

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

CHOIROCK CONTENTS FACTORY CO., LTD.,
Petitioner,

v.

SPIN MASTER LTD.,
Patent Owner.

IPR2019-00901
Patent 9,975,058 B2

Before HYUN J. JUNG, NEIL T. POWELL, and
BRENT M. DOUGAL, *Administrative Patent Judges*.

POWELL, *Administrative Patent Judge*.

JUDGMENT
Final Written Decision
Determining All Challenged Claims Unpatentable
35 U.S.C. § 318(a)

I. INTRODUCTION

Choirock Contents Factory Co., Ltd. (“Petitioner”) filed a Petition (Paper 1, “Pet.”) requesting an *inter partes* review of claims 1–5 of U.S. Patent No. 9,975,058 B2 (Ex. 1001, “the ’058 patent”). Concurrently with the Petition, Petitioner also filed a “Motion for Joinder to Related *Inter Partes* Review of U.S. Patent No. 9,975,058 ([*Mattel, Inc. v. Spin Master Ltd.*,] IPR2018-01674) Under 35 U.S.C. § 315(c) and 37 C.F.R. § 42.122(b).” Paper 3. Spin Master Ltd. (“Patent Owner”) filed a Preliminary Response. Paper 14 (“Prelim. Resp.”). Patent Owner also filed an Opposition to Petitioner’s Motion for Joinder to IPR2018-01674. Paper 7. Petitioner thereafter filed a Reply to Patent Owner’s Opposition (Paper 8), and with our authorization (Paper 15), Petitioner further filed a Reply to Patent Owner’s Preliminary Response (Paper 16). Pursuant to 35 U.S.C. § 314, we instituted an *inter partes* review of the ’058 patent and at the same time denied the Motion for Joinder. Paper 17 (“Dec. to Inst.”).

After institution, Patent Owner filed a Response (Paper 31, “PO Resp.”), to which Petitioner filed a Reply (Paper 34, “Pet. Reply”). Patent Owner thereafter filed a Sur-reply (Paper 39, “PO Sur-reply”). An oral hearing in this proceeding was held on June 25, 2020; a transcript of the hearing is included in the record (Paper 45, “Tr.”).

For the reasons below, Petitioner persuades us by a preponderance of the evidence that claims 1–5 of the ’058 patent are unpatentable.

II. BACKGROUND

A. Related Matters

According to the parties, a complaint alleging infringement of the ’058 patent was filed on April 24, 2018 in *Spin Master Ltd. v. Mattel, Inc.*,

No. 2:18-cv-3435 (C.D. Cal.); and *Spin Master Ltd. v. Alpha Group US LLC*, No. 2:18-cv-01046 (C.D. Cal.). Pet. 1; Paper 5, 2. The parties also indicate that, on September 7, 2018, a petition requesting *inter partes* review of the '058 patent was filed in IPR2018-01674. Pet. 2; Paper 5, 2. On March 19, 2019, *inter partes* review of the '058 patent was instituted, and on April 29, 2019, a joint motion to terminate that proceeding was granted. The present Petition was filed on March 29, 2019. Paper 4.

B. The Asserted Grounds of Unpatentability

Petitioner asserts that claims 1–5 would have been unpatentable on the following grounds:

Claims Challenged	35 U.S.C. §	Reference(s)/Basis
1–5	§ 102(b) ¹	Wilhelm ²
1–5	§ 103(a)	Tomiyama ³
1–5	§ 103(a)	Tomiyama and Shannon ⁴
1–5	§ 103(a)	Aprile ⁵ and Thompson ⁶

As further support, Petitioner relies on two Declarations of Barry

¹ The relevant sections of the Leahy-Smith America Invents Act (“AIA”), Pub. L. No. 112–29, 125 Stat. 284 (2011), took effect on March 16, 2013. The application from which the '058 patent issued is a continuation of an application filed on December 22, 2006, and the '058 patent claims priority to a foreign application filed on February 20, 2006. Ex. 1001, codes (30), (60). Because the first application and the foreign application were filed before March 16, 2013, the effective date of the relevant amendment, the pre-AIA versions of §§ 102 and 103 apply.

² U.S. Patent No. 6,592,427 B1, iss. July 15, 2003 (Ex. 1011).

³ JP 38-9155, Pub. May 15, 1963 (Ex. 1005).

⁴ U.S. Patent No. 5,310,378, iss. May 10, 1994 (Ex. 1007).

⁵ WO 2006/051417 A2, pub. May 18, 2006 (Ex. 1008).

⁶ U.S. Patent No. 3,687,452, iss. Aug. 29, 1972 (Ex. 1009).

Kudrowitz, Ph.D. Exs. 1002, 1019. Patent Owner relies on a Declaration of Jason A. Janét, Ph.D. Ex. 2001.

C. The '058 Patent

The '058 patent discloses a toy that can transform from a rollable shape to another shape. Ex. 1001, code (57). The '058 patent discloses that toys were known to use magnetic force to produce game effects. *Id.* at 1:27–40. As one example, the '058 patent notes a proposed toy doll with a magnet used to automatically open a door of a toy house frame via magnetic force. *Id.* at 1:30–40. The '058 patent indicates a desire to improve on known toys “to dramatically increase the commercial value of the toy and impart fresh wonderment and intellectual excitement to its players by means of making the magnetic-force-expansion-style toy rollable.” *Id.* at 2:3–7.

The '058 patent shows one embodiment of its toy in Figure 4, which is reproduced below.

Figure 4

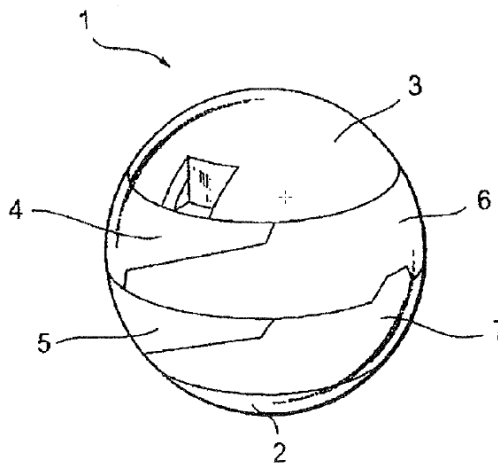


Figure 4 shows toy 1 in “a rollable, spherical shape.” *Id.* at 5:20–21. From this shape, toy 1 can change “to a fictitious character shape” shown in Figure 7, which is reproduced below.

Figure 7

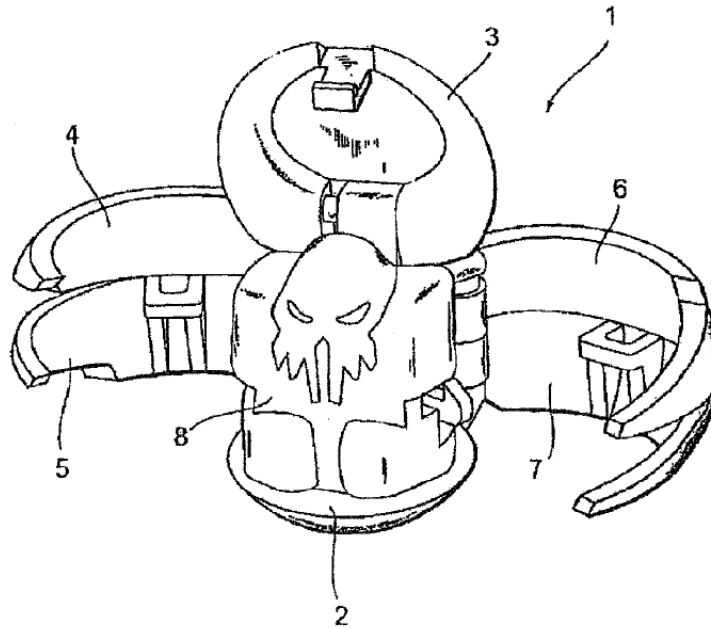


Figure 7 shows toy 1 after it has changed from the state shown in Figure 4 to a fictitious character state. *Id.* at 4:52–53, 4:62–63, 5:19–24. The mechanism involved in the transformation is better shown in Figure 1, which is reproduced below.

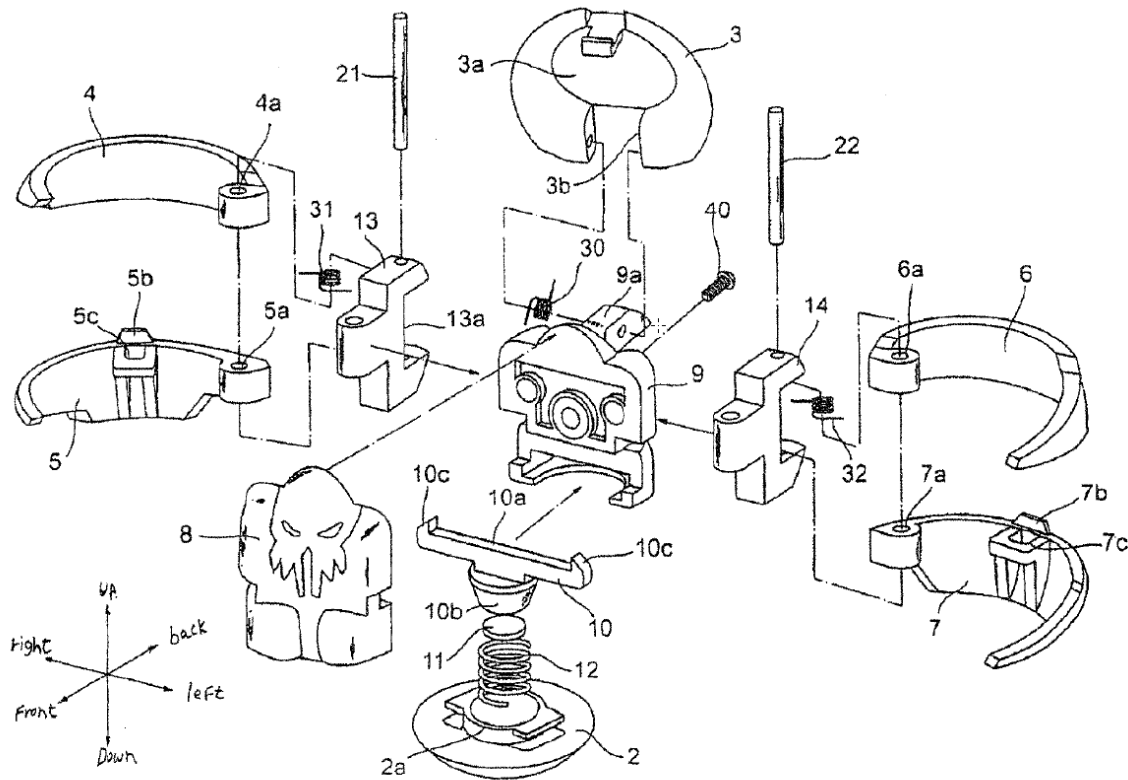


Figure 1 shows an exploded view of toy 1. *Id.* at 4:46–47.

Toy 1 has an exterior structure, “which forms an overall spherical shape.” *Id.* at 5:27–30. The exterior structure includes lower component 2, upper component 3, and lateral components 4–7. *Id.* at 5:30–35.

Inside the exterior structure, toy 1 has an interior structure. *Id.* at 5:27–30. The interior structure includes front component 8, back component 9, locking component 10, magnet 11, spring 12, and support components 13, 14. *Id.* at 5:35–47.

Front component 8 and back component 9 “are assigned to the upper section of lower component 2.” *Id.* at 7:45–47. Screw 40 holds together front component 8 and back component 9. *Id.* at 7:45–50.

Locking component 10 is “assigned to the interval between front component 8 and back component 9.” *Id.* at 5:40–42. Additionally, “[l]ocking component 10, magnet 11 and spring 12 of the interior structure are assigned to the interior space of through-hole 2a in such a way that they can move in the interval between the central location and near-surface location of toy 1 in a rectilinear fashion.” *Id.* at 5:54–61. Locking component 10, which has “a roughly T-shape,” includes left-and-right extending portion 10a, tapered tubular portion 10b, and interior locking portions 10c. *Id.* at 7:61–67. Tapered tubular portion 10b has magnet 11 fixed on its bottom end. *Id.* at 8:1–2. Spring 12 urges locking component 10 up. *Id.* at 8:7–12.

Upper component 3 connects to back component 9 in a manner allowing upper component 3 to turn. *Id.* at 6:8–10. Spring 30 biases upper component 3 to turn upwardly. *Id.* at 6:10–15.

Lateral components 4 and 5 “are connected to support component 13 through turning axis 21,” and lateral components 6 and 7 “are connected to support component 14 through turning axis 22.” *Id.* at 6:41–42, 6:51–52. Springs 31, 32 bias lateral components 4, 6 to turn outwardly. *Id.* at 6:43–47; 6:53–57.

“[P]rotrusions 5b and 7b are respectively furnished on the upper side of the two left and right lateral components 5 and 7.” *Id.* at 6:58–60. When spring 31 turns lateral component 4 outward, engagement between lateral component 4 and protrusion 5b rotates lateral component 5 outwardly with lateral component 4. *Id.* at 6:64–7:1. Likewise, engagement of protrusion 7b with lateral component 6 ensures that lateral component 7 moves outward when lateral component 6 does. *Id.* at 7:1–8.

Additionally, “U-shaped exterior locking portions 5c and 7c, which are respectively locked by the two left and right interior locking portions 10c and 10c of locking component 10 of the interior structure, are furnished on the inner side of the two left and right lateral components 5 and 7.” *Id.* at 7:9–14. Absent an external magnetic force acting on toy 1, with locking portions 5c and 7c locked onto interior locking portions 10c, lateral components 4–7 do not rotate outwardly. *Id.* at 7:15–23.

When a magnetic substance is near magnet 11, a magnetic force draws locking component 10 against spring 12 toward the exterior of toy 1. *Id.* at 8:31–39. As a result, “the locked state of the left and right interior locking portions 10c and 10c of locking component 10 of the interior structure and exterior locking portions 5c and 7c of the exterior structure is thereby released.” *Id.* at 8:39–42. With interior locking components 10c and interior locking components 5c, 7c released from one another, springs 30, 31, and 32 unfold toy 1 into the open position shown in Figure 7. *Id.* at 8:43–53. Subsequently, toy 1 can be returned to its spherical shape by rotating upper component 3 down, as well as rotating lateral components 4–7 inward, locking exterior locking components 5c, 7c and exterior locking components 10c. *Id.* at 8:54–64. This holds toy 1 in its spherical shape until reapplication of a magnetic force. *Id.* at 8:64–67.

D. Illustrative Claim

Claim 1 is independent. Each of claims 2–5 depends, directly or indirectly, from independent claim 1. Claim 1 is reproduced below:

1. A transformable toy comprising:
a first toy component including:
a body;

at least one auxiliary component that is movable relative to the body between a rollable first position and a second position; and

a locking assembly including:

a first magnetically-responsive member,
an elastic element,
a latch, and
a keeper,

wherein the elastic element urges the locking assembly towards a locking position in which the latch and the keeper are engaged with one another and at least indirectly retain the at least one auxiliary component in the first position; and

a second toy component having a second magnetically-responsive member, wherein the second toy component is engageable with the body of the first toy component to bring the first magnetically-responsive member of the locking assembly and the second magnetically-responsive member sufficiently near one another to generate a magnetic force,

wherein upon generating the magnetic force, the first magnetically-responsive member responds to bring the locking assembly to a release position in which the latch and the keeper permit movement of the at least one auxiliary component from the first position to the second position,

wherein at least one of the first magnetically-responsive member and the second magnetically-responsive member is a magnet.

Ex. 1001, 16:7–39.

III. ANALYSIS

A. Level of Ordinary Skill in the Art

Petitioner asserts that one of ordinary skill in the art “would have a bachelor’s degree in mechanical engineering or a related field and at least three years of experience in toy design.” Pet. 13 (citing Ex. 1002 ¶¶ 22–24). Patent Owner states that its declarant applies Petitioner’s proposed level of

ordinary skill in his analysis. PO Resp. 1 (citing Ex. 2001 ¶ 31); *see also* Tr. 71:15–22 (confirming that, for purposes of this proceeding, Patent Owner is not disputing Petitioner’s proposed level of ordinary skill).

In determining the level of ordinary skill in the art, various factors may be considered, including the “type of problems encountered in the art; prior art solutions to those problems; rapidity with which innovations are made; sophistication of the technology; and educational level of active workers in the field.” *In re GPAC Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995) (citation and internal quotation marks omitted).

Based on the full record before us, we determine that one of ordinary skill in the art “would have a bachelor’s degree in mechanical engineering or a related field and at least three years of experience in toy design.” This level of skill in the art is consistent with the disclosure of the ’508 patent and the prior art of record

B. Claim Construction

On October 11, 2018, the Office revised its rules to harmonize the Board’s claim construction standard with that used in federal district court. Changes to the Claim Construction Standard for Interpreting Claims in Trial Proceedings Before the Patent Trial and Appeal Board, 83 Fed. Reg. 51,340 (Oct. 11, 2018) (amending 37 C.F.R. § 42.100(b) effective November 13, 2018) (now codified at 37 C.F.R. § 42.100(b) (2019)). This rule change applies to this proceeding. *See* Pet. 13–14 n.2 (stating that the “USPTO replaced the broadest reasonable interpretation standard with the claim construction standard that is used to construe claims during a civil action in federal district court”); Paper 4, 1 (according filing date of March 29, 2019

to the Petition); PO Resp. 1 (stating that “[t]his IPR was filed after November 13, 2018, and the *Phillips* standard applies”).

According to the applicable standard, claim terms “are generally given their ordinary and customary meaning” as understood by a person of ordinary skill in the art in question at the time of the invention. *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312–13 (Fed. Cir. 2005) (en banc). “In determining the meaning of the disputed claim limitation, we look principally to the intrinsic evidence of record, examining the claim language itself, the written description, and the prosecution history, if in evidence.” *DePuy Spine, Inc. v. Medtronic Sofamor Danek, Inc.*, 469 F.3d 1005, 1014 (Fed. Cir. 2006) (citing *Phillips*, 415 F.3d at 1312–17). Extrinsic evidence is “less significant than the intrinsic record in determining ‘the legally operative meaning of claim language.’” *Phillips*, 415 F.3d at 1317. Only those terms that are in controversy need be construed, and only to the extent necessary to resolve the controversy. *See Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co.*, 868 F.3d 1013, 1017 (Fed. Cir. 2017) (citing *Vivid Techs., Inc. v. America Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999)).

The Petition proposes constructions for certain claim language. Pet. 14–19. Patent Owner states that it “disagrees with [Petitioner’s] constructions. [Petitioner’s] constructions undercut its unpatentability arguments, and [Petitioner] fails to apply its constructions for some of its arguments.” PO Resp. 1. In the section of its Response devoted to claim construction, Patent Owner does not provide any further explanation of why it disagrees with Petitioner’s claim constructions. *See id.*

When we instituted this *inter partes* review, we did not find that the parties' patentability disputes necessitated construing expressly any claim terms. Dec. to Inst. 10. Subsequently, the parties have disputed whether certain portions of the asserted prior art references teach "[a] transformable toy," as recited in the preamble of claim 1 of the '058 patent. *See* Pet. 64–65; PO Resp. 55–56; Pet. Reply 21–22; Sur-reply 12–13. This dispute warrants a claim-construction discussion regarding the preamble of claim 1.

To help us consider the claim-construction issues related to claim 1's preamble, we authorized each party to file a brief addressing whether the preamble of claim 1 is limiting. Paper 42. Pursuant to this authorization, Patent Owner filed a "Brief Regarding the Limiting Effect of the Preamble of Claim 1." Paper 43 ("PO Pr. Br."). Petitioner filed a "Post-Hearing Brief Regarding Non-Limiting Preamble of Claim 1." Paper 44 ("Pet. Pr. Br.").

As a general rule, preamble language is not treated as limiting. *Allen Eng'g Corp. v. Bartell Indus., Inc.*, 299 F.3d 1336, 1346 (Fed. Cir. 2002). Nonetheless, the preamble may be construed as limiting "if it recites essential structure or steps, or if it is 'necessary to give life, meaning, and vitality' to the claim." *Catalina Mktg. Int'l, Inc. v. Coolsavings.com, Inc.*, 289 F.3d 801, 808 (Fed. Cir. 2002) (quoting *Pitney Bowes, Inc. v. Hewlett-Packard Co.*, 182 F.3d 1298, 1305 (Fed. Cir. 1999)). For example, "when limitations in the body of the claim rely upon and derive antecedent basis from the preamble, then the preamble may act as a necessary component of the claimed invention." *Pacing Techs., LLC v. Garmin Int'l, Inc.*, 778 F.3d 1021, 1024 (Fed. Cir. 2015) (quoting *Eaton Corp. v. Rockwell Int'l Corp.*, 323 F.3d 1332, 1339 (Fed. Cir. 2003)). A preamble is not regarded as limiting, however, "when the claim body describes a structurally complete

invention such that deletion of the preamble phrase does not affect the structure or steps of the claimed invention.” *Catalina*, 289 F.3d at 809. If the preamble “is reasonably susceptible to being construed to be merely duplicative of the limitations in the body of the claim (and was not clearly added to overcome a [prior art] rejection), we do not construe it to be a separate limitation.” *Symantec Corp. v. Computer Assocs. Int’l, Inc.*, 522 F.3d 1279, 1288–89 (Fed. Cir. 2008). The preamble has no separate limiting effect if, for example, “the preamble merely gives a descriptive name to the set of limitations in the body of the claim that completely set forth the invention.” *IMS Tech., Inc. v. Haas Automation, Inc.*, 206 F.3d 1422, 1434 (Fed. Cir. 2000).

Petitioner argues that the preamble of claim 1 is not limiting. Pet. Pr. Br. 3. Petitioner asserts that the body of claim 1 entirely recites the invention. *Id.* at 3. Petitioner notes that the body of claim 1 does not recite “transformable toy,” such that the preamble does not provide antecedent basis for any term in the claim’s body. *Id.* at 3–4. Petitioner contends that the preamble’s recitation of “transformable toy” does not “impose any structural requirement on the claimed invention beyond what is required by the body of claim 1.” *Id.* Petitioner also argues that Patent Owner did not rely on the preamble’s recitation of “a transformable toy” to garner allowance of claim 1. *Id.* at 4–5. Rather, Petitioner argues, Patent Owner admitted during prosecution that the prior art taught “a transformable toy.” *Id.*

Patent Owner argues that “transformable toy is limiting based on bedrock principles of claim construction and the Federal Circuit’s guidance.” PO Pr. Br. 1. Patent Owner emphasizes that we need to construe

claim 1 in light of the Specification. *Id.* at 2. Patent Owner contends that “[r]eading the limitations of claim 1 without the context of the preamble untethers the claim from the invention described throughout the specification.” *Id.* Patent Owner argues that “[i]n total, some form of the word ‘transform’ is found 54 times throughout the specification and, as explained throughout the remainder of this brief, it is repeatedly used to describe the toy’s change from the first position to the second position.” *Id.* at 3 n.1. Patent Owner argues that discussion of a toy that “transforms” pervades the Specification, including the Title, the Abstract, the Summary, the description of all of the Figures, the detailed discussion of exemplary embodiments, and the broadening language at the end of the Specification. *Id.* at 3–5. Patent Owner contends that “[r]eading the claims in light of the specification, and given the extensive disclosure describing the movement of the claimed toy from a first to second position specifically as a transformation, it is clear the preamble ‘is essential to understanding limitations or terms in the claim body.’” *Id.* at 5. Patent Owner also argues that the preamble’s recitation of “a transformable toy”

was listed among the reasons the claim was allowed. In the Reasons for Allowance, the Examiner found: “the prior art does not teach a transformable toy having a closed or first position, in which the toy is rollable, such that the toy may proceed in simultaneous translational and rotational movement, being shaped for substantially continuous contact with a support surface, and having a magnetic locking assembly configured to respond to the proximity of a magnetic second toy component to release the locking component, to transform the toy to an open or second position, by movement of biased auxiliary components.”

Id. at 1–2 (quoting Ex. 1004, 1103).

With respect to claim 1 of the '058 patent, we do not find the record evidence provides a basis for deviating from the general rule that the preamble is not limiting. The record evidence does not demonstrate that the preamble is “necessary to give life, meaning, and vitality” to claim 1. No limitation in the body of claim 1 relies on or derives antecedent basis from the preamble. *See* Ex. 1001, 16:6–39. Rather, the body of claim 1 recites a structurally complete invention. The body of claim 1 provides a structurally complete description of an apparatus that includes “a first toy component” with a number of subcomponents and “a second toy component.” *See id.* The claim body explains how the recited components engage and interact with one another. *See id.* Patent Owner does not identify anything necessary to identify a structurally complete invention that is missing from the body of claim 1. *See generally* PO Pr. Br.

As noted above, Patent Owner argues that we must treat the preamble as limiting because the Specification of the '058 patent demonstrates clearly that the claimed invention focuses on a “transformable toy.” *Id.* at 3. But we do not find Patent Owner has identified any distinction between the apparatus described in the body of claim 1 and “a transformable toy.” We do not find that the preamble’s recitation of a “toy” defines any structure beyond what is described in the claim body, which recites “a first toy component” and “a second toy component.” *See* Ex. 1001, 16:7–8, 24. Nor do we find that the preamble’s description of the “toy” as “transformable” defines anything beyond what the claim body recites. As noted above, Patent Owner argues that the Specification contains “extensive disclosure describing the movement of the claimed toy from a first to second position specifically as a transformation.” PO Pr. Br. 5. The claim body defines a

toy capable of such a “transformation.” The claim body recites “at least one auxiliary component that is movable relative to the body between a rollable first position and a second position.” Ex. 1001, 16:10–12. Consistent with Patent Owner’s assertions regarding the meaning of “transformation,” we find that the claim body defines a toy that is transformable, such that the preamble merely provides a descriptive name for the limitations recited in the body of the claim.

Additionally, we do not agree with Patent Owner’s suggestion that the prosecution history compels treating the preamble as limiting. *See* PO Pr. Br. 1. Patent Owner’s citation of the Notice of Allowance does not persuade us that Patent Owner relied on the language of the preamble specifically to patentably distinguish the claims from the prior art. *Id.* As Petitioner argues, Patent Owner admitted during prosecution that the prior art taught “a transformable toy.” Ex. 1004, 506, 533 (“Shannon discloses a transformable toy movable from an open position to a closed condition ‘through a body and appendages.’”); Pet. Pr. Br. 4–5. Consistent with this, we do not find that the Examiner indicated the preamble’s recitation of “a transformable toy” patentably distinguished claim 1 from the prior art cited during prosecution. The Examiner’s explanation of the reasons for allowance refers to limitations in the body of claim 1 extensively. Ex. 1004, 1103. Given this and the admission by the Applicant during prosecution that “a transformable toy” was taught by the prior art, we do not find that this language of the preamble was relied on by the Applicant or cited by the Examiner as patentably distinguishing over the prior art. Thus, we determine that the preamble of claim 1 is not limiting.

In the event that our interpretation that the preamble is not limiting is over-ruled, we alternatively determine that the language “a transformable toy” means “a toy that changes from a first shape to a second shape.” Dr. Kudrowitz testifies that he believes this is the meaning of “a transformable toy.” Ex. 1002 ¶ 12 (citing Ex. 1001, Abstract; 2:55–3:6, 3:46–50, 8:17–53, 9:42–48, 13:14–29, 14:4–56). He elaborates that that “[t]his definition is specifically supported by the ’058 Patent specification: ‘the exterior structure thereby transforms from the first shape to the second shape by means of the transformation means.’” *Id.* (citing Ex. 1001, 2:33–35). We find Dr. Kudrowitz’s testimony persuasive, as we find Dr. Kudrowitz’s interpretation of “a transformable toy” consistent with its plain meaning and the portions of the Specification he cites. Patent Owner does not argue a different meaning of the claim language “a transformable toy.” *See generally* PO Resp.; Sur-reply; PO Pr. Br.

Aside from the foregoing analysis regarding the preamble of claim 1, we find that resolving the parties’ patentability dispute does not necessitate construing expressly any claim language.

C. Alleged Obviousness over Aprile and Thompson

1. Overview of Aprile

Aprile relates to a certain type of locking device. Ex. 1008, 1:4–9. Aprile shows a container with a locking device in Figure 2, which is reproduced below. *Id.* at 3:15–20.

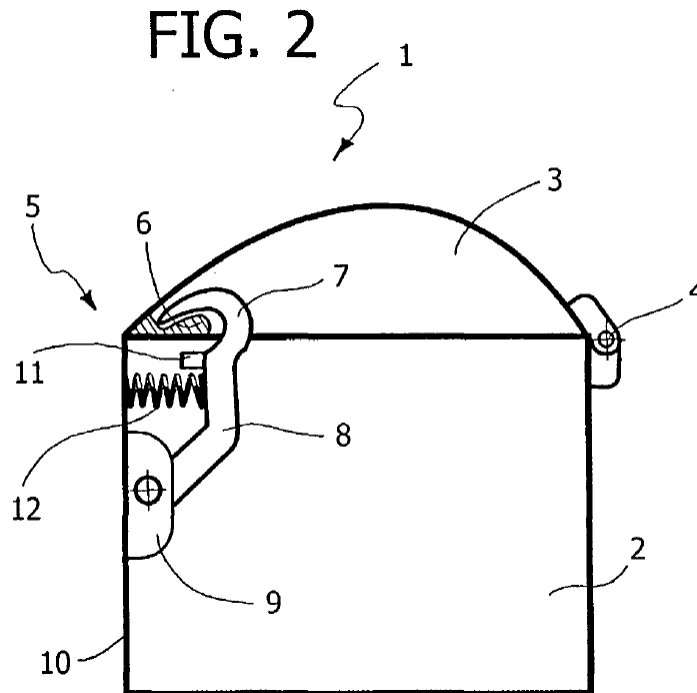


Figure 2 shows container 1 with locking device 5. *Id.* at 3:28–4:1.

Container 1 includes bottom part 2 and lid 3 “hinged in 4 to the bottom part 2.” *Id.* at 3:29–31.

Locking device 5 includes contrast member 6 attached to lid 3. *Id.* at 3:32–35. Locking device 5 also includes jamming member 7, which includes arm 8, and “can rotate in 9” inside container 1. *Id.* at 3:35–4:5. Jamming member 7 includes permanent magnet 11 pointed toward front wall 10. *Id.* at 4:6–7. “[S]pring 12 tends to keep the arm 8 in the position represented in Figure 2, in which said jamming member 7 is engaged with the contrast member 6, thus keeping the lid 3 in the position of locking and preventing its opening.” *Id.* at 4:7–12.

Aprile shows locking device 5 in its open state in Figure 3, which is reproduced below.

FIG. 3_i

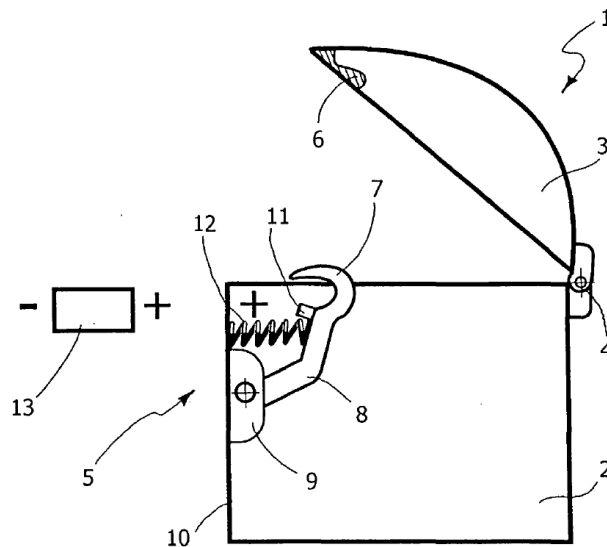


Figure 3 shows container 1 with locking device 5 in its open condition and second permanent magnet 13 facing permanent magnet 11. *Id.* at 3:21–23, 4:16–23. Aprile discloses opening locking member 5 as follows:

By approaching the pole of the second permanent magnet 13 to the corresponding pole of the permanent magnet 11 . . . a field of magnetic repulsion is produced, as a result of which the arm 8 rotates within the container 1 into the position represented in Figure 3, against the action of the spring 12, in such a way as to disengage the jamming member from the contrast member 6.

Id. at 4:19–27. This allows opening lid 3. *Id.* at 4:27–28.

Aprile also discloses including its locking device 4 in other applications. For example, in connection with Figure 4 (not shown), Aprile discloses using its locking device in a doll. *Id.* at 5:25–6:19.

2. Overview of Thompson

Thompson relates to a “ball for use in ball games.” Ex. 1009, 1:4–8. Figure 1 of Thompson is reproduced below.

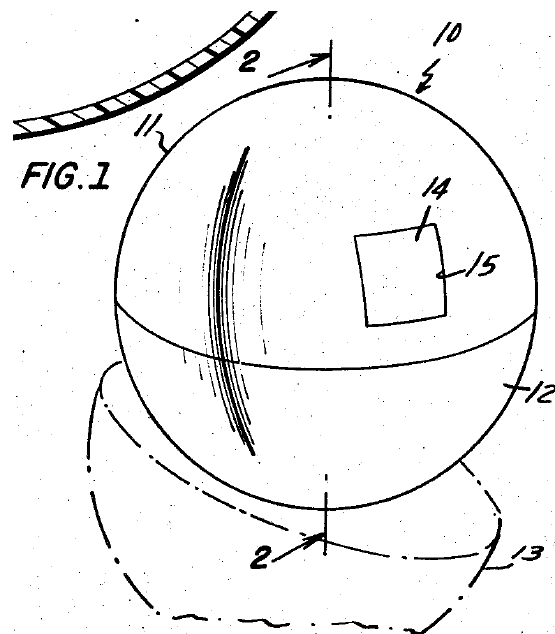


Figure 1 shows a ball adapted to separate into two halves. *Id.* at 1:62–63. Ball 10 includes upper half 11, lower half 12, and sensitive area 14. *Id.* at 2:4–8. A latch mechanism inside an otherwise hollow ball 10 holds upper and lower halves 11, 12 together. *See id.* at 2:32–50, 3:15–22, Fig. 2. Hitting sensitive area 14 causes the latch mechanism to release, and a spring forces upper and lower halves 11, 12 to separate. *Id.* at 2:50–58.

Thompson states that “[i]t will of course be clear that a great variety of games could be devised for use with such a toy providing great pleasure for children and adults alike.” *Id.* at 2:25–28. Thompson also states that its ball can be used for “playing any game desired in which the object of the game is separation of the two balls [sic] or to avoid the separation of the two halves of the ball.” *Id.* at 3:24–28.

3. Discussion

Petitioner presents multiple, alternative explanations regarding how it allegedly would have been obvious over Aprile and Thompson to modify one or more of the disclosures of Aprile and Thompson in a manner that

would have resulted in the invention recited in claims 1–5. Pet. 60–77. One of Petitioner’s arguments is that it would have been obvious to modify Aprile’s container embodiment to have a rollable ball shape like Thompson discloses, and that would have produced an apparatus meeting the limitations of claims 1–5. *Id.* at 62–77. Having reviewed the full record, and for the reasons discussed in greater detail below, we find that Petitioner’s arguments and evidence in support of this theory demonstrate obviousness of claims 1–5 over Aprile and Thompson by a preponderance of the evidence. Finding claims 1–5 unpatentable based on Petitioner’s argument that it would have been obvious to modify Aprile’s container embodiment to have a rollable ball shape, we do not reach Petitioner’s other theories regarding why claims 1–5 would have been obvious over Aprile and Thompson.

Addressing claim 1’s “transformable toy,” Petitioner argues that Aprile’s disclosure of “small containers” teaches the claimed “transformable toy,” citing Aprile and Dr. Kudrowitz’s testimony. *Id.* at 64. Dr. Kudrowitz explains that “Aprile discloses ‘small containers’ useful in toys which may have an open and closed position.” Ex. 1002 ¶ 158.

Regarding claim 1’s recitation of “at least one auxiliary component that is movable relative to the body between a rollable first position and a second position,” Petitioner argues that the limitation would have been obvious over Aprile and Thompson. *Id.* at 66–68. As noted above, Petitioner contends that it would have been obvious to modify Aprile’s container to be rollable. *Id.* at 62–64, 66–68. Petitioner asserts that “Thompson states that its ball is ‘well suited to play a great variety of games.’” *Id.* at 63. Petitioner asserts that this “provides an express

motivation to apply the ball shape of Thompson to Aprile.” *Id.* at 63–64. Thus, Petitioner argues a person of ordinary skill in the art would have been motivated to modify Aprile’s disclosed embodiments to be rollable “for at least improving the functionality and play configurations of Aprile.” *Id.* at 63. Petitioner argues that the proposed modification produces no more than predictable results by combining prior art elements according to known techniques and methods. *Id.* at 64–65. Petitioner also argues that modifying Aprile’s container embodiment to have a rollable ball shape would have resulted in an apparatus meeting claims 1–5. Pet. 64–77.

The parties’ arguments give rise to multiple disputes. With respect to claim 1’s preamble, the parties dispute (1) whether the preamble is limiting, and (2) whether Aprile’s discussion of containers teaches a transformable toy. Pet. Pr. Br. 1–5; PO Pr. Br. 1–5; Pet. 64; PO Resp. 55–56; Reply 21–22; Sur-reply 12–13. Additionally, the parties dispute whether it would have been obvious to modify Aprile’s container to have a rollable ball shape. Pet. 60–68; PO Resp. 59–63; Reply 22–24; Sur-reply 13–17. We turn now to detailed discussions of these disputes raised by the parties.

a. Dispute Regarding Claim 1’s Preamble

For the reasons discussed above in Section III.B, we determine that claim 1’s preamble is not limiting. Therefore, Petitioner need not show that “a transformable toy,” as recited in the preamble, was taught by, or would have been obvious over Aprile and Thompson.

Additionally, in the event that our interpretation that claim 1’s preamble is not limiting is over-ruled, we consider the parties’ dispute regarding whether Aprile’s discussion of containers teaches “a transformable

toy.” As discussed above, Petitioner asserts that Aprile’s discussion of small containers teaches “a transformable toy,” as recited in claim 1. Pet. 64.

Patent Owner disputes this. PO Resp. 55. Patent Owner argues that “[t]he container embodiment is not a toy—it is a container to hold items, such as foodstuffs, or a suitcase, box, or bag.” *Id.* Patent Owner also argues that opening Aprile’s container does not transform it, asserting that “[t]he general shape of the container is the same regardless of the lid being closed or open.” *Id.*

Petitioner replies that Patent Owner’s argument is wrong. Pet. Reply 21–22. Petitioner argues that “Aprile discloses a locking device for a *toy*,” elaborating that “[e]ven the part of Aprile that [Patent Owner] relies on expressly teaches that ‘[t]he locking device . . . , for example in form of a casket . . . , that *constitute components of toys*’” *Id.* Petitioner adds that “Aprile is still a toy that transforms its shape in the same manner as the embodiment in the ’058 Patent, *e.g.*, both having an auxiliary component being rotate away from the body of the toy via hinge to transform.” *Id.*

In response, Patent Owner maintains that Aprile’s container is not “transformable.” Sur-reply 12–13. Patent Owner argues that merely moving components via a hinge does not constitute transformation. *Id.* at 12. Instead, Patent Owner asserts that “what makes the toy ‘transformable’ is the change from one shape to another, not just the movement of components on a hinge.” *Id.*

In the event that our interpretation that claim 1’s preamble is not limiting is over-ruled, we alternatively determine that Petitioner’s arguments and evidence persuade us that Aprile’s discussion of the container

embodiment teaches a toy that changes from a first shape to a second shape.

Petitioner cites, among other disclosures, Aprile's explanation that

The locking device according to the invention can moreover be conveniently applied to small containers, for example in the form of a casket (such as precisely the one represented by way of example in the drawings), that constitute components of toys that are designed to accompany packages of foodstuffs and the like for promotional purposes.

Ex. 1008, 5:15–21; Pet. Reply 22. In view of this, Dr. Kudrowitz testifies that a person of ordinary skill in the art would understand that Aprile teaches a container that is a toy. Ex. 1019 ¶ 81. As noted above, Patent Owner argues that “[t]he container embodiment is not a toy—it is a container to hold items, such as foodstuffs, or a suitcase, box, or bag.” PO Resp. 55. We find persuasive Dr. Kudrowitz's testimony that a person of ordinary skill in the art would understand Aprile as teaching a toy container. We do not find persuasive Patent Owner's suggestion that a container cannot be a toy merely because it is intended “to hold items.”

Additionally, Petitioner persuades us that Aprile's container changes from a first shape to a second shape. In particular, Petitioner persuades us that, just as the '058 patent teaches a toy that transforms by an auxiliary component rotating away from a toy body, Aprile's container transforms by an auxiliary component (the lid) rotating away from the body (the bottom) via a hinge. Pet. Reply 22. The exemplary toy disclosed by the '058 patent opens from a generally spherical to a second shape. Ex. 1001, 2:36–49, 9:15–19, 14:18–23. Disclosing a “character shape” (*id.* at 9:14) as an example of the second shape (*id.* at 9:14), the '058 patent explains that “the second shape of the toy is not particularly limited; a variety of shapes can be

employed.” We find that, like the toy disclosed in the ’058 patent, Aprile’s container has a first shape when closed, and opens to a second shape. *Compare* Ex. 1008, Figs. 1 and 2 (showing the closed shape) *with id.* Fig. 3 (showing the open shape). Patent Owner does not provide persuasive support for its assertion that the open shape and the closed shape of Aprile’s container are the same. *See* PO Resp. 55.

Thus, we determine that Petitioner has demonstrated the recitation of “a transformable toy” in claim 1’s preamble does not patentably distinguish the claim over Aprile and Thompson for two reasons. First, as explained above in Section III.B, we determine that the preamble of claim 1 is not limiting. Second, to the extent we are incorrect in that determination, Petitioner persuades us that Aprile’s discussion of containers teaches a transformable toy.

b. Dispute Regarding Whether It Would Have Been Obvious to Modify Aprile’s Container to Have a Rollable Ball Shape

Patent Owner disputes Petitioner’s contention that it would have been obvious to modify Aprile’s container to have a ball shape. *Id.* at 59–63. Patent Owner asserts that Aprile teaches away from such a modification, which would require substantial redesign and would change Aprile’s principle of operation. *Id.* at 59–60. Patent Owner asserts that Aprile’s “container is to hold items that would be placed in boxes, caskets, bags, suitcases, and the like.” *Id.* at 61. Making the container rollable would interfere with its storage function, Patent Owner argues. *Id.* at 59–63. Patent Owner argues that Aprile teaches away from a rollable container because rolling could jostle and/or damage the container’s contents. *Id.* at

61. Additionally, Patent Owner argues that a rollable container springing open in response to an external magnet “will cause the container to move, possibly spilling the ‘foodstuffs’ contents.” *Id.* “Such a design is undesirable, and there would be no reason to turn a container holding foodstuffs into a ball.” *Id.*

Patent Owner also suggests that a person of ordinary skill in the art would not have been motivated to modify Aprile’s container into a ball for the reasons identified by Petitioner. *Id.* at 62–63. Patent Owner notes Aprile does not teach using its container in a game. *Id.* at 62. Patent Owner also argues that the hinge on Aprile’s container would cause unpredictable movement, rendering game play with the container “undesirable because the user would be unable to accurately move the container towards the magnet.” *Id.* Additionally, Patent Owner argues that Petitioner’s “obviousness theory does not account for the inviolability of Aprile’s container being negated by redesigning it to be ‘a rollable ball that may open during play’ and to ‘creat[ing] a rollable toy which releases a latch and transforms (opens) in response to magnetic interaction.’” *Id.* at 63.

In response, Petitioner maintains that the “rollable first position” recited in claim 1 is not patentably distinct from the teachings of Aprile and Thompson. Pet. Reply 22–24. Petitioner asserts that unpredictable movement of Aprile’s container does not preclude it “from rotating around an axis or point.” Pet. Reply 22. Petitioner argues that “[n]either [Petitioner’s] construction of ‘rollable’ nor the claims require a toy to have only continuous and straight-forward rolling movement.” *Id.* Additionally, regarding Aprile’s external hinge, Petitioner contends that it would be easy to make the hinge internal, noting that “Aprile already discloses an

embodiment in which a hinge is placed inside of this doll.” *Id.* at 23.

Petitioner asserts that a person of ordinary skill in the art would “would have been motivated to modify the Aprile container to move the hinge to the inside of the container such that the modified Aprile toy would roll like a ball.” *Id.*

Additionally, Petitioner argues that, contrary to Patent Owner’s arguments, making Aprile’s container a ball would neither have required a substantial redesign nor changed the principle of operation. *Id.* at 23–24. Petitioner argues that making Aprile’s container ball-shaped would have required “only a simple design change—rounding the outer surface of the toy container and/or placing the hinge inside of the container—which would not change the principle of operation, rather, it would enhance the intended purpose of the toy.” *Id.* at 23.

Petitioner also argues that “[m]erely being a toy container does not prevent a [person of ordinary skill in the art] from modifying it to be a rollable toy.” *Id.* Petitioner argues that a person of ordinary skill in the art would not have expected Aprile’s toy container to remain static. *Id.* at 23. Instead, “[a] child is expected to shake, throw, or roll the toy container when playing with it,” Petitioner argues. *Id.* Petitioner also argues that a person of ordinary skill in the art would have expected the container to store “something appropriate for a child to play with.” *Id.*

Petitioner also maintains that, contrary to Patent Owner’s argument, Thompson’s disclosure that its ball is “well-suited to play a variety of games” would have motivated a person of ordinary skill in the art to apply Thompson’s ball shape to Aprile. *Id.* at 24. Petitioner asserts that Patent Owner’s criticism of the motivation to combine “wrongfully assumes that

Aprile's container is not used for any game.” *Id.* Petitioner also argues that the proposed modification of Aprile's container does not compromise its inviolability. *Id.*

In response, Patent Owner argues that, even with the modifications proposed by Petitioner, Aprile's container would not be “rollable.” Sur-reply 13–15. According to Patent Owner, it “defies physics” to suggest a container moving unpredictably could “move[] forward by rotating around an axis or point, like a ball.” *Id.* at 13. “By definition, ‘unpredictable movement’ would move the toy *off of* the axis of rotation,” Patent Owner argues. *Id.*

Patent Owner also argues that Petitioner has not supported adequately its assertion that it would have been obvious to modify Aprile's container with an internal hinge. *Id.* at 14. Patent Owner argues that “the sole basis [Petitioner] contends a [person of ordinary skill in the art] would have to modify the container of Aprile does not actually exist.” *Id.* Noting that Petitioner cites Figures 4 and 5 of Aprile as showing an internal hinge, Patent Owner contends that Figures 4 and 5 “*do not depict a container at all*, and therefore do not disclose a hinge.” *Id.*

Patent Owner also maintains that the proposed modification of Aprile's container would require substantial redesign. Patent Owner explains that proposed changes would require different manufacturing, as “the simple assembly required for a box-shaped container could not be employed for the modifications proposed by [Petitioner].” *Id.* at 15–16. Patent Owner also argues that Petitioner conflates Aprile's container embodiment, discussed in connection with Figures 1–3, with its doll embodiment, discussed in connection with Figures 4 and 5. *Id.* at 16.

Asserting that “Aprile *does not* disclose that the container shown in Figs. 1-3 can take the form of the doll shown in Figs. 4 and 5,” Patent Owner contends that Aprile’s Figures 4 and 5 “cannot support [Petitioner’s] arguments.” *Id.*

Considering the record as a whole, Petitioner’s evidence and arguments provide rational underpinning for its contentions that claims 1–5 would have been obvious in view of Aprile and Thompson. Weighing the parties’ evidence and arguments, Petitioner persuades us that a person of ordinary skill in the art would have had motivation to modify Aprile’s container to have a ball shape. Additionally, Petitioner persuades us that there would have been a reasonable expectation of success for such a modification, which would have involved combining prior art elements according to known techniques and methods, producing no more than predictable results.

Regarding the alleged motivation to combine, Petitioner persuades us that a person of ordinary skill in the art would have recognized value in modifying Aprile’s container to have a ball shape. Dr. Kudrowitz explains why a person of ordinary skill in the art would have recognized value in such a modification of Aprile’s container. Ex. 1002 ¶¶ 150–156. For example, Dr. Kudrowitz explains that modifying Aprile’s container to have a ball shape would have yielded “predictable results” of “making Aprile’s openable toy container . . . more entertaining by making the toy rollable, as balls are.” *Id.* ¶ 154. We find Dr. Kudrowitz’s testimony credible and supported by the other evidence of record, including Thompson’s disclosure that its ball is “well suited to play a great variety of games.” Ex. 1009, 2:18, 3:24–30.

The record evidence persuades us that a person of ordinary skill in the art would have recognized an entertainment value in modifying Aprile's container to have a ball shape. As noted above, Patent Owner argues that the external hinge of Aprile's container would cause unpredictable forward movement, detracting from the entertainment value of rolling the container toward a magnet. PO Resp. 62. The record does not support this contention for multiple reasons.

First, Petitioner advances evidence that a person of ordinary skill in the art would have recognized the value of modifying Aprile's container into a ball shape for use in "a great variety of games" (*see* Ex. 1009, 2:18, 3:24–30), not just rolling the container toward a magnet. Thus, even if an external hinge would have complicated rolling the container toward a magnet, that does not undermine Petitioner's evidence that a person of ordinary skill in the art would have recognized value in modifying Aprile's container to have a ball shape.

Second, there is no apparent reason that a person of ordinary skill in the art, having recognized value in a ball shape like Thompson's, would think a ball shape has an external hinge. Thompson's ball has a smooth exterior surface. *See* Ex. 1009, Figs. 1, 2. Thus, from the Petition's assertion that a person of ordinary skill in the art would have had reason to modify Aprile's container to have a ball shape like Thompson's (Pet. 62–64, 66–68), it follows that a person of ordinary skill in the art would have been motivated to modify Aprile's container to have a smooth exterior surface. For this reason, we find unpersuasive Patent Owner's argument that the modified version of Aprile's container would not roll well due to an external hinge.

Regarding how Aprile's container could have been modified to omit an external hinge, we first note that "[a] person of ordinary skill in the art is also a person of ordinary creativity, not an automaton." *KSR Int'l Co. v. Teleflex, Inc.*, 550 U.S. 398, 421 (2007). Additionally, we find persuasive Dr. Kudrowitz's testimony that Aprile discloses, explicitly or implicitly, an internal hinge in connection with the embodiment of Figures 4 and 5. Ex. 1019 ¶ 77. On the whole, Petitioner persuades us that a person of ordinary skill in the art "would have been motivated to modify the Aprile container to move the hinge to the inside of the container such that the modified Aprile toy would roll like a ball." Pet. Reply. 23.

We do not agree with Patent Owner's argument that Aprile's "Figs. 4 and 5 *do not depict a container at all*, and therefore do not disclose a hinge." Sur-reply 14. The record does not include persuasive evidence that only a container can have a hinge. Indeed, the '058 patent teaches "[i]n a most preferred form of the present invention at least one second moveable element is *hinged* to said at least one first moveable element," without suggesting that this embodiment is a container. Ex. 1001, 4:15–19 (emphasis added).

Petitioner also persuades us that a person of ordinary skill in the art would have had a reasonable expectation of success in modifying Aprile's container to have a ball shape. As noted above, Petitioner argues that the proposed modification combines prior art elements in accordance with a known technique and known methods, improving a similar system in the same way and yielding predictable results (Pet. 62–63), whereas Patent Owner argues that making Aprile's container ball-shaped would "require

substantial redesign” (PO Resp. 59–60). We find Petitioner’s arguments and evidence more persuasive.

Petitioner persuades us that the proposed modification combines prior art elements, specifically Aprile’s toy container and Thompson’s ball. Pet. 63. Patent Owner does not dispute this contention. *See generally* PO Resp.; Sur-reply.

Petitioner also persuades us that the proposed modification combines these prior art elements according to known methods. Noting that both Aprile and Thompson disclose hollow toys that open with an externally triggered latch, Dr. Kudrowitz testifies that it was a known method to “caus[e] the container of Aprile to roll as a ball and open in response to a magnetic force.” Ex. 1002 ¶¶ 154–155. Dr. Kudrowitz elaborates that it would not take any special skill to round the exterior of Aprile’s container. *Id.* ¶ 155. Patent Owner argues that “Dr. Kudrowitz provides no explanation of the purported known methods and techniques.” PO Resp. 60. We disagree. To the contrary, Dr. Kudrowitz’s testimony explains that it was known to round the exterior of a hollow toy with a latching mechanism, thereby making the toy rollable. Ex. 1002 ¶¶ 154–155. Thompson’s disclosure of a hollow ball with a latch mechanism supports this testimony. *See e.g.*, Ex. 1009, 2:4–62; Figs. 1–3.

Petitioner also persuades us that modifying the exterior of Aprile’s container to be ball shaped would have yielded the predictable result of adding a rolling function for the toy. Pet. 63. For multiple reasons, Patent Owner’s argument that an external hinge would have caused the container to roll in an unpredictable manner does not undermine Petitioner’s assertion that making Aprile’s container ball-shaped would have yielded predictable

results. First, Patent Owner’s argument does not address Petitioner’s proposed modification of applying Thompson’s ball shape (which does not have an external hinge) to give Aprile’s container a ball shape, which would not have had an external hinge. Second, even if Petitioner had proposed it would have been obvious to make Aprile’s container round with an external hinge, the proposed modification would have yielded the predictable result of allowing the container to roll in an unpredictable manner.

Additionally, for multiple reasons, we find unavailing Patent Owner’s argument that “‘unpredictable movement’ would move the toy *off of* the axis of rotation.” Sur-reply 13. First, Patent Owner bases its arguments that Aprile’s container would have “unpredictable movement” on its assertions that Aprile’s container has corners and an external hinge. PO Resp. 57–59; Sur-reply 14 n.3. As discussed above, the record evidence persuades us that it would have been obvious and within the level of skill in the art to modify Aprile’s container to have a ball shape without external corners or an external hinge, eliminating the alleged source of “unpredictable movement.” Second, contrary to Patent Owner’s suggestion, “[Petitioner’s] own construction for ‘rollable’” does not exclude the toy moving “*off of* the axis of rotation.” See Sur-reply 13. As Patent Owner notes, “[Petitioner’s] construction requires that the toy ‘as a whole move[] forward by rotating around an axis *or point*, like a ball.’” *Id.* (emphasis added). Thus, Petitioner’s construction does not require rotating around an axis, negating Patent Owner’s contention that movement “*off of* the axis of rotation” would conflict with Petitioner’s construction of “rollable.” Rather, a toy that

rotates around a point, but not an axis, meets Petitioner’s construction of “rollable.”⁷

Additionally, we do not agree with Patent Owner’s arguments that the proposed modification of Aprile’s container would “require substantial redesign.” PO Resp. 59–60. Patent Owner reasons that the proposed modification would “require substantial redesign” because “[t]he entire form of the container would need to be changed, which necessarily changes the manufacture of the container,” citing Dr. Janét’s testimony. *Id.* at 60 (citing Ex. 2001 ¶ 115). Dr. Janét explains that “the Aprile container with its illustrated shape would likely be formed from planar sheets of material coupled together to form the cube-shaped bottom half,” whereas “if the ‘container’ is now ball shaped, then a different manufacturing system must be employed.” Ex. 2001 ¶ 115. Dr. Janét also testifies that “[i]n my opinion, turning Aprile’s box into a ball is not a *modification* of Aprile’s container but rather a *wholesale change* in the structure of the container.” *Id.* Citing supporting testimony from Dr. Kudrowitz, Petitioner counters that the “proposed modification would require only a simple design change—rounding the outer surface of the toy container and/or placing the inside of the container.” Pet. Reply 24 (citing Ex. 1019 ¶¶ 83–87).

Between the parties’ positions, we are persuaded by Petitioner’s arguments and Dr. Kudrowitz’s testimony that starting with Aprile’s container, which already has a round top, and rounding the rest of the

⁷ Patent Owner does not dispute Petitioner’s construction of “rollable.” *See generally* PO Resp.; Sur-reply. Patent Owner only argues, unpersuasively, that Aprile’s container would not meet Petitioner’s own construction of “rollable.” *E.g., Sur-reply* 13.

exterior surfaces constitutes a straightforward modification that does not require a “substantial redesign.” Dr. Janét attributes great significance to the alleged manufacturing changes needed to modify the bottom of Aprile’s container from flat-sided to rounded. Ex. 2001 ¶ 115. In doing so, Dr. Janét fails to acknowledge that the manufacturing of Aprile’s container already involves making the top rounded. *See* Ex. 1008, Figs 1–3; Ex. 1002 ¶¶ 153, 155, 160, 161. We do not find that modifying the manufacturing to make other portions of the container rounded requires a “substantial redesign.”

Weighing the parties’ arguments and evidence, we also find that the proposed modification would not change Aprile’s principle of operation. As discussed above, Patent Owner argues that the proposed modification would change Aprile’s principle of operation by reducing the stability of the container, making it more difficult to open with an external magnet, and increasing the likelihood of disturbing the container’s contents. PO Resp. 59–63. Petitioner counters that it would have been expected that a child’s toy would not be stationary. Pet. Reply 23.

Consistent with Petitioner’s position, we do not find that Aprile’s principle of operation is limited to a stationary container. As Patent Owner recognizes (*see* PO Resp. 63), Aprile explains that “[t]he purpose of the present invention is to provide an extremely simple and inexpensive locking device, as well as one without any external access that might jeopardize its inviolability.” Ex. 1008, 1:26–29. In view of this, contrary to Patent Owner’s arguments, we find that Aprile’s principle of operation relates to the construction and function of the locking device, not to keeping its container stationary. As Patent Owner also recognizes (*see* PO Resp. 63), Aprile also discloses that “[t]he locking device according to the invention

may be applied, in a particularly advantageous way, to containers, for example in the form of caskets or boxes, as well as bags, suitcases and the like.” Ex. 1008, 2:19–22. This disclosure clearly includes containers that are not stationary, e.g., “bags, suitcases, and the like.” Aprile also discloses that

[t]he locking device according to the invention can moreover be conveniently applied to small containers, for example in the form of a casket (such as precisely the one represented by way of example in the drawings), that constitute components of toys that are designed to accompany packages of foodstuffs and the like for promotional packages.

Id. at 5:15–21. Dr. Kudrowitz testifies that

a [person of ordinary skill in the art] would recognize Aprile’s casket disclosure is likely a reference to Halloween toys (perhaps containing Dracula, a mummy, or Halloween candy) that would pop out of a casket. It is also my opinion that it would not be for a casket that would contain an actual corpse. Thus, it is my opinion that in light of such disclosures, a [person of ordinary skill in the art] would understand that anything that goes into the Aprile container would be something appropriate for a child to play with, and not something that would create concern of spilling. Because the container is still a toy, a POSITA would recognize that the container is still a toy and is not expected to be in a static condition at all times. In addition, a POSITA would expect a child to shake, or even throw and roll the toy container when playing with it.

Ex. 1019 ¶ 81.

We find this testimony a logical, persuasive explanation of how a person of ordinary skill in the art would understand Aprile’s discussion of a “small container” in the form of a “casket . . . constitut[ing] components of toys.” In view of this, we find unpersuasive Patent Owner’s concerns that a person of ordinary skill in the art would have concerns that rolling Aprile’s

container “would jumble, mix up, and perhaps break the items within the container.” PO Resp. 61. On the whole, we do not find that modifying Aprile’s container to have a rollable ball shape would change Aprile’s principle of operation.

Additionally, we do not agree with Patent Owner’s suggestion that modifying Aprile’s container to have a rollable ball shape would not negate the inviolability of Aprile’s container. PO Resp. 63. Patent Owner argues that making “a rollable ball that may open during play” and “creat[ing] a rollable toy which releases a latch and transforms (opens) in response to magnetic interaction” negate the inviolability Aprile seeks. *Id.* In response, Petitioner argues that

Thompson’s ball game also does not interfere with the alleged “inviolability[”] of Aprile because Thompson does not contemplate that its ball opens at any time during play. Only when the sensitive area of the ball is hit, it is designed to be separated into two pieces. [Petitioner’s] modification of Aprile thereby preserves the alleged inviolability.

Pet. Reply 24.

We agree that modifying Aprile’s container to have a rollable ball shape preserves the inviolability described by Aprile. Aprile expresses the concern that “the part for introduction of the key of conventional locks is obviously accessible from outside and hence directly exposed to risks of forcing of the locking device aimed at fraudulent opening thereof.”

Ex. 1008, 1:20–24. Aprile addresses this by “provid[ing] an extremely simple and inexpensive locking device, as well as one without any external access that might jeopardize its inviolability.” *Id.* at 1:26–29. Aprile elaborates that “[t]he absence of components directly accessible from outside the container to which the locking device is applied moreover

ensures an effective inviolability against any attempt to force the lock.” *Id.* at 5:6–10. Thus, the “inviolability” Aprile describes does not mean that its latch won’t open, but that the latch thwarts attempts to force the latch open, due to the latch having no components “directly accessible from outside the container.” Patent Owner does not provide persuasive evidence or reasoning that the proposed modification of Aprile’s container changes Aprile’s latch or otherwise facilitates or involves someone forcing the latch open.

c. Summary Regarding Alleged Obviousness over Aprile and Thompson

Having reviewed the full record, we determine that Petitioner has demonstrated obviousness of claims 1–5 over Aprile and Thompson. For the reasons discussed above, Petitioner persuades us that it would have been obvious to modify Aprile’s container to have a rollable ball shape. Additionally, Petitioner persuades us that the resulting apparatus would meet all of the limitations of claims 1–5.

D. Remaining Grounds

Petitioner argues that claims 1–5 are anticipated by Wilhelm. Pet. 21–34. Petitioner also asserts that claims 1–5 are anticipated by Tomiyama. *Id.* at 34–46. Additionally, Petitioner asserts that claims 1–5 would have been obvious over Tomiyama and Shannon. *Id.* at 47–60. Because we determine above that Petitioner has demonstrated claims 1–5 would have been obvious over Aprile and Shannon, we do not reach Petitioner’s additional challenges to the same claims based on (1) Wilhelm, (2) Tomiyama, and (3) Tomiyama and Shannon.

E. Patent Owner's Remaining Argument

Patent Owner states that the Federal Circuit “correctly held that [Administrative Patent Judges (“APJs”)] are unconstitutionally appointed” but “incorrectly held that it could cure this infirmity by revising statutory language and purporting to make APJs removable at will.” PO Resp. 64 (citing *Arthrex, Inc. v. Smith & Nephew, Inc.*, 941 F.3d 1320 (Fed. Cir. 2019)). Patent Owner argues that the “APJs appointed to this proceeding, therefore, remain unconstitutionally appointed, and only Congress can implement a correction” and the institution of the present proceeding “should, therefore, be vacated.” *Id.*

During oral argument, in response to panel questions, Patent Owner’s counsel indicated that Patent Owner believes the issue has been resolved, Patent Owner does not maintain the argument, and there is no issue related to the Appointments Clause that require our resolution. Tr. 96:19–97:7. We, therefore, do not need to decide the issue.

IV. CONCLUSION⁸

In summary:

Claims	35 U.S.C. §	Reference(s)/Basis	Claims Shown Unpatentable	Claims Not Shown Unpatentable
1–5	§ 102(b)	Wilhelm ⁹		
1–5	§ 103(a)	Tomiyama ¹⁰		
1–5	§ 103(a)	Tomiyama, Shannon ¹¹		
1–5	§ 103(a)	Aprile, Thompson	1–5	
Overall Outcome			1–5	

⁸ Should Patent Owner wish to pursue amendment of the challenged claims in a reissue or reexamination proceeding subsequent to the issuance of this decision, we draw Patent Owner’s attention to the April 2019 *Notice Regarding Options for Amendments by Patent Owner Through Reissue or Reexamination During a Pending AIA Trial Proceeding*. See 84 Fed. Reg. 16,654 (Apr. 22, 2019). If Patent Owner chooses to file a reissue application or a request for reexamination of the challenged patent, we remind Patent Owner of its continuing obligation to notify the Board of any such related matters in updated mandatory notices. See 37 C.F.R. § 42.8(a)(3), (b)(2).

⁹ As explained in Section III.D, we do not reach the challenge to claims 1–5 based on Wilhelm because the same claims are determined to be unpatentable over Aprile and Thompson.

¹⁰ As explained in Section III.D, we do not reach the challenge to claims 1–5 based on Tomiyama because the same claims are determined to be unpatentable over Aprile and Thompson.

¹¹ As explained in Section III.D, we do not reach the challenge to claims 1–5 based on Tomiyama and Shannon because the same claims are determined to be unpatentable over Aprile and Thompson.

V. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that claims 1–5 of U.S. Patent No. 9,975,058 B2 have been shown, by a preponderance of the evidence, to be unpatentable; and

FURTHER ORDERED that, because this is a Final Written Decision, the parties to the proceeding seeking judicial review of the decision must comply with the notice and service requirements of 37 C.F.R. § 90.2.

Case IPR2019-00901
Patent 9,975,058 B2

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