

UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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HELEN OF TROY LIMITED,  
Petitioner,

v.

TOMY INTERNATIONAL, INC.,  
Patent Owner.

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IPR2021-01208  
Patent 9,545,176 B1

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Before KEN B. BARRETT, FRANCES L. IPPOLITO, and  
SCOTT C. MOORE, *Administrative Patent Judges*.

IPPOLITO, *Administrative Patent Judge*.

DECISION  
Denying Institution of *Inter Partes* Review  
35 U.S.C. § 314(a)

## I. INTRODUCTION

Petitioner Helen of Troy Limited filed a Petition (Paper 1, “Pet.”) requesting *inter partes* review of claims 1–21 of U.S. Patent No. 9,545,176 B1 (Ex. 1001, “the ’176 Patent”). Patent Owner TOMY International, Inc. filed a Preliminary Response (Paper 6, “Prelim. Resp.”).

Under 35 U.S.C. § 314(a), an *inter partes* review may not be instituted unless the information presented in the Petition and any response thereto shows “there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition.” For the reasons set forth below, upon considering the Petition, Preliminary Response, and evidence of record, we determine the information presented in the Petition does not establish a reasonable likelihood that Petitioner would prevail with respect to at least one of the challenged claims. Accordingly, we do not institute *inter partes* review.

### A. Related Matters

According to Petitioner, “there are no other judicial or administrative matters that would affect, or be affected by, a decision in this proceeding.” Pet. 2. Petitioner also points out that the ’176 Patent, filed November 19, 2009 as U.S. Application 12/621,950 (“the ’950 Application”), claims priority to U.S. Provisional Application No. 61/116,555 (“the ’555 Provisional”), filed November 20, 2008. Pet. 8.

### B. The ’176 Patent

The ’176 Patent generally relates to a bathtub for a child and is aimed at being “lightweight and portable, easily collapsed for storage during periods of nonuse, easily deployed for use in washing a baby or small child, safe, and easy to construct.” Ex. 1001, 1:16–24, 2:61–64. The bathtub has a container attached to a base, in which the container is movable between a

collapsed position and a deployed position to form an open tub to receive a child. *Id.* at 1:28–29, 33–36; Fig. 5.

Figure 5, reproduced below, shows such a container.

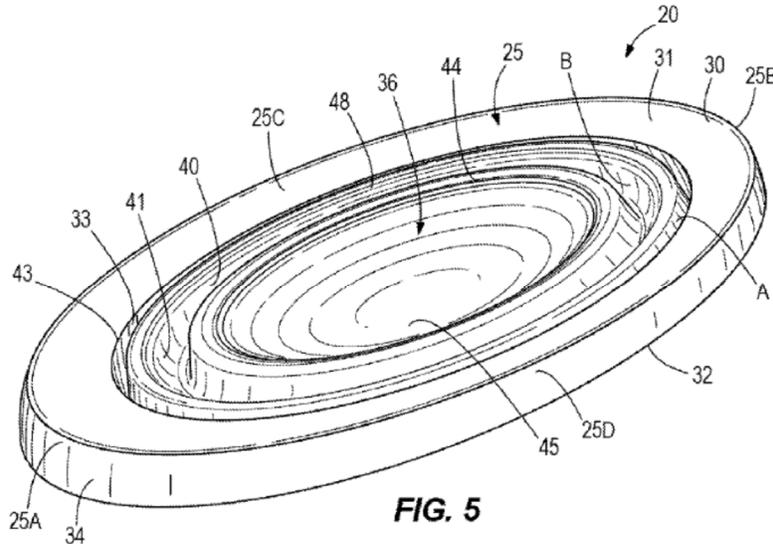
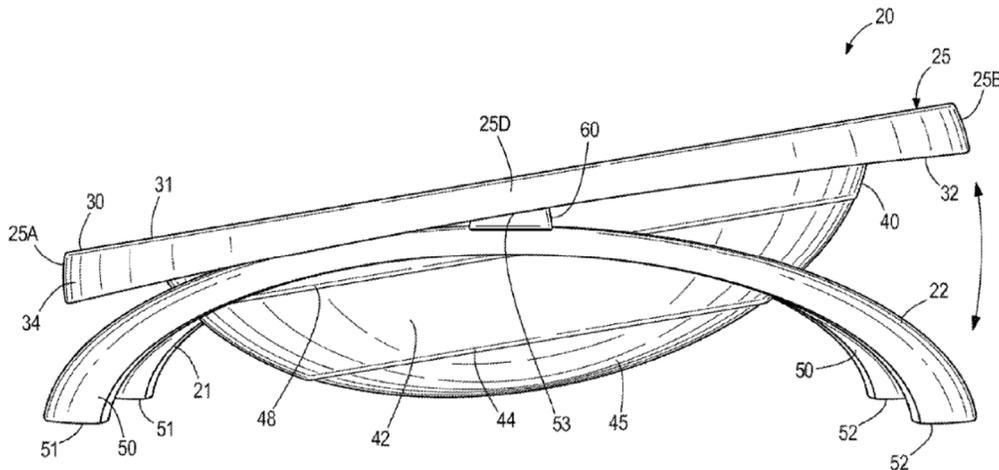


Figure 5 above is a perspective view of a bathtub in a collapsed orientation for storage. *Id.* at 2:13–15. Bathtub 20 has collapsible container 25 with frame 30, sidewall 40, and bottom 45. *Id.* at 2:45, 49–50, 3:18–19. Sidewall 40 “is formed of a substantially water impervious pliant, flexible, resilient material or combination of materials, such as water proof cloth or cloth-like material, silicone or other like or similar rubber-like material or combination of materials, softened plastic, or the like” and bottom 45 “is formed of a substantially water impervious resilient and substantially rigid material or combination of materials, such [as] plastic or other like or similar material or combination of materials.” *Id.* at 3:25–34.

The base of the bathtub is also movable between a collapsed position and a deployed position, in which the container is at an elevated position with respect to a support surface such that the container can move between a

substantially horizontal position and an inclined position. *Id.* at 1:29–33, 47–50; Fig. 10.

Figure 10, reproduced below, shows such a bathtub.



**FIG. 10**

Figure 10 above is a side elevation view of a bathtub with a collapsible container in an open position for receiving a child, in which the collapsible container is in an inclined position. *Id.* at 2:32–38. Bathtub 20 has collapsible legs 21 and 22 attached to collapsible container 25 such that when legs 21 and 22 are in a deployed position, they support collapsible container 25 “at an elevated location with respect to the support surface.” *Id.* at 2:45–54. Having multiple positions between a horizontal position and an inclined position, the position of collapsible container 25 can be selected to a position that is most comfortable for a child. *Id.* at 7:20–32.

### *C. Challenged Claims*

Petitioner challenges claims 1–21. Claims 1, 12, and 21 are independent claims. Claim 1 is reproduced below:

1. A bathtub, comprising:
  - a frame;
  - a container extending from the frame, the container including a water impervious, rigid bottom surface and a

centerline extending substantially perpendicular to the bottom surface;

a plurality of leg assemblies coupled to the frame, the plurality of leg assemblies movable between a first collapsed position with respect to the frame, and a first deployed position with respect to the frame to support the container at an elevated location with respect to a support surface, the plurality of leg assemblies extending from the container in a direction away from the centerline of the container when in the first deployed position; and

the container movable between a second collapsed position, and a second deployed position to form an open tub to receive a child to be bathed.

Ex. 1001, 8:12–29.

*D. Alleged Grounds of Unpatentability*

Petitioner asserts the following grounds of unpatentability:

<b>Claim(s) Challenged</b>	<b>35 U.S.C. §</b>	<b>Reference(s)/Basis</b>
1–8, 10–21	102 <sup>1</sup>	Song <sup>2</sup>
1–21	103	Song
1–21	103	Song, Kilion <sup>3</sup>
5, 6, 16, 17	103	Song, Kilion, Kassai <sup>4</sup>

<sup>1</sup> The '176 Patent claims priority to a provisional application (No. 61/116,555) filed on November 20, 2008. The application that ultimately matured into the '176 Patent was filed on November 19, 2009. Accordingly, the pre-AIA version of §§ 102, 103(a) applies.

<sup>2</sup> Japanese Pub. Utility Model Registration Appln. No. S.55-79291 U1, published May 31, 1980 (“Song”). Petitioner provides a certified English-language translation of Song (Ex. 1005). Any reference to Song hereinafter will be to this English-language translation.

<sup>3</sup> U.S. Patent No. 7,032,259 B1, issued Apr. 25, 2006 (Ex. 1009).

<sup>4</sup> Japanese Patent Pub. No. 2006-296873, published Nov. 2, 2006 (“Kassai”). Petitioner provides an official English-language translation of Kassai (Ex.

IPR2021-01208

Patent 9,545,176 B1

Pet. 16. In addition to the references listed above, Petitioner relies on the Declaration of Ronald Kemnitzer (Ex. 1002). *Id.*

## II. ANALYSIS

### A. *Level of Ordinary Skill in the Art*

In determining the level of skill in the art, we consider the type of problems encountered in the art, the prior art solutions to those problems, the rapidity with which innovations are made, the sophistication of the technology, and the educational level of active workers in the field. *Custom Accessories, Inc. v. Jeffrey-Allan Indus. Inc.*, 807 F.2d 955, 962 (Fed. Cir. 1986); *Orthopedic Equip. Co. v. U.S.*, 702 F.2d 1005, 1011 (Fed. Cir. 1983).

Petitioner contends that a person of ordinary skill in the art (“POSITA”) at the time of the invention of the ’176 patent “would be someone with a Bachelor’s degree in industrial design or furniture design with a focus on designing adjustable or reconfigurable furniture, or with one to two years of experience designing adjustable furniture or other products for infants or children.” Pet. 9 (citing Ex. 1002 ¶ 10). Patent Owner indicates that it “does not submit a different level of ordinary skill than the Petitioner.” Prelim. Resp. 11.

For purposes of this Decision, we adopt Petitioner’s proposal as reasonable and consistent with the prior art. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001) (the prior art may reflect an appropriate level of skill in the art).

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1012). Any reference to Kassai hereinafter will be to this English-language translation.

*B. Principles of Law*

“A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference.” *Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631(Fed. Cir. 1987). The elements must be arranged as required by the claim, but this is not an *ipsissimis verbis* test, i.e., identity of terminology is not required. *In re Bond*, 910 F.2d 831 (Fed. Cir. 1990).

In *Graham v. John Deere Co. of Kansas City*, 383 U.S. 1 (1966), the Supreme Court set out a framework for assessing obviousness under § 103 that requires consideration of four factors: (1) the “level of ordinary skill in the pertinent art,” (2) the “scope and content of the prior art,” (3) the “differences between the prior art and the claims at issue,” and (4) “secondary considerations” of non-obviousness such as “commercial success, long-felt but unsolved needs, failure of others, etc.” *Id.* at 17–18. “While the sequence of these questions might be reordered in any particular case,” *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 407 (2007), the Federal Circuit has “repeatedly emphasized that an obviousness inquiry requires examination of all four *Graham* factors and that an obviousness determination can be made only after consideration of each factor.” *Nike, Inc. v. Adidas AG*, 812 F.3d 1326, 1335 (Fed. Cir. 2016).

We note that, with respect to the fourth *Graham* factor, the current record in this proceeding does not include any argument or evidence directed to secondary considerations of nonobviousness. The analysis below addresses the first three *Graham* factors.

*C. Claim Construction*

For petitions filed on or after November 13, 2018, the “broadest reasonable interpretation” standard has been replaced with the federal court

IPR2021-01208

Patent 9,545,176 B1

claim construction standard that is used to construe a claim in a civil action under 35 U.S.C. § 282(b). This is the same claim construction standard articulated in *Phillips v. AWH Corp.*, 415 F.3d 1303 (Fed. Cir. 2005) (en banc), and its progeny.

Petitioner states that it “does not believe any special claim constructions are required for the Board to conclude that the asserted prior art renders the challenged claims unpatentable.” Pet. 9. Patent Owner generally agrees, stating that “the Board does not need to construe the claims to deny institution.” Prelim. Resp. 11.

We determine that for the purposes of this Decision, it is unnecessary to expressly construe these claim terms. *See Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999) (Only terms in controversy must be construed and only to the extent necessary to resolve the controversy); *see also Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (citing *Vivid Techs* in the context of an *inter partes* review).

#### *D. Overview of the Prior Art*

##### *1. Summary of Song (Ex. 1005)*

Song is a reference entitled “Folding Bathtub.” Ex. 1005, title. The folding bathtub “is easy to disassemble and assemble, while allowing the volume of the bathtub interior to be freely changed by a user.” *Id.* at 2; Fig. 1.

Figure 1, reproduced below, shows such a folding bathtub.

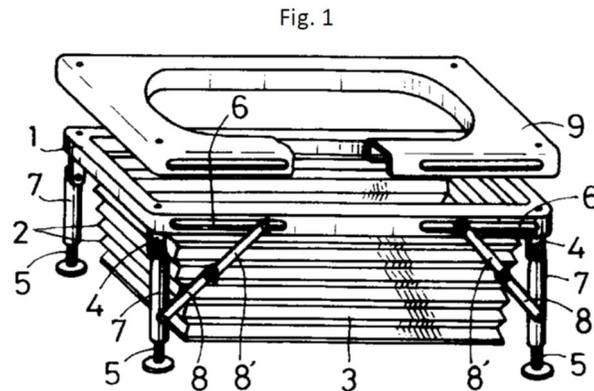


Figure 1 above is a partial exploded perspective view of a folding bathtub of Song. *Id.* at 4. The folding bathtub includes water tank 3, main body frame 1, and supporting legs 5. *Id.* at 2. Water tank 3 is formed by folded walls 2 and is attached to main body frame 1. *Id.* Screw-type expanding legs 5 are screwed onto support legs 7, which are pivotally attached to main body frame 1 by levers 8 and 8'. *Id.* Support legs 7 are also pivotally attached to support levers 4, which are attached to main body frame 1. *Id.*; Figs. 1, 2.

When in use, four support legs 7 stand vertically “so as to open [away] from” support levers 4. *Id.* at 3. Folded walls 2 “open in accordance with the amount of water introduced when the water [in]” water tank 3 is introduced, “as in a conventional bathtub.” *Id.* When used for small children or when only a small amount of water is introduced into water tank 3, “the height” of water tank 3 “is formed to be just the length” of the support legs 7. *Id.* Since the height of the water tank 3 can be formed in accordance to the extended length of support legs 7, the internal volume of water tank 3 “can be appropriately adjusted.” *Id.* After use, water tank 3 is folded via folded walls 2, and support legs 7 are also folded to the inside of levers 4. *Id.*; Fig. 3.

2. *Summary of Kilion (Ex. 1009)*

Kilion is a reference entitled “Collapsible Infant Tub.” Ex. 1009, code (54). Kilion relates to “a collapsible infant tub that may be raised or lowered for convenience.” *Id.* at 1:19–21. Figure 3, reproduced below, shows a collapsible infant tub according to an exemplary embodiment.

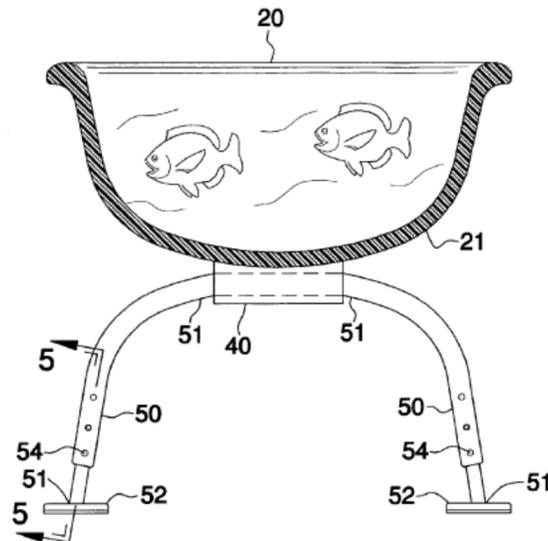


FIG. 3

Figure 3 above shows a cross-sectional view of a collapsible infant tub that “may be adjusted to several different heights to make bathing an infant easier for the caretaker and safer for the child.” *Id.* at 3:3–4, 26–29.

Collapsible infant tub includes tub section 20, hollow support members 40, and a plurality of leg members 50. *Id.* at 3:50–54. Hollow support members 40 are secured to bottom surface 21 of the collapsible infant tub and the plurality of leg members 50 extend through hollow support members 40 to maintain tub section in a stable position during use. *Id.* at 3:53–57.

3. *Summary of Kassai (Ex. 1012)*

Kassai is a reference that pertains to “a baby bath suitable for bathing a newborn infant.” Ex. 1012, ¶ 1. Kassai discloses that its baby bath allows an infant to be laid in a stable supported state, including a state where an

infant's head is tilted backward. *Id.* ¶¶ 4, 13. Figure 5, reproduced below, shows a baby bath according to an exemplary embodiment.

FIG. 5

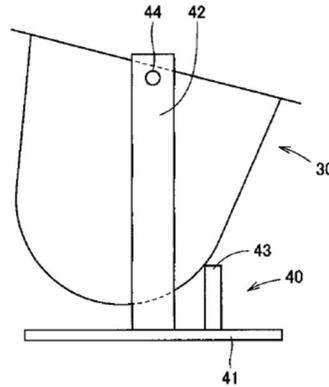


Figure 5 above is a diagram showing a basin body of a baby bath in a tilted state. *Id.* ¶ 36. The baby bath includes basin body 30 supported by support member 40. *Id.* ¶ 26. Support member 40 includes base frame 41 in which support column 42 and tilt angle fixing member 43 are disposed on base frame 41. *Id.* Basin body 30 is attached to support column 42 via shaft 44. *Id.* The position of tilt angle fixing member 43 can be changed and moved so that it comes into contact with basin body 30 to fix basin body 30 at a tilted position. *Id.* ¶ 27.

*E. Anticipation by Song – Claims 1–8 and 10–21*

Petitioner asserts claims 1–8 and 10–21 are anticipated by Song. Pet. 16–47. Patent Owner opposes. Prelim. Resp. 20–38. Having considered the arguments and evidence before us, we find that the record does not establish a reasonable likelihood that Petitioner would prevail on this asserted challenge.

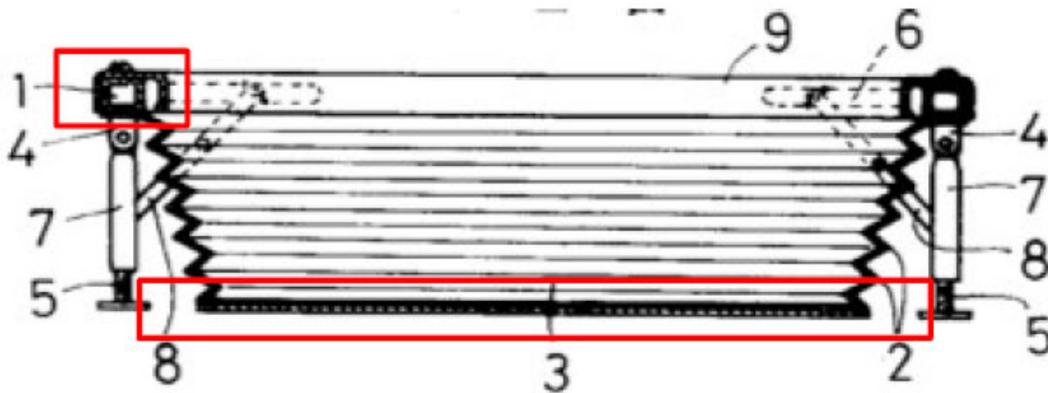
*1. Independent Claim 1*

Claim 1 is directed generally to a bathtub that includes a frame and a “container extending from the frame, the container including a water



rigid, the bottom surface of Song's container is shown without any sagging or bowing." *Id.* (citing Ex. 1002 ¶ 41).

In an annotated version of Figure 2 (reproduced below), Petitioner asserts that a cross-hatch pattern of the hardware near "1" indicates that the hardware connecting main body frame 1 with support lever 4 is rigid. Pet. 20.



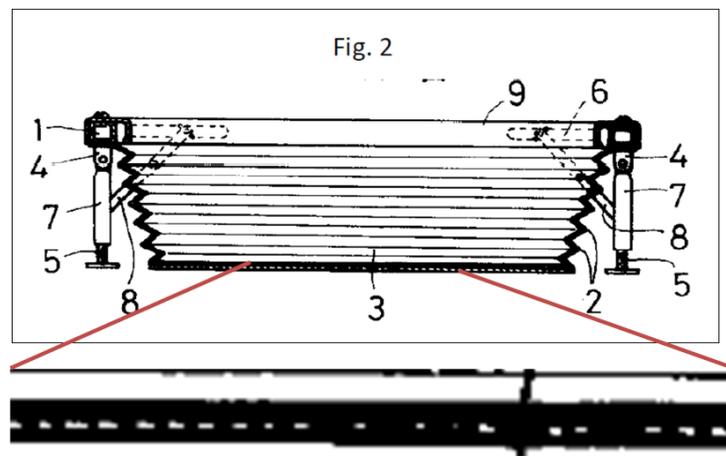
Petitioner's annotated version of Figure 2 with red boxes appears on page 22 of the Petition. Pet. 22. Petitioner further contends that the same pattern of cross-hatching is used for the bottom of the water tank. Based on this cross-hatching, Petitioner concludes that the bottom section boxed in red is made out of the same or similar rigid material as the hardware components. *Id.* at 21 (citing Ex. 1002 ¶ 43). Petitioner further argues "that this drawing convention was well-established at the time of the invention, and has been adopted by the USPTO, as reflected in the MPEP: MPEP 608.02." *Id.* at 22.

#### b) Patent Owner's Contentions

Patent Owner responds that Song's Figures 2 and 3 do not support Petitioner's position. *See* Prelim. Resp. 21. First, Patent Owner contends that the absence of bowing or sagging in Song's Figure 3 does not indicate a rigid bottom surface. *Id.* Patent Owner points out that there is nothing in Song's written disclosure to support Petitioner's position that the

draftsperson captured “the laws of physics in a drawing.” Prelim. Resp. 22, 23 (“FIG. 3 of Song is not a photograph. More importantly, there is no evidence, such as a statement in Song, suggesting that FIG. 3 perfectly represents the invention and captured the forces of gravity on the invention in the illustrations.”). Patent Owner adds that “[a] flexible or flimsy surface could be drawn without sagging because it is taut.” *Id.* at 24.

Second, with respect to Song’s Figure 2, Patent Owner provides its own annotated version, reproduced below:



Annotated Song’s Figure 2 from page 25 of the Petition depicting water tank 3 with extended support legs 7. According to Patent Owner, the bottom area of water tank 3 does not depict a consistent pattern of cross-hatching or markings. Prelim. Resp. 25. Patent Owner also observes that Song describes the entirety of lid 9 as having a rigid material, but does not show cross-hatching in lid body 9. *Id.* at 27.

Patent Owner also reasons that Song, a Japanese reference, is not governed by the Manual of Patent Examining Procedure (MPEP). Prelim. Resp. 28. Moreover, Patent Owner explains that

Song was filed in 1978, yet Petitioner cited to the MPEP from 2021. Paper 01, p. 21. *Petitioner failed to demonstrate that the cited section of MPEP 608.02 was in effect in 1978. In fact,*

*MPEP, Third Edition, Revision 55 from 1978 lacked the cited section of the MPEP. EX2001, p. 48-61. MPEP Ed. 3, Rev. 55 includes Section 608.02, but the cross-hatching illustration guide is notably absent. Id. As best Patent Owner can tell, the cross-hatching illustration guide relied upon by Petitioner did not appear in the MPEP until the USPTO published the Sixth Edition of the MPEP in 1995. EX2002, p. 86.*

*Id.* (emphasis added).

c) *Discussion*

Upon considering the parties' arguments and evidence, we determine that Patent Owner has the better position. With respect to Petitioner's annotated versions of Song's Figures 2 and 3, we agree that Petitioner's arguments are not supported. To be sure, drawings may be relied upon for the purposes of anticipation. *In re Bager*, 47 F.2d 951, 953 (CCPA 1931) ("Description for the purposes of anticipation can be by drawings alone as well as by words." (citation omitted)). Nonetheless, an ambiguous reference cannot anticipate a claim. *Wasica Finance GmbH v. Continental Automotive Sys., Inc.*, 853 F.3d 1272, 1284 (Fed. Cir. 2017).

With respect to Figure 3, Song does not expressly teach that the bottom portion of water tank 3 is rigid. Rather, Song teaches that water tank 3 is made with *foldable* wall 2 that can be folded inward. Ex. 1005, 3. The support legs are also foldable to the inside of support levers 4 and each part can be joined and *affixed in a small volume*. *Id.* In other words, the walls, legs, and levers are folded together into a small volume to make the bathtub "convenient to carry." *Id.* As such, we agree with Patent Owner that Figure 3 may very well depict the folded bathtub with a taut or folded wall (including the tank bottom) rather than a rigid material. The point, here, though is that we cannot tell from Figure 3 why the tank bottom is depicted as it is shown. Moreover, Song's express description of the folded bathtub

shown in Figure 3 does not support Petitioner's position that the straight tank bottom must be rigid.

Similarly, it is ambiguous as to whether Figure 2 uses cross-hatching to depict a rigid material for any illustrated structural components. Indeed, the left-side leg attachment of Figure 2 shows white dots against black. *Id.* at Fig. 2. But at the opposite side, the companion leg attachment near "6" does not show the same pattern. *Id.* Moreover, lid body 9, which is made from a synthetic resin, has no cross-hatching. *Id.* Further, the pattern presented in the magnified version (provided by Patent Owner) of Figure 2 shows uneven and inconsistent markings at the bottom of water tank 3. Thus, it is unclear whether the identified portion at the tank bottom contains any cross-hatching or intentional markings. Likewise, even if we were to apply purported drafting conventions (e.g., MPEP § 608.02) to a Japanese patent application, the relied upon markings shown in Figure 2 still do not show cross-hatching "with sufficient precision and detail to establish that the subject matter existed in the prior art." *Wasica Finance GmbH v. Continental Automotive Sys., Inc.*, 853 F.3d 1272, 1284 (Fed. Cir. 2017) (quoting *Verve, LLC v. Crane Cams, Inc.*, 311 F.3d 1116, 1120 (Fed. Cir. 2002)).

In addition, we are not persuaded otherwise by Mr. Kemnitzer's testimony. On Petitioner's behalf, Mr. Kemnitzer testifies that

Song's disclosure explains that it seeks to "remove the defects" of the prior art, which used a "flexible synthetic resin" material to make up the container of the bathtub, which, when in use, could "move" freely, and water held in the vessel could easily spill out, dirtying the surrounding area." EX1005, 2. *Song explains that the rigidity of the bottom surface of its container creates a more stable structure, which restricts movement.*

Ex. 1002 ¶ 43 (emphasis added). Yet, Mr. Kemnitzer does not direct us to where Song “explains” that the rigidity of the bottom surface solves this identified problem. Rather, Song does not explicitly teach that the bottom surface of water tank 3 is rigid. *See, generally* Ex. 1005. Moreover, with reference to Figure 1 (reproduced below), Song teaches expressly that it is lid body 9 that restricts movement. Ex. 1005, 2.

Fig. 1

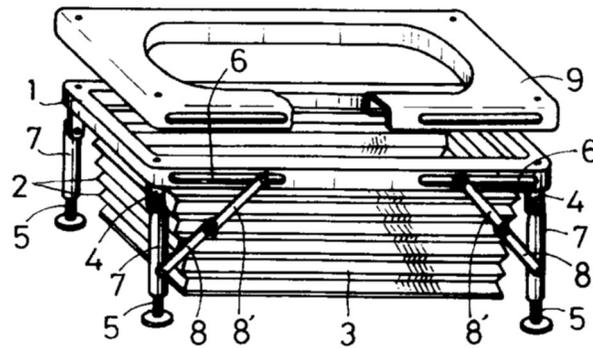


Figure 1 depicts a folding bathtub, water tank 3, main body frame 1, and supporting legs 5. *Id.* As shown, water tank 3 is formed by folded walls 2 and is attached to main body frame 1. *Id.* Synthetic resin lid body 9 is joined to the upper portion of the main body 1. *Id.* at 3. And, Song expressly teaches that “when a lid body (9) is attached to main body frame (1) as shown in the figure, this is stiffly tightened by the joining of lid body (9), so there is no risk of free movement during use.” *Id.* (emphasis added). Thus, we understand Song to teach that it is the lid body, not a bottom rigid surface, that provides “no risk of free movement during use.” *Id.*

Mr. Kemnitzer does not discuss this disclosure and does not otherwise provide support for how “Song explains that the rigidity of the bottom surface of its container creates a more stable structure, which restricts movement.” *See* Ex. 1002 ¶ 43.

Accordingly, for the reasons discussed, the Petition is deficient with respect to this challenge.

2. *Claims 2–8 and 10–21*

Independent claims 12 and 21 are also directed to a bathtub. Ex. 1001, 9:8, 10: 26. Claim 12 recites “a water impervious rigid bottom wall,” and claim 21 recites “a water impervious, rigid bottom surface.” *Id.* at 9:10–11, 10:28.

For these limitations, Petitioner relies on the same arguments discussed above for claim 1. Pet. 45, 47.

Claims 2–8 and 10–20 depend from claims 1 or 12. For the shared limitations, Petitioner applies the same arguments and evidence discussed above with respect to claim 1. *See* Pet. 35–44, 47.

For the same reasons discussed with respect to claim 1, we determine that Petitioner has not demonstrated a reasonable likelihood of prevailing on the challenge that independent claims 12 and 21 and dependent claims 2–8 and 10–20 are anticipated by Song.

F. *Obviousness based on Song alone, or in view of Kilion –  
Claims 1–21*

Alternatively, Petitioner asserts claims 1–21 would have been obvious based on the teachings of Song alone or in view of Kilion. Pet. 48–63.

With respect to the “rigid bottom surface” and “rigid bottom wall” limitations recited in independent claims 1, 12, and 21, Petitioner argues that “making the bottom surface or wall of Song’s bathtub rigid would have been obvious at the time of the invention.” Pet. 48–49, citing Ex. 1002 ¶¶ 147–49. Petitioner contends that

[i]t was well known at the time of the invention for bathtubs and other containers for holding liquids to have rigid bottom surfaces.

Indeed, a POSITA would have understood that essentially all bathtubs had rigid bottoms.

*Id.* at 49 (citing Ex. 1002 ¶¶ 147–149; Ex. 1006; Ex. 1009; Ex. 1010) (emphasis added). Petitioner further asserts that “adding a rigid bottom surface or wall to Song would be a *simple substitution of a known element with another to yield predictable results.*” *Id.* (emphasis added).

Petitioner contends that a POSITA would have been motivated to use a rigid bottom surface or wall in Song’s design: (1) to avoid the disadvantages of a completely ‘flexible’ container”; and (2) for utility and safety reasons. *Id.* at 49–50 (citing Ex. 1002 ¶¶ 148–149, Ex. 1006, 1:4–12, 2:27–34, 3:8–34).

In view of Kilion, Petitioner asserts that Kilion’s Figure 2 employs a specific cross-hatching pattern that informs a POSITA that the bottom of Kilion’s bathtub is made of a rigid material. Pet. 57 (citing Ex. 1002 ¶ 164; Ex. 1009, Fig. 2). Petitioner contends that the cross-hatching pattern illustrates a “synthetic resin or plastic material, which is rigid.” *Id.* Petitioner adds that a “POSITA would have been motivated to include a rigid bottom surface or wall like Kilion’s in Song for safety and comfort reasons [because] it was known that incorporating a rigid bottom surface in a portable bathtub would prevent it ‘from sagging under the weight of the infant,’ which could ‘destroy the correct posture’ of the child.” *Id.* at 58 (citing Ex. 1002 ¶ 164; Ex. 1006, 1:4–12, 2:27–34, 3:8–34).

Patent Owner responds that Song’s folding walls are not rigid and that if the walls were made rigid, Song’s water tank 3 would not be able to expand and contract. Prelim. Resp. 43. Patent Owner adds that Petitioner has also not explained “why a PHOSITA would be motivated to partially

IPR2021-01208

Patent 9,545,176 B1

modify Song using only a portion of a conventional bathtub or Kilion's bathtub." *Id.* at 46.

Having considered the parties' briefs and evidence, we agree with Patent Owner that the Petition lacks sufficient explanation. As Patent Owner points out, Song teaches that conventional "suitcase-type folding sinks" constituted a sink body made from a flexible synthetic resin. Ex. 1005, 3. This was problematic because the main body moved freely and water spilled out of the vessel. *Id.* Song then teaches that its design avoids spillage. *Id.* More specifically, Song's structure includes a main body frame that includes, among other things, support legs, support levers, and a *synthetic resin* lid body joined to the upper body of the main body frame. *Id.* at 3. Song expressly teaches that "when a lid body (9) is attached to main body frame (1) as shown in the figure, this is stiffly tightened by the joining of lid body (9), *so there is no risk of free movement during use.*" *Id.* (emphasis added). Thus, we understand, from this disclosure, that Song teaches that its design addresses the purported problem of water spilling out of the flexible suitcase-type folding sink. *Id.*

With Song's disclosure in mind, we turn to Mr. Kemnitzer's testimony. There, Mr. Kemnitzer testifies that "a POSITA would have been motivated to use a rigid bottom surface or wall, which was a well-known bathtub feature, in Song's design *to avoid the disadvantages of a completely 'flexible' container.*" Ex. 1002 ¶ 148. Yet, as discussed above, Song addresses this problem by attaching lid body 9 to main body frame 1 "so there is no risk of free movement during use." Ex. 1005, 3. Neither Mr. Kemnitzer nor Petitioner addresses this disclosure of Song in the context of Petitioner's proposed modification.

Moreover, Petitioner does not explain how the use of the rigid bottom surface or wall would avoid this problem when Song's design allows the bottom portion to rest on the ground or supporting surface. Song teaches that "the height of the water tank (3) is formed to be just the length of the support legs (7)." Ex. 1005, 3. We understand Song discloses that the bottom of the water tank will expand such that the bottom will be the length of the legs, which are on the ground or other supporting surface underneath the bathtub. *See id.* at 3, Fig. 2. Essentially, then, Song's bathtub is supported against sagging by its placement on the supporting surface below. Nonetheless, Mr. Kemnitzer and Petitioner do not adequately explain why a rigid bottom surface would be needed to "prevent it 'from sagging under the weight of the infant,'" given this disclosure. *See* Ex. 1002 ¶ 164. Said another way, Petitioner does not address Song's teachings in the context of its own proposed modification and neglects to explain why a POSITA would seek to substitute a rigid bottom wall/surface into Song's design when Song's bathtub rests on a supporting surface like the ground.

Additionally, we agree with Patent Owner that there is considerable confusion as to Petitioner's modification of Song's design. Petitioner asserts that "adding a rigid bottom surface or wall to Song would be a simple substitution of a known element with another to yield predictable results." Pet. 49. Nonetheless, Petitioner does not explain sufficiently what it proposes to simply substitute in Song's design. As shown in Song's Figure 2, the water tank includes a foldable wall that appears to extend from one side of the tank, to the bottom, and to the other side. It is unclear from the Petition, which aspect or portion of Song's folding wall would be substituted with a rigid surface or wall. *See* Pet. 49. For example, Petitioner relies on Kilion, which presumably teaches a bathtub made from a rigid material all

the way around. Ex. 1009, Fig. 2. As shown, that rigid material forms the sides and bottom of the entire bathtub. *See id.* Still, Petitioner does not explain if a POSITA would look to Kilion and substitute Song's entire folding wall or only some unidentified bottom portion with this material. *See Pet. 49.*

The same applies to Exhibit 1010, which discloses a collapsible straining device that can be

fabricated, in whole or in part, from silicone, plastics, nylon, deformable wire mesh, films or foils, fabrics, synthetic or natural rubbers, or any combination thereof, or any other material sufficiently deformable and/or flexible to expand during use, for example in response to gravity and/or a weight of contents, and collapse into a thin form after use for storage and/or transport.

Ex. 1010 ¶ 16. Exhibit 1010 further teaches that the collapsible container may also be made from material comprising metals, soft or hard woods, silicone, soft or hard plastics, composites such as carbon fiber. *Id.* ¶ 17. Despite this broad disclosure of materials, Petitioner does not; however, explain how these teachings for a collapsible strainer apply to Song's bathtub, particularly what aspect of Exhibit 1010 a POSITA would simply substitute into Song's design.

With respect to Exhibit 1006, "Berger," Petitioner also does not explain how a POSITA would consider the use of Berger's rigid members in the context of Song's design. Berger teaches a "rubber bathtub" with a rigid member that extends across the bottom of the tub body. Ex. 1006, 2:12–23. However, even assuming Berger discloses a rigid material, Petitioner does not articulate how Berger's rigid member would be substituted into Song's bathtub. To Patent Owner's point, there is much speculation as to how this might be done with the background knowledge evidenced in Berger, Kilion,

IPR2021-01208

Patent 9,545,176 B1

and Exhibit 1010. *See* Prelim. Resp. 43–44 (“Petitioner proposed modifying Song in view of entirely rigid water tanks having rigid sidewalls.”), 46 (“Petitioner never provided a motivation why a PHOSITA would be motivated to partially modify Song using only a portion of a conventional bathtub or Kilion’s bathtub.”). Nonetheless, we decline to speculate and, in short, determine that Petitioner’s explanations are underdeveloped and conclusory.

An assertion of obviousness “cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *KSR*, 550 U.S. at 418 (quoting *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006)); accord *In re NuVasive, Inc.*, 842 F.3d 1376, 1383 (Fed. Cir. 2016) (stating that “‘conclusory statements’” amount to an “insufficient articulation[ ] of motivation to combine”; “instead, the finding must be supported by a ‘reasoned explanation’ ” (citation omitted)); *In re Magnum Oil Tools Int’l, Ltd.*, 829 F.3d 1364, 1380 (Fed. Cir. 2016) (“To satisfy its burden of proving obviousness, a petitioner cannot employ mere conclusory statements. The petitioner must instead articulate specific reasoning, based on evidence of record, to support the legal conclusion of obviousness.”).

For these reasons, the Petition is deficient with respect to these challenges. Accordingly, for the reasons discussed above, we conclude that Petitioner has not demonstrated a reasonable likelihood of prevailing on the challenge to claims 1–21 as having been obvious over Song alone or in view of Kilion.

*G. Obviousness based on Song and Kassai – Claims 5, 6, 16, and 17*

Petitioner asserts claims 5, 6, 16, and 17 would have been obvious based on the teachings of Song and Kassai. Pet. 64–67. Patent Owner opposes. Prelim. Resp. 39–61.

Claims 5, 6, 16, and 17 depend from either independent claims 1 and 12. For the “rigid bottom surface” and “rigid bottom wall” limitations recited in the independent claims and shared in the dependent claims, Petitioner relies on the same arguments discussed above. *See* Pet. 64 (“[T]o the extent Patent Owner contends moving the bottom surface or wall of the container to *an inclined position* as claimed is not sufficiently disclosed or obvious, this element is taught, and the claims rendered obvious, by Kassai (EX1012). EX1002, ¶¶173–179.”) (emphasis added).

Therefore, for the same reasons discussed above, we conclude that Petitioner has not demonstrated a reasonable likelihood of prevailing on the challenge to claims 5, 6, 16, and 17 as having been obvious over Song and Kassai.

III. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that, pursuant to 35 U.S.C. § 314(a), an *inter partes* review of claims 1–21 of the ’176 Patent is denied.

IPR2021-01208  
Patent 9,545,176 B1

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