

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.¹

Case IPR2017-00030
Patent 7,306,504 B2

Before HYUN J. JUNG, NEIL T. POWELL, and MICHELLE N.
WORMMEESTER, *Administrative Patent Judges*.

POWELL, *Administrative Patent Judge*.

FINAL WRITTEN DECISION
Inter Partes Review
35 U.S.C. § 318(a) and 37 C.F.R. § 42.73

¹ Spin Master, Ltd. represents that it is the exclusive licensee of U.S. Patent 7,306,504 B2, which is owned by Aldric J. Saucier. Paper 3, 1; Paper 4, 1. Hereafter, we refer to Spin Master, Ltd. and Aldric J. Saucier collectively as “Patent Owner.”

I. INTRODUCTION

A. Background

Petitioner filed a Petition requesting an *inter partes* review of claims 1–14 of U.S. Patent No. 7,306,504 B2 (Ex. 1001, “the ’504 patent”). Paper 1 (“Pet.”). Patent Owner filed a Preliminary Response. Paper 6. In view of those submissions, we instituted an *inter partes* review of claims 1–14. Paper 7 (“Institution Decision” or “Dec. on Inst.”). Subsequently, Patent Owner filed a Patent Owner Response (Paper 20, “PO Resp.”), and Petitioner filed a Reply (Paper 24, “Pet. Reply”).

In our Institution Decision, we declined to institute *inter partes* review on a subset of the claim challenges presented by the Petition. Dec. on Inst. 17–23. On May 8, 2018, we “modif[ied] our institution decision to include review of all the challenged claims and all the grounds presented in the Petition” (Paper 32, 2), reintroducing certain challenges into this proceeding. Pursuant to our authorization, on May 31, Petitioner and Patent Owner filed a Joint Motion to Limit the Petition. Paper 35 (“Mot.” or “Motion”). Subsequently, we granted the parties’ joint motion to withdraw certain of the reintroduced grounds from the trial, including (1) the ground of whether claims 9–11 are anticipated by Maruyama ’693,² and (2) the ground of whether claims 1–9, 11 and 13 are anticipated by Obara.³ Paper 38, 2.

Of the claim challenges reintroduced by our May 8, 2018 order, only the challenge of claims 7 and 8 as allegedly anticipated by Maruyama ’693

² JP Publication No. S60-128693 to Maruyama, pub. Aug. 29, 1985 (Ex. 1004).

³ U.S. Patent No. 4,516,948 to Obara, iss. May 14, 1985 (Ex. 1005).

remains in this proceeding. Addressing the challenge of claims 7 and 8 as allegedly anticipated by Maruyama '693, Petitioner has filed a Second Reply (Paper 37, "2d Pet. Reply"), and Patent Owner has filed a Sur-Reply (Paper 40, "PO Sur-Reply").

On January 25, 2018, an oral hearing was conducted. Paper 29 ("Tr."). On August 22, 2018, a supplemental oral hearing was conducted, with the parties participating via telephone. Paper 44 ("Supp. Tr.").

We have jurisdiction over this proceeding under 35 U.S.C. § 6(b). After considering the evidence and arguments of the parties, we determine that Petitioner has proven by a preponderance of the evidence that claims 5 and 6 are unpatentable, but has not proven by a preponderance of the evidence that claims 1–4 and 7–14 are unpatentable. *See* 35 U.S.C. § 316(e). We issue this Final Written Decision pursuant to 35 U.S.C. § 318(a).

B. Related Matters

The parties assert that they are not aware of any related proceedings for the '504 patent. Pet. 1; Paper 4, 2.

C. The Pending Grounds of Unpatentability

The following grounds of unpatentability are pending in this proceeding:

Reference(s)	Statutory Basis	Challenged Claim(s)
Maruyama '693	35 U.S.C. § 102	1–8
Maruyama '258 ⁴ and Obara	35 U.S.C. § 103(a)	1–11, 13, and 14

⁴ U.S. Patent No. Des. 287,258 to Maruyama, iss. Dec. 16, 1986 (Ex. 1006).

Reference(s)	Statutory Basis	Challenged Claim(s)
Maruyama '258, Obara, and Matsuda ⁵	35 U.S.C. § 103(a)	12 ⁶

Petitioner also relies on a Declaration from Michael Hirtle. Ex. 1002.
Patent Owner relies on a Declaration from Jason Janét, Ph.D. Ex. 2005.

D. The '504 Patent

The '504 patent discloses a transformable toy. Ex. 1001, 2:47–51.
Figure 1 of the '504 patent is reproduced below.

⁵ U.K. Patent Application No. GB2184663 A to Matsuda, pub. July 1, 1987 (Ex. 1007).

⁶ In challenging claim 12, the Petition asserts that “[c]laim 12 depends from claim 9. Claim 9 is unpatentable in view of Maruyama '258 and Obara for the reasons discussed above. Claim 12 adds a lock feature . . . adding such a lock would have been an obvious design choice . . . , particularly in light of the disclosure of Matsuda.” Pet. 87. In view of these assertions, we interpret this ground as building on the assertions that claim 9 would have been obvious over Maruyama '258 and Obara to assert that claim 12 would have been obvious in view of Maruyama '258, Obara, and Matsuda.

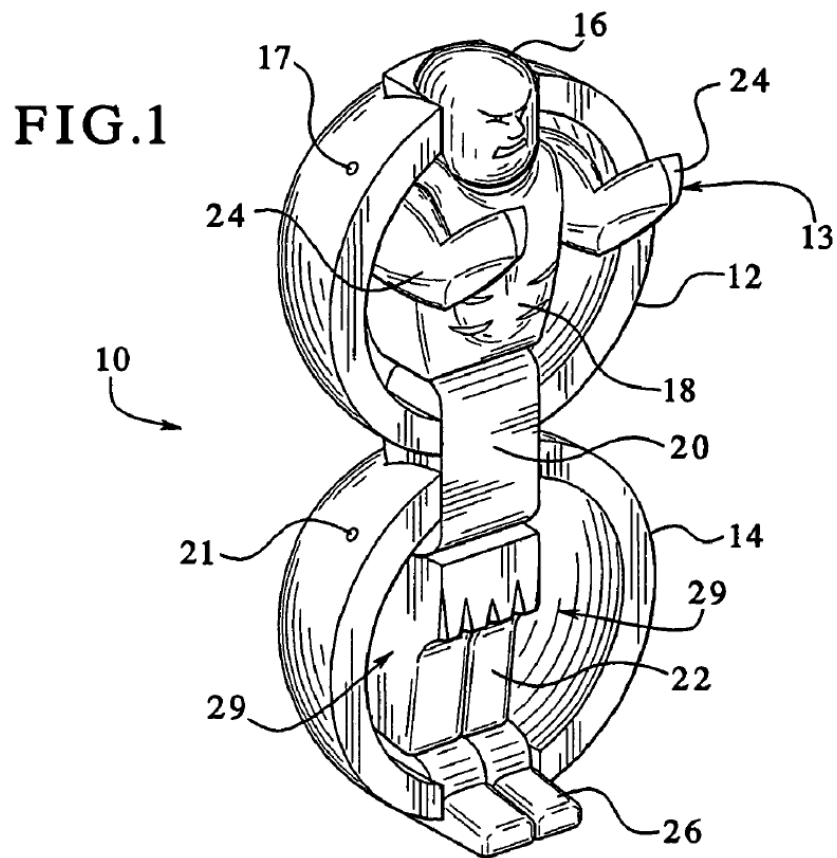


Figure 1 shows transformable toy 10 in an open position. *Id.* at 2:28–30, 2:47–48. Figure 4 of the '504 patent is reproduced below.

FIG. 4

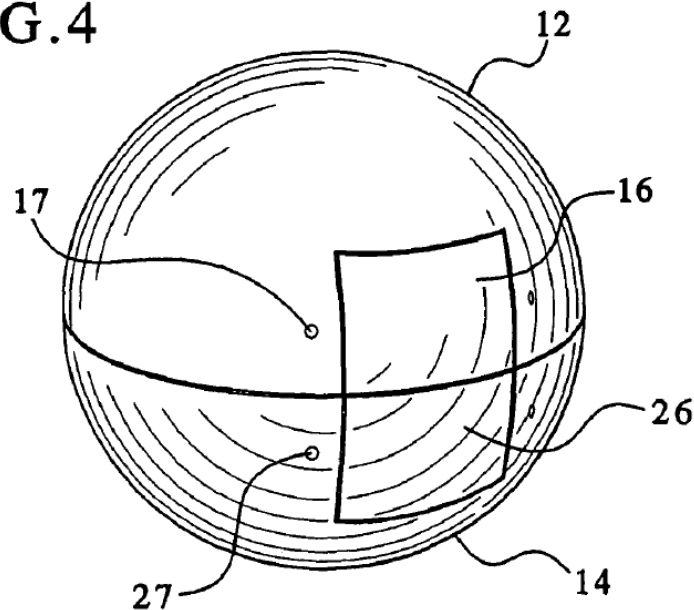


Figure 4 shows transformable toy 10 in a closed position. *Id.* at 2:35–37, 2:47–48. Transformable toy 10 includes first movable member 12, second movable member 14, and coupler 20 connected between first movable member 12 and second movable member 14. *Id.* at 2:47–53. First movable member 12 and second movable member 14 are movably connected, such as pivotally, to opposite ends of coupler 20. *Id.* at 2:53–59. First movable member 12 and second movable member 14 “are movable towards each other until the first and second movable members are substantially adjacent to each other or in a closed position as illustrated in FIG. 4.” *Id.* at 2:59–63.

In one embodiment, “display member 13 is connected to an inside surface of at least one of the first and second movable members 12 and 14.” *Id.* at 3:15–17. The ’504 patent discloses that:

In this embodiment, the display member 13 is a figure or figurine and includes a first revealer 16 formed as a head of the figure, a body 18 positioned adjacent to the first revealer 16, a pair of second revealers 24 in the form of arms movably connected to opposing sides of the body 18, a coupler 20 connected between

the first and second movable members, a support **22** positioned adjacent to the coupler and a third revealer **26** positioned adjacent to the support **22** and movably connected to the second movable member.

Id. at 3:21–30.

E. Illustrative Claim

Of the challenged claims, claims 1, 3, 5, 7, and 9 are independent. Each of claims 2, 4, 6, 8, and 10–14 depends from one of claims 1, 3, 5, 7, and 9. Claim 1 recites:

1. A toy comprising:
 - a first movable member;
 - a second movable member positioned adjacent to said first movable member, said second movable member being hingedly connected to said first movable member, wherein the first movable member and the second movable member are moved away from each other to an open position or towards each other to a closed position;
 - a display member connected to a surface of at least one of the first and second movable members, wherein the display member is revealed when the first and second movable members are in the open position, wherein said display member includes a plurality of revealers rotatably connected to at least one of the first and second movable members.

Ex. 1001, 7:8–23.

II. ANALYSIS

A. Claim Construction

In an *inter partes* review, the Board interprets claim terms in an unexpired patent according to the broadest reasonable construction in light of the specification of the patent in which they appear. 37 C.F.R.

§ 42.100(b); *see In re Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131, 2142–46 (2016). Under that standard, and absent any special definitions, we

give claim terms their ordinary and customary meaning, as would be understood by one of ordinary skill in the art at the time of the invention. *See In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007). Any special definitions for claim terms must be set forth with reasonable clarity, deliberateness, and precision. *See In re Paulsen*, 30 F.3d 1475, 1480 (Fed. Cir. 1994).

We address the construction of only certain claim terms raised by the parties, and we do so only to the extent necessary to determine whether Petitioner has demonstrated unpatentability by a preponderance of the evidence. *See* 35 U.S.C. § 316(e); *Vivid Techs., Inc. v. Am. Sci. & Eng’g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999) (“[O]nly those terms need be construed that are in controversy, and only to the extent necessary to resolve the controversy.”).

1. “a first movable member”; “a second movable member”; and “the first movable member and the second movable member are moved away from each other to an open position or towards each other to a closed position”—Claim 5

The parties dispute whether the asserted prior art discloses claim 5’s limitations of “a first movable member,” “a second movable member,” and “wherein the first movable member and the second movable member are moved away from each other to an open position or towards each other to a closed position.” *See* Pet. 26–27, 20–21; PO Resp. 24–30; Pet. Reply 9–13. In connection with this dispute, Patent Owner indicates that the claim language “movable” and “are moved” requires more than relative movement of the components. *See* PO Resp. 5–7, 24–30.

Patent Owner argues that the language of the claim itself requires that each member be “movable.” *Id.* at 6–7. At most, this observation supports a

conclusion that these device claims require that each member is capable of being moved, not that the act of moving each member needs to occur in order to meet the structural elements of the claim limitation.

Patent Owner also indicates that the Specification of the '504 patent supports construing the claim language as requiring movement of each member, as opposed to relative movement between the members. *Id.* at 7. Patent Owner states that “the entire purpose of the claimed invention as noted by the specification, is: ‘the transforming toy of the present invention enables children **to move the first and second movable members** toward or away from each other to reveal or conceal the figurine connected to the inside surface of the first and second movable members.’” *Id.* (citing Ex. 1001, 1:53–57). Patent Owner elaborates that “[t]he specification explains: ‘to convert or transform the toy into a figurine, a user opens or separates the first and second movable members and **moves the first and second movable members** away from each other.’” *Id.* (citing Ex. 1001, 1:60–63).

We find that these passages of the Specification actually tend to suggest that relative movement of the two members would satisfy what Patent Owner characterizes as “the entire purpose of the claimed invention.” In particular, relative movement of the two members would enable revealing or concealing the figurine connected to the inside surface of the first and second movable members; achieving this result would not require moving both the first and second movable members. For example, when “a user opens or separates the first and second movable members” (Ex. 1001, 1:60–61), the user need only effect relative movement between the first and second movable members (which could include movement of only one of the first and second movable members), to move them away from one

another and transform the toy into a figurine (*see id.* at 1:60–63).

Accordingly, we find that when the '504 patent discusses moving the first and second movable members away from or toward one another, it refers to relative movement of the components, including movement of only one of the components, as well as movement of both of the components. We conclude that the broadest reasonable interpretation of claim 5's limitations "a first movable member," "a second movable member," and "wherein the first movable member and the second movable member are moved away from each other to an open position or towards each other to a closed position" encompasses relative movement between the first and second moveable members. The limitations also encompass movement of each member, but they do not require movement of each member.

The parties further dispute other aspects of the meaning of the foregoing claim limitations, but we find it unnecessary to address these disputes to resolve the parties' dispute regarding patentability. *See Vivid Techs.*, 200 F.3d at 803.

2. "*revealing means for revealing at least one image*"—Claim 7

Claim 7 recites "revealing means for revealing at least one image." Petitioner proposes a construction for "revealing means" (Pet. 13; Pet. Reply 8–9), and Patent Owner proposes a construction for "revealing means for revealing at least one image" (PO Resp. 24).

Petitioner asserts that "the scope of ["revealing means"] is commensurate with the . . . scope of the term 'revealers.'" Pet. 13. Regarding the term "revealers," Petitioner cites certain excerpts of the '504 patent and asserts that it is evident from them "that a revealer should at some point be moved to expose to viewing a portion thereof that previously

was not exposed.” Pet. 11–12 (citing Ex. 1001, 3:21–30, 3:57–62, 3:63–4:6). Petitioner further asserts that “a revealer may include, but does not require, an image (such as a face) provided on that exposed portion.” *Id.* at 12. Petitioner concludes that a person of ordinary skill in the art would understand “revealers” and “revealing means” as meaning “any surface portion that is moved to expose to viewing that portion that previously was not exposed, which portion may or may not include an image (such as a face) provided thereon.” *Id.* at 13.

Patent Owner asserts that “revealing means for revealing at least one image” is means-plus-function language that invokes 35 U.S.C. § 112 ¶ 6. PO Resp. 20–21. Patent Owner asserts that “revealing at least one image” is the claimed function. *Id.* at 20. As guidance regarding the corresponding structure, Patent Owner cites certain disclosures in the ’504 patent. *Id.* at 21–22 (citing Ex. 1001, 3:21–30, 3:45–59, 4:7–24, 4:25–29, 4:40–67, 5:10–13, 5:30–46). In view of these disclosures, Patent Owner asserts that “the disclosed structure for performing the claimed function . . . is a member that rotates or pivots from a concealed to a revealed position when the first and second movable members are in the open position and equivalents thereof.” *Id.* at 23. Patent Owner disputes Petitioner’s assertion that “revealing means” can be a surface, arguing that “revealing means” must be a “separate, rotatable component.” *Id.* at 24.

Patent Owner’s analysis persuades us that the claim language “revealing means for revealing at least one image” is means-plus-function language that invokes 35 U.S.C. § 112 ¶ 6. PO Resp. 20–21. Petitioner does not dispute this contention. *See* Pet. Reply 8–9.

Additionally, Petitioner persuades us that “revealing means” “should at some point be moved to expose to viewing a portion thereof that previously was not exposed.” *See* Pet. 12–13 (citing Ex. 1001, 3:63–4:6). In other words, the exposure of a previously unexposed portion should result from movement of the revealing means. Furthermore, we agree with Petitioner that “revealing means,” generally, may or may not have an image on the portion exposed by movement of the “revealing means.” *See id.* at 13. In the case of claim 7, however, the plain meaning of the claim language “revealing means for revealing at least one image” is that the portion exposed by movement of the revealing means includes an image.

The Specification comports with this. For example, the Specification discloses that

the first revealer includes at least one surface having an image such as a face as shown in FIG. 1. The image or face is concealed or hidden when the first revealer is in the concealed position as shown in FIG. 3. The face is then revealed, exposed or viewable when the first revealer is moved to the revealed position as shown in FIG. 1.

Ex. 1001, 3:63–4:2. Likewise, the Specification discloses that

the third revealer **26** includes at least one surface having an image such as the feet shown in FIG. 1. The third revealer **26** (i.e., the feet of the figurine) is concealed or hidden when the third revealer is in the concealed position as shown in FIG. 3. The feet are then revealed, exposed or viewable when the third revealer is moved, pivoted or rotated away from the support **22** to the revealed position as shown in FIG. 1.

Id. at 4:60–67.

The parties’ dispute over whether the “revealing means” includes just a surface or a separate, rotatable component does not affect our resolution of

the parties' dispute regarding patentability. Accordingly, we do not address this aspect of the claim construction. *See Vivid Techs.*, 200 F.3d at 803.

B. Alleged Anticipation of Claims 1–8 by Maruyama '693

Petitioner asserts that Maruyama '693 discloses every limitation of claims 1–8. Pet. 19–30. After reviewing the evidence and arguments presented at trial, we determine that Petitioner has not demonstrated anticipation of claims 1–4, 7, and 8 by a preponderance of the evidence, but has demonstrated anticipation of claims 5 and 6 by a preponderance of the evidence. We now discuss the parties' disputes regarding these claims in detail.

1. Maruyama '693

Maruyama '693 discloses a “[s]hape-changing toy.” Ex. 1004, 3.⁷ One embodiment of Maruyama '693's toy appears in Figures 1–4. *See, e.g., id.* at 15. Figures 1 and 2 are reproduced below.

⁷ Citations to Exhibit 1004 refer to the page number as counted starting with page 1 on the first page of the Exhibit. These page numbers also correspond to the numeric portion of the page identifier applied in the extreme lower right of each page. For example, here, page “3” corresponds to the numeric portion of the page identifier “CCF0003” in the extreme lower right portion of the third page, as counted from the first page of the exhibit.

Figure 1

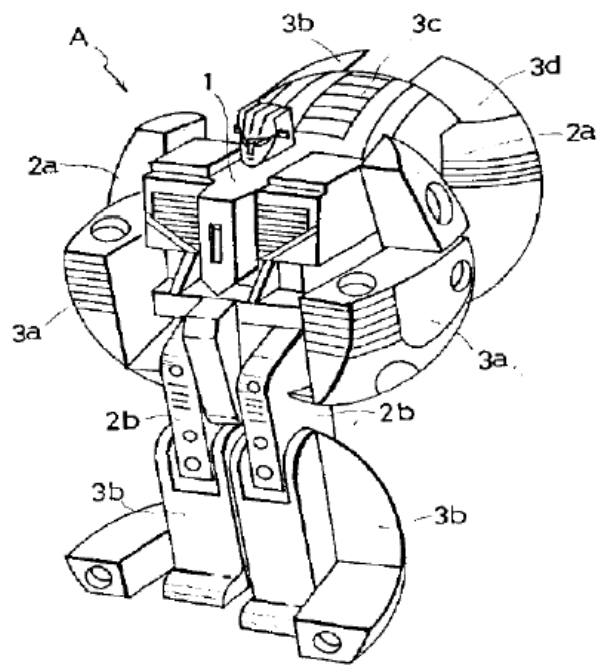
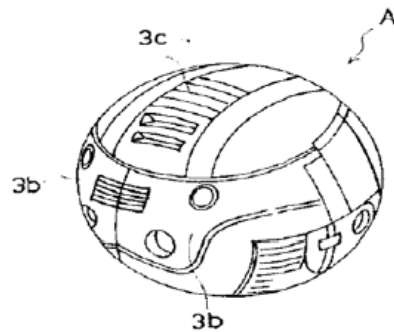


Figure 2



Figures 1 and 2 show the shape-changing toy in the shape of a robot and the shape of a sphere, respectively. *Id.* at 4, 15. The shape-changing toy includes first structural element 1, second structural elements 2a, 2b, and 2c, and third structural elements 3a, 3b, 3c, and 3d. *Id.* at 4. Structural element 1 forms a body section of the robot. *Id.* at 5. “[A] head 1b is provided in the upper section of the body 1a.” *Id.*

Structural elements 2a form upper arms of the robot. *Id.* Structural elements 2b form thigh sections. *Id.* Structural element 2c forms a rear surface section of a shouldering component. *Id.* Structural elements 2a and 2b connect to both sides and the bottom of structural element 1, rotating freely. *Id.* Structural element 2c connects to the rear bottom section of structural element 1, rotating freely. *Id.*

Structural elements 3a form lower arm sections of the robot. Id. at 5–6. Structural elements 3b form lower thigh sections of the robot. Id. at 6. Structural element 3c forms a front surface section of the shouldering component. Id. Regarding these, Maruyama '693 discloses that “the third structural element is connected to the second structural element 2 with the above configuration, rotating freely via a hinge.” Id. at 5

2. Claims 1–4

Patent Owner argues that Maruyama '693 does not disclose the limitation of independent claims 1 and 3 that “said display member includes a plurality of revealers rotatably connected to at least one of the first and second movable members.” PO Resp. 30–37. Patent Owner notes Petitioner maps Maruyama '693's robot body 1 to both the claimed “first movable member” and the claimed “display member.” *Id.* at 30. Patent Owner also notes that Petitioner identifies other components of Maruyama '693 as corresponding to the claimed “revealers,” including head 1b and structural elements 2a, 2b, 2c, 3a, and 3b. *Id.* at 31. Patent Owner argues that only one of the alleged revealers—head 1b—forms part of robot body 1. *Id.* at 31–32. Patent Owner further argues that Mr. Hirtle confirmed in his deposition that the alleged display member of Maruyama '693 does not include a plurality of revealers. *Id.* at 32.

Petitioner responds that “the robot body of Maruyama-693 (i.e., the display member) clearly ‘includes a plurality of revealers rotatably connected to at least one of the first and second movable members.’” Pet. Reply 14. Petitioner explains that 1) “the robot body of Maruyama-693 constitutes a display member,” and 2) “Maruyama-693 discloses a plurality of rotatably connected revealers in at least the form of two arms (2a and 2a) which rotate freely.” *Id.* at 13–14.

After consideration of the evidence and arguments presented at trial, we find that Petitioner has not demonstrated by a preponderance of the evidence that Maruyama ’693 discloses “said display member includes a plurality of revealers rotatably connected to at least one of the first and second movable members,” as required by claims 1 and 3. Citing Maruyama ’693’s disclosure that “the first structural element 1 is formed to constitute the body section of the robot” (Ex. 1004, 5⁸), the Petition explains that “[t]he details of a robot body are formed on the first structural member 1,” and that “the robot body constitutes such display member.” Pet. 21. Consistent with this, Petitioner’s Reply asserts that “[t]he details of a robot body are formed on the first structural member 1” and “the robot body . . . constitutes a display member.” Pet. Reply 13. Also consistent with this, Mr. Hirtle testified that “the detail on the front of the torso, the horizontal louvers, I would call them, maybe radiator detail. That would be the display member.” Ex. 2004, 30:1–19. Thus, Petitioner and Mr. Hirtle repeatedly indicate that the portion of Maruyama ’693’s toy corresponding to the

⁸ Here again, we cite to the page number in the lower right hand corner of the exhibit, whereas Petitioner cites to the page number in the lower center portion of the page.

claimed “display member” is structural element 1 (or some portion thereof). Accordingly, because Petitioner has not demonstrated that arms 2a form any part of structural element 1, Petitioner’s assertion that arms 2a constitute revealers does not demonstrate that Maruyama ’693’s toy meets the claim limitation that “said display member includes a plurality of revealers.” *See, e.g.,* Ex. 1004, Fig. 1. Additionally, Petitioner has not demonstrated that Maruyama ’693’s head 1b, by itself, constitutes “a plurality of revealers” that form part of the “display member.”

For the foregoing reasons, Petitioner has not demonstrated anticipation of independent claims 1 and 3 by a preponderance of the evidence. Additionally, Petitioner’s arguments and evidence regarding dependent claims 2 and 4 do not cure the foregoing deficiencies in the challenges to claims 1 and 3, respectively. *See* Pet. 24, 26. Accordingly, Petitioner has not demonstrated anticipation of claims 2 and 4 by a preponderance of the evidence.

3. *Claims 5 and 6*

Patent Owner disputes Petitioner’s position that Maruyama ’693 discloses a “first movable member . . . wherein the first movable member and the second movable member are moved away from each other,” as required by claim 5. PO Resp. 24–30. Patent Owner argues that Maruyama ’693’s first structural element 1 is not movable, and Maruyama ’693 does not disclose that first structural element 1 moves. *Id.* at 25–27. Instead, Patent Owner argues, “Maruyama ’693 describes the other structural elements, namely structural elements 2 and 3, as movable.” *Id.* at 25. Patent Owner further argues that “the entire Maruyama ’693 disclosure describes moving the second structural element and the third structural element—not

the first structural element 1—to form the robot and transform it back to the spherical shape.” *Id.* at 26.

In support of these contentions, Patent Owner cites certain portions of Maruyama ’693 as allegedly disclosing movement of only components other than first structural element 1. For example, Patent Owner cites Maruyama ’693’s disclosure on page 6 that:

Next, when the shape of the above toy A is changed from the spherical body to a robot by **rotating the second structural element 2 and the third structural element 3**, along with separating the third structural elements 3b and 3b from the first structural element 1 by **rotating them in the forward direction**, the second structural elements 2b and 2b will be **rotated downward** by forming the body of the robot.

PO Resp. 25–26 (emphases added by Patent Owner). Similarly, Patent Owner cites Maruyama ’693’s Figure 4 as allegedly showing movement of structural elements 2c and 3d, but not showing movement of first structural element 1. *Id.* at 26–27.

Patent Owner argues that it makes sense to read Maruyama ’693 as not disclosing movement of structural element 1 “because Maruyama ’693 discloses a completely different type of transformable toy than that disclosed and claimed by the ’504 Patent.” *Id.* at 27. Patent Owner elaborates that Maruyama ’693 focuses on a toy constructed of at least three structural elements, in contrast to toys with two structural elements. *Id.* at 27–28.

Petitioner responds that the portions of Maruyama ’693 cited by Patent Owner are silent regarding movement of structural element 1, but other portions of Maruyama ’693 demonstrate movement of structural element 1. Pet. Reply 10–12. For example, Petitioner cites Maruyama ’693’s disclosure that “the second structural element is connected to the first

structural element 1 . . . , rotating freely via a hinge.” Ex. 1004, 5; Pet. Reply 9–10. Petitioner also cites Maruyama ’693’s disclosure that “the first structural element 1 and the second structural elements 2a, 2b and 2c and another third structural elements 3a, 3b, 3c and 3d are connected such that they form the shape of a robot by being spread out, and form a spherical shape by being brought together.” Ex. 1004, 4–5; Pet. Reply 11. Additionally, Petitioner asserts that Figures 1 through 4 of Maruyama ’693 show structural element 1 is moved during opening and closing the toy. Pet. Reply 12. Regarding Patent Owner’s emphasis on Maruyama ’693’s three structural elements versus two structural elements, Petitioner argues that “it is well-established that prior art that includes an ‘extra component’ (in this case a third structural element) is still anticipatory so long as all the claimed elements are disclosed.” *Id.* at 12–13.

Having considered the parties’ evidence and arguments, we find that Maruyama ’693 discloses a “first movable member . . . wherein the first movable member and the second movable member are moved away from each other,” as required by claims 5 and 6. We find that Maruyama ’693’s first structural element 1 is movable because there is no evidence of record persuading us that first structural element 1 is anchored in any way that would prevent it from moving. Regarding whether Maruyama ’693 discloses the claim limitation that “the first movable member and the second movable member are moved away from each other to an open position or towards each other to a closed position,” as explained in Section II.A.1 above, we interpret claim 5 to include relative movement between the first and second movable members. We find that a person of ordinary skill in the art would understand Maruyama ’693 as disclosing relative movement

between its first structural element 1 (identified by Petitioner as “a first movable member”) and structural elements 3b (identified by Petitioner as “a second movable member”).

For example, such relative movement is disclosed in Maruyama '693's statement that

when constituents 3b and 3b and 2b and 2b, which constitute the legs, and elements 2c, 3c, 3d and 3d, which constitute the shouldering component, are rotated to make contact with the front and back surfaces of the first structural element 1, the external surface revealed is formed as curved surfaces that respectively constitute portions of the spherical surface.

Ex. 1004, 6. Relative movement between the structural elements is also disclosed in Maruyama's statement that “the second structural element is connected to the first structural element 1 . . . , rotating freely via a hinge.” *Id.* at 5. Likewise, relative movement between the structural elements is disclosed in the statement that “the first structural element 1 and the second structural elements 2a, 2b and 2c and another third structural elements 3a, 3b, 3c and 3d are connected such that they form the shape of a robot by being spread out, and form a spherical shape by being brought together.” *Id.* at 4–5. Specifically, “being spread out” discloses movement of the listed structural elements away from each other, and “being brought together” discloses movement of the listed structural elements toward one another. Certain positions of the structural elements at different stages of such movements appear in Figures 1–4. For the foregoing reasons, we find that Maruyama '693 discloses relative movement, as required under our construction of claim 5.

Furthermore, even if claim 5 did require movement of both the “first movable component” and the “second movable component” to achieve the open and closed positions, rather than just relative movement between the “first movable component” and the “second movable component,” we find Maruyama ’693 discloses such movement of both components. We find such movement disclosed in the statement that “the first structural element 1 and the second structural elements 2a, 2b and 2c and another third structural elements 3a, 3b, 3c and 3d are connected such that they form the shape of a robot by being spread out, and form a spherical shape by being brought together.” *Id.* at 4–5. Here, “they” refers to components that “form the shape of a robot,” which includes “the first structural element.” *See, e.g., id.* at 5 (“the first structural element 1 is formed to constitute the body section of the robot”). Because “they” refers to all of the structural elements, “being spread out” and “being brought together” refer to movement of all of the structural elements. Thus, we find that Maruyama ’693 discloses movement of structural element 1 during opening and closing of its toy, meeting even Patent Owner’s proposed construction of the claim language “first movable member . . . wherein the first movable member and the second movable member are moved away from each other.”

In sum, we are persuaded that Petitioner has demonstrated anticipation of claims 5 and 6 by a preponderance of the evidence. *See* Pet. 19–28; Pet. Reply 2–3, 9–13.

4. Claims 7 and 8

Claim 7 recites, *inter alia*, “revealing means for revealing at least one image, said revealing means connected to at least one of said first movable member and said second movable member, wherein the revealing means

reveals at least one image when the first and second movable members are in the open position.” Ex. 1001, 8:10–15. The parties dispute whether Petitioner has demonstrated that Maruyama ’693 discloses “wherein the revealing means reveals at least one image when the first and second movable members are in the open position.” Claim 8 depends from claim 7.

In our Institution Decision, we stated that the Petition had not explained adequately how the disputed claim limitation is allegedly met by Maruyama ’693. Dec. on Inst. 17–19. We noted that the Petition addresses this claim limitation by referring back to portions of the Petition’s claim chart addressing claims 1 and 5. *Id.* at 18. We found that neither the portion of the Petition’s claim chart addressing claim 7, nor the cross-referenced portions addressing claims 1 and 5 “even mentions the claimed ‘image,’ much less explains how Maruyama ’693 discloses it.” *Id.* at 19.

Petitioner contends that the Petition explains clearly how Maruyama ’693 anticipates claim 7. Specifically, Petitioner argues that the portion of the Petition addressing claim 2 is directed to the disputed limitation of claim 7. 2d Pet. Reply 4. Petitioner notes that “in mapping claim 2, the petition states ‘The upper and lower sections 2a, 3a *have the image of shoulders and arms*; and *legs 3b have the image of legs and feet.*’” *Id.* (emphasis added in 2d Pet. Reply). Arguing that claims 2 and 7 contain similar limitations, Petitioner downplays that in the Petition, “the mapping of claim 5d (and claim 7d by incorporation) do not expressly mention the claim term ‘image.’” *Id.* (citing *LG Electronics v. Core Wireless Licensing S.A.R.L.*, Case IPR2015-01983, slip op. at 23–24 (PTAB Feb. 16, 2017) (Paper 24) (“Some claims are sufficiently similar that it is manifestly evident why the analysis already provided for a first claim also applies for the same

reasons given for the first claim.”)). Thus, according to Petitioner, although the portions of the Petition directly addressing claim 7 do not expressly explain how Maruyama ’693 allegedly meets the disputed claim limitation, “it is made clear in the Petition.” *Id.* at 4.

Petitioner also points to a portion of the Petition’s discussion of claim 1 as allegedly identifying images. Specifically, Petitioner cites the Petition’s statement that

[t]he second structural element is composed of *structural elements 2a and 2a*, which ***form the upper arm sections of the robot***, ... Furthermore, the third structural element is connected to the second structural element with the above configuration, rotating freely via a hinge. This third structural element is composed of elements 3a and 3a, which ***form the lower arm sections of the robot***, elements 3b and 3b, which ***form the lower thigh sections of the legs***, and element 3 which ***forms the front surface section of the shouldering component***, elements 3d and 3d, which form both side sections.

Pet. 23–24 (emphasis added by Petitioner); 2d Pet. Reply 5. Petitioner contends that “[a]s is made clear in the Petition, the components of Maruyama ’693 in the shape of body parts such as arms, shoulders and legs are *images*.” 2d Pet. Reply 6.

More generally, Petitioner argues that “each element of independent claim 7 and dependent claim 8 is found in one or more of claims 1-6.” *Id.* at 1. Thus, Petitioner contends, claims 1–8 must stand or fall together. Supp. Tr. 4:8–12.

Patent Owner maintains that the portion of the Petition addressing claim 7 does not include any evidence regarding claim 7’s “at least one image.” PO Sur-Reply 2. Patent Owner explains that this makes sense because the portion of the Petition addressing claim 7 relies on the portions

addressing claims 1 and 5, which claims do not require an “image.” *Id.* Patent Owner argues, for example, that, contrary to Petitioner’s suggestion, the portion of the Petition addressing claim 1 does not explain how Maruyama ’693 discloses an image. *Id.* at 5.

Patent Owner also contends that we should not allow Petitioner to rely now on the Petition’s discussion of claim 2 to address the disputed limitation of claim 7. *Id.* at 3. Patent Owner objects that Petitioner improperly asks us to “fill in the gaps in the evidence set forth in the Petition” (*id.* at 4), likening the facts of this case to *Subaru of America, Inc.. v. Blitzsafe Texas, Inc.*, Case IPR2018-00090, slip op. at 22 (PTAB Apr. 20, 2018) (Paper 15). PO Sur-Reply 3–4. Patent Owner argues that *LG*, to which Petitioner cites, condoned the use of express cross-referencing to address similar claim language, but the Petition here does not include such cross-referencing between claim 7 and claim 2. *Id.* at 4–5.

Having carefully considered the parties’ arguments after our Institution Decision, we remain unconvinced that the Petition adequately explains how Maruyama ’693 allegedly discloses the disputed limitation of claim 7. We consider first Petitioner’s reliance on the Petition’s discussion of claim 1, which addresses claim 1’s “plurality of revealers” by discussing “arms,” “thighs,” “shoulders,” and “legs” of Maruyama ’693’s robot. Pet. 21–24. In general, contrary to Petitioner’s suggestion, we do not glean from a mere suggestion of robot body parts constituting “revealers” that they also constitute or include an image or images. *See* 2d Pet. Reply 5–6. More specifically, in the context of the discussion of claim 1, which says nothing about an image or images, we find even less reason to think that the Petition’s mere mention of “arms,” “thighs,” “shoulders,” and “legs”

conveys that these allegedly constitute or include an image or images. *See* Ex. 1001, 7:8–23. Therefore, we find that, contrary to Petitioner’s argument, the portion of the Petition discussing claim 1 does not support Petitioner’s contention that Maruyama ’693 discloses the disputed limitation of claim 7. We also find that neither the Petition’s discussion of claim 1 nor its discussion of the disputed limitation of claim 7 demonstrates anticipation. *See* Pet. 27–29.

We also find unpersuasive Petitioner’s argument that it was clear in the Petition that the discussion of claim 2 is directed to the disputed limitation of claim 7. As Patent Owner argues, unlike in *LG*, the portion of the Petition addressing claim 7 does not refer back to the portion addressing claim 2. *See* Pet. 21–24, 27–29. The absence of such a reference back to the discussion of claim 2 especially undermines Petitioner’s position because the Petition repeatedly, expressly refers back to other portions of the Petition when it intends to rely on prior discussion to address a claim limitation. *See, e.g., id.* at 24–30. Indeed, the discussion of the disputed limitation of claim 7 refers back to the discussion of claims 1 and 5, clearly indicating what explanation addresses claim 7. *Id.* at 21–24, 27–29.

Additionally, we do not find it otherwise adequately clear that the Petition intended to associate the discussion of claim 2 with the disputed limitation of claim 7. In its brief, Petitioner urges that, in order to obtain clarity, we should focus not on the portions of the Petition that expressly address the disputed claim limitation, but on the Petition generally. *See, e.g.,* 2d Pet. Reply 4. When we review the Petition generally, we find that different portions of the Petition address the same claim limitations by citing different robot components. For example, in different instances, the Petition

cites different robot components as allegedly constituting the “first movable member” recited in claim 1. *Compare* Pet. 20, with Pet. 65–68. Given this practice of citing different robot components to address the same or similar claim limitations, absent one of the Petition’s numerous express cross-references, a reader would have no apparent reason to understand the Petition as relying on any particular evidence or explanation to address different claim limitations, no matter how similar. In addition, when asked about this aspect of the Petition at the supplemental hearing, Petitioner wavered, steering away from its suggestion that we should look to the Petition as a whole for clarity. Supp. Tr. 7:11–9:3. Petitioner’s complicated ex post facto qualifications of how we should read the Petition undermine Petitioner’s contentions about what the Petition clearly explains. On the whole, contrary to Petitioner’s contentions, we find that the Petition does not demonstrate with adequate clarity that the explanation addressing claim 2 was intended to address the disputed limitation of claim 7. *See* 37 C.F.R. §§ 42.22(a)(2), 42.104(b).

Additionally, we disagree with Petitioner’s contention that claims 1–8 must stand or fall together. Supp. Tr. 4:7–12. Although these claims have many similarities, the language of the claims contains many differences, too. For example, whereas claim 7 recites “revealing means for revealing at least one image, . . . wherein the revealing means reveals at least one image when the first and second movable members are in the open position” (Ex. 1001, 8:10–15), claim 2 recites only “wherein the revealers each include at least one surface having an image formed thereon” (*id.* at 7:24–25). Seemingly small differences like these matter. *See, e.g., In re Wilson*, 424 F.2d 1382, 1385 (CCPA 1970) (“All words in a claim must be considered in judging the

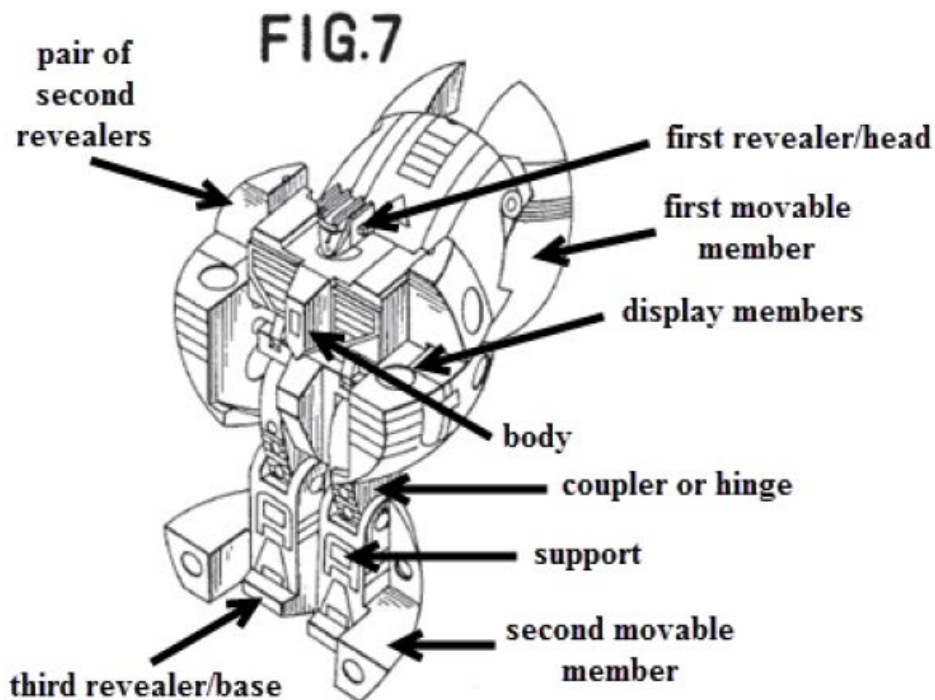
patentability of that claim against the prior art.”). And Petitioner bears the burden of addressing all words in the challenged claims. *See, e.g.*, 35 U.S.C. § 316(e); 37 C.F.R. §§ 42.22(a)(2), 42.104(b). As explained above, Petitioner has met that burden for claims 5 and 6 but not for claims 1 through 4, contrary to Petitioner’s assertion that the claims must stand or fall together.

Petitioner also has not met its burden with respect to claim 7. Even if we did credit it as applying to claim 7, the Petition’s explanation for claim 2 does not address persuasively the language of claim 7. As discussed in Section II.A.2 above, under the broadest reasonable interpretation of claim 7, the “revealing means” “should at some point be moved to expose to viewing a portion thereof that previously was not exposed,” and the previously unexposed portion should include an image. The Petition’s discussion of claim 2 explains that “head 1b *has* an image of a face,” “upper and lower arm sections 2a, 3a *have* the image of shoulders and arms,” and “legs 3b *have* the image of legs and feet.” Pet. 24 (emphases added). If true, the mere fact that these components *have* images does not demonstrate that any of these components constitute revealers that move to expose previously unexposed images. And the Petition does not otherwise persuade us that Maruyama ’693 discloses such components. For all of the foregoing reasons, we find that Petitioner has not demonstrated by a preponderance of the evidence that Maruyama ’693 anticipates claim 7, or claim 8.

C. Alleged Obviousness of Claims 1–11, 13, and 14 over Maruyama ’258 and Obara

Petitioner contends that Maruyama ’258 teaches most of the limitations of claims 1–11, 13, and 14. Pet. 65–87. Maruyama ’258 is a

design patent for a reconfigurable toy robot. Ex. 1006 [54]. To identify various components of Maruyama '258 that Petitioner contends correspond to components recited in the claims of the '504 patent, Petitioner provides annotations on figures from Maruyama '258. Pet. 66–85. Petitioner's annotated version of Maruyama '258's Figure 7 is reproduced below.



Id. at 67. The annotated version of Figure 7 shows where Petitioner believes Maruyama '258 teaches various components corresponding to claim limitations, including a first movable member, a second movable member, a coupler or hinge, a first revealer, a pair of second revealers, and a third revealer. See Pet. 66–67.

Petitioner asserts that although Maruyama '258 lacks a written description, a person of ordinary skill in the art would “understand from the images that it is a toy comprising first and second movable members that are

hingedly connected, so as to open and close to reveal display members and revealers in the same manner as shown in the ‘504 patent.” *Id.* at 65.

Petitioner also asserts that “[t]o the extent certain claim elements of the ‘504 patent are not adequately shown in Maruyama ‘258, it would have been simple and obvious for a [person of ordinary skill in the art] to combine Maruyama ‘258 with Obara in order to add those features to Maruyama ‘258 for the reasons discussed below.” *Id.*

After reviewing the evidence and arguments presented at trial, we determine Petitioner has not demonstrated obviousness of claims 1–11, 13, and 14 over Maruyama ‘258 and Obara. We now discuss in detail the parties’ disputes regarding each of the claims.

1. Claims 1–4

Independent claims 1 and 3 recite “wherein said display member includes a plurality of revealers rotatably connected to at least one of the first and second movable members.” Regarding this claim limitation, Petitioner asserts that “Maruyama ‘258 shows a plurality of revealers in the form of a head, arms and feet in the same manner as the ‘504 patent.” Pet. 69, 72.

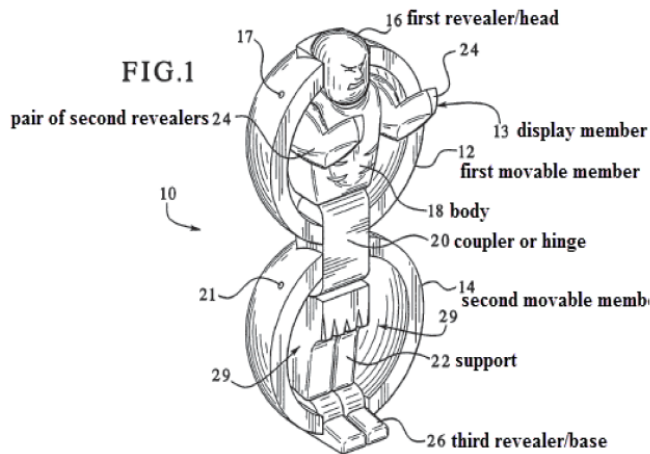
Patent Owner argues that Maruyama ‘258 does not teach a “display member includes a plurality of revealers,” as required by claims 1 and 3. PO Resp. 41–42. Patent Owner asserts that Mr. Hirtle testified that “the detail that’s described in the front of that torso, it looks kind of like radiator vents or something like that” constitutes the “display member” recited in the challenged claims. *Id.* (citing Ex. 2004, 19:5–20:11). Patent Owner argues that Petitioner does not explain how the prior art allegedly discloses the “display member includes a plurality of revealers,” but merely asserts that

Maruyama '258 has a plurality of revealers. *Id.* at 42. Patent Owner further asserts that Mr. Hirtle testified that the alleged “display member” of Maruyama '258 does not include any revealers, such that Petitioner does not have evidence that it does. *Id.*

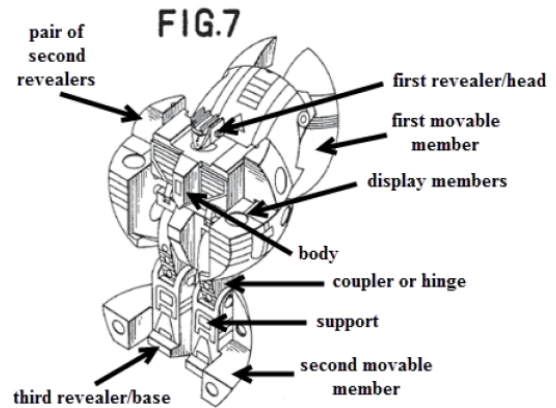
In response, Petitioner argues that “the display member in Maruyama-258 is the figurine, just as it is in the '504 patent. As seen in the annotated Figure 7 of Maruyama-258, the figurine includes a head, arms, and feet corresponding to the revealers as shown in Figure 1 of the '504 patent.” Pet. Reply 17.

After considering the evidence and arguments presented at trial, we find that Petitioner has not demonstrated by a preponderance of the evidence that Maruyama '258 teaches “said display member includes a plurality of revealers,” as required by claims 1 and 3. The vague, inconsistent representations of Petitioner and Mr. Hirtle do not provide a clear, consistent identification of which portion(s) of Maruyama '258's toy allegedly constitute a “display member,” as recited in the claims. To identify the various portions of Maruyama '258's toy corresponding to each of the claim limitations, Petition provides annotated versions of Figure 1 of the '504 patent and Figure 7 of Maruyama '258, reproduced below.

'504 Patent



Maruyama '258



Petitioner's annotated versions of Figure 1 of the '504 patent and Figure 7 of Maruyama '258 use text and arrows to identify portions of each figure allegedly corresponding to certain limitations of the claims. At first blush, the annotated version of Maruyama '258's Figure 7 appears to identify the arms as display members. Petitioner contends, however, that "as made clear by the side-by-side comparison [of the two figures], the annotations to Figure 7 are intended to mirror Figure 1 of the '504 patent," and that "like Figure 1 of the '504 patent, annotated Figure 7 identifies the figurine as the display member." Pet. Reply 16–17.

The parties' dispute illuminates that Petitioner and Mr. Hirtle have not provided a clear, consistent identification of which parts of Maruyama '258's toy allegedly constitute a "display member," as recited in claims 1 and 3. We do not agree with Petitioner that it is clear from the annotated drawings that the Petition intended to identify "the figurine" as the display member. In addition to the fact that it points to an arm, the annotation in question refers to plural "display members." These factors make it far from

clear that the annotation was intended to refer to “the figurine.” Further undermining Petitioner’s contention that “the figurine” was identified as a display member, Mr. Hirtle testified that the detail on the front of structural element 1 constitutes the display member. Ex. 2004, 19:5–20:11.

Additionally, even if we did accept Petitioner’s contention that it intended to identify “the figurine” as constituting a display member, Petitioner does not clarify which portions of Maruyama ’258’s toy constitute “the figurine.” Given Petitioner’s failure to provide a clear, consistent identification of the portions of Maruyama ’258’s toy that allegedly constitute a “display member,” Petitioner has not demonstrated by a preponderance of the evidence that Maruyama ’258 teaches a “said display member includes a plurality of revealers,” as required by claims 1 and 3. See 37 C.F.R. §§ 42.22(a)(2), 42.104(b).

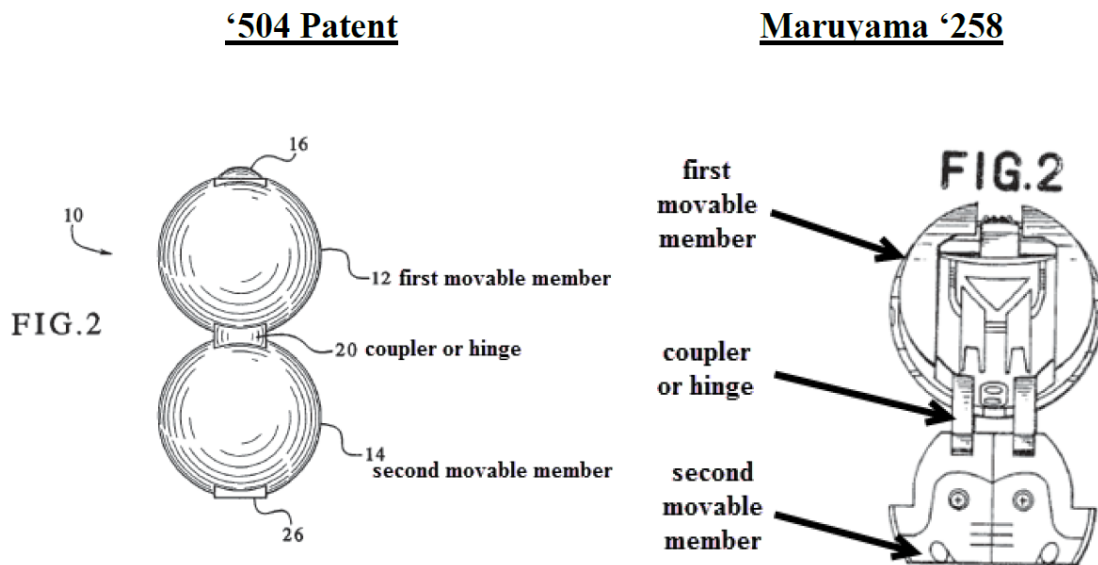
For the foregoing reasons, Petitioner has not demonstrated obviousness of independent claims 1 and 3 by a preponderance of the evidence. Additionally, Petitioner’s evidence and assertions regarding dependent claims 2 and 4 do not cure the deficiencies in its challenge of independent claims 1 and 3. See Pet. 70, 72. Accordingly, Petitioner has not demonstrated obviousness of claims 2 and 4 by a preponderance of the evidence.

2. Claims 5, 6, 9–11, 13, and 14

Each of independent claims 5 and 9 recites “a coupler positioned between said first and second movable members, said first movable member being movably connected to one end of the coupler and said second movable member being movably connected to an opposite end of the coupler.”

Petitioner argues that Figure 2 of Maruyama shows a coupler between first

and second movable members, and that “[t]he coupler movably connects the first and second movable members so that they may move into open and closed positions in the same manner as the ‘504 patent.” Pet. 73. In support of these assertions, Petitioner provides annotated versions of Figure 2 of the ‘504 patent and Figure 2 of Maruyama ‘258, which are reproduced below.



Pet. 74. Petitioner’s annotated versions of Figure 2 of the ‘504 patent and Figure 2 of Maruyama ‘258 identify portions of each toy that Petitioner contends constitute a first movable member, a second movable member, and a hinge or coupler.

Patent Owner argues that Petitioner has not addressed adequately the limitation of claim 5 of “said second movable member being movably connected to an opposite end of the coupler.” PO Resp. 51. In particular, Patent Owner argues that Petitioner’s assertion that Maruyama ‘258’s “coupler movably connects the first and second movable members so that they may move into open and closed positions in the same manner as the ‘504 patent” does not “meet the requirement that the second movable

member must itself be ‘movably connected to an opposite end of the coupler.’” *Id.*

Petitioner responds by comparing Figure 4 of Maruyama ’258 to Figure 4 of the ’504 patent, showing the toys in their closed positions, and comparing Figure 2 of Maruyama ’258 to Figure 2 of the ’504 patent, showing the toys in their open positions. Pet. Reply 22–23. Based on these figures, Petitioner contends that “Maruyama-258 discloses that the first and second movable members are moved into the open position in the same manner as the ’504 patent because they are hingedly connected in the same manner as the ’504 patent.” *Id.* at 23. Petitioner also argues that Patent Owner, in arguing that Maruyama ’258’s first and second movable members allegedly are not hinged together in exactly the same manner as the ’504 patent, does not correctly apply the obviousness standard. *Id.* at 22.

After considering the arguments and evidence presented at trial, we find Petitioner has not shown by a preponderance of the evidence that Maruyama ’258 and Obara teach or suggest “said second movable member being movably connected to an opposite end of the coupler,” as required by claims 5 and 9. Even if accurate in some vague, general sense, Petitioner’s conclusory assertion that the components of Maruyama ’258’s toy “are moved . . . in the same manner as the ’504 patent because they are hingedly connected in the same manner” does not address persuasively the specific language of claim 5 regarding connection between the second movable member and the coupler. *See* 37 C.F.R. §§ 42.22(a)(2), 42.104(b). Petitioner relies on a comparison of Figure 2 of the ’504 patent with Figure 2 of Maruyama ’258 to argue that Maruyama ’258 teaches a second movable member being movably connected to an end of a coupler. *See* Pet. 73, 78.

The comparison, however, is an insufficient obviousness analysis as to how Figure 2 of Maruyama '258 teaches this particular limitation of claims 5 and 9. *See id.* Petitioner also cites to paragraph 116 of its declarant testimony. *See id.* However, we give paragraph 116 little weight because (1) it compares the teachings of Maruyama '258 with Figure 2 of the '504 patent, not the language of the claim and (2) it does not provide any basis for its conclusion that the “coupler movably connects the first and second movable members . . . in the same manner as the '504 patent.” *See* Ex. 1002 ¶ 116.

For the foregoing reasons, Petitioner has not demonstrated obviousness of independent claims 5 and 9 by a preponderance of the evidence. Additionally, Petitioner's evidence and assertions regarding dependent claims 6, 10, 11, 13, and 14 do not cure the deficiencies in Petitioner's challenges of independent claims 5 and 9. *See* Pet. 75, 84–87. Accordingly, Petitioner has not demonstrated obviousness of dependent claims 6, 10, 11, 13, and 14 by a preponderance of the evidence.

3. *Claims 7 and 8*

In connection with independent claim 7's “revealing means for revealing at least one image,” Petitioner states that Maruyama '258 “shows a plurality of revealers in the form of a head, arms, and feet.” Pet. 76.

Additionally, Petitioner asserts that

at least one revealer of Maruyama '258 reveals at least one image when the first and second movable members are in the open position. For example, in Figure 7 of Maruyama '258 (shown above), it can be seen that the revealer in the form of a head shows the image of a face when the first and second movable members are in the open position.

Id. at 77 (internal citation omitted).

Patent Owner argues that Petitioner has not addressed adequately whether the head of Maruyama '258 rotates from a concealed position to a revealed position. PO Resp. 54. Petitioner responds that:

Maruyama-258 discloses revealing means in the form of at least the head, arms and feet. *See, e.g.*, EX1006 at Figs. 7-12. The progression of the toy as it moves from the closed to the opened position in Figures 7-12 shows that the revealing means reveals at least one image (e.g., the face) when the first and second moving means are in the open position. To the extent Patent Owner is arguing that the revealing means must be capable of rotating so as to reveal a previously unseen image, Petitioner has established that it would have been obvious for POSA to add rotatability to the head, arms and feet of Maruyama-258 in light of Obara.

Pet. Reply 24–25.

After considering the evidence and arguments presented at trial, we find that Petitioner has not demonstrated unpatentability of claim 7 by a preponderance of the evidence. As discussed in Section II.A.2 above, under the broadest reasonable interpretation of claim 7, the “revealing means” “should at some point be moved to expose to viewing a portion thereof that previously was not exposed.” Pet. 12–13. As further discussed in Section II.A.2 above, in the case of claim 7’s “revealing means for revealing at least one image,” the portion exposed by moving the revealing means includes an image. Petitioner asserts that Maruyama '258’s head includes an image—the face—but does not provide evidence or reasoning persuading us that the head is moved (or can move) to expose to viewing the face after it was previously not exposed.

For multiple reasons, Petitioner’s reply argument that claim 7’s “revealing means for revealing at least one image” would have been obvious

(see Pet. Reply 25) is unavailing. First, with respect to this limitation of claim 7, the Petition did not argue that it would have been necessary or obvious to modify Maruyama '258's head, arms, or feet to rotate. See Pet. 76–77. Second, even if Petitioner had argued and demonstrated obviousness to make these components rotate, that alone would not demonstrate that it would have been obvious to make any of them rotate from a position where an image is unexposed to a position where an image is exposed. Consequently, Petitioner has not met its burden. See 37 C.F.R. §§ 42.22(a)(2), 42.104(b).

For the foregoing reasons, Petitioner has not demonstrated obviousness of independent claim 7. Additionally, Petitioner's evidence and assertions regarding dependent claim 8 do not cure the deficiencies in Petitioner's challenge of claim 7. See Pet. 77. Accordingly, Petitioner has not demonstrated obviousness of dependent claim 8.

D. Alleged Obviousness of Claim 12 over Maruyama '258, Obara, and Matsuda

Petitioner's evidence and assertions regarding dependent claim 12 do not cure the above-discussed deficiencies in Petitioner's challenge of independent claim 9. See Pet. 87–89. Accordingly, Petitioner has not demonstrated obviousness of claim 12 by a preponderance of the evidence.

III. CONCLUSION

For the reasons expressed above, we determine Petitioner has shown, by a preponderance of the evidence, anticipation of claims 5 and 6 by Maruyama '693.

Additionally, for the reasons expressed above, we determine that Petitioner has not shown by a preponderance of the evidence:

- anticipation of claims 1–4, 7, and 8 by Maruyama '693;
- obviousness of claims 1–11, 13, and 14 over Maruyama '258 and Obara; and
- obviousness of claim 12 over Maruyama '258, Obara, and Matsuda.

IV. ORDER

After due consideration of the record before us, it is:

ORDERED that claims 5 and 6 have been shown to be *unpatentable*;

FURTHER ORDERED that claims 1–4 and 7–14 have *not* been shown to be *unpatentable*; and

FURTHER ORDERED that because this is a Final Written Decision, 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 IPR2017-00030

Patent 7,306,504 B2

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