UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

Prime Time Toys LLC, Prime Time Toys Ltd.
and Easebon Services Ltd.
Petitioners,

v.

Spin Master, Inc.
Patent Owner.

Case IPR2023-01348

PATENT NO. 8,371,282

PETITIONERS' REQUEST FOR DIRECTOR REVIEW

The Board denied institution of *inter partes* review of claims 2, 3, 5-15, 17, and 19-21 of U.S. Patent No. 8,371,282 B2 (Ex. 1001, "'282 Patent"). Paper 10 ("Decision" or "Dec."). The denial of institution was based solely on the issue of motivation to combine. *Id.,* 13-19. In finding no motivation to combine, the Board abused its discretion by: (1) ***completely failing to consider evidence of secondary considerations*** in the form of simultaneous invention, which evidence supports a finding of motivation to combine; (2) ***arbitrarily ignoring admissions*** made by Patent Owner's expert and other record evidence which are ***contrary to the Board's finding***; and (3) relying on the ***personal experience*** of Petitioners' expert ***without any evidence*** that such experience was known and practiced by the POSA defined by the Board. Petitioners respectfully request Director Review for the reasons set forth herein.

Petitioners are also submitting requests for Director Review of similar institution denials in IPR2023-01339 (US 8,640,683) and IPR2023-01461 (US 8,596,255) for two related patents. The '282 and '683 Patents are involved in a concurrent ITC proceeding. Paper 2 ("Petition" or "Pet."), 7-8. The Initial Determination finding the patents nonobvious is under review by the ITC. Paper 9.

I. LEGAL STANDARD

"Requests for Director Review of the Board's decision whether to institute an AIA trial … shall be limited to decisions presenting (a) an abuse of discretion or (b)

important issues of law or policy." USPTO, Revised Interim Director Review Process, Sec. 2.B., https://www.uspto.gov/patents/ptab/decisions/revised-interim-director-review-process (last updated 1/19/2024). "An abuse of discretion is found if [a] decision: (1) is clearly unreasonable, arbitrary, or fanciful; (2) is based on an erroneous conclusion of law; (3) rests on clearly erroneous fact finding; or (4) involves a record that contains no evidence on which the Board could rationally base its decision." *Intelligent Bio-Sys., Inc. v. Illumina Cambridge Ltd.*, 821 F.3d 1359, 1367 (Fed. Cir. 2016) (internal citation omitted).

II. BACKGROUND

As illustrated by claim 1, the '282 Patent is directed to a combination of (1) a projectile launcher and (2) ammunition for that projectile launcher in the form of soft projectiles made from hydrated superabsorbent polymer ("SAP"). Ex. 1001, 9:29-33. SAPs are polymers that can absorb an extremely large amount of water relative to their own mass. *Id.,* 3:37-44. Ground 1 (Pet. 15, 29-32) alleges that claims 1 and 4 are anticipated by the Spitballs reference (Ex. 1002) which teaches using SAP ammunition in a projectile launcher. Patent Owner subsequently disclaimed these claims. Ex. 2013. Remaining dependent claims 2, 3, 5-15, 17, and 19-21 recite details of the ammunition or of the projectile launcher (*e.g.*, that it is in the shape of a gun, *see* claim 10). Ground 2 alleges that these claims are obvious over the Peev reference (Ex. 1003), which teaches an airsoft gun, in

combination with Spitballs. Pet. 15, 33-66.

The Petition explained that there was motivation to use the soft spherical ammunition of Spitballs with the airsoft guns described in Peev. Specifically, there was a problem with airsoft guns; they were being ***used by children*** and their ***hard*** plastic ammunition was ***causing injuries***. Pet. 3-4, 33-39. This problem is well documented in numerous articles pre-dating the '282 Patent. *Id.* During the ITC case, Patent Owner's expert (Dr. Kudrowitz) admitted that a POSA knew of this injury problem with airsoft guns before the '282 Patent's filing and that the POSA would have known that one solution to this problem was to use ***softer*** ammunition in place of the hard plastic ammunition. *Id.*

As the Supreme Court explained, these undisputed facts point not to innovation but to ordinary skill and common sense. Pet. 4.

> When there is a design need or market pressure to ***solve a problem [injuries caused by airsoft guns]*** and there are a finite number of identified, ***predictable solutions [e.g., soft SAP ammo]***, a person of ordinary skill has good reason to pursue the known options within his or her technical grasp ***[use of soft SAP ammo in an airsoft gun]***. If this leads to the anticipated success, it is likely the product not of innovation but of ordinary skill and common sense.

KSR Int'l Co. v. Teleflex Inc., 550 U.S. 398, 421 (2007).[1]

[1] All emphasis added unless otherwise noted herein.

The only issue addressed by the Board is "Motivation to Combine" and the Board determined that there was none. Dec. 14-19. The Board reached this conclusion by finding insufficient evidence (1) of an injury problem with the hard ammunition shot from airsoft guns and (2) that softer SAP ammunition was a solution. *Id.*

A. <u>The Injury Problem Was Known</u>

As to the problem, the Board explained: "***Though there is a risk of injury*** while using airsoft guns, Petitioner has ***not established*** that one of skill in the art would consider this risk ***a problem*** with airsoft guns, as opposed to an accepted function." Dec. 16.

However, the Board ***did not acknowledge or discuss Petitioners' secondary considerations evidence in the form of simultaneous invention*** (Pet. 57-60) which established that this risk of injury was a problem that POSAs were seeking to solve, and not "an accepted function." The evidence ignored in the Decision includes Korean Patent Publication No. 20-2010-0004855 to Kim (Ex. 1022), entitled "Toy Bullets Formed of Gel or Gel Material." Kim was filed in the Korean IP Office in late 2008, long ***before*** the May 10, 2010 priority date of the '282 Patent and was published on May 11, 2010, ***just one day after*** the priority date. Pet. 57-60; Ex. 1022, 7.

Kim explains that its "invention is to improve the bullet of a toy gun to

prevent injury to the human body." Ex. 1022, 7. Kim's improved "toy bullet [is] formed of gel." *Id.* When Kim's gel bullet is fired by the gun using air pressure from a cylinder, it was found that the gel bullet was "***safer*** to use than a bullet of a conventional rigid material structure and ***does not cause injury*** to the human body." *Id.*

The '282 Patent itself acknowledged that airsoft guns were causing injuries and used soft ammunition as a solution to this known problem. Ex. 1001, 1:56-60; 4:11-14. As confirmed by Petitioners' expert Joel Delman, Kim recognized the same problem (risk of injury from hard ammuntion) and simultaneously arrived at the same solution (softer ammunition) as the named inventors of the '282 Patent. Pet. 57-58; Ex. 1016, ¶¶ 130-132. Contrary to the Board's clearly erroneous factual finding, Petitioners did establish through record evidence (*i.e.*, Kim) that "one of skill in the art would consider this risk a problem with airsoft guns, as opposed to an accepted function." The Decision's failure to mention or discuss Kim, simultaneous invention, or secondary considerations was an abuse of discretion.

The Decision also does not credit and is contrary to the admission of Patent Owner's expert that a POSA knew about the injury problem with airsoft guns:

> Q. Okay. And do you agree that ***a person of ordinary skill in the art*** knew prior to 2010 that Airsoft guns could cause ***serious harm*** for those who get hit by the ammunition?

> A. I think people ***would know*** that you could – you could be ***harmed by the ammunition***.

Pet. 34. The same expert also admitted that injuries resulting from the use of hard ammunition could occur ***at both high and low velocities*** (*id.,* 35-36):

> Q. You agree that there could be injury that's caused by a hard plastic sphere that's shot out of an Airsoft gun ***below 350 [fps]***, correct?
>
> A. Sure.
>
> Q. Injury could be ***bruising***, right?
>
> A. Yes.
>
> Q. There could be ***black and blue marks below 350*** feet per second?
>
> A. Yes.
>
> Q. ***Welts?***
>
> A. Yes.

The above testimony is directly contrary to the Board's findings that "the risk of injury to the skin is understood to occur in airguns with a muzzle velocity ***above 350 fps***" and that there is "merely a chance" of injury ***below*** that velocity. Dec. 18. The Board's findings are also contradicted by the record evidence that "***penetration of*** skin and ***bone*** can occur ***at 350 fps***." Pet. 34; Ex. 1019, 9. Since penetration ***of bone*** can occur at 350 fps, it is not surprising that Patent Owner's expert admitted that injury to the ***skin*** (bruising, black and blue marks, and welts)

occurs at velocities ***below*** 350 fps. Pet. 35-36. The Board did not credit these admissions. Finally, the Board's statement that at "muzzle velocities around ***160 fps***, the evidence shows that the risk of injury is low" (Dec. 18) ignores the 2005 report by the California Senate Office of Research that found that "[v]arious references largely agree . . . damage to the human eye can occur . . . at a muzzle velocity of ***130 fps***." Pet. 34; Ex. 1019, 9. Clearly, protective eyewear use was ***not*** universal.

Petitioners' expert, Mr. Delman, relied on Kim, Dr. Kudrowitz's admissions, and other evidence to opine that POSAs were concerned with the injury problem caused by using hard ammunition in airsoft guns. Pet. 33-39, 57-60; Ex. 1016, ¶¶ 76-82, 130-135. The Board ignored this evidence in favor of irrelevant testimony from Mr. Delman that he ***personally*** was not concerned about ***his two sons*** playing with air guns because he had "taught ***them to play with them in a safe manner***." Dec. 16-17. There is absolutely ***no evidence*** in the record on which the Board could rationally rely to find (1) that Mr. Delman's and his children's ***personal safety practices with airsoft guns*** were adopted and practiced by all parents and all children and (2) that POSAs knew this.

Specifically, there is no evidence that the POSA with "a bachelor's degree in mechanical engineering, industrial design, or equivalent, with at least one year of relevant experience designing projectile launching systems. . ." (Dec. 7-8) would

(1) ***know about*** Mr. Delman's ***personal*** safety practices, (2) assume that all parents taught their children those safety practices, and (3) expect that all ***children*** who were taught Mr. Delman's personal safety practices would faithfully adhere to them. The Board's rationale is clearly unreasonable, arbitrary, and fanciful.

Instead, the evidence shows that the injury problem with airsoft guns was real and caused by the fact that they looked and felt like ***real guns*** and were being used by ***young boys***. Pet. 4. Record evidence (Bleacher Report article) confirms this: "But beyond all the ***risks and dangers*** associated with airsoft guns, there is also a really ***fun*** aspect to them. They ***look and behave exactly like real guns*** so that it ***feels like you're firing a real gun***. . . It doesn't take a rocket scientist to figure out why ***young boys like them so much***." Ex. 1005, 3; Pet. 4, 33.

The existence of the injury problem with airsoft guns is beyond reasonable argument, since even the '282 Patent acknowledged that the hard projectiles of airsoft guns have the ability "to do serious harm." Ex. 1001, 1:56-60. This problem was known to POSAs, as was a solution – softer ammunition.

B. <u>A Solution To The Injury Problem Was Also Known</u>

The Board found that "Petitioner has not established that the combination of Peev and Spitballs decreases the risk of injury" and that it is unclear what "difference moving to a softer ammunition would make as there is ***no evidence cited in the Petition*** on this point." Dec. 17-18. But the Board arbitrarily ignored

the admission to the contrary made by Patent Owner's expert on this exact point (Pet. 36):

> Q. So you agree that a person of ordinary skill in the art would have known in 2009 that ***another way to make a projectile less likely to cause injury would be to make it softer.***
>
> A. ***That's another way to do it.***

The Board also ignored the evidence discussed in the Petition that Spitballs were softer projectiles that could be used in place of ***hard spherical plastic*** ammunition. Pet. 36-38. As the Spitballs packaging explained: "Will bounce and/or ***explode into <u>mushy</u> parts on impact***." Ex. 1002, 21. In fact, Patent Owner's expert (Dr. Kudrowitz) admitted several times that the Spitballs packaging taught a POSA that Spitballs break apart when they hit a target. Pet. 36-37. ("Q. . . . the SAP Spit Balls also ***explode on contact***, correct? A. Correct."). As discussed above, Dr. Kudrowitz also admitted hard plastic ammunition had the opposite effect; it caused skin injuries when striking a human target. Pet. 34-36.

This commonsense teaching in the prior art that ***soft, explode-on-contact*** SAP ammunition is necessarily safer than ***hard*** plastic ***non-exploding*** ammunition was later repeated in the '282 Patent, without any further evidence. "[S]oft-projectiles made from a SAP with a lower cross-link density will ***break apart more easily*** and have a much ***softer impact***." Ex. 1001, 4:11-14. The Spitballs soft SAP

ammunition worked the same way; they "***explode into mushy parts on impact***." Ex. 1002, 21; Pet. 36. The Board abused its discretion by ignoring this teaching in Spitballs and Dr. Kudrowitz's admissions regarding same.

The '282 Patent merely reiterates what Spitballs previously taught and what Dr. Kudrowitz admits a POSA already knew, namely, "***another way to make a projectile less likely to cause injury would be to make it softer."*** Pet. 36. Spitballs were ***softer*** than ***hard*** plastic ammunition; they exploded on contact. Of course, the softer Spitballs reduced the injury risk posed by harder ammunition.

As with its analysis of the injury problem, the Board overlooked the evidence of Kim's ***simultaneous invention*** which confirmed the testimony of Patent Owner's expert that a POSA "would have known in 2009 that another way to make a projectile less likely to cause injury would be to make it softer." *Id.* Indeed, Kim's airsoft gun used a "toy bullet formed of ***gel***" (***which is softer*** and replaced hard plastic ammunition) and "it is a very safe and useful toy bullet that is safer to use than a bullet of a conventional ***rigid*** material structure and does not cause injury to the human body." Ex. 1022, 7; Pet. 57-58.

The Board also ignored the other evidence of simultaneous invention, a December 2010 video posted by Vat19 to YouTube. Pet. 57-60; Ex. 1023; 1024. This video demonstrates that the prior art Spitballs explode

on contact and then shows two young men firing Spitballs at a third man's face and unprotected eyes point blank. Ex. 1023, 00.35 to 00.56. The victim of this prank is annoyed, but unharmed.

Contrary to the Decision, Petitioners did present evidence (Spitballs' packaging, Kim, Vat19, and Dr. Kudrowitz's admissions) that the combination of Peev and Spitballs would decrease the risk of injury and that softer ammunition would make a difference.

Finally, whether or not gun education/safety lessons and protective eyewear may also be possible solutions is legally irrelevant. Federal Circuit "caselaw is clear. It's not necessary to show that a combination is 'the ***best*** option, only that it be a ***suitable*** option.'" *Intel Corp. v. Qualcomm Inc.*, 21 F.4th 784, 800 (Fed. Cir. 2021) (internal citation omitted; emphases in original). Pet. 5. As acknowledged by the '282 Patent, Patent Owner's expert, Petitioners' expert, Kim, and Vat19, soft SAP ammunition was a suitable solution to the injury problem. Pet. 33-39; 57-60.

III. ARGUMENT

Petitioners respectfully request Director Review of the Decision because the Board abused its discretion by: (1) completely failing to consider evidence of simultaneous invention by Kim and Vat19 which demonstrates that a POSA understood the injury problem and a solution – softer ammunition; (2) arbitrarily

ignoring admissions made by Patent Owner's expert and other record evidence that injuries could occur at high and low muzzle velocities and that softer ammunition was a solution; and (3) relying on the personal experiences of Petitioners' expert to support its finding that there was no injury problem without any evidence that these personal experiences were common and known to a POSA.

When present, evidence of secondary considerations must always be considered when deciding obviousness. "It is ***error*** to exclude that evidence from consideration." *Stratoflex, Inc. v. Aeroquip Corp.*, 713 F.2d 1530, 1539 (Fed. Cir. 1983). "[E]vidence of secondary considerations may often be the ***most probative and cogent evidence*** in the record." *Id.,* 1538. Further, "[i]ndependently made, ***simultaneous inventions***, made 'within a comparatively short space of time,' are ***persuasive evidence*** that the claimed apparatus 'was the product only of ordinary mechanical or engineering skill.'" *Geo M. Martin Co. v. Alliance Mach. Sys. Int'l LLC*, 618 F.3d 1294, 1305 (Fed. Cir. 2010) (internal citation omitted). The Federal Circuit has recognized that:

> simultaneous invention may bear upon the obviousness analysis in two ways. . . [I]t is evidence of the ***level of skill in the art*** . . . [and is] objective evidence that persons of ordinary skill in the art ***understood the problem and a solution to that problem***.

Regents of the Univ. of Cal. v. Broad Inst., Inc., 903 F.3d 1286, 1295-96 (Fed. Cir. 2018) (internal citation omitted).

The Board abused its discretion by excluding from consideration the record evidence of simultaneous invention by Kim (Ex. 1022) and Vat19 (Ex. 1023; 1024). This evidence shows that there is no foundation for its decision on motivation to combine, namely, POSAs did not perceive a problem with airsoft guns and there was no evidence that softer ammunition was a solution. Kim is highly relevant evidence that POSAs (1) did perceive a problem with airsoft guns (risk of injury) at the exact same time as the named inventors of the '282 Patent and (2) recognized the commonsense solution that softer deformable ammunition in place of non-deformable hard plastic ammunition would reduce the injury risk and, therefore, was a solution to the problem. Vat19 is highly relevant evidence that POSAs knew that SAP ammunition was safe even when shot into the face and at unprotected eyes. The Decision makes no mention of Kim or Vat19 and no discussion of simultaneous invention.

The Board also abused its discretion by arbitrarily ignoring/not crediting admissions by Patent Owner's expert and related record evidence which showed awareness by POSAs of both the problem with airsoft guns and a solution, including:

- Admissions by Patent Owner's expert that POSAs knew that (1) airsoft guns could cause serious harm to those who get hit by the ammunition and (2) one way to make a projectile less likely to cause

injury would be to make it softer. Pet. 34-36.

- Admissions by Patent Owner's expert that airsoft guns were being used by teenage boys and that injuries occurred both above and below the 350 fps velocity threshold relied on by the Board. Pet. 4, 35-36.
- Record evidence in the form of articles that airsoft guns were "really fun" and loved by "young boys" but there were "***risks and dangers*** associated with" them. Pet. 33; Ex. 1005, 3.
- Record evidence that "***penetration of*** . . . ***bone*** can occur ***at 350 fps***" and the admission by Patent Owner's expert that bruising, black and blue marks, and welts could occur at velocities below 350 fps. Pet. 34-36. All of these contradict the Board's findings that "the risk of injury to the skin is understood to occur in airguns with a muzzle velocity ***above 350 fps***" and that there is "merely a chance" of injury ***below*** that velocity. Dec. 18.
- Record evidence that Spitballs were softer projectiles that would "bounce and/or ***explode into mushy parts on impact.***" Pet. 36-37. Patent Owner's expert agreed – the Spitballs packaging taught a POSA that Spitballs break apart when they hit a target. *Id.*
- Subsequent confirmation of the existence of the problem and the efficacy of the solution by the '282 Patent itself. Ex. 1001, 1:56-60

(projectiles fired by airsoft guns can "do serious harm"); 4:11-14 (SAP projectiles can "break apart more easily and have a much softer impact").

The Board also abused its discretion by relying on the personal experience of Petitioners' expert (Mr. Delman) that he was not concerned about ***his two sons*** playing with air guns because he had ***"taught them to play with them in a safe manner."*** Dec. 16-17. This personal experience of an expert witness is irrelevant to whether a POSA perceived an injury problem with airsoft guns, since there is ***no evidence*** that these personal experiences were common and known to POSAs.

IV. CONCLUSION

For the reasons set forth herein, individually, and cumulatively, Petitioners respectfully request Director Review of the Board's Decision and institution of *inter partes* review of the '282 Patent.

Respectfully submitted,

AMSTER, ROTHSTEIN & EBENSTEIN LLP
Attorneys for Petitioners
405 Lexington Avenue
New York, NY 10174
(212) 336-8000

Dated: March 6, 2024
New York, New York

By: /*Kenneth P. George No. 30,259*/
Kenneth P. George
Registration No.: 30,259

CERTIFICATE OF SERVICE

Pursuant to 37 C.F.R. §§ 42.6(e), I hereby certify that on March 6, 2024, a true copy of this Petitioners' Request for Director Review was served via email on the Patent Owner at the following correspondence address of record:

Kenneth W. Darby
Jeffrey Shneidman
Fish & Richardson P.C.
60 Sout Sixth Street, Suite 3200
Minneapolis, MN 55402

Jennifer C. Bailey
Megan Redmond
ERISE, IP, P.A.
7015 College Boulevard, Suite 700
Overland Park, Kansas 66212

Email:
IPR50745-0003IP1@fr.com
PTABInbound@fr.com
Jennifer.bailey@eriseip.com
PTAB@eriseip.com
Megan.redmond@eriseip.com

Dated: March 6, 2023
New York, New York

By: /Kenneth P. George/
Kenneth P. George
Registration No.: 30,259
AMSTER, ROTHSTEIN &
EBENSTEIN LLP
405 Lexington Avenue
New York, NY 10174
(212) 336-8000