CA on appeal from Chancery Division (The Hon Mr Justice Laddie) before Ward LJ; Jacob LJ; Wilson LJ. 2nd March 2006

JUDGMENT : Lord Justice Jacob:

1. This appeal is about who should own a patent. In the Patent Office each side said it should be the sole owner. Mr Sean Dennehey, the hearing officer, held that it should belong solely to IDA, the appellants before us. On appeal Laddie J held it should be held jointly with Southampton University, our respondents.

2. On 2nd April 1998 an article appeared in The Times headed "Unveiled: cockroach trap to beat the world". It was about a trap invented by Professor Howse of Southampton University. It said: *"The creatures are lured onto the bridge of the wooden box by a bait. When their feet alight on the electrostatic talcum powder with which it is dusted they slip onto a fly paper and meet their end."*

3. Mr Metcalfe of IDA, the appellants, read that. IDA were specialists in magnetic powders. Mr Metcalfe realised from the reference to "electrostatic" that Professor Howse's invention depended in some way on the stickiness of the powder, stickiness being a property of electrostatically charged powders. He realised that electrostatically charged powders would be apt to lose their charge over time, particularly in humid conditions. He wondered whether magnetic powders would work instead. They would have the advantage of not losing their stickiness.

4. So he telephoned Professor Howse. It was clearly a conversation for the purpose of business. He told the professor about his idea. Professor Howse told him in more detail how his trap worked: that the electrostatically charged powder adhered to the legs of the insects, thus disabling them so that they slid down the slope to their doom. Prior to the Professor telling him this, Mr Metcalfe did not actually know how the electrostatically charged talcum powder worked – it might have just been to cause the powder to stick to the slope down which insects slid – as Mr Prescott QC for IDA put it "to make the snow stick to the mountain".

5. Professor Howse followed up Mr Metcalfe's suggestion to see if magnetic powder would work. The powders were supplied by IDA. They were trialled by a couple of his graduate students – they worked. Perhaps surprisingly insects are a bit magnetic and the powder sticks to their legs just as the electrostatic powder had done. The work done by the graduate students was no more than simple routine experimentation. It was not work necessary to enable Mr Metcalfe's idea to be put into practice but work in the nature of mere verification. Any skilled man could have readily done it, given Mr Metcalfe's idea. It is not suggested the graduate students should be named as inventors.

6. When Professor Howse learned that the magnetic particles worked just as the electrostatic particles had done, he caused the University to apply for a patent. A Mr Ashby was named as an inventor along with the Professor, though in the end nothing turns on this.

7. Before us Mr Prescott argued that the telephone conversation and, in particular, Mr Metcalfe's proposal to try magnetic powder instead of electrostatically charged powder, was confidential information – given for an obvious specific purpose and not to be used for another purpose, particularly to the detriment of IDA. He reinforced his submission by pointing out that if the disclosure had been non-confidential then it hardly lay in the University's mouth to claim that invention was novel or non-obvious. He submitted that the law of confidence was founded on conscience and that it was clearly unconscionable for the University to take out a patent which would preclude IDA from using its magnetic powders for the very idea which had been first suggested by its Mr Metcalfe.

8. At the time of the decisions below it was not thought to be necessary, in patent entitlement proceedings, to prove a breach of confidence. So at those stages there was no express finding one way or the other about breach of confidence. But after Laddie J's decision in this case, [2005] RPC 11, [2004] EWHC 2107 (Pat), came ***Markem v Zipher*** [2005] RPC 31 in this court. ***Markem*** is to the effect that he who claims entitlement of another's patent application or part of it, has to show that in law he is so entitled, typically by virtue of contract or breach of confidence.

9. It is fair to note however, that IDA through their Counsel, Mr James St Ville, consistently maintained that there was a breach of confidence. There are indeed currently stayed proceedings in the High Court

for breach of confidence. In future there should not be separate proceedings for entitlement and breach of confidence. Whether the issue is apt for determination in proceedings before the Comptroller or in High Court proceedings will depend on the circumstances of the case and, in particular, for instance on what relief beyond entitlement is sought.

10. So far as the present appeal was concerned Mr Alexander QC for the University was willing to proceed on the assumption that Mr Metcalfe's communication was confidential. Given that concession it is not necessary for us to make any finding about the point. Mr Alexander's concession was solely for the purposes of these proceedings.

11. Turning back to the story here, Professor Howse had already patented his ideas for killing insects using his discovery of the adhesion of electrostatically charged powders to insects' legs. The basic application for this was W094/00980, published in 1994. Claim 1 of this was to: *"A method of controlling pests, such as insects by trapping and/or killing them, wherein at least part of the pest to be trapped and/or killed is exposed to particles carrying an electrostatic charge."*

12. That patent also disclosed the idea of a pesticide with the electrostatically charged particles (see e.g. claim 9). Professor Howse had improved upon that idea with a later patent, first published as WO97/33472 in 1997. This was about a better way of associating pesticide with an electrically charged particle – essentially coating small particles of pesticide which in themselves would not carry an electrostatic charge with a wax which would.

13. Professor Howse accepted that those concerned in making insect traps would have known of his electrostatic trap – *"they are probably widely known, yes"*. Moreover, in the Patent Office pleadings the University asserted that the idea of composite particles to be electrostatically charged so as to attach themselves to insects was *"well known in the public domain."* Particular reference was made to WO97/33472.

14. Although both sides suggested other people should be named on the patent (Southampton Mr Ashby, and IDA, Dr Lax), nothing turned on this. The key players in the argument before us were just Professor Howse and Mr Metcalfe.

15. The above are the essential findings of fact and the assumption as to a breach of confidence upon which the decision is to be made.

16. IDA applied under s.8 of the Patents Act 1977 for the patent to be put into its name, alternatively into joint names. It is common ground that the decision as to this patent and all patents derived from it follow from the s.8 determination. s. 8, so far as is relevant reads:

*"**Determination before grant of questions about entitlement to patents, etc.***

8-(1) At any time before a patent has been granted for an invention (whether or not an application has been made for it) –

(a) any person may refer to the comptroller the question whether he is entitled to be granted (alone or with any other persons) a patent for that invention or has or would have any right in or under any patent so granted or any application for such a patent; or

(b) …

and the Comptroller shall determine the question and may make such order as he thinks fit to give effect to the determination."

17. And s.7 so far as is relevant reads:

*"**Right to apply for and obtain a patent***

(2) A patent for an invention may be granted –

(a) primarily to the inventor or joint inventors;

(b) in preference to the foregoing, to any person or persons who, by virtue of any enactment or rule of law, or any foreign law or treaty or international convention, or by virtue of an enforceable term of any agreement entered into with the inventor before the making of the invention, was or were at the time of the making of the invention entitled to the whole of the property in it (other than equitable interests) in the United Kingdom;

(c) in any event, to the successor or successors in title of any person or persons mentioned in paragraph (a) or (b) above or any person so mentioned and the successor or successors in title of another person so mentioned; and to no other person.

(3) In this Act "inventor" in relation to an invention means the actual deviser of the invention and "joint inventor" shall be construed accordingly.

(4) Except so far as the contrary is established, a person who makes an application for a patent shall be taken to be the person who is entitled under subsection (2) above to be granted a patent and two or more persons who make such an application jointly shall be taken to be the persons so entitled".

18. It is common ground that since the University applied for the patent, by virtue of s.7(4) the onus of establishing a contrary position (whether sole or joint) lies on IDA. But nothing now turns on onus, the facts having been found. The question is what is the legal consequence of those facts.

19. In paragraph 133 of his decision dated 31 March 2004 Mr Dennehey said: *"Nevertheless, I accept that Professor Howse realised from the outset, whereas in my view Mr Metcalfe did not, that the magnetic powders had to stick to the insects to be effective. I also accept that Professor Howse would have realised, once the suggestion of replacing electrostatic powders with magnetic powders had been made, that it was possible magnetic powder might adhere to the cuticles of insects. Taking account of all of these factors, my preliminary view is that Mr Metcalfe was solely responsible for devising the concept of trapping and/or killing pests by using magnetic particles to adhere to their cuticles and that Professor Howse's contribution was to prove this concept. In reaching this preliminary view I am conscious that it might seem inconsistent with the fact that Mr. Metcalfe was not aware initially that the particles had to adhere to the cuticles of the insects. However, in my view this is not a pre-requisite for devising the pest/particle concept since it is merely a consequence of exposing insects to fine powders, which was supplied by Mr. Metcalfe. Looking at it another way, if Mr. Metcalfe had tested his idea himself and allowed cockroaches to walk through the powders, he could have proved the concept and in the process he would have discovered that the powder stuck to the cuticles of the cockroaches. What is most important in my view is that Mr. Metcalfe thought his idea of using magnetic powders was worth trying; indeed it seems to me that if this was not the case, there would have been no motivation for Mr. Metcalfe to contact Professor Howse in the first place."*

20. Mr Dennehey expressed his view as "preliminary" because he then went on to consider whether various contemporary documents containing expressions of opinion as to who should own rights made a difference. It is clear from these (Mr Alexander took us to them) and from what Mr Metcalfe said under cross-examination that at an earlier stage IDA took the view that there should be joint entitlement ("anything relating to a magnetic technology was on a shared basis").

21. However Mr Dennehey went on to hold that the contemporary documents made no difference to his preliminary view and that they did not: *"Provide a sound basis for changing or modifying my preliminary view that Mr Metcalfe was the sole devisor of this ["pest/particle" concept]."*

22. I agree that the views held at the time as to who should own what, in the absence of any agreement, do not assist. I do not read Laddie J's judgment as resting on these views, though he clearly felt sympathy with them and was not sorry to reach a result in accordance with them.

23. In ***Henry Brothers v MOD*** [1997] RPC 693 at p.706 I said: *"One must seek to identify who in substance made the combination. Who was responsible for the inventive concept, namely the combination?"*

24. The Court of Appeal in [1999] RPC 442 agreed with this approach, although on the facts did not accept there was a combination. See *per* Robert Walker LJ at p.449. Moreover, in ***Markem*** it was held that: *"s.8 is referring essentially to information in the specification rather than the form of the claims … s.8 calls for identification of information and the rights in it. Who contributed what and what rights, if any, lies in the heart of the inquiry, not what monopolies were actually claimed," [101].*

25. Later we said: *"What one is normally looking for is "the heart" of the invention. There may be more than one "heart" but each claim is not to be considered as a separate "heart" on its own," [102].*

26. I turn to apply those principles to this case. Necessarily the approach post-*Markem* is rather different from the approach adopted by the Hearing Officer and Laddie J.

27. If one compares the specification of the patent in issue with that of Professor Howse's previous patent, one sees that it is essentially the same save that for electrostatically charged particles, magnetic particles

are substituted. Thus the patent in suit says: *"WO94/00980 describes a method of controlling pests, such as insects, involving the use of electrostatically charged powders, in which the powders are used to adhere to the insect cuticle and also act as carriers for pesticides or other biologically active compounds. The electrostatically charged particles also adhere to the feet of the insects, blocking the mechanism by which they grip surfaces thereby making it possible to trap the insects as they slide down an inclined surface."*

28. The patent goes on to recite the disadvantage which had been realised by Mr Metcalfe: *"The disadvantages of the use of electrostatically charged particles is that they must be charged before use, for example by friction, and they lose their charge rapidly in conditions of high humidity and when moisture films develop."*

29. The invention is then presented in this way: *"We have now developed a method and apparatus for controlling pests which involves the use of particles which are permanently magnetised and are not affected by moisture or humidity and which, when anchored on a conducting or magnetic surface, will remain in position for long periods of time without losing their effectiveness. Although electrostatically charged particles adhere to the cuticles of insects, it is surprising that ferromagnetic particles also adhere to the cuticles of insects and this is a surprising and unexpected effect."*

30. The invention in its most general form is then presented as follows: *"Accordingly, the present invention provides a method of controlling pests, such as insects, by trapping and/or killing them wherein at least a part of a pest to be trapped or killed is exposed to a composition comprising particles containing or consisting of at least one magnetic material."*

31. The parallel with Claim 1 of Professor Howse's 1994 patent is exact. In 1994 the exposure was "to particles carrying an electrostatic charge"; in the patent in suit the exposure is "to a composition comprising particles containing or consisting of at least one magnetic material". In short: magnetic particles for electrostatic particles. To my mind, that is the sole key to the information in the patent in suit. That key was provided solely by Mr Metcalfe. Putting it another way, insofar as there is anything inventive in the patent, it was provided only by him.

32. It is true that he did not know whether his idea would work and it is true that he had not realised that if it did work it would be by adhesion to the legs of the insects, or that because of that insects could be made to pick up insecticide (what Laddie J called the "sticky poison concept"). Neither of these matters prevents Mr Metcalfe from being the sole devisor of the invention. For neither of these matters involve the contribution of anything inventive to his idea. So far as finding out whether or not his idea worked that was a matter of simple and routine experimentation – mere verification.

33. So far as the sticky poison concept is concerned that would follow by adding that which any ordinary skilled worker in the field of insect killing would have known. All that Professor Howse added to Mr Metcalfe's idea is the common general knowledge of those in the art. There was nothing inventive about it and I do not see how Professor Howse could fairly be described as an inventor. The "heart" was Mr Metcalfe's idea and his alone.

34. Laddie J did not agree with Mr Dennehey. His essential reasoning is as follows:

> *"59. The trouble with this passage in the decision is that it does not consider the width of the inventive concepts now covered by these patent applications. Furthermore the Divisional Director's speculation that, had Mr. Metcalfe carried out the experiments himself - (they were conducted by Professor Howse) - he would have found out that the magnetic powder would have stuck to the insect's cuticle, is beside the point. Maybe Mr Metcalfe would have found this out, maybe he would not. Maybe, if he had worked it out, he would have realised that it could be applied to achieve the sticky-poison effect; maybe he would not. The fact is he did not do any of these things. They were ideas of Professor Howse and Mr Ashby; or, more precisely, they were not proved to be ideas and work for which those two were not responsible. In other words, on the findings of fact made by the Divisional Director, it was not proved by the claimants that the Professor and Mr Ashby were not, at least in part, responsible for the inventive concepts in issue."*

35. So it was because the sticky poison concept came from Professor Howse that Laddie J awarded joint inventorship. He saw the Professor and Mr Ashby as joint "actual devisors" within the meaning of s.7. What I think Laddie J overlooked is that their "contribution" amounted to no more than adding the

common general knowledge in the art. When Mr Dennehey "speculated" that Mr Metcalfe would have found for himself that powder stuck to the legs, I think this was what he was trying to get at.

36. Accordingly, I think Mr Dennehey was right and I would restore his Order. That is all that is necessary to say on this appeal, but I would make a few further observations.

37. This case is very unusual in that the invention was not made by a man skilled, or even acquainted with the art. Normally the addition of matter which is common general knowledge is the sort of thing often forming the subject of subsidiary claims of no significance as regards inventorship. Persons skilled in the art naturally add common general knowledge to their key ideas. The fact that here such an addition goes to the generality of the main concept and claim should not, and in my view does not make any difference.

38. Next, it should be noted that this is a case where what was needed to get a patent was only disclosure of an idea. Disclosure of a means of enablement was not necessary: given the idea, the skilled man could readily practice the invention, as the graduate students did. As Laddie J observed in a passage quoted with approval in the context of novelty by Lord Hoffmann at para. 28 in ***Synthon v SmithKline Beecham*** [2005] UKHL 59, [2005] IP & T 81:

> *"46. In my view, devising an invention and providing enabling disclosure are two quite different things. Although both may be necessary to secure valid protection, as s.14 of the Act shows, they relate to different aspects of the law of patents. It is very possible to make a good invention but to lose one's patent for failure to make an enabling disclosure. The requirement to include an enabling disclosure is concerned with teaching the public how the invention works, not with devising the invention in the first place".*

39. In the context of entitlement to a patent a mere, non-enabling idea, is probably not enough to give the patent for it to solely the devisor. Those who contribute enough information by way of necessary enablement to make the idea patentable would count as "actual devisors", having turned what was "airy-fairy" into that which is practical (see the discussion about the co-inventors in ***Markem*** at paras. [36-37]). On the other hand those who contribute no more than essentially unnecessary detail cannot on any view count as "actual devisors" as Laddie J rightly said, see his para. [45].

40. I must deal with Mr Prescott's *confusio* argument. This was based on treating confidential information as "property" (a topic upon which much academic debate has raged over the years). The argument in its short form runs thus: if a party takes some confidential information and adds to it information of his own devising which really cannot be separated from the original information (e.g. a stolen invention to which is added an improvement invention) then the wronged party is entitled to not only the benefit of his original (stolen) invention but that which has been added to it by the wrongdoer. Putting it more colourfully if a thief has added his own ingenuity to robbery, he must not only hand back what he has stolen but also the fruits of his own ingenuity.

41. Mr Prescott relied on ***Foskett v McKeown*** [2000] UKHL 29, [2001] AC 102, especially the speech of Lord Millett with whom Lords Brown-Wilkinson and Hoffmann agreed. The principle is built on asset tracing. Mr Prescott suggested the correct analogy was that the confidential information consisting of the original information can be traced into the resultant patent – if that has more added by the wrongdoer it nonetheless cannot be separated so the ***Foskett*** principle applied. He likened the case to that of ***Jones v De Marchant*** (1916) 28 DLR 561. There a husband wrongfully used 18 beaver skins belonging to his wife, along with four of his own to have a coat made for his mistress. The wife got the entire coat because the new asset (the coat) was the result of a wrongful intermingling.

42. So here, Mr Prescott argued, if indeed Professor Howse had added something, (the "sticky poison" concept) it was irretrievably mixed with the original idea supplied by Mr Metcalfe (try magnetic powder in the trap) and accordingly, following ***Foskett*** the resulting mixture of ideas all belonged to IDA. I do not think this analogy holds good in the context of an entitlement dispute. Nor do I think it should. Firstly I do not think the property tracing analogy is good at least in this context – the law of confidential information is too complex for that. Secondly the s.8 jurisdiction, although based on an entitlement, is free-standing with its own remedies. The Comptroller is given a very wide discretion once a finding of entitlement is made: he can order licences, cross-licences, the power to sub-licence and amendment of the patent, all to fit the justice of the case – see s.8(2). There is no need for an all-or-nothing solution. So if

B, having taken A's idea, genuinely adds inventive material of his own, there is ample power to produce an equitable and fair commercial solution.

43. Next I should expand a little on the "inventive concept" for the purposes of entitlement disputes. ***Markem*** has already pointed out that one is not bound by the form of the claims, if any. I think there is a great danger in being over-elaborate about this, about dividing the information in a patent into a myriad of sub-concepts, each of which is considered separately. One must proceed more like a hedgehog than a fox. And after all there is supposed to be only one inventive concept in a patent, see s.14(5)(d).

44. Finally, we were told that in very recent years there has been (and are) a rash of entitlement cases before the Comptroller. No-one really knew why this jurisdiction (which in my time at the Bar was moribund) has recently come alive. There was some speculation about an increase in joint ventures, or an increase in the appreciation of the significance of patents. None of them really explain it. But for whatever reason, I think it is worth making some further observations about entitlement cases in general:
    i) Many disputes of fact are likely to arise – who thought of what and who suggested what to whom are the sort of issues where perceptions after the event are all too likely to differ, people being what they are. It is all too understandable that one man is likely to overestimate his input at the expense of others, even where he is fundamentally honest. Disputes about this sort of issue can readily become overheated and prolix.
    ii) Such disputes are all the more likely where the parties' relationship has not been reduced to writing – then complex questions as to implied legal relationships may themselves bedevil the dispute;
    iii) It is clearly unsatisfactory for a dispute to be in two different fora. So, as I have already said, if the Comptroller finds that there are (or are going to be) parallel proceedings for breach of confidence or contract in the Court (High or County) then, unless he is satisfied that resolution of the entitlement proceedings before him will resolve all matters between the parties, he should normally, at a very early stage, refer the dispute to the court using his powers under s.8(7) or the corresponding sections. And even if there are no parallel proceedings in the court, he should seriously consider making such a reference in complex cases. He did so, rightly, for instance, in ***Markem***. The Comptroller's jurisdiction should be reserved for relatively straightforward cases.
    iv) In some cases it may make sense for the claimant to initiate proceedings virtually simultaneously before the Court and Comptroller – with a view to making an immediate application to the Comptroller for transfer. In that way the Court can be given all the powers conferred by s.8(2), powers which it would probably not have if faced merely with a claim for breach of confidence or contact.
    v) Parties to these disputes should realise, that if fully fought, they can be protracted, very very expensive and emotionally draining. On top of that, very often development or exploitation of the invention under dispute will be stultified by the dead hand of unresolved litigation. That may be the case here: there has not yet been any exploitation by either side, some 8 years after the original PCT application. It will often be better to settle early for a smaller share than you think you are entitled to – a small share of large exploitation is better than a large share of none or little.
    vi) This sort of dispute is particularly apt for early mediation. Such mediation could well go beyond conventional mediation (where the mediator facilitates a consensual agreement). I have in mind the process called ***"medarb"*** where a ***"mediator"*** trusted by both sides is given the authority to decide the terms of a ***binding*** settlement agreement. Such a power in effect already exists in the Comptroller once he has found a case of entitlement (see s.8(2)). But by then it will probably be far too late.

45. In the result I would allow the appeal.

Lord Justice Wilson:

46. I agree.

Lord Justice Ward:

47. I also agree.

Peter Prescott QC and James St Ville (instructed by Messrs Dewar Hogan) for the Appellants
Daniel Alexander QC (instructed by Centre for Enterprise & Innovation) for the Respondents