

Element Six Technologies Ltd v Iia Technologies Pte Ltd
[2017] SGHCR 16

Case Number : Suit No 26 of 2016 (Summons No 2929 and 2935 of 2017)
Decision Date : 19 October 2017
Tribunal/Court : High Court
Coram : Justin Yeo AR
Counsel Name(s) : Mr Melvin Pang and Mr Nicholas Ong (Amica Law LLC) for the Plaintiff; Ms Meryl Koh and Mr Javier Yeo (Drew & Napier LLC) for the Defendant.
Parties : — Element Six Technologies Ltd — — Iia Technologies Pte Ltd

Civil Procedure – Pleadings – Further And Better Particulars

Patents and Inventions – Infringement

Patents and Inventions – Novelty

19 October 2017

Judgment reserved.

Justin Yeo AR:

1 This judgment relates to two applications for further and better particulars of pleadings in patent proceedings, one by Element Six Technologies Ltd (“the Plaintiff”) and the other by Iia Technologies Pte Ltd (“the Defendant”). It focuses on three specific categories of requests (see [4] below) for which there appears to be a paucity of local case authority.

The applications

2 Summons No 2929 of 2017 (“SUM 2929”) is the Plaintiff’s application for further and better particulars of the Defence and Counterclaim (Amendment No 3) (“the Defence and Counterclaim”) and the Particulars of Objection (Amendment No 3) (“the Particulars of Objection”). SUM 2929 is made pursuant to O 18 r 12 and O 87A r 3 of the Rules of Court (Cap 322, R 5, 2014 Rev Ed) (“Rules of Court”), and consists of 165 sets of requests (each with numerous sub-requests).

3 Summons No 2935 of 2017 (“SUM 2935”) is the Defendant’s application for further and better particulars of the Statement of Claim (Amendment No 1) (“the Statement of Claim”), the Particulars of Infringement (Amendment No 1) (“the Particulars of Infringement”) and the Reply and Defence to Counterclaim (Amendment No 2) (“Reply and Defence to Counterclaim”). SUM 2935 is made pursuant to O 18 r 12 and O 87A r 2 of the Rules of Court, and consists of 15 sets of requests (each with numerous sub-requests).

4 I heard the SUM 2929 and SUM 2935 together on 4 August 2017 and 21 September 2017. Further submissions were tendered to court on 5 October 2017. On 19 October 2017, I rendered oral judgment for both applications, and supplemented the oral judgment with this written judgment in relation to three specific groups of requests. The three groups of requests are:

(a) the Plaintiff’s requests, in SUM 2929, for the Defendant to provide particulars of the combinations of prior art and/or user (collectively referred to as “prior art”) relied on to invalidate

the patents in question (“the Combination Requests”);

(b) the Plaintiff’s requests, in SUM 2929, for the Defendant to provide particulars of specific passages of certain prior art relied on to invalidate the patents in question (“the Passage Requests”); and

(c) the Defendant’s requests, in SUM 2935, for the Plaintiff to provide particulars of the alleged commercial success of one of the patents in question (“the Commercial Success Requests”).

Background facts

5 The Plaintiff is the proprietor of two Singapore Patents, namely Singapore Patent Numbers 115872 (“the ‘872 Patent”) and 110508 (“the ‘508 Patent”).

(a) The ‘872 Patent is in respect of an optical quality synthetic single crystal chemical vapour deposition (“CVD”) diamond material and the method for its production. The CVD diamond material produced in relation to the ‘872 Patent allegedly has lower optical birefringence and optical absorption than conventional diamond material, allowing it to be used in a variety of industrial applications and also for lab-grown synthetic diamond gems for the jewellery industry.

(b) The ‘508 Patent is in respect of a method of producing CVD diamonds of a desired colour, including the steps of heat treating the diamond under conditions suitable to produce the desired colour. This includes converting the colour of a CVD diamond from an undesirable colour, such as brown, to a near colourless or colourless form.

6 The Defendant is a company incorporated in Singapore. It deals in the manufacture and growth of CVD diamonds which are used in the mechanical, manufacturing, gems and jewellery industries.

7 In the following paragraphs, I set out aspects of the various pleadings that are of relevance to the three groups of requests addressed in this judgment.

8 In the Statement of Claim and Particulars of Infringement, the Plaintiff alleged that the Defendant had infringed 33 claims in the ‘872 Patent and 24 claims in the ‘508 Patent.

9 In the Defence and Counterclaim, the Defendant averred that its business and acts relating to the manufacture and growth of CVD diamonds do not constitute infringement of the claims in the Patents. The Defendant further counterclaimed to revoke the Patents, on the basis that the inventions disclosed in the Patents lacked novelty, inventive step and/or were insufficiently disclosed in their specifications to be performed by a person skilled in the art.

10 Of particular relevance to the Combination Requests and the Passage Requests is the fact that the Defendant raised separate lists of prior art to challenge each of the asserted claims in the Patents. The lists of prior art were of varying length and composition (comprising 70 pieces of prior art in all), and some of the prior art were of considerable length (with eight pieces of prior art ranging from 22 pages to 248 pages each). As a sample list of prior art cited, the particulars supporting the Defendant’s attack on Claim 19 of the ‘872 Patent are as follows (this sample is subsequently referred to for the purposes of illustrations in [17] and [19(b)(i)] below):

Particulars

(a) The alleged invention in Claim 19 of the '872 Patent involved no inventive step in that it was obvious to a person skilled in the art, having regard to the matter which formed part of the state of the art before the priority date of the alleged invention in Claim 19 of the '872 Patent. Hereunder the Defendant will rely upon the following, including but not limited to:

(i) All the documents and prior users referred to in paragraphs 25(a)(i) and 25(a)(ii) above;

[These comprise the following:

(i) *Documents published in various scientific publications, journals and patent documents, such as:*

(A) *A paper entitled: 'Status of the R&Ds on Diamond Particle Detectors' – Mara Bruzzi; given at the 11th International Workshop on Vertex Detectors at the Ohana Keauhou Beach Resort 78-6740, Alii Drive, Kailua-Kona, Hawaii was presented between the 4 - 8 November 2002;*

(B) *A paper entitled 'Analysis of Large Single Crystal CVD Diamond' – J.E. Butler, T.A. Kennedy, J.S. Colton, S. Qadri, R. Linares, P. Doering, M. Newton, C. Glover, H. Smith & A. Collins given at the United States Naval Research Academy was presented on 22 July 2000;*

(C) *JP 07-277890A published on 24 October 1995;*

(D) *US 5,474,021 grant published on 12 December 1995;*

(E) *A paper entitled: 'High Carrier Mobility in Single-Crystal Plasma-Deposited Diamond' – Jan Isberg, Johan Hammersberg, Erik Johansson, Tobias Wikström, Daniel J. Twitchen, Andrew J. Whitehead, Steven E. Coe & Geoffrey A. Scarsbrook; Science, Vol. 297, Issue 5587, pp. 1670-1672, 6 September 2002;*

(F) *A paper entitled: 'Development of large size diamond synthesis process' by Sumitomo Electric Industrial Co. Ltd., Report on R&D on "Frontier Carbon Technology" (FCT) project by New Energy Development Organisation (NEDO), published in 2000.*

(G) *A chapter in the textbook entitled: 'Electric Refractory Materials' edited by Yukinobu Kumashiro, Chapter 15: Synthesis of Diamond from the Gas Phase by Andrzej Badzian, page 347 – 368, published in 2000;*

(H) *WO 01/96634 published on 20 December 2001;*

(I) *WO 01/96633 published on 20 December 2001; and*

(J) *Singapore Patent No. 110506 published on 30 May 2005 claiming a priority date of 20 September 2002; and*

(ii) *The following prior users:*

(A) *The Plaintiff and/or its related entities, who provided and/or sold diamonds to third parties prior to 21 November 2002, including but not limited to the RD42 Collaboration and/or ABB Group Services Centre.]*

(ii) The following further documents:

(A) A paper entitled: '*Diamond windows for IR applications in adverse environments*' – Claude A. Klein, *Diamond and Related Materials*, Vol. 2, Issues 5-7, pp. 1024-1032, 13th April 1993;

(B) A paper entitled: '*Characterization of single-crystal diamond grown by chemical vapour deposition processes*' – G. Janssen, W.J.P van Enckevort, W. Vollenberg & L.J. Giling, *Diamond and Related Materials*, Vol. 1, Issue 7, pp. 789-800, 1 May 1992;

(C) A paper entitled: '*Crystalline perfection of high purity synthetic diamond crystal*' – H. Sumiya, N. Toda, Y. Nishibayashi & S. Satoh, *Journal of Crystal Growth*, Vol. 178, Issue 4, pp. 485-494, 2nd July 1997;

(D) US 5,335,245 grant published on 2 August 1994; and

(iii) The common general knowledge.

11 The Plaintiff filed a Reply and Defence to Counterclaim. Of particular relevance to the Commercial Success Requests is the Plaintiff's averment that the '872 Patent's inventiveness was evidenced, *inter alia*, by the commercial success of the Plaintiff's single crystal CVD diamond products. The Plaintiff's pleading in relation to commercial success is as follows:

42. The Plaintiff avers that the '872 Patent's inventiveness is evidenced, *inter alia*, by the commercial success of the Plaintiff's single crystal CVD diamond products which are used in optical and mechanical applications. Such products include, but are not limited to, attenuated total reflection prisms and blanks for high precision cutting applications.

Particulars

a) After the filing of the '872 Patent and with the production of the single crystal CVD diamond material made in accordance with the invention disclosed in the '872 Patent, the Plaintiff acquired a global market share of greater than 80% for single crystal CVD diamond material for use in optical products.

b) The market share for single crystal CVD diamond material for use in optical products sold by the Plaintiff is currently around 50% of total global sales.

c) The invention of the '872 Patent allowed the production of a single crystal CVD diamond material that had low optical birefringence. This product material was found to be advantageous for optical applications such as etalons and [attenuated total reflection] prisms when compared with prior art single crystal CVD diamond material.

Legal principles on pleadings

12 The key legal principles on pleadings are set out briefly in the following sub-paragraphs.

(a) Each party must plead the "necessary particulars" of any claim, defence or other pleaded matter (O 18 r 12(1) of the Rules of Court). The Court may order a party to serve particulars of any pleading (O 18 r 12(3) of the Rules of Court). As explained in *Singapore Civil Procedure 2017*

vol 1 (Foo Chee Hock JC gen ed) (Sweet & Maxwell, 2017) ("*Singapore Civil Procedure*") at paragraph 18/12/2, the requirement to provide necessary particulars reflects the overriding principle that litigation between the parties should be conducted fairly, openly, without surprises and, as far as possible, to minimise costs. Particulars therefore serve to:

- (i) inform the opposing party of the nature of the case that it has to meet (*contra* the mode by which the case is to be proved; see [12(b)] below);
- (ii) prevent the opposing party from being taken by surprise at trial;
- (iii) enable the opposing party to know what evidence they ought to prepare for trial;
- (iv) limit the generality of the pleadings, the claim, or the evidence;
- (v) limit and define the issues to be tried, and as to which discovery is required; and
- (vi) tie the hands of the pleading party, so that it cannot, without leave of court, go into any matters not pleaded.

(b) Pleadings should state, and state only, the *material facts* relied on, and not the *evidence* by which these facts are to be proved (O 18 r 7 of the Rules of Court; and see *Singapore Civil Procedure* at paragraph 18/7/1). An important factor that determines whether a request for further and better particulars will be granted is whether the particulars requested relate to material facts or evidence (*Sharikat Logistics Pte Ltd v Ong Boon Chuan and others* [2011] SGHC 196 ("*Sharikat*") at [8]). Material facts are the facts that are necessary for the purpose of formulating a complete cause of action, so that the opposing party is given fair notice of the case to be met and may direct his evidence to the relevant issues (*EA Apartments Pte Ltd v Tan Bek* [2017] 3 SLR 559 at [21]). In contrast, evidence refers to the "supporting facts" or "subordinate facts" that are means of proving the material facts.

(c) Pleadings are to be drafted succinctly, and should be as brief as the nature of the case permits. However, a lengthy pleading will not be considered unnecessarily prolix if it merely states material facts (*Singapore Civil Procedure* at paragraph 18/7/6).

13 In the context of patent proceedings, it is necessary to further consider O 87A of the Rules of Court and other legal principles that apply specifically to this area. I will touch on these as and when they arise for consideration in the course of this judgment.

The Combination Requests

14 The Combination Requests are the Plaintiff's requests for the Defendant to specify the combinations of prior art relied on to invalidate the Patents. These requests each relate to specific paragraphs in the Particulars of Objection, and take the following form:

... Please specify each combination of the prior art/users that the Defendant is relying on in relation to the [*novelty / inventive step*] of Claim [*number*] of the ['872 / '508] Patent.

15 The Combination Requests are premised on the possibility of a defendant combining various pieces of prior art to show that the invention is obvious in the light of the relevant state of the art; and in so doing, to invalidate the patent (see, eg, *Dien Ghin Electronic (S) Pte Ltd v Khek Tai Ting (trading as Soon Heng Digitax)* [2011] 3 SLR 227 ("*Dien Ghin*") at [54]). This concept is commonly

referred to as “mosaicking” (*Mills & Rockley (Electronics) Limited v Technograph Printed Circuits Limited* [1971] FSR 188 (“*Mills*”) at 193). A defendant wishing to rely on a “mosaic” to invalidate a patent must show that the “mosaic” can be put together by an “unimaginative man with no inventive capacity” (*Mills* at 193).

16 I note, parenthetically, that some of the Combination Requests related to the Defendant’s attack on “novelty” rather than “obviousness”. Mosaicking is generally permitted only in relation to the latter (see, eg, *Dien Ghin* at [29] *contra* [54], and *Mills* at 193). However, it appears that there may be an exception to this rule under English law (see *Terrell on the Law of Patents* (Sweet & Maxwell, 18th Ed, 2017) at paragraph 11-63, citing *Sharpe & Dohme Inc v Boots Pure Drug Co Ltd* (1927) 44 RPC 367; (1928) 45 RPC 153), and in any event, I did not have to deal with this issue because the Defendant did not raise any objection on this ground.

Parties’ arguments

17 Plaintiff’s counsel argued that the Defendant had to particularise the combinations it intended to rely on so that the Plaintiff would know the case brought against it. Otherwise, the Plaintiff would have to direct its experts to prepare for and respond to a massive number of possible prior art combinations. To illustrate the magnitude of the problem, Plaintiff’s counsel raised the example of the attack on “obviousness” in Claim 19 of the ‘872 Patent (see [9] above). 15 different pieces of prior art were listed in the Defendant’s attack on Claim 19. In the light of the possibility of mosaicking, the number of possible prior art combinations for attacking Claim 19 alone is approximately 33,000; and this is but one of 57 asserted claims, each of which has been attacked with varying lists (and, accordingly, varying possible combinations) of prior art.

18 Defendant’s counsel objected to the Combination Requests on two principal grounds.

(a) First, that the requests were impermissible as they effectively sought expert evidence. In this regard, Defendant’s counsel pointed out that the critical question *vis-à-vis* the alleged obviousness of an invention requires analysis of how a “notional skilled reader” would assess and combine the prior art in question; and that in determining this question, the court is “often assisted... by experts” (citing *Lee Tat Cheng v Maka GPS Technologies Pte Ltd* [2017] SGHC 48 at [126]). She further relied on the Canadian case of *Jason Swist and Crude Solutions Limited et al v MEG Energy Corp* (22 September 2015) (unreported) (“*Jason Swist*”) for the proposition that matters relating to combinations of prior art are matters of expert evidence. She highlighted, in particular, the following passages in *Jason Swist*:

I agree... that the information now sought... is a request for evidence, not facts. The “facts” are represented by the existence of the prior art. The manner in which various combinations can operate to show that the claims of the 746 Patent are obvious is a matter of evidence, *most probably opinion evidence, in other words, expert evidence.*

... There is no rule that expert evidence be produced at the pleadings stage. According to Rules 279 and 280, expert evidence is a matter for trial.

[emphasis added]

Defendant’s counsel argued that the *Jason Swist* approach was “consistent with” the general proposition, under Singapore law, that expert evidence is usually more suited to a later stage of the proceedings (citing *AstraZeneca AB(SE) v Sanofi-Aventis Singapore Pte Ltd* [2013] SGHCR 7 (“*AstraZeneca*”) at [61] and [62]). She therefore submitted that the Combination Requests were

better suited to the stage of expert reports.

(b) Second, that the Defendant's reliance on prior art is a result of the Plaintiff's own case. As elaborated on in the 16th Affidavit of Mehta Vishal Jatin (14 July 2017):

... [a]s long as the Plaintiff maintains that it is entitled to assert all permutations of the asserted claims, the Defendant must similarly be prepared to invalidate any of the asserted permutations using any and all combinations of the prior art.

The "permutations of the asserted claims" referred to in the quote above was presumably a reference to the dependent claims (*viz*, claims dependent on other claims for validity) asserted by the Plaintiff.

19 Plaintiff's counsel counter-argued each of these arguments, as follows:

(a) The first argument (at [18(a)] above) was a mischaracterisation of the Combination Requests. The Combination Requests, properly understood, did not seek expert evidence at all. Also, the decision of *Jason Swist* should not be relied on for various reasons (see [23] below). Furthermore, it would not be satisfactory to leave the Combination Requests to the stage of expert reports, as these reports do not have the effect of binding the Defendant to its case, thus exposing the Plaintiff to the risk of being taken by surprise at trial.

(b) The second argument (at [18(b)] above) was premised on a misapprehension of the difference between the infringement inquiry and the invalidity inquiry.

(i) In relation to the invalidity inquiry, the possibility of mosaicking prior art results in any possible permutation of the cited prior art being argued at trial. To illustrate, in relation to Claim 19 of the '872 Patent (see [9] and [17] above), even if the Court finds that each of the 15 pieces of prior art do not individually render the '872 Patent obvious, this is not the end of the inquiry. The court would also have to consider other mosaics comprising, for instance, Prior Art 1 and 5, or Prior Art 2, 6, 8 and 11, and so on.

(ii) In contrast, in relation to the infringement inquiry, even if there are dependent claims, this does not exponentially change the scope of the inquiry. This is because the court does not have to go through every possible permutation to assess infringement, and can instead simply identify and analyse the *additional* elements in the dependent claim, akin to the approach taken in *Ransburg Co v Aerostyle Ltd* [1966] FSR 26. For instance, in relation to Claim 18 (which is dependent on Claims 1-3, 5-10 and 12-17) of the '508 Patent, the Defendant suggested that there were 468 possible permutations of infringement to be considered by the court, but the actual number of permutations that the court has to consider is only 16. This is as explained in the 6th Affidavit of Susan Fletcher-Watts (17 February 2017):

For the trial judge to assess whether Claim 18 has been infringed, I am advised that the process would look something like this:

(a) Consider each of claims 1-3, 5-10 and 12-17 *in vacuo* and assess whether they have been infringed (i.e. a total of 15 claims).

(b) If at least one of claims 1-3, 5-10 and 12-17 has been infringed, consider *in vacuo* whether claim 18 has been infringed.

(c) If the answer to (b) is yes, then claim 18 has been infringed.

From this illustration, only 16 claims ... will have to be considered in analysing the infringement of claim 18 of the '508 Patent, not 468 as claimed by the Defendant.

Decision

20 The issue before me is whether the Defendant should be ordered to particularise the combinations of prior art.

21 There is no Singapore case authority relating specifically to whether combinations of prior art must be pleaded. However, the guiding principles would be the same as those set out at [12] above. Parties have additionally cited two Canadian cases dealing specifically with the issue of pleading prior art combinations, and it is to these cases which I now turn.

22 In the Canadian case of *Throttle Control Tech Inc v Precision Drilling Corp* (2010) FC 1085 ("*Throttle Control*"), the court noted that the "generally accepted" approach is for the party seeking to invalidate the patent to "[i]dentify any alleged combination of prior art which, when read together, support an allegation of obviousness" (emphasis added) (*Throttle Control* at [13(c)]).

23 The subsequent Canadian decision of *Jason Swist* appeared to depart from the position in *Throttle Control* (see [18(a)] above). Unfortunately, the version of the *Jason Swist* decision tendered to me was an unreported record (akin to notes of hearings issued by the Singapore courts), and neither set of counsel could locate the decision in any established legal database. In the circumstances, I decline to rely on *Jason Swist*, for the following reasons:

(a) First, the unreported record did not provide sufficient detail on the plaintiff's requests for particulars and the context in that case. What appears from a plain reading of the unreported decision is that there had been multiple earlier exchanges between the parties involving identification of combinations of prior art, and some mosaics had indeed earlier been identified. The court described the requests at hand as being related to the "*manner* in which various combinations [of prior art] can operate" (emphasis added). As such, the requests might well have been for something more than merely identifying the combinations relied upon; indeed, the word "*manner*" may even suggest that the particulars sought related to *how* each mosaic anticipated the claim in question. Without clarity on the requests made and the context in that case, it is difficult to determine why the court had decided to reject the requests.

(b) Second, there was no elaboration on the legal principles involved in determining if a party has to plead combinations of prior art. Indeed, given that *Throttle Control* was cited to the court in *Jason Swist*, it appears unlikely that the court in *Jason Swist* would have applied a different approach to pleading combinations of prior art, without providing some explanation for its approach. Furthermore, the court in *Jason Swist* appeared to have dismissed the requests on the basis that they amounted to requests for expert evidence – a matter which turns very much on the precise nature of the request at hand (see [26] below). As such, the outcome in *Jason Swist* may well have depended the specific facts of the case, but the unreported record does not provide sufficient detail for drawing conclusions for the purposes of this judgment.

24 Whether a defendant is required to particularise the combinations of prior art relied on involves a context-specific inquiry. It depends on factors such as the number and nature of prior art cited, as well as the complexity of the subject matter in question. If a defendant has only raised a few pieces of prior art, it may be that the plaintiff will already clearly know the case it has to meet without the

need for further particularisation. Conversely, if there are numerous pieces of prior art and a large number of possible combinations, there is a greater need for a defendant to particularise the combinations relied on. Otherwise, the plaintiff may be saddled with massive and unnecessary costs, and the court unnecessarily occupied in dealing with a large number of issues which have no real bearing on the substantive issues at hand.

25 Extending the mosaicking metaphor may provide a useful illustration of this point. A mosaic, in its literal sense, is a piece of decorative art made by assembling small pieces of material such as beads, glass, stone, shells and tiles. Imagine a situation where there are many different boxes of material, each box containing many different types of material in many different sizes and quantities. At trial, the defendant will try to prove, often with the aid of expert evidence, that an unimaginative person will pick certain specific pieces from certain specific boxes and combine them in certain specific ways, so as to form an image that is similar to that claimed by the patent. The defendant does not have to provide particulars to prove all of these at the pleadings stage. However, he has to do more than simply listing the boxes and asserting that an unimaginative person assembling certain unspecified combinations of certain unspecified pieces from certain unspecified boxes will somehow form the image in question. Otherwise, the plaintiff will potentially have to engage experts to pore over *all* the pieces in *all* the boxes, coming up with *all* possible combinations that might be relied on at trial, so as to determine how and whether he will contest each unique combination. This would likely be a massively expensive and time-consuming process. As such, at the pleadings stage, a defendant should minimally provide an indication of the combinations he intends to rely on, so that the plaintiff has a broad idea of the issues that he will have to deal with at trial and be able to direct his preparations accordingly.

26 I acknowledge that particularising the combinations relied upon may require the help of experts. However, not every involvement of an expert renders the issue at hand a matter of expert evidence, which is to be reserved for expert reports or for trial. Like factual witnesses, expert witnesses may be, and often are, involved both at the early stage of formulating the pleadings, and the subsequent stage of providing evidence for trial. Involvement at various stages is unsurprising, because both material facts and evidence are by their very nature *facts*, the difference being their materiality to the issues at hand (see [12(b)] above). It is therefore not possible to make a determination on whether a request is a request for expert evidence, simply by asking whether experts must be involved in answering the requests. What is required is, instead, a careful perusal of precisely what particulars are sought by the requests, and whether these are requests for material facts (which is permitted) or for expert evidence (which is not).

27 In my view, the Combination Requests are requests for material facts. The requests are framed so as to require the Defendant to identify the various combinations of prior art it intends to rely on to invalidate each claim in the Patents. The requests do *not* seek information on *how* each mosaic will be proven, or *how* a notional skilled person would mosaic the prior art. Given the large number of prior art cited, without the particulars sought, the Plaintiff would not know the case it has to meet on each of the claims that the Defendant sought to invalidate. The Plaintiff would conceivably be put through immense expense in responding to the numerous possible combinations.

28 The Defendant has not provided any particularisation whatsoever of the combinations it intends to rely on, and has instead merely stated that it will rely on "any and all combinations of the prior art", because the Plaintiff is asserting all permutations of the Plaintiff's infringement claims (see [18(b)] above). This argument appears to be an objection to the Combination Requests on the basis that the Plaintiff's own infringement claims raise the possibility of a large number of permutations. I would first observe that if the parties were to proceed on the understanding set out at [19(b)(ii)] above, the number of permutations of infringement to be considered may not be as large as the

Defendant has projected. In any event, the number of permutations of infringement is not a valid basis for resisting the Combination Requests. If the Defendant's objection is that the Plaintiff's claims are excessive or oppressive, the Defendant ought to consider the appropriate application to right any such alleged wrong. Such an application is *not* before me, and cannot be dealt with by way of SUM 2929, which is the Plaintiff's application for further and better particulars.

29 Although providing the particulars requested may substantially lengthen the pleadings, this is not a valid basis for denying the Combination Requests, given that they relate to material facts (see [12(c)] above). It of course remains possible that when made to particularise its pleadings, the Defendant may choose to plead every possible combination of prior art. Whether this is permissible or otherwise is, again, *not* an issue before me. I would only observe for now that pleadings are to be limited to material facts; and if the Defendant is of the view that every possible combination is material for trial, it is open to the Defendant to so plead. If the Plaintiff is of the view that the Defendant does not legitimately intend to rely on all the pleaded combinations, it may then consider taking any appropriate further action.

30 I therefore allow the Combination Requests. In the light of the large number of possible combinations of prior art, and having heard parties' views on the reasonable amount of time to be allowed for this exercise, I grant the Defendant eight weeks from the date of this judgment to provide the necessary particulars.

The Passage Requests

31 The Passage Requests are the Plaintiff's requests for the Defendant to pinpoint specific passages of certain prior art relied on by the Defendant. These requests each relate to specific paragraphs in the Particulars of Objection, and take the following form:

...

(b) For each combination containing the prior art [*name of prior art*], please specify the passage(s) therein relied on by providing page, paragraph and/or line numbers.

(c) For each combination containing the prior art [*name of prior art*], please specify the passage(s) therein relied on by providing page, paragraph and/or line numbers.

[*the same form is repeated for each asserted piece of prior art*]...

Parties' arguments

32 Plaintiff's counsel contended that sufficient information must be given to identify the part of the prior art which is relied on (citing *Singapore Civil Procedure* at paragraph 87A/3/5). Particularly in the case of complicated prior art, it may be necessary for the defendant to specify the pages and lines relied on (citing *Fowler v Gaul* (1886) 3 RPC 247 ("*Fowler*") and *Heathfield v Greenway* (1894) 11 RPC 17 ("*Heathfield*").

33 Defendant's counsel objected to the requests. She argued that O 87A r 3(3) of the Rules of Court only required the Defendant to provide particulars relating to the "manner, time and place" of every prior publication relied on, and that the Defendant had already provided these particulars. She further argued that a request to identify the page and line references in a piece of prior art should not be allowed (citing *Sidebottom v Fielden* [1891] RPC 266 ("*Sidebottom*") and *Holliday v Heppenstall* [1889] RPC 320 ("*Holliday*").

Decision

34 O 87A r 3(3) of the Rules of Court provides that all prior art relied on must be particularised, and for prior publications, the particulars must state the “manner, time and place” of the publication in question. However, O 87A r 3(3) of the Rules of Court is not phrased in a manner intended to be exhaustive of all the particulars that must be pleaded in relation to prior publications. It must be read in light of O 87A rr 3(1) and 3(2) of the Rules of Court, which require a party who challenges the validity of a patent to provide particulars that “will clearly define every issue which it is intended to raise”.

35 Of particular relevance to the Passage Requests is the observation in *Singapore Civil Procedure* at paragraph 87A/3/5 that:

As to anticipation by prior publication the time, name and place of the prior publication have always been ordered and *sufficient information must be given to identify clearly that part thereof which is relied on.* [emphasis added]

36 This proposition mirrors that in *Supreme Court Practice 1999* vol 1 (Vice-Chancellor Sir Richard Scott gen ed) (Sweet & Maxwell, 1998) (“*UK Supreme Court Practice 1999*”) at paragraph 104/6/7, and is well supported by the two English decisions cited by Plaintiff’s counsel, *viz*, *Fowler* and *Heathfield*.

37 In *Fowler*, the defendant alleged that the patent in question was invalid for lack of novelty, citing two prior patents and two prior provisional patents. The plaintiff sought particulars of the parts of the prior art relied upon. The defendant argued that it was sufficient to state the time and place of the prior publication. The court ordered the defendant to specify the diagram(s), paragraph(s) or line(s) relied on, and held that (*Fowler* at 250):

... [it would] really be unreasonable to fling at the head of the Plaintiff the two specifications alone, it being perfectly within the knowledge of the Defendant and not within the knowledge of the Plaintiff what parts he means really to rely on.

38 In *Heathfield*, the plaintiff sought particulars of prior art relied upon in the form of “pages and lines”. Defendant’s counsel objected on the basis that “the whole [of the previous specifications] is material” (*Heathfield* at 19, line 19). The court expressed disbelief that the entirety of the prior art cited were all anticipations, and held that it is “... very common form... to require further particulars describing the particular parts which are relied on as anticipations” (*Heathfield* at 19, lines 25-26). The court further observed that whether an application for particularisation of passages relied on would “depend a great deal on the nature of the particular [specification]”; for instance, an application might not succeed if the specification referred to “was a small matter of half a page” (*Heathfield* at 19, lines 26-31). The court did not accept the argument that the plaintiff could simply determine which part of the prior publications were relevant by reading them, opining that even if the prior publication “may not cover many sheets of paper”, it remains “a very heavy thing to have to analyse and deal with” (*Heathfield* at 19, lines 48-50).

39 As mentioned at [33] above, Defendant’s counsel cited *Holliday* and *Sidebottom* as counter-authorities. However, on closer reading, these cases in fact take similar positions to those taken in *Fowler* and *Heathfield*.

40 In *Holliday*, the court emphasised that the law on particularisation was intended to avoid a situation where a plaintiff is taken by surprise or put to enormous expense in preparation to meet all

possible arguments in relation to prior art (*Holliday* at 327, lines 15-26). On the facts, the court refused to require the defendants to state specific pages relied upon, for fear that this may unnecessarily burden and bind them in the event of omissions in the particularisation. However, it is pertinent to note the court's observation that a defendant would have provided sufficient particulars by "[stating] the nature of the anticipation they rely on, or *what part of the [prior patent] they rely on as an anticipation*, ... unless there is something more... [that makes what] they intend to rely upon doubtful" (emphasis added) (*Holliday* at 327, lines 44-48). As such, read holistically, the court appears to have agreed that the touchstone in each case is whether the particularisation provided was sufficient to allow the plaintiff to know what the alleged anticipations were, and that while there may not be a need to descend into particular pages, it is nonetheless necessary for the defendant to specify the "part" of the prior art relied upon.

41 In *Sidebottom*, the court dismissed the plaintiff's request for specifying passages, it held that at a preliminary stage, the court ought not "prevent the [defendant] trying his case in such a way as he is advised and believes and think that he ought to have his case put before the Court" (*Sidebottom* at 272, lines 6-10); and that it was neither "necessary" nor "right" to request "a division by line or page" (*Sidebottom* at 270, lines 39-43). However, the decision must be read in context, taking into consideration the two points below:

(a) First, the court had distinguished the case at hand from the decisions of *Fowler* and *Holliday*, because the defendant in *Sidebottom* did not "[throw] at the head" of the plaintiff a large number of specifications without providing any detail (*Sidebottom* at 270, lines 21-25). Indeed, in *Sidebottom*, the defendant had specified "line to line and page to page the particular passages on which he relies" (*Sidebottom* at 270, lines 27-29) for many pieces of prior art relied upon. In relation to the four pieces of prior art for which particulars were sought, two pieces were "reasonably short" such that it "could not [cause] any reasonable difficulty in the mind of any person conversant with matters of that kind"; indeed, one of the pieces was "only one page", and "so short that it speaks for itself" (*Sidebottom* at 270, lines 33-42). While the remaining two pieces were more complicated, there was no evidence that the plaintiff had any difficulty in understanding them; on the contrary, there was evidence that it would cause great embarrassment to the defendant if the defendant were made to particularise further (*Sidebottom* at 270-272).

(b) Second, the court found that the defendant had carefully considered the asserted prior art and decided that it truly intended to rely on the whole piece of prior art, *viz*, that "it may be essential... to go through every line, and rely upon every line of those [specifications]" (*Sidebottom* at 272, lines 16-21).

42 As such, neither *Holliday* nor *Sidebottom* detract from the general approach suggested in *Fowler* and *Heathfield*.

43 For completeness, the approach taken in Canada appears to be similar to that taken in the UK. In Canada, it is "generally accepted" that a defendant must "[i]dentify the portions of the prior art, especially where the invention is complex" (*Throttle Control* at [13(b)]).

44 The principles gleaned from the quartet of 19th Century English decisions and *Throttle Control* may thus be summarised as follows. A defendant may be ordered to particularise the specific passages of prior art that he wishes to rely on. However, whether such particulars will be ordered and the extent of specificity required depends on the nature (*eg* type, length, complexity, *etc*) of the prior art in question. The briefer and simpler the prior art in question, the less likely that a defendant will be required to particularise the specific passages relied upon; conversely, the lengthier and more

complex the prior art, the more likely that a defendant will be required to provide greater specificity. This is consistent with, and indeed a logical extension of, the purpose of particularisation: to allow a plaintiff to be aware of the case he has to meet, and to reduce the costs and time needed to prepare for trial and for the trial itself (see also [24] above).

45 I turn now to the Passage Requests. These requests are limited to particulars of specific passages relied on in eight pieces of prior art, each of which exceeded 22 pages in length (see [10] above). In the light of the principles espoused above, the Passage Requests are reasonable and ought to be granted. It is insufficient for the Defendant to merely list these lengthy pieces of prior art, without further specificity on the parts thereof relied on. I therefore allow the Passage Requests.

The Commercial Success Requests

46 The Commercial Success Requests are the Defendant's requests for the Plaintiff to provide particulars of the alleged commercial success of the '872 patent. The Defendant sought the following particulars:

(i) Where the commercial success relates to article(s) or product(s), including but not limited to the alleged products which are used in optical and mechanical applications:-

a. A specific identification of all and each such article or product which the Plaintiff asserts has been made in accordance with the claims of the '872 Patent, specifying the article or product that was made for use in optical applications and that was made for use in mechanical applications;

b. A summary by convenient periods of sales of each such article or product;

c. A summary for the equivalent periods of sales, if any, of all and each equivalent prior article or product sold/marketed before the article or product mentioned in sub-paragraph (i) (a); and

d. A summary by convenient periods of any expenditure on advertising and promotion which supported the marketing (for sale or otherwise) of the articles or products mentioned in sub-paragraphs (i)(a) and (i)(c).

(ii) Where the commercial success relates to the use of a process, including but not limited to the process, if any, that synthesized the alleged products which are used in optical and mechanical applications:-

a. A specific identification of the process, including but not limited to growth, post process annealing, cutting, shaping, polishing, doping, irradiation and/or any intentionally imposed conditions, the patentee asserts has been used in accordance with the claims of the '872 Patent;

b. A summary by convenient periods of the revenues received from the use of such process;

c. A summary for the equivalent periods of the revenues, if any, received from the use of any equivalent prior process; and

d. A summary by convenient periods of any expenditure which supported the use of the

process mentioned in subparagraphs (ii)(a) and (ii)(c).

Parties' arguments

47 Defendant's counsel cited O 87A r 3(5) of the Rules of Court as the justification for the Commercial Success Requests. O 87A r 3(5) of the Rules of Court provides as follows:

Objections to validity of patent (O. 87A, r. 3)

...

(5) In any action or other proceedings relating to a patent in which the validity of the patent has been put in issue on the ground of obviousness, a party who wishes to rely on the commercial success of the patent must state in his pleadings the *grounds* upon which he so relies.

...

[emphasis added]

48 She argued that the Commercial Success Requests fell within the ambit of the "grounds" referred to in O 87A r 3(5) of the Rules of Court, and are the "bare minimum particulars" that must be provided in order to fully plead such "grounds". She cited the following authorities to buttress her argument:

(a) First, *Singapore Court Practice 2017* (Jeffrey Pinsler gen ed) (LexisNexis, 2017) ("*Singapore Court Practice*") at paragraph 87A/3/2:

... [a patentee relying upon the commercial success of his invention] must plead the grounds upon which he so relies. The word 'grounds' in O 87A r 3(5) *does not merely refer to identifying the product and setting out the number of sales*. It has been held that the patentee is required to identify the defect in the prior art (if any), how it was overcome, whether long-felt want was sought to be established and, if so, how it was to be established (*John Deks v Azler Washer* [1989] RPC 413; see also *Muhlbauer AG v Manufacturing Integration Technology Ltd* [2010] 2 SLR 724 (CA), at [104]-[107]... where the Court of Appeal makes important observations on the role of commercial success in patent disputes).
... [emphasis added]

(b) Second, the English decision of *John Deks Limited v Aztec Washer Company* [1989] RPC 413 ("*John Deks*"). Defendant's counsel contended that the particulars ordered in *John Deks* were no different from the particulars sought in the Commercial Success Requests, and indeed, the court in *John Deks* went even further to order particulars despite the plaintiff having already provided a schedule of the sales of the plaintiff's patented product. Defendant's counsel also cited *Schlumberger Holdings Ltd v Electromagnetic Geoservices AS* [2010] EWCA 819 ("*Schlumberger*"), where the English Court of Appeal set out a detailed and non-exhaustive list of matters that are relevant to a commercial success claim. These related to defects in prior art and long-felt want (*Schlumberger* at [80]). Although *Schlumberger* was not concerned with what "grounds" ought to be pleaded, Defendant's counsel submitted that the fact that these matters are necessary for succeeding in a claim of commercial success, must mean that they are material facts which must be pleaded.

(c) Third, the relevant pleading precedent in *Bullen & Leake & Jacob's Singapore Precedents of Pleadings* (Jeffrey Pinsler SC gen ed) (Sweet & Maxwell, 2016) ("*Singapore Precedents of Pleadings*"). Defendant's counsel submitted that the Commercial Success Requests should be allowed as they mirrored the first four sets of particulars in the relevant precedent (*Singapore Precedents of Pleadings* at 995):

4. Without prejudice to the general denial that the patent is invalid on the grounds of obviousness alleged or at all, the Plaintiff will rely upon the commercial success of the invention the subject matter of the patent, [both in Singapore and abroad].

Particulars

(1) *The Plaintiff's [products bearing the product codes or process used to manufacture [product]] since [date] were made in accordance with the claims of the Patent.*

(2) *A summary of [the sales of each such product or the annual revenues received by the Plaintiff from the use of the process] is set out in the Schedule [A] annexed hereto for each year since [date].*

(3) *A summary of sales for the [equivalent product marketed before the patented products or prior equivalent process used by the Plaintiff to manufacture [product]] is set out in Schedule [B] annexed hereto.*

(4) *A summary of the Plaintiff's expenditure which supported the [marketing of the products or process] mentioned is contained in Schedule [C] annexed here to.*

(5) The defects in the existing art were [particulars]. These defects were overcome by the Patent by [particulars].

(6) As to the existence of long felt want, the Plaintiff will rely upon [particulars].

[emphasis added]

49 Plaintiff's counsel objected to the Commercial Success Requests on the basis that these requests sought information that was, pursuant to the Rules of Court, properly intended for the discovery stage. He pointed out that the Commercial Success Requests sought precisely the same information required in the schedule mentioned in O 87A r 5(3) of the Rules of Court ("the O 87A r 5(3) schedule"). As such, allowing the requests would render O 87A r 5(3) of the Rules of Court nugatory. He also emphasised that, in any event, the Plaintiff had already provided the Defendant with the O 87A r 5(3) schedule, and therefore that the Defendant already had the necessary information on hand.

50 Defendant's counsel counter-argued that there was a functional difference between discovery and particulars. Specifically, the latter would tie the hands of the pleading party and prevent him from going into matters not pleaded. As such, despite the fact that the O 87A r 5(3) schedule had already been provided, this did not absolve the Plaintiff of the need to provide the information by way of particulars. Defendant's counsel further submitted that the Commercial Success Requests should be granted, in view that the Plaintiff's O 87A r 5(3) schedule was insufficient (for failing to show the sales of the Plaintiff's products prior to 2005 and the money spent on advertising the Plaintiff's products).

Decision

51 In determining whether the Commercial Success Requests should be ordered, it is necessary to consider the scheme relating to the provision of information on commercial success, as envisaged in O 87A rr 3(5) and 5 of the Rules of Court.

52 I first briefly sketch the discovery regime established by O 87A r 5 of the Rules of Court ("the Commercial Success Discovery Regime"). In essence, documents relating to commercial success are exempted from the usual general discovery process (O 87A r 5(1) and (2) of the Rules of Court). Instead, such documents only have to be stated in the O 87A r 5(3) schedule. The relevant provisions are as follows:

Discovery of documents (O. 87A, r. 5)

5.—(1) Order 24 shall apply in an action for infringement of a patent or a declaration of non-infringement of a patent or any proceedings where the validity of a patent is in issue, except that documents from the exempt classes shall not be listed.

(2) The exempt classes are —

...

(c) documents relating to the issue of commercial success.

(3) Where the issue of commercial success arises in any proceedings specified in paragraph (1), the proprietor of the patent shall serve a schedule containing the following details:

(a) where the commercial success relates to an article or product —

(i) an identification of the article or product (for example by product code number) which the proprietor asserts has been made in accordance with the claims of the patent;

(ii) a summary by convenient periods of sales of any such article or product;

(iii) a summary for the equivalent periods of sales, if any, of any equivalent prior article or product marketed before the article or product mentioned in sub-paragraph (i); and

(iv) a summary by convenient periods of any expenditure on advertising and promotion which supported the marketing of the articles or products mentioned in sub-paragraphs (i) and (iii);

(b) where the commercial success relates to the use of a process —

(i) an identification of the process which the proprietor asserts has been used in accordance with the claims of the patent;

(ii) a summary by convenient periods of the revenues received from the use of such process;

(iii) a summary for the equivalent periods of the revenues, if any, received from the

use of any equivalent prior art process; and

(iv) a summary by convenient periods of any expenditure which supported the use of the process mentioned in sub-paragraphs (i) and (iii).

53 I next turn to consider the ambit of the “grounds” referred to in O 87A r 3(5) of the Rules of Court. The Rules of Court do not elaborate on what the required “grounds” are, and there is no Singapore case authority on this point. The only case authority submitted to me was that of *John Deks*, which has also been cited in *Singapore Court Practice* (see [48(a)] above). *John Deks* is *prima facie* of persuasive value, given that the decision was premised on the English precursor to O 87A r 3(5) of the Rules of Court (*viz*, O 104 r 6(5) of the UK Rules of the Supreme Court (“UK RSC”).

54 In *John Deks*, the defendants requested for particulars of the plaintiff’s commercial success claim. The plaintiff provided a schedule of the “best record of such sales at present available to the plaintiffs and examples of the plaintiffs’ said products are available for inspection...” (*John Deks* at 414). Dissatisfied with this, the defendant sought further and better particulars relating to alleged defects in the prior art, as well as the plaintiff’s claim that a long-felt want had been answered by the plaintiff’s products. The requests made were as follows:

- (1) State whether it is alleged that the alleged commercial success is due to the fact that the patented product overcame some defect in the prior art and if so, what that defect was.
- (2) Specify what attributes of the patented product it is alleged overcame the alleged defect if any.
- (3) State whether it is alleged that there was a demand in the United Kingdom at or before the priority date of the patent in suit for seal devices which overcame this defect, and if so, give particulars of all facts and matters relied on in support of such allegation and identify all material documents.
- (4) If it is alleged that such demand existed, state how long it is alleged that such demand existed before the priority date of the patent in suit, giving particulars of all facts and matters relied on in support of such allegation and identifying all material documents.

55 The court allowed these requests and ordered the plaintiff to furnish the relevant particulars. In arriving at its decision, the court stated that a commercial success pleading required “more than just setting out the sales and identifying the products”; specifically, the pleading should identify the patentee’s case (*John Deks* at 416):

... with sufficient particularity to enable the defendants to know the case they have to meet and in particular what is the defect, if there be one, how it was overcome and whether long-felt want is being sought to be established and, if so, how the plaintiffs are going to say they are going to establish it.

56 On its face, the decision of *John Deks* appears to suggest that identification of products and setting out sales and expenditure on advertising should generally be granted, or, as Defendant’s counsel put it, a “bare minimum” (see [48] above). Indeed, the court had gone further, to require particularisation of any alleged defects in the prior art and any claim relating to a long-felt want being answered by the plaintiff’s products.

57 However, the analysis is not quite as straightforward. At the time *John Deks* was decided (*ie* 12

December 1988), the English precursor to Singapore's Commercial Success Discovery Regime had not yet been introduced.

58 It was only *subsequent* to the decision in *John Deks*, on 1 October 1995, that the UK RSC was amended to introduce the Commercial Success Discovery Regime (*ie* O 104 rr 11(2)(c) and 11(3) of the UK RSC, which are the English precursors to O 87A rr 5(2)(c) and 5(3) of the Rules of Court). The Regime was introduced to address the problem of potentially prolix discovery in relation to commercial success, which is brought about by the fact that virtually every commercial document produced relating to a product or process may be relevant to the success of that product or process (see *Civil Procedure 2016* at paragraph 2F-10.4; for an illustration of voluminous discovery potentially required in relation to commercial success prior to the introduction of the Commercial Success Discovery Regime see, *eg*, *Molnycke A B and Another v Procter & Gamble Ltd and another* [1990] RPC 498). Limiting discovery to the matters specified in the schedule would save considerable time and expense (see, *eg*, *Lilly Icos Limited v Pfizer Limited* [2002] EWCA at [14]). Today, a similar Commercial Success Discovery Regime continues to apply under the UK Civil Procedure Rules (Practice Direction 63 paragraphs 6.1(3) and 6.3).

59 The Commercial Success Discovery Regime has been described by commentators as envisaging a framework within which there is *distinct and detailed* particularisation of issues relating to commercial success, but *limited* discovery of material relevant hereto (see, *eg*, *UK Supreme Court Practice 1999* at paragraphs 104/6/10 ("in many cases... [discovery will] be replaced by much more detailed pleadings") and 104/11/1 ("[discovery as to commercial success] will not be given, but instead detailed particulars must be given by the party alleging it").

60 However, the question that remains is this: what is the ambit of "grounds" in O 87A r 3(5) of the Rules of Court, subsequent to the introduction of the Commercial Success Discovery Regime?

61 To the extent that the court in *John Deks* could be understood as having accepted that product identification and setting out the number of sales should be particularised (although this was not actually in issue before the court, given that those information had already been provided by the plaintiff – see [54] above), this proposition must now be considered in the light of the Commercial Success Discovery Regime.

62 As a matter of logic and statutory interpretation, the "grounds" in O 87A r 3(5) of the Rules of Court should not be interpreted to require information that is identical to the information required in the O 87A r 5(3) schedule; otherwise, O 87A r 5(3) of the Rules of Court would be rendered otiose. Instead, the "grounds" referred to in O 87A r 3(5) of the Rules of Court should be interpreted to relate to other important matters that ought to be pleaded in relation to a commercial success claim, including, for instance, particulars relating to defects in prior art and long-felt want. These were, indeed, the precise particulars that the court in *John Deks* was concerned with. The factors enumerated in *Schlumberger* also related to defects in prior art and long-felt want (*Schlumberger* at [80]). Such particulars are also captured at paragraphs 5 and 6 of the relevant pleading precedent in *Singapore Precedents of Pleadings* (see [48(c)] above).

63 In view that the Commercial Success Requests are targeted entirely at material properly reserved for discovery pursuant to O 87A r 3(5) of the Rules of Court, I disallow the Commercial Success Requests. For completeness, I will also address Defendant's counsel's submission that the Plaintiff's O 87A r 5(3) schedule did not provide sufficient information (see [50] above). The sufficiency of the Plaintiff's O 87A r 5(3) schedule is *not* before me, as SUM 2935 relates to the Defendant's application for further and better particulars. The provision of particulars is not an appropriate avenue for supplementing or supplanting allegedly defective discovery.

Conclusion

64 For the foregoing reasons, I allow the Combination Requests and the Passage Requests, and disallow the Commercial Success Requests.

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