Prime Time Toys LLC, Prime Time Toys Ltd., and Easebon Services, Petitioner
v.
Spin Master, Inc. (by and through exclusive licensee, Hasbro Inc.), Patent Owner.

Patent Owner's Demonstratives

Case Nos. IPR2023-01339 // IPR2023-01348 // IPR2023-01461
U.S. Patent Nos. 8,640,683 // 8,371,282 // 8,596,255
Before Hon. Hyun J. Jung, Neil T. Powell, and Brent M. Dougal
Administrative Patent Judges

FISH.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

SPIN MASTER 2204
Prime Time Toys et al. v. Spin Master, Inc.
IPR2023-01348

Table of Contents

The Prior Art: Peev and Spitballs	3
Petitioner Does Not Show a POSITA Would Have Been Motivated to Combine Peev and Spitballs	7
Petitioner Does Not Show a POSITA Would Have Reasonably Expected to Succeed at Combining Peev and Spitballs to Reach the Claimed Invention	33
Commercial Success and Industry Praise With Nexus to the Claimed Invention Support Nonobviousness	37
Petitioner Does Not Show Simultaneous Invention	55

The Prior Art

Peev and Spitballs

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DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

The Prior Art: Peev

https://www.youtube.com/watch?v=EFajtl

REPUBLIC OF BULGARIA

(19) BG

(11) 110343

(51) Int.Cl. F41A 19/59 (2006.01)

PATENT APPLICATION FOR UTILITY MODEL

(21) Application No. 110343
(22) Requested on 03/13/2009
(24) Patent validity starts on: 09/13/2003

Priority Details

(31) (32) (33)

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(56) Information sources:

(71) Applicant(s):
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(72) Inventor(s):
PEEV, Vladimir G., 1408 Sofia

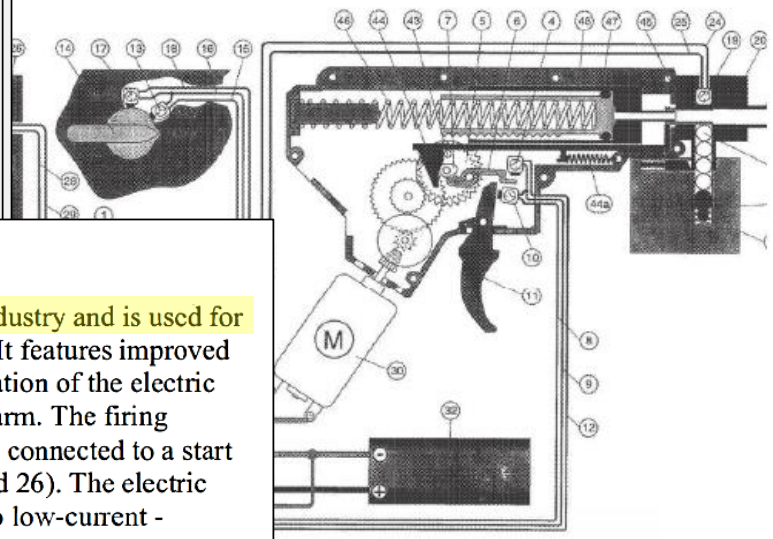
(74) Representative, on industrial property:
Emilia Zdravkova Vinarova,

(54) AIR-FORCE ELECTRIC RIFLE

(57) The electric airsoft gun finds application in the sporting gun industry and is used for military simulations or training, or for entertainment in airsoft games. It features improved performance indicators, as well as optimized functioning and manipulation of the electric airsoft rifle to the way of functioning and manipulation of the real firearm. The firing control system of the electric airsoft gun includes a microcontroller (1) connected to a start (2) and stop (3) executive module and six sensors (4, 10, 13, 17, 19 and 26). The electric circuits of the control system of the electric airsoft gun are divided into low-current - control, and high-current - executive.

Pet. Ex. 1003
Page 22 of 41

EX1003, p.22



EX1003 p.38 (Figure 1)

01339: POR at 5-7
01348: POR at 5-7
01461: POR at 3-6
EX2015 ¶¶27-28

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DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

The Prior Art: Peev

EX2016, p.2, p.15

The Airsoft Question and Answer Book

Airsoft Guns, Gear and Ammo

What are AEGs?
AEGs (or Automatic Electric Guns) are powered by batteries and use an electric motor to drive a gear-piston system that actually fires the BBs. AEGs are the main weapon of choice for airsoft players due to combination of range, rate of fire, number of rounds per battery charge, BB capacity and faithful duplication of actual firearms. Some of the most popular models of AEGs are those that are replicas of the M4 carbine (standard issue weapon for U.S. combat forces), the M16 rifle (standard issue for U.S. forces outside of combat troops), the M14 rifle (as a sniper rifle), and other popular police and military weapons such as the MP5 submachine gun.

AEG muzzle velocities average somewhere in the neighborhood of 300-350 fps and fire at around 500-700 rounds per minute. In a standard AEG, the motor drives a series of gears inside a gearbox and the gears compress a piston assembly against a spring. When the piston is released (by pulling the trigger) the spring drives it forward, pushing a BB into the firing chamber, through the barrel, and out the muzzle.

Some of the most popular makers of AEGs are Tokyo Marui (Japan), Classic Army (Hong Kong) and ICS (Taiwan).

EX2020 p.1

EX2022 p.1

EX2021 p.1

EX2023 p.1

FISH.

01339: POR at 5-7 // 01348: POR at 5-7 // 01461: POR at 3-6; EX2015 ¶29, ¶32

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

The Prior Art: Spitballs

Spitballs start off as small hard little spheres. Soak them in water for about 4 hours (or overnight for best results) and they will absorb water and grow up to 200 times their original size. *Spitballs* are now ready for war. They are slimy and squishy. If you throw them gently, they will bounce. If you throw them hard enough, they will explode into mushy pieces. And here's the best part about *Spitballs*: when the war is over, collect all the whole ones and let them dry out. They will shrink back to their original state and can be reused at a later date. *Spitballs* - grow 'em and throw 'em.

EX1002, p.18, p.21

Spitballs

- Ages: 3 and up (with parental supervision due to science).

Spitballs start out as tiny balls and expand 200 times when stuck in water (takes about 4 hours for best results).

Will bounce and/or explode into mushy parts on impact (depending on the force you throw them).

Let they dehydrate and they will shrink, ready to be used again!

Safe and non-toxic (but don't try to eat them).

Contains: 2g of Spitballs (about 150 or so)

Dimensions: Spitballs grow to about 0.6" in diameter (the longer they absorb water, the bigger they grow).

FISH.

01339: POR at 10 // 01348: POR at 10; 01461: POR at 8-9 // EX2015 ¶41

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

Motivation to Combine

Petitioner Does Not Show a POSITA Would Have Been Motivated to Combine Peev and Spitballs

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DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

No Motivation: Airsoft & SAP, Known For Decades But Never Combined

Super absorbent polymers (SAP's) were first invented by the United States Department of Agriculture (USDA) in the 1960's and are commonly used in personal disposable hygiene products such as diapers, protective underwear, and sanitary napkins SAP's are polymers that can absorb an extremely large amount of liquid relative to their own mass. SAP's absorb aqueous solutions through hydrogen bonding with water molecules.

01339: EX1001 at 3:46-53; 01348: EX1001 at 3:37-44; 01461: EX1001 at 4:54-61

How did airsoft guns get started?
Airsoft originated in Japan in the 1970s, beginning with 1:1 scale model plastic replicas of popular firearms. These kits quickly led to production of cap gun and spring-driven pellet gun versions of these replicas. The cap gun versions didn't do anything except make a loud bang and they never really caught on. Spring powered BB guns (in a country where possession of real firearms is banned) did catch on - in a big way.

EX2016, p.6

Joel Delman
Petitioner's Technical Expert

EX1004, 293:15-23

"Q…So aside from the work you performed when forming your opinions, you're not aware of any prior art device that launched soft projectiles made [of] super absorbent polymers using an airsoft mechanism, correct?

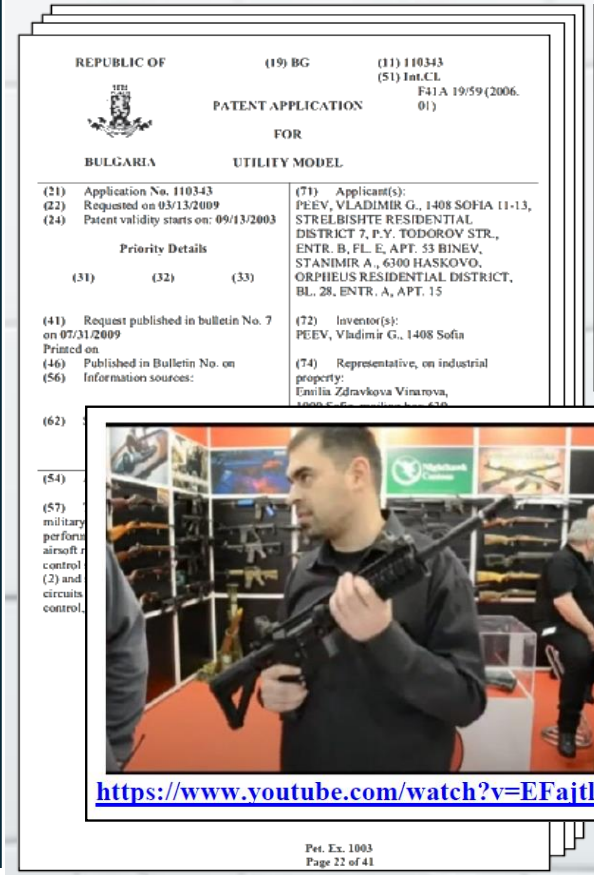
A. Prior to my engagement on this matter that is correct, yes."

01339: POR at 2-3, 5-9, 29-32
01348: POR at 2-3, 5-9, 29-32
01461: POR at 2-3, 4-7, 28-30

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

No Motivation: Peev and Spitballs Do Not Fit

Peev



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(72) Inventor(s):
PEEV, Vladimir G., 1408 Sofia

(74) Representative, on industrial property:
Emilia Zdravkova Vinarova,

(62)

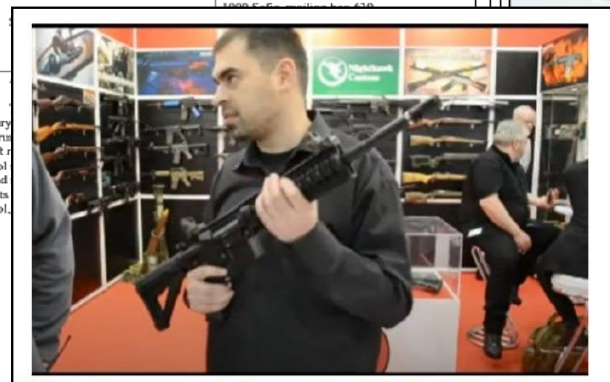
(54)

(57)
military
perforu
airsoft
control
(2) and
circuits
control.

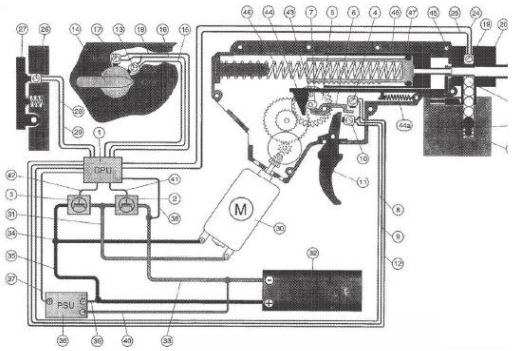
Pet. Ex. 1003
Page 22 of 41

EX2020 p.1 EX2021 p.1

EX2022 p.1 EX2023 p.1



https://www.youtube.com/watch?v=EFajtlwUvys



EX1003 p.38 (Figure 1)

Spitballs

01339: POR at 4-39
01348: POR at 4-39
01461: POR at 3-40

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DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

No Motivation: "Could Be" Is Not the Standard

Joel Delman
Petitioner's Technical Expert

"Prior to 2010, Spitballs were softer projectiles ('Will bounce and/or explode into mushy parts on impact' Ex. 1002, 21) that ***could be used*** in place of the hard spherical plastic ammunition ***to address the injury problem***."

01339: EX1003 ¶85; Pet. at 39
01348: EX1003 ¶77; Pet. at 36
01461: EX1003 ¶76; Pet. at 37

Federal Circuit

"[O]bviousness concerns whether a skilled artisan not only ***could have made*** but ***would have been motivated to make*** the combinations or modifications of prior art to arrive at the claimed invention."

Belden Inc. v. Berk-Tek LLC,
805 F.3d 1064, 1073 (Fed. Cir. 2015)

01339: POR at 11-32
01348: POR at 11-32
01461: POR at 9-30

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

No Motivation: Muzzle Velocity and Protective Gear Were the Known Solutions

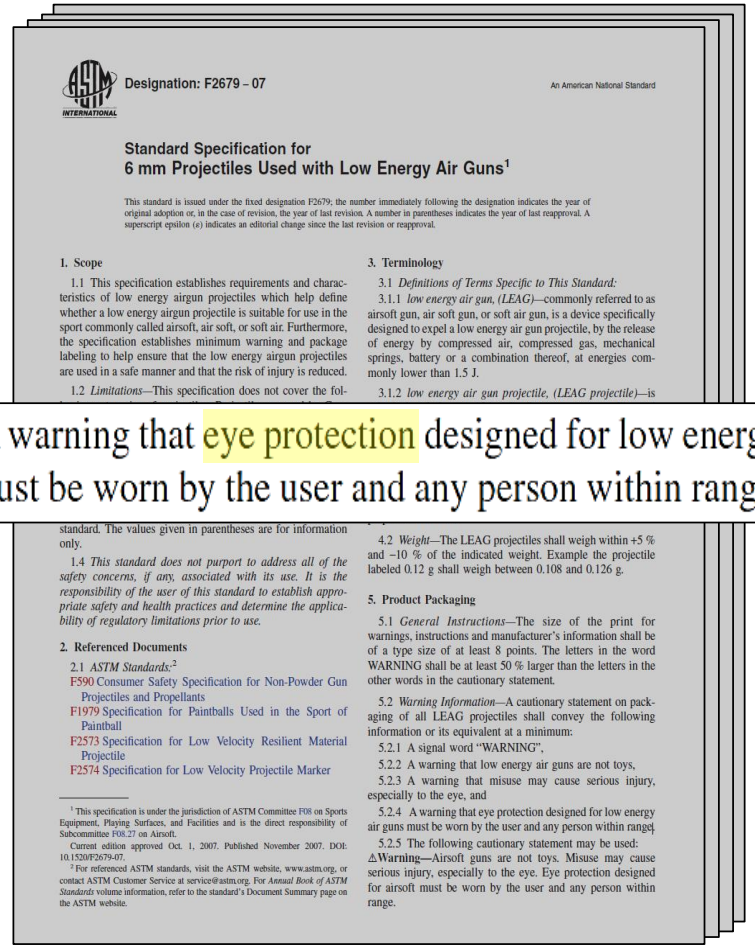
01339: POR at 31; 01339: Sur-Reply at 12 // 01348: POR at 31; 01348: Sur-Reply at 12 // 01461: POR at 30; 01461: Sur-Reply at 11-12

Dr. Barry Kudrowitz
Patent Owner's
Technical & Toy Expert

- Ph.D. in Mechanical Engineering from MIT
- Master's thesis entitled *An Exploration of Concepts for Projectile Toys* (2006)
- Teaches a course called *Toy Product Design*

"With airsoft, the speed and the force of impact are a feature, not a bug. Though there was some risk of minor injury, ***that risk was a fundamental part of airsoft*** and could be mitigated by taking reasonable precautions like wearing ***protective goggles/masks*** and extra layers of gear/clothing, which was common."

EX2015, ¶84



Designation: F2679 – 07

An American National Standard

Standard Specification for 6 mm Projectiles Used with Low Energy Air Guns[1]

This standard is issued under the fixed designation F2679; the number immediately following the designation indicates the year of original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of last reapproval. A superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

1. Scope

1.1 This specification establishes requirements and characteristics of low energy airgun projectiles which help define whether a low energy airgun projectile is suitable for use in the sport commonly called airsoft, air soft, or soft air. Furthermore, the specification establishes minimum warning and package labeling to help ensure that the low energy airgun projectiles are used in a safe manner and that the risk of injury is reduced.

1.2 *Limitations*—This specification does not cover the fol-

3. Terminology

3.1 *Definitions of Terms Specific to This Standard:*

3.1.1 *low energy air gun, (LEAG)*—commonly referred to as airsoft gun, air soft gun, or soft air gun, is a device specifically designed to expel a low energy air gun projectile, by the release of energy by compressed air, compressed gas, mechanical springs, battery or a combination thereof, at energies commonly lower than 1.5 J.

3.1.2 *low energy air gun projectile, (LEAG projectile)*—is

5.2.4 A warning that eye protection designed for low energy air guns must be worn by the user and any person within range.

EX2028, p.1

standard. The values given in parentheses are for information only.

1.4 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

2. Referenced Documents

2.1 *ASTM Standards:*[2]

F590 Consumer Safety Specification for Non-Powder Gun Projectiles and Propellants

F1979 Specification for Paintballs Used in the Sport of Paintball

F2573 Specification for Low Velocity Resilient Material Projectile

F2574 Specification for Low Velocity Projectile Marker

[1] This specification is under the jurisdiction of ASTM Committee F08 on Sports Equipment, Playing Surfaces, and Facilities and is the direct responsibility of Subcommittee F08.27 on Airsoft.

Current edition approved Oct. 1, 2007. Published November 2007. DOI: 10.1520/F2679-07.

[2] For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

4.2 *Weight*—The LEAG projectiles shall weigh within +5 % and −10 % of the indicated weight. Example the projectile labeled 0.12 g shall weigh between 0.108 and 0.126 g.

5. Product Packaging

5.1 *General Instructions*—The size of the print for warnings, instructions and manufacturer's information shall be of a type size of at least 8 points. The letters in the word WARNING shall be at least 50 % larger than the letters in the other words in the cautionary statement.

5.2 *Warning Information*—A cautionary statement on packaging of all LEAG projectiles shall convey the following information or its equivalent at a minimum:

5.2.1 A signal word "WARNING",

5.2.2 A warning that low energy air guns are not toys,

5.2.3 A warning that misuse may cause serious injury, especially to the eye, and

5.2.4 A warning that eye protection designed for low energy air guns must be worn by the user and any person within range,

5.2.5 The following cautionary statement may be used:

⚠**Warning—**Airsoft guns are not toys. Misuse may cause serious injury, especially to the eye. Eye protection designed for airsoft must be worn by the user and any person within range.

FISH.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

No Motivation: Muzzle Velocity and Protective Gear Were the Known Solutions

The Airsoft Question and Answer Book

Before you get into specific questions, a quick introduction to airsoft may be helpful. Simply put, airsoft is a shooting sport that makes use of guns that are replicas of real pistols and rifles and fire 6 millimeter plastic BBs. Airsoft guns can be powered by a spring, by gas, or by batteries and shoot BBs at speeds from 100 fps (feet per second) up to 500 fps or more. Why are airsoft guns becoming so popular? Some people collect them simply because they're almost exact replicas of real firearms; others buy them because airsoft guns provide a safe, low cost way to practice shooting skills at home with a weapon that's virtually identical to an actual firearm.

However, more and more people (of all ages) are buying airsoft guns and equipment in order to take part in airsoft game playing. Airsoft matches are generally military simulations played by two teams either in indoor facilities or outdoors in a woodland setting. Airsoft guns used in game play are limited to a certain range of muzzle velocities - powerful enough to raise a welt if a BB fired at close range hits an opponent on his bare skin, but not strong enough to penetrate skin or cause any serious damage. The only real danger in being hit by an airsoft BB is if you're hit in the eye or mouth and virtually all regulated airsoft courses have strict rules about wearing adequate eye and face protection.

01339: POR at 5-6, 27-32
01339: Sur-Reply at 11-12
01348: POR at 5-6, 27-32
01348: Sur-Reply at 11-12
01461: POR at 4-5, 26-30
01461: Sur-Reply 11-12
EX2015 ¶¶29-30, ¶¶84-85

EX2016, pp.2-3

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

No Motivation: Muzzle Velocity and Protective Gear Were the Known Solutions

EX2118, p.1

Nonpowder Firearm Injuries to Children Treated in Emergency Departments

Margaret Jones, BA[a,b] Sandhya Kistamgari, MPH,[a] Gary A. Smith, MD, DrPH[a,c,d]

OBJECTIVES: To investigate nonpowder firearm injuries treated in US emergency departments among children <18 years old.

METHODS: National Electronic Injury Surveillance System data from 1990 through 2016 were analyzed.

RESULTS: An estimated 364 133 (95% confidence interval 314 540–413 727) children <18 years old were treated in US emergency departments for injuries related to nonpowder firearms from 1990 to 2016, averaging 13 486 children annually. From 1990 to 2016, the number and rate of nonpowder firearm injuries decreased by 47.8% ($P < .001$) and 54.5% ($P < .001$), respectively. Most injuries occurred among 6- to 12-year-olds (47.4%) and 13- to 17-year-olds (47.0%). Boys accounted for 87.1% of injured children, the most common diagnosis was foreign body (46.3%), and 7.1% of children were admitted. BB guns accounted for 80.8% of injuries, followed by pellet guns (15.5%), paintball guns (3.0%), and airsoft guns (0.6%). The rate of eye injuries increased by 30.3% during the study period. Eye injuries accounted for 14.8% of all injuries and the most common diagnoses were corneal abrasion (35.1%), hyphema (12.5%), globe rupture (10.4%), and foreign body (8.6%).

CONCLUSIONS: Although the number and rate of nonpowder firearm injuries declined during the study period, nonpowder firearms remain a frequent and important source of preventable and often serious injury to children. The severity and increasing rate of eye injuries related to nonpowder firearms is especially concerning. Increased prevention efforts are needed in the form of stricter and more consistent safety legislation at the state level, as well as child and parental education regarding proper supervision, firearm handling, and use of protective eyewear.

01339: POR at 5-6, 14-18, 27-32
01339: Sur-Reply at 11-12
01348: POR at 5-6, 14-18, 27-32
01348: Sur-Reply at 11-12
01461: POR at 4-5, 17-17, 26-30
01461: Sur-Reply at 11-12
EX2015 ¶¶29-30, ¶50, ¶¶84-85

FISH.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

No Motivation: Muzzle Velocity and Protective Gear Were the Known Solutions

danger of airsoft guns. Safety goggles are not supplied with the guns, but are at least recommended in product manuals. In all cases, goggles could have prevented injuries. EX1048, p.2

01339: POR at 31
01339: Sur-Reply at 12
01348: POR at 31
01348: Sur-Reply at 12
01461: POR at 30
01461: Sur-Reply at 11-12

FISH.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

No Motivation: Impact Force Is an Intrinsic Feature of Airsoft

The Airsoft Question and Answer Book

Airsoft in General

What is airsoft?
Basically airsoft is a rapidly growing pastime involving BB guns that shoot "soft" plastic BBs, allowing kids (and adults) to play out military or law-enforcement style games using realistic equipment and scenarios. It can be as simple as some kids running around in a back yard for a few hours shooting at each other or as complicated as a large group of older players carrying out a full "milsim" (military simulation) exercise that can last for several days. In some cases airsoft replica guns are also used by both the police and military for training purposes, providing an easy and inexpensive alternative to other training methods.

How did airsoft guns get started?
Airsoft originated in Japan in the 1970s, beginning with 1:1 scale model plastic replicas of popular firearms. These kits quickly led to production of cap gun and spring-driven pellet gun versions of these replicas. The cap gun versions didn't do anything except make a loud bang and they never really caught on. Spring powered BB guns (in a country where possession of real firearms is banned) did catch on - in a big way.

01339: POR at 5-8, 27-32
01348: POR at 5-8, 27-32
01461: POR at 4-7, 26-30
EX2015 ¶¶29-34, ¶¶81-84

EX2016, p.2, p.6

No Motivation: Impact Force Is an Intrinsic Feature of Airsoft

EX2024, pp.1-2

OPOTA uses AirSoft guns for training

- "AirSoft guns look and feel like real weapons…"
- "The ammunition is inexpensive, and minimal protective gear is required to safely participate."
- "It lets us do force-on-force type training and nobody gets hurt…"
- "It feels real. You still get the adrenaline dump."

EX2025, p.1, p.11

Tactical Movement

- "Airsoft guns are relatively inexpensive, and training can be conducted almost anywhere."
- "It's amazing how the stress of being hit by a plastic pellet motivates you to shoot on the move as opposed to standing in place."

01339: POR at 5-8, 27-32
01348: POR at 5-8, 27-32
01461: POR at 4-7, 26-30
EX2015 ¶¶29-34, ¶¶81-84

FISH.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

No Motivation: Softer Means Safer *Only If* Other Variables Are Constant

EX2015, ¶61

Dr. Barry Kudrowitz
Patent Owner's Technical & Toy Expert

"[M]aking a given projectile softer would decrease its likelihood of causing an injury—'***make <u>it</u> softer***'."

EX1037, ¶39

Dr. Amy Courtney
Petitioner's Non-POSITA Expert

"[W]hen ***all other variables are held constant***, softer is safer, meaning injury potential is reduced."

01339: POR at 14-18
01339: Sur-Reply at 3
01348: POR at 14-18
01348: Sur-Reply at 3
01461: POR at 13-17
01461: Sur-Reply at 2-3

FISH.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

No Motivation: Softer Doesn't Mean Safer If Other Variables Change

EX2015, ¶61

Dr. Barry Kudrowitz
Patent Owner's Technical & Toy Expert

"Switching materials, ***increasing weight***, increasing density, changing the ammunition in ways to not be compatible with airsoft, etc., ***would change the question and the calculus***."

EX1037, ¶39

Dr. Amy Courtney
Petitioner's Non-POSITA Expert

"[T]he projectiles being considered in these IPR proceedings ***vary in more ways than one***."

01339: POR at 14-18
01339: Sur-Reply at 3
01348: POR at 14-18
01348: Sur-Reply at 3
01461: POR at 13-17
01461: Sur-Reply at 2-3

FISH.
DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

No Motivation: Softer Paintballs Are More Dangerous Than Airsoft

The Airsoft Question and Answer Book

What are some of the differences between paintball and airsoft?

Both paintball and airsoft competitions offer some of the same benefits, but paintball (in general) is more of a straight-up shooting match, while airsoft games, other than the neighborhood variety, tend to focus more on realistic situations, weapons and equipment. Also, unless you're playing "woodsball" paintball, airsoft games usually emphasize tactics a little more than paintball. Moneywise, airsoft equipment can be considerably less expensive than paintball gear, just depending on how much you want to spend.

Do paintballs hit harder than airsoft BBs?

A typical paintball weighing about 3 grams and traveling at 300 feet per second will transfer about 12 joules of energy on impact, while most airsoft BBs transfer about 1 joule of energy - considerably less than a paintball. Of course if you're hit at close range by an airsoft BB traveling at higher speed (say 450 - 500 fps) there will be more energy transferred, but paintballs are so much more massive that they're going to hit harder in almost all cases.

01339: POR at 14-18
01339: Sur-Reply at 5-6
01348: POR at 14-18
01348: Sur-Reply at 5-6
01461: POR at 13-17
01461: Sur-Reply at 5
EX2015 ¶¶46-54

EX2016, p.9

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

No Motivation: Softer Paintballs Are More Dangerous Than Airsoft

Stapp Car Crash Journal, Vol. 50 (November 2006), pp. 651-671
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2006-22-0026

Risk Functions for Human and Porcine Eye Rupture Based on Projectile Characteristics of Blunt Objects

Eric A. Kennedy, Tracy P. Ng, Craig McNally, Joel D. Stitzel, Stefan M. Duma
Virginia Tech – Wake Forest, Center for Injury Biomechanics

Table 3: Test results from experimental eye impact tests on porcine eyes.

Test	Author (Year)	Object	Projectile Diameter (mm)	Projectile Mass (g)	Projectile Velocity (m/s)	Kinetic Energy (J)	Normalized Energy (J/m^2)	Globe Rupture (Yes / No)
PE-1	Present Study	Airsoft Pellet	6.00	0.12	97.78	0.56	19746	No
PE-2	Present Study	Airsoft Pellet	6.00	0.12	101.75	0.60	21384	No
PE-3	Present Study	Airsoft Pellet	6.00	0.11	94.65	0.51	18110	No
PE-4	Present Study	Airsoft Pellet	6.00	0.12	115.63	0.77	27330	No
PE-5	Present Study	Paintball	17.30	3.21	71.69	8.24	35061	No
PE-6	Present Study	Paintball	17.30	3.17	99.03	15.53	66070	No
PE-7	Present Study	Paintball	17.30	3.21	106.10	18.06	76837	Yes
PE-8	Present Study	Paintball	17.30	3.17	108.94	18.81	80003	Yes
PE-9	Present Study	Airsoft Pellet	6.00	0.20	74.65	0.57	20125	No
PE-10	Present Study	Airsoft Pellet	6.00	0.20	77.08	0.60	21351	No
PE-11	Present Study	Airsoft Pellet	6.00	0.20	72.46	0.54	18940	No
PE-12	Present Study	Airsoft Pellet	6.00	0.20	87.36	0.78	27559	No

Blunt impact of the eye with an airbag or other objects can result in severe eye injury such as hyphema (bleeding in the anterior chamber of the

Corresponding Author: Dr. Stefan M. Duma; Virginia Tech – Wake Forest, Center for Injury Biomechanics; 100F Randolph Hall, Blacksburg, VA 24061. Electronic mail: duma@vt.edu

simulations have shown airbag interaction with the eye to lead to high corneo-scleral stress (Stitzel 2005). Additionally, several case studies in the literature specifically cite airbags as the primary cause of globe rupture, although this injury mechanism appears to be very rare (Kuhn 1994, Duma 1996, Pearlman 2001).

EX1047, p.7

FISH.

01339: Sur-Reply at 5-6 // 01348: Sur-Reply at 5-6 // 01461: Sur-Reply at 5

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

No Motivation: KE Was the Conventional Comparative for Safety

EX2015, ¶¶54-56

Dr. Barry Kudrowitz
Patent Owner's Technical & Toy Expert

"***Kinetic energy*** from the projectile transfers to the tissue, ***causing a physical disruption***."

"[A] ***kinetic energy*** analysis was a ***conventional*** approach for evaluating safety of projectile launching devices of all sorts."

EX1037, ¶35

Dr. Amy Courtney
Petitioner's Non-POSITA Expert

"Prior to 2010, it was known to a POSITA that the ***damage/injury*** potential of a launched projectile is ***related to its kinetic energy***."

01339: POR at 15
01339: Sur-Reply at 3-4
01348: POR at 15
01348: Sur-Reply at 3-4
01461: POR at 13-14
01461: Sur-Reply at 3

No Motivation: KE Was the Conventional Comparative for Safety

Designation: F2748 – 08

An American National Standard

Standard Specification for
Low Energy Air Guns (Less Than 1 Joule)[1]

EX2029, pp.3, 6

7.8 *Muzzle Energy*—Low energy air guns shall have a muzzle energy of 1.0 joule or less. Tests shall be conducted in accordance with 8.8.

$$KE = 1/2\ MV^2 \qquad (2)$$

where:

KE = muzzle energy,

Designation: F 963 – 07[ε1]

An American National Standard

Standard Consumer Safety Specification for
Toy Safety[1]

INTRODUCTION

4.21.1.3 Any rigid projectile fired from a toy that has a kinetic energy that exceeds 0.08 J (as determined by 8.15.1) shall have an impact surface(s) of a resilient material.

EX2119, pp.17, 33

The Airsoft Question and Answer Book

EX2016, p.9

Do paintballs hit harder than airsoft BBs?
A typical paintball weighing about 3 grams and traveling at 300 feet per second will transfer about 12 joules of energy on impact, while most airsoft BBs transfer about 1 joule of energy - considerably less than a paintball. Of course if you're hit at close range by an airsoft BB traveling at higher speed (say 450 - 500 fps) there will be more energy transferred, but paintballs are so much more massive that they're going to hit harder in almost all cases.

Author: Paul Love

Contact Information

Email address: ioxbooks@gmail.com

Pellet Guns and BB Guns:
Dangerous Playthings in the Open Market

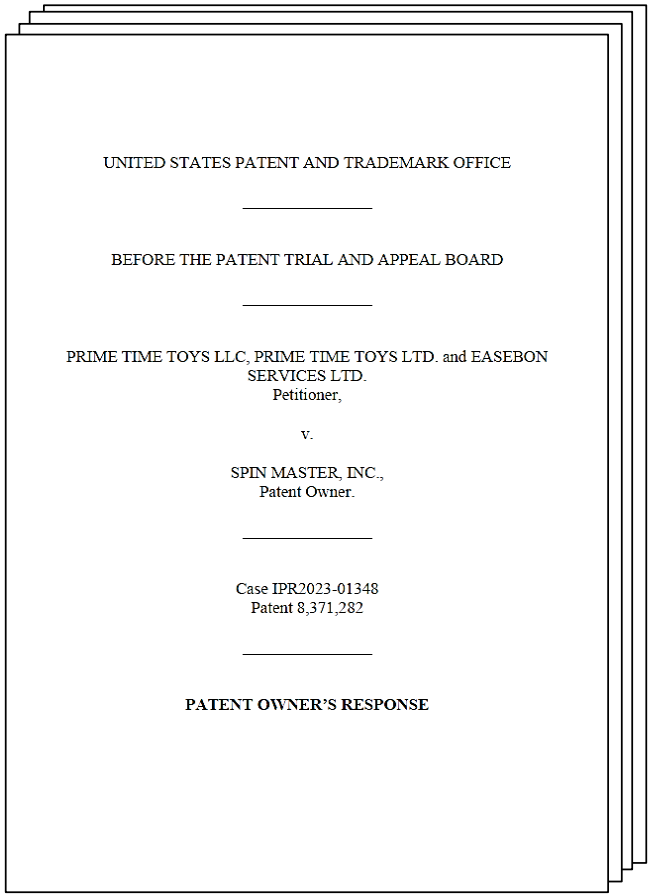
(In comparison to firearms, other factors determine striking power and capacity to injure. While the velocity of some pellet guns may equal or exceed, for example, the velocity of a .45 caliber pistol, the projectile weight and subsequent kinetic energy developed in the discharge of a pellet gun is substantially less than that of a .45 caliber firearm. Thus the force of impact and capacity to injure also is less from the discharge of a pellet gun than that of a .45 and other firearms.[10])

EX1019, pp.9-10

01339: POR at 15
01339: Sur-Reply at 3-4
01348: POR at 15
01348: Sur-Reply at 3-4
01461: POR at 13-14
01461: Sur-Reply at 3

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

No Motivation: Spitballs Carry More Kinetic Energy Than Airsoft


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.
Petitioner,

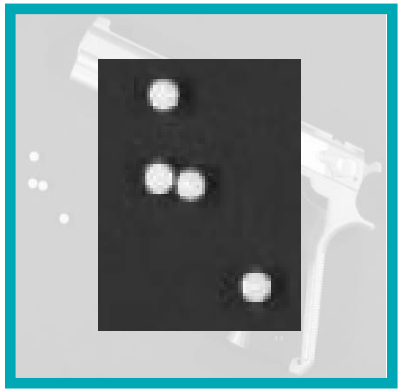
v.

SPIN MASTER, INC.,
Patent Owner.

Case IPR2023-01348
Patent 8,371,282

PATENT OWNER'S RESPONSE

UNDISPUTED: "Compared to ***airsoft ammunition***…the softer ***Spitballs polymers*** are ***more than 14 times heavier*** and, thus, carry that much more kinetic energy[.]"



EX1048, p.2

EX1002, p.18

01339: POR at 14-16 // 01348: POR at 14-16 // 01461: POR at 13-16 // EX2015 ¶59

No Motivation: "Normalized" KE Was Another Safety Comparative

EX1037, ¶41

Dr. Amy Courtney

Petitioner's Non-POSITA Expert

"***The contact area of a small projectile is also important to injury risk***. It has been demonstrated that the tolerance of biological tissues to impacts from projectiles that are much stiffer than tissue (such as plastic or metal) is well characterized by ***the kinetic energy transferred per unit area of contact***. Ex. 1041 and Ex. 1042."

01339: Sur-Reply at 4-5
01348: Sur-Reply at 4-5
01461: Sur-Reply at 3-5

The Journal of TRAUMA® *Injury, Infection, and Critical Care*

Determination of Significant Parameters for Eye Injury Risk from Projectiles

Stefan M. Duma, PhD, Tracy P. Ng, BS, Eric A. Kennedy, MS, Joel D. Stitzel, PhD, Ian P. Herring, DVM, and Ferenc Kuhn, MD, PhD

Background: Eye injuries affect a large proportion of the population and are expensive to treat. This article presents a parametric analysis of experimental data to determine the most significant factors for predicting ocular injuries or tissue lesions.

Methods: Using logistic regression, statistical values were generated to determine significant projectile characteristics for predicting ocular injury in published studies. Projectiles included BBs, metal rods, and foam particles with velocities ranging from 2 m/s to 122 m/s.

Results: A normalized energy (energy per projected area) value was found as the best predictor for ocular injury. Using this predictor, a 50% injury risk of corneal abrasion, lens dislocation, hyphema, retinal damage, and globe rupture was found to be 1,503 kg/s², 19,194 kg/s², 20,188 kg/s², 30,351 kg/s², and 23,771 kg/s², respectively.

EX1041, pp.1-2

Submitted for publication May 7, 2004.
Accepted for publication April 21, 2005.
Copyright © 2005 by Lippincott Williams & Wilkins, Inc.
From the Virginia Tech-Wake Forest Center for Injury Biomechanics (S.M.D., T.P.N., E.A.K., J.D.S., I.P.H.), Blacksburg Virginia, and the American Society of Ocular Trauma (F.K.), Birmingham, Alabama.
Address for reprints: Stefan Duma, PhD, Center for Injury Biomechanics, Virginia Tech, 114T Randolph Hall, Blacksburg, VA 24061; email: duma@vt.edu.
DOI: 10.1097/01.ta.0000174830.55282.32

and retinal trauma, whether tear or detachment, was termed as retinal damage.

Eye specimens included human, porcine, monkey, and cat. Some studies used anesthetized living animal models. Because no studies have concluded that in vivo eyes suffer injury at different energy levels than fresh in vitro eyes, in vivo, in situ, and in vitro studies were analyzed together. Projectiles used to impact the eye included BBs, foam, metal rods, baseballs, and squash balls. Impact velocities ranged from 2 m/s to 122 m/s.

PETITIONERS' EXHIBIT 1041
Prime Time Toys et al. v. Spin Master, Inc.
IPR2023-01339
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FISH.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

No Motivation: "Normalized" KE Applies to Soft & Hard Projectiles

01339: Sur-Reply at 4-5
01348: Sur-Reply at 4-5
01461: Sur-Reply at 3-5

EX1047, pp.1, 3, 5-9

Stapp Car Crash Journal, Vol. 50 (November 2006), pp. 651-671
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2006-22-0026

Risk Functions for Human and Porcine Eye Rupture Based on Projectile Characteristics of Blunt Objects

Eric A. Kennedy, Tracy P. Ng, Craig McNally, Joel D. Stitzel, Stefan M. Duma

injury outcome were noted for all tests. Data were sorted by species type and areas were identified where a paucity of data existed, based on the kinetic and normalized energy of assaulting objects. For the second part, a total of 126 projectile tests were performed on human and porcine eyes. Projectiles used for these tests included blunt aluminum projectiles, BBs, foam pellets, Airsoft pellets, and paintballs. Data for each projectile were recorded prior to testing and high-speed video was used to determine projectile velocity prior to striking the eye. In part three the data were pooled for a total of 183 eye impact tests, 83 human and 100 porcine, and were analyzed to develop the injury risk criteria. Binary logistic regression was used to develop injury risk

eyes a 50% risk of globe rupture was found to be 71,145 J/m^2, with a confidence interval of 63,245 J/m^2 to 80,390 J/m^2. Human eyes were found to have a 50% risk of globe rupture at a lower, 35,519 J/m^2, with confidence intervals of 32,018 J/m^2 to 40,641 J/m^2. The results presented in this paper are useful in estimating the risk of globe rupture when projectile parameters are known, or can be used to validate computational eye models.

KEYWORDS – Eye, Globe, Rupture, Human, Porcine, Risk Function, Projectile, Injury

INTRODUCTION

Injury Background

There are over 1.9 million eye injuries per year in the United States (McGwin 2005). The incidence of severe eye injuries is on the same order of magnitude of the number of passengers killed in vehicle crashes every year, with approximately 30,000 Americans left blind in one eye as a result of trauma (Parver 1986). Some of the most severe eye injuries can occur in automobile accidents, from sports related impacts, and from military accidents and causalities (Chisholm 1969, Berger 1978, Mader 1993, Duma 1996, Vinger 1997, Kuhn 2000, Duma 2002, Rodriguez 2003).

Blunt impact of the eye with an airbag or other objects can result in severe eye injury such as hyphema (bleeding in the anterior chamber of the eye), lens dislocation, or globe rupture (Chisholm 1969, Vichnin 1995, Duma 1996, Ghafouri 1997, Stein 1999, Lueder 2000, Power 2002, Hansen 2003, Stitzel 2005). Although not statistically significant (p=0.15), eye injuries sustained during automobile crashes occur at a higher rate (3.1%) when the occupant is exposed to a deploying airbag than when the occupant is not (2.0%) (Duma 2002). The airbag has been shown to be both directly responsible for eye injuries from blunt impact with the eye and indirectly responsible for eye injuries by propelling objects into the eye during the airbag deployment (Kuhn 1995, Duma 2002). Though no experimental studies have been reported that have specifically shown airbags to cause globe rupture, computational simulations have shown airbag interaction with the eye to lead to high corneo-scleral stress (Stitzel 2005). Additionally, several case studies in the literature specifically cite airbags as the primary cause of globe rupture, although this injury mechanism appears to be very rare (Kuhn 1994, Duma 1996, Pearlman 2001).

Corresponding Author: Dr. Stefan M. Duma; Virginia Tech – Wake Forest, Center for Injury Biomechanics; 100F Randolph Hall, Blacksburg, VA 24061. Electronic mail: duma@vt.edu

were necessary. The normalized energy is defined as the energy per projected area of the projectile (Equation 1). The projected area is the contact surface area for a flat impacting object or the cross-sectional area of a sphere.

$$\text{Normalized Energy}\left(\frac{kg}{s^2}\right) = \frac{\text{Kinetic Energy}}{\text{Projected Area}} = \frac{\frac{1}{2}mv^2}{\pi r^2}\ (\text{for a sphere}) \qquad \text{Eq.(1)}$$

FISH.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

No Motivation: Spitballs Carry More "Normalized" KE Than Airsoft

Quantity \ Projectile Type	Spitballs	Airsoft
Mass (g)	1.84	0.12
Velocity (m/s)	87.36	87.36
Radius (mm)	7.62	3.00
Normalized Kinetic Energy, (J/m^2) $\frac{\text{Kinetic Energy}, \frac{1}{2} * mv^2 \text{ (J)}}{\text{Contact Area}, \pi r^2 (m^2)}$	**40,851.97**	**17,188.73**

01339: Sur-Reply at 4-5
01348: Sur-Reply at 4-5
01461: Sur-Reply at 3-5

FISH.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

No Motivation: Extent of Deformation & Fragmentation Is Unclear

Dr. Amy Courtney

Petitioner's Non-POSITA Expert

01339: Sur-Reply at 6-7
01348: Sur-Reply at 6-7
01461: Sur-Reply at 6-7

Declaration

"Deformation and frangibility…are also factors that affect the management of a projectile's pre-impact kinetic energy upon impact. In his Declaration, Dr. Kudrowitz does not consider the influence of relative deformability of the SAP projectiles compared to the impact surface on injury risk."

EX1037, ¶42

Deposition

"Q: And how much kinetic energy is absorbed when Spitballs bounce?

A: I have not calculated that.

Q: And how much kinetic energy do Spitballs absorb when they explode?

A: More, but I have not calculated that either."

EX2121, 47:1-48:10

"Q: [H]ow would that person determine how much kinetic energy is absorbed through deformation and/or fragmentation of [a] projectile"

A. How would they quantify it? The best way for a POSITA to quantify it would be through experiment[.]"

EX2121, 47:1-48:10

FISH.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

No Motivation: Deformable Projectiles Can Cause More Harm

01339: Sur-Reply at 6-7
01348: Sur-Reply at 6-7
01461: Sur-Reply at 6-7

EX1044, pp.9-10

JOURNAL OF RESEARCH of the National Bureau of Standards
Vol. 84, No. 1, January–February 1979

System for Assessing Eye Injury Potential of Propelled Objects

Robert E. Berger

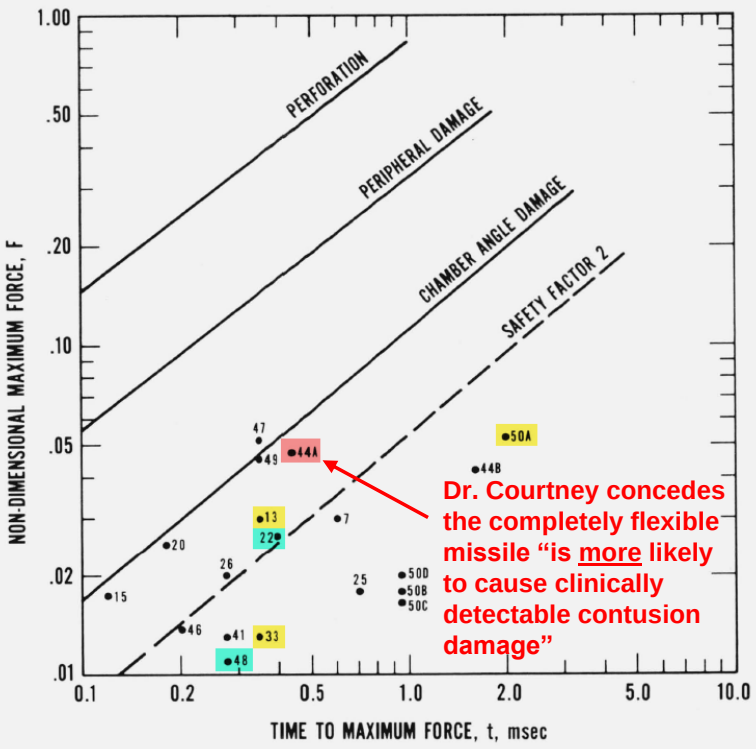
"Nearly rigid" projectiles

"Plastic bullet" projectiles

The "completely flexible missile" Dr. Courtney relied on at EX1037 ¶44

TABLE 2. *Projectile Toys Tested in Accordance with Proposed Method.*

Toy ID	Description	F_m (N)	t_m (msec)	B (N/msec)
13	Ping pong ball shooter	107	0.25	428
22	Machine gun, plastic bullet	93	.27	344
48	Machine gun, plastic bullet	19	.20	95
20	Gun, bullet has suction cup attached	91	.15	607
33	Rifle, small rubbery bullet	24	.25	96
26	Cork gun	64	.20	320
15	Cork gun	53	.10	530
46	Plastic disc shooter	32	.15	213
44	Aircraft carrier			
	A Flexible planes with rubber band launching mechanism	192	.30	640
	B	133	1.00	133
50	Warrior, shoots various objects:			
	A fist	267	1.35	198
	B ax	48	0.6	80
	C bullet	43	.6	72
	D airplane	59	.6	98



Dr. Courtney concedes the completely flexible missile "is more likely to cause clinically detectable contusion damage"

FIGURE 22. *Relation of selected toy projectiles to tolerance curves.*

EX2121, 76:8-77:3, 72:19-73:3, 73:4-74:12

EX2121, 78:19-79:20, 90:19-92:1, 106:19-108:15, 81:12-83:7

FISH.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

No Motivation: ASTM Airsoft Standards Exclude Water-Filled Spitballs

EX2028, p.1

Designation: F2679 – 07

Standard Specification for 6 mm Projectiles Used with Low Energy Air Guns[1]

This standard is issued under the fixed designation F2679; the number immediately following the designation ind original adoption or, in the case of revision, the year of last revision. A number in parentheses indicates the year of superscript epsilon (ε) indicates an editorial change since the last revision or reapproval.

1. Scope

1.1 This specification establishes requirements and characteristics of low energy airgun projectiles which help define whether a low energy airgun projectile is suitable for use in the sport commonly called airsoft, air soft, or soft air. Furthermore, the specification establishes minimum warning and package labeling to help ensure that the low energy airgun projectiles are used in a safe manner and that the risk of injury is reduced.

1.2 *Limitations*—This specification does not cover the following categories of projectiles: Projectiles covered by Consumer Safety Specification F590 (non-powder guns projectiles), Specification F1979 (paintballs), Specification F2573, and Specification F2574; liquid filled or metallic projectiles, toy products, and non-recreational projectiles such as those used by law enforcement, scientific, or military agencies.

1.3 The values stated in SI units are to be regarded as the standard. The values given in parentheses are for information only.

1.4 *This standard does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this standard to establish appropriate safety and health practices and determine the applicability of regulatory limitations prior to use.*

2. Referenced Documents

2.1 *ASTM Standards:*[2]

F590 Consumer Safety Specification for Non-Powder Gun Projectiles and Propellants

F1979 Specification for Paintballs Used in the Sport of Paintball

F2573 Specification for Low Velocity Resilient Material Projectile

F2574 Specification for Low Velocity Projectile Marker

[1] This specification is under the jurisdiction of ASTM Committee F08 on Sports Equipment, Playing Surfaces, and Facilities and is the direct responsibility of Subcommittee F08.27 on Airsoft.

Current edition approved Oct. 1, 2007. Published November 2007. DOI: 10.1520/F2679-07.

[2] For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

3. Terminology

3.1 *Definitions of Terms Specifi*

3.1.1 *low energy air gun, (LEAG*

airsoft gun, air soft gun, or soft air

designed to expel a low energy air

of energy by compressed air, compressed gas, mechanical springs, battery or a combination thereof, at energies commonly lower than 1.5 J.

3.1.2 *low energy air gun projec*

spherical, of 6 mm (.24 cal) d

non-liquid filled projectile to be us

4. General Requirements

4.1 *Size (Diameter of LEAG P*

the LEAG projectile labeled 6 mm

mm (0.23 in.) and 6 mm (0.24

perpendicular axes.

4.2 *Weight*—The LEAG projecti

and −10 % of the indicated weig

labeled 0.12 g shall weigh betwee

5. Product Packaging

5.1 *General Instructions*—Th

warnings, instructions and manufac

of a type size of at least 8 point

WARNING shall be at least 50 %

other words in the cautionary state

5.2 *Warning Information*—A ca

aging of all LEAG projectiles s

information or its equivalent at a

5.2.1 A signal word "WARNIN

5.2.2 A warning that low energy

5.2.3 A warning that misuse

especially to the eye, and

5.2.4 A warning that eye protect

air guns must be worn by the user a

5.2.5 The following cautionary

⚠**Warning**—Airsoft guns are no

serious injury, especially to the ey

for airsoft must be worn by the u

range.

1. Scope

1.1 This specification establishes requirements and characteristics of low energy airgun projectiles which help define whether a low energy airgun projectile is suitable for use in the sport commonly called airsoft, air soft, or soft air. Furthermore,

3.1 *Definitions of Terms Specific to This Standard:*

3.1.1 *low energy air gun, (LEAG)*—commonly referred to as airsoft gun, air soft gun, or soft air gun, is a device specifically designed to expel a low energy air gun projectile, by the release of energy by compressed air, compressed gas, mechanical springs, battery or a combination thereof, at energies commonly lower than 1.5 J.

3.1.2 *low energy air gun projectile, (LEAG projectile)*—is spherical, of 6 mm (.24 cal) diameter, non-metallic and non-liquid filled projectile to be used in a low energy air gun.

01339: POR at 19-21
01339: Sur-Reply at 18
01348: POR at 19-21
01348: Sur-Reply at 18
01461: POR at 17-19
01461: Sur-Reply at 18
EX2015 ¶¶63-68

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

No Motivation: ASTM Airsoft Standards Exclude Water-Filled Spitballs

Dr. Maureen Reitman

Petitioner's Chemistry Expert

01339: EX1017 ¶21, ¶61
01348: EX1017 ¶21, ¶65
01461: EX1017 ¶21, ¶62

"Polymers that are referred to as ***superabsorbent polymers (SAPs)*** are a large class developed to provide ***the ability to absorb and hold liquids***."

"The clear appearance of the hydrated SAPs in the images would have also suggested to a Chemist that the ***Spitballs were swelled with water (a clear liquid)***."

ASTM INTERNATIONAL

Designation: F2679 – 07

Standard Specification for 6 mm Projectiles Used with Low Energy Air Guns[1]

3.1 *Definitions of Terms Specific to This Standard:*

3.1.1 *low energy air gun, (LEAG)*—commonly referred to as airsoft gun, air soft gun, or soft air gun, is a device specifically designed to expel a low energy air gun projectile, by the release of energy by compressed air, compressed gas, mechanical springs, battery or a combination thereof, at energies commonly lower than 1.5 J.

3.1.2 *low energy air gun projectile, (LEAG projectile)*—is spherical, of 6 mm (.24 cal) diameter, non-metallic and non-liquid filled projectile to be used in a low energy air gun.

EX2028, p.1

FISH.

01339: POR at 19-21; 01339: Sur-Reply at 18 // 01348: POR at 19-21; 01348: Sur-Reply at 18 // 01461: POR at 17-19; 01461: Sur-Reply at 18 // EX2015 ¶¶63-68

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

No Motivation: A Broad Open-Ended List Does Not Show Finite Options

Joel Delman
Petitioner's Technical Expert

01339: EX1003 ¶86; Pet. at 39
01348: EX1003 ¶78; Pet. at 37
01461: EX1003 ¶77; Pet. at 38

"There was a finite number of ammunition options that a POSITA could have considered that would have had a reasonable expectation of success in an airsoft gun such as Peev, ***including rubber, cork, foam, and soft plastics, such as SAPs***."

There are many different polymeric materials that are familiar to us and find a wide variety of applications; in fact, one way of classifying them is according to their end use. Within this scheme the various polymer types include plastics, elastomers (or rubbers), fibers, coatings, adhesives, foams, and films. Depending on its properties, a particular polymer may be used in two or more of these application categories. For example, a plastic, if crosslinked and utilized above its glass transition temperature, may make a satisfactory elastomer. Or a fiber material may be used as a plastic if it is not drawn into filaments. This portion of the chapter includes a brief discussion of each of these types of polymer.

EX2120, p.73

8. I have formal training and practical experience related to the chemistry, manufacture and performance of a wide range of natural and synthetic polymers, including polyacrylates, polyacrylamides, polyesters, polyolefins, polyamides, polyvinyl alcohol, polyacrylonitrile, polysaccharides, polypeptides, linear and graft copolymers, charged polymers, and other compositions. I have specific experience with superabsorbent polymers, hydrogels, oleogels, and other crosslinked polymer systems for the uptake of fluids. I provide consulting engineering services in all

01339, 01348, 01461: EX1017 ¶8

01339: POR at 24-27; 01339: Sur-Reply at 13 // 01348: POR at 24-27; 01348: Sur-Reply at 13 // 01461: POR at 23-25; 01461: Sur-Reply at 13

No Motivation: A Broad Open-Ended List Does Not Show Finite Options

01339: POR at 24-27; 01339: Sur-Reply at 13 // 01348: POR at 24-27; 01348: Sur-Reply at 13 // 01461: POR at 23-25; 01461: Sur-Reply at 13

There are many different polymeric materials that are familiar to us and find a wide variety of applications; in fact, one way of classifying them is according to their end use. Within this scheme the various polymer types include plastics, elastomers (or rubbers), fibers, coatings, adhesives, foams, and films. Depending on its properties, a particular polymer may be used in two or more of these application categories. For example, a plastic, if crosslinked and utilized above its glass transition temperature, may make a satisfactory elastomer. Or a fiber material may be used as a plastic if it is not drawn into filaments. This portion of the chapter includes a brief discussion of each of these types of polymer.

EX2120, p.73

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01339, 01348, 01461: EX1017 ¶8

Federal Circuit

"*KSR* posits a situation with a finite, and in the context of the art, ***small or easily traversed, number of options*** that would convince an ordinarily skilled artisan of obviousness."

Ortho-McNeil Pharm., Inc. v. Mylan Labs., Inc., 520 F.3d 1358, 1364 (Fed. Cir. 2008)

Reasonable Expectation of Success

Petitioner Does Not Show a POSITA Would Have Reasonably Expected to Succeed at Combining Peev and Spitballs to Reach the Claimed Invention

FISH.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

No R-E-S: No Basis to Assume Breakage Problem Could Be Solved

01339: POR at 34-39; 01339: Sur-Reply at 19-21 // 01348: POR at 34-39; 01348: Sur-Reply at 19-21 // 01461: POR at 32-37; 01461: Sur-Reply at 19-21

Joel Delman
Petitioner's Technical Expert

01339: EX1016 ¶86
01348: EX1016 ¶78
01461: EX1016 ¶77

"***Based on my discussions with Dr. Reitman***[,] I understand that SAPs were known to be easily adjustable as to size, shape and softness …For example, ***the gel strength may be adjusted*** to ensure that the SAP ammunition ***does not break apart when loaded into and launched from the barrel of the gun***."

Dr. Maureen Reitman
Petitioner's Chemistry Expert

EX2030 at 117:17-118:2

"Q. ***Do you recall discussing airsoft with Mr. Delman?***

A. What do you mean?

Q. Airsoft guns. Do you recall discussing airsoft guns with Mr. Delman?

A. So, my scope was focused on the polymers. ***So, no, I don't recall particularly discussing a gun***."

FISH.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

No R-E-S: Softness and Strength Have an Inverse Relationship

Dr. Maureen Reitman

Petitioner's Chemistry Expert

EX2030 at 126:11-15; *see also* 110:3-21, 112:4-12

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.	) IPR2023-01339
	) IPR2023-01348
	) IPR 2023-01461
SPIN MASTER, INC.,	)
Patent Owner.	)

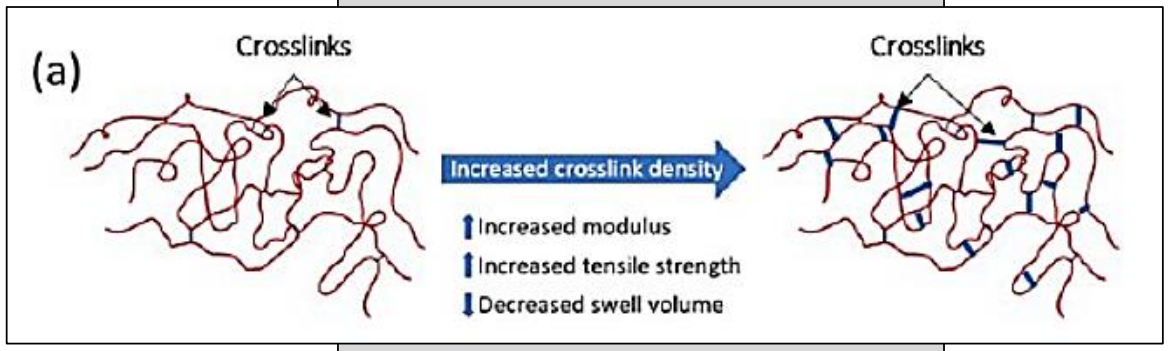
MAUREEN T.F. REITMAN, SC.D., P.E. NAE, FSPE

01339: EX1017 ¶19
01348: EX1017 ¶19
01461: EX1017 ¶19

Declaration of Dr. Maureen T.F. Reitman, SC.D., F.S.P.E., P.E. 37 C.F.R. § 1.68 in Support of Petition for *Inter Partes* Review of U.S. Patent No. 8,640,683

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD



Case IPR2023-TBD

DECLARATION OF DR. MAUREN T.F. REITMAN, SC.D., F.S.P.E., P.E. UNDER 37 C.F.R. § 1.68 IN SUPPORT OF PETITION FOR *INTER PARTES* REVIEW OF U.S. PATENT NO. 8,640,683

A. Yes. The chemist, prior to 2010, would know how to modify polymers in general, using crosslink density to make them softer by reducing the density or stronger and harder by increasing the crosslink density.

FISH.

01339: POR at 34-39; 01339: Sur-Reply at 19-21 // 01348: POR at 34-39; 01348: Sur-Reply at 19-21 // 01461: POR at 32-37; 01461: Sur-Reply at 19-21

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

No R-E-S: No Basis to Assume Breakage Problem Could Be Solved

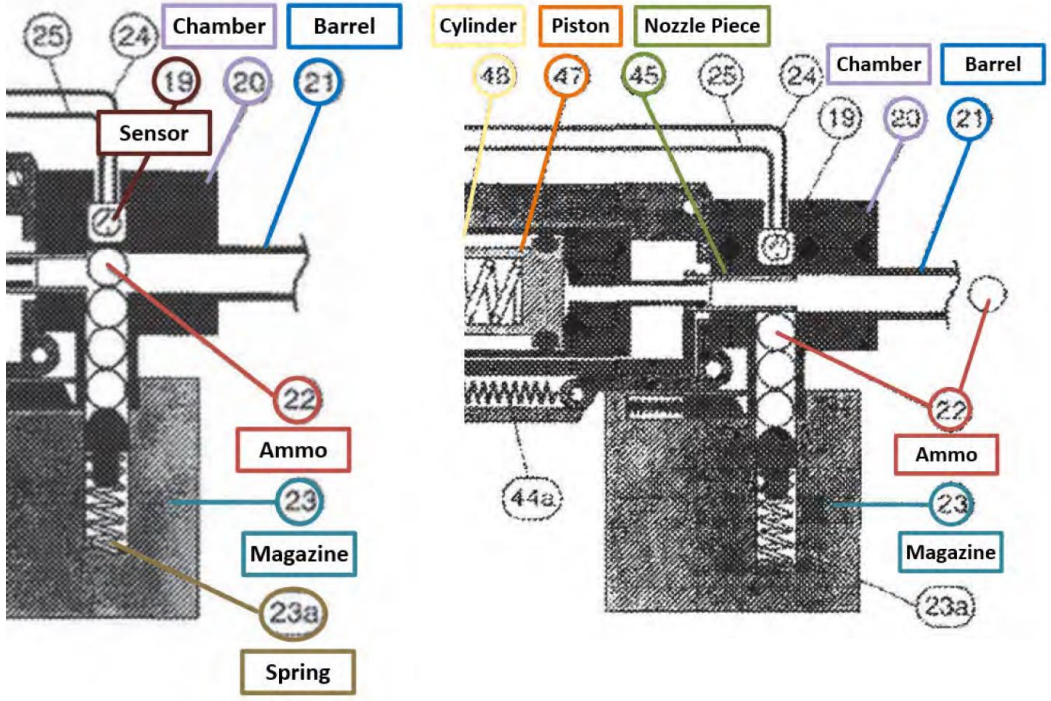
01339: POR at 21-23, 34-39; 01339: Sur-Reply at 13, 19-21 // 01348: POR at 21-23, 34-39; 01348: Sur-Reply at 13, 19-21 // 01461: POR at 19-23, 32-37; 01461: Sur-Reply at 12, 19-21

Dr. Barry Kudrowitz
Patent Owner's Technical & Toy Expert

EX2015, ¶70
See also ¶¶36-40, ¶¶69-75

"The idea that this kind of ***'soft' and 'squishy' projectile could withstand the compressive stresses*** from the firing forces applied by a high-powered electric airsoft gun is ***not realistic***."

EX1003 pp.39-40 (Figures 2-3)



DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

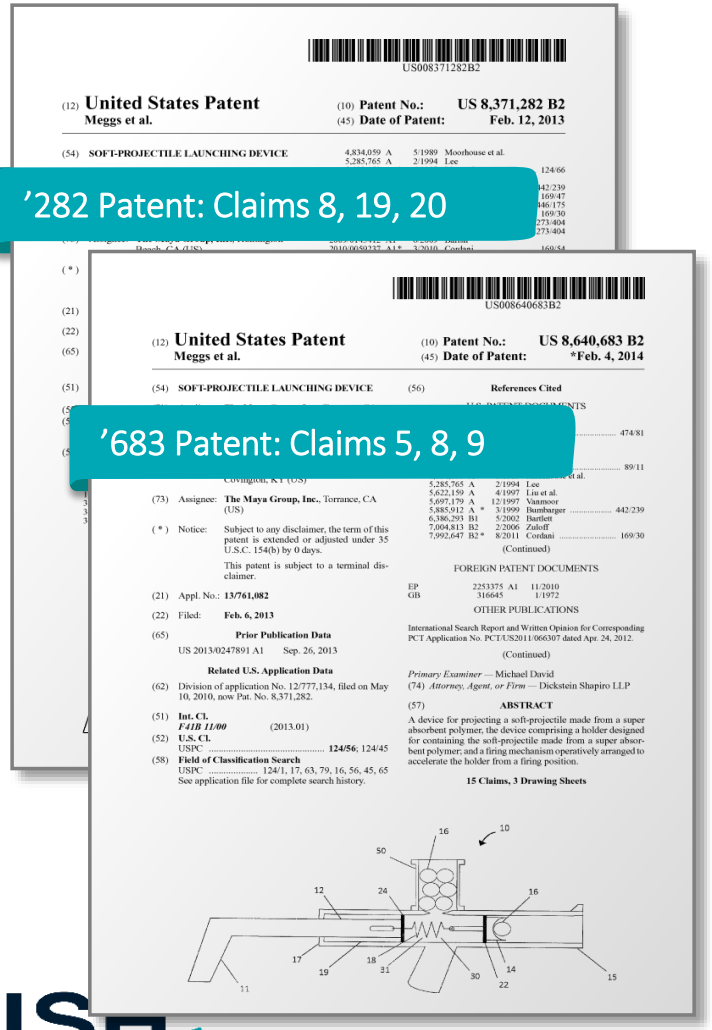
Objective Indicia

Commercial Success and Industry Praise With Nexus to the Claimed Invention Support Nonobviousness

FISH.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

Objective Indicia: Success & Praise Evidence Supports Nonobviousness



US008371282B2

(12) **United States Patent**
Meggs et al.

(10) **Patent No.: US 8,371,282 B2**
(45) **Date of Patent: Feb. 12, 2013**

(54) **SOFT-PROJECTILE LAUNCHING DEVICE**

’282 Patent: Claims 8, 19, 20

US008640683B2

(12) **United States Patent**
Meggs et al.

(10) **Patent No.: US 8,640,683 B2**
(45) **Date of Patent: *Feb. 4, 2014**

(54) **SOFT-PROJECTILE LAUNCHING DEVICE**

(73) Assignee: **The Maya Group, Inc.**, Torrance, CA (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

This patent is subject to a terminal disclaimer.

(21) Appl. No.: **13/761,082**

(22) Filed: **Feb. 6, 2013**

(65) **Prior Publication Data**

US 2013/0247891 A1 Sep. 26, 2013

Related U.S. Application Data

(62) Division of application No. 12/777,134, filed on May 10, 2010, now Pat. No. 8,371,282.

(51) **Int. Cl.**
F41B 11/00 (2013.01)

(52) **U.S. Cl.**
USPC **124/56**; 124/45

(58) **Field of Classification Search**
USPC 124/1, 17, 63, 79, 16, 56, 45, 65
See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

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5,285,765	A	2/1994	Lee	89/11
5,622,159	A	4/1997	Liu et al.	
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7,992,647	B2 *	8/2011	Cordani	169/30

(Continued)

FOREIGN PATENT DOCUMENTS

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GB	316645		1/1972

OTHER PUBLICATIONS

International Search Report and Written Opinion for Corresponding PCT Application No. PCT/US2011/066307 dated Apr. 24, 2012.

(Continued)

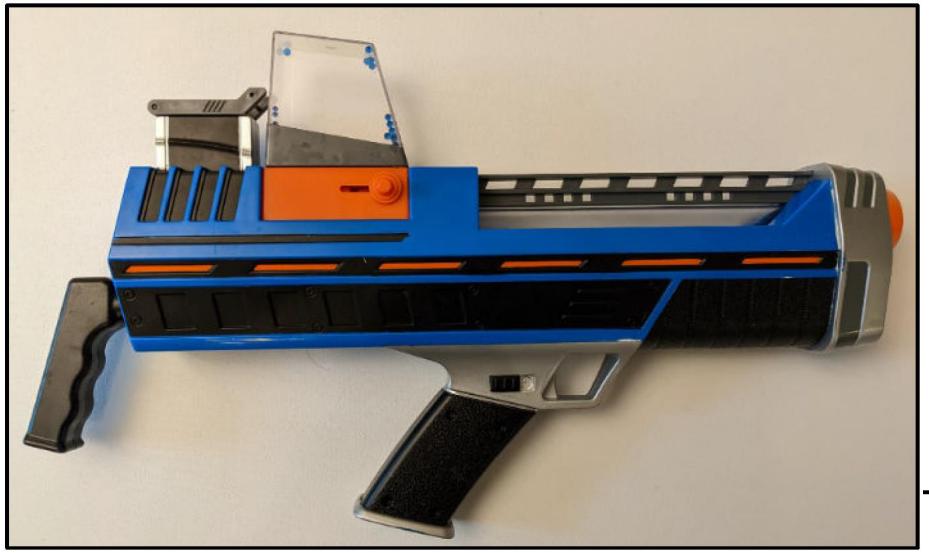
Primary Examiner — Michael David
(74) *Attorney, Agent, or Firm* — Dickstein Shapiro LLP

(57) **ABSTRACT**

A device for projecting a soft-projectile made from a super absorbent polymer, the device comprising a holder designed for containing the soft-projectile made from a super absorbent polymer; and a firing mechanism operatively arranged to accelerate the holder from a firing position.

15 Claims, 3 Drawing Sheets

’683 Patent: Claims 5, 8, 9



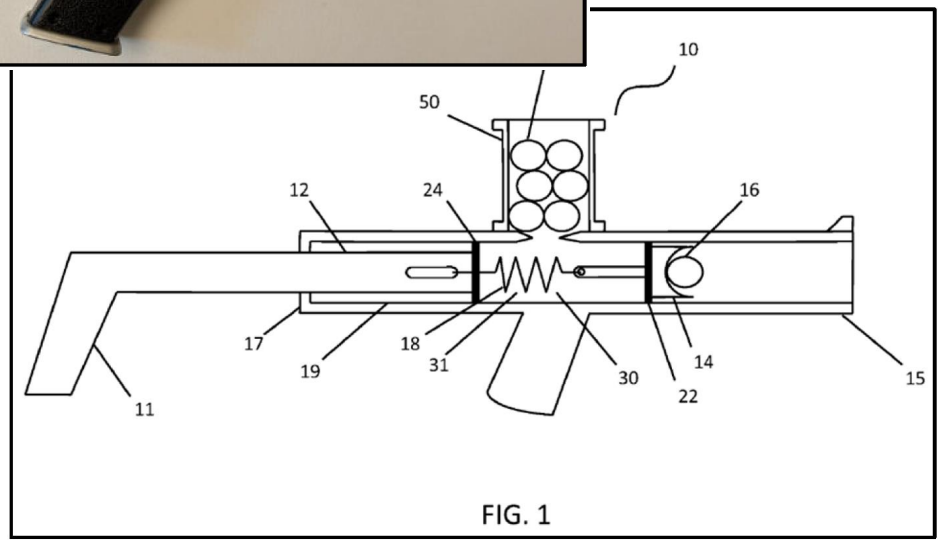


FIG. 1

01339: POR at 39-61
01339: Sur-Reply at 21-25
01348: POR at 39-61
01348: Sur-Reply at 21-25

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

Objective Indicia: Xploderz Blasters and Ammunition

CPX-0035

CPX-0033

CPX-0037

CPX-0047

CPX-0032

CPX-0059

CPX-0062

CPX-0060

CPX-0049

CPX-0048

CPX-0040

CPX-0039

CPX-0034

CPX-0052

CPX-0065

CPX-0068

CPX-0053

CPX-0054

CPX-0073

CPX-0066

CPX-0057

CPX-0056

CPX-0044

CPX-0074

CPX-0042

CPX-0041

CPX-0055

CPX-0046

CPX-0045

FISH.

01339: POR at 40-42 // 01348: POR at 39-42 // EX2015 ¶¶94-126

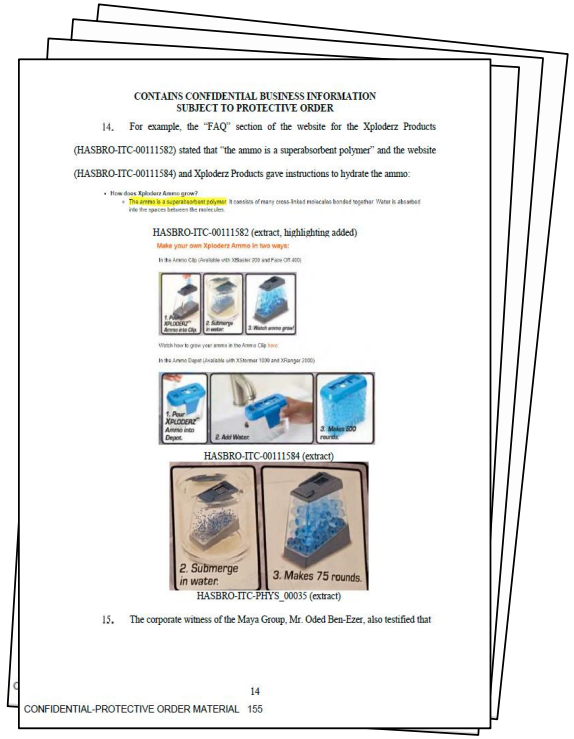
DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

Objective Indicia: Xploderz Practiced the Claimed Invention

01339: POR at 41-42 // 01348: POR at 41-42

Dr. Kudrowitz: "In Appendix 1 to my declaration, I show the practice by the Xploderz of the Common Maya Practiced Claims[.]"

UNDISPUTED



CONTAINS CONFIDENTIAL BUSINESS INFORMATION
SUBJECT TO PROTECTIVE ORDER

14. For example, the "FAQ" section of the website for the Xploderz Products (HASBRO-ITC-00111582) stated that "the ammo is a superabsorbent polymer" and the website (HASBRO-ITC-00111584) and Xploderz Products gave instructions to hydrate the ammo:

- How does Xploderz Ammo grow?
  - The ammo is a superabsorbent polymer. It consists of many cross-linked molecules bonded together. Water is absorbed into the spaces between the molecules.

HASBRO-ITC-00111582 (extract, highlighting added)

Make your own Xploderz Ammo in two ways:

In the Ammo Clip (Available with XBaster 200 and Face-Off 400)

1. Pour "XPLODERZ" Ammo into Clip. 2. Submerge in water. 3. Watch ammo grow!

Watch how to grow your ammo in the Ammo Clip here:

In the Ammo Depot (Available with XStormer 1000 and XRanger 2000)

1. Pour XPLODERZ Ammo into Depot. 2. Add Water. 3. Makes 800 rounds!

HASBRO-ITC-00111584 (extract)

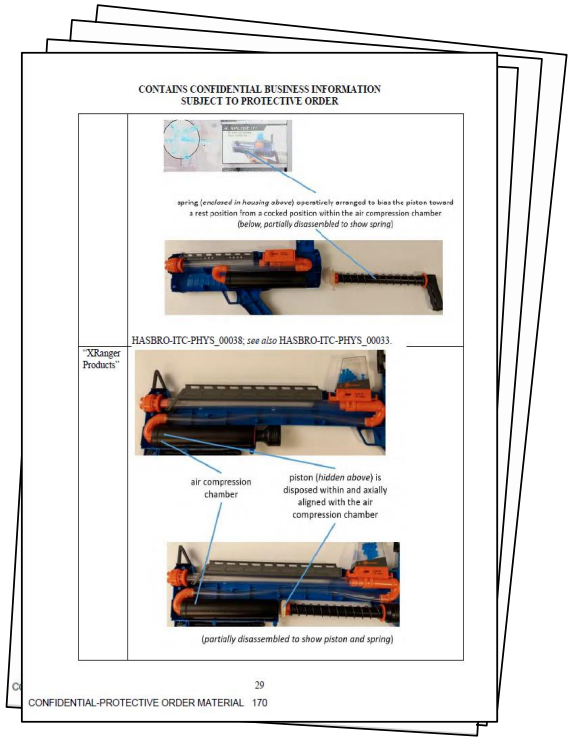
2. Submerge in water. 3. Makes 75 rounds.

HASBRO-ITC-PHYS_00035 (extract)

15. The corporate witness of the Maya Group, Mr. Oded Ben-Ezer, also testified that

14

CONFIDENTIAL-PROTECTIVE ORDER MATERIAL 155



CONTAINS CONFIDENTIAL BUSINESS INFORMATION
SUBJECT TO PROTECTIVE ORDER

spring (*enclosed in housing above*) operatively arranged to bias the piston toward a rest position from a cocked position within the air compression chamber (*below, partially disassembled to show spring*)

HASBRO-ITC-PHYS_00038; *see also* HASBRO-ITC-PHYS_00033.

"XRanger Products"

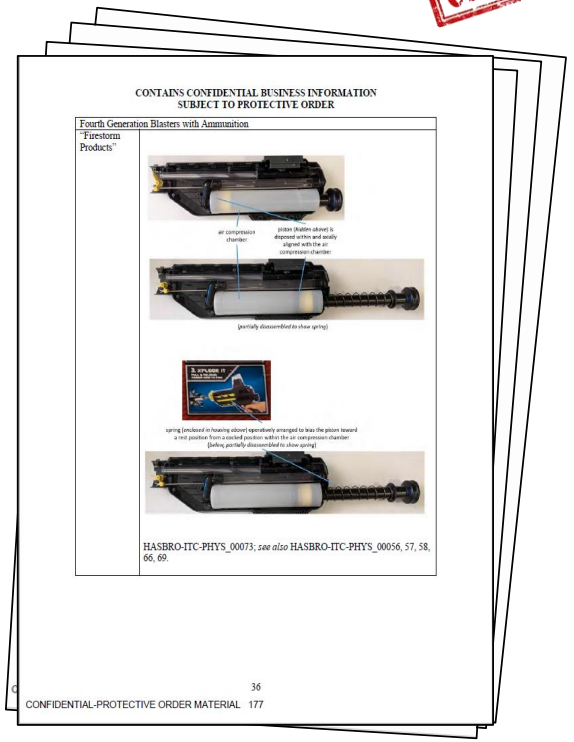
air compression chamber

piston (*hidden above*) is disposed within and axially aligned with the air compression chamber

(*partially disassembled to show piston and spring*)

29

CONFIDENTIAL-PROTECTIVE ORDER MATERIAL 170



CONTAINS CONFIDENTIAL BUSINESS INFORMATION
SUBJECT TO PROTECTIVE ORDER

Fourth Generation Blasters with Ammunition

"Firestorm Products"

air compression chamber

piston (hidden above) is disposed within and axially aligned with the air compression chamber

(partially disassembled to show spring)

spring (enclosed in housing above) operatively arranged to bias the piston toward a rest position from a cocked position within the air compression chamber (below, partially disassembled to show spring)

HASBRO-ITC-PHYS_00073; *see also* HASBRO-ITC-PHYS_00056, 57, 58, 66, 69.

36

CONFIDENTIAL-PROTECTIVE ORDER MATERIAL 177

EX2015 ¶127, pp.141-205

[redacted]

Objective Indicia: Xploderz Were Commercially Successful

UNDISPUTED

[redacted]

01339: POR at 42-45
01348: POR at 42-45
EX2015 ¶¶147-153

FISH.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

Objective Indicia: Xploderz Were a Best Seller

EX2067 at 299:8-22

Ron Brawer
Co-Founder of
Maya Group

Q. How did the Xploderz perform for Target as it relates to their boy toy product line?

A. **Upon initial launch, it was a huge hit.**

* * *

Q. Do you remember whether there was a certain ranking associated with the Xploderz product among the Target group of boy toy products?

A. So what I can recall is a lunch with the buyer for our product line who had worked with us frankly to do the recall and the quarantine. So we weren't necessarily best of friends. And we came in after we had put the product on the shelf just prior to Easter and launched the advertising, and from what I recall, he said **we were the number 1 selling boy toy in the spring**.

01339: POR at 42-45
01348: POR at 42-45
EX2015 ¶¶180-185

FISH.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

[redacted]

Objective Indicia: Xploderz Sales [redacted]

Dr. Kudrowitz: "[redacted]

01339: POR at 42-45
01348: POR at 42-45

[redacted]

EX2015, ¶¶158-160
(*see also* ¶¶155-164)
EX2043 (annotated)

FISH.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

Objective Indicia: Xploderz Four Line Extensions Signal Success

Dr. Kudrowitz: "A line extension signals that the manufacturer believed that the original products were ***commercially successful enough to invest in the additional cost*** necessary to release the extension products."

01339: POR at 42-45
01348: POR at 42-45
EX2015, ¶¶166-167

Objective Indicia: Xploderz Four Line Extensions Signal Success

Dr. Kudrowitz: "Toys typically face the expectation of a shortened product life cycle—sometimes less than a year… It is a strong sign of commercial success that Maya Group created a toy brand with ***a strong product life cycle***[.]"

01339: POR at 42-45
01348: POR at 42-45
EX2015, ¶¶166-167

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

[redacted]

Objective Indicia: Xploderz Inspired a New Product Category

Dr. Kudrowitz: "[T]he commercial success of…the Xploderz product lines resulted in the creation of ***an entirely new product category***, i.e., blasters that shoot gel balls[.]"

[redacted]

01339: POR at 42-45
01348: POR at 42-45
EX2015, ¶¶178-179

FISH.

6

Objective Indicia: Xploderz Inspired a New Product Category

01339: POR at 42-47 // 01348: POR at 42-47

[redacted]

EX2084
EX2069 at 91:1-3, 91:5-10

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

Objective Indicia: Xploderz Were Praised by the Industry

EX2112

THE WALL STREET JOURNAL.

August 27, 2011

Xploderz XGround Pounder Blaster

With an astounding 100-foot range, the XGround Pounder shoots squishy blue gel balls that break apart on impact. The ammunition looks disturbing, but it's made from a super-absorbent polymer used in agriculture to release water slowly into arid land. They're safe to scatter around your backyard (they end up watering the grass) and won't stain your carpet. Additional ammo comes in a packet of 500 tiny beads that expand when submerged in water. Despite its gun-like shape, the XGround Pounder has no trigger. According to the manufacturer, toys that

EX2087

POPULAR SCIENCE

October 2012

With a range of 100 feet, the Retaliator 2000 shoots ammo farther than all other toy guns. The marble-size bullets, made from a gel-like polymer, whiz through the air like BBs. Getting shot won't hurt: They

EX2088

TOTY TOY OF THE YEAR AWARDS 2012

OUTDOOR TOY OF THE YEAR

Toys designed for outdoor play

3D Twister by Silverlit

Gazillion Bump-N-Go Bubble Bug by Funrise Toy Corporation

Little Tikes Garden Leaf & Lawn Bubble Blower by Imperial Toy, LLC

Nerf Super Soaker Thunderstorm Blaster by Hasbro, Inc.

Nerf Vorte

Rockboard

Xploderz X

EX2045

Toys "R" Us

Xploderz Blasters Wins "Best Overall Toy" at Toys "R" Us Show

Web newswire

April 27, 2011 Wednesday

* * *

India, April 27 -- /CNW/ - Xploderz, a new toy line from The Maya Group, won Best Overall Toy Item at the recent ToysRUs Canada Spring Vendor Show.This show unveils the newest products for the 2011 Spring season to the Store Director team at ToysRUs.Xploderz is blasting excitement into the shooting toy category, says Ron Brawer, a partner in the Maya Group. It provides an exciting and safe alternative for kids who have outgrown foam darts but are not ready for Airsoft. The Xploderz line - including the XBlaster 200, FaceOff 400, XStormer 1,000 and XRanger 2,000 - features a unique and safe firing and ammo system using hydrated rounds that burst on impact.The patented technology allows kids to load up to 70 rounds in seconds and reach firing distances of 85 feet.Thats a toy blaster, says Brawer. Kids love Xploderz because they shoot further and carry more ammo. derz because they are completely safe.Chosen from hundreds of new product selections, the Best d was announced by Kevin Macnab, President, ToysRUs, Canada. It represents the choice of all irectors from across the country, who attended the April 12th event.Xploderz are now available at s across Canada.More information about Xploderz can be found at www.xploderz.com. Published with permission from Web Newswire.

EX2042

THE TOYFAIR

Xploderz(TM) Blast Excitement Into Active Play; New Line Shoots Grow-Your-Own Ammo Up To 85 Feet, Named a 'Hot Toy of 2011' at London Toy Fair

PR Newswire

February 8, 2011 Tuesday 9:15 AM EST

* * *

HUNTINGTON BEACH, Calif., Feb. 8, 2011 /PRNewswire/ -- Introducing Xploderz(TM) (www.xploderz.com), a new firing system that will change the way kids shoot forever! Offering new levels of action and excitement for older kids 8+, Xploderz deliver more distance and more ammo than ever before. Thrill-seekers who grew up with foam dart guns can now add Xploderz to their arsenal as an alternative to video games. The immersive Xploderz experience gives kids more distance, more ammo and more fun.

Created by The Maya Group, The XBlaster 200(TM), Face Off 400(TM), XStormer 1000(TM) and XRanger 2000(TM) shoot ammo made with H2Grow(TM) Technology up to an amazing 85 feet. The ammo disintegrates on impact. Each Xploderz Blaster comes with an interchangeable ammo clip that holds up to 70 rounds before needing a reload.

"The Xploderz concept has been an instant hit with toy buyers in North America and around the world," said Ron Brawer, a partner in The Maya Group, and an inventor of the Xploderz line. "There's a huge gap in blaster products between foam darts and paintball, Xploderz is going to fill that gap!"

The Xploderz line-up makes its North American debut at the American International Toy Fair in New York City February 13-16. Already generating international buzz, Xploderz were named a Best New Toy of 2011 by the British Toy and Hobby Association during the London Toy Fair.

UNDISPUTED

01339: POR at 51-55
01348: POR at 50-54
EX2015, ¶¶131-140

FISH.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

Objective Indicia: Benefits/Merits Are Not Unclaimed Features

WBIP, LLC v. Kohler Co.,
829 F.3d 1317, 1331, 1325 (Fed. Cir. 2016)

"WBIP argues that it is ***the claimed combination which results in a low-carbon monoxide emission marine gen-set*** which is the 'merits of the claimed invention.'…We conclude that this record contains substantial evidence upon which a jury could conclude that nexus exists between the objective evidence of non-obviousness and the claimed combination."

No Low-Emissions Claim Element

Claim 1. A marine engine comprising:
[A] an exhaust system including
[B] a catalyst cooled by a flow of coolant, [C] the catalyst arranged to intercept a flow of exhaust;
[D] a coolant injector that injects coolant into the flow of exhaust at a point downstream of the catalyst; and
[E] a sensor arranged to sense a characteristic of the flow of exhaust; and
[F] an engine controller configured to control an air/fuel ratio of the engine as a function of the sensed exhaust flow characteristic;
[G] wherein the engine controller is also configured to govern engine speed with respect to a constant speed while maintaining the air/fuel ratio.

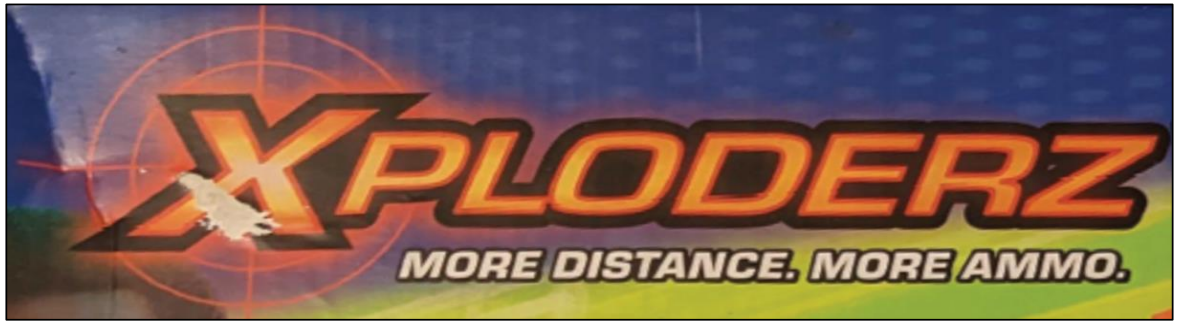
FISH.

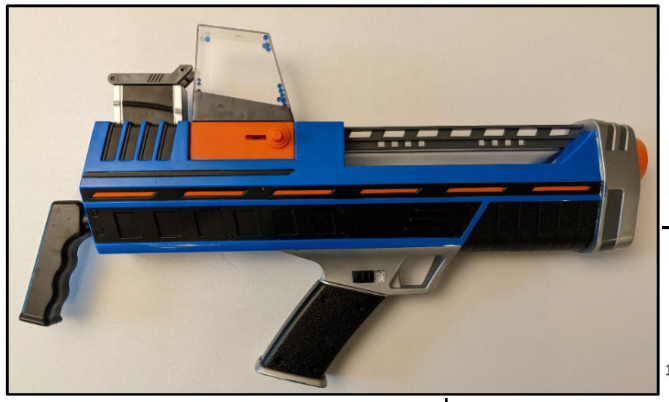
01339: Sur-Reply at 21-25 // 01348: Sur-Reply at 21-25

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

Objective Indicia: Nexus to the Merits of the Claimed Invention

01339: POR at 45-61; 01339: Sur-Reply at 21-25 // 01348: POR at 45-61; 01348: Sur-Reply at 21-25 // EX2015 ¶¶135-140, ¶¶186-234





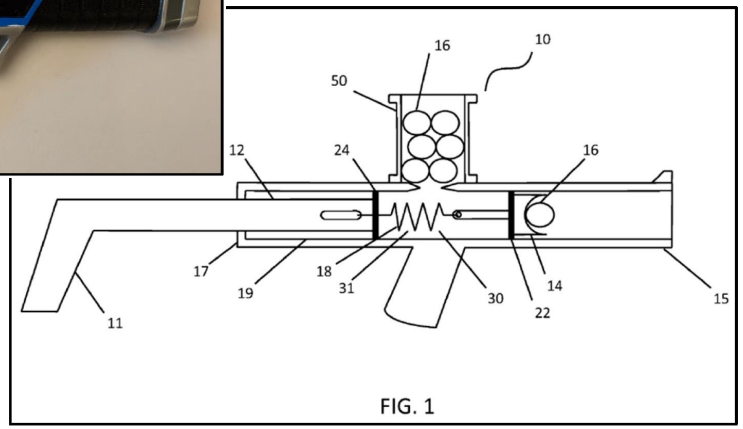


FIG. 1

Federal Circuit

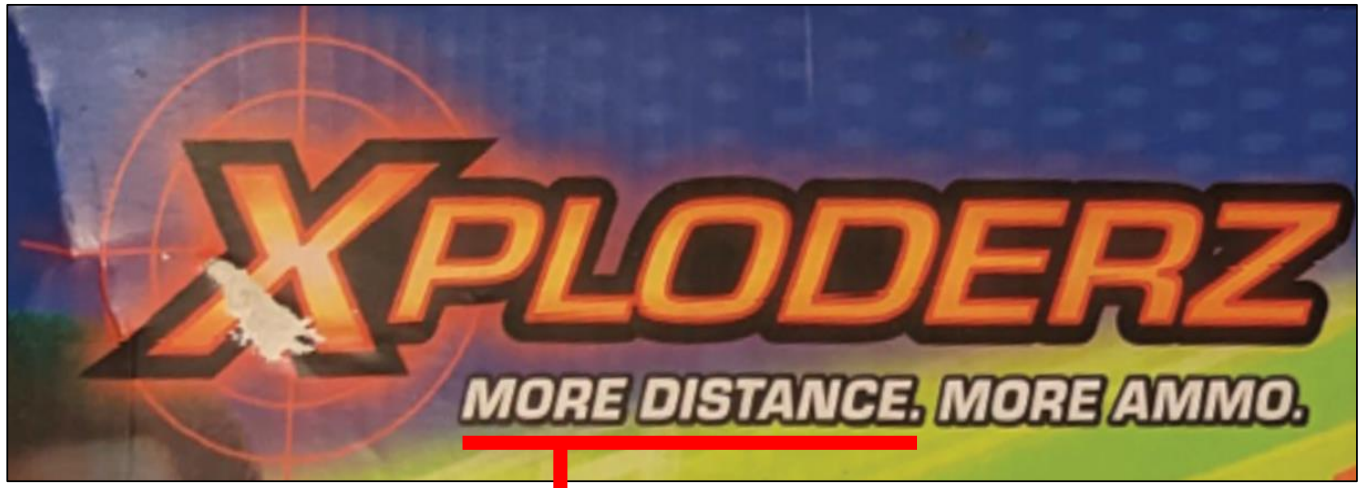
"[A] nexus . . . between the sales and the merits of the claimed invention."

In re Huang,
100 F.3d 135, 140 (Fed. Cir. 1996)

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

Objective Indicia: Nexus to the Merits of the Claimed Invention

01339: POR at 45-61; 01339: Sur-Reply at 21-25 // 01348: POR at 45-61; 01348: Sur-Reply at 21-25 // EX2015 ¶¶135-140, ¶¶186-234



EX2104

Dr. Kudrowitz: "[A] commercial advantage gained by the Xploderz as a result of the Common Maya Practiced Claims was a significant distance advantage … which was a major selling point of the blasters, including in advertising: ('more distance: up to 85 feet') and ('More power.') ***The combination of the SAP ammo with the specific Xploderz firing mechanism allowed the ammunition to travel much farther than prior art blasters on the market***[.]"

EX2015, ¶193

'282 Patent: Claims 19, 20
'683 Patent: Claims 8, 9

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

Objective Indicia: More Distance Benefit Is Tied to the Claims

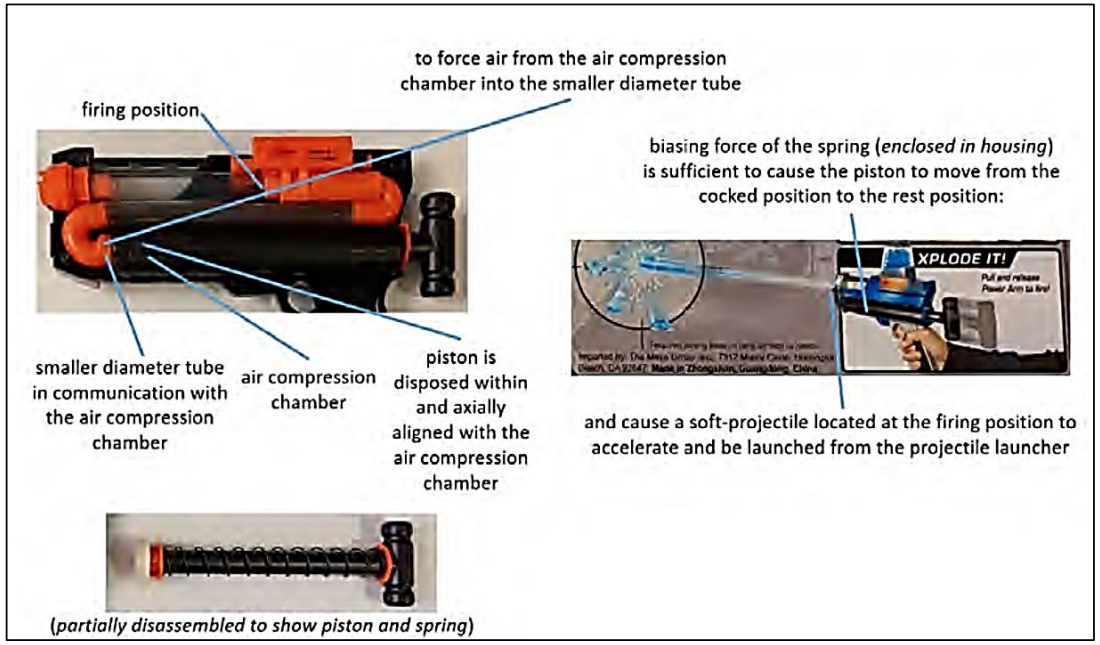
01339: POR at 45-61; 01339: Sur-Reply at 21-25 // 01348: POR at 45-61; 01348: Sur-Reply at 21-25 // EX2015 ¶¶135-140, ¶¶186-234

Dr. Kudrowitz: "The impetus behind praise … including the "***astounding 100-foot range [from] pull[ing] and releas[ing] a spring-loaded lever***" (EX2112 p.2) also reflects the inventions' "piston disposed within and axially aligned with the air compression chamber; and a spring operatively arranged to bias the piston toward a rest position from a cocked position within the air compression chamber" to create an air pressure that operates on the SAP ammunition (***'282 claim 19; and similar language describing the invention in '282 claim 20***). . . .

[T]hat the ***Xploderz "shoots farther than all other toy guns***" (EX2087 pp.1–2) reflects the inventions' ***combination of the unique super-absorbent polymer ammunition with the claimed launching mechanism***."

EX2015, ¶¶ 135, 139 ,
¶127 ('683 claim 8, 9)
¶¶ 135-140 (industry praise nexus)
¶¶ 186-215 (commercial success nexus)

'282 Patent: Claims 19-20
'683 Patent: Claims 8-9



EX2015, p.179

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

Objective Indicia: Nexus to the Merits of the Claimed Invention

01339: POR at 45-61; 01339: Sur-Reply at 21-25 // 01348: POR at 45-61; 01348: Sur-Reply at 21-25 // EX2015 ¶¶135-140, ¶¶186-234

EX2104

Dr. Kudrowitz: "Another commercial advantage [was] ***the feed chamber*** [that] allows ***for SAP ammunition rounds*** to be ***stored onboard the launcher and loaded for firing*** with minimal actions by the user… ***By contrast***, with most (if not all) existing toy blasters on the market in the 2010–2012 timeframe, the user had to handle the rounds one at a time to store and/or had limited ammunition on the blaster." … The feed mechanism and the loading from same ***was an advertised selling point of the blasters ('More Ammo; clip holds 70 rounds') and ('Quickly reload and shoot') and ('outlast the competition')***."

EX2015, ¶192

'282 Patent: Claim 8
'683 Patent: Claim 5

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

Objective Indicia: More Ammo Benefit Is Tied to the Claims

01339: POR at 45-61; 01339: Sur-Reply at 21-25 // 01348: POR at 45-61; 01348: Sur-Reply at 21-25 // EX2015 ¶¶135-140, ¶¶186-234

[redacted]

Dr. Kudrowitz: The ***ammunition advantage*** comes from Xploderz "ha[ving] ***a feed chamber that can hold that large amount of ammo and then feed it*** into the blaster."

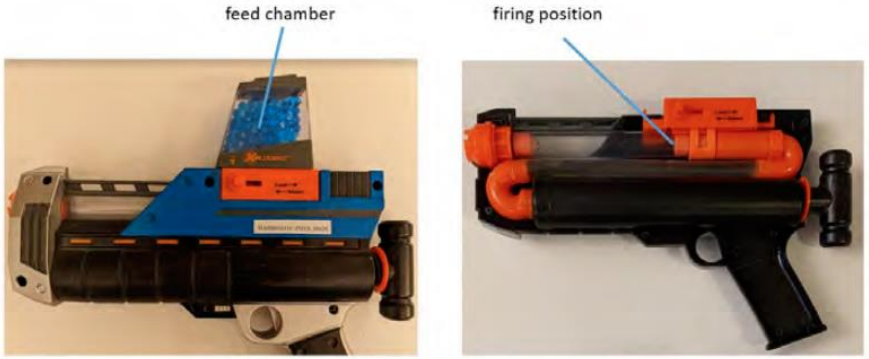
EX1004 pp.446:3–12; 479:16–17."

Dr. Kudrowitz: "[T]hat "use of the SAPs as the ammunition was ***part of what enabled the Xploderz products to hold more rounds*** in the magazine, which is ***one of the most important features in this focus group*** study" [and] reflects the merits of the invention's …***'282 claim 8*** [and] ***'683 claim 5***."

EX2015, ¶¶ 203, 208,
¶¶ 135-140 (industry praise nexus)
¶¶ 186-215 (commercial success nexus)

'282 Patent: Claim 8
'683 Patent: Claim 5

the ammunition is disposed within a feed chamber of the projectile launcher



EX2015, p.159

FISH.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

Objective Indicia

Petitioner Does Not Show Simultaneous Invention

FISH.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

Kim Is Not Simultaneous Invention Evidence

01339: POR at 61-64; 01339: Sur-Reply at 25-26 // 01348: POR at 61-64; 01348: Sur-Reply at 25-26 // 01461: POR at 38-40; 01461: Sur-Reply at 22-23

- Petitioner does not allege that Kim discloses super absorbent polymer (Pet. 57-58)
- Kim teaches a "luminous" gel formed from a "cleaning substance" that requires "individual packaging" (EX1022 p.9 ([0015]-[0017])

Unexamined Utility Model 20-2010-0004855

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(54) Toy bullets formed of gel or gel material

(57) Abstract

The present invention is to improve the bullet of a toy gun to prevent injury to the human body; it is configured so that when a barrel is formed upwards in front of a muzzle, the lid of the barrel is opened, a toy bullet formed of gel or gel material is placed inside the barrel, the toy bullet formed of gel or gel material is injected into the firing pin hole through the hole in the bore of the barrel, the piston is pulled backwards, and a trigger is pulled by charging air pressure inside the bullet cylinder, the air pressure inside the bullet cylinder is caused to push and fire the gel or gel bullet in the firing pin hole by a spring and fires it; therefore 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.

Representative Drawing -FIG. 1

[0015] The gel or gel material bullet is provided as a cleaning material,
[0016] The gel or gel material bullet is provided as a luminous material,
[0017] The gel or gel material bullet is provided in the form of individual packaging.

EX1022 p.9 ([0015]-[0017]

- Petitioner's claim that Kim somehow covers "<u>all</u> gel materials" is unsupported and makes little sense (Pet. 58; EX2015 ¶¶236–238)

FISH.

DEMONSTRATIVE EXHIBIT – NOT EVIDENCE

VAT19 Is Not Simultaneous Invention Evidence

01339: POR at 61-64; 01339: Sur-Reply at 25-26 // 01348: POR at 61-64; 01348: Sur-Reply at 25-26 // 01461: POR at 38-40; 01461: Sur-Reply at 22-23 // EX2015 ¶239

- The VAT19 video discloses shooting Spitballs through a tube
  - No airsoft gun disclosure
  - No disclosure of a projectile launcher having the features of the Challenged Claims
- The VAT19 video is dated "Dec 20, 2010," seven months after the Critical Date and also after the patent-practicing Xploderz products were made and sold

EX2032 pp. 108:7-11, 112:20-113:2, EX2067, pp. 256:21-266:2

EX1023; EX1024

FISH.
DEMONSTRATIVE EXHIBIT – NOT EVIDENCE