. It appears that the business of the first defendants has, since the filing of the present suit, been acquired and taken over as a going concern by the third defendants, being a company which was registered under the Companies Act on 22nd August 1962, and the third defendants have been manufacturing and selling UNI-TOLBID tablets or tolbutamide ever since then as successors to the first defendants. The third defendants were, therefore, joined as party-defendants to this suit by an order dated 9th January 1968, and by the amendments effected pursuant to the said order, the plaintiffs have claimed against the third defendants also the same substantive reliefs claimed against the first defendants in the suit as originally filed. The reliefs claimed by the plaintiffs in the present suit against the first and third defendants are, an injunction restraining them from intringing the plaintiffs' said patent No. 58,716, an order for payment of a sum of Rs. 7,000 as and by way of damages, or in the alternative, an order for an account of the profits made by the first and third defendants from the sale of the infringing goods and for payment of the same to the plaintiffs, and for an order to deliver up to the plaintiffs for distruction all articles in the possession of the first and third defendants made in infringement of the plaintiffs' said patent.

On merits, the defence of the first defendants as disclosed by their written statement falls into two parts. First, that there is no infringement of the plaintiffs' said patent as they have not manufactured and prepared UNI-TOLBID tablets in accordance with or by the use of the invention disclosed in the plaintiffs' said

patent, but have manufactured the compound tolbutamide in accordance with a different process described in the second defendants' patent No. 64,323 for the preparation of substituted benzenesulphonylureas from the corresponding substituted benzenesulphonylthioureas by desulphurisation with hydrogen peroxide; secondly that the plaintiffs' said patent No. 58,716 is invalid and is liable to be revoked on the grounds of insufficiency of description, lack of novelty, want of inventive step and lack of utility, grounds which the plaintiffs would, under section 29(2) read with section 26 of the Patents and Designs Act, be entitled to urge by way of defence to a suit for infringement like the present one. Mr. Mistree conceded that the evidence of Dr. Krishnamurthi Genapathi who was examined as an expert by him on behalf of the defendants did not carry his client's case any further. When Mr. Mistree resumed his address on the next day, however, he did try to defend, to some extent, the evidence led by Dr. Krishnamurthi Ganapathi. The evidence of Dr. Krishnamurthi Ganapathi being of no assistance to the defence, as Mr. Mistree has himself conceded, I do not propose to deal with the same in the course of this judgment. I am, however, constrained to say that Dr. Krishnamurthi Ganapathi's evidence did not impress me at all. The record of his evidence on paper, does not perhaps convey the halting and shaky manner in which he gave that evidence. In contrast with the evidence of Dr. Krishnamurthi Ganapathi, it may be stated that I was considerably impressed by the cogent and confident as well as frank manner in which Dr. Aumuller and Dr. Bander gave evidence on behalf of the plaintiffs, and indeed, Mr. Mistree was unable to shake the evidence of either of these witnesses in the course of cross-examination. With these general observations, I will now proceed to deal with the issues framed by me.

Before dealing with the questions that arise in the present suit on the merits, it would be convenient to dispose of issues Nos. 4, 5 and 6 relating to acquiescence, estoppel and delay. It may be mentioned that according to the defendants the delay in the present case is a delay of about two years after the plaintiffs' letter dated 7th March 1960 to the first defendants, the present suit

having been filed on 4th April 1962. According to the plaintiffs, however, they could not be expected to take any action till they came to know in or about May 1961 that the first defendants had placed on the market goods manufactured in infringement of their patent as recorded in their attorneys' letter dated 31st May 1961. Mr. Blanco White for the plaintiffs argued that mere delay is no bar except to relief by way of interlocutory injunction, and that in order to disentitle the plaintiffs to a perpetual injunction at the hearing of an infringement action, there must be something more than mere delay. Quoting from the judgment of Harman, L.J. in Van der Lely v. Bamfords Ltd. [1964] R.P.C. 54 at 81 it is stated in Terrell on the Law of Patents, 11th edn. p. 363 para. 940, "... laches, while a bar to the obtaining of an interlocutory order would not bar the right to a perpetual injunction as 'there must be more than mere delay to disentitle a man to his legal rights'." In support of his argument Mr. Blanco White has relied on the observation in the case of Proctor v. Bennis (1887) 4 R.P.C. 333. Cotton, L.J. negativing the plea of laches stated in his judgment in the said case (at pp. 355-356) that the court does not interfere on interlocutory injunction unless the plaintiff has been prompt, but there was no question of interlocutory injunction in the case before him which was at the stage of the hearing of the action. Bowen, L.J. in the course of his judgment in the same case (at p. 358) observed that in order to make out acquiescence which precluded the plaintiff from raising the question of the validity of the patent and the question of infringement of it by the defendants, it was necessary that the defendants should establish that the plaintiff stood by and knowingly allowed the defendants to proceed and expend money in ignorance of the fact that he had rights, and meant to assert such rights. In Vidal Dyes Syndicate Ltd. v. Levinstein Ltd. (1912) 29 R.P.C. 245 which was also cited by Mr. Blanco White, it has been stated by Fletcher Moulton, L.J. (at p. 259) in the judgment to be settled law that a patentee need not attempt to stop an infringement when he first learns of it, but the greater the interval between the granting of the patent and the trial of the action, the more carefully must the evidence be looked into lest the court be induced to take an erroneous view,

either on the one side or the other, of the knowledge of the world at the critical date. In the later case of Electrolux Ltd. v. Electrix Ltd. (1954) 71 R.P.C. 23 Jenkins, L.J. dealing with the question of delay observed (at p. 40) that the defendants were not entitled to assume that the plaintiffs, accorded them their consent to the infringement merely because the plaintiffs, knowing of the defendants' use of ELECTRIX, did nothing to enforce their right, and that if the defendants adopted the said mark on that assumption and without proper inquiry, they did so at their own risk. The position, therefore, is that mere delay is no bar to the granging of relief by way of perpetual injunction at the hearing of the suit, unless there is something more than mere delay which has caused prejudice to the defendants. There is no averment to the effect in the pleadings in the present suit, and certainly no evidence whatsoever to prove that the defendants were prejudiced in any manner by the alleged inaction of the plaintiffs over a considerable period of time. That is the position in regard to the plea of acquiescence, as well as estoppel and delay as a factor disentitling the plaintiffs to relief. Issues Nos. 4, 5 and 6 must, therefore, be answered in favour of the plaintiffs.

As stated by B. J. Wadia, J. in Lallubhai Chakubhai v. Chimanlal Chunilal & Co. 37 Bom. L. R. 665, the question of infringement is a mixed question of law and fact. Section 3(3) of the Indian Patents and Designs Act, 1911 lays down that an application for a patent must contain a declaration to the effect that the applicant is in possession of an "invention." Section 2(8) of that Act defines "invention" as meaning any manner of new manufacture and as including an improvement. Section 2(10) of the said Act defines the term "manufacture" as including any art, process or means of producing, preparing or making an article, and also any article prepared or produced by manufacture. Section 26 of the Indian Patents and Designs Act lays down the grounds on which a patent can be revoked. Section 29(1) provides that a patentee can file a suit in the nature of an infringement action against any person who, during the continuance of the patent, makes, sells or uses the invention without his licence, or counterfeits it,

or imitates it. Sub-section (2) of that section further provides that every ground on which a patent may be revoked under section 26 would be available by way of defence to a suit for infringement. Section 30 of the said Act lays down that no damages can be recovered in respect of the infringement of a patent if the defendant proves that at the date of the infringement he was not aware, or had no reasonable means of making himself aware, of the existence of the patent. Section 78A enacts that by virtue of a certain reciprocal arrangement with the United Kingdom, any person who has applied for protection for any invention in the United Kingdom would be entitled to claim that the patent which may be granted to him under the Indian Patents and Designs Act for the said invention should be in priority to other applicants and should have the same date as the date of the application in the United Kingdom.

Turning to the first three issues which embody the questions in controversy between the parties on the merits of the present case, it may be stated that issues Nos. 1 and 2 relate to the subject of infringement whilst issue No. 3 relates to the question of the validity of the plaintiffs' patent No. 58,716. I will proceed to deal first with the question of infringement which is the subject-matter of issues Nos. 1 and 2. It was contended by Mr. Mistree for the defendants that the plaintiffs have led no evidence on issue No. 1 and they must, therefore, fail on that issue as well as on issue No. 2 which is consequential thereto. Mr. Mistree's contention was that there is nothing in the evidence on record to show that the manufacture of UNI-TOLBID tablets or tolbutamide by the first and third defendants was carried out by using the processes mentioned in the plaintiffs' patent No. 58,716, and the plaintiffs have, therefore, not proved the alleged infringement of the said patent by the first and third defendants, the onus in regard to which lay on the plaintiffs. It is true that, as stated by Halsbury, 3rd edn. vol. 29 p. 106 para. 218, the onus as to infringement lies on the plaintiff. In the Canadian Patent Act there is a specific statutory provision, section 41(2), which lays down that in an action for infringement where the invention relates to the production of a new substance, any substance of the same chemical

composition and constitution shall, in the absence of proof to the contrary, be deemed to have been produced by the patented process of which it is alleged to be an infringement. Though there is no corresponding provision in the Indian Patents and Design Act, I see no reason why a presumption to the same effect should not be drawn by me against the defendants in the present case under the general provisions contained in section 114 of the Indian Evidence Act, since it is admitted by the defendants that it is the very drug tolbutamide in respect of which the plaintiffs have obtained their patent No. 58,716 that they have prepared and sold. Moreover, though the general burden of establishing the case of infringement undoubtedly rests on the plaintiffs as laid down in the statement from Halsbury mentioned above, which is in accordance with section 101 of the Indian Evidence Act, the burden of proving a particular fact, viz., the process by which tolbutamide is being prepared by the defendants, would be on the defendants since that is a fact "especially" within their knowledge within the terms of section 106 of the Indian Evidence Act. It is impossible for the plaintiffs to know by what precise process tolbutamide is being prepared by the defendants and it is precisely to that sort of a case that section 106 is intended to apply. The defendants have not led any evidence whatsoever in regard to the same. That, however, is not all. The first question that arises is what is the infringement complained of by the plaintiffs in the present suit. In the opening sentence of paragraph 4 of the plant it is no doubt stated in very wide terms that the first defendants have infringed the plaintiffs' said patent No. 58,716. That averment is not limited to infringement of any particular claim or claims in the plaintiffs' said patent. In the following sentence of the said paragraph, however, it is stated that the first defendants have manufactured, prepared and sold UNI-TOLBID tablets or tolbutamide manufactured in accordance with or by the use of the invention disclosed in the complete specification of the plaintiffs' said patent "and claimed in claims 1 and 11." It is not necessary for me to decide on a construction of the said paragraph of the plaint whether the latter averment should be read as restricting the general averment with which the said paragraph opens as

contended by Mr. Mistree for the defendants in view of the fact that Mr. Blanco White has conceded that, on the suit as framed, the infringement that has been complained of is infringement only of claims 1 and 11 of the plaintiffs' said patent No. 58,716. Counsel on both sides have argued this case throughout on that footing, and I must, therefore, proceed to deal with the same on the basis that the infringement complained of is infringement only of claims 1 and 11 of the plaintiffs' said patent.

As stated in Halsbury 3rd edn. vol. 29 p. 6 para. 8, a complete specification customarily begins after the title with a general preamble stating the subject to which the invention relates followed by a detailed description of one or more embodiments of the inventions. The whole of that is known as the body of the specification. It is further stated in the said paragraph of Halsbury that the specification ends with the claims delimiting the monopoly granted by the patent, and since they define the monopoly they must, in the event of legal proceedings, be scrutinised with as much care as any other document defining a legal right, and require to be as carefully drawn. It is stated in another passage in Halsbury 3rd edn. vol. 29 p. 10 paras. 16 and 17 that the specification is to be read as a whole, and that the body of the specification should be read first. The claims must, however, be read as ordinary English sentences without incorporating into them extracts from the body of the specification, or changing their meaning by reference to the language used in body of the specification, though the body of the specification should be referred to for the purpose of resolving difficulties of construction occasioned by the claims when read by themselves. It is, therefore, clear that in an infringement action the main function of the court is to contrue the claims which are alleged to have been infringed, without reference to the body of the specification, and to refer to the body of the specification only if there is any ambiguity or difficulty in the construction of the claims in question.

Before I deal with the plaintiffs' specification it is in my opinion necessary at this stage to give what may conveniently be called a glossary of the chemical terms

which it is necessary to understand for the purpose of this case. Elements are substances which cannot be broken down into simpler substances by any chemical method, e.g. hydrogen, oxygen, nitrogen, carbon and sulphur. An atom is the smallest unit or particle of an electrons which are in orbitals at increasing distances from the nucleus. The bonding of atoms to each other is brought about by the giving or receiving of electrons of the atoms involved. The atoms of different elements do not have the same number of bonding electrons or free spots (valencies). Hydrogen forms one bond (univalent), while oxygen forms two (divalent), nitrogen has three valencies, the carbon atom has four valencies by which it may be linked to other atoms in the molecule of a substance, and sulphur ordinarily has six. Bonds may be co-valent or ionic. In the former, the two electrons forming the bond are shared equally between the atoms concerned, while in the latter the pair of electrons forming the bond is associated with one of the atoms alone. A compound results from the joining of different elements, but may differ in properties and effects from those of the elements of which it is composed. Starting materials are the substances which are to react with one another to get the desired product. Reaction is the interaction of two or more compounds by means of heating or the use of a solvent so that a different compound with properties which may not be possessed by any of the compounds used in the reaction is prouced. Reagent is an agent which causes the reaction and in that process itself undergoes a chemical transformation. Synthesis is a chemical term which merely means to prepare or make a chemical compound. A molecule is the smallest unit of a compound which can exist. In chemical formulae the letters stand for atoms. Chemical formulae may be written in two ways: (1) molecular; as showing the constitution of the molecules of the compound in terms of the atoms of the elements in it; or (2) structural; as showing how atoms in the molecule are attached to each other so as to demonstrate the structure of the molecule. Compounds conaining only carbon and hydrogen are known as hydro-carbons e.g. butane which consists of four carbon atoms and ten hydrogen. atoms (C4 H10). Urea is a compound having a

symmetrical molecular structure containing one atom of carbon, one of oxygen, two of nitrogen and four of hydrogen. Its formula is H2N-CO-NH2. Dr. Aumuller, who was examined by the plaintiffs in this case as an expert chemist, has deposed that ureas exist in nature as well as are prepared by man, and that there are many kinds of ureas, e.g. alkyl, aryl, sulphonyl, benzenesulphonyl etc. He has further stated that corresponding to each of the kinds of ureas are thioureas, and that thioureas are prepared by man, and he does not know of any thiourea that exists in nature. Dr. Aumuller has, in the course of his evidence, explained that in every thiourea there is a sulphur atom, and that when one substitutes for that sulphur atom an oxygen atom, the thiourea is coverted into the corresponding urea. Dr. Aumuller further stated in the course of his evidence that he is familiar with the different methods of making thioureas, and that all the reactions for making thioureas would be expressed in the formula R-SO2-X and Y-R1 which is mentioned in claim 1, X denoting NHO2 and Y denoting OCN in that formula. There has been no cross-examination of Dr. Aumuller on that istatement. In the urea molecule, the carbon atom is at the centre with the oxygen linked to it and occupying two of its valencies, the other two being linked to nitrogen atoms. The remaining positions of nitrogen atoms are occupied by hydrogen atoms. The structural formula of the urea molecule is as follows:

[See diagram in original]

Where the position of one of the hydrogen atoms in the urea is occupied by a sulphonyl group (R-SO2) the substance is known as sulphonylurea, the formula of sulphonylurea being R-SO2-NH-CO-NH2. Substitutions in the urea molecule can be made at both ends. Urea linkage is a sort of bridge formed by a urea molecule connecting two radicals so that the whole forms a urea. 'R' in the sulphonyl group (R-SO2) represents any organic radical, the term radical meaning any atom or group of atoms which has one or more free (i,e. unused) valencies. The names of most of the radicals end with the letters "yl." One of the commonest of the organic groups is the benzene ring which consists of 6 carbon

atoms and 6 hydrogen atoms, each carbon atom being connected to each nydrogen atom. The benzene ring may be linked as the 'R' in a sulphonyl group (R-SO2), and when so linked it is also known as phenyl. The benzene ring may itself have substituents in place of any of the hydrogen atoms, and the terms ortho, meta and para are used for the purpose of identification of the precise position of the substituent. The para, or what is also called the "4" position, is at that corner of the benzene ring opposite to the corner linked to another group. The formula of the molecule of ammonia is NH3, but one of its hydrogen atoms can be replaced by another radical, e.g. butyl, to produce butylamine (C4 H9NH2). The word alkyl is applied to radicals containing carbon and hydrogen atoms only, e.g. butyl. The term alkoxy means alkyl joined to other components of a molecule through an oxygen atom, instead of being linked directly to them. Aliphatic is a term applied to a hydro-carbon compound in which the carbon atoms are not arranged in a ring formation. When the carbon atoms in a hydro-carbon compound are joined in a ring formation it is called cycloaliphatic. If the radical is made up of an aliphatic or cycyloaliphatic compound, it is called an aliphatic radical or a cycloaliphatic radical. An octyl radical is obtained from an aliphatic hydro-carbon compound named octane. A hydro-carbon radical is one in which carbon atoms are bound to each other with one valence free. A distinction was sought to be drawn by Mr. Blanco White in the course of his arguments between the meaning of the term "method," and the term "process." According to him, "process" was a comprehensive term which included the starting materials and the method followed in preparing a compound, and that distinction was supported by the evidence of Dr. Bander, but I am afraid no support is to be found for this distinction in any of the standard works or decided cases. The terms "method" and "process" have been used indiscriminately at various places in standard works and in decided cases to mean the same thing, and in Terrell on the Law of Patents, 11th edn. at p. 13 there is a quotation from a decided case in which the meaning of the word "method" as well as of the term "process" is stated to be "a manner of manufacture." It is not necessary for me to

arrive at a definite conclusion on this point as, in my opinion, the distinction sought to be made between those two terms makes no difference whatsoever for the purpose of the decision of the question that arises in the present case.

I must now turn to the relevant portions of the specification of the plaintiffs' patent No. 58,716 which is the basis of their claim in this suit. The title of the specification is "Manufacture of new sulphonylureas, salts of these compounds and of anti-diabetic preparations containing such compounds." The introductory portion of the specification then states that the invention comprised therein provides sulphonylureas of the general formula R-SO2-NH-CO-NH-R1 in which R represents a phenyl radical with certain limitations in regard to the number of carbon atoms, and R1 represents a hydrocarbon radical also with certain limitations in regard to the number of carbon atoms. After indicating certain processes the specification proceeds to state in one of the later paragraphs "In further processes for making the new compounds, the corresponding thiourea is first prepared and sulphur is eliminated therefrom in a conventional manner." In a still later paragraph it is stated that when the synthesis of the desired sulphonylurea starts from a corresponding thiourea the sulphur may be eliminated with a heavy metal oxide or a salt thereof, e.g. an oxide or salt of lead, copper or silver in an aqueous or alcoholic solution. Then follow three tables indicating the activity of the products of the invention on rabbits, dogs and mice or rats to which it is unnecessary to refer. This is followed by 40 examples which are meant to illustrate the invention and the specification finally ends up with 32 claims out of which it is necessary to refer only to claims 1, 11 and 22 for the purpose of this case. These claims are in the following terms:

> "1. A process for the manufacture of sulphonylureas of the general formula R-SO2-NH-CO-NH-R1 in which R represents a phenyl radical which may contain one or two substitutents selected from alkyl and alkoxy residues, the alkyl group of which containing at most 8 carbon atoms, and halogen atoms, or represents as aliphatic or cyclo-aliphatic hydrocarbon radical containing 3 to 8 carbon atoms and R1 represents an aliphatic or cycloaliphatic hydrocarbon radical containing 2 to 8 carbon atoms, and of the salts thereof, wherein compounds of

the formula R-SO2-X and Y-R1 are reacted together in which X and Y are groups which on reaction together form a urea linkage as defined above or a linkage readily convertible thereto."

"11. A process as claimed in claim 1 wherein thioureas of the formula R-SO2-NH-CS-NH-R1 are treated with agents eliminating the sulphur, R and R1 having the meansings given above."

"22. The compounds of the formula shown in Fig. 6 of the drawings, whenever obtained according to claims 1-15."

It may be stated that the formula shown in figure 6 is the formula of tolbutamide.

As already stated above, in view of the admitted postion in the suit as framed, I am concerned in this case only with claims 1 and 11 which are in respect of what may be called "process patents," but I have thought it appropriate to refer incidentally to claim 22 also in which the patent claimed is of the substances resulting from the processes comprised in those claims and in the other claims mentioned therein. The plaintiffs' case is that claim 1 is the main claim which covers compounds obtained by the chemical reaction specified therein either directly to form a urea linkage or indirectly to form a linkage readily convertible into urea linkage. It is the plaintiffs' case that claim 11 falls within the latter part of claim 1 in so far as it deals with the processes by which thioureas are converted to the corresponding urea linkage by being treated with agents eliminating sulphur, the radicals R and R1 having for the purpose of claim 11 the same limitations in regard to the number of cerbon atoms as they are re quired to have for the purposes of claim 1. In my opinion, that is the proper construction of claims 1 and 11, and the position, therefore, is as stated by Mr. Blanco White, that claims 1 and 11 must stand or fall together, and that if claim 11 is infringed, claim 1 must necessarily be infringed. It may be mentioned that tolbutamide is one of the compounds which the plaintiffs claim to have been prepared by the processes patented by them in their said patent No. 58,716 which would in addition comprise numerous other compounds which could also be prepared by those processes. Since the case of the first defendants in paragraph 4 of their

written statement is that they are preparing the compound tolbutamide by the process of desulphurisation of benzenesulphonyl-thioureas with hydrogen peroxide, in order to prove their case of infringement what the plaintiffs have to prove is that the process of synthesising the compound tolbutamide by desulphurisation of benzenesulphonyl-thioureas with hydrogen peroxide is a process which would fall within claim 11. Mr. Mistree has stated that he does not contest the proposition that it makes no difference for the purpose of the present case whether the defendants purchase thiourea, or prepare it themselves. Mr. Blanco White is, in my opinion, right when he contends that claim 11 is as a matter of plain language -- and that is how a claim should be construed as stated in the passage from Halsbury referred to earlier -- wide enough to include desulphurisation of thioureas by any chemical substance including hydrogen peroxide which the defendants claim to use. Since claim 11 is unambiguous in its terms, it would not, in my opinion, be right to seek to construe it by reference to anything stated in the body of the specification. Mr. Blanco White has rightly contended that in view of the admissions made by the defendants in their written statement in the present case, it became unnecessary for the plaintiffs to lead any evidence at all to prove infringement on the part of the defendants. As stated in section 56 of the Indian Evidence Act, facts which are admitted need not be proved. The admissions on which Mr. Blanco White has relied are to be found in paragraph 4 of the written statement of the first defendant, which has been adopted by the third defendant in its written statement. Those admissions are (1) that the thiourea used as the starting material in their process is the very starting material mentioned in claim 11 of the plaintiffs' patent though there is a formal denial, the written statement itself shows that, in point of fact, it is the same; (2) that the defendants have been synthesising their drug by the process mentioned in the second defendants' patent No. 64,323, which consists of the preparation of substituted benzenesulphonylureas from the corresponding substituted benzenesulphonyl-thioureas by desulphurisation with hydrogen peroxide; (3) that the drug which is the end product is tolbutamide which the defendants of

sulphonylureas. In my opinion, there can be no doubt that these facts admitted on the pleadings are sufficient to show that claim 11 in the plaintiffs' specification is necessarily infringed by the defendants. Claim 1 covers both the direct as well as the indirect methods of manufacture of sulphonyl-ureas. The fact that, as Dr. Aumuller has deposed, the plaintiffs in practice adopt the direct method in the production of tolbutamide for sale is immaterial. The question is, not as to the method actually followed by the plaintiffs, but is whether the method followed by the defendants whichis an indirect method, is covered by and of the claims in the plaintiffs' patent. Even a cursory look at claim 11 is sufficient to show thatit is wide enough to cover all methods of eliminating sulphur from thioureas, whether the desulphurisation is effected by means of hydrogen peroxide or by the use of any other substance. Whether claim 11 so widely worded is valid in law is a totally different question which will be dealt with by me separately at the appropriate place later on. Suffice it to say that, from the facts admitted in the pleadings, the conclusion that claim 11 has been infringed by the defendants must follow, and that in view of those admissions it was unnecessary for the plaintiffs to lead any evidence to prove infringement on the part of the defendants. As claim 11 is comprised in the wider claim contained in claim 1, it must follow that claim 1 has also been infringed by the defendants. I would, therefore, answer issues Nos. 1 and 2 in favour of the plaintiffs.

That leaves for consideration only the question of the validity of the plaintiffs' patent which has been challenged by the defendants by way of defence to the plaintiffs' suit under section 29(2) of the Indian Patents and Designs Act. That is the main question that arises for decision in the present suit and it will, therefore, be necessary for me to deal with it in all its aspects. The grounds on which the validity of the plaintiffs' patent is sought to be impeached by way of defence in this suit are to be found in paragraphs 5 and 6 of the first defendants' written statement read along with the particulars in respect thereof set out in an annexture to the plaint which is marked No. 2.

The main heads of the alleged invalidity of the plaintiffs' patent on which the defendants rely by way of defence are only four, (1) insufficiency of description; (2) want of novelty; (3) no inventive step and (4) want of utility. It may be stated that the onus in regard to all objections to validity lies on the defendant, Halsbury, 3rd edn. vol. 29 p. 106 para. 218. I shall now proceed to deal with each of those grounds.

Dealing first with the ground of insufficiency of description, it is stated in Halsbury, 3rd edn. vol. 29 p. 64 para. 131 that the claim need only be as clear as the subject admits, and that a patentee need not so simplify his claim as to make it easy for infringers to evade it. It is further stated in that passage in Halsbury that the patentee's duty is not to prevent all possible argument as to whether there is or is not infringement in particular cases, but to enable the court to formulate the questions of fact to be answered. It is further stated in the same volume of Halsbury p. 66 para. 138 that insufficiency of description has two branches, (1) the complete specification must describe "an embodiment" of the invention claimed in each of the claims, and that the description must be sufficient to enable those in the industry concerned to carry it into effect "without their making further inventions"; and (2) that the description must be fair i.e. it must not be unnecessarily difficult to follow. Turning first to claim 11 in the present case in the light of these principles, the reference in the body of the specification to "a conventional manner" of eliminating sulphur cannot really create any difficulty, and it is in fact unnecessary to import this from the body of the specification into claim 11 in view of the fact that claim 11 is unambiguous and clear in terms, being wide enough to include all methods of eliminating sulphur. As stated earlier in this judgment, it is permissible to refer to the body of the specification only when there is some difficulty or ambiguity in the construction of a claim as it stands. In any event hydrogen peroxide as a desulphurising agent would be an obvious chemical equivalent of heavy metal oxides or a salt thereof in an aqueous or alcoholic solution which are also used for desulphurising in "a conventional manner." Moreover, the secret or discovery essential to the validity

of the plaintiffs' invention as claimed and forming the very basis of it is not the method, but is the previously undiscovered fact of a new class of chemical compounds having hitherto unknown blood sugar lowering properties, twenty-one methods of synthesis of sulphonylureas being already known at the material time as is apparent from page 27 of Kurzer's article on sulphonylureas and sulphonyl-thioureas in the Chemical Review vol. 50. There is no evidence led by the defendants to show that the statement in the body of the specification that the synthesis of the desired sulphonylurea may be obtained by eliminating sulphur with a heavy metal oxide or a salt thereof in an aqueous or alcoholic solution would present any difficulty. The specification and claims are addressed to those with a high degree of knowledge of the field of science to which they relate, particularly when they relate to chemistry and allied subjects. It is not necessary to describe processes in the claims to a specification when they are part of the common knowledge available to those skilled in the science who can, after reading them, refer to the technical literature on the subject for the purpose of carrying them into effect. "An embodiment" of the invention is, therefore, in my opinion, sufficiently described in the plaintiffs' patent and that description is not unnecessarily difficult to follow, it being sufficient to enable the invention to be carried into effect "without making further inventions." As far as claim 1 is concerned, there are as many as 40 examples of it in the specification and there would, therefore, be no difficulty in carrying the same into effect. The ground of insufficiency of description alleged by the defendants must, therefore, fail.

That brings me to the next ground of alleged invalidity of the plaintiffs' patent viz. want of novelty. The test of novelty as formulated by Halsbury, 3rd edn. vol. 29 p. 27 para. 58 is in the following terms:

> "To anticipate a patent, a prior publication or activity must contain the whole of the invention impugned; i.e., all the features by which the particular claim attacked is limited. In other words, the anticipation must be such as to describe, or be, an infringement of the claim attacked."

The starting materials for the purpose of claim 11 were the thioureas corresponding to the ureas invented and claim 11 itself states in specific terms that the radicals R and R1 in the formula of the thioureas set out therein must have the meanings given to them in claim 1. That would mean that the radical R must be limited in regard to the number of carbon atoms in the manner stated in claim 1, and the radical R1 must also be limited in regard to the number of carbon atoms in the manner stated in claim 1. Dr. Aumuller was asked in examination-in-chief a question as to why the radicals R and R1 in the specification are limited in the manner therein stated, and his answer was "because only such products had been taken into the patent which lower the blood sugar," or in other words for obtaining a hypoglycaemic effect particular radicals were selected by a process of testing on animals. It would follow that if the carbon atoms in R or R1 were more or less than the number specified in claim 1, hypoglycaemic property would not be obtained, and that has been stated explicitly by Dr. Bander in the course of his examination-in-chief. The evidence on record shows that it was known that amino-sulphonamides had anti-diabetic properties. Many sulphonyl-ureas were also known, but they were all with the wrong radicals at either end, and it was not known that they could have anti-diabetic properties if they were activated by certain radicals. That was the prior art and, in that state of knowledge, it was not possible for a skilled chemist to predict that the combining of the two starting materials mentioned in the plaintiffs' patent would produce compounds which would have hypoglycaemic properties. The idea which is new in the plaintiffs' patent is the discovery that a useful antidiabetic preparation could be obtained by constructing a molecule with a sulphonylurea in the middle and carefully planned lumps of radicals at either end. The novelty in the plaintiffs' patent lies entirely in the R and the R1. What is new in the plaintiffs' patent is that it was discovered that it was possible to have the desired anti-diabetic properties without producing undesirable toxic or antibacterial effects of known sulphonamides like I.P.I.D., by modifying the structure of the sulphonylurea in a particular way. The way in which that new

idea was sought to be applied was (1) to select proper material having certain characteristics (2) to react them together and (3) to obtain the product, directly or indirectly. I therefore hold that the objection to the validity of the plaintiffs' patent on the ground of want of novelty must stand rejected.

That brings me to the next ground of the alleged invalidity of the plaintiffs' patent viz. that it does not comprise any inventive step. As already stated above, this would have to be considered under two sub-heads (a) that the methods of manufacture are old and (b) that carbutamide was already known at the material time. As far as the first of these sub-heads is concerned, the principles to be applied by the court in regard to the same are to be found well-formulated by Jenkins, J. in the leading case of May & Baker & Ciba Ltd's. Patent (1948) 65 R.P.C 255 at 281. They are as follows: --

> "Before referring to this evidence, I should, I think, endeavour to state the principles on which, and limits within which, an invention consisting of the production of new substances by known methods from known materials can be supported from the point of view of subject-matter. I understand them to be these:
>
> 1. An invention consisting of the production of new substances from known materials by known methods cannot be held to possess subject-matter merely on the ground that the substances produced are new, for the substances produced may serve no useful purpose, in which case the inventor will have contributed nothing to the common stock of useful knowledge (the methods and materials employed being already known) or of useful materials, the substances produced being ex hypothesi, useless.
>
> 2. Such an invention may, however be held to possess subject-matter provided the substances produced are not only new but useful, though this is subject to the qualification that the substances produced must be truly new, as opposed to being merely additional members of a known series, such as the homologues, and that their useful qualities must be the inventor's own discovery as opposed to mere verification by him of previous predictions.
>
> 3. Even where an invention consists of the production of further members of a known series whose useful attributes have already been described or predicted, it may possess sufficient subject-matter to support a valid patent provided the

> somewhat stringent conditions prescribed by Maugham, J. in I.G. Farbenindustrie A.G.'s Patents (1930) 47 R.P.C. 289 as essential to the validity of a selection patent are satisfied, i.e. the patent must be based on some substantial advantage to be gained from the use of the selected members of the known series or family of substances, the whole, or substantially the whole, of the selected members must possess this advantage, and this advantage must be peculiar, or substantially peculiar, to the selected group."

It is the contention of Mr. Blanco White that the plaintiffs' case falls within principle 2 formulated by Jenkins, J. The mere fact that the methods adopted are known methods cannot, therefore, lead to the conclusion that there is no inventive step. As stated by Jenkins, J. himself in his judgment in the said case at p. 279 in view of the fact the methods described in the specification were in themselves known methods, the respondents could only claim novelty for them as part of the entire process consisting of their application to the particular classes of materials described in the specification so as to produce the new substances claimed. If the useful qualities of the new substances produced are the inventor's own discovery, that would be sufficient to repel the objection that there is no inventive step. The objection on the ground which I am now discussing, therefore, ultimately resolves itself into a consideration of the utility of the plaintiffs' invention which will be dealt with by me separately as the last head on which the validity of the plaintiffs' patent is being challenged by the defendants in the present suit. The second sub-head of objection which I am now considering which is based on the fact that carbutamide was already known at the material time and the blood sugar lowering qualities of the compounds to which the plaintiffs' patent relates were therefore obvious may, however, be disposed of here. The test of 'obviousness' is laid down with characteristic lucidity in Halsbury 3rd edn. vol. 29 p. 42 para. 95 in the form of a question

> "Was it for practical purposes obvious to a skilled worker, in the field concerned, in the state of knowledge existing at the date of the patent to be found in the literature then available to him, that he would or should make the invention that subject of the claim concerned?"

It is further stated in Halsbury p. 43 para. 95 that an invention usually involves three stages, (1) the definition of the problem to be solved, or the difficulty to be overcome; (2) the choice of the general principle to be applied in solving the problem or overcoming the difficulty and (3) the choice of the particular means to be used. It is further stated in the said paragraph that merit in any one of these stages, or in the whole combined may support the invention, and it is, therefore, probably more important to consider the advance in knowledge due to the inventor rather than to examine in detail the variations from the former product. In order to support this objection it is necessary for the defendants to show in the present case that carbutamide was known in India. If the plaintiffs could show that it was not obvious to a man in the art like the director of the Haffkine Institute even after notionally putting in his hands standard works like Houben-Heyl and the article by Kurzer in the Chemical Review vol. 50 as well as other scientific material on the subject then available in India that he would or should make the invention which is the subject of the plaintiffs' patent, the defendants' objection now under consideration must fail. As Mr. Blanco White has stated, there is no evidence which Mr. Mistree has been able to point out to the court to show that carbutamide was known in India at the material time. That by itself would be sufficient to dispose of the defendants' objection on that score. Mr. Blanco White, however, proceeded to deal with this objection on the alternative footing of carbutamide being known in India at the material time and contended that even so the defendants' objection on this ground must fail. In that connection he relied on the evidence of Dr. Aumuller given in examination-in-chief which was as follows: --

> "Q. Assuming the knowledge common to the chemist in 1956, the knowledge of the article by Kurzer, the knowledge of I.P.T.D. and the knowledge of carbutamide, would you have known all the possible blood sugar lowering properties of sulphonylureas?
>
> A. I would have known nothing of those properties of sulphonylureas other than those of the type of carbutamide, with an amino group in the para position."

It may be mentioned that carbutamide is itself a sulphonylurea, but I.P.T.D. is not a sulphonylurea. There was no cross-examination of Dr. Aumuller on this point, though he has been cross-examined by Mr. Mistree in regard to the difference in the chemical composition of carbutamide as compared with tolbutamide. In order to appreciate the evidence which I am now discussing, it would be convenient, at this stage to point out the difference between the respective chemical composition of carbutamide and tolbutamide. The molecular formula of carbutamide is:

NH2-C6H4-SO2-NH-CO-NH-C4H9

The break-up of this formula would be as follows:

> NH2-Amino group C6H4-Benzene ring-Forming the radical R.
>
> SO2-NH-CO-NH-Sulphonylurea group with hypoglycaemic properties, of which NH-CO-NH is the urea group.
>
> C4H9-Butyl group forming the radical R1.

Carbutamide, which was developed early in 1955, was found to have hypoglycaemic properties, but was withdrawn from the market by 1957 as it was found to be unsuitable for prolonged administration on account of its toxic effects. Long before carbutamide was developed, it was known that some sulphonamide drugs (sulpha drugs) had blood sugar lowering properties but they could not be used for the treatment of diabetes because they had toxic effects and were therefore unfit for prolonged administration. The plaintiffs' case is that in the meantime Dr. Aumuller, who was employed by them, carried on research and found that if instead of attaching amino group (NH2) to the benzene ring, the methyl group (CH3) was attached to it in the radical R, it would, whilst preserving the hypoglycaemic effect, not have toxic effect. He accordingly discovered the new compounds containing the methyl radical which form the subject-matter of the plaintiffs' patent in the present case, tolbutamide being one of them. The molecular formula of tolbutamide is:

CH3-C6H4-SO2-NH-CO-NH-C4H9

the break-up of that formula is as follows:

> CH3-Methyl group C6H4-Benzene ring-Forming the radical R.
>
> SO2-NH-CO-NH-Sulphonylurea group with hypoglycaemic properties, of which NH-CO-NH is the urea group.
>
> C4H9-Butyl group forming the radical R1.

It is therefore clear that the only difference in the respective chemical compositions of carbutamide and tolbutamide is that the latter has the methyl group (CH3) in place of the amine group (NH2) which occurs in the former in the para position in the radical R, as Dr. Aumuller himself has admitted. That, however, is the crux of the plaintiffs' invention to which patent No. 56,716 relates. The substitution of CH3 in the para position for NH2 was the inventive step. It was a novel idea, and the plaintiffs' patent therefore embodies a new and useful composition of matter, or at any rate, a new and useful improvement in it. It was not a thing which just any person working in this field would try, but it required extensive research. As observed in the Irish judgment to which I will refer later on, courts of law must guard against the common human failing of being wise after the event in regarding something that has been discovered by research as obvious. Dr. Bander has stated in examination-in-chief that though sulphonylureas were known prior to the invention in suit, it was not known that if they were activated by certain radicals they would have blood sugar reducing properties. The use of sulphonylureas with radicals on either side with certain limitations in regard to carbon atoms so as to obtain hypoglycaemic properties would itself be an addition "to the common stock of useful knowledge" within the May & Baker's case (1948) 65 R.P.C. 255 at 281. In the course of cross-examination Dr. Bander has stated that the group SO2-NH-CO-NH is common both to tolbutamide as well as carbutamide, and he then proceeded to depose "It is true that, therefore, that blood sugar reducing effect of tolbutamide is obvious," which, he proceeded to clarify, must mean obvious to a man who had knowledge of the sulphonylurea group. That statement of Dr. Bander was strongly relied upon by Mr. Mistree on behalf of the defendants in support of the

point I am now considering, but as Mr. Blanco White has rightly pointed out, Mr. Mistree has not elicited from Dr. Bander the point of time at which the blood sugar reducing effect of tolbutamide became obvious to him, at any rate, as already pointed out above, there is no evidence to show when it must have become obvious in India in view of the fact that evidence has not been led to prove when carbutamide became known in India. There is no evidence to show that it was known that the blood sugar lowering property of carbutamide lay in its sulphonylureas. In view of this position as appearing in the evidence on record, I am afraid the statement of Dr. Bander that the blood sugar reducing property of tolbutamide "is obvious" cannot really help the defendants to sustain the objection based on obviousness on the ground of alleged knowledge of carbutamide and the same must be rejected.

That brings me to the most important part of the present case and that is the objection to the validity of the plaintiffs' patent on the ground of want of utility, which would also cover the other objection already referred to by me based on the ground that the methods of manufacture comprised in the plaintiffs' patent are old, an objection which also rests in the ultimate analysis on the decision in regard to the question of utility. The first question that arises in regard to the subject of the utility of the plaintiffs' patent is, what is the quantum of utility required to support of patent? Reference may be made in that connection to the statement in Patents for Inventions by T. A. Blanco White 3rd edn. pages 152-153 to the effect that in the absence of any promise in the specification that a definite degree of advantage would result from the use of the invention, the amount of utility required to support a patent is very small. It is further stated in the said passage that it is in particular not necessary that the invention as described should be commercially useful unless the specification promises that it would be, and that it is sufficient that invention should, by reason of the features that distinguish it from earlier proposals, be of some use to the public. It is further stated that it is not necessary that a new result should be obtained by using the invention, and that the test is whether the new method "gives the public

a useful choice." In support of that proposition, the learned counsel for the plaintiffs relied on the decision in the case of Welsbach Incandescent Gas Light Co. Ltd. v. New Incandescent (Sunlight Patent) Gas Lighting Co. Ltd. (1900) 17 R.P.C. 237, in which the patent in question was for a gas light mantle which, though stronger than the gaslight mantles under an earlier patent, shed less candle power of light than those mantles. It was subsequently discovered that while the patented light had low illuminating power, a small proportion of another chemical substance added to it gave very greatly improved candle power. It was contended on behalf of the defendants to the said action for infringement that since the illuminating methods produced under the patent would give less light, it was not an improvement at all on the mantles prepared under the earlier patent, but was a falling off from it. It was observed in the judgment in the said case (at 251) that there were two answers to the objection raised by the defendants. The first was that the patent in question did not claim to be an improvement on the earlier patent, but to give a "useful choice," and the second was that if the matter had to be decided by the value of the mantle as an illuminating appliance alone the contention might be well-founded, but there were advantages other than brilliancy, and the new discovery produced illuminating substances which had other qualities, viz. rigidity, flexibility or durability. Judged by these tests, the position is that the plaintiffs' patent in the present case cannot be attacked on the ground of want of utility, since it certainly gives a "useful choice" in the matter of compounds with a blood sugar lowering property which was not known till then, unless by the specification a higher degree of utility was promised by the plaintiffs. In the course of the evidence led before me, the defendants have not been able to point out a single compound which would fall within the patent, but which did not have blood sugar lowering property, and all that they were able to point out was that some of those compounds were weaker than others, a point which is of no relevance for the purpose of the present case. I must, therefore, proceed to consider what is the utility promised in the specification for the compounds falling within it? A

careful scrutiny of the specification shows that all that is promised therein is, (1) that all the compounds falling within the plaintiffs' patent would lower the blood sugar and (2) that they are not sulphonamides and avoid the difficulty of the administration of sulphonamides, viz. the causing of allergy as well as their bacterio-static activity. As far as their toxicity is concerned, what is stated in the specification is that their acute toxicity, tested on mice or rats, was as set out in Table No. III appended thereto. Mr. Blanco White has submitted that there is no statement contained in the specification by way of promise that any of the compounds falling within the patent is safe for human beings. It is no doubt stated in the said specification that the compounds of the invention are "usually extremely well-tolerated," and that extensive clinical tests performed on numerous patients had demonstrated good tolerance of the compounds. It is common ground that the expression "well tolerated" means that it had no strong side effects. It was sought to be contended by Mr. Mistree for the defendants that it was, therefore, claimed in the specification that all compounds falling within the patent had no toxic effect, which would be one of the side effects to be guarded against. Mr. Mistree has contended that he has established by the evidence of Dr. Bander that it could not be predicted whether a particular sulphonylurea falling within the patent would be safe to administer to a human being, and that he could not predict tolerability in human beings by experimenting on animals, and the plaintiffs' patent must, therefore, be held to be invalid on the ground of want of the utility claimed for it in the specification. I am afraid, however, the statements in the specification on which Mr. Mistree has relied cannot be torn from their context. It is quite clear from the specification itself that extensive tests for toxicity of the compounds falling within the patent had been performed on mice or rats. The statement that extensive clinical tests performed on numerous patients had demonstrated good tolerance of those compounds, when read in the context of the earlier statement in the said specification that the said compounds are "usually" extremely well-tolerated, shows that it is intended to apply only to such of the compounds as had been

subjected to clinical tests. I, therefore, hold that there is no claim in the specification in regard to utility of the compounds falling within the patent which has been disproved by the evidence led in this case.

Strong reliance was placed by Mr. Mistree for the defendants on the judgment of the Supreme Court of Canada in Hoechst v. Gilbert [1966] S.C.R. 189 confirming the decision of the Exchequer Court of Canada reported in [1965] 1 Ex. C.R. 710, in regard to the patent which the plaintiffs had obtained in Canada in respect of the very processes for which the plaintiffs have obtained the patent in question in this country, tolbutamide being one of the compounds falling within both the Canadian patent as well as the patent in this country. In the action in the Exchequer Court of Canada, the plaintiffs to the present suit who were also party-plaintiffs there, had prayed for an injunction for ten patents, a printed copy of one of which patent No. 590,201, has been tendered and marked exhibit 2 in the present proceedings. The defendants to the said suit had sold throughout Canada tolbutamide in alleged infringement of the plaintiffs' said patents. The sale of tolbutamide by them was admitted by the defendants, but they pleaded that claims 1 and 10 of nine of the said patents and claims 1 and 13 of patent No. 590,201 were invalid for a number of reasons. If one scrutinizes the Canadian patent No. 590,201, claim 1 was, as Mr. Mistree has rightly contended, a combination of claims 1 and 11 in the present case, the validity of which has been questioned before me. It was not disputed that claim 10 in the first nine of the Canadian patents, and claim 13 in Canadian patent No. 590,201 related to the compound tolbutamide itself. It contained the same formula as in Fig. 6 of the specification in the present case, and referred to a compound of that formula whenever obtained according to claim 1 or the obvious chemical equivalent thereof. I do not, however, accept the contention of Mr. Blanco White that claim 1 in the Canadian patent is different in material respects from claim 1 in the present case, merely because there is no limitation in the Canadian patent in regard to carbon atoms as far as alkyl, alkoxy and halogen are concerned. It is admitted by the plaintiffs' own witnesses in the present case that if R and R1 are

varied simultaneously, and three different positions viz. ortho, meta and para are used, in respect of each monosubstituent, the possible number of sulphonylureas that could be prepared according to claim 1 of the plaintiffs' patent would run into millions. The whole contention of Mr. Mistree is that claim 1 of the plaintiffs' patent No. 58,716 is invalid because it covers millions of compounds which have not been tested in respect of their utility, and it is in support of that contention that Mr. Mistree has relied on the Canadian case. Merely because under the Canadian patent the permutations and combinations would run perhaps into some thousands or some millions more by reason of the absence of any limitation with regard to carbon atoms as far as alkyl, alkoxy and halogen are concerned would make no difference as far as the ratio of the decision in the Canadian case is concerned. In my opinion, therefore, the decision in the Canadian case cannot be distinguished on facts from the present case. Even so, I must proceed to consider whether I should follow the same, as decisions of Canadian courts do not bind me. In the trial court, Thurlow, J. in his judgment dealt with the question of validity of claim 1 of the plaintiffs' Canadian patent. He observed (at p. 728) that there could not be an invention in a process which consits in applying a known method of reaction to a limitless class of known materials to produce an equally limitless class of expected products, when all that can properly be said of such products is that some of them have utility and others, the identity of which is not known, may have it as well, but that the infinite majority of the substances of the class have never been made or tested by anyone. He held (at page 734) that it is highly improbable that all, or substantially all, of the members of the infinitely large class defined in claim 1 of the ten patents have either the blood sugar lowering activity to a useful extent or the freedom from toxicity or harmful side effects necessary to render them useful. He, therefore, came to the conclusion (at p. 734) that there was no invention as claimed in claim 1 of each of the said patents which was, therefore, invalid. He further held that by reason of the provisions of section 41(1) of the Patent Act of Canada, a substance patent would be valid only if accompanied by

a valid process patent, and that in view of the invalidity of claim 1 of each of the ten patents which contained the process patent, the substance patent in claim 10 in the first nine patents, and claim 13 in patent No. 590,201, must also be held to be invalid. In view of that conclusion, the learned judge held that it was unnecessary for him to consider the issue of infringement, and he accordingly dismissed the plaintiffs' action with costs. On appeal to the Supreme Court of Canada from the decision of the Exchequer Court of Canada, it was held (at p. 191) that all the patents related to processes which produced new sulphonylureas by known methods from known materials, with the result that the patentability of the process depended on the possession of unexpected utility by the new substances produced, and that the unexpected utility stated in the patents was the capacity of lowering blood sugar levels which is referred to as hypoglycaemic activity. In the opinion of the Supreme Court, (p. 194) what the appellant had tried to do in claim 1 of each of the patents was to obtain a patent for an unproved and untested hypothesis in an uncharted field which could not be held to be valid. The Supreme Court agreed with the trial court that the appellant had consequently overclaimed, and, in doing so, had invalidated claim 1 in each of the patents before them. The Supreme Court also confirmed the decision of Thurlow, J. that if claim 1 failed, the remaining claims in the patents in question must also fail. Mr. Blanco White has submitted that he has no quarrel with the decision of the Supreme Court, but that the decision of the Exchequer Court goes a little too far in so far as it relies merely on the possible number of compounds that would be comprised in claim 1. Mr. Blanco White contended that the Supreme Court of Canada had, however, not gone merely on numbers, but had proceeded to decide the case on the principle that the validity of the patents in question depended on the possession of unexpected utility by the new substances produced, and had invalidated the plaintiffs' patents on the ground that the limitless class of compounds comprised in them remained uncharted and unexplored. Mr. Blanco White has submitted that the decision in the Canadian case is not applicable to the present case, because there is evidence in the present

case of systematic exploration by way of research leading to the establishment of the blood sugar lowering properties of all the compounds falling within the plaintiffs' patent. That evidence consists in the present case of the oral evidence of the plaintiffs' expert witnesses, and documentary evidence in the form of the chart (exhibit B) as filled in by Dr. Aumuller, evidence which I accept as reliable as a result of that research, the necessary limitation in regard to the carbon atoms in the radical and R1 were discovered, which in its turn led to the invention that all compounds those limitations had blood sugar lowering properties, and other compounds without these limitations did not have blood sugar lowering properties, as Dr. Bander has deposed to in examination-in-chief. It is not clear from the judgment of the Supreme Court of Canada whether it has proceeded on a basis different from the ratio of the decision of the Exchequer Court of Canada, as Mr. Blanco White has submitted in the course of his argument. In any event, I do not agree with the decision of the Exchequer Court in so far as it has proceeded purely on a numerical basis and has rested its judgment merely on the fact that there would be a large number of possible compounds that could be produced by the patented process which had not been listed. In my opinion, when a process patent is obtained after prolonged and thorough research work, it may be possible to predict that the substances produced by that process would have a particular property, though it is usually impossible for anybody to test all the possible substances that could be produced by that process. As stated in Terrell on the Law of Patents 11th edn. p. 128 para. 315, it is wrong to suppose that "there is no prevision in chemistry." I accept the evidence of Dr. Bander that when several pharmacological compounds having the same characteristic structure exhibit the same pharmacological behaviour, it can be predicted that other such compounds would have the same behaviour, provided the necessary limitations in regard to radicals are observed, particularly when compounds without those limitations have also been tested and found not to have the property in question. I am afraid I am unable to agree with the decision of the Exchequer Court of Canada in the above case that merely because a process

patent may embrace a very largenumber of compounds all of which or even a substantial number of which, cannot be individually tested, the patent must be held to be invalid. To take that view would, in my opinion, invalidate a large number of process patents. I, therefore, decline to follow the decision of the Exchequer Court of Canada in the above case. If the Supreme Court of Canada intended to lay down a different test, viz. the test as to whether the new substances produced by that process can after proper research, be predicated as possessing "unexpected utility" in the form of hypoglycaemic effect, I agree with that view. That test is satisfied in the present case, as held by me above.

I am informed that the Patent Office in this country follows the same practice as is prevalent in Canada which is based on section 41(1) of the Canadian Patent Act mentioned above, which in its turn was based on a section in the old Patents Act in England that, as far as chemical substances intended for food or medicine are concerned, patents cannot be granted for the substance itself, except when prepared by the processes claimed or their obvious chemical equivalents. It has been stated to me that this practice of the Indian Office is based on the English practice. I am afraid, however, the Indian Patent Office has overlooked the fact that the section on which the English practice was based has since been repealed in England (see Terrell on the Law of Patents 11th edn. p. 20 para. 53) and does not find place in the English Patents Act of 1949, and there is no such practice now prevalent in England and that there is no section corresponding to the old English section or to section 41(1) of the Canadian Patent Act in the Indian Patents and Designs Act. There is, therefore, no warrant for chemical patents being treated in this country in a way different from other patents in regard to which the Patent Office in this country does grant patents for substances per se. In the absence of express statutory provisions, as stated in Terrell on the Law of Patents 11th edn. pp. 127-128 para. 315, the belief that the law applicable to chemical cases is peculiar is erroneous, and the principles applicable in the case of patents for chemical processes are "precisely similar" to those applicable in the case of other patents.

The validity of a claim corresponding to claim 1 in the present case was also challenged in an infringement action brought by the present plaintiffs in Ireland, where the validity of that claim was upheld by the Irish court in a judgment delivered on 28th November 1967. It may be stated that the plaintiffs have registered a substance patent for tolbutamide in England, but their patent in Ireland is a process patent only, in view of the statutory provisions in force there. In upholding the plaintiffs' patent, it was stated by Kenny, J. in his judgment in the said Irish case, "In my opinion, the writer of the claims in a process patent is entitled to include claims for processes which he is certain will work because of the results of other processes." I am in full agreement with that view of Kenny, J. The question which arose for decision in the Canadian case and is raised by Mr. Mistree in the present case, however, did not arise before the court in Ireland and it is, therefore, not necessary for me to deal any further with the same. It may be mentioned that the Canadian case discussed above, though earlier in point of time, has not been considered in the judgment in the Irish case.

As stated by Halsbury 3rd edn. vol. 29 p. 59 para. 123, "not useful" in patent law means that the invention will not work either in the sense that it will not operate at all or more broadly, that it will not do what the specification promises that it will do. It the invention will give the result promised at all, the objection on the ground of want of utility must fail. It is further stated in the said passage that the practical usefulness or commercial utility of the invention does not matter, nor does it matter whether the invention is of any real benefit to the public, or particularly suitable for the purposes suggested, and that it is only failure to produce the results promised that will invalidate the patent, not misstatements as to the purposes to which such results might be applied. In Terrell on the Law of Patents, 11th edn. p. 98 para. 248, quoting from an English case, it is stated that if the patentee claims protection for a process for producing a result and that result cannot be produced by the process, the consideration fails. It is further stated there that objections to patents on such grounds are sometimes treated as objections for want of utility, and when so treated, the well-known rule is that

the utility of an invention depends upon whether, by following the directions of the patentee, the result which the patentee professed to produce can in fact be produced. Quoting from another English case, the same proposition is stated in another way in Terrell at p. 99, namely that the protection is purchased by the promise of results, and that it does not, and ought not to, survive "the proved failure" of the promise to produce the results. As already stated above, the only result which the specification in the present case professed to produce was a new class of chemical compounds having hitherto unsuspected blood sugar lowering property, but without the undesirable side effects of the previously known sulphonamides. As also stated above, the defendants have not been able to prove that a single compound falling within the patent does not possess blood sugar lowering properties to a greater or lesser degree. The position, therefore, is that not only is there no "proved failure" to produce the results promised by the plaintiffs patent specification, but there is a "proved failure" on the part of the defendants to show that compounds falling within the patent do not have the blood sugar lowering properties promised by that. I, therefore, hold that the objection on the ground of want of utility must fail, and with it also the objection that the methods of manufacture are old and known methods and, therefore, there is no inventive step as far as the plaintiffs' patent No. 58,716 is concerned. In the result, all the grounds on which the validity of the plaintiffs' patent was challenged stand rejected, and issue No. 3 must be answered in favour of the plaintiffs.

In view of the conclusions at which I have arrived, the plaintiffs will be entitled to the normal reliefs available in an infringement action, namely an injunction, as well as an order for the delivering up or for destruction of all articles in the defendants' possession made in infringement of the plaintiffs' patent No. 58,716. The plaintiffs have, however, not led any evidence before me to prove damages, nor has any argument been addressed to me in regard to the claim for damages or the alternative claim for an account of the profits contained in prayer (c) of the plaintiff which must, therefore, be treated as not pressed by the plaintiffs. I

grant an injunction in terms of prayer (a) and pass an order in terms of prayer (d). I also order that the defendants do pay the plaintiffs' costs of the suit.

Under section 32 of the Indian Patents and Designs Act, I certify that the validity of the patent came in question in this suit.

Mr. Laud states that his clients will not enforce the orders passed by me for a period of two weeks from today in order to enable the defendants to consider my judgment.