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**Datasheet for the decision
of 5 May 2023**

Case Number: T 1946/21 - 3.2.03

Application Number: 14824211.8

Publication Number: 3077606

IPC: E04H4/00, A61H33/02

Language of the proceedings: EN

Title of invention:

INFLATABLE POOL

Patent Proprietor:

Intex Recreation Corp.

Opponents:

Bestway Europe S.p.a.
Bestway Deutschland GmbH

Relevant legal provisions:

EPC Art. 54(2), 56, 87
EPC R. 131(1)
RPBA 2020 Art. 13(2), 14, 15a(2)
Paris Convention Art. 4A(1)

Keyword:

Novelty - main request (yes)

Inventive step - ex post facto analysis - main request (yes) -
formulation of the technical problem

Priority - transfer of priority right - partial priority (yes)
- validity of priority date (yes)

Amendment after summons - exceptional circumstances (no) -
taken into account (no)

Decisions cited:

G 0010/91, G 0001/94, G 0004/95, G 0002/98, G 0001/15,
G 0001/22, G 0002/22, T 2221/10, T 0577/11, T 1496/11,
T 1201/14, T 2764/19

Catchword:

1. For the question of whether the applicant is "successor in title" within the meaning of Article 87(1) EPC, it is sufficient for the applicant or patent proprietor to demonstrate that the assignment of the priority right was effective before the subsequent application was filed. The law does not set forth any other condition. In particular, the assignment need not be effective before the filing date of the subsequent application. (see point 2.3).

2. In the context of in-person oral proceedings, a request of a party for a hybrid format to allow the representatives to attend the hearing in person and other attendees to attend remotely should normally be granted only if the participation of the person for whom the access by means of videoconferencing technology has been requested is related to a person whose participation in the oral proceedings is relevant to the case, in particular to the decision to be taken at the oral proceedings (see point 1.).



Beschwerdekammern

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Case Number: T 1946/21 - 3.2.03

D E C I S I O N
of Technical Board of Appeal 3.2.03
of 5 May 2023

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Decision under appeal: **Decision of the Opposition Division of the European Patent Office posted on 24 August 2021 rejecting the opposition filed against European patent No. 3077606 pursuant to Article 101(2) EPC.**

Composition of the Board:

Chairman C. Herberhold
Members: R. Baltanás y Jorge
 F. Bostedt

Summary of Facts and Submissions

- I. European patent No. 3 077 606 B1 relates to an inflatable pool.
- II. An opposition was filed against the patent under Article 100(a) EPC in conjunction with Article 56 EPC.
- III. This appeal is against the Opposition Division's decision to reject the opposition.
- IV. The opponent (the appellant) appealed against this decision with notice of appeal dated 15 October 2021.

During the appeal proceedings, an intervention under Article 105 EPC was filed by letter dated 25 April 2022. The new party to the proceedings (the intervener) raised objections under Article 100(a) EPC in conjunction with Articles 54 (a fresh ground for opposition) and 56 EPC. Acceleration of the appeal proceedings was also requested.
- V. In a communication pursuant to Article 17 of the Rules of Procedure of the Boards of Appeal (RPBA 2020) dated 11 May 2022, the Board announced its decision to accelerate the appeal proceedings of its own motion in line with its discretion under Article 11(5) RPBA 2020.
- VI. By letter dated 13 September 2022, the patent proprietor (the respondent) requested that the appeal proceedings be stayed until the Enlarged Board issued a decision in cases G 1/22 and G 2/22.
- VII. In a communication pursuant to Article 17 RPBA 2020 dated 21 September 2022, the Board announced its

preliminary opinion that the respondent's request for a stay of the proceedings could not be granted.

- VIII. In a communication pursuant to Article 15(1) RPBA 2020 annexed to the summons of 12 December 2022, the Board indicated its preliminary opinion on the case.
- IX. In a communication pursuant to Article 17 RPBA 2020 dated 21 February 2023, the Board informed the parties that, in spite of the appellant's and the intervener's request to hold the oral proceedings in hybrid form so that the representatives could attend the hearing in person and other attendees could attend it remotely, it had decided to maintain the format in which the oral proceedings had been arranged on 12 December 2022, i.e. oral proceedings in person.

Oral proceedings were held on 5 May 2023.

X. Requests

The appellant and the intervener requested that the decision under appeal be set aside and that the patent be revoked. The appellant also requested that none of the auxiliary requests be admitted or held allowable.

The respondent requested that the appeal be dismissed and the intervention be rejected. Alternatively, the respondent requested that the patent be maintained on the basis of one of the auxiliary requests as listed in point 5.3 of the Board's communication in preparation for the oral proceedings.

XI. Claim 1 of the main request (i.e. as granted), including the numbering of its features as adopted by the parties, reads as follows:

- F1** *An inflatable pool (100) comprising:*
- F2** *a top wall (10);*
- F3** *a bottom wall (20);*
- F4.1** *an inner side wall (106) and an outer side wall (108), wherein the outer side wall (108) surrounds the inner side wall (106);*
- F4.2** *and wherein the top wall (10) is connected to the top of the inner side wall (106) and the top of the outer side wall (108), the bottom wall (20) is connected to the bottom of the inner side wall (106) and the bottom of the outer side wall (108),*
- F4.3** *and an inflatable air chamber (110) is defined by the top wall (10), the bottom wall (20), the inner side wall (106) and the outer side wall (108);*
- F5.1** *and wherein, the pool (100) also comprises a plurality of laminated elements (120) arranged in the air chamber (110) in an array manner and connected to the inner side wall (106) and the outer side wall (108),*
- F5.2** *and wherein the laminated elements (120) each comprise a first layer of a pattern of crossed fibers (130) and an attaching layer (132) to which the first layer is attached.*

XII. The auxiliary requests play no role in the present decision.

XIII. Prior art

The following documents, cited both in the statement setting out the grounds of appeal and during the opposition proceedings, are relevant to this decision:

- D1: US 5,924,144
- D2: US 2004/0040082 A1
- D3: CN 2064797 U
- D3': English translation of D3
- D4: CN 202051615 U
- D4': English translation of D4
- D5: US 6,571,405 B1
- D6: CN 2676755 Y
- D6': English translation of D6 dated 30 May 2016
- D7: "Air-Inflated Fabric Structures", Naval Undersea Warfare Center Division Newport, Rhode Island, 2006
- D8: "Roark's Formulas for Stress and Strain", eighth edition, McGraw Hill
- D9: US 6,588,028 B1
- D10: CN 202151339 U
- D10': English translation of D10
- D11: EP 0 152 536 A2

The following documents filed by the appellant for the first time with its statement setting out the grounds of appeal are relevant to this decision:

- D6.2: English translation of D6 dated 15 December 2021
- D19.1: Brochure "2003 Bestway"
- D19.2: Brochure "2011 Bestway Summer Collection"
- D19.3: Brochure "Intex 2002 Inflatables"

- D19.4: Brochure "Summer'2010 Inflatable Toys Section"
- D19.5: Brochure "2011 Summer by Polypool"
- D19.6: Brochure "Sevylor Season 2000"
- D19.7: Brochure "Blue Toy 2008"
- D19.8: Brochure "2010 Leisure Products"
- D19.9: Brochure "Bubble 2012"
- D19.10: Brochure "Above Ground Pools 2011"
- D19.11: Brochure "Intex 2007"
- D27: Printout from Wikipedia dated 25 March 2022,
"Faserverbundwerkstoff"
- D28: JP H03 13669 A
- D28.1: English translation of D28
- D29: CN 203 583 938 U (granted utility model of
application CN 201320796506 U)
- D29.1: English translation of D29

The documents cited immediately above were also filed by the intervener with its notice of intervention.

The appellant and the intervener filed the following documents for the first time with their letter - sent by their common representative - dated 30 March 2023:

- D55: WO 2013/130117 A1
- D56: GB 1915 15424 A
- D57: "Plasmonic induced transparency in a coupled system composed of metal-insulate-metal stub and trapezoid cavity resonator", Pengfei Zheng et al., Elsevier, © 2017
- D58: CA 2 634 218 A1

XIV. The appellant and the intervener were represented by the same professional representatives. Thus, the arguments put forward by these parties concerning the

main request will be presented together. They can be summarised as follows.

(a) Request for hybrid format

Oral proceedings in hybrid format were requested to facilitate the participation of attendees based in various countries while at the same time allowing the Board to physically consult some originals corresponding to the prior art documents D19.1 to D19.11.

(b) Novelty, D29 - Priority right of claim 1

The right to priority had not been validly transferred to the respondent; moreover, G 1/15 did not apply in the case in hand. Therefore, the respondent was not entitled to claim priority from the CN'506 application (D29, granted as CN 203 583 938 U).

According to the case law of the boards of appeal and the Guidelines for Examination in the EPO (A-III, 6.1), the assignment of the priority right to an applicant had to be effective before the filing date of the subsequent application.

Thus, any agreement to that effect must have been concluded before the filing date (see T 1201/14, Reasons 3.1.3) because the smallest time unit under the EPC is a day (see e.g. Rule 131(1) EPC in respect of the calculation of time periods). Applying smaller time units than a day would inevitably result in unequal treatment of applicants, for example of applicants who file by mail or by hand delivery when the exact filing "time" during the day cannot be determined. The Board in T 577/11, Reasons 6.5.4, held that it was less clear

whether the latest day on which the succession in title has to have occurred was the day before the filing of the subsequent application or whether that date was still included. However, since that decision also confirms that the smallest time unit under the EPC is a day, the only logical conclusion was that transferring the priority right on the day the subsequent application is filed is too late to fulfil the requirement of "before the filing". In addition, the Guidelines for Examination have consistently provided that the transfer must have taken place before the filing date. There was thus a legitimate expectation in this respect.

This was also in line with German case law, which considered that a "day" was the smallest time unit to be used in patent law (see BPatG 11 W (pat) 14/09).

In addition, the principles of legal certainty and equality of rights conflicted with the possibility of transferring the right to priority on the day the subsequent application is filed, since this would mean that an applicant might or might not rely on that right depending on the data provided by a patent office when it receives a filed application.

Therefore, as the written agreement had only been signed on the filing date, the priority was not validly claimed and the effective date of claim 1 was the filing date of the subsequent application.

Moreover, no partial priority of claim 1 could be acknowledged in the light of the decision of the Enlarged Board of Appeal in case G 2/98 since claim 1 encompassed an extremely large number of alternatives

and since claim 1 as granted did not correspond to a "generic 'OR'-claim" within the meaning of G 1/15.

Thus, document D29 - the priority document from which priority had not been validly claimed - became novelty-destroying.

(c) Inventive step, D29 as the closest prior art -
Admittance

The line of attack on the grounds of lack of an inventive step based on D29 as the closest prior art had already been raised with the appellant's letter dated 14 October 2022. This letter was in reply to the notice of intervention, which had introduced document D29 into the proceedings. The heading of point 7 in the appellant's letter mentioned this line of attack, and points 7.2 and 7.3 provided substantiation for it, based on the patent proprietor's arguments in its reply to the notice of intervention. It would be purely formalistic to discuss whether a combination starting from either D29 or the common general knowledge had been raised in this letter since the fundamental point was that the skilled person was well aware of the fact that pools of different shapes existed. This resulted in a simple and straightforward objection that was *prima facie* relevant since there was no teaching in D29 of any advantage related to an annular shape of the pool. The further submissions dated 30 March 2023 were not an amendment to this but merely additional arguments relating to the line of attack - which had been filed in a timely manner.

Furthermore, the special status of the intervener as an opponent justified its being allowed to file new objections just as it would have been allowed to do

during opposition proceedings, in line with Article 14 RPBA 2020. Moreover, before the oral proceedings the respondent had not argued that the line of attack based on D29 had not been substantiated in the letter dated 14 October 2022.

(d) Inventive step, D28 combined with D6 or D55 -
Admittance

The line of attack based on the combination of D28 with D6 had been introduced with the notice of intervention (page 52, item 11). Even though D6 had erroneously not been explicitly listed on page 54, last paragraph as one of the combination documents, the reference to point 7.3 rendered it obvious that such combination was indeed intended. Moreover, this had been clarified with the intervener's letter dated 4 November 2022 through the inclusion of a list of lines of attack that explicitly mentioned the corresponding combination (see point 5.1 of that letter).

Concerning the combination of D28 with D55, the latter had been filed in reply to the new objective technical problem introduced by the Board in its preliminary opinion.

Paragraph [0043] of the patent specification could not have anticipated this objective technical problem since it dealt with tensioning elements as such and not with laminated elements comprising cross-fibres - i.e. the distinguishing features with respect to D28. Thus, the problem mentioned in this paragraph was not foreseeable as an objective technical problem in this context.

Lastly, even if the problem considered by the respondent in its reply were similar to the new one

introduced by the Board, the appellant and the intervener had counted on the fact that it was obviously not the correct one, and therefore it had been surprising that the preliminary opinion had followed such an approach.

(e) Inventive step, D28 combined with common general knowledge or D6

The subject-matter of claim 1 did not involve an inventive step in view of the combination of D28 with the common general knowledge or with D6.

The subject-matter of claim 1 differed from D28 on account of feature F5.2 (the laminated elements each comprising a first layer of a pattern of crossed fibers and an attaching layer to which the first layer is attached). D28 disclosed hanging parts (6) with no crossed fibers.

The technical effect of the distinguishing features was to increase the strength of the hanging parts in order to withstand higher internal pressures. According to the usual development of the problem-solution approach, the objective technical problem was how to achieve this technical effect, namely how to improve the strength of the hanging parts in order to withstand higher internal pressures. No element of the solution had been included in this objective technical problem, so it was not tainted by an *ex-post facto* approach. Moreover, the problem was commensurate with the distinguishing features since D28 disclosed the hanging parts, which already allowed for a more stable structure of the pool. Therefore, formulating a broader objective technical problem was not justified.

The solution to the technical problem addressed was obvious since it belonged to the common general knowledge as represented by D27 (disclosing the general use of composite materials), D2 (Figure 5 and paragraph [0019]), D5, D8, D9 (mesh (5512) in Figure 6), D11 (page 5, lines 23 to 26), D19.2, D19.11 or D19.9.

Alternatively, the skilled person would find the solution to the problem addressed in D6. This document concerned the problem addressed - even if indirectly - since it focused on how to better attach internal elements to the external walls of an inflatable structure to prevent them breaking owing to tension. As a solution, D6 disclosed providing a PVC sheet attached to a fiber mesh. By implementing this solution, the skilled person would get a "bonus effect" of increased strength of the hanging parts (see last passage of D6.2).

Even if the objective technical problem were as proposed by the Board, D28 focused on solving it (see lines 1 and 2 on page 3 of D28.1) and provided the hanging parts (6) as a solution (see second sentence on page 5 of D28.1). Further improving the hanging parts by increasing their strength by means of a well-known laminated material was also an obvious solution to this objective technical problem.

Concerning the alleged disadvantages asserted by the respondent relating to the inclusion of fibers in the hanging parts of D28, document D28 did not focus on the folding of the pool or any other aspect which would be affected by the presence of the fibers. Furthermore, fibers did not prevent folding in general, as proved by their being provided in the straps of D6.

Analogous lines of attack starting from other pieces of prior art (D1, D3, D4 or any of D19.1 to D19.11), from which the subject-matter of claim 1 differs on account of the same distinguishing features, likewise led to the conclusion that the subject-matter of claim 1 did not involve an inventive step.

(f) Inventive step, D10 in the light of D56, D57 or D58
- Admittance

Documents D56, D57 and D58 had been filed to substantiate the common understanding of the expression "bottom" and did not constitute an amendment to the case.

(g) Inventive step, D10 in combination with D6

The subject-matter of claim 1 did not involve an inventive step with regard to the combination of D10 with D6 either.

Contested claim 1 was to be interpreted in a broad way. In particular, the word "connected" in feature F4.2 did not mean that the top wall, inner side wall, outer side wall and bottom wall were separate elements. This was confirmed by the two different uses of the word "connected" in the patent specification. When dealing with the connection of internal elements to the side walls, the patent specified the techniques for this purpose in detail (paragraphs [0035] and [0037]). However, when disclosing the connection among the elements listed in feature F4.2, it did not disclose any coupling technique.

The "*exploded perspective view*" of Figure 1 of the patent (see paragraph [0027], Figure 1) showed elements

which had been subdivided according to a usual approach applied for such "exploded views". This was evident when considering Figures 24 and 31 of the patent, which did not show any seam, kink or other sign of delimitation between elements of each pair.

Interpreting the features of claim 1 in the light of the description was justified since "connected" was a broad term. The lack of clarity of such wording was obvious in view of the debate it had caused during the proceedings.

Document D10 disclosed four elements corresponding to the top wall, inner side wall, outer side wall and bottom wall (see third paragraph from the bottom on page 4), in the same way as the patent. Figure 1 even disclosed a line dividing the bottom wall from the inner side wall.

Consequently, the only distinguishing feature was the "attaching layer" of feature F5.2. Therefore, the objective technical problem was how to improve the connection between the vertical draw tapes and the external walls. The skilled person found a solution in D6 (see page 4 of D6') and would implement it in D10 in an obvious manner to solve the problem addressed.

XV. The respondent's arguments concerning the main request can be summarised as follows.

(a) Request for hybrid format

The proprietor did not comment on the other parties' request to hold the oral proceedings in a hybrid format.

(b) Novelty, D29 - Priority right of claim 1

Claim 1 as granted was entitled to the partial priority of D29 by virtue of the principles established in G 1/15.

Article 87(1)(b) EPC granted the priority right to the "successor in title" without defining any further requirements as to how this status was achieved. This encompassed successors in title which only became such on the last possible day on which the subsequent application could be filed. If, after having acquired their status, these successors in title were unable to enjoy the right to priority when filing the subsequent application on the last possible day, they would be deprived of their legitimate right without good reason.

No explicit statement could be found in the case law supporting the alleged obligation to have become successor in title at least on the day before the subsequent filing. This question was not decisive in case T 1201/14 cited by the appellant and the intervener. The German decision in which the "day" was mentioned as the smallest time unit was merely an isolated first-instance decision of the Federal Patent Court of Germany. The modern world had the capacity to determine the time of filing events exactly, in particular in view of the generally available possibility of filing applications online. This did not jeopardise legal certainty or equality of rights since all parties could resort to this resource when exercising their rights in their different roles.

D29 disclosed a part of the subject-matter defined in claim 1 as granted (namely laminated elements arranged vertically in an annular array), and everything

encompassed by claim 1 as granted which did not correspond to said part was the alternative subject-matter encompassed by the "generic 'OR'-claim" within the meaning of G 1/15. The interpretation of the features of claim 1 as granted was completely unrelated to this. For every part disclosed in D29, claim 1 as granted thus enjoyed the priority, and for every part not disclosed in D29, the document was not novelty-destroying, so the entirety of the claimed subject-matter was indeed novel over D29.

(c) Inventive step, D29 as the closest prior art -
Admittance

The letter dated 14 October 2022 did not provide any substantiation for the line of attack starting from D29. Point 7.2 of this letter merely repeated what the respondent had argued when replying to the question of what D29 directly and unambiguously disclosed. These arguments - taken out of context from the respondent's reply to the intervention dated 28 September 2022 - could not explain what the common general knowledge was. Furthermore, the letter did not specify the technical effect of the distinguishing features, the objective technical problem to be solved or the reasons why the skilled person would solve that problem in the claimed way.

Moreover, the line of attack was not *prima facie* relevant since the skilled person would have to go against the explicit teaching of D29, which consisted of an annular pool. The appellant had not provided any reasons why this would be the case.

The amendments filed with the letter of 30 March 2023 were not to be admitted pursuant to Article 13(2) RPBA 2020 for being late-filed.

(d) Inventive step, D28 combined with D6 or D55 -
Admittance

The line of attack combining D28 with D6 had not been raised either in the statement setting out the grounds of appeal or in the notice of intervention. At the very least, this line of attack had not been substantiated until 30 March 2023, i.e. after the notification of the summons to oral proceedings. Consequently, it was late-filed and not to be admitted into the proceedings under Article 13(2) RPBA 2020.

The objective technical problem considered by the Board in its preliminary opinion was merely a refinement of the problem considered by the respondent in its reply to the notice of intervention. Moreover, this latter technical problem corresponded to that presented in paragraph [0043] of the patent specification, as also mentioned by the appellant and the intervener in their submissions. Lastly, the contested decision had considered this objective technical problem (see point 16.1). Therefore, the objective technical problem mentioned in the Board's preliminary opinion could not have come as a surprise to the appellant and the intervener and could not justify the filing of D55 and its related line of attack.

(e) Inventive step, D28 combined with common general knowledge or D6

The objective technical problem in view of the technical effect provided by the distinguishing

features (laminated element comprising a layer of a pattern of crossed fibers) was how to increase shape maintenance of the pool of D28.

None of the prior art documents allegedly disclosing the common general knowledge addressed this problem, or even the strengthening of internal elements of an inflatable structure as suggested by the appellant and the intervener. At most, they focused on strengthening external walls, which were different from the hanging parts (6) of D28.

D6 could not give the skilled person the necessary teaching either since it focused on attaching the straps to the top and bottom sides of a mattress. It had to be remarked that D28 did not mention any problem with respect to the connection between the hanging parts (6) and the inner surface of the inner and outer side-wall sheets (1, 2), nor did the distinguishing features relate to this aspect.

Furthermore, the skilled person would not consider providing fibers on the hanging parts (6) of D28 since this would have negative consequences for the handling of the pool, in particular when folding it. On the contrary, when trying to increase shape maintenance of the pool the skilled person would - if they chose to do anything at all - opt for increasing the strength of the pool's external wall by means of fibers, as taught in several of the cited documents. Lastly, even if the skilled person envisaged providing fibers as part of their common general knowledge, they would have no particular reason to provide **a pattern of crossed fibers** as defined in claim 1.

(f) Inventive step, D10 in the light of D56, D57 or D58
- Admittance

The Opposition Division's decision explained that D10 did not disclose a top and a bottom wall. Thus, the interpretation of D10 had been an issue since the beginning of the appeal proceedings and there was no justification for not filing D56, D57 and D58 until after notification of the summons to oral proceedings. Furthermore, all the documents belonged to very different technical fields from D10 and were not *prima facie* relevant for that reason alone.

(g) Inventive step, D10 in combination with D6

Contested claim 1 explicitly defined four separate elements (feature F4.2). The usual understanding of the word "connected" excluded the appellant's and the intervener's interpretation since the skilled person would not regard the parts of an integral construction as being "connected". Furthermore, the skilled person's usual understanding of an "exploded view" was that different elements were shown in a separated spatial arrangement, not that some elements in it were split up in some undefined way. Thus, Figure 1 of the contested patent clearly disclosed that the top wall, inner side wall, outer side wall and bottom wall were separate elements, as claimed explicitly in claim 1 as granted. Lastly, the patent did not include any constraint about how to interpret the term "connected".

Figure 1 of D10 disclosed a continuous surface corresponding to an inflated tube-like construction, with no separate top wall, inner side wall, outer side wall and bottom wall. The line which was visible in the cut-out portion in Figure 1 did not necessarily imply a

connection and, even if it did, this would at most concern the longitudinal connection of the sheet forming the tube-like structure.

Thus, the presence of a separate top wall, inner side wall, outer side wall and bottom wall was a further distinguishing feature with respect to D10. The objective technical problem addressed by D10 is how to build an appropriately shaped pool which satisfied the requirements. The appellant and the intervener did not explain how the skilled person would arrive at this distinguishing feature. For this reason alone, claim 1 was inventive over any attack starting from D10 as the closest prior art.

Reasons for the Decision

1. Format of the oral proceedings - Article 15a RPBA 2020

Under Article 15a(2) RPBA 2020, if oral proceedings are scheduled to be held on the premises of the European Patent Office (such as in the case in hand), a party, representative or accompanying person may, upon request, be allowed to attend by videoconference.

The appellant's and the intervener's representative requested a hybrid format to allow the representatives to attend the hearing in person and other attendees to attend remotely.

In the Board's view, in the context of in-person oral proceedings, any such request should normally be granted only if the participation of the person for whom the access by means of videoconferencing

technology has been requested is related to a person whose participation in the oral proceedings is relevant to the case, in particular to the decision to be taken at the oral proceedings.

In these proceedings, the appellant and the intervener were represented by professional representatives who would be attending the oral proceedings on their behalf. From the request filed on 2 February 2023, it was not apparent how the participation of additional "other attendees" was relevant to the case.

It was not even clear who these "other attendees" were. The Board assumes that they may be persons linked to the appellant and the intervener.

It is entirely possible that submissions made by persons who are not professional representatives (such as "accompanying persons" within the meaning of Article 15a(2) RPBA 2020) are relevant for the decision to be taken. The Board might permit such submissions at oral proceedings but this requires a reasoned request to that effect (see G 4/95), as explained in the communication under Article 17 RPBA 2020 sent to the parties on 21 February 2023.

Absent any such request, the Board saw no reasons which would outweigh the increased technical and organisational complexity caused by setting up and operating an additional parallel hybrid channel (including e.g. the exchange of submissions) while running in-person-proceedings at which all parties are already fully represented by the professional representatives present and in which all attendees may participate as well.

Therefore, the oral proceedings took place as originally summoned, i.e. in person.

2. Main request - Novelty with respect to D29, Article 54 EPC - Priority right of claim 1 - Article 87 EPC

2.1 Reasons not to remit

With the intervention, lack of novelty over D29 was raised for the first time in opposition-appeal proceedings. As per G 1/94, an intervention under Article 105 EPC during pending appeal proceedings may be based on any ground for opposition under Article 100 EPC. However, pursuant to the Enlarged Board's opinion in G 10/91 for the exceptional situation of the introduction of new grounds in ordinary appeal proceedings, if the intervener raises a fresh ground for opposition, the case should be remitted to the department of first instance for further prosecution, unless special reasons present themselves for doing otherwise, for example when the patentee itself does not wish the case to be remitted (see G 1/94, Reasons 13). This is precisely the case in the proceedings in hand. As confirmed during the oral proceedings, the respondent did not want the case to be remitted to the Opposition Division for examination of novelty; it requested the Board to deal with this issue immediately.

2.2 Transfer of the priority right - Decisive issue

It is disputed whether the right to priority was validly transferred to the respondent and whether, therefore, the respondent was entitled to claim priority from the CN'506 application (D29, granted as CN 203 583 938 U).

In their submissions, the parties addressed several issues in this respect:

- whether these proceedings had to be stayed because the question of whether the EPO had jurisdiction to decide on the issue of the assignment of the right to priority was pending before the Enlarged Board (G 1/22 and G 2/22)
- which law was applicable in order to decide whether the applicant of the application in suit was the successor in title of the applicant of the priority application
- whether the right to priority had been assigned by way of an implicit agreement
- whether the right to priority had been assigned by way of a written agreement
- at what point in time the assignment of the right to priority had been made effective, including the question of whether a "nunc pro tunc" assignment was acceptable under Article 87(1) EPC
- whether the assignment had to be effective before the filing of the subsequent application or before the filing date of the subsequent application

At the oral proceedings, the opponents agreed that the last question was decisive for the case in hand; if it were decided that in order to validly claim priority, the assignment could have been made on the day on which the subsequent application is filed, all the other issues would no longer be relevant.

2.3 Transfer of the priority right - Validity of the transfer

As regards the question of whether the applicant is the "successor in title" within the meaning of

Article 87(1) EPC, the Board finds that it is sufficient for the applicant or patent proprietor to demonstrate that the assignment of the priority right was effective before the subsequent application was filed. The law does not set forth any other condition. In particular, the assignment need not be effective before the filing date of the subsequent application. This is the case for the person who is "successor in title" either of the patent application including the right to priority or of only the right to priority.

2.3.1 It is settled case law that for the requirement of Article 87(1) EPC it is insufficient if the transfer agreement was concluded after the subsequent application was filed. The succession in title has to have taken place by the time the subsequent application is filed (T 577/11, Reasons 6.5.2; see also T 1201/14, Reasons 3.1.1.3). However, the case law has not been settled on the question of whether the agreement must have been concluded (T 577/11, Reasons 6.5.4), and thus the assignment must have been effective, before the filing date of the subsequent application or whether it is sufficient for this to have been done on the same day but before the actual filing. The Board is not aware of any case before the boards of appeal where this question was decisive. Therefore, any reference in the case law to "before the filing" or "before the date of filing" is irrelevant. As an example, T 1201/14 - mentioned in this respect by the parties - refers to both "before the filing" (Reasons 3.1.1.3 and 3.2.1.1) and "before the filing date" (Reasons 3.1.3).

2.3.2 There is a simple reason why the assignment of the right to priority need not be effective before the filing date of the subsequent application in order to meet the requirement of "successor in title" under

Article 87(1) EPC: that is not what the law says.

Under Article 87(1) EPC, the applicant of the subsequent application must be either the person who filed the application (priority application) or the successor in title. In other words, once the applicant of the subsequent application is the "successor in title", they can enjoy the right to priority; if this applicant is not the "successor in title" because, for example, the right to priority was not validly transferred, they cannot avail themselves of this right. No further limitation is set forth in the law.

Reference can also be made in this context to G 1/15, in which the Enlarged Board held that, as a matter of principle, where a right was established by an international treaty or convention or by national law, it cannot be restricted by imposing supplementary conditions in administrative rules or guidelines or even in case law (G 1/15, Reasons 4.2). The Enlarged Board made this finding in relation to the substantive condition of "the same invention" within the meaning of Article 87(1) EPC. However, in this Board's opinion, that finding includes further confirmation that the right to priority enjoyed by the "successor in title" and enshrined in Article 87(1) EPC and Article 4A(1) of the Paris Convention cannot be restricted by requiring something that is not mentioned in the law, i.e. that the assignment of the right to priority be effective before the filing date of the subsequent application.

2.3.3 There is no reason to read such a requirement into the law either.

Doing so would lead to the situation where a successor in title who obtained the right to priority on a

certain day by way of an assignment always has to wait for the next day to file the subsequent application in order to enjoy its right to priority. In other words, the successor in title entitled to the right to priority because it was transferred to it on a certain day could not benefit from this right on that day. The Board cannot see any convincing reasons why this should be the case.

Moreover, in that situation, it seems that nobody would be able to enjoy the right to priority for a certain amount of time. If the transfer occurred at noon, for example, the transferor could not benefit from this right in the afternoon because they would not be entitled to do so, and the transferee would not be able to use this right until the next day. Therefore, from noon to midnight on that day, no one could validly make use of the right to priority. The assumption could be made that the transferor holding the right at 0:00 on that day remained entitled for the entire day, essentially relying on the argument that the EPC only recognises a "day" as the smallest time unit. However, this argument must fail for the reasons set out below under point 2.3.4.

Lastly, reading the requirement of "before the filing date" into the law would mean that even though the applicant of the subsequent application has already obtained the right to priority and is in fact already the successor in title, it cannot make use of the full 12-month period under Article 87(1) EPC. The person who duly filed the priority application may file the subsequent application while enjoying a right to priority on the last day of the period. The applicant who on that day becomes successor in title could not file the subsequent application and enjoy a right to

priority - they would have to wait until the next day but would then miss the deadline and be unable to enjoy the right to priority. The Board sees no reason for such unequal treatment.

- 2.3.4 The further arguments presented by the appellant and the intervener are not convincing either.

They argued that in patent law, in particular under the EPC, the smallest time unit is a day, and therefore an assignment on the day of the filing was insufficient. This was also what the German Bundespatentgericht considered in its decision BPatG 11 W (pat) 14/09, point II.B.2 a), subpoint cc) of the reasons, with reference to provisions of the German Patent Act.

At least for the EPC, there is no general rule of the smallest time unit being a day. It is true that the smallest time unit is a day when it comes to calculating and computing time periods (see Rule 131(1) EPC). This is applicable for example when calculating the 12-month period laid down in Article 87(1) EPC. However, the Board sees no reason why this should be generally applicable to other situations, in particular for the determination of the requirement of "successor in title".

It was further argued that applying time units smaller than a day would inevitably result in applicants being treated unequally. This was because the exact time of filing during the day depended both on the means used for filing and on the way the patent office dealt with the different means of filing, meaning that the filing time could not always be determined with precision. The principles of legal certainty and equality of rights would be violated.

This argument is not convincing either. It is down to the patent proprietor relying on the right to priority to demonstrate that the assignment was effective before the subsequent application is filed. Thus, if only the date on which the subsequent application was filed can be determined but not the exact time in the course of a day, the application may have to be considered to be filed at any time on the day of filing. If the assignment of the right to priority was then effective on that same date, the patent proprietor will not be able to successfully demonstrate that the then applicant had been the "successor in title" at the moment of the filing, i.e. that the assignment had been effective before the subsequent application was filed. This is not a question of legal certainty or treating applicants unequally; it is a question of fact which has to be proven by the applicant of the subsequent application claiming the right to priority.

Indeed, it is down to the applicant filing the subsequent application to decide whether it is worth taking the risk of having to prove not only the filing date of the application and the assignment date but also the exact time of day of both. This may also depend on the chosen means of filing (delivery, postal services, electronic means) - the exact time of filing may be easier to prove for some means of filing than for others. It may thus be very much advisable, in order to avoid any issues of proof in this respect, to complete the transfer on the day before the subsequent application is filed. However, this is a decision for the applicant to make.

2.3.5 The appellant and the intervener also relied on the principle of legitimate expectation, in particular

because the Guidelines for Examination in the EPO had consistently referred to the requirement of "before the filing date" (reference was made to section A-III, 6.1).

The Board does not contest that the Guidelines for Examination may be a source of legitimate expectation. However, what the law requires from applicants in order for them to enjoy a right of priority cannot be determined by what is stated in the Guidelines for Examination, either directly or indirectly by way of creating a legitimate expectation. As concluded above, the requirement of "before the filing date" is not provided for in the law. It is irrelevant that the Guidelines for Examination consider this a requirement for a valid transfer. Nor can this become relevant if the principle of legitimate expectation is relied upon. Otherwise, the Guidelines could determine the existence of a requirement which is contrary to the EPC: the boards of appeal - which are undoubtedly not bound by the Guidelines - would become indirectly bound by them by virtue of the principle of protection of legitimate expectations. This principle cannot have this far-reaching effect.

- 2.3.6 In sum, to meet the requirement of "successor in title" within the meaning of Article 87(1) EPC, it is sufficient for the assignment of the right to priority to be effective before the actual filing of the subsequent application.

As pointed out above, it is always down to the applicant or patent proprietor relying on the right to priority to demonstrate that the assignment was effective before the subsequent application was filed.

Taking into account the evidence on file, the Board considers that the respondent has indeed demonstrated that the contracts regarding the transfer of the right to priority had been validly concluded when it filed the subsequent application on 5 September 2014. This was not contested by the appellant or the intervener (see point 2.2 above). In view of the above considerations, the Board thus concludes that the then applicant was indeed the "successor in title" who enjoyed the right to priority within the meaning of Article 87(1) EPC.

2.3.7 The conclusion in the preceding point has the following consequences for the case in hand. At the oral proceedings before the Board, the appellant and the intervener no longer contested these issues.

(a) The choice of the law relevant to the assignment in the case in hand (namely the law of California and the US, or Chinese law) is not decisive. In all cases the assignment was effective on 5 September 2014 at the latest, but before the actual filing of the subsequent application.

(b) The issue of the nunc pro tunc assignment is not decisive either. Nevertheless, this Board agrees with decision T 1201/14 (Reasons 3.2.1.1) in that regard: even if a retroactive transfer were allowable under US law, it would not be acceptable under Article 87(1) EPC.

(c) Lastly, it is irrelevant for the case in hand whether or not the EPO has jurisdiction to determine whether a party validly claims to be a successor in title (see G 1/22 and G 2/22). A stay of proceedings in view of pending cases G 1/22 and

G 2/22 was thus not indicated.

2.4 Priority for claim 1

2.4.1 Disclosure of D29

Among the multiple priorities claimed in the contested patent, only CN'506U (D29) and NL'918 disclose laminated elements arranged in an air chamber as defined in claim 1.

The filing date of D29 is 5 December 2013 and it was published on 7 May 2014. The filing date of NL'918 is 4 December 2014. Thus, in the event that D29 were actually novelty-destroying for claim 1, NL'918 could not help in this respect.

Document D29 only discloses laminated elements arranged **vertically** in an **annular array** (see claim 1, and also page 3, lines 27-29, and paragraphs [0011] and [0025] of D29.1). The skilled person could not infer from D29 that the laminated elements could be arranged in a different orientation or so as to form an array which is not annular. Therefore, claim 1 as granted can only benefit from the priority right for the subject-matter of this particular structure.

2.4.2 Partial priority - appellant's and intervener's arguments

The appellant and the intervener argued that the disclosure of D29 could not provide a priority right for the general subject-matter of claim 1 as granted. Consequently, the content of D29 - corresponding to a particular embodiment of the general subject-matter claimed in the contested patent - anticipated the

subject-matter of claim 1, which was therefore not novel. In particular, no partial priority of claim 1 could be acknowledged in the light of the decision of the Enlarged Board of Appeal in case G 2/98 since D29 did not concern an alternative among a limited number of alternative subjects with regard to claim 1 as granted. Rather, claim 1 encompassed an unlimited number of alternatives when compared with the disclosure of D29. The "intermesh spacers" of D29 were vertically arranged, whereas claim 1 encompassed any other orientation, including unclear borderline cases. As a consequence, claim 1 as granted did not correspond to a "generic 'OR'-claim" within the meaning of G 1/15 and no partial priority could be acknowledged. The meaning of "generic 'OR'-claim" had been determined in G 2/98 and the term required alternatives to be clearly defined, otherwise it would not be possible to conceptually divide the subject-matter as required by G 1/15.

2.4.3 The Board finds, however, that the principles established in G 1/15 apply to the case in hand.

The Enlarged Board in G 1/15 found as follows:

"Under the EPC, entitlement to **partial priority** may not be refused for a claim encompassing alternative subject-matter by virtue of one or more generic expressions **or otherwise** (generic "OR"-claim) provided that said alternative subject-matter has been disclosed for the first time, directly, or at least implicitly, unambiguously and in an enabling manner in the priority document" (see order; emphasis added).

A "generic 'OR'-claim" is not limited to the situation in which the claim encompasses alternative subject-

matter by virtue of a generic expression. Rather, other situations also fall under this concept, as acknowledged by the words "or otherwise" in the order of G 1/15.

The Enlarged Board addressed various situations in G 1/15, including the broadening of a chemical formula, of a range of values and of chemical compositions, as well as other generalisations. This can be seen in particular in the summary of T 1496/11 in Reasons 2.2 (under the heading "Other generalisations"); that case related to a generalisation through the omission of more specific indications, with the claim in question thus encompassing embodiments including features produced by means other than those omitted. It is also evident from the summary in Reasons 2.3, in which the Enlarged Board explained that - in addition to the above-mentioned examples of broadening - the presence of other generalisations compared with the invention disclosed in an enabling manner in the priority document had led to partial priority being denied because the claim of the subsequent application did not spell out a "limited number of clearly defined alternatives", even though the requirement of identity of invention had been met for at least some alternative embodiments disclosed in the priority document and encompassed by the generic "OR"-claim.

In this Board's opinion, the Enlarged Board has indeed used the term "or otherwise" in the conclusion of G 1/15 to include all kinds of generalisations and thus to not be limited to the use in the subsequent application of a generic expression or a broadening of a chemical formula, etc.

The appellant's and the intervener's argument that the claim encompassed an unlimited number of alternatives, meaning that partial priority could not be acknowledged, is not convincing. The fact that very many alternatives could be identified is not a reason for denying that there was a generic "OR"-claim or, more generally, for not applying the findings in G 1/15. The appellant's and the intervener's argument essentially relies on the requirement of a "limited number of clearly defined alternatives", which is taken from G 2/98, Reasons 6.7. However, this (additional) requirement for acknowledging partial priority was explicitly rejected by the Enlarged Board in G 1/15; see Reasons 5.3, 6.7 and the last sentence of the order. Any such requirement would be nothing more than a supplementary condition restricting the right to priority established by the EPC, which is contrary to G 1/15, Reasons 4.2, last paragraph.

The Enlarged Board acknowledged in G 1/15, Reasons 6.6 that the task of determining the relevant disclosure of the priority document taken as a whole, and determining whether that subject-matter is encompassed by the claim in the subsequent application (see G 1/15, Reasons 6.4), could generally be a demanding intellectual exercise but was common practice at the EPO and among practitioners of the European patent system.

This exercise is, moreover, not difficult in the case in hand, in which the priority document itself is the allegedly novelty-destroying disclosure. In this situation, the (partial) priority of the claim based on this priority document is valid for every potentially novelty-destroying element disclosed in this very same priority document. This is the case no matter where the conceptual division in the claim is actually to be

made. As explained in G 1/15, Reasons 6.4, the first part of the conceptual division corresponds to the invention disclosed directly and unambiguously in the priority document. The second part is what the Enlarged Board called "the remaining part" of the generic "OR"-claim. The remaining part is anything that is not the directly and unambiguously disclosed first part, regardless of precisely what alternatives the remaining part consists of (including what the appellant and intervener called "borderline cases") and regardless of whether this part has an unlimited number of alternatives.

On condition that G 1/15 indeed applied to the case in hand (as decided by the Board for the reasons set out above), the appellant and the intervener did not contest this analysis any further.

2.4.4 Thus, the subject-matter of claim 1 (in its entirety) is novel over D29 (Article 54(2) EPC) since the claim enjoys partial priority from that document for all the encompassed subject-matter disclosed in it.

3. Main request - Inventive step, Article 56 EPC

3.1 D29 as the closest prior art - Admittance, Articles 13(2) and 14 RPBA 2020

3.1.1 The line of attack starting from D29 (the priority document discussed above as allegedly being novelty-destroying) as the closest prior art in combination with the skilled person's common general knowledge cannot be accepted as it was late-filed (Article 13(2) RPBA 2020).

- 3.1.2 The appellant and the intervener had become aware of the respondent's arguments concerning the disclosure of D29 after receiving the respondent's reply to the notice of intervention. This reply made it clear what the distinguishing features of claim 1 over D29 were considered to be, namely "the annular features" (see reply to the notice of intervention, point 3.2.2).
- 3.1.3 Contrary to the appellant's assertion, its letter dated 14 October 2022 did not include this line of attack, let alone in a substantiated manner. Even though the heading of point 7. read "*Lack of novelty / inventive step over D29*", this does not count as having validly raised the particular line of attack, for want of proper substantiation.

Point 7.1 of that letter does focus on the differences between the subject-matter of claim 1 as granted and the disclosure of D29. However, point 7.2 does not explain the logical chain which would lead the skilled person towards implementing the distinguishing features in D29, especially since the appellant itself stated in the same letter that the distinguishing features "*involve further technical considerations*" (see page 11, third and fourth paragraphs of point iv.). Points 7.2 and 7.3 fail to provide an explanation as to how the skilled person would apply - in an obvious manner - the claimed solution in the pool of D29 in order to address the objective technical problem related to the technical effect provided by the distinguishing features, let alone in consideration of their common general knowledge.

The appellant merely quoted (fourth paragraph on page 12) a statement made by the respondent in its reply to the notice of intervention that bears no relation to

the skilled person's common general knowledge related to the shape of a pool; it merely states what the skilled person would have regarded as being directly and unambiguously disclosed in D29 in connection with the shape of the pool disclosed in that document. The quotation from the respondent's reply in fact relates to the opposite attack to the one being raised, i.e. that the skilled person **starting from a non-annular pool** would have thought of implementing the disclosure of D29 in this closest prior art: "*The skilled person would have readily understood that the invention [i.e. D29] is applicable to pools with non-annular trough structures ...*". This is the opposite of the current line of attack starting from the teaching of D29 in combination with the common general knowledge. Said difference is not a "purely formalistic" issue, as argued by the appellant during the oral proceedings, since the choice of the closest prior art fundamentally alters the logic chain which the skilled person must follow in view of the different distinguishing features, technical effects and objective technical problems resulting from each scenario.

Lastly, point 7.3 of the same letter merely states that the subject-matter of claim 1 is obvious "*over D29 in view of the proprietor's own admission*".

In view of the above, no **substantiated** line of attack starting from the teaching of D29 in combination with the skilled person's common general knowledge was raised in the letter dated 14 October 2022.

3.1.4 Consequently, the first time that the line of attack in question was presented in a substantiated manner was with the appellant's and the intervener's letter dated

30 March 2023, i.e. after notification of the summons to oral proceedings.

The legal basis for assessing the admittance of such an amendment to the appellant's and the intervener's case is Article 13(2) RPBA 2020.

- 3.1.5 The intervener cannot rely on any special status in the case in hand which would allow it to amend its case without the limitations defined in this legal provision.

Article 14 RPBA 2020 reads: "*Where, during a pending appeal, notice of intervention is filed, Articles 12 and 13 shall apply **in so far as justified by the circumstances of the case.***" (emphasis added)

In this case, the notice of intervention was filed during the first stages of the appeal proceedings, namely six months after the notice of appeal had been filed. At that point in time, it was the intervener's right to file any ground for opposition and line of attack it wished to without being hindered by the provisions of Articles 12(4) to (6) RPBA 2020 since the intervener has the same rights and obligations as the other opponents irrespective of whether the intervention occurred during the proceedings before the opposition division or at the appeal stage (see Case Law of the Boards of Appeal, 10th edition, III.P.2 and III.P.3.1).

The intervener also reacted to the respondent's reply to the notice of intervention by means of a letter dated 4 November 2022. In this letter, it did not present a line of attack against the main request starting from D29, even though the heading of point 4.

read "*Invalid priority claim and lack of novelty / inventive step over D29*".

Under these circumstances, the Board sees no reason why Article 13(2) RPBA 2020 should not apply to an amendment to the intervener's case, since the delay in filing the new line of attack cannot be attributed to its status as an intervener but rather to its choice of strategy once it had joined the appeal proceedings.

- 3.1.6 No exceptional circumstances can be discerned in relation to the late filing of the new line of attack.

The appellant and the intervener were aware of the issues related to the partial priority of claim 1 and the subsequent distinguishing features of the subject-matter of this claim over D29 once they had received the respondent's reply (dated 28 September 2022) to the notice of intervention. However, neither the appellant's letter dated 14 October 2022 (see point 3.1.3 above) nor the intervener's letter dated 4 November 2022 (see preceding point) presented the new line of attack in a substantiated manner.

- 3.1.7 Furthermore, the line of attack is not *prima facie* relevant.

As acknowledged by the appellant in the letter dated 14 October 2022, the distinguishing "annular features" are linked to technical considerations in terms of the distribution of forces in the resulting structure (see page 11 of the letter, third paragraph of point iv.). Thus, the modification of the annular arrangement disclosed in D29 is not a mere design choice but would require a pointer in order to be considered by the skilled person. The appellant and the intervener have

failed to indicate where the skilled person would find this pointer or why it belongs to the common general knowledge.

- 3.1.8 The appellant and the intervener argued that the respondent did not invoke the alleged late filing of the line of attack starting from D29 until the oral proceedings.

However, this is irrelevant when discussing the admittance of a late-filed line of attack. Article 13(2) RPBA 2020 establishes restrictions related to amendments to a party's case, and these are not dependent on whether other parties take them as a basis for a request not to admit a late-filed amendment into the proceedings.

Moreover, the respondent could not object to the late filing of the new line of attack until it had been presented in a substantiated manner. This happened with the letter dated 30 March 2023 (see point 3.1.4 above), i.e. barely one month before the oral proceedings. Even under this tight schedule, the respondent requested in its letter dated 25 April 2023 that the amendments presented with the other parties' last letter - including the new line of attack starting from D29 - not be admitted into the appeal proceedings (see page 1 of the respondent's letter, first complete paragraph, and also points 3.a. and 3.b.).

- 3.1.9 Consequently, the line of attack starting from D29 as the closest prior art is not taken into consideration (Article 13(2) RPBA 2020).

3.2 D28 as the closest prior art - Admittance, Article 13(2) RPBA 2020

3.2.1 D28 in combination with D6 - admitted

The notice of intervention included lines of attack based on D1 as the closest prior art in combination with the common general knowledge or any of D2, D5, D6, D9 or D11 (see point 7. of the notice of intervention). The distinguishing feature of claim 1 with regard to D1 was established as "that each support web 16 is further attached (laminated) with an additional layer of a pattern of crossed fibers" (see page 33, first paragraph). This corresponds to feature F5.2.

The combination of D1 with D6 was asserted in point 7.3 of the notice of intervention, in which the intervener explained how the skilled person would provide the distinguishing features to address the corresponding objective technical problem.

The notice of intervention included further lines of attack based on D28 as the closest prior art (see point 11. of that document). The distinguishing features of claim 1 with respect to D28 were considered to be the same as for D1 (see page 53, last paragraph). As the corresponding objective technical problem necessarily had to be the same as for the lines of attack starting from D1, the intervener chose an abbreviated way of reasoning why the skilled person would arrive at the claimed invention, namely by reference to the analogous reasoning in the preceding sections: "*It follows that the solution to this problem would have been obvious to the skilled person in view of the common general knowledge or of the teachings from D2, D5, D9 and D11 for the reasoning in the above items 6.3 and 7.2-7.8.*"

Even though D6 was not listed in the above-cited passage under the specific documents to be combined with D28, it was inferred that D6 had been omitted by mistake owing to the reference to point 7.3 and the fact that the same logic necessarily applied in a straightforward manner to the combination with D28 in view of the identical distinguishing features.

It is pointed out that the respondent's reply to the notice of intervention included a list of the lines of attack raised so far by the appellant and the intervener in which the combination of D28 with D6 was not mentioned (see point 5. in pages 27 to 29 of this reply). The intervener reacted to this at the first possible occasion - i.e. with its letter dated 4 November 2022 - by including a list of lines of attack explicitly mentioning the combination of D28 with D6 (see point 5.1 in page 22 of that letter). This was not an amendment to the intervener's case but a clarification of an obvious mistake derivable from the content of the notice of intervention.

Thus, the line of attack based on D28 in combination with D6 was validly filed with the notice of intervention and is part of the appeal proceedings.

3.2.2 D28 in combination with D55 - not admitted

The line of attack based on D28 as the closest prior art in combination with late-filed document D55 is not admitted into the appeal proceedings (Article 13(2) RPBA 2020).

Document D55 and its related line of attack were introduced with the letter dated 30 April 2023, i.e.

after notification of the summons to oral proceedings and its accompanying preliminary opinion by the Board.

Contrary to the appellant's and the intervener's arguments, the Board's preliminary opinion did not introduce a new objective technical problem which could be considered surprising.

The objective technical problem considered by the Board in the preliminary opinion when starting from D28 was "*further increasing maintenance of the shape of the pool when pressurised*". This objective technical problem is explicitly mentioned in paragraph [0043] of the patent specification. It also basically corresponds to the problem formulated by the Opposition Division when considering the distinguishing features of "laminated elements each comprising a first layer of a pattern of crossed fibers and an attaching layer to which the first layer is attached" in the context of D3 as the closest prior art (see point 16.1.6 of the decision). The objective definition of the problem to be solved by the invention should normally start from the problem described in the application/contested patent (see Case Law of the Boards of Appeal, I.D. 4.2.2). Referring to the problem described in the patent thus cannot be considered surprising. Furthermore, the Board also pointed out in its preliminary opinion that this problem was "*linked to the objective technical problem suggested by the respondent, namely 'increasing comfort', since the maintenance of the shape allows sitting on the surrounding wall as disclosed by D28 itself*".

The appellant and the intervener did not contest the similarity between the technical problems considered by the Board and the respondent but argued that they had

been relying on the fact that this was obviously wrong. This argument cannot excuse the late filing of the document since a party must always reckon with the possibility that the boards are persuaded by the other parties' arguments.

In addition, the Board is not persuaded by the appellant's and the intervener's argument concerning which elements are actually solving the problem recited in paragraph [0043] of the patent specification.

Paragraph [0043] discloses that it is the role of the tensioning structures (120) to *"enhance the strength of the pool 100, allowing the air chamber 110 to withstand relatively high internal pressures"*. For the skilled person reading the specification, it is thus implicit that the strength of the tensioning structures is key in solving the objective technical problem disclosed in the same paragraph. The patent specification discloses that the way to increase the strength of the tensioning structures is to provide a reinforcing layer in the laminate material (see e.g. paragraph [0047]), which corresponds to the *"pattern of crossed fibers"* defined in feature F5.2. Thus, in the light of the further patent specification too, it could not come as a surprise that the Board resorted to the objective technical problem mentioned in paragraphs [0043] and [0047] when considering the distinguishing features with regard to D28 (i.e. F5.2).

In view of the above, the Board cannot see any exceptional circumstances which justify the late filing of document D55 and its related line of attack. Consequently, they will not be taken into consideration (Article 13(2) RPBA 2020).

3.3 D28 as the closest prior art combined with the common general knowledge or D6 - Article 56 EPC

3.3.1 D28 discloses separate inner and outer side walls (1, 2), a top wall (3) and a bottom wall (11) (see Figures 1 and 2, and also the last paragraph of page 4 of D28.1).

Furthermore, D28 discloses elements (hanging parts 6) arranged in the air chamber in an array manner (see Figures 1 and 2) and connected to the inner side wall (1) and the outer side wall (2) (see second paragraph of page 4 of D28.1).

The problem addressed by D28 is the same as in the invention since the hanging parts (6) *"solve the problem that the circumference wall (5) collapses easily when external pressure is applied from the top side"* (see first paragraph of page 5 of D28.1).

3.3.2 The respondent argued in writing that D28 was not a proper starting point since it concerned "a pool prepared for children".

This is not persuasive since claim 1 does not contain any restriction which would exclude "pools prepared for children" from its scope of protection. D28 does not contain any teaching about the pool being limited to some intended use either.

3.3.3 Thus, the subject-matter of claim 1 differs from D28 only in that the elements arranged in the air chamber are laminated elements (part of F5.1), each comprising a first layer of a pattern of crossed fibers and an attaching layer to which the first layer is attached (F5.2). This corresponds to the distinguishing features

established by the appellant and the intervener since they acknowledged that D28 did not disclose a laminated construction.

- 3.3.4 There is consensus that the technical effect of the distinguishing features is increased strength of the hanging parts, resulting in the ability to withstand higher internal pressures of the inflatable air chamber.

The appellant and the intervener argued that the objective technical problem - according to the problem-solution approach - was thus "how to achieve the technical effect of the distinguishing features".

However, the technical effect invoked by the appellant/intervener (i.e. the hanging element can withstand higher internal pressures) does not solve a technical problem *per se* but has to be considered in context. Increasing the strength of the hanging parts is not an end in itself but leads to a technical effect whereby the device is able to improve the maintenance of the pool's shape, e.g. when a user is sitting on the top wall or in the pool, as explained in paragraphs [0043] and [0047] of the patent specification.

D28 discloses hanging parts which partially address this problem (see D28.1, paragraph under the heading "*Operational advantage of the invention*" on page 5). However, this does not change the fact that the distinguishing features in question further improve on the aim of D28, i.e. the maintenance of the pool's shape "*when external pressure is applied from the top side*".

The objective definition of the problem to be solved by the invention should normally start from the problem described in the contested patent (Case Law, I.D. 4.2.2). The (subjective) problem formulated in paragraphs [0043] and [0047] of the patent, namely to maintain the shape of the pool, is convincingly solved. It is true that D28 already provides an inflatable pool constructed in such a way that it does not easily collapse when external pressure is applied. However, in view of D28 and the technical effect of the distinguishing features, the objective technical problem is to provide a pool with further improved maintenance of its shape when external pressure is applied (e.g. by a user sitting on it).

For inventive step to be assessed fairly and objectively, it is important not to formulate the objective technical problem either too narrowly or too broadly. The same is true for the technical effect to be considered. The Board finds no justification for formulating the objective technical problem in the narrow terms proposed by the appellant and the intervener since this would take the effect out of its technical context and imply that increasing the strength of the hanging parts is an aim in itself for the skilled person without further considerations. This already points to the solution and results in an analysis tainted by an *ex-post facto* approach.

- 3.3.5 The skilled person's common general knowledge does not include providing laminated elements comprising a pattern of crossed fibers as defined in features F5.1 and (in particular) F5.2 in internal elements of an inflatable air chamber in order to address the stated problem.

D27 - which could be considered evidence of common general knowledge since it is a Wikipedia article - merely describes laminated materials; it does not mention any application for internal elements of inflatable devices, let alone the objective technical problem in hand.

Documents D2, D5, D9 and D11 are patent documents, and so - according to established case law - they do not actually represent common general knowledge. In any case, none of them discloses the use of laminated materials as defined in claim 1 for addressing the stated problem. D2 (see paragraph [0019]), D5 (see column 1, line 57 to column 2, line 2, and also Figures 2 and 5), D9 (see Figures 5 and 6 and also column 2, line 63 to column 3, line 4) only disclose using laminated materials for the **external** wall of a non-inflatable pool (i.e. the water-containing structure defined by that external wall is not inflatable). Document D11 discloses a shallow inflatable pool for children (see page 1, lines 1 to 6 and Figure 1) comprising a plastic film dividing wall (13; see page 6, lines 10 to 14) for which no further function is disclosed. D11 proposes using a reinforced laminate material for the film layer (37) forming **the bottom** of the pool (see Figure 1). Thus, D11 does not disclose using a laminate material for internal elements of an inflatable chamber either, let alone to address the stated technical problem.

Documents D19.2, D19.9 and D19.11 are catalogues of inflatable products. Apart from the question of whether these catalogues were publicly available before the priority date or whether they can be considered evidence of common general knowledge at all, none of them discloses using a laminated element comprising a

layer of a pattern of crossed fibers **within** an inflatable chamber in order to address the objective technical problem. In actual fact, none of them discusses the objective technical problem addressed. D19.2 discloses using laminate materials for the **external** wall of a non-inflatable pool (see top right-hand portion of page 31, corresponding to page 59 of the catalogue) in the same way as D2, D5 or D9. D19.9 discloses laminated materials for forming the **external cover** of an inflatable spa (see specification "Cover Material" on page 3 and point "Material" on the right-hand side of page 8). D19.11 discloses **external walls** of an inflatable boat made of a laminated material (see page 74, specifications on the left-hand side).

- 3.3.6 Document D6 discloses an inflatable mattress. As these products are also brought into shape by internal pressure, D6 is accepted as being from a neighbouring - and thus relevant - field. However, leaving aside the question of whether shape maintenance in a mattress can at all be compared with shape maintenance of a pool, while D6 discloses the mattress as being "stu[r]dy, damage resistant and durable" (see "Content of the Invention" in D6'), it does not address the problem of improving the maintenance of the shape of the mattress when it is subjected to external forces. Rather, the aim of D6 (in connection with the internal straps of the mattress, which are the part which is relevant to the case) is to improve the connection between the straps (1, 7) and the top and bottom sides (2, 3) in order to render the mattress durable. It is pointed out that D6.2 - which was cited by the opponent and the intervener as a more reliable translation of D6 - does not cast doubt on the translation provided on page 1/4 of D6'. Moreover, even if the translation provided

under point 3 of D6.2 were considered to be correct, D6 would still not disclose that a stronger strap addresses the stated technical problem or a similar one related to mattresses.

The skilled person would have no reason to take D6 into consideration since firstly the connection of the hanging parts to the inner surfaces of the inner and outer side-wall sheets is not an issue in D28, and secondly the distinguishing features do not involve the consideration of a technical problem linked to said connection. Thus, the appellant's/intervener's argument that the person skilled in the art would apply the teaching of D6 in order to improve the connection between hanging parts and side walls and in doing so arrive at laminated elements comprising a construction according to F5.2, thereby obtaining the improved form stability as a "free bonus effect", is tainted by hindsight.

3.3.7 In view of the above, the subject-matter of claim 1 involves an inventive step when starting from D28.

3.3.8 Since the lines of attack presented in writing and starting from D1, D3, D4 or any of D19.1 to D19.11 result in at least the same distinguishing features as in the case of D28, the same conclusions as above apply *mutatis mutandis*. This was not contested by the appellant/intervener.

Therefore, it is not necessary to discuss whether each proposed starting point discloses the rest of the features of claim 1 (for D1, D3 or D4) or whether the documents were publicly available before the priority date (for D19.1 to D19.11).

3.4 D56, D57 and D58 - Admittance, Article 13(2) RPBA 2020

The appellant and the intervener filed documents D56, D57 and D58 with their letter dated 30 April 2023, i.e. after the notification of the summons to oral proceedings.

The intention behind the filing was to substantiate the common understanding of the expression "bottom" in D10'.

However, the meaning of this term has been at the core of the discussions related to D10/D10' since the beginning of the proceedings. The Opposition Division analysed the interpretation of this feature in point 16.2.2 of the contested decision. Moreover, D57 and D58 relate to technical fields that are very remote from those of the case in hand (D57: "cavity resonator", D58: "reactor for exothermic chemical reaction"), and D56, a patent application, is not suitable as evidence of the common general knowledge.

Thus, in this case there are no discernible exceptional circumstances which would justify the filing of these three new documents, which are not *prima facie* relevant, at such a late stage.

Consequently, D56, D57 and D58 are not admitted into the appeal proceedings (Article 13(2) RPBA 2020).

3.5 D10 in combination with D6 - Article 56 EPC

3.5.1 The line of attack starting from D10 is based on the assumption that D10 discloses feature F4.2 (the top wall being connected to the top of the inner side wall and the top of the outer side wall, the bottom wall

being connected to the bottom of the inner side wall and the bottom of the outer side wall).

The appellant and the intervener have not provided any arguments as to why feature F4.2 would be obvious if it were not disclosed in D10.

The line of attack fails simply because the Board concluded that document D10 does not anticipate feature F4.2.

- 3.5.2 The appellant and the intervener argued that feature F4.2 had to be interpreted in the light of the description since it was unclear. The proof for that lack of clarity was the fact that the feature's interpretation had been debated.

This is not persuasive.

The will of a party to discuss a feature cannot determine whether or not it is clear. This would render any feature unclear as soon as a discussion around its meaning suited a party's procedural strategy.

- 3.5.3 Feature F4.2 clearly defines the relationship among the top wall, the top of the inner side wall and the top of the outer side wall on the one hand, and among the bottom wall, the bottom of the inner side wall and the bottom of the outer side wall on the other hand. The claim explicitly cites the elements to be connected one by one and then defines a connection between them, thus implying that they must be separate and differentiated walls. This is the straightforward interpretation of a skilled person reading the claim, who would give each term its usual, sensible technical meaning.

There is nothing in claim 1 which might suggest that the listed walls could actually be parts of a single element built in an integral manner or that the term "connected" should actually mean that a theoretical subdivision of this hypothetical single integral element could be established in consideration of the position of these parts.

3.5.4 As the feature has a clear and sensible meaning, the description cannot be used to interpret that term any differently, and even if there were a discrepancy between the claims and the description, the unambiguous claim wording must be interpreted as it would be understood by the person skilled in the art without the help of the description (see Case Law, 10th edition, II.A.6.3.1, in particular T 2221/10, Reasons 33, and II.A.6.1, in particular T 2764/19, Reasons 3.1.1).

3.5.5 Furthermore, the passages of the patent specification cited by the appellant and the intervener do not cast any doubt on the straightforward interpretation of claim 1.

First, the description does not disclose any particular meaning of the term "connected" beyond its usual interpretation, which should be considered in the context of the patent. The fact that paragraph [0035] mentions different coupling techniques when discussing the connection between the laminated walls (120) and the inner and outer walls (106, 108) whereas paragraph [0040] - which basically recites feature F4.2 - does not mention any coupling technique does not imply for the skilled person that the term "connected" has two different meanings depending on the elements to be connected. The skilled person's conclusion would in fact be the opposite: since the walls listed in

paragraph [0040] are made of the same materials as the elements mentioned in paragraph [0035] (see also paragraph [0036]), the same coupling techniques disclosed in the latter paragraph can be used for connecting the walls in the same way as indicated in paragraph [0040] (and therefore in feature F4.2).

Second, contrary to the appellant's and the intervener's assertion, the skilled person understands that an exploded view shows individual elements in a spatially separated arrangement in order to enable a clear distinction between them. The subdivision of individual elements without a clear indication of this (e.g. by hatched sections) is not how the skilled person commonly understands exploded views. Figure 1 of the patent specification (reproduced below) is an exploded view of the device defined in claim 1. The skilled person unambiguously understands from this figure that the top wall, bottom wall and side walls are separate and differentiated walls.

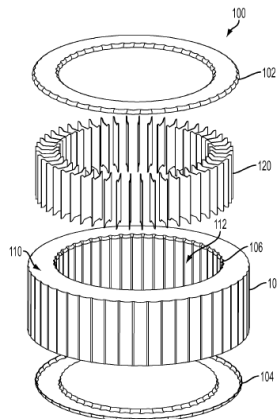


FIG. 1

Figures 24 and 31 of the patent specification (reproduced below) do not cast doubt on this understanding either.

First, they are schematic views of the pool, and the absence of seam lines, which should allegedly be visible through the cut-out section of the pool, cannot be taken as direct and unambiguous disclosure that such seams are absent, since the interior of the air chamber is actually irrelevant for the purpose of Figures 24 and 31, which are focused on other aspects of the invention. This is particularly the case since the proposed interpretation would contradict the clear teaching of Figure 1 (see above).

Second, a seam is actually visible in both figures between the top wall and the top of the inner side wall, in accordance with the disclosure of Figure 1.

Lastly, the angle formed at the contact points between the pool walls in the cross sections of both figures is understood by the skilled person as a clear indication of two separate elements being connected along a seam.

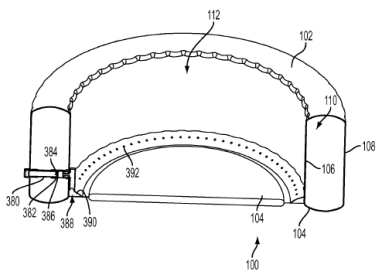


FIG. 24

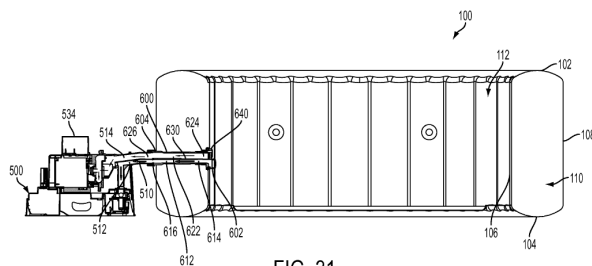
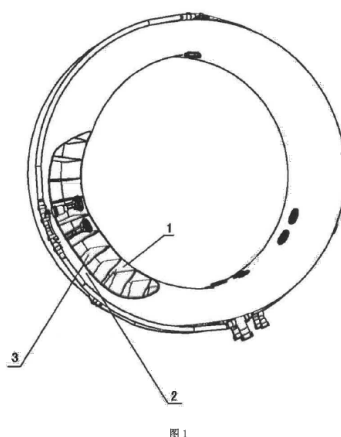


FIG. 31

3.5.6 Figure 1 of document D10 (reproduced below) discloses an air chamber delimited by an integral tube-like element.



Even if the appellant's and the intervener's argument relating to a seam being visible in the lower part of the cut-out portion of the figure were accepted, this would still result in a construction consisting of a single sheet that has been bent over and closed to form a tube-like construction.

Thus, document D10 does not directly and unambiguously disclose that the air chamber is formed by separate top, bottom, inner side and outer side walls.

The appellant and the intervener further argued that the third paragraph from the bottom on page 4 of D10' disclosed four separate entities corresponding to feature F4.2.

However, the skilled person would take the whole disclosure of D10/D10' into account, the aforementioned figure disclosing a single layer surrounding and forming the top of the air chamber and extending downwards to form the internal and external sides (or part of them). This is particularly the case since D10' refers to the "upper **bottom**" and "lower **bottom**" of the pool as the elements co-operating with the external and internal walls to create an air chamber. This apparent incoherence - a "bottom" element apparently being

intended to be located at the top of the pool - would require the embodiment to be interpreted by means of the figure. This would result in the understanding explained above since the wording of D10' is so vague in this respect that when interpreting its content in isolation from the figure, the skilled person would not be able to understand it in order to implement its teaching.

3.5.7 Since the subject-matter of claim 1 differs from D10 at least on account of feature F4.2 and since the appellant and the intervener have not provided any arguments as to why implementing this feature in D10 is obvious, the attack must fail for this reason alone.

3.5.8 Thus, the subject-matter of claim 1 involves an inventive step when starting from D10 (Article 56 EPC).

4. Rejection of the opposition and intervention - Article 101(2) EPC

Since no ground for opposition prejudices the maintenance of the European patent, the opposition and the intervention must be rejected.

Order

For these reasons it is decided that:

1. The appeal is dismissed.
2. The intervention is rejected.

The Registrar:

The Chairman:



C. Spira

C. Herberhold

Decision electronically authenticated