

**PATENTS ACT 1977**

BETWEEN

Nampak Cartons Ltd

Applicant for  
Revocation

and

Rapid Action Packaging Ltd

Patentee

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PROCEEDINGS

Application under section 72 of the Patents Act 1977  
for revocation of patent number GB 2397573 B

HEARING OFFICER      Stephen Probert

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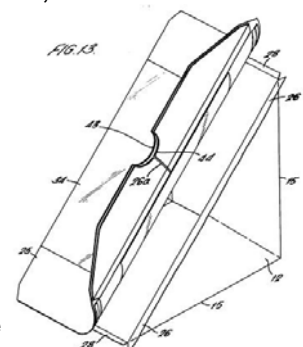
**DECISION**

**Introduction**

- 1 In these proceedings Nampak Cartons Ltd (“Nampak”) seeks revocation of patent GB 2397573 B (“the patent”) on the grounds of lack of inventive step. The patent proprietor, Rapid Action Packaging Ltd (“RAP”) has already amended the patent under section 75 in an attempt to avoid RAP’s attack and to take account of additional prior art that has come to light.
- 2 I issued a preliminary evaluation in June this year, in which I stated what I considered to be the important issues to be decided, and also indicated my provisional view that there was no inventive step in the patent. Both parties then filed evidence, mostly in the form of witness statements from expert witnesses, and the matter came before me at a hearing on 11 September 2009. At the hearing, Nampak was represented by Mr Henry Ward of Counsel, instructed by Bailey Walsh, and RAP was represented by Mr John Baldwin QC, instructed by Boulton Wade Tennant.

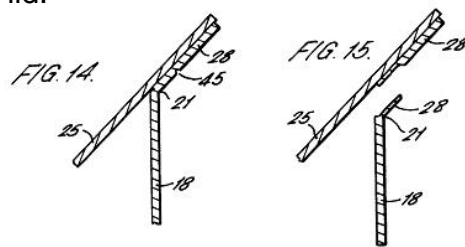
**Background**

- 3 As originally filed, the patent concerned a cardboard sandwich carton that could be sealed by bonding the lid of the package to an out-turned flange, eg. using a heat sealing process. The patent as filed (and in its granted form) also described



several methods of opening the carton, one of which involved the use of a partial severing technique, known in the field as "Concora", applied to the flanges.

- 4 As a result of an amendment under section 75, the claims of the patent have been narrowed to a sandwich carton with a lid that can be bonded to the flanges by heat sealing, and that is adapted to be torn open by means of Concora cuts made in the flange of the carton. When a carton according to the invention is opened, the flange of the carton delaminates, with part of the flange material remaining bonded to the lid.



- 5 The patent (as amended) has one independent claim as follows:

1. A carton for a diagonally cut sandwich or like foodstuff formed from a blank of card and having triangular end walls connected by rectangular side walls to form a triangular prism-shaped container, one side wall of the container being hinged to another wall of the container to provide an opening for insertion/removal of foodstuff and to form a lid for closing the opening, the edges of the opening having out-turned flanges, and the periphery of the lid overlying the out-turned flanges encircling the opening when the lid is in the closed position whereby the lid can be bonded to the flanges to close the carton; wherein the carton is formed from a card which is heat sealable on the surface which forms the inner side of the container, the periphery of the lid of the container being bonded by heat sealing to the out-turned flanges encircling the opening to the container to seal the contents of the container and wherein the bonded lid/flanges are adapted to be torn apart to open the container for access to the sandwich therein by dual parallel lines of partial cut along the flanges, one being at the junction between the flange and the wall adjacent the inside face of the lid and the other being part way across and on the other side of the flange so that the flanges can split to allow the lid to be opened.

## The Law

- 6 The Comptroller's powers to revoke a patent on the application of another person are set out in section 72(1). With respect to the validity of the claims, the relevant parts read as follows:

### Power to revoke patents on application

72.-(1) Subject to the following provisions of this Act, the court or the comptroller may by order revoke a patent for an invention on the application of any person (including the proprietor of the patent) on (but only on) any of the following grounds, that is to say:

- (a) the invention is not a patentable invention;
- (b) ...

- 7 In relation to section 72(a) above, section 1(1) and section 3 define the appropriate requirements for a patentable invention:

### Patentable Inventions

1.-(1) A patent may be granted only for an invention in respect of which the following conditions are satisfied, that is to say:

- (a) the invention is new;
- (b) it involves an inventive step;
- (c) ....

and references in this Act to a patentable invention shall be construed accordingly.

### Inventive Step

3. 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 section 2(2) above (and disregarding section 2(3) above).

8 We all agreed that the correct test for inventive step is the structured approach found in *Windsurfing*<sup>1</sup> as reformulated by the Court of Appeal in *Pozzoli*<sup>2</sup>:

- 1(a) Identify the notional “person skilled in the art”
- 1(b) Identify the relevant common general knowledge of that person;
- 2 Identify the inventive concept of the claim in question or if that cannot readily be done, construe it;
- 3 Identify what, if any, differences exist between the matter cited as forming part of the “state of the art” and the inventive concept of the claim or the claim as construed;
- 4 Viewed without any knowledge of the alleged invention as claimed, do those differences constitute steps which would have been obvious to the person skilled in the art or do they require any degree of invention?

### The Prior Art

9 The prior art that Nampak relies upon in this application to revoke comprises, in the main, published patent applications. They are:

A2	US 3250454	Steiger
A3	GB 2349634 A	Spiral Packs
A6	US 4312451	Forbes
B2	US 4183458	Meyers
B4	US 4930639	Rigby

10 Another document, B3, described as a “Paperboard Reference Manual” was also mentioned once or twice, generally in the context of establishing what should be regarded as common general knowledge.

### The Evidence

11 Both parties filed evidence in the form of witness statements from expert witnesses. Mr Riley was the applicant’s expert; Mr Clough was the patentee’s expert. There is no doubt that both Mr Riley and Mr Clough are rightly described as experts; both men have had many years of experience in the food packaging industry. The gist of Mr Riley’s evidence was that the invention was obvious; the

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<sup>1</sup> *Windsurfing International Inc. v Tabur Marine (Great Britain) Ltd*, [1985] RPC 59

<sup>2</sup> *Pozzoli SPA v BDMO SA* [2007] EWCA Civ 588

gist of Mr Clough's evidence was that it was not obvious. Both experts were cross-examined at length during the hearing, and neither expert changed his mind to any material extent. I formed the impression that Mr Riley knew more about patent law than Mr Clough, and he also seemed to have more experience of being cross-examined. Nevertheless, both men came across as honest witnesses who were doing their best to assist the tribunal.

- 12 Although the fundamental difference of opinion between the experts meant that their evidence was not directly helpful to me in deciding this case, it was useful inasmuch as they agreed on the identity of the notional person (or team) skilled in the art. They were also able to help me determine what would be the common general knowledge of that person (or team).

**Step 1(a) — Person skilled in the art**

- 13 Both experts agreed that the person skilled in the art was likely to be a team comprising a packaging designer and a packaging systems engineer. I am happy to adopt this 'team' as the notional "person(s) skilled in the art".

**Step 1(b) — Common general knowledge**

- 14 The expert witnesses also agreed that producing a triangular prism-shaped sandwich carton was part of the common general knowledge in this technical field. In its most common form, the carton is made from a clear plastic material with a plastic peelable film across the opening. This type of sandwich packaging was described as a plastic skillet.
- 15 It was also well known by 2002 (before the priority date of the patent) that sandwich cartons could be made from cardboard (or paperboard). The "Pret Pack", used by Pret A Manger, was mentioned as a typical example. However, the Pret Pack has inward folding flaps, and the examples discussed at the hearing were not capable of being hermetically sealed.
- 16 The use of heat sealed packaging in the food industry, and therefore the use of out-turned flanges to enable this type of sealing, was also part of common general knowledge.
- 17 The experts also agreed that the "Concora" method of providing tear strips was well known in the food packaging industry. This is an arrangement that involves making two parallel lines of partial sever (often called microcuts) into the paperboard packaging, one cut being made from each side of the paperboard. The microcuts only penetrate part way through the paperboard. When the packaging is torn apart, the microcuts allow the paperboard material between the two lines to delaminate. The experts agreed that the most common use of Concora involved two pairs of Concora cuts (ie. four parallel microcuts), spaced apart to create a tear strip — with one pair of microcuts at either side of the tear strip.
- 18 Although Concora appears not to have been widely used in sandwich packaging, the experts did agree that it would have been common general knowledge to use a single microcut (or score line) at the reflex angle of the fold-lines in paperboard sandwich packs, such as eg. the Pret Pack. These single microcuts deter the folded paperboard from returning to an unfolded state.

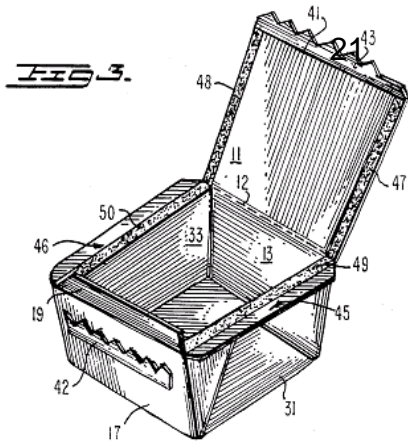
## Step 2 — The Inventive concept

- 19 The majority of the features in claim 1 were already well known to a skilled worker. Having heard the submissions of the parties, and having also read the patent and the evidence in this case, I conclude that the inventive concept is a cardboard sandwich carton with dual parallel lines of partial cut along the flanges, one being at the junction between the flange and the wall adjacent the inside face of the lid and the other being part way across and on the other side of the flange so that the flanges can split (ie. delaminate between the cuts) to allow the lid to be opened.

## Steps 3 & 4 - The difference from the prior art & Is it inventive?

- 20 As there are several possible starting points from which Nampak claim that the patent lacks an inventive step, I found it easier to consider steps 3 and 4 of the *Windsurfing/Pozzoli* together, in relation to each of the prior art documents in turn.

### 21 B4 — Rigby



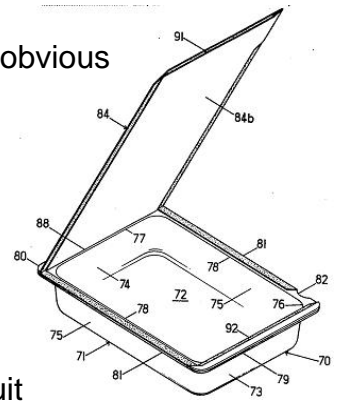
Rigby (US 4930639) discloses a cardboard container for packaging, storing and heating food. It is square rather than triangular, and not intended for packaging sandwiches. However, it has a lid that is heat-sealed to out-turned flanges, and it uses two parallel lines of partial cut (Concora) along the sides so that the lid can be removed by delaminating the material between the cuts. The principle of operation is very similar to that which is described and claimed in the patent. Perhaps the most noticeable difference is that the cuts are made in the lid of the container, and not in the out-turned flanges.

- 22 So in Rigby, it is the paperboard lid that delaminates when the package is opened, and not the out-turned flange. The patentee says that this is significant, because tearing the flange means that the out-turned flange is weakened when the carton is opened, making it easier to remove the sandwich(es) from the carton. But the patent does not mention this “benefit” and I am therefore reluctant to attach undue significance to it. At first it appeared to me that the choice between putting the microcuts in the lid or in the flange was relatively trivial. But Mr Baldwin reminded me that I have to take Rigby in its entirety, and not “lift out” those features that, with the benefit of hindsight, point in the direction of his inventive concept.
- 23 Taken as a whole, the teaching of Rigby is that the microcuts have to be in the lid so that when the package is opened, the rigidity of the tray is improved by the increased thickness of the flanges. Rigby also says that the lid should be bonded to the flange in the region outside the microcuts — apparently so that the lid material that remains attached to the side flanges can function to prevent inadvertent spillage (by analogy with the stated purpose of a corresponding flap at the front of the package).
- 24 Rigby also requires a different method of sealing and opening the front edge of the package. Even with the common general knowledge available to them, these

various differences constitute steps that would not have been obvious to the skilled team. So the attack based on Rigby fails.

## B2 — Meyers

25 Meyers (US 4183458) describes a rectangular tray, formed from paperboard, for packaging food. As with Rigby, there is no specific reference to sandwiches, but the experts agreed that it was common general knowledge in the food packaging industry that the shape of the package would be adapted to suit the shape of the goods.



26 The arrangement described in Meyers is especially interesting because it involves a heat-sealed lid bonded to an out-turned flange, and because it shows a microcut in the flange such that when the tray is opened, the flange material delaminates, leaving part of the flange material attached to the lid. Although this is arguably closer to the inventive concept than Rigby, it is not a true Concora system because there is only one microcut (at **33** in figure 7 below), and not a pair of parallel microcuts as required in the inventive concept.

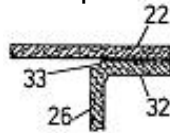


FIG. 7

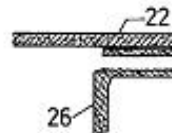


FIG. 8

27 However, Meyers does describe a Concora arrangement used on the front edge of the tray (as distinct from the two sides). Figures 5 and 6 (below) show in cross-section how the paperboard material delaminates between the two microcuts. But here it is the lid (**22**) that delaminates, and not the flange.

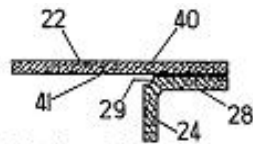


FIG. 5

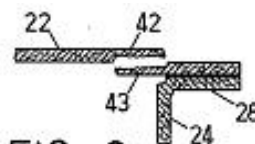


FIG. 6

28 As Meyers makes clear, the reason for putting the microcuts in the lid at the front edge is to create a deliberate overlap of material so that the lid can be held in the re-closed position by tucking the flap **42** underneath the flap **43** (in fig 6 above). Here, as in Rigby, the disclosure comes tantalisingly close to the inventive concept. From the applicant's point of view, the difference is not much more than an additional microcut in the underneath of the side flange (eg. at **32** in figure 7 above). Given that this is essentially a reverse of the arrangement already described in Meyers in relation to the front edge, I initially thought that the applicant had done enough to show that the inventive concept was obvious. But after thinking about this further, I cannot escape the conclusion that the disclosure of Meyers as a whole would not lead the skilled person or team to make this conceptual jump. Not without an element of hindsight.

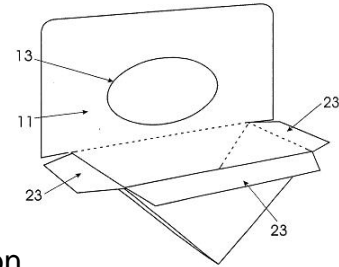
29 The arrangement in Meyers, with the single microcut along the side edges, appears to work well enough without the extra microcut. At the hearing, it was suggested that it would be obvious to add the second microcut in order to make it easier to open the package — ie. because there would be less material to tear. But it seems more likely to me that if one wanted to modify Meyers to make it easier to tear the lid off, one would be more likely to make the flanges narrower.

30 Although the skilled person, presented with Meyers, would see how parallel microcuts are used at the front edge of the package, this is expressly not to make it easier to tear the lid open, but to provide a reclosure mechanism — a different purpose altogether.

31 There is a further difficulty that would also need to be overcome. Meyers does not appear to be a hermetically sealed package; one area of the lid has to be left unadhered to the flange in order to allow the package to be opened by inserting a finger between the lid and the flange. As with Rigby, I consider that these various differences constitute steps that would not have been obvious to the skilled team. So the attack based on Meyers also fails.

### A3 — Spiral Packs

32 During the course of the hearing, it appeared to me that Spiral Packs (GB 2349634) was probably the closest prior art. Spiral Packs discloses a paperboard sandwich carton that is virtually identical in construction to the carton described in the patent. It is triangular in shape, and has out-turned flanges to which a hinged lid is bonded. It does not mention the use of heat sealing as a method of bonding, but the experts agree that this was common general knowledge. (In any event, the inventive concept of the amended patent has little or nothing to do with the method of bonding.) At page 8 of Spiral Packs, the specification reads:



33 “... tear strips formed by lines of weakening may be provided in order to allow the lid to be torn open. Alternatively, the lid may be held to the flaps 23 shown in Figure 7 by a peelable adhesive which permits the lid to separate from the flaps when force is applied.”

34 The difference between Spiral Packs and the inventive concepts depends on how the skilled person would interpret the words “tear strips formed by lines of weakening”. In view of the common general knowledge, I have no doubt that they would recognise that “lines of weakening” could mean Concora (ie. dual parallel lines of partial cut). In the context of Spiral Packs, it could also indicate a line of perforations. But how would the skilled person interpret “tear strips”?

35 If the skilled person was already aware of either Rigby or Meyers, then I think the difference is a step that could well have been obvious. However, neither Rigby nor Meyers are considered to be part of the common general knowledge, so I cannot assume that the skilled person would be aware of either of them. Even without Rigby or Meyers, I still need to consider whether the skilled person might interpret “tear strips formed by lines of weakening” as a suggestion to put dual parallel microcuts in the flange of the sandwich carton in Spiral Packs.

36 Ultimately, the experts, Messrs Riley and Clough, were unable to help me with this question because their evidence was not conclusive. Mr Riley said it would be “an easy move” to put Concora cuts in the flange. When pressed on this by Mr Baldwin, he explained:

“And the only way, if you’re going to use Concora, is to put it in the flange underneath; especially if you’ve already put a half cut in the crease.”

37 Mr Clough, on the other hand, insisted that:

“... one doesn’t want to interfere with the flange so you’d look at other alternative opportunities ...” and again, “... I would have avoided the flanges, I would have avoided them”.

38 Under cross examination, Mr Ward was able to lead Mr Clough through a series of stages to get to a point where he agreed that putting the Concora cuts in the flanges “... sounds a sensible approach”. Mr Ward’s logic was based, at least in part, on the understanding that it was desirable to minimise the number of microcuts that would need to be made, and that by putting the Concora in the flange, it would only be necessary to make one further microcut — because there is already one microcut (or score line) at the corner of the carton wall and the flange.

39 In view of Mr Clough’s admission on this point, I did originally attempt to draft this decision in the applicant’s favour, building to some extent on my earlier Preliminary Evaluation. But when I read it, I found myself unable to accept the reasoning, despite Mr Clough’s concession under cross examination that putting the Concora cuts in the flange was one of two alternatives that the skilled person would consider, and that it would be a sensible approach. I queried this with Mr Clough before he left the witness stand, and several times he confirmed his original view that, at the priority date of the patent, there would have been considerable prejudice in the skilled person’s mind against “interfering” with the flanges. I am therefore inclined to think that some of the things that Mr Clough agreed with in cross examination were “arrived at by starting from something known, and taking a series of apparently easy steps” (in the words of Moulton LJ in *British Westinghouse v Braulik*<sup>3</sup>), and/or by relying on an element of hindsight.

40 More recently, Lord Diplock also viewed cross-examination that followed a ‘step by step’ approach as unpersuasive. In *Technograph Printed Circuits Ltd v Mills & Rockley (Electronics) Ltd*<sup>4</sup> he said:

“The cross-examination of the respondents’ expert followed with customary skill the familiar ‘step by step’ course. I do not find it persuasive. Once an invention has been made it is generally possible to postulate a combination of steps by which the inventor might have arrived at the invention that he claims in his specification if he started from something that was already known.”

41 I have instead come to the conclusion that the skilled person would have interpreted “*tear strips formed by lines of weakening*” as suggesting a removable strip of paperboard material provided by two pairs of microcuts — one pair on either side of the strip — an arrangement that I referred to during the hearing as “double Concora”. I came to this conclusion in the light of all the evidence in this case, and in particular the Paperboard Reference Manual (dated 1993, and clearly part of the common general knowledge).

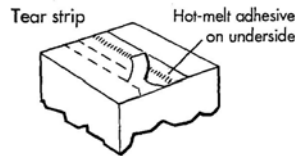
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<sup>3</sup> (1910) 27 RPC 209 at 230. Approved by Lord Russell in *Non-Drip Measure Co Ltd v Strangers Ltd* (1943) 60 RPC 135 at 142.

<sup>4</sup> [1972] RPC 346 at 362.



- 42 The Paperboard Reference Manual shows several opening and reclosing arrangements, including some described as tear strips, pull tabs, perforations etc.. The tear strip variant is illustrated thus:



- 43 This is significantly different to the inventive concept which uses a single Concora arrangement in the bonded flanges. I think this difference also constitutes one or more steps that would not have been obvious to the skilled team. So the attack based on Spiral Packs also fails.

#### **A2 — Steiger & A6 — Forbes**

- 44 Both of these documents were part of the original attack against the unamended patent, and neither of them was likely to succeed as prior art against the amended claims where Rigby, Meyers and Spiral Packs have each failed. Forbes is perhaps worth a brief mention because it clearly teaches that microcuts may be used to assist with the opening of a food container, and that the microcuts may be applied either in the lid or in the flange. However, it only discloses a single microcut — either in the periphery of the lid where it joins the flange, or along the score lines connecting the flange to the side walls. The difference, adding a second microcut around the flange, is one that I have already concluded would not have been obvious at the priority date of the patent. Furthermore, there appears to be no suggestion that either Steiger or Forbes would have been part of the common general knowledge.

#### **Combining prior art documents or “mosaicing”**

- 45 Although the applicant’s statement of case includes several suggestions for combining various pieces of prior art, Mr Ward did not pursue this line of attack at the hearing, except insofar as any of the prior art documents could be considered as part of the common general knowledge. Mr Baldwin submitted that I should not consider a mosaic (or combination) of all the prior art, and I think he must be right.
- 46 It might be tempting to put together a combination of eg. Spiral Packs, Rigby and Meyers to show how the inventor may have arrived at the inventive concept; but this requires a significant degree of hindsight, both in selecting the relevant disclosures from these documents and also in disregarding the ‘irrelevant’ or unhelpful teaching in them. As the fourth *Windsurfing* step makes clear, the assessment must be made “without any knowledge of the alleged invention as claimed”. Furthermore, there are no cross-references between any of these documents, and there is no suggestion that any of them would have been well known. There is also no evidence that any of the relevant packages in Spiral Packs, Rigby or Meyers had been put into use by 2002 — if anything, the evidence indicates that they had not. All these factors argue against combining prior art documents such as Spiral Packs, Rigby and Meyers.

#### **Summary & Costs**

- 47 I have found that the difference between each of the prior art documents relied upon in these proceedings and the inventive concept in the patent constitutes one

or more steps that would not have been obvious to the person skilled in the art. The application to revoke the patent is therefore unsuccessful.

- 48 Mr Baldwin and Mr Ward did make some initial submissions on costs at the hearing, but I agreed that I would invite them to provide written submissions after my decision has issued. In the circumstances it seems reasonable to allow a period of 28 days from the end of the appeal period, for both the applicant and the patentee to file any written submissions on costs, with (if necessary) a further 14 days for submissions in reply. I would propose to suspend any decision regarding costs in the event of an appeal.

### **Appeal**

- 49 Under the Practice Direction to Part 52 of the Civil Procedure Rules, any appeal must be lodged within 28 days.

**S PROBERT**

Deputy Director acting for the Comptroller