

Peng Lian Trading Co v Contour Optik Inc and Others  
[2003] SGCA 25

**Case Number** : CA 126/2002  
**Decision Date** : 24 June 2003  
**Tribunal/Court** : Court of Appeal  
**Coram** : Chao Hick Tin JA; Judith Prakash J; Yong Pung How CJ  
**Counsel Name(s)** : Alban Kang, Ms Karol Goh, Koh Chia Ling (Alban Kang Mahtani & de Silva) for Appellants; Respondent (in person - absent)  
**Parties** : Peng Lian Trading Co — Contour Optik Inc; Dalmink Fashion Products 1989 Pte Ltd; Chao Richard Hao-Chih

*Patents and Inventions – Inventive step – Finding of inventive role – Role of appellate court*

*Patents and Inventions – Inventive step – Finding of inventive step – Whether court entitled to scrutinise expert evidence*

*Patents and Inventions – Inventive step – Finding of inventive step – Whether invention amounts to new use of old contrivance*

***Delivered by Chao Hick Tin JA***

1 This appeal concerns the alleged infringements of two patents relating to spectacle frames, each comprising a primary and an auxiliary frame in which the auxiliary frame is attached to the primary frame by magnetic means. The primary frame is for housing prescription lenses while the auxiliary frame is for tinted lenses.

2 The two patents are numbered 47151 and 60169, with priority dates of 10 June 1996 and 13 December 1996 respectively. The owners of the said patents are the third respondent and the first respondent respectively, with the second respondent, a Singapore company, being the exclusive licensee of the patents. The third respondent was also the inventor of the patents. Two claims were made in respect of patent 47151 and four in respect of patent 60169.

3 The material difference between the two patents lies in the positioning of the magnets. In the first patent, a pair of magnets is mounted at the temple area of the primary frame (one at each arm), near the hinge, and a second pair of magnets is mounted in the corresponding locations on the arms of the auxiliary frame. In the second patent, one or two magnets are mounted on the bridge of the primary frame and the corresponding number of magnets are mounted on the bridge of the auxiliary frame.

4 Two actions were instituted by the respondents (who were the plaintiffs in the actions and will hereinafter be referred to as “the plaintiffs”) for alleged infringements of the two patents. In one action the defendants were Peng Lian Trading Co (“Peng Lian”) and another party. In another action, the defendants were two other entities. Peng Lian was alleged to have infringed both patents. All the defendants disputed that the patents were valid; they also denied any infringement.

5 In relation to patent 47151, the trial judge found that while claim 1 thereof was not valid for lack of novelty, claim 2 was a patentable invention. As regards patent 60169, the judge found that the first two claims were not valid for lack of novelty but claims 3 and 4 were patentable inventions. However, the judge also found that the plaintiffs had not proven that Peng Lian had infringed the patents. For completeness, we should add that the plaintiffs’ actions against all the other defendants for infringements had also failed. The present appeal by Peng Lian is against that part of the decision below which held that claim 2 of patent 47151 and claims 3 and 4 of patent 60169 are valid.

## Claims in the patents

6 In order to better appreciate the issues in this appeal, it is necessary that we set out what inventive concepts were alleged to have been incorporated in the claims made in the two patents. For patent 47151, three inventive concepts were claimed:

- (i) top-down attachment of the magnets at the temporal position of the frames;
- (ii) use of separate projections for housing the magnets, which were welded to both arms of the frame;
- (iii) positioning each projection lower than the upper side of each arm of the auxiliary frame, such that the projection would extend downwards to the arms or magnetic member of the primary frame, thereby creating a hooking effect.

Whereas claim 1 of the patent incorporated only the first two concepts, claim 2 encompassed all three concepts.

7 For claim 1, the judge found that it lacked novelty because of prior art as depicted in a photograph of the Pentax Twincome ("Twincome") published in the Nihon Kogyo Shimbun. The question which confronted the court below was whether the projection for housing the magnet ("the housing") was die cast together with each arm of the spectacle frame or whether it was welded onto the arm. While on a visual examination of the photograph the position was not entirely clear, the judge having heard the evidence of the experts from both sides found that the housing, as depicted in the photograph, was probably welded onto the arm of the spectacle. In coming to this view, he took into account the fact that the plaintiffs' expert, Mr Dirk Michielsen, accepted that it was common general knowledge that a cheaper method of manufacture was to weld, rather than cast, the housing onto each arm of the frame.

8 The defendants accepted that because of the hooking effect, claim 2 satisfied the requirement of novelty. The judge also held that it satisfied the requirement of an inventive step. As this aspect is the subject of Peng Lian's appeal, more will be said about it later.

9 As regards patent 60169, the following were the inventive concepts which were alleged to have been incorporated:-

- (i) an eye-glass device where the auxiliary frame can be attached to the primary frame with only one hand by means of magnetic members secured at the bridges of the frames, the bridge of the auxiliary frame extending over and engaging with the bridge of the primary frame.
- (ii) An eye-glass device with the above features and where the members of only one of the bridges of the primary and auxiliary frames need to be magnets and the other bridge needs only to be of magnetizable substance.

Whereas claims 1 and 2 incorporated only concept (i), claims 3 and 4 incorporated both the concepts.

10 The judge found that claims 1 and 2 were anticipated by a Miki design which was filed some ten days before the priority date claimed for patent 60169. In the Miki design, the magnetic contact was on the vertical plane of the bridge. While the plaintiffs said that the magnetic attachment in patent 60169 was on the horizontal plane, i.e., in a top-down fashion, this was not stated in claims 1 and 2. The plaintiffs instead wanted the court to read such a restriction into those claims when it was not

so spelt out. Indeed, in a drawing accompanying the invention filed with the Patent Office, the magnetic contact was shown to be on a vertical plane. In view of the fact that claims 1 and 2 did not limit the monopoly claimed to only top down attachment, the trial judge held that the invention was anticipated by the Miki design and was not new.

11 While the judge found claims 1 and 2 to be invalid for lack of novelty, being anticipated by the Miki design, he found claims 3 and 4 to be patentable inventions. However, he also found that the plaintiffs had obtained the patent by a misrepresentation, namely, by stating that the corresponding US patent was the same or substantially the same invention as that in patent 60169 when it was not so. Accordingly, he held that the plaintiffs were not entitled to the priority date claimed, the date on which the US patent was filed.

12 At this juncture, we ought to add that the plaintiffs had, in fact, filed a notice of appeal against all the findings of the trial judge, in so far as the findings were not in their favour. However, several days before the date fixed for the hearing of their appeal, the plaintiffs indicated a change of mind and, through their counsel, withdrew their appeal on the scheduled hearing day.

13 However, even though the trial judge did not find any of the defendants liable to the plaintiffs for patent infringement, Peng Lian has appealed against that part of the judge's decision as indicated in ¶15 above. Peng Lian asserts that those claims are not valid for lack of an inventive step. This is the issue which will be examined subsequently in this judgment.

14 In accordance with the plaintiffs/respondents' instructions, their counsel obtained leave of court to discharge himself from further acting for them, and thus he took no part in the hearing of Peng Lian's appeal.

### **Inventive step: the law**

15 An invention, to be patentable must, in accordance with s 13(1) of the Patents Act, satisfy the following three conditions:-

- (i) the invention is new;
- (ii) it involves an inventive step; and
- (iii) it is capable of industrial application.

Only condition (ii) is relevant to this appeal.

16 What would constitute an inventive step is set out in s 15 of the Patents Act which reads:-

"An invention shall be taken to involve an inventive step if it is not obvious to a person skilled in the art, having regard to any matter which forms part of the state of the art by virtue only of s 14(2) and without having regard to s 14(3)."

17 In the often quoted case of *Windsurfing International Inc v Tabur Marine (Great Britain) Ltd* [1985] RPC 59 at 73, the English Court of Appeal expounded a four-step approach to determine whether something involves an inventive step:-

- (i) identify the inventive concept embodied in the patent;
- (ii) assume the mantle of the normally skilled but unimaginative addressee in the art at the

priority date and impute to him what was, at that date, the common general knowledge in the art in question;

(iii) identify what, if any, differences exist between the cited prior art and the alleged invention;

(iv) ask whether viewed without any knowledge of the alleged invention, those differences constitute steps which would have been obvious to the skilled man or whether they require any degree of invention.

This court had in previous cases adopted this four-step approach, e.g., *Merck & Co Inc v Pharmaforte Singapore Ptd Ltd* [2000] 3 SLR 717.

18 The person to whom the test of obviousness should be applied is the unimaginative skilled technician. What this means was elaborated as follows by Lord Reid in *Technograph Printed Circuits Ltd v Mills & Rockley Electronics Ltd* [1972] RPC 346 at 355:-

"To whom must the invention be obvious? It is not disputed that the hypothetical addressee is a skilled technician who is well acquainted with workshop technique and who has carefully read the relevant literature. He is supposed to have an unlimited capacity to assimilate the contents of, it may be scores of specifications but to be incapable of a scintilla of invention. When dealing with obviousness, unlike novelty, it is permissible to make a 'mosaic' out of the relevant documents, but it must be a mosaic which can be put together by an unimaginative man with no inventive capacity.

Whether or not it was obvious to take a particular step is a question of fact; it was formerly left to a jury. But the question is not whether it is now obvious to the court (or to the jury) but whether at the relevant date it would have been obvious to the unimaginative skilled technician."

19 In this regard, the words of Whitford J expressed at first instance in the case of *Genetech Inc Patent* [1989] RPC 147, and which was approved by Dillon LJ on appeal, are worthy of note –

"to render an invention obvious it was not necessary that the material in question should have been the first choice of the notional research worker; it was enough that the material was 'lying on the road' and there for the research worker to use."

20 Finally, in *Molnlycke A.B. v Procter & Gamble* [1994] RPC 49, the English Court of Appeal held that in determining whether an invention involved an inventive step, which is a matter of fact, the court would rely on the evidence of expert witnesses. Sir Donald Nicholls VC explained this aspect as follows:-

"In applying the statutory criterion and making these findings the court will almost invariably require the assistance of expert evidence. The primary evidence will be that of properly qualified expert witnesses who will say whether or not in their opinions the relevant step would have been obvious to a skilled man having regard to the state of the art. All other evidence is secondary to that primary evidence."

## **Claim 2 of Patent 47151**

21 Applying the four-step approach advocated in *Windsurfing*, the trial judge, in determining that claim 2 of patent 47151 involved an inventive step, said:-

"Concept (iii), the hooking effect, is an idea that appears obvious with the benefit of hindsight. However, many brilliant ideas have appeared simple with hindsight and the fact that it is not one of the features in the Twincome, although it takes very little to incorporate it, indicates that it does involve an inventive step and I so hold."

22 Peng Lian contended that the judge had come to the wrong conclusion on the point because he did not give sufficient consideration to the evidence of the expert witnesses, and, in particular, had failed to appreciate that the question of obviousness is a question of fact.

23 Peng Lian relied upon two matters to assert that there was prior art to claim 2. First, the use of magnets to better secure the auxiliary frame to the primary frame was first published on 23 August 1990 (PCT/DE90/0009). Second, the use of a restraint or creating a hooking device to better secure the auxiliary frame to the primary frame was first published in April 1985 in the "Hi-Rise Optical Frame System".

24 Peng Lian submitted that on the evidence of their two experts, Mr Tega and Mr Lee Byung-Chang, it would have been obvious to a person skilled in the art to create a "hooking effect" like that spelt out in claim 2 to secure the auxiliary frame to the primary frame. Mr Lee told the court that, having regard to Twincome, it would have been obvious to a skilled person to develop the feature in claim 2. Mr Tega gave evidence to the same effect. Peng Lian further pointed out that even the plaintiffs' own expert, Mr Michielsen, agreed that it would be obvious to a skilled person in the art to have a mechanical restraint in order to stop any horizontal movement. In particular, Mr Michielsen also accepted that it would be obvious to have a mechanical restraint of the sort depicted in claim 2.

25 Moreover, counsel for Peng Lian contended that there was no primary evidence before the court upon which the trial judge could rely to hold that the creation of the "hooking effect" involved an inventive step. It would have been different if there was conflicting evidence from the experts called by the parties. This was not the case here. While Peng Lian recognised that we should not consider the question of obviousness with the benefit of hindsight, and that, what with hindsight may seem plain and obvious was often not so seen at the time, it argued that in the light of the state of the art, a skilled addressee would have known that the housing could be welded slightly higher or lower than the upper level of the arm of the primary frame. If the top of the housing was not level with the top level of the arm of the primary frame, a kink would be created which would act as a restraint when the auxiliary frame sits on the primary frame. Peng Lian submitted that it was a process that would not involve "much lateral thinking".

26 In this regard, we must make two observations. First, while it is true that in cross-examination Mr Michielsen agreed that creating a kink of the kind in claim 2 would be obvious to a skilled person, he did in re-examination correct his earlier answers. Second, none of the prior art which Peng Lian's experts relied upon to assert that the kink created by claim 2 was obvious, taught a skilled worker to create a kink of this nature. The prior art taught the creation of mechanical restraint through the use of clips, hooks and catches, but not through the use of the positioning of the housing. Peng Lian's experts did not explain why the prior art would necessarily have taught a skilled person to take the step depicted in claim 2, rendering the invention obvious.

27 In the light of the observations above, we are unable to accept Peng Lian's submission that the trial judge erred in not accepting the opinion of their experts. The court is entitled to scrutinize the opinion expressed by an expert, particularly in a case where the conclusion drawn does not *ipso facto* follow from the premise. The experts had made bare assertions without offering any explanation why the prior art would necessarily lead the skilled person to the invention in claim 2.

28 It is all too easy to say, after the event, that the thing was obvious and involved no invention. *Ex post facto* analysis can often be unfair to inventors: see *Non-Drip Measure Co Ltd v Strangers Ltd* [1943] 60 RPC 135 at 142. It is right to remind ourselves that a small step could still be an inventive step. In *Killick v Pye* [1958] RPC 366 at 377, Ormerod LJ, delivering the judgment of the Court of Appeal said: "It is well settled that the validity of a patent challenged on the ground of inventiveness, may be established though the inventive step represents a very small advance."

29 Similarly, the fact that an invention is simple does not mean that it is obvious. In *Siddell v Vickers & Sons Ltd* (1890) 7 RPC 292 at 304, Lord Herschell highlighted this very misconception:-

"If the apparatus be valuable by reason of its simplicity there is a danger of being misled by that very simplicity into the belief that no invention was needed to produce it. But experience has shown that not a few inventions ... have been of so simple a character that once they have been made known it was difficult ... not to believe that they must have been obvious to everybody."

30 Finally, an appellate tribunal should be cautious in differing from the trial judge's evaluation of what was obvious. Here we think the speech of Lord Hoffmann in *Biogen Inc v Medeva* [1997] RPC 1 at 45 is instructive:-

"It is because specific findings of fact, even by the most meticulous judge, are inherently an incomplete statement of the impression which was made upon him by the primary evidence. His expressed findings are always surrounded by a penumbra of imprecision as to emphasis, relative weight, minor qualification and nuance (as Renan said, *la verite est dans une nuance*), of which time and language do not permit exact expression, but which may play an important part in the judge's overall evaluation. It would in my view be wrong to treat *Benmax* as authorising or requiring an appellate court to undertake a *de novo* evaluation of the facts in all cases in which no question of the credibility of witnesses is involved. Where the application of a legal standard such as negligence or obviousness involves no question of principle but is simply a matter of degree, an appellate court should be very cautious in differing from the judge's evaluation."

31 The step taken in claim 2 may seem small. But, to our minds, it is no less a significant step forward, a step which nobody else had taken before. We have the distinct impression that Peng Lian's experts had rationalized the matter with the benefit of hindsight. Accordingly, we would uphold the finding of the trial judge that claim 2 does involve an inventive step and is, therefore, valid.

### **Claims 3 and 4 of Patent 60169**

32 As mentioned above, the issue here is whether the use of a magnetizable substance and a magnet on the primary and auxiliary frames, as opposed to using two magnets, would constitute an inventive step. Peng Lian pointed out that, in coming to the conclusion that the switch constituted an inventive step, the trial judge did not give any reason.

33 Peng Lian submitted that such a switch was nothing more than a new use of an old contrivance and no inventive step was involved. It said that the prior art (PCT/WO90/09611), published on 23 August 1990, had already disclosed the use of a magnet with a magnetizable substance for attaching the auxiliary frame to the primary frames. This fact even came out from the plaintiffs' expert, Mr Michielsen, in cross-examination. We set out below the relevant questions and answers:-

Q: Patent 60169, Claims 2, 3 and 4 at page 51. Difference between Claim 1 and 2 (read with 3 and 4) is that Claim 1 uses two magnets, one each at primary and auxiliary frames, whereas claim 2 read with 3 and 4 has only one magnet either at primary or auxiliary frame, with corresponding

member being of a magnetizable material?

A: Yes.

Q: Is there anything new or inventive in using one magnet plus magnetizable material in place of two magnets to hold the two frames together?

A: No.

Q: Would it have been obvious to a person skilled in the art to use magnet and magnetizable material instead of using two magnets?

A: Yes.

34 In support of its contention that a new use of an old contrivance could not involve an inventive step, Peng Lian relied upon *Harwood v Great Northern Rly Co* [1864-65] 11 ER 654 where Lord Westbury, LC said, at 682:-

"Upon that I think that the law is well and rightly settled, for there would be no end to the interference with trade, and with the liberty of any mechanical contrivance being adapted, if every slight difference in the application of a well-known thing were held to constitute a patent ... No sounder or more wholesome doctrine, I think, was ever established than .. you cannot have a patent for a well-known mechanical contrivance merely because it is applied in a manner or to a purpose which is analogous to the manner or to the purpose in or to which it has been hitherto notoriously used."

35 In the light of the facts stated in ¶33 above, it is our judgment that there was no basis for the trial judge to have come to the conclusion that the change constituted an inventive step. While we recognise that where a claim is constituted by a combination of separate features there could be inventiveness in that combination even if the separate features are themselves obvious provided that the combination produces a new or improved result, such is not the case here. As of the priority date, the use of a magnet and a magnetizable substance to effect attachment was a matter of general knowledge. The application of that knowledge in the present instance of attaching the auxiliary frame to the primary frame of a spectacle with the use of a magnet and a magnetizable substance (though not at the same spot as that indicated in the prior art PCT/W090/09611) could not require any imagination or invention.

## Judgment

36 In the premises, we declare that claims 3 and 4 of patent 60169 are not patentable as they do not involve any inventive step. Accordingly, we order that patent 60169 be revoked. To that extent, we would allow Peng Lian's appeal. Peng Lian shall have half the costs of this appeal. The security for costs, together with any accrued interest, shall be returned to Peng Lian or its solicitors.

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