



Neutral Citation Number: [2020] EWCA Civ 473

Case No: A3 2019 3124

**IN THE COURT OF APPEAL (CIVIL DIVISION)**  
**ON APPEAL FROM THE HIGH COURT OF JUSTICE**  
**BUSINESS AND PROPERTY COURTS OF ENGLAND AND WALES**  
**INTELLECTUAL PROPERTY LIST (CHD)**

**HHJ Hacon**  
**[2019] EWHC 3377 (Pat)**

Royal Courts of Justice  
Strand, London, WC2A 2LL

Date: 01/04/2020

**Before :**

**LORD JUSTICE LEWISON**

and

**LORD JUSTICE FLOYD**

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**Between :**

**MEXICHEM UK LIMITED**

**Claimant/  
Respondent**

- and -

**HONEYWELL INTERNATIONAL INC.**  
**(a company incorporated under the laws of the State of  
Delaware, USA)**

**Defendant/  
Appellant**

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**Adrian Speck QC (instructed by Bird & Bird LLP) for the Appellant**  
**Iain Purvis QC (instructed by Potter Clarkson LLP) for the Respondent**

Hearing date: 17 March 2020  
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**Approved Judgment**

**Covid-19 Protocol: This judgment was handed down remotely by circulation to the parties' representatives by email, release to BAILII and publication on the Courts and Tribunals Judiciary website. The date and time for hand-down is deemed to be 10.30 am Wednesday 1 April 2020.**

**Lord Justice Floyd:**

1. The issue in this appeal is whether the judge, HHJ Hacon, was correct, in an action for revocation of a number of patents, to refuse to strike out a claim for additional declaratory relief.
2. The issue arises in an action brought by the claimant and respondent, Mexichem UK Limited (“Mexichem”), for revocation of six patents owned by the defendant and appellant, Honeywell International Inc. (“Honeywell”). All six patents relate to compounds useful in refrigeration systems. In recent years there has been a focus in research to find refrigerants which are less harmful to the environment than compounds previously used. A particular focus of the patents is refrigerants for use in mobile air-conditioning systems (“MACs”) for cars, and in particular two refrigerants known as R-1234ze (“ze”) and R-1234yf (“yf”). These compounds are claimed either alone for use in MACs, or combined with a lubricant, of which there are alternatives, or other refrigerants.
3. Mexichem wishes to be free to market ze and yf in the UK for use in MACs. In addition to seeking to revoke the six patents in suit, Mexichem is also concerned that Honeywell has at least four other divisional patent applications in the pipeline undergoing examination in the European Patent Office. In order to protect itself against the possible impact of the grant of patents in the future on those further applications, Mexichem has sought declaratory relief aimed at establishing that the mere idea of using ze or yf in a MAC was obvious at particular dates.
4. All six patents in suit have a priority date of either 25 October 2002 or 29 April 2004. By 25 October 2002 both ze and yf were known compounds. By that date a Japanese patent application number H41-10388 (“Inagaki”) had been made available to the public. Mexichem accordingly sought declarations to the effect that by 25 October 2002 and/or 29 April 2004 it was obvious in the light of the teaching of Inagaki (a) to use ze in the manufacture of a product for use as a refrigerant in a MAC; and/or(b) to use yf in the manufacture of a product for use as a refrigerant in a MAC.
5. Honeywell applied before the judge to strike out the claim for these declarations, or alternatively for summary judgment against Mexichem on this claim, on the grounds that Mexichem had no real prospect of succeeding in obtaining such a declaration at the trial. Honeywell objects to the declarations on a variety of grounds. It complains that the declaration is not sought in relation to a specific product or process which Mexichem intends to market in the UK, that it is not sufficiently clear, and that a declaration in these broad general terms lacks any utility. It contends that this is so clear at this interim stage that the court should not even allow it to go forward to trial.
6. A declaration in the form sought by Mexichem has come to be called an *Arrow* declaration because it was in *Arrow Generics Limited v Merck & Co Limited* [2007] EWHC 1900 (Pat) that Kitchin J (as he then was) allowed the first such declaration to proceed to trial. Since then, the court’s discretionary power to grant *Arrow* declarations in appropriate cases has been reviewed by this court in two cases: *Fujifilm Kyowa Kirin Biologics Co Ltd v AbbVie Biotechnology Limited and another* [2017] EWCA Civ 1; and in *Glaxo Group Limited v Vectura Limited* [2018] EWCA Civ 1496. It is now settled that such declarations may in principle be granted where justified by the circumstances.

7. The judge rejected Honeywell’s attack on the claimed declarations. He dismissed Honeywell’s contention that an *Arrow* declaration had to be sought in relation to a specific product or process. Declarations sought in more general terms could still serve a useful purpose. He said

“23. ... If the *Arrow* declarations sought by the claimant were made by the trial judge, then ... those declarations would determine precisely what the declarations state, namely that, as of one or both of the priority dates, it was obvious to the skilled person, who has read Inagaki, to use ze and/or yf in the manufacture of a product for use as a refrigerant in an MAC. The declarations would foreclose any further argument in this jurisdiction on that point, but would go no further...

25. The declarations sought by the claimant are not ... directed at clearing the path for the marketing of a particular product or for the use of a particular process. Rather they are aimed at providing a finding of obviousness which can serve as an unchallenged foundation for argument on the inventive step of inventions claimed in patents which may be granted to the defendant in the future.”

8. The judge concluded that the declarations were “entirely clear”. The trial judge would simply have to apply established principles of patent law to decide whether the use of the products for the stated purpose was obvious. Even though not directed at a specific (i.e. fully specified) product or process, it was possible that the declarations would serve a useful purpose beyond the court’s findings in relation to the six patents.
9. In paragraph 6 of his skeleton argument for Honeywell, Mr Speck QC made five points about the judge’s reasoning:
- i) The judge had been wrong not to require any product or process to be identified.
  - ii) A declaration in the broad general terms countenanced by the judge was deprived of any real utility because there would be no resolution of anything until a second round of contested proceedings.
  - iii) The judge had been wrong to treat the question of inventive step as something which can be sliced up into a series of steps and dealt with step by step.
  - iv) The judge had made completely uncertain what was contemplated as being in issue in the proceedings in respect of the claimed declarations.
  - v) The judge had failed to keep clear the distinction in the patent system between instances where a class of products was being defined and instances where a specific product or process was being dealt with.
10. Mr Speck developed some of these points at the hearing more fully than others. One theme of his submissions was that the rationale for the utility of the grant of an *Arrow* declaration was the approach taken to the issues of infringement and validity in the

well-known case of *Gillette Safety Razor Co v Anglo-American Trading Co Ltd* (1913) 30 RPC 465. Instead of analysing the issues of infringement of a patent and its validity as separate issues, Lord Moulton had taken a short cut. He concluded that, on the facts before him, there was nothing inventive in the defendant's razor blade. Having reached that conclusion about a specific product, it could be established that the product could not be covered by the claims of a valid patent. Either the product must be excluded from the scope of the claims, or alternatively, if within the claims, the patent must be invalid. It was not difficult to see why an *Arrow* declaration would be of utility in such circumstances, because in any future proceedings the holder of such a declaration could simply establish that it was doing no more than was specified in the declaration, and the subsequent proceedings would be struck out. Whilst Mr Speck accepted that there were of course limits as to the amount of detail which an applicant for such a declaration must be required to give of a product, to grant declarations of the extreme breadth of those sought by Mexichem lacked that sort of utility.

11. Another theme of Mr Speck's submissions was to attack the judge's view that the declaration could provide a "platform" from which Mexichem's arguments on inventive step could be launched. To provide such a platform was contrary to the warning, given in cases such as *Technograph Printed Circuits Limited v Mills & Rockley (Electronics) Ltd* [1972] RPC 346, against "step-by-step" arguments of obviousness. It was wrong in principle to decide at the outset that a particular part of the gap between the prior art and the invention was obvious, and then to use that as a bridgehead for subsequent steps. The task for the court was to decide whether the invention as a whole involved an inventive step. That might be so even where each of the steps which the skilled person is required to take, viewed in isolation, might be described as obvious. To grant a declaration in respect of one step was wrong in principle. It lacked real utility because a second action would not be struck out. Moreover, such a declaration positively distorted the exercise which the court was later required to perform.
12. Mr Purvis QC, who appeared for Mexichem, supported the judge's reasoning and contended further that the scope and generality of the declaration sought in the present case was entirely appropriate given the breadth of the inventive concept which Honeywell was endeavouring to protect. He sought to make this good by an examination of the claims of the patents in suit, and by the fact that it was implicit in proceedings brought in Germany that Honeywell was asserting that it was indeed entitled to a monopoly in the broad concept of the use of ze and yf in a MAC. These are matters to which I shall return.
13. The court enjoys a broad and flexible discretion to grant declaratory relief where it would serve a useful purpose to do so. A declaration should not be made where it serves no useful purpose, but, subject to that, the approach is one of discretion rather than jurisdiction: see *Messier-Dowty Ltd v Sabena SA* [2001] 1 All ER 275. Before a court can properly make a declaration, the underlying issue must be sufficiently clearly defined to render it properly justiciable: *Nokia Corporation v InterDigital Technology Corporation* [2006] EWHC 802 (Pat) at [20 (iii)].
14. A party which is endeavouring to market a product, and find a way through a complex network of patent protection owned by one of his competitors will, of course, find it useful for a declaration to be made that every aspect of its product is old or obvious at

a particular date, so that no patent having a later priority could ever validly cover its manufacture or sale. Even in such a case, however, it is impossible to ensure that there is no feature of the product (e.g. one of which the patentee and the court were unaware at the time the declaration was granted) which could still be validly protected. That is why the declaration, in order to be clear, has to operate in relation to specific features and combinations of features of a product.

15. Thus, dealing with the clarity of the declaration, I said this in *Glaxo Group* at [30]:

“30. There is no dispute that the declaration must be formulated with clarity. The facts ultimately declared by the court must be clear, otherwise the declaration will simply give rise to further dispute and defeat the purpose for which it is granted. The declaration must also be clear so that the court can know what technical issues it has to decide. The declaration must therefore identify the combination of features of the products and processes in question on which the assessment of obviousness is to take place.”

16. In that case *Glaxo Group* sought declarations based either on three specific features of a process (“the general declaration”), or on all the features of a process set out in a product and process description (“the PPD declaration”). At [32] I said:

“I do not accept that it is clear at this stage that either the general declaration or the PPD declaration is so unclear that it could not be granted. In each case GSK would have to establish that the relevant features were old or obvious at the level of generality at which they are pitched.”

17. Finally, at [34], I said that it was clear from *Arrow* and the subsequent cases that there was no requirement that the declaration should identify all the features of the product or process.

18. There is no threshold requirement for the grant of an *Arrow* declaration that the party seeking it must have a fully formulated product description, far less that it must have a product in actual production. What must be established at trial is that it would be useful for specified features of a product which the party wishes to sell to be declared old or obvious. The extent of generality or particularity of the declaration may affect the utility of the declaration. That, however, is plainly a matter of degree which it will be for the trial judge to assess. At this stage, namely that of striking out or summary judgment, it is enough for the party seeking the declaration to show that there is a real prospect of its being able to establish those matters at a trial.

19. Some of Mr Speck’s submissions, in his skeleton argument at least, treated the declarations sought here as if they were patent claims. In the conventional approach to interpretation of patent claims, the claimed features are treated as the limit of what is required in order to infringe, in the absence of some express indication to the contrary. Additional features in the defendant’s product will not avoid infringement. Thus, argued Mr Speck, the declarations in the present case covered a vast array of different products, such as the combination of ze or yf with every known lubricant, or additional refrigerant. It was quite wrong to pre-judge the obviousness of such

combinations. Alternatively, if that was not the effect of the declaration, then it lacked clarity.

20. I do not think it is correct to construe declarations such as those sought by Mexichem as if they were patent claims, so that every conceivable product which could fall within the declaration is being declared to be obvious. Sensibly understood, what Mexichem is seeking is a declaration that the mere idea of using Inagaki's disclosure of ze and yf as a refrigerant in a MAC is obvious. The declaration, being silent on lubricants and other refrigerants, says nothing about whether combinations of the cited refrigerants with such materials are obvious or not.

21. There was greater force in the argument that the grant of declarations in such broad and general form might lead the court into the sort of step-by-step analysis of the issue of obviousness which has been so frequently deprecated by authority, most emphatically by Moulton LJ in *British Westinghouse Electric and Manufacturing Company v Braulik* (1910) 27 RPC 209 at 230:

“I confess that I view with suspicion arguments to the effect that a new combination, bringing with it new and important consequences in the shape of practical machines, is not an invention, because, when it has been established, it is easy to show how it might be arrived at by starting from something known, and taking a series of apparently easy steps. This ex post facto analysis of invention is unfair to the inventors and, in my opinion, it is not countenanced by English Patent Law.”

22. There may well be cases where a judge would come to the conclusion at the end of a trial that no useful purpose would be served by the grant of a broad declaration as to one isolated step or feature. The judge may, for example, consider the judgment which he delivers on the issues arising in the revocation action to be sufficient to make plain that this isolated step is obvious, in which case no purpose is served by the grant of a declaration. Alternatively, it may be clear, I suppose, from the evidence or from undertakings given, that the patentee has no intention of obtaining later patents to which such a declaration would be relevant or helpful. It is enough, however, for the purposes of the present appeal, if Mexichem can show that there is a real prospect of the circumstances being such that a declaration would be useful.

23. In that connection, I would make two points. First, whilst the step-by-step analysis of obviousness has been held to be unfair in many cases, there is a class of case in which it is, at the very least, relevant to consider each step in a putative series of steps to be taken by the skilled person and consider whether any of them individually, and in the end cumulatively, is obvious. Thus, in *Actavis Group PTC EHF and others v ICOS Corporation and another* [2019] UKSC 15, Lord Hodge explained at [72] that notwithstanding the warnings against step-by-step analysis:

“Where the pattern of the research programme which the notional skilled person would undertake can clearly be foreseen, it may be legitimate to take a step by step analysis .... the *Technograph* warning has no bearing in a case in which the steps which the notional skilled person would take can readily be ascertained without the taint of hindsight.”

24. At this stage it is impossible to say what the evidence will show about the normal course of an enquiry directed to testing a new refrigerant for applications in air-conditioning. It is at least open to Mexichem to argue that a declaration about the step of deciding to use ze and yf for this purpose would serve a useful purpose.
25. Secondly, it is impossible to conclude at this stage that the court, looking forward from the judgment at trial, will consider that the declaration could only be deployed in the context of more complex combination inventions, where the identified step would only represent part of the gap between the prior art and the invention. In other words, the declaration would have utility because Honeywell is seeking to protect an inventive concept which is in similarly broad terms. In such a case no step-by-step analysis would be necessary. This is for a number of reasons.
26. First, the patents in suit in the action are themselves pitched at a very high level of generality. I take them in the order they appear in the bundle and limit my consideration to claim 1 of each patent:
  - i) European Patent (UK) 2 314 654 (“654”) claims a refrigerant composition containing at least 50% by weight of a fluoroalkene from a class defined by a Markush chemical formula, and a lubricant which is a polyalkylene glycol (a PAG), the composition having a Global Warming Potential (GWP) of not greater than 150. The Markush formula includes ze and vf. The specification explains at [26] that “commonly used lubricants such as [PAGs] that are used in refrigeration machinery with hydrofluorocarbon (HFC) refrigerants may be used with the refrigerant compositions of the present invention”. There is no limitation to use in any particular type of refrigeration unit.
  - ii) European Patent (UK) No 2 277 972 (“972”) claims a refrigerant composition comprising a fluoroalkene chosen from a class defined by a Markush formula and a lubricant chosen from a group which includes PAGs. The Markush formula includes ze and yf. At [31] the specification contains a similar statement about PAGs to that given in 654. There are no limitations as to proportions, or GWP, or as to use in any particular type of refrigeration unit.
  - iii) European Patent (UK) 2 314 655 (“655”) claims the use of ze in an automotive air-conditioning system. There are no limitations as to lubricants or anything else, but [28] in the specification contains the now familiar suggestion to use PAGs (as used with HFCs).
  - iv) European Patent (UK) 2 277 977 (“977”) claims the use in an automotive air-conditioning system of a composition containing at least 50% by weight a compound chosen from a Markush formula (which includes ze and yf) with the proviso that the use “is not of an azeotrope-like composition comprising [specific compounds] in an HVAC system”.
  - v) European Patent (UK) No 2 085 422 (“422”) claims use as a heat transfer composition of a composition comprising at least 5% by weight to 99% by weight of ze and one or more compounds selected from a group of other refrigerants, water and carbon dioxide.

- vi) European Patent No 1 751 245 (“245”) claims an azeotrope-like mixture comprising ze and another refrigerant. An azeotropic mixture of liquids is one which has a constant boiling point because the vapour has the same composition as the liquid mixture. The specification explains at [0002] that “the use of azeotrope-like mixtures, which do not substantially fractionate on boiling and evaporation, is desirable. However, the identification of new, environmentally-safe, non-fractionating mixtures is complicated due to the fact that azeotrope formation is not readily predictable.”
27. Mr Speck understandably focused on 245, with its claim to an azeotrope-like mixture. That might be said to be a much narrower inventive concept than the mere idea of using ze or yf in a MAC. There might be an argument that it would be wrong to analyse obviousness from a platform on which one was intending to use ze or yf when the ability of those compounds to form azeotropes with other refrigerants is unknown. However, it is clear that this group of patents as a whole is designed to protect much broader ideas, such as the idea of using the specific refrigerants at all in MACs (655 and 977), and using them with a well-known class of lubricants (PAGs) (972 and 654).
28. Honeywell clearly considers that it is entitled to protection for these broad inventive concepts. In October 2018 Honeywell applied to the Nuremberg-Fürth District Court in Germany for court orders against Sino-Resource Imp. and Exp. Co., Ltd. (“SRI”) because SRI had “offered the coolant [yf] for sale at the international trade exhibition Chillventa 2018 in Nuremberg”. Amongst the patents relied on was 977. The letter of claim pointed out that yf was one of the compounds covered by claim 1 of 977. It complained that SRI’s brochure offered yf for sale in “auto-mobile A/C” and that it was advertised as a replacement for R134a (a known prior art refrigerant) in automobile air-conditioning. The letter of claim pointed out that SRI’s coolant was not one of the specified azeotropic mixtures excluded by claim 1 of 977. On this basis it was alleged that SRI “makes literal use of the Plaintiff’s patents EP’977...”.
29. It can be seen from the form of its claim in Germany that Honeywell does not accept that the broad idea of using yf (or ze) in a MAC is obvious, and it is clear that its patent strategy is at least in part based on seeking to protect that inventive concept. In those circumstances Mexichem is correct to submit that it has a real prospect of establishing at trial that a declaration in these terms would be of utility in fighting off claims to protection in equally broad terms.
30. A point hinted at by Honeywell is that the court will in any event have to make findings about these broad inventive concepts at trial. That would be a valid point to make after a trial at which validity of these broad claims had been maintained by Honeywell. It would be wrong, however, to assume that the issues will remain the same at trial as they appear to be now. Another part of Mexichem’s case, as set out in the Particulars of Claim, asserts that Honeywell has a litigation strategy which seeks to avoid court or tribunal determinations of the validity of its broad concepts. That would perhaps not matter if it showed comparable reticence when asserting these broad claims against its competitors. The Particulars of Claim identify a number of occasions where a strategy of abandoning patents or appeals shortly before hearings so as to avoid adverse determinations has been implemented. It is not necessary to recite all the extensive detail set out in the pleading, because I must assume at this stage that Mexichem will succeed in establishing its allegation. Most relevantly,



however, on 30 October 2019, patent attorneys acting on behalf of Honeywell wrote to the UK Intellectual Property Office (“the IPO”) offering to surrender the UK designation of the 977 patent under section 29 of the Patents Act 1977. A copy of this surrender offer was sent by Honeywell’s solicitors to Mexichem’s the following day. On 5 November Mexichem’s solicitors wrote to the IPO seeking a stay of the consideration of the surrender offer until the outcome of the revocation proceedings. The attention of the IPO was drawn to *Dyson Ltd’s Patent* [2003] RPC 24 and [2003] RPC 48. We were informed that such a stay is in force. The German designation of 977 was, of course, one of the patents which was used to prevent the offer for sale of yf by SRI in Germany. There is no corresponding attempt to surrender the 655 patent, with its claim to the use of ze in a MAC.

31. What effect all this will have on the issues at the trial is not easy to predict. Honeywell, having been obliged to defend 977 against the claim for revocation, may consent to its revocation, or may seek to amend the claims so as to formulate a narrower inventive concept. The same applies to 655. If Honeywell submits to revocation, the presence of the declarations may give Mexichem valuable protection. As Lewison LJ pointed out in the course of argument, the declarations are a means of ensuring that, whatever steps are taken by Honeywell to remove the issues of the inventiveness of the broad inventive concepts from scrutiny and adjudication by the court, Mexichem will remain in procedural control of those issues. It will also mean that Mexichem will obtain protection against further attempts by Honeywell to protect these broad concepts through the cited and other divisional applications which result in granted patents.
32. For those reasons, the judge was, in my judgment, fully justified in refusing to strike out or give summary judgment on these declarations. I would dismiss the appeal.

**Lord Justice Lewison:**

33. I agree.