

Filed: July 23, 2025

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UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

FRESH PRODUCTS, LLC
Petitioner
v.

SANASTAR, INC., d/b/a WIZKID PRODUCTS
Patent Owner

IPR2025-01339
Patent 10,036,154

**PETITION FOR *INTER PARTES* REVIEW OF
U.S. PATENT NO. 10,036,154**

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TABLE OF EXHIBITS

Exhibit No.	Description
1001	U.S. Patent No. 10,036,154 (“the ’154 Patent”)
1002	Sanastar District Court Complaint dated March 3, 2025, in <i>Sanastar, Inc. d/b/a/ WizKidProducts v. Fresh Products, LLC</i> , No. 3:25-cv-00418 (N.D. Ohio)
1003	Declaration of Randy Hurd, Ph.D.
1004	Certified English Translation of Japanese Publication No. JPS 60-190865 to Fushimi (“Fushimi”)
1005	United States Patent No. 10,145,098 to Brown, et al. (“Brown ’098”)
1006	United States Patent No. 9,243,394 to Brown, et al. (“Brown ’394”)
1007	United States Patent Application Publication No. 2005/0144711 to Valadez, et al. (“Valadez”)
1008	United States Patent Application Publication No. 2007/0044221 to Wise (“Wise”)
1009	United States Patent Application Publication No. 2014/0075663 to Irwin, et al. (“Irwin”)
1010	United States Patent Application Publication No. 2009/0070923 to Ruedas (“Ruedas”)
1011	United States Patent No. 6,055,681 to Lyons (“Lyons”)
1012	United States Patent No. 5,809,590 to Williams, et al. (“Williams”)

Fresh Products v. Sanastar
 IPR Petition – U.S. Patent 10,036,154

Exhibit No.	Description
1013	United States Patent No. 7,398,565 to Chou (“Chou”)
1014	United States Patent No. 3,170,169 to Clark (“Clark”)
1015	United States Patent No. 639,628 to Thomsen (“Thomsen”)
1016	United States Patent No. 3,559,353 to Partridge (“Partridge”)
1017	United States Patent No. 7,886,958 to Smith (“Smith”)
1018	United States Patent No. 3,599,677 to O’Brien (“O’Brien”)
1019	United States Patent No. 4,615,926 to Hsu (“Hsu”)
1020	United States Patent No. 5,665,439 to Andersen (“Andersen”)
1021	Kota, Sridhar, and G. K. Ananthasuresh. "Designing compliant mechanisms." Mechanical Engineering-CIME 117.11 (1995): 93-97. (“Kota”)
1022	British Plastics Federation, <i>Ethylene Vinyl Acetate (EVA)</i> , https://www.bpf.co.uk/plastipedia/polymers/EVA.aspx (last accessed July 22, 2025)
1023	Translation Certificate for Japanese Publication No. JPS 60-190865 to Fushimi
1024	Japanese Publication No. JPS 60-190865 to Fushimi

Petitioner Fresh Products, LLC (“Petitioner”) requests *inter partes* review of Claims 1-4, 6-12, 14-16, 18, and 20 (“challenged claims”) of U.S. Patent No. 10,036,154 (“the ’154 Patent”) assigned to Sanastar, Inc. (“PO” or “Patent Owner”).

I. MANDATORY NOTICES

A. Real Party-In-Interest (37 C.F.R. §42.8(b)(1))

Fresh Products, LLC is the real party-in-interest.

B. Related Matters (37 C.F.R. §42.8(b)(2))

PO has filed a suit against Petitioner alleging infringement of the ’154 Patent by Petitioner’s Tsunami product. *Sanastar, Inc. d/b/a/ WizKidProducts v. Fresh Products, LLC*, No. 3:25-cv-00418 (N.D. Ohio).

Petitioner is not aware of any other judicial or administrative matter that would affect, or be affected by, a decision in this proceeding.

C. Lead and Backup Counsel (37 C.F.R. §42.8(b)(3))

Petitioner provides the following designation of counsel, all of whom are included in Customer No. 20,995 identified in Petitioner’s Power of Attorney.

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D. Service Information (37 C.F.R. §42.8(b)(4))

Please address all correspondence to lead counsel and back-up counsel at the addresses shown above. Petitioner also consents to electronic service by email to BoxFreshProds154@knobbe.com.

E. Payment of Fees (37 C.F.R. §42.103)

The fee for this petition has been paid. Any additional fees may be charged

to Deposit Account 11-1410.

F. Grounds for Standing (37 C.F.R. §42.104)

Petitioner certifies that the '154 Patent is available for IPR and that Petitioner is not barred or estopped from requesting IPR. This petition is being filed within one year of service of Patent Owner's complaint (filed March 3, 2025) alleging infringement of the '154 Patent. Ex. 1002.

II. INTRODUCTION

The '154 Patent discloses and claims urinal anti-splash devices having a base that sits at the bottom of a urinal, and an anti-splash body that extends upward from the base along the rear wall of the urinal. The insert can be installed by folding the insert between the base and the anti-splash body, or by detaching the base from the anti-splash body and installing the two parts separately.

An embodiment of the '154 Patent is depicted below, prior to being folded, separated, or installed.

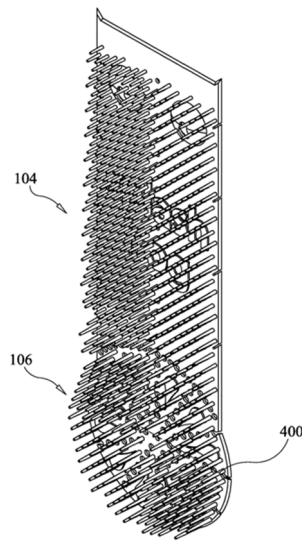


FIG. 4

Ex. 1001, Fig. 4. The same embodiment is shown below, folded (Fig. 6) and installed in a urinal (Fig. 1).

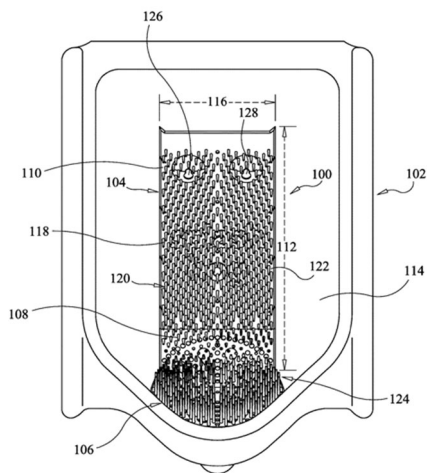


FIG. 1

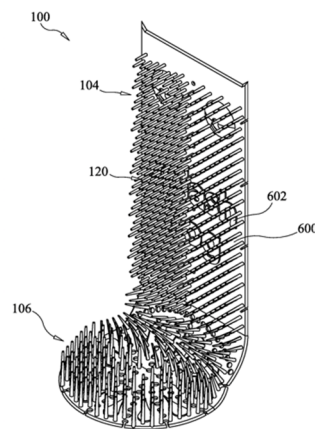
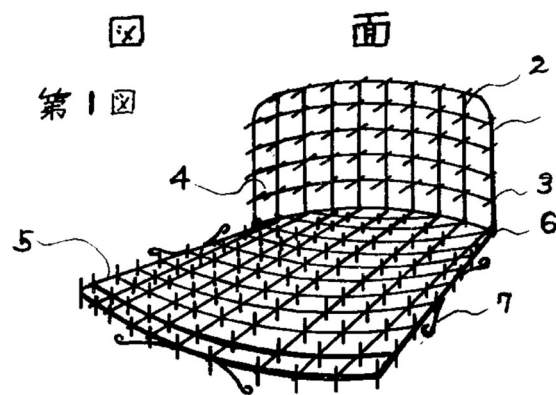


FIG. 6

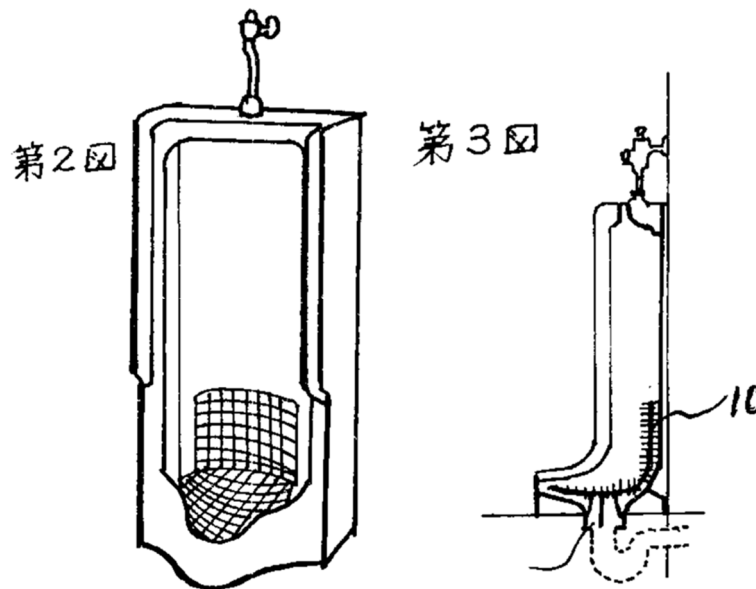
Id., Figs. 1, 6. According to the '154 specification, “known devices designed to be placed within urinals, often referred to as urinal screens or occasionally as urinal mats, are sized and shaped to cover either the urinal's back wall or the drain. Such

urinal screens do not allow the user the option of covering *both the back wall and the drain* to prevent the urine from splashing onto the user from a maximum surface area of the urinal.” Ex. 1001, 1:31-37 (emphasis added). As described herein, however, the ’154 Patent applicant was incorrect.

Fushimi (Ex. 1004), published in 1985, disclosed a urine splash prevention device with a horizontal bottom or base 5 and a vertical side 4 extending upward, as shown in Fig. 1, below.



Ex. 1004, Fig. 1. When installed in a urinal, the horizontal base covers the urinal drain, and the vertical surface extends upward along the rear wall of the urinal, as shown in Figs. 2 and 3, below.



Id., Figs. 2, 3.

For the reasons described below, the challenged claims of the '154 Patent should be cancelled as unpatentable over Fushimi and the additional prior art relied on herein.

III. THE '154 PATENT

A. Overview

The '154 Patent issued from an application filed November 3, 2016. It discloses and claims a urinal anti-splash device 100 having a base 106 and an anti-splash body 104. Ex. 1001, Abstract. When installed in a urinal, the base sits at the bottom, covering the drain, and the anti-splash body extends vertically along the urinal's rear wall. *Id.*, 5:49-51. The specification describes the anti-splash body as having two portions: a first portion 108 (adjacent the base) and a second

portion 110 opposite the first portion. According to the '154 Patent specification, the anti-splash body has a length 112 extending from the first portion to the second portion. *Id.* 5:46-49. Figure 1, below, shows an embodiment of the '154 Patent's anti-splash device installed in a urinal.

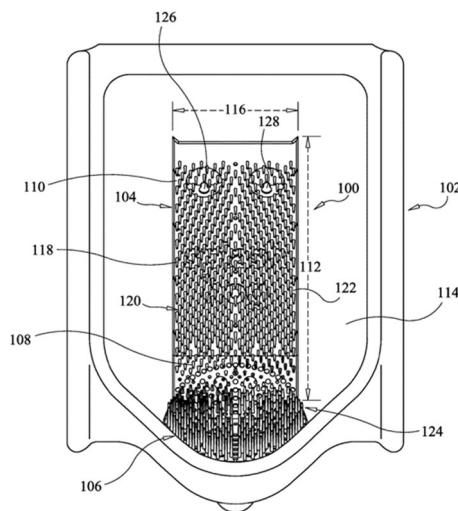
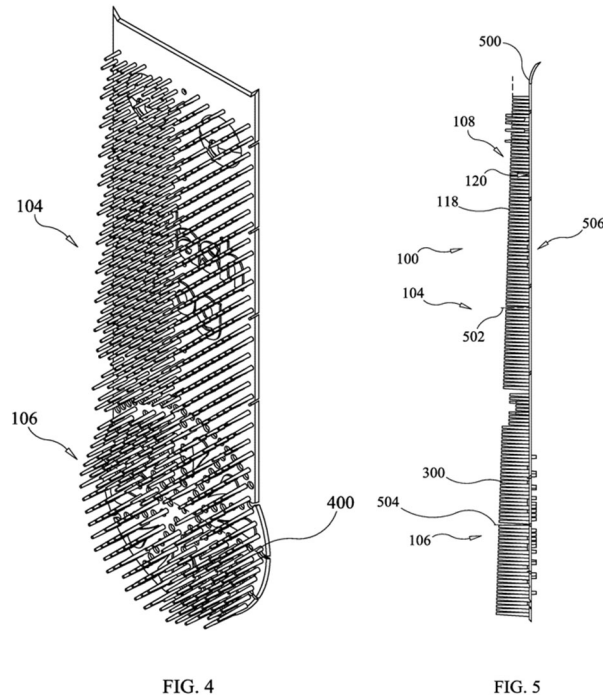


FIG. 1

Id., Fig. 1.

The device also includes protrusions. Per the specification, “[t]he term ‘protrusion’ is defined herein as a part that extends away from the upper surface 120 and may include bristles, a wave pattern, one or more shapes, e.g., squares, or another configuration designed to prevent urine from splashing onto a user when using the anti-splash device 100.” *Id.* 6:31-35. A first plurality of protrusions 118 extends from the anti-splash body 104. *Id.*, 10:10-13. A second plurality of protrusions 300 extends from the base 106. *Id.*, 10:14-15.

A urine stream approaching the urinal is broken apart by the protrusions to prevent the urine from splashing on a user. *Id.*, 6:27-40. The protrusions are shown below in perspective (Fig. 4) and side (Fig. 5) views.



Id., Figs. 4, 5.

The base 106 and anti-splash body 104 are connected by a perforated coupling region 204. *Id.*, 7:8-13. The device is shown in its first position or configuration above, with the base oriented in a direction parallel to the anti-splash body. The device can be translated to a second position or configuration wherein the base is oriented in a direction perpendicular to the anti-splash body. *Id.*, 7:31-36. The device is shown below in its second position, alone (Fig. 6) and installed in a urinal (Fig. 1).

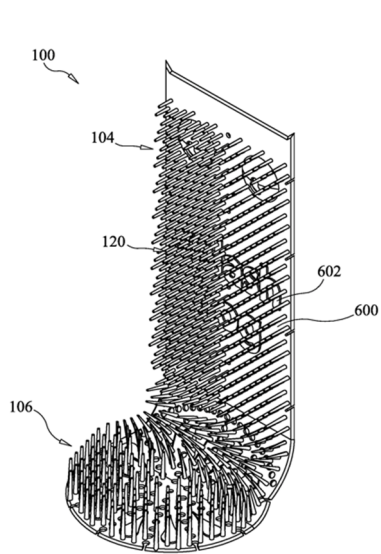


FIG. 6

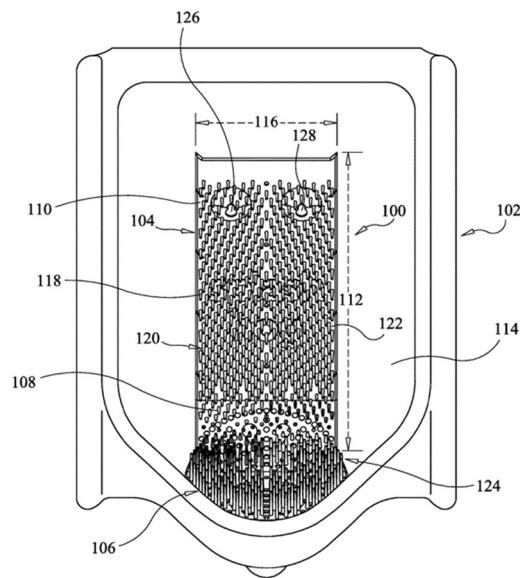


FIG. 1

Id., Figs. 1, 6. The base can also be separated from the anti-splash body, as shown in Fig. 3, below.

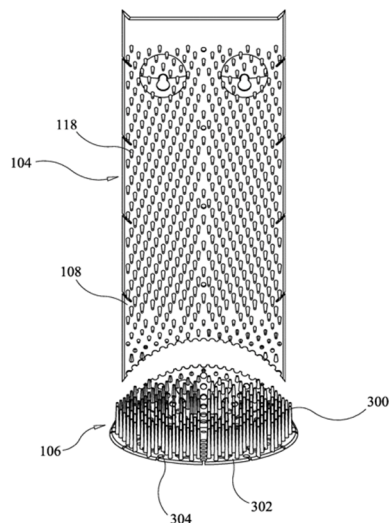


FIG. 3

Id., Fig. 3.

B. The Challenged Claims

The '154 Patent issued with 20 claims, of which Claims 1, 11, and 18 are independent. Ex. 1001. Claim 1 is set forth below (with claim limitations labeled for reference).

Claim 1	
Preamble	A urinal anti-splash device comprising:
1[A]	an anti-splash body sized and shaped to couple to at least a portion of a urinal, the anti-splash body including: a first portion; a second portion opposite the first portion; a length extending from the first portion to the second portion; and an upper surface extending the length;
1[B]	a base couplable to the first portion and configured to extend in a direction substantially perpendicular from the first portion;
1[C]	a first plurality of protrusions extending outwardly from the upper surface of the anti-splash body and which taper downwardly in a direction toward the upper surface of the anti-splash body; and
1[D]	a second plurality of protrusions extending outwardly from the base, the second plurality of protrusions configured to extend in the direction substantially perpendicular from the first portion of the anti-splash body.

Challenged Independent Claim 11 is similar but includes additional

limitations that the base must cover the urinal drain, and that the base and anti-splash body are joined at a coupling region. Challenged Independent Claim 18 is a method for mounting the device.

The challenged dependent claims add limitations directed to: the shapes of the base and anti-splash body (Claims 2, 3, 8, 10, and 12); a fastener that orients the anti-splash body (Claim 4), a region between the base and the anti-splash body for orienting them in a perpendicular fashion (Claims 6 and 14), the material used to make the device (Claim 7), the shape, size, and location of the protrusions (Claims 9, 15, and 16), and a method step of bending the device at a coupling region between the base and anti-splash body (Claim 20).

IV. STATEMENT OF RELIEF REQUESTED

A. IPR Grounds

IPR is requested for the following grounds of unpatentability:

Ground	Claims Challenged	35 U.S.C. §	References
1	1, 2, 3, 4, 6, 7, 8, 9, 10, 11, 12, 14, 15, 16, 18, 20	103	Fushimi + Brown '098 + Brown '394
2	11, 12, 14, 16, 18, 20	103	Fushimi + Valadez
3	3, 8, 15	103	Fushimi + Valadez + Brown '098

4	11, 12, 14, 16, 18, 20	103	Fushimi + Wise
5	3, 10, 15	103	Fushimi + Wise + Brown '098

B. The Asserted References Are Prior Art

The '154 Patent is subject to the America Invents Act (AIA). This Petition relies on the following references, all of which are prior art under 35 U.S.C. §102.

Exhibit	Reference	Date	Prior Art Type
1004	Fushimi	Published: Dec. 18, 1985	§102(a)(1)
1005	Brown '098	Priority: Oct 28, 2015	§102(a)(1); §102(a)(2)
1006	Brown '394	Priority: Sept. 19, 2012	§102(a)(1); §102(a)(2)
1007	Valadez	Published: July 7, 2005	§102(a)(1); §102(a)(2)
1008	Wise	Published: March 1, 2007	§102(a)(1); §102(a)(2)

The above references relied upon herein were *not* cited during prosecution of the '154 Patent. This Petition is also supported by the expert declaration of Randy Hurd, PhD (Ex. 1003).

V. LEVEL OF ORDINARY SKILL

Based on the relevant factors, *In re GPAC Inc.*, 57 F.3d 1573, 1579 (Fed. Cir. 1995), a hypothetical person of ordinary skill in the art (“POSITA”) would have had a bachelor’s degree in mechanical engineering and one to two years of experience with the design or testing of splash reduction methods and devices. Ex.

1003, ¶24. Alternatively, a POSITA would have had formal education in some field other than mechanical engineering and would have had more experience (5+ years) designing urinal screens. *Id.* More work experience may substitute for a lower level of education, and vice versa. *Id.*

This Petition does not turn on this specific definition of the level of ordinary skill. The claims would have been obvious from the perspective of a POSITA under any reasonable definition. *Id.*, ¶25.

VI. CLAIM CONSTRUCTION

A. Lexicography

The '154 Patent provides explicit definitions for several claim terms. The definitions are described below and Petitioner applies them herein.

1. “elongated”

Claim 3 recites that the anti-splash body includes “an *elongated* shape of a flexible material.” Ex. 1001, Claim 3 (emphasis added). The specification defines “elongated” as “having a length that is at least twice as long as a width.” *Id.*, 5:60-61.

2. “longitudinal”

Claims 11 and 18 recite that the anti-splash body includes “a *longitudinal* length [separating/extending from] the first portion [from/to] the second portion.”

Ex. 1001, Claims 11, 18 (emphasis added). The specification states that “‘longitudinal’ should be understood to mean in a direction corresponding to an elongated direction of the body of the urinal anti-splash device in a direction from a ground surface toward a ceiling.” *Id.*, 4:20-24.

3. “rectangular-like” and “circular-like”

Claim 8 recites that “the anti-splash body is a *rectangular-like shape*; and the base is a *circular-like shape*.” Ex. 1001, Claim 8 (emphasis added). The specification defines “rectangular-like” as “having at least one pair of opposing parallel sides of equal length,” Ex. 1001, 6:5-7. And “circular-like” is defined as “having at least two round edges.” *Id.*, 8:22-23.

B. Other Claim Constructions

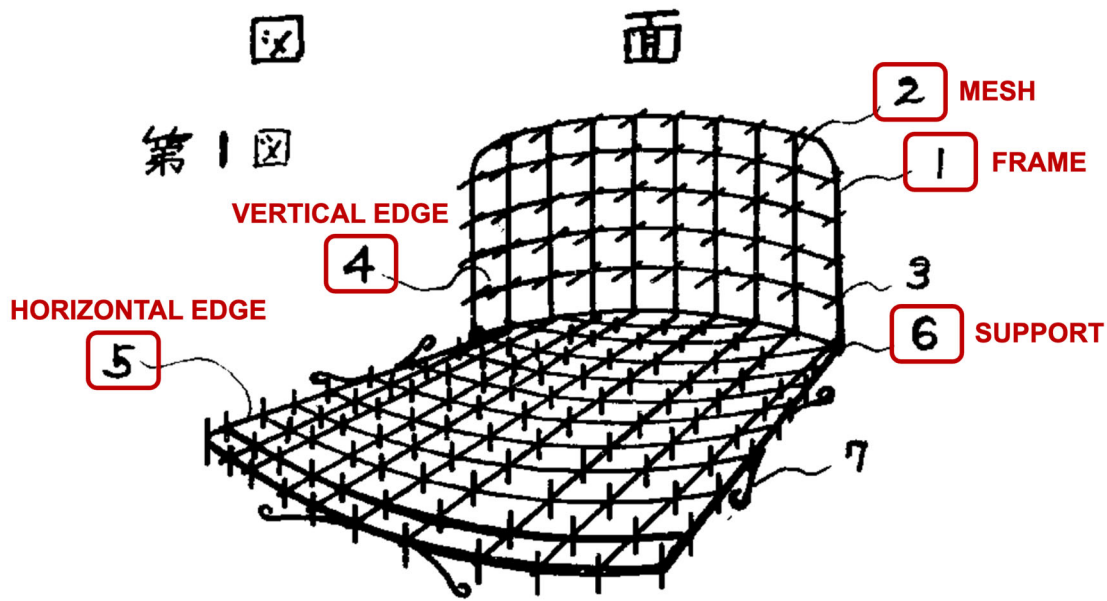
Petitioner submits that no other claim terms require construction to resolve the invalidity challenges here. *Nidec Motor Corp. v. Zhongshan Broad Ocean Motor Co. Ltd. Matal*, 868 F.3d 1013, 1017 (Fed. Cir. 2017).

VII. GROUND 1: CLAIMS 1, 2, 3, 4, 6, 7, 8, 9, 10, 11, 12, 14, 15, 16, 18, AND 20 WOULD HAVE BEEN OBVIOUS OVER FUSHIMI IN VIEW OF BROWN ’098 AND BROWN ’394

A. Overview of Fushimi

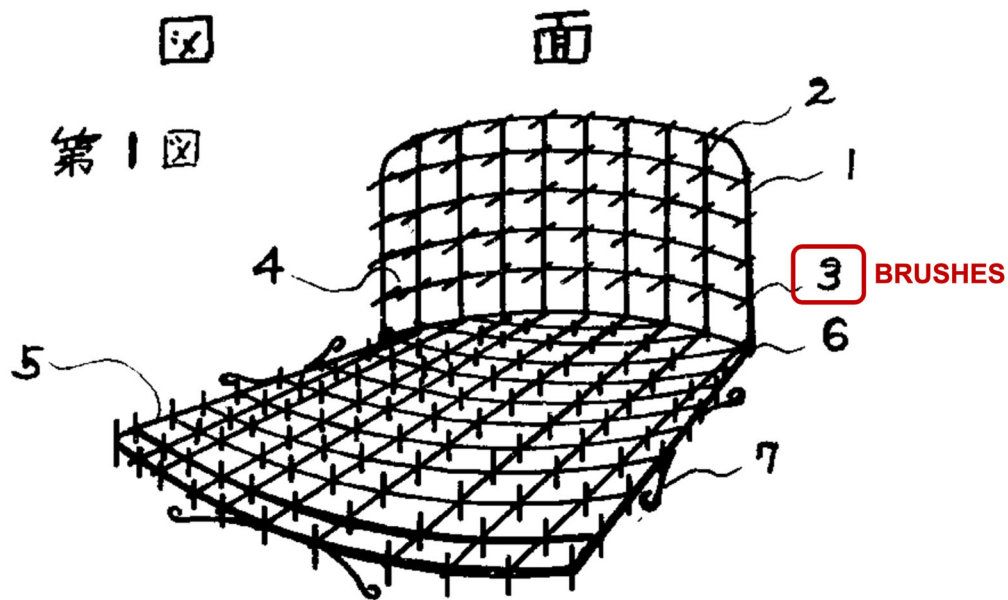
Fushimi (Ex. 1004) discloses a urinal anti-splash device comprising a frame 1 to which a mesh 2 is attached to provide a body having a base (bottom side 5)

and an anti-splash body (vertical side 4). Fushimi's base and anti-splash body are joined at support 6. Ex. 1004, 1; Ex. 1003, ¶35.



Ex. 1004, Fig. 1 (annotated).

Fushimi's mesh 2 includes an array of protrusions referred to as brushes 3. *Id.*, 2. These protrusions extend perpendicularly from the front and rear surfaces of the anti-splash body (vertical side 4). Likewise, the base (bottom side 5) is covered with protrusions extending perpendicularly from its top and bottom surfaces. *Id.*

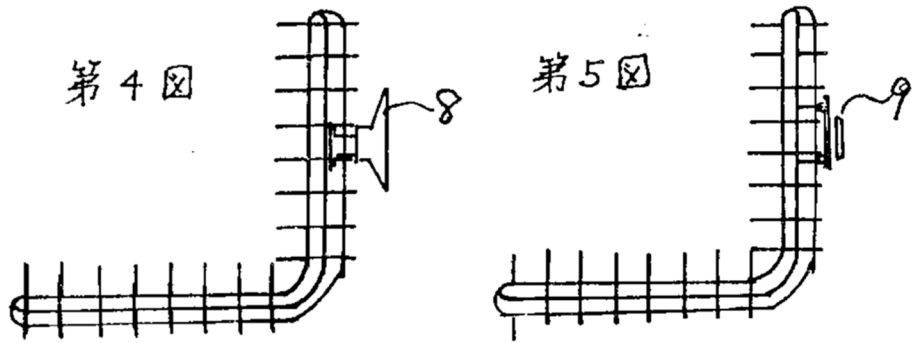


Id., Fig 1 (annotated).

Fushimi's urinal anti-splash device includes fasteners (fastening members 7) for installation in a urinal. *Id.*, 2. The fasteners include a suction cup 8 and/or magnet(s) 9¹ that attach to the rear wall of a urinal. Specifically, Fushimi discloses that "[t]he following are some possible implementations of this device: Attachment of a fastener (7) with a suction cup. Attachment of the fastener (7) with a magnet."

Id., 3.

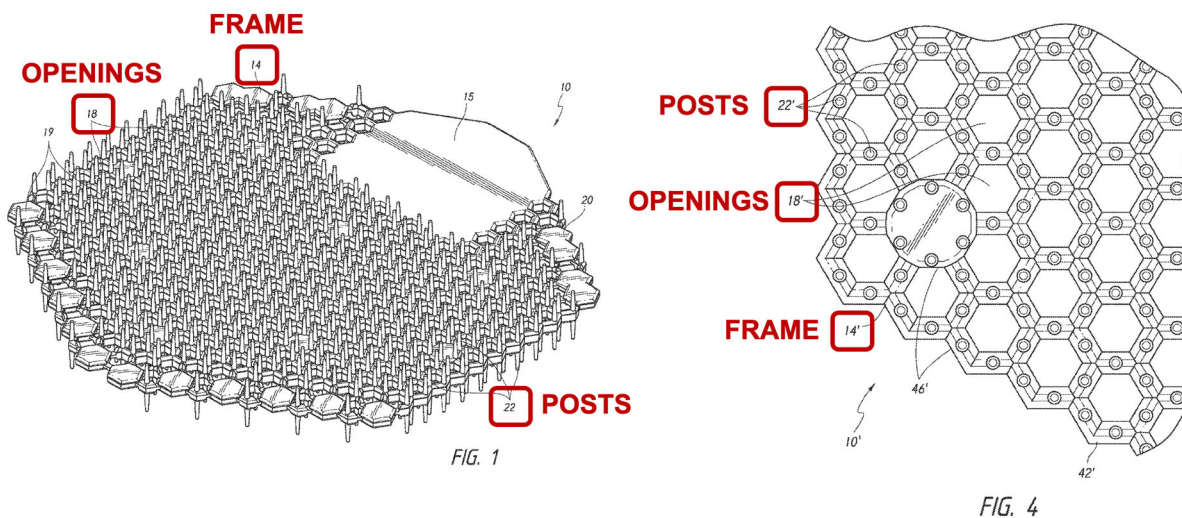
¹ Fushimi's suction cup and magnet are numbered 8 and 9, respectively, in Figures 4 and 5. The specification refers to these components by name, not number.



Id., Figs. 4, 5. Ex. 1003, ¶37.

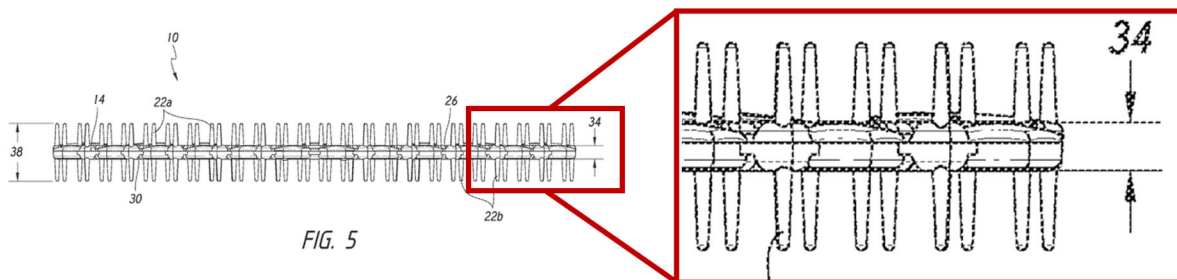
B. Overview of Brown '098

Brown '098 (Ex. 1005) issued from an application filed October 28, 2015 and discloses a urinal screen 10 having a frame 14 defining a plurality of openings 18. Ex. 1005, 3:66-4:8. A plurality of posts 22 extend from the top and bottom surface of the frame. *Id.* Figure 1 is a perspective view of the urinal screen and Figure 4 is a close up view of a portion of the top of the urinal screen.



Id., Figs. 1, 4 (annotated).

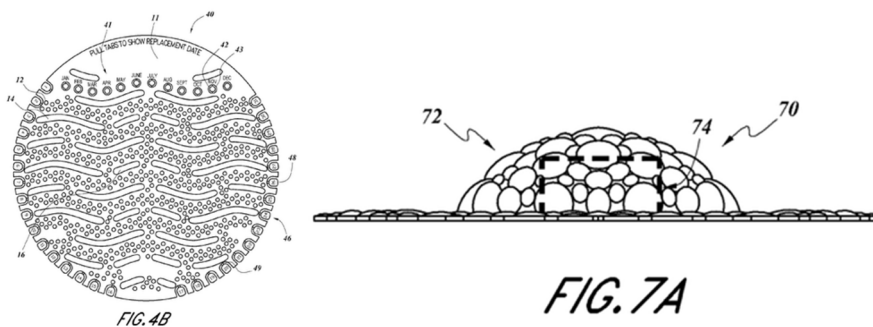
As shown in annotated Figure 5 below, Brown's protrusions are tapered, i.e., they are more narrow at their tip than their base.



Id., Fig. 5 (annotated). Brown describes that the urinal screen can be molded using, for example, a plastic or EVA (ethylene-vinyl acetate). Ex. 1005, 4:16-34.

C. Overview of Brown '394

Brown '394 (Ex. 1006) discloses a variety of urinal anti-splash devices. For example, as shown below, Brown '394 discloses a flat, circular embodiment, and an embodiment with a raised center that hides a fragrance block.



Ex. 1006, Figs. 4B, 7A. Additionally, Brown discloses that “a urinal screen can be configured to be installed on the back wall of a urinal.” *Id.*, 11:14-15. For example, Figure 12, below, shows a generally rectangular urinal screen with

“protrusions 456 configured to reduce splashing.” *Id.* 11:49-50. This embodiment, designed for placement on the back wall of a urinal, includes attachment structure 412 that can “releasably engage with a hook or other protrusion on the back wall 302 of a urinal 300.” *Id.* 11:44-47.

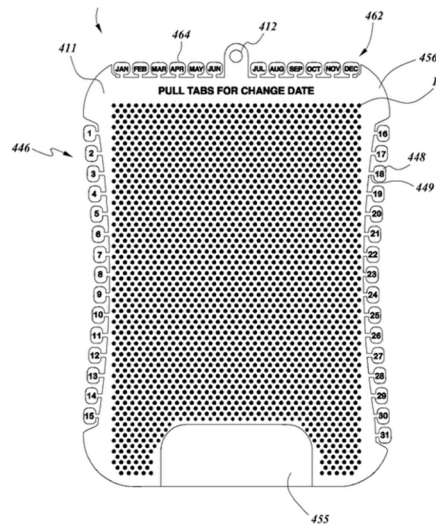


FIG. 12

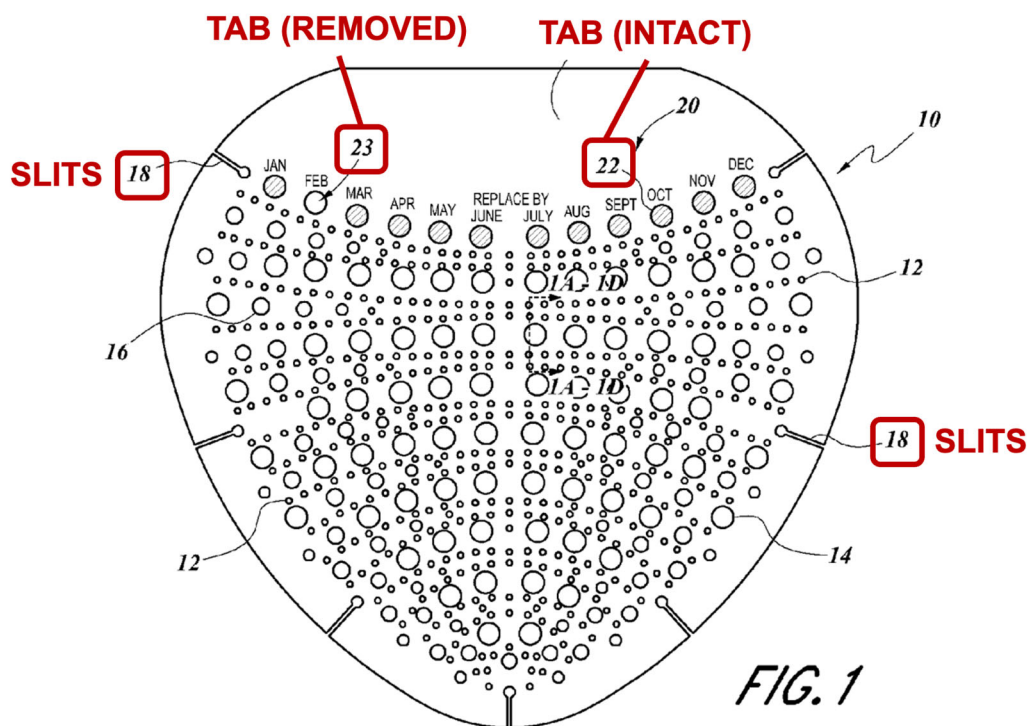
Id., Fig. 12.

Brown '394 also discloses that “a plurality of urinal screens can be used in a urinal 300. For example, a urinal screen 110, 210, 460 can be placed on the back wall 302 of the urinal 300 and an additional urinal screen 110, 210, 460 can be placed adjacent to or covering a drain 304...” *Id.*, 12:1-5.

Brown '394 also describes the use of perforations to separate portions of the urinal screen. In particular, date tabs may be perforated from the screen body such that the date tabs can be separated from the screen body. *Id.*, 5:50-54 (the tab “may

be ... pulled off, or cut off with a knife”); *see also id.*, 5:30-32 (“tab may be attached to the urinal assembly or perforated in a manner such that it may act as a flap”).

Figure 1, below, shows an embodiment of a urinal screen with the perforated date tab feature. Tabs corresponding to the months of the year are arranged across the top portion of the device. The removed tab may correspond, for example, to the month when the device was installed in a urinal. *Id.* 5:57-60.



Id., Fig 1 (annotated). As depicted above, the urinal screen also includes slit openings 18, which allow the screen to fold and conform to the shape of a urinal.

Id., 4:7-9; *see also* 3:60-64; Ex. 1003, ¶43.

D. Claim 1

As described below, the combination of Fushimi and Brown '098 discloses a device meeting all limitations recited in Claim 1 and therefore renders the claim obvious. Ex. 1003, ¶¶53-81.

1. Preamble

The preamble recites “[a] urinal anti-splash device.” If the preamble were limiting, Fushimi discloses it – Fushimi is titled “urine splash prevention device.” Ex. 1003, ¶¶54-55; Ex. 1004, 1. Similarly, Brown '098 describes a urinal screen that reduces splashing. Ex. 1005, 5:4-9.

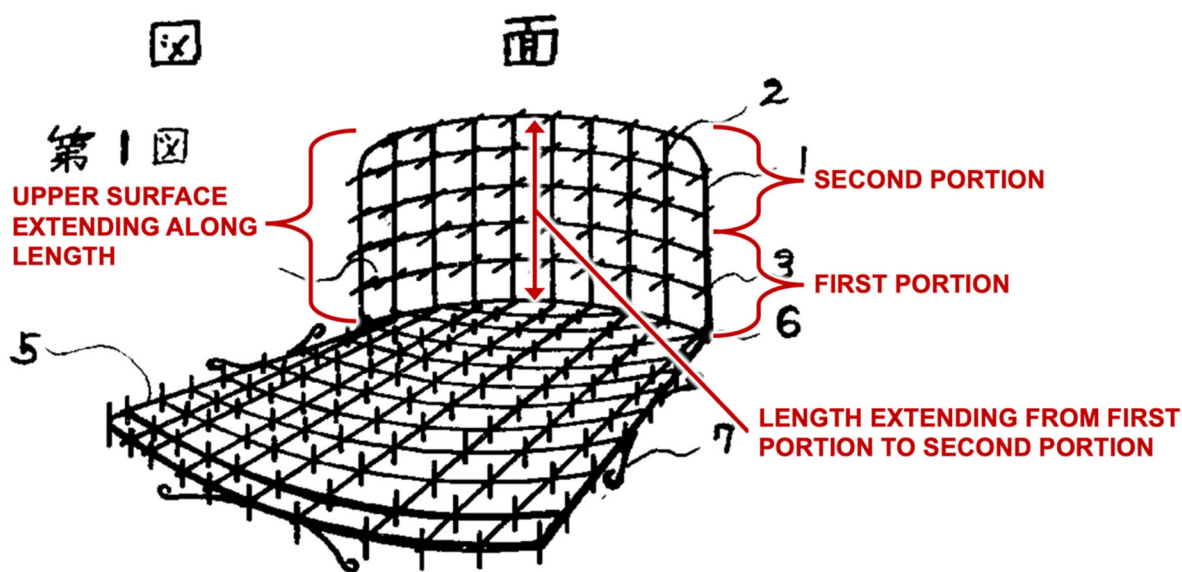
2. Limitation 1[A]: “an anti-splash body . . .”

Limitation 1[A] recites: “an anti-splash body sized and shaped to couple to at least a portion of a urinal, the anti-splash body including: a first portion; a second portion opposite the first portion; a length extending from the first portion to the second portion; and an upper surface extending the length.” Fushimi discloses this limitation. Ex. 1003, ¶¶57-62.

Fushimi discloses that its splash prevention device includes an anti-splash body, namely “vertical side (4)... is attached to the inside of the urinal for use.” Ex. 1004, 1.

Per Claim 1, the anti-splash body has a first and second portion. As

described in the specification, the first portion of the anti-splash body is adjacent the base and the second portion is the upper portion, opposite the first. Ex. 1001, 6:65-7:7. Fushimi's anti-splash body as shown below includes a first portion, a second portion opposite the first portion, and a surface extending along a length extending from the first portion to the second portion.



Id., Fig. 1. (annotated).

3. Limitation 1[B]: “a base . . .”

Limitation 1[B] recites: “a base couplable to the first portion and configured to extend in a direction substantially perpendicular from the first portion.” Fushimi discloses this limitation. Ex. 1003, ¶¶63-64.

Limitation 1[B] reads on the embodiment disclosed in the '154 Patent specification when the device is in its installed configuration as shown, for

example, in Figures 1 and 6. In this configuration, the base is oriented perpendicular to the anti-splash body.

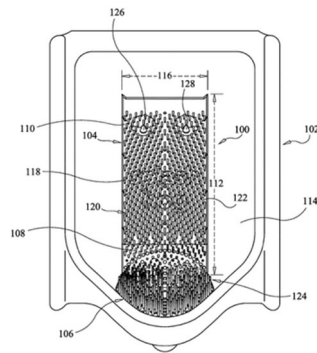


FIG. 1

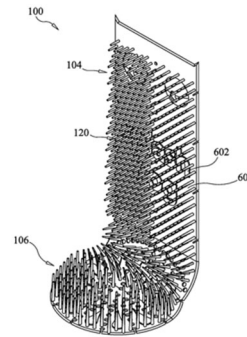
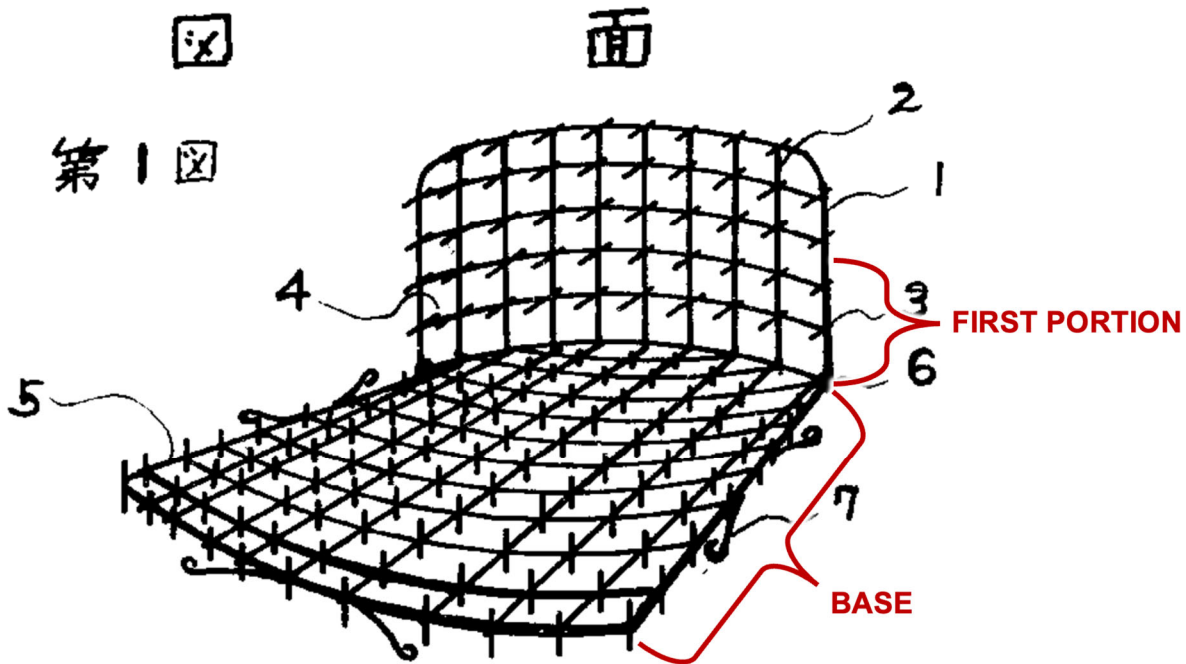


FIG. 6

Ex. 1001, Figs. 1, 6.

Fushimi discloses a splash prevention device having a base, namely bottom side 5. Ex. 1004, 1. It is coupled to the first portion of the anti-splash body (vertical side 4). *Id.* As shown below, Fushimi's base extends substantially perpendicular from the first portion of its anti-splash body.



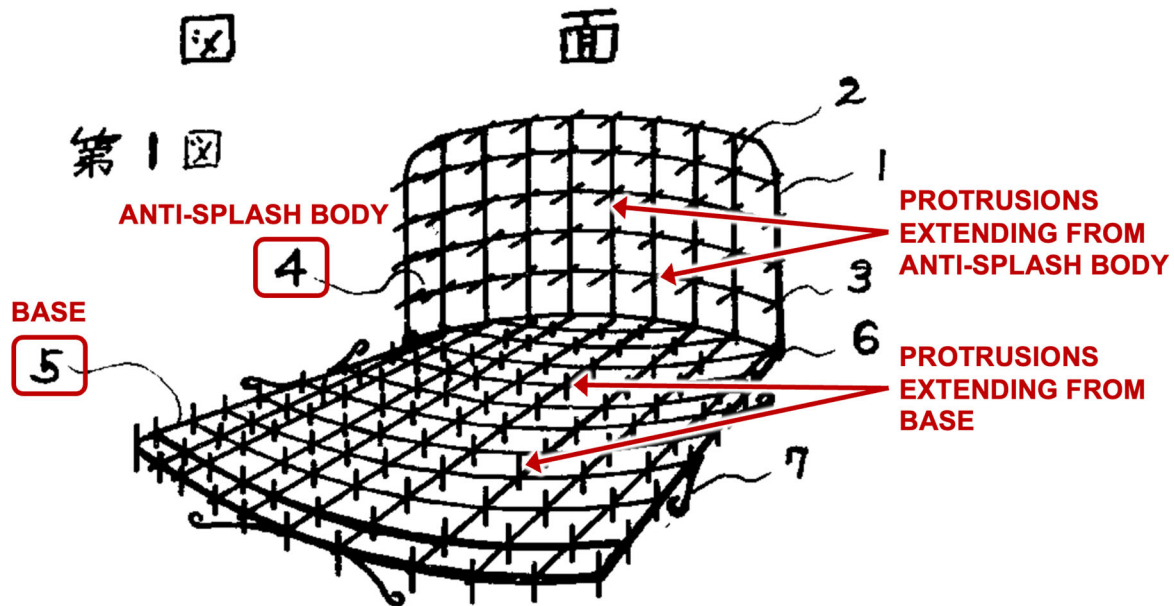
Id., Fig. 1 (annotated).

4. Limitation 1[C]: “a first plurality of protrusions . . .”

Limitation 1[C] recites: “a first plurality of protrusions extending outwardly from the upper surface of the anti-splash body and which taper downwardly in a direction toward the upper surface of the anti-splash body. . .” As shown in the ’154 Patent specification, the protrusions “taper downwardly” by having a base adjacent the anti-splash body that is wider or a greater diameter than the tip of the protrusions. Ex. 1001, Figs. 3-5; 8:47-50. The combination of Fushimi and Brown ’098 disclose this limitation. Ex. 1003, ¶¶65-74.

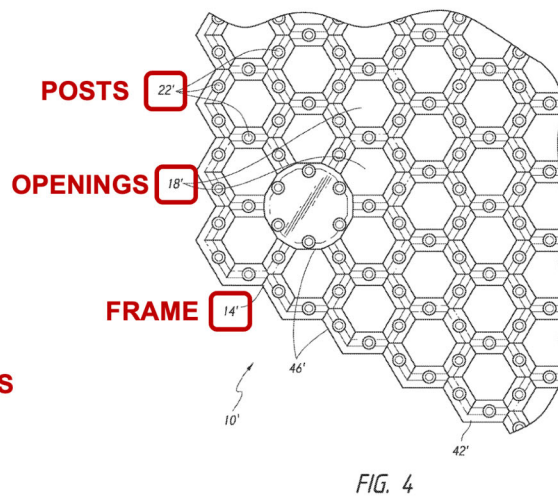
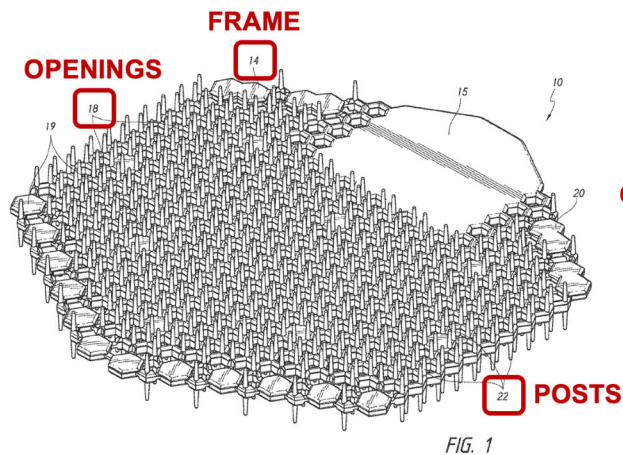
Fushimi, as shown in Figure 1, discloses a plurality of protrusions (brushes

3) extending outwardly from the upper surface of the anti-splash body. Ex. 1004,
2.



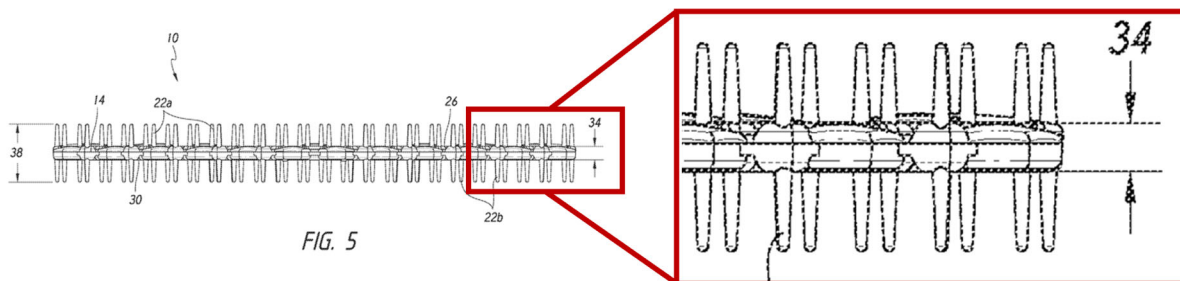
Id., Fig. 1. (annotated).

Fushimi does not describe details of the protrusions, e.g. size and precise shape. However, using tapered protrusions on urinal screens was well known. For example, Brown '098 discloses a urinal screen 10, comprising a frame 14 with openings 18 and a plurality of protrusions (posts 22) extending from the surface of the frame.



Ex. 1005, Figs 1, 4 (annotated).

As shown in Figure 5, below, the protrusions (posts 22a on the top side and 22b on the bottom side) are tapered because they are wider at their base than their tip.



Id., Fig. 5. (annotated).

A POSITA, as of the 2016 filing date of the '154 Patent, would have been motivated to combine Fushimi's urinal anti-splash device with features of Brown's urinal screen to achieve the invention of the '154 Patent for several reasons. Ex.

1003, ¶¶69-74.

First, A POSITA would have understood that Brown and Fushimi disclose the same type of devices. They provide similar structures that perform similar functions in similar ways. Both devices are inserted into urinals to screen debris and reduce splashing. Both contain a lattice-like structure (Fushimi's frame 1 and mesh 2, and Brown's frame 14) defining a plurality of openings. Both also include a plurality of protrusions (Fushimi's brushes 3, and Brown's posts 22) that extend from the upper surface of the device and break apart a stream of urine to reduce splashing. Ex. 1003, ¶70.

Fushimi is more terse and its figures less detailed than Brown. Brown includes more detail, including more detailed drawings, and the manner in which the device can be made, e.g. molding. *See, e.g.*, Ex. 1005, 4:16-34. A POSITA would have looked to Brown for features of the device, including Brown's frame and tapered posts in view of the generically described mesh and brushes of Fushimi. Ex. 1003, ¶71. Using Brown's frame and posts for Fushimi's mesh and brushes would have constituted no more than a routine design choice. *Id.*

Second, a POSITA would have understood that using Brown's frame for Fushimi's mesh would have constituted nothing more than a simple substitution of one known element—Brown's frame and posts—for another known element—

Fushimi’s more generically described mesh and brushes. *Id.*, ¶72.

Third, Fushimi generally describes that the mesh is “attached” to the frame, thus suggesting a two-piece assembly. Ex. 1004, 1 (“an L-shaped frame (1)... to which a mesh (2) is attached. . .”) A POSITA would have been motivated to combine Fushimi with Brown for the additional reason that Brown describes a device molded as a single piece. Ex. 1003, ¶73

A POSITA also would have had a reasonable expectation of success in modifying Fushimi to use Brown’s frame and posts. *Id.*, ¶74. A POSITA would have understood that using Brown’s frame and posts would provide as good or better performance when combined with Fushimi to provide a urinal screen with both a horizontally oriented base and a vertically oriented anti-splash body. *Id.* Using Brown’s frame and posts would require minimal design changes and advantageously provide a single-piece, molded urinal screen device. *Id.*

5. Limitation 1[D]: “a second plurality of protrusions ...”

Limitation 1[D] recites: “a second plurality of protrusions extending outwardly from the base, the second plurality of protrusions configured to extend in the direction substantially perpendicular from the first portion of the anti-splash body.” As explained below, Fushimi discloses this limitation. Ex. 1003, ¶¶75-81.

Limitation 1[D] reads on the embodiment disclosed in the ’154 Patent

specification when the device is in a flat, pre-installed configuration as in Figure 4. In this configuration, the protrusions extending from the base are oriented perpendicular to the anti-splash body.

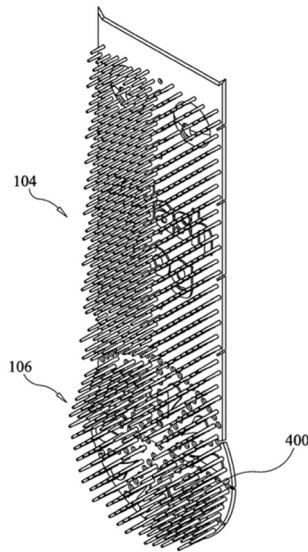


FIG. 4

Ex 1001, Fig. 4.

Fushimi depicts the anti-splash device in an L-shaped configuration as it would be placed in a urinal, i.e., a base portion that covers the urinal drain at the bottom of the urinal and an anti-splash body portion that extends vertically along the back wall of the urinal. This is identical to the installed configuration of the embodiment described in the '154 Patent.

Fushimi, however, also teaches that the base and anti-splash body can be configured such that the protrusions extending from the base are perpendicular to the anti-splash body. Specifically, Fushimi's frame includes a coupling region

(support 6). Fushimi explains that the anti-splash body (vertical side 4) and base (bottom side 5) are “[fit] together by a support (6),” ex. 1004, 1, “that can be detached and bent freely to make it easy to handle.” *Id.*, 2. A POSITA would have recognized that arranging Fushimi’s device in a flat configuration would have been desirable for ease of handling, e.g., when packing, storing and shipping the product. Ex. 1003, ¶¶77-78. A POSITA would know flat configurations take up less space and many products are shipped in a flat configuration, to be reconfigured before use. *See, e.g.*, Ex. 1016, (chicken coop that can be collapsed for shipping); Ex. 1017 (buildings that can be collapsed for storage or transportation); Ex. 1018, 1:23-25 (“Shipping and storing containers in a knocked-down flat state saves money and space”). One common example of a foldable item is the collapsable stadium seat. The seat can be folded, shown below, left, for storage or transportation, or unfolded, below, right, for use.



Thus, because (1) Fushimi specifically teaches that the device is adjustable to make it easy to handle; (2) a POSITA would have recognized configuring the device in a flat configuration for shipping and handling would have been desirable; and (3) in such flat configuration the protrusions extending from the base would be perpendicular to the anti-splash body, Fushimi, together with the knowledge of a POSITA, teaches a device as recited in limitation 1[D]. Ex. 1003, ¶¶75-79.

Limitation 1[D] also would have been obvious over Fushimi in combination with Brown '098. Using Brown '098's urinal screen in the configurations taught by Fushimi would have been obvious for the reasons described above. Further, a POSITA designing a device with Fushimi's flat and L-shaped configurations and Brown '098's frame and posts would have molded the device in a flat

configuration. Ex. 1003, ¶80. A POSITA would have recognized the device would have Fushimi's adjustable coupling region between the base and the anti-splash body to configure the device for use in a urinal. *Id.*

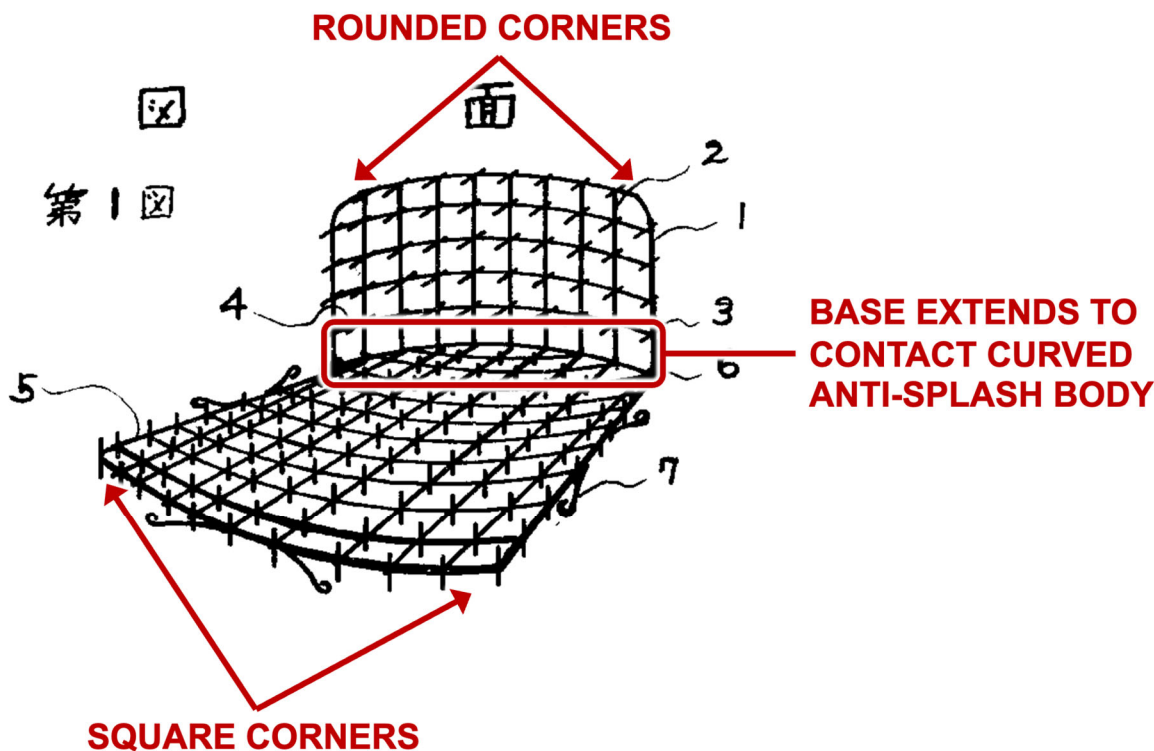
Because the combination of Fushimi and Brown '098 teaches a urinal anti-splash device satisfying each limitation of Claim 1, the claimed invention would have been obvious. Ex. 1003, ¶81.

E. Claim 2

Claim 2 depends from Claim 1 and adds that “the base is of a shape different than a shape of the anti-splash body.” Fushimi discloses this additional limitation. Ex. 1003, ¶¶82-86.

Fushimi discloses a base (horizontal side 5) and an anti-splash body (vertical side 4). As shown in Figure 1, below, the shapes of the base and the body differ in at least two ways. First, the base has square corners opposite coupling region 6, whereas the body has rounded corners. Second, the sides of the base and body have different relative orientations. The anti-splash body curves away from the user, generally matching the shape of a urinal's rear wall, but is otherwise rectangular, with two pairs of sides parallel to each other. The base, however, has only one pair of parallel sides. The base's user-facing edge is rounded, but does not extend past the ends of the parallel sides. The opposite edge, however, extends

past the sides in order to conform to and contact the curved bottom edge of the anti-splash body.



Ex. 1004, Fig. 1 (annotated); *see also* Ex. 1003, ¶83.

Moreover, even if the base of Fushimi were not of a shape different than a shape of the anti-splash body, Claim 2 would have been obvious. There are only two choices – to make the shapes the same or not. Thus, with a finite number of identified, predictable solutions, namely two, it would have been obvious at least to try, with a reasonable expectation of success, making the shapes of the base and anti-splash body different. *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 421 (2007).

A POSITA would have recognized that it would be desirable to adjust the shapes for various urinal designs and the desirability of making the vertical anti-splash body longer to cover a greater portion of the urinal back wall as discussed in Claim 3, below. Ex. 1003, ¶85.

Further, a POSITA would have recognized that the rear wall and drain area of a urinal are typically different shapes and would have adjusted the shapes of the urinal screens accordingly. *Id.*, ¶86. For example, Brown '394 discloses a generally rectangular urinal screen for placement on a urinal's rear wall, Ex. 1006, Fig. 12, and other shapes for the urinal drain area., *Id.*, Figs. 1, 4A, 4B, 7.

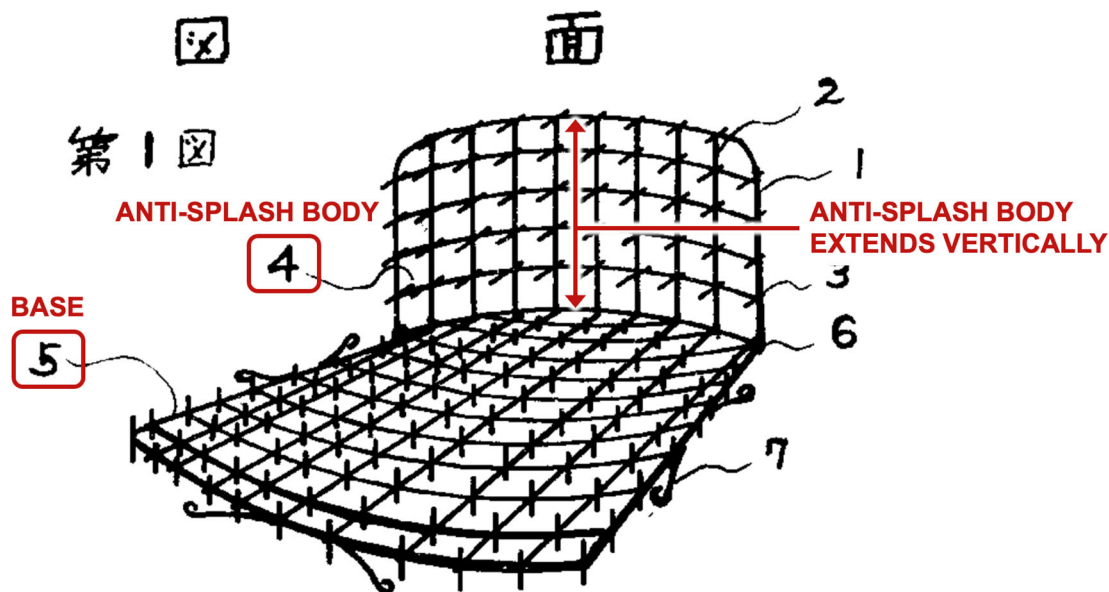
Accordingly, Claim 2 would have been obvious to a POSITA over Fushimi, Brown '098, and Brown '394. Ex. 1003, ¶87.

F. Claim 3

Claim 3 depends from Claim 1 and adds that “the anti-splash body includes an elongated shape of a flexible material configured to couple to a back wall of a urinal.” This limitation would have been obvious over Fushimi in light of the knowledge of a POSITA. Ex. 1003, ¶¶88-98.

As discussed above, Fushimi discloses an anti-splash body couplable to the rear wall of a urinal. In the embodiment depicted in Fushimi, the anti-splash body is not elongated as defined in the '154 Patent because it does not have a length

twice as long as a width.



Ex. 1004, Fig. 1 (annotated). However, it would have been obvious to a POSITA to elongate the anti-splash body to increase the compatibility of Fushimi's device with a variety of urinals. Such a sizing adjustment would not affect functionality and would have been a simple design alternative obvious to a POSITA. Ex. 1003, ¶90. Precedent has long held that the person having ordinary skill in the art must be regarded as skillful and ordinarily creative, not as a mere literalistic automaton. *Transocean Offshore Deepwater Drilling, Inc. v. Maersk Contractors USA, Inc.*, 617 F.3d 1296, 1304 (Fed. Cir. 2010); *In re Sovish*, 769 F.2d 738, 742 (Fed. Cir. 1985). A POSITA would have understood how to size, scale, and otherwise form Fushimi's device for use in various urinals. Ex. 1003, ¶90.

An anti-splash device with an anti-splash body extending up the back wall of a urinal of the '154 Patent was a known element in view of the essentially identical device in Fushimi. Ex. 1003, ¶91. The Board has recognized that optimizing sizes of known elements is within the level of skill in the art. *Ex Parte Martin Uram*, No. APPEAL 2017-002323, 2018 WL 799041 (P.T.A.B. Jan. 8, 2018) (affirming rejection of claims where “it would have been obvious to optimize the sizes of claimed individual components”). Further, “it has generally been held that changes in sizes and shapes of known elements are within the level of skill in the art, especially in the absence of unexpected results or criticality.” *Id.* citing *Gardner v. TEC Sys., Inc.*, 725 F.2d 1338, 1349 (Fed. Cir. 1984) (holding that, where the only difference between the prior art and the claims was a recitation of relative dimensions, the claimed device was not patentably distinct from the prior art device); *see also In re Dailey*, 357 F.2d 669, 672-673 (CCPA 1966) (change in shape ordinarily prima facie obvious); *see also In re Kirke*, 40 F.2d 765, 767 (CCPA 1930) (“Obviously, as a general proposition, there is nothing patentable in making a machine or apparatus larger or smaller, if it produces the same result in the same manner.”). That is also the case here – the anti-splash body will produce the desired reduced splashing result for a wide range of sizes. Making the anti-splash body longer, as a POSITA would have known, would provide

increased surface area thereby increasing the likelihood a user's urinal stream would impact the body that covers a larger portion of the urinal's back wall. Ex. 1003, ¶91.

A POSITA would have been motivated to modify the shape of the anti-splash body because Fushimi's shape is "formed to match the inside shape of [the] urinal." Ex. 1004, 1. A POSITA would have understood that a single shape would not match the inner periphery of all urinals, and thus Fushimi teaches modifying the shape and size of the depicted embodiment. Ex. 1003, ¶92.

A POSITA would have been further motivated because, as a POSITA would have recognized, enlarging the anti-splash body would improve the functionality of the device. Urine splashing is reduced when urine passes through Fushimi's mesh and brushes. Ex. 1004, 2. A POSITA would have recognized that increasing the surface area of the anti-splash body reduces the exposed surface area of the urinal rear wall and increases the likelihood the urine stream contacts the anti-splash body. Ex. 1003, ¶93.

A POSITA also would have understood that elongating the anti-splash body would have constituted nothing more than the use of a known technique—varying the size of a component—to improve Fushimi's known anti-splash device. *Id.*, ¶94.

A POSITA would have expected success in modifying the size of Fushimi's anti-splash body because it was common to adapt the dimensions of urinal screens to the dimensions of urinals at the time of the '154 Patent's invention. *Id.* ¶95. For example, Valadez (Ex. 1007) was published in 2005, and discloses that its "anti-splash guard 120 may be adapted to comprise various other geometrical shapes, such as triangular, diamond, pentagonal, hexagonal, etc." and that "the length 122 of the anti-splash guard 102 is between about 8-16 inches [and] the width 124 of the anti-splash guard 102 is between about 8-16 inches..." Ex. 1007, ¶¶0023-24. *See also, e.g.*, Irwin (Ex. 1009), ¶0027 ("The support structures 18 located along two or more sides of the urinal screen 10 allow the urinal screen 10 to be set up in accordance with a specific shape and size of the selected urinal."); Ruedas (Ex. 1010), ¶0021 ("The receptacle 102 may be sized and adapted to conform to the dimensions of any type of urinal 201."); Lyons (Ex. 1011), 2:8-12 ("The present invention further provides anti-splash-back kits... which are readily adaptable to different size and shapes of urinal configurations"; Williams (Ex. 1012), 2:53-64 ("Edges 8 of the mat 4 are cut or formed to allow the mat 4 to fit a urine receiving drain cavity 9 of the urinal 2.... Scribe lines 13 might also be included to facilitate folding and fitting the mat 4 to the urinal."); Chou (Ex. 1013), 2:61-65 ("In the preferred embodiment the base (1) has notches.... (6) [that] are there to make the

invention easier for an installer to break or trim it to size to fit any urinal.”).

Fushimi also discloses that its anti-splash body is made of a flexible material. Fushimi’s device comprises “a fine mesh (2) stretched over... an L-shaped frame (1) formed to fit the inside perimeter of the urinal” Ex. 1004, 2. A POSITA would understand that mesh (2) must have been flexible in order to be “stretched over” a frame that was formed to match the curved geometry of a urinal’s rear wall. Ex. 1003, ¶96.

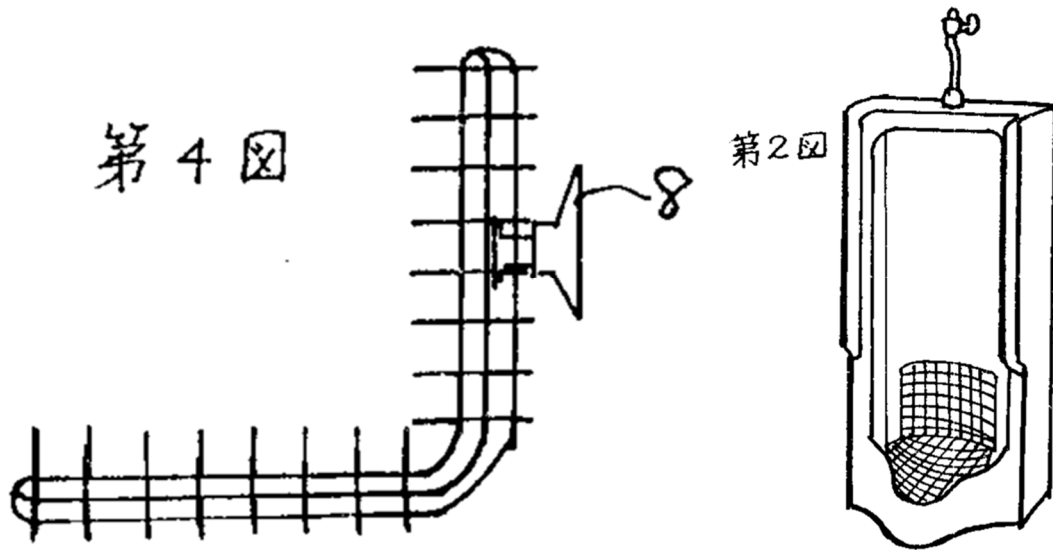
Accordingly, Claim 3 would have been obvious to a POSITA over Fushimi and Brown ’098. *Id.*, ¶98.

G. Claim 4

Claim 4 depends from Claim 1 and adds that the anti-splash device further comprises “at least one fastener sized and shaped to orient the anti-splash body in a vertical direction parallel to a vertical direction of a urinal wall.” Fushimi discloses this additional limitation. Ex. 1003, ¶¶99-102.

Fushimi discloses that its urinal anti-splash device is attached to the inside of the urinal using fastening device 7. Ex. 1004, 1. Additionally, Fushimi discloses an embodiment shown in Figure 4, below, where fastening device 7 includes a suction cup extending away from the rear face of the anti-splash body. “The following are some possible implementations of this device: Attachment of a

fastener (7) with a suction cup....” *Id.*, 3.



Id., Figs. 2, 4. A POSITA would understand that when installed as shown in Figure 2, above, the suction cup would attach to the urinal’s back wall, and that the anti-splash body would be thus oriented vertically along the rear wall. Ex. 1003, ¶101.

Because Fushimi discloses the additional limitation of Claim 4, the claimed invention would have been obvious to a POSITA over Fushimi, Brown ’098, and Brown ’394. Ex. 1003, ¶102.

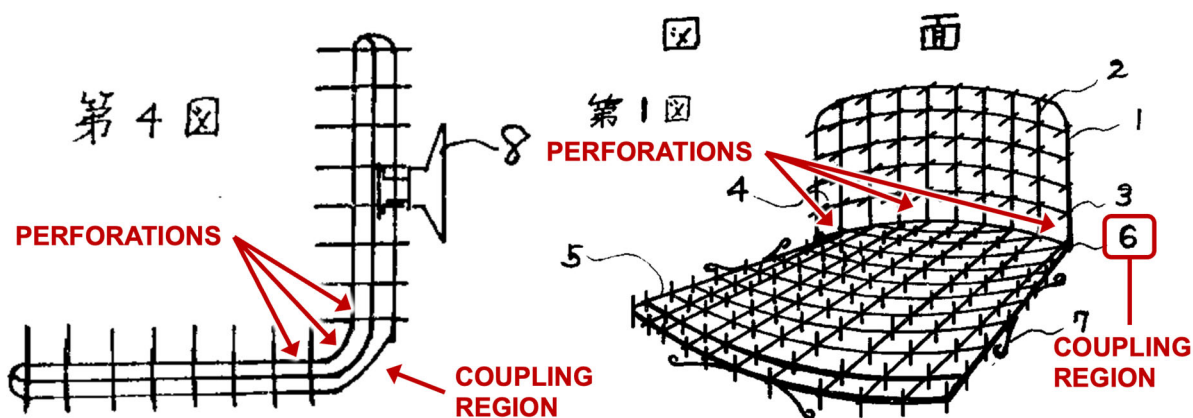
H. Claim 6

Claim 6 depends from Claim 1 and adds “a perforated coupling region disposed between the first portion of the anti-splash body and the base, the perforated coupling region configured to translate the base from a first position parallel to the anti-splash body to a second position including the base being in the

direction substantially perpendicular from the first portion of the anti-splash body.”

The '154 Patent describes that “‘perforated’ is defined herein as visibly displaying a hole, perforation, puncture, or other visible marking such that the user is provided with a visual indication of where the anti-splash body 104 may be uncoupled, i.e., separated, from the base 106. Said another way, the anti-splash body 104 may be removably coupled from the base 106.” Ex. 1001, 7:19-24. The specification also states that the base may be translated from a first position (parallel to the anti-splash body) to a second position (perpendicular to the anti-splash body) when coupled to or separated from the anti-splash body. *Id.*, 7:39-41.

Fushimi teaches a perforated coupling region between the base and anti-splash body. As depicted in the side views of the Fushimi embodiments below, the area between the anti-splash body (vertical side 4) and base (bottom side 5) includes openings.

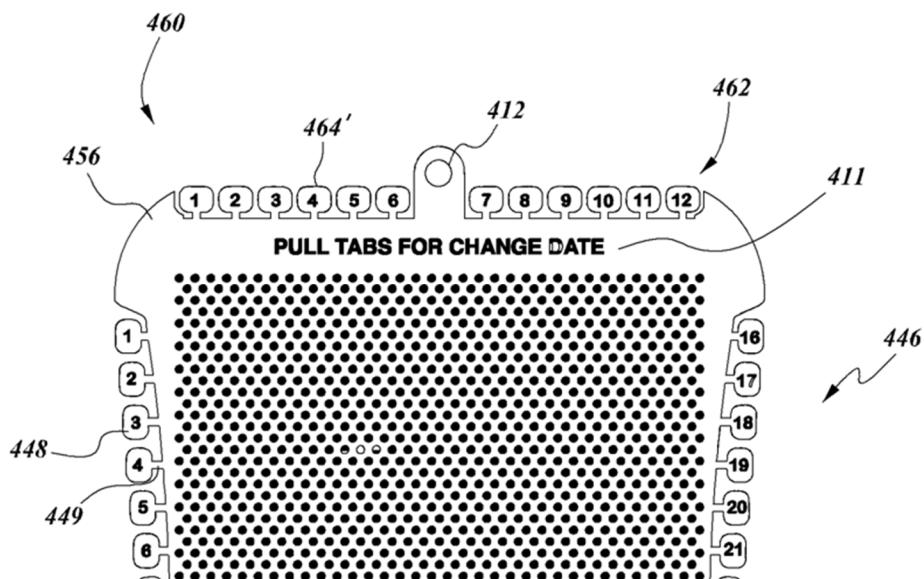


Ex. 1004, Figs. 1, 4 (annotated); Ex. 1003, ¶105.

A POSITA would understand the coupling region is configured to translate the base from a position parallel to the anti-splash body to a position substantially perpendicular to the anti-splash body. Ex. 1003, ¶1006. As described above, Fushimi teaches that it can be “bent freely” at this region “to make it easy to handle.” *Id.*, 2. A POSITA would understand that it teaches the base and anti-splash body can be shipped and stored in its flat configuration, and later be bent to its perpendicular configuration for use. Ex. 1003, ¶106. Thus, Fushimi teaches the limitation of Claim 6. *Id.*

Brown '394 similarly teaches, or at least suggests, the added limitation of Claim 6. Brown '394 discloses a perforated coupling region. As discussed above, Brown '394 discloses urinal screens with perforations to separate portions of the screen. In some embodiments, “the date tab may not be an actual tab, but rather may be a portion of a perforated cutout or hole.” Ex. 1006, 5:9-10. One advantage of this type of tab “is the simplicity of the construction, i.e., the date tabs may be formed by perforating the cutouts or holes, without the need to mold other structures such as ribs or webbing.” *Id.*, 5:13-16. A POSITA would understand the date tabs to be attached to the urinal screen’s body at a perforated coupling region. Ex. 1003, ¶107.

Additionally, as shown in Figure 12 below, Brown '394 also discloses a visible marking indicating that the date tabs may be uncoupled.



Ex. 1006, Fig. 12 (cropped).

Finally, Brown discloses the use of two-part screens in a single urinal, namely one part on the back wall and one covering the drain. *Id.*, 12:1-5. It would have been obvious to a POSITA, at the time of the '154 Patent's invention, to join the two parts at a perforated coupling region based on the teachings of Brown '394 and Fushimi. Ex. 1003, ¶109.

A POSITA designing a two-part screen would be motivated to manufacture the device as a single unitary assembly, which could be separated by the user prior to installation. It would have been obvious to do so because use of one-piece construction has been recognized as merely a matter of obvious engineering

choice. *In re Larson*, 340 F.2d 965, 968 (CCPA 1965). Additionally, a POSITA would have recognized that manufacturing costs could be reduced by reducing the number of separate molded parts required for each unit. Ex. 1003, ¶110.

A POSITA would understand that a perforated region, as taught by Brown, could provide the user with an indication of where a user of a two-part urinal screen (vertical and horizontal as taught by Brown '394, Ex. 1006, 12:1-5) manufactured as a unitary assembly would separate the two parts using the perforations, as also taught by Brown '394. Ex. 1003, ¶111. Additionally, a POSITA would understand that Brown also teaches a slit 18 that provides the user with an indication of where the user of a two-part urinal screen manufactured as a unitary assembly would translate the two parts from parallel to perpendicular while they remained coupled. *Id.*

Because Fushimi and Brown '394 teach, or at least suggest, the added limitation of Claim 6, the claimed invention would have been obvious to a POSITA over Fushimi, Brown '098, and Brown '394. *Id.*, ¶112.

I. Claim 7

Claim 7 depends from Claim 1 and adds “wherein: the base is made of buoyant material.” Brown '098 discloses this additional limitation. Ex. 1003, ¶¶113-16.

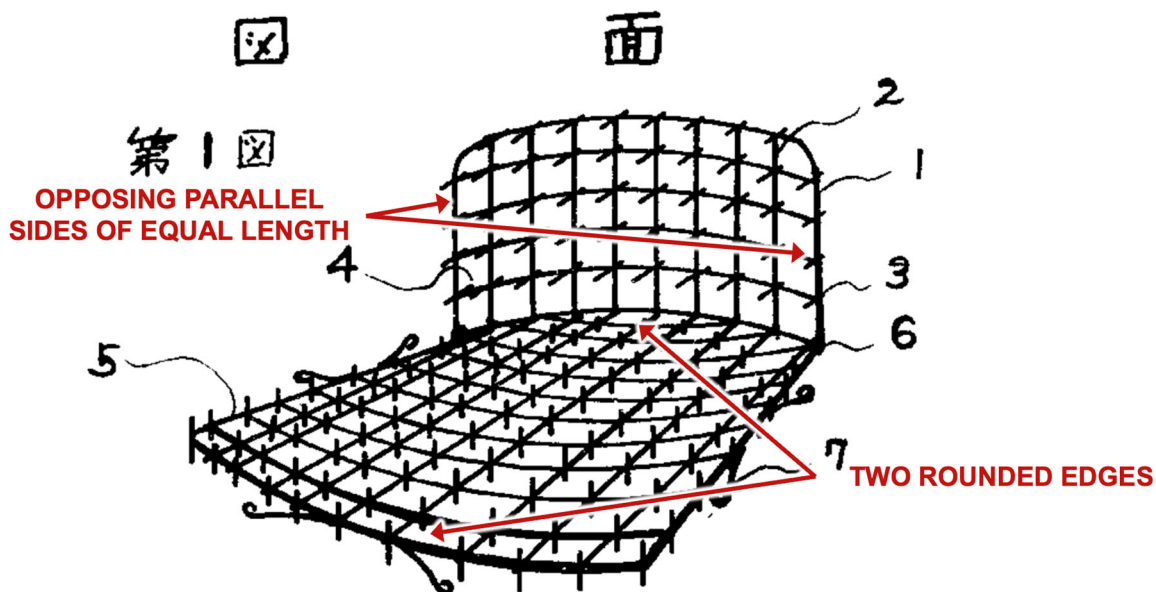
Brown '098 discloses that its frame and posts can be made molded from ethylene vinyl acetate (EVA). Ex. 1005, 4:22-25. A POSITA would know that EVA is a buoyant material. Ex. 1003, ¶115.

Because Brown '098 discloses the additional limitation of Claim 7, the claim would have been obvious to a POSITA over Fushimi, Brown '098, and Brown '394. *Id.*, ¶116.

J. Claim 8

Claim 8 depends from Claim 1 and adds “wherein: the anti-splash body is a rectangular-like shape; and the base is a circular-like shape.” The combination of Fushimi, Brown '098, and Brown '394 discloses this additional limitation. Ex. 1003, ¶¶117-20.

As shown below, Fushimi discloses an anti-splash device that includes an anti-splash body with a pair of opposing parallel sides of equal length. Fushimi's anti-splash body is therefore a rectangular-like shape. *Id.*, ¶118. Likewise, Fushimi's base is circular-like because it has two rounded edges. *Id.*



Ex. 1004, Fig. 1 (annotated).

To the extent there were any question as to the circular-like shape of Fushimi's base it would have been obvious to a POSITA to make Fushimi's base with a circular-like shape in light of the disclosures in Brown '098, Brown '394, and the knowledge of a POSTIA.

A POSITA would have been motivated to shape a urinal screen according to the urinal in which it would be installed, and doing so was common at the time of the '154 Patent's invention. *See, e.g.* Ex 1005, 4:14-15 ("In some embodiments, the screen 10 is shaped to fit a particular urinal or toilet."); Ex. 1004, 2 ("a fine mesh (2) is stretched over... an L-shaped frame (1) formed to fit the inside perimeter of the urinal...."); Ex. 1003, ¶119.

A POSITA would have recognized that urinal drains are typically round.

Ex. 1001, 8:23-25. Accordingly, using round urinal screens to cover round drains was common at the time. *See, e.g.*, Ex. 1005, 4:11-14 (disclosing a round urinal screen is round, among other shapes); Ex. 1006, 3:44-45 (disclosing a urinal screen that “may have a *circular*, oblong, square, rectangular, or polygonal shape.”) (emphasis added); Ex. 1007, ¶0036 (disclosing a base (pouch 500) which “may have a generally round configuration”).

Similarly, A POSITA would recognize that a urinal’s back wall is generally rectangular, having two sides extending vertically, parallel to each other. Brown ’394 discloses a rectangular embodiment, shown below, “configured to be installed on the back wall of a urinal.” Ex. 1006, 11:14-15.

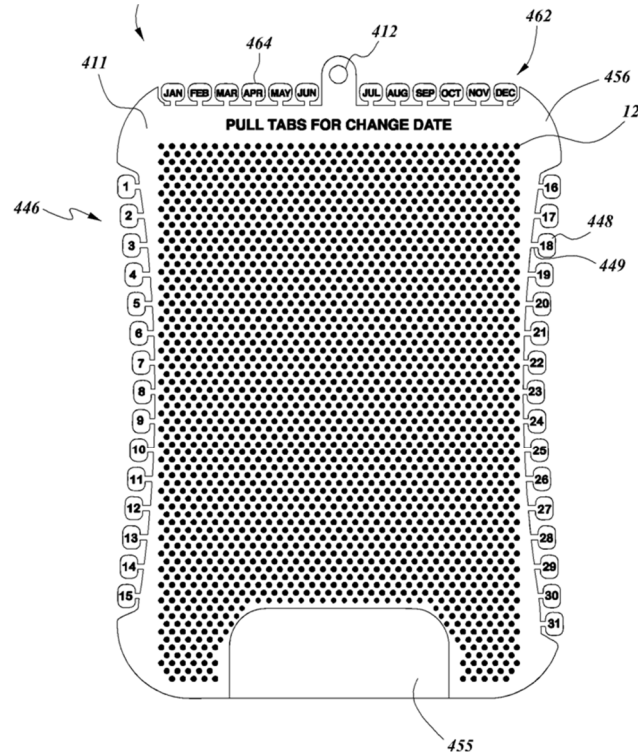


FIG. 12

Id., Fig. 12.

This embodiment has a pair of opposing, parallel sides, and is therefore rectangular-like. *See also, e.g.*, Ex. 1009 (disclosing a rectangular-like urinal screen for installation on the rear wall of a urinal); Ex. 1011 (same); Ex. 1012 (same); Ex. 1013 (same). A POSITA would have naturally been motivated to make the anti-splash body rectangular-like to match the shape of rectangular urinals.

Accordingly, the claimed invention would have been obvious to a POSITA over Fushimi, Brown '098 and Brown '394. Ex. 1003, ¶120.

K. Claim 9

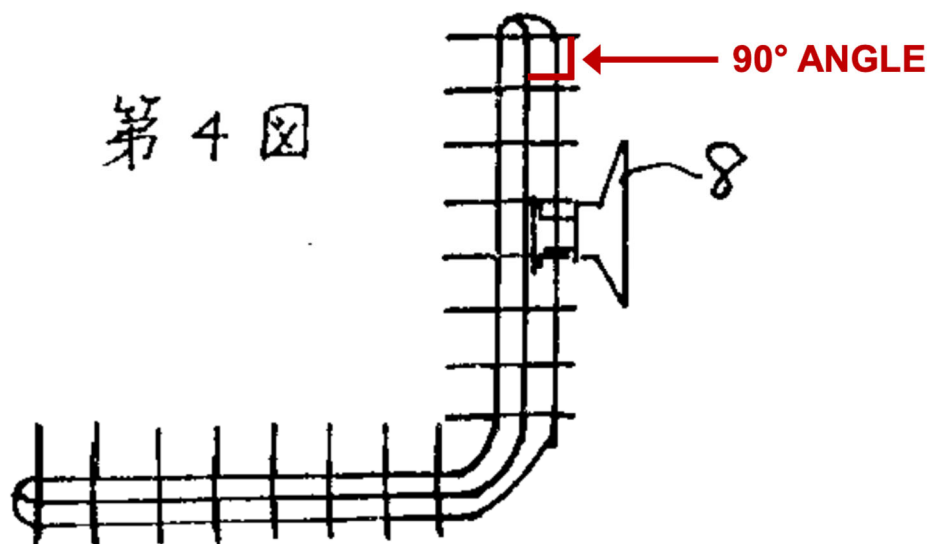
Claim 9 depends from Claim 1 and adds “wherein: the first plurality of protrusions are of a variable length.” Brown ’098 discloses that its protrusions (posts 22) can be a variety of lengths. Ex. 1005, 6:10-18.

Because Brown ’098 discloses the additional limitation of Claim 9, the claimed invention would have been obvious to a POSITA over Fushimi, Brown ’098, and Brown ’394. Ex. 1003, ¶¶121-23.

L. Claim 10

Claim 10 depends from Claim 1 and adds that the anti-splash device further comprises “an angled portion at a top of the anti-splash body configured to facilitate flow along the upper surface.” Fushimi discloses this additional limitation. Ex. 1003, ¶¶124-28.

Fushimi discloses that its shape facilitates the flow of water along the entire anti-splash device. “The shape is formed to fit the inside periphery of the urinal, so the flushing water flowing out of the flushing pipe falls easily over the entire device, keeping it always clean.” Ex. 1004, 3. Additionally, as shown below, the top of Fushimi’s anti-splash body includes an angled portion.



Id., Fig. 4. A POSITA would understand that Fushimi's angled portion would help facilitate flow across the entire upper surface by maintaining a pathway for water to flow along the rear half of the upper surface. Ex. 1003, ¶¶126-27.

Because Fushimi discloses the additional limitation of Claim 10, the claimed invention would have been obvious to a POSITA in view of Fushimi, Brown '098, and Brown '394. *Id.*, ¶128.

M. Claim 11

Independent Claim 11 is directed to a urinal anti-splash device. Claim 11 is set forth below (with reference numbers added):

Claim 11	
Preamble	A urinal anti-splash device comprising:

Claim 11	
11[A]	an anti-splash body configured to couple to a urinal wall, the anti-splash body including a first portion, a second portion opposite the first portion, and a longitudinal length separating the first portion from the second portion;
11[B]	a base couplable to the first portion of the anti-splash body, the base sized and shaped to cover at least a portion of a urinal drain;
11[C]	a coupling region configured to translate the base between a first position including the base oriented in a direction parallel to the anti-splash body and a second position including the base oriented in a direction substantially perpendicular from the base; and
11[D]	a plurality of protrusions coupled to the anti-splash body and the base.

Claim 11, with a few minor variations, generally corresponds to Claim 1 and dependent Claim 3 addressed above. The table below lists each limitation of Claim 11 and where the limitation has been previously addressed. The few differences are next addressed.

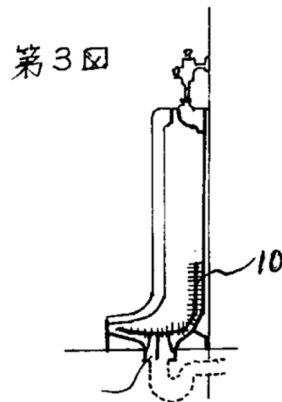
Claim 11 Limitations	Previously Addressed
Preamble	<i>See</i> §§VII(D)(1) (Claim 1 preamble)
11[A]	<i>See</i> §§VII(D)(2) (Claim 1[A]); VII(F) (Claim 3)
11[B]	<i>See</i> §VII(D)(3) (Claim 1[B])

Claim 11 Limitations	Previously Addressed
11[C]	<i>See</i> §VII(H) (Claim 6)
11[D]	<i>See</i> §§ VII(D)(4) (Claim 1[C]); VII(D)(5) (Claim 1[D])

The differences between Claims 11 and Claim 1 are insignificant. First, Limitation 11[A] adds that the length extending between the first and second portions of the anti-splash body is a “longitudinal length.” According to the ’154 Patent specification, a “longitudinal length” is a length in an “elongated direction.” Ex. 1001, 4:20-24. This feature is obvious as addressed above for dependent Claim 3. Ex. 1003, ¶¶131-32.

Second, Limitation 11[A] requires an “anti-splash body “configured to couple to a urinal wall.” This is taught by Fushimi. Ex. 1003, ¶132.

Third, Limitation 11[B] adds a requirement that the base is “sized and shaped to cover at least a portion of a urinal drain.” Fushimi discloses that its base covers at least a portion of a urinal drain, as shown, for example, in Fig. 3, below.



Ex. 1004,, Fig. 2; *see also* Ex. 1003, ¶134.

Third, Limitation 11[C] recites “a coupling region configured to translate the base between a first position including the base oriented in a direction parallel to the anti-splash body and a second position including the base oriented in a direction substantially perpendicular from the base.” Fushimi discloses this limitation as discussed above with respect to Claim 6. Ex. 1003, ¶¶135-36.

Finally, Claim 11 omits Claim 1’s requirement of “tapered” protrusions. This omission does not affect the patentability of Claim 11.

Accordingly, the claimed invention would have been obvious to a POSITA over Fushimi, Brown ’098, and Brown ’394. Ex. 1003, ¶139.

N. Claim 12

Claim 12 depends from Claim 11 and adds that “the anti-splash body is of a shape different than a shape of the base.” Fushimi discloses this added limitation, which is addressed in detail above for Claim 2. Ex. 1003, ¶¶140-41.

Accordingly, the invention would have been obvious to a POSITA over Fushimi, Brown '098, and Brown '394. *Id.*, ¶141.

O. Claim 14

Claim 14 depends from Claim 11 and adds that “the coupling region includes a perforated edge.” Fushimi and Brown '394 disclose this added limitation. Ex. 1003, ¶¶142-43.

Accordingly, the invention would have been obvious to a POSITA over Fushimi, Brown '098, and Brown '394. *Id.*, ¶143.

P. Claim 15

Claim 15 depends from Claim 11 and adds that “the plurality of protrusions taper downwardly in a direction toward an upper surface of the anti-splash body and the base.” Brown '098 discloses the additional limitation of Claim 15. Ex. 1003, ¶¶144-45.

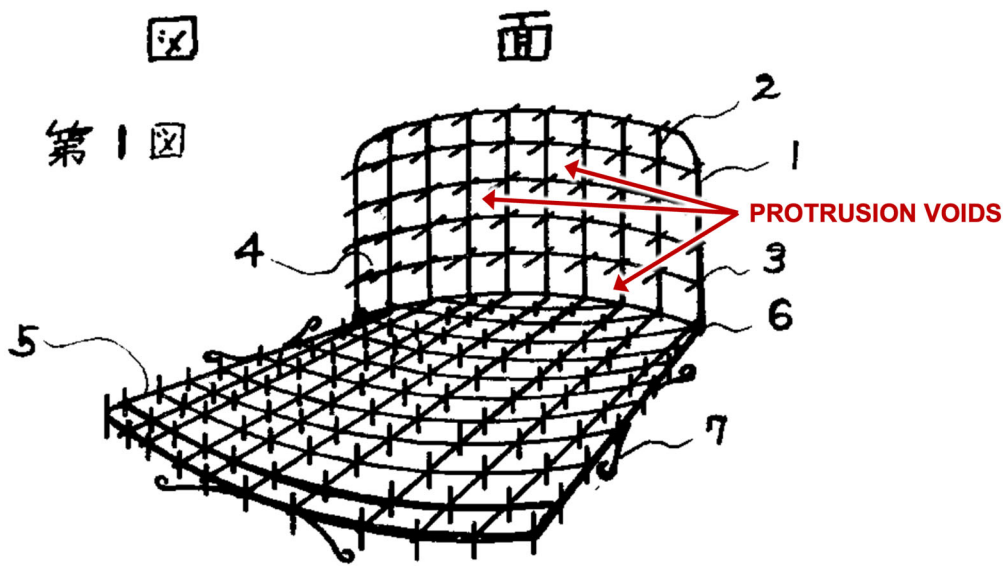
As discussed in Claim 1, above, a POSITA would have been motivated to combine Brown's tapered protrusions with Fushimi's anti-splash device. Accordingly, the invention would have been obvious to a POSITA over Fushimi, Brown '098, and Brown '394. *Id.*, ¶145.

Q. Claim 16

Claim 16 depends from Claim 11 and adds that “the plurality of protrusions

substantially span the longitudinal length and define a plurality of protrusion voids.” The ’154 Patent describes that protrusion voids “allow the urine to flow in the direction toward the urinal drain,” Ex. 1001, 5:18-19, and “may also provide space for the protrusions 118 to bend and deflect when struck by the urine.” *Id.* 6:50-51. Fushimi discloses this additional limitation. Ex. 1003, ¶¶146-50.

As shown below, mesh 2 with protrusions (brushes 3) extends across the entire surface of Fushimi's anti-splash body. "This is a urine splash prevention device in which a fine mesh (2) is stretched over the entire vertical edge (5) and bottom edge (6) of an L-shaped frame (1)..." Ex. 1004, 2.



Id., Fig. 1 (annotated).

A POSITA would understand that the spaces between Fushimi’s protrusions are “protrusion voids” because, for example, they are open spaces, i.e., voids, they

allow urine to flow toward the drain, and they provide space for Fushimi's protrusions to bend and deflect. Ex. 1003, ¶149.

Because Fushimi discloses the additional limitation of Claim 16, the claimed invention would have been obvious. *Id.*, ¶150.

R. Claim 18

Independent Claim 18 is a method claim directed to installing a urinal anti-splash device in a urinal. Claim 18 is set forth below (with reference numbers added):

Claim 18	
Preamble	A method of mounting a urinal anti-splash device within a urinal comprising:
18[A]	providing a urinal anti-splash device including:
18[A][1]	an anti-splash body sized and shaped to couple to at least a portion of a urinal, the anti-splash body including: a first portion; a second portion opposite the first portion; a longitudinal length extending from the first portion to the second portion; and an upper surface extending the longitudinal length;
18[A][2]	a base couplable to the first portion and configured to extend in a direction substantially perpendicular from the first portion;
18[A][3]	a coupling region disposed between the first portion of the anti-splash body and the base, the coupling region configured to allow the base to be moved from being substantially parallel to the anti-splash body in a first

Claim 18	
	position to a second position substantially perpendicular to the anti-splash body;
18[A][4]	a first plurality of protrusions extending outwardly from the upper surface of the anti-splash body; and
18[A][5]	a second plurality of protrusions extending outwardly from the base, the second plurality of protrusions configured to extend in the direction substantially perpendicular from the first portion of the anti-splash body;
18[B]	mounting the anti-splash body within a back wall of a urinal; and
18[C]	placing the base over a urinal screen.

1. Preamble

The preamble to Claim 18 recites “[a] method of mounting a urinal anti-splash device within a urinal.” If the preamble were limiting, Fushimi discloses a method for installing a urinal anti-splash device in a urinal. Ex. 1004, 2; Ex. 1003, ¶¶152-53.

2. Limitations 18[A] – 18[A][5] (the device limitations)

The device recited in Claim 18 is nearly identical to that of Claim 11. These limitations were addressed earlier in this ground. Claim 18[A][5] adds an additional limitation regarding the orientation of the protrusions extending from the base that is identical to a limitation in Claim 1. This limitation was addressed

in Ground 1, above. See §VII(D)(5) (addressing Limitation 1[D]).

Below is a table correlating the device limitations of Claim 18 with the corresponding limitations discussed above.

Claim 18 Limitations	Previously Addressed
18[A]	<i>See</i> §§VII(D)(1) (Claim 1 preamble) §VII(M) (Claim 11)
18[A][1]	<i>See</i> §VII(D)(2) (Claim 1[A]); VII(F) (Claim 3) §VII(M) (Claim 11)
18[A][2]	<i>See</i> §VII(D)(3) (Claim 1[B]) VII(M) (Claim 11)
18[A][3]	<i>See</i> §VII(D)(H) (Claim 6) VII(M) (Claim 11)
18[A][4]	<i>See</i> §VII(D)(4) (Claim 1[C]); §VII(M) (Claim 11)
18[A][5]	<i>See</i> §VII(D)(5) (Claim 1[D]); §VII(M) (Claim 11)

3. Fushimi Discloses The Method Limitations

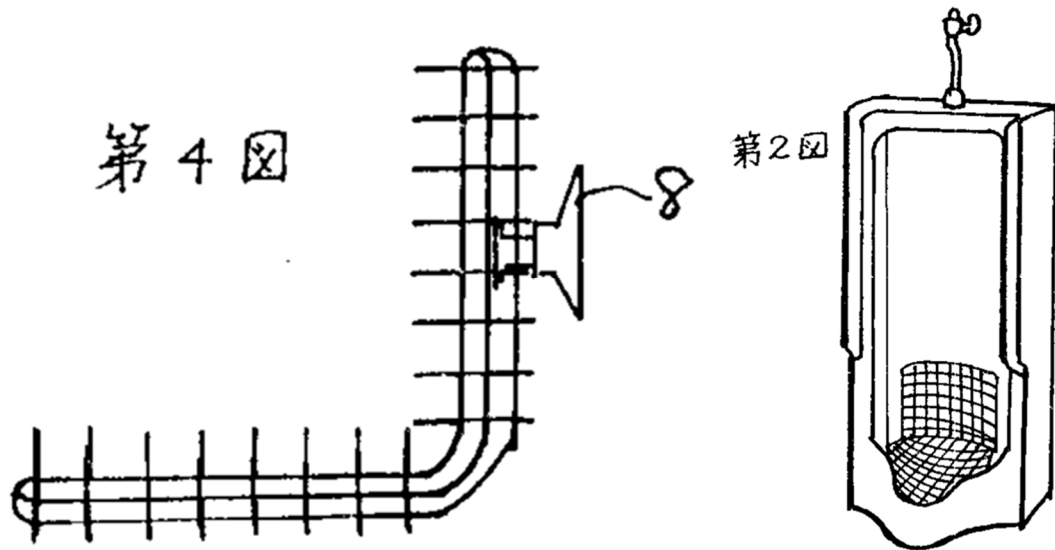
a. Limitation 18[B]: “mounting the anti-splash body . . .”

Limitation 18[B] recites: “mounting the anti-splash body within a back wall of a urinal.” Fushimi discloses this method step. Ex. 1003, ¶¶161-62.

Fushimi discloses that its urinal anti-splash device “is attached to the inside of the urinal for use” using fastening device 7. Ex. 1004, 1. Additionally, Fushimi discloses an embodiment, shown in Figure 4, below, with a suction cup extending

away from the rear face of the anti-splash body. “The following are some possible implementations of this device: Attachment of a fastener (7) with a suction cup....”

Id., 3, Fig. 4.



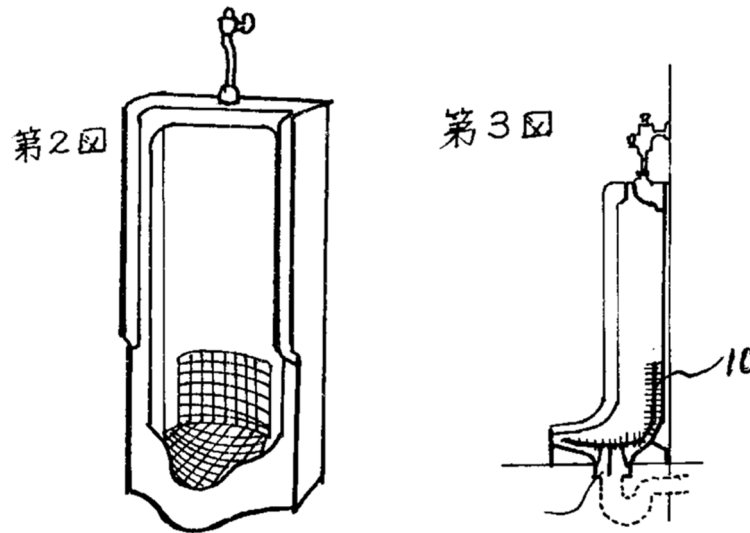
Id., Figs. 4, 2. A POSITA would understand that when installed as shown in Figure 2, above, the suction cup would attach to the back of the urinal, mounting the anti-splash body to the urinal’s back wall. Ex. 1003, ¶¶62, 162.

b. Limitation 18[C]: “placing the base . . .”

Limitation 18[C] recites: “placing the base over a urinal screen.” Fushimi discloses this method step. Ex. 1003, ¶¶163-68.

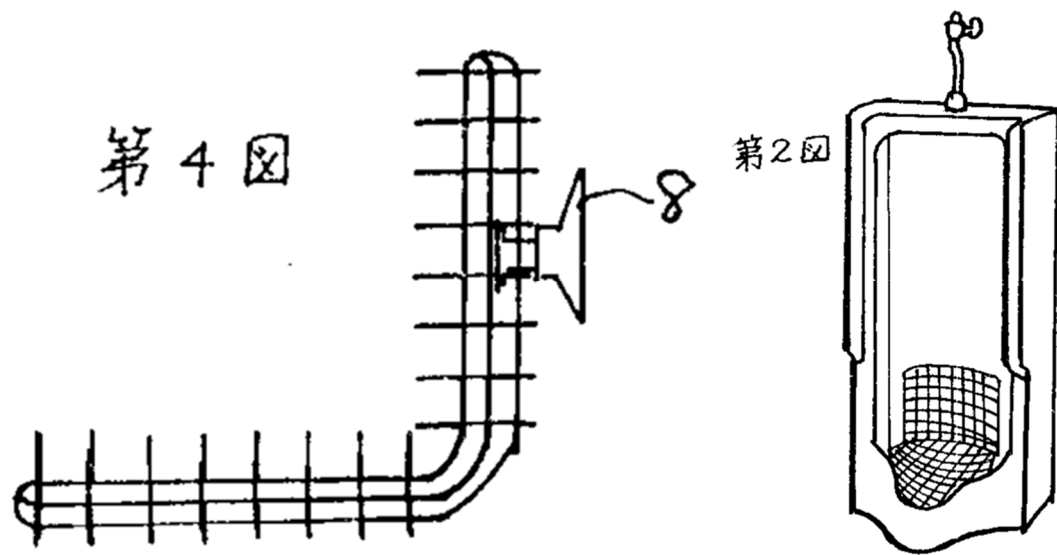
As discussed above, Fushimi discloses that the base of its urinal anti-splash device is placed over a urinal drain. “Attachment [is possible] by stretching it into the drainage cavity of the urinal.” Ex. 1004, 4. Additionally, Figures 2 and 3,

below, show the base extending over the urinal drain when installed.



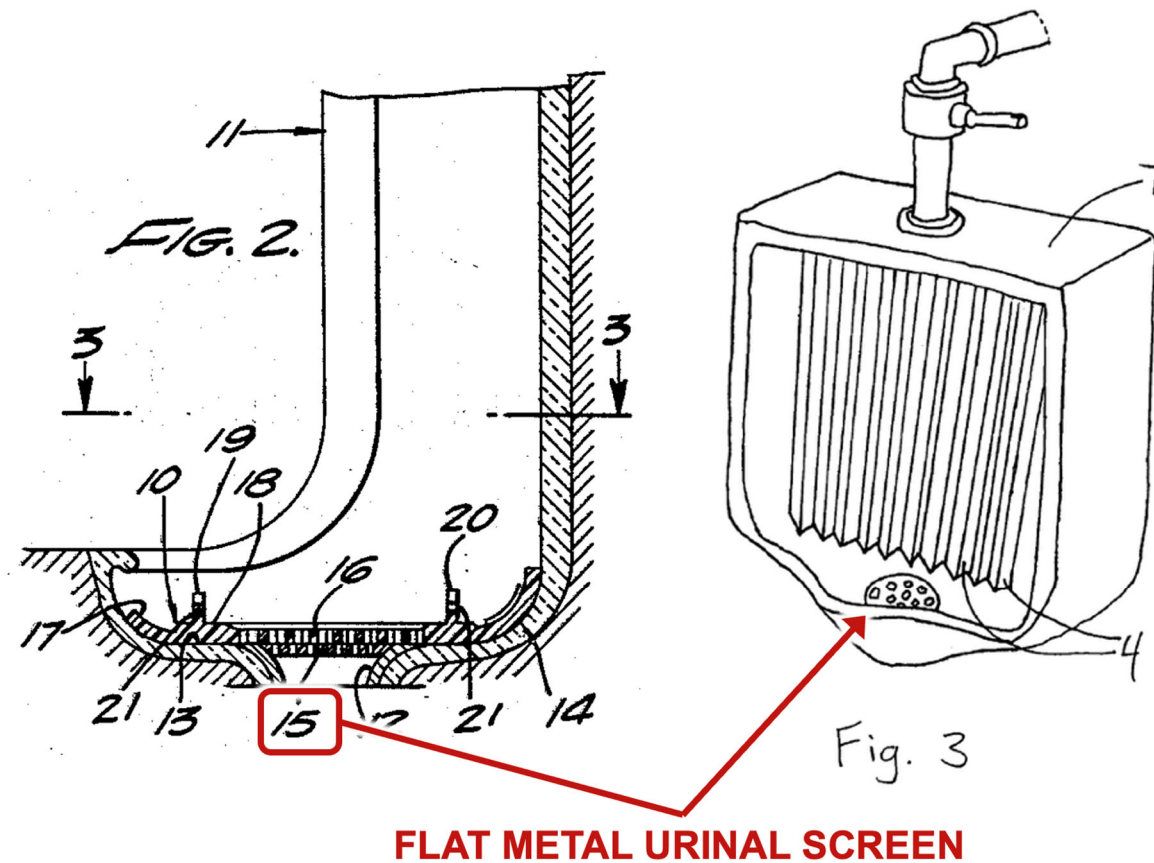
Id., Figs. 2, 3.

Alternately, Fushimi discloses that its urinal anti-splash device can be attached to a urinal by pressing a suction cup against the urinal's rear wall. A POSITA would understand that, installed in this way, the base of the device would extend over, but not into, the urinal drain. Ex. 1003, ¶165.



Ex. 1004, Figs. 4, 2.

A POSITA would understand that in use Fushimi's base would be placed over a variety of urinal screens. Typical urinals, well prior to 2016, had a metal screen fixed over the opening of the drain. Ex. 1003, ¶166. Clark (Ex. 1014) describes a urinal that "is typical of various types of urinals..." in which a "metal screen 15 may be provided and permanently installed over the drain." Ex. 1014, 2:22-29. Such screens provide for screening of debris even when not using the devices described in the '154 Patent and the references herein. Ex. 1003, ¶166. Several examples of such fixed urinal screens are shown below.



Ex. 1014, Fig. 2 (annotated); Ex. 1013, Fig. 3 (annotated).

A POSITA would have known that the device of Fushimi would be installed with its base overlaying a fixed metal urinal screen when used in the typical urinal.

Ex. 1003, ¶167. Thus, the step of Claim 18 would have been obvious to a POSITA.

Id.

Because the combination of Fushimi, Brown '098, and Brown '394 discloses

each element of Claim 18, the claimed invention would have been obvious. *Id.*, ¶168.

S. Claim 20

Claim 20 depends from Claim 18 and adds an additional step of “bending the urinal anti-splash device at the coupling region.” Fushimi discloses this additional step, which is addressed above with respect to Claim 6 (“coupling region configured to translate the base ...”). Ex. 1003, ¶¶169-70. Specifically, Fushimi includes a coupling region (support 6) where the urinal anti-splash device can be bent. Fushimi’s anti-splash body (vertical side 4) and base (bottom side 5) are joined at and “supported by supports (6) that can be detached and bent freely to make it easy to handle.” Ex. 1004, 2.

Because Fushimi discloses the additional method step of Claim 20, the claimed invention would have been obvious. Ex. 1003, ¶170.

VIII. GROUND 2: CLAIMS 11, 12, 14, 16, 18, AND 20 WOULD HAVE BEEN OBVIOUS OVER FUSHIMI IN VIEW OF VALADEZ

As described above, challenged Claim 11 and the claims that depend from it require an anti-splash body with a “longitudinal length.” Per the ’154 Patent, “longitudinal length” is a length in an “elongated direction.” Fushimi discloses or at least renders obvious each element of Claim 11. To the extent the “longitudinal length” feature were not obvious in view of Fushimi as addressed above in Ground

1, these claims would have been obvious in view of Fushimi in combination with Valadez, which explicitly teaches the claimed “longitudinal length” feature.

A. Overview of Valadez

Valadez (Ex. 1007) discloses a urinal anti-splash device with an anti-splash body (anti-splash guard 120) and base (deodorant pouch 500). Ex. 1007, ¶0003. The base and anti-splash body are made of a porous mesh of fibrous strands that absorb fluid and prevent urine from splashing off the urinal surface. *Id.*, ¶0031. The body is a single layer of mesh, and the base has a deodorizer sandwiched between two mesh layers which are joined around their edges. *Id.*, ¶0033.

Valadez discloses two main configurations for its anti-splash body and base. In the first configuration, below left, the base and anti-splash body are a single unit; the base rests on the urinal’s floor while the anti-splash body extends vertically along the urinal’s rear wall. In the second configuration, below right, the base and anti-splash body are separate. The base sits on the urinal floor, while the anti-splash body is mounted on the urinal’s rear wall, extending vertically, substantially perpendicular to the base. Ex. 1003, ¶45.

Figure 1

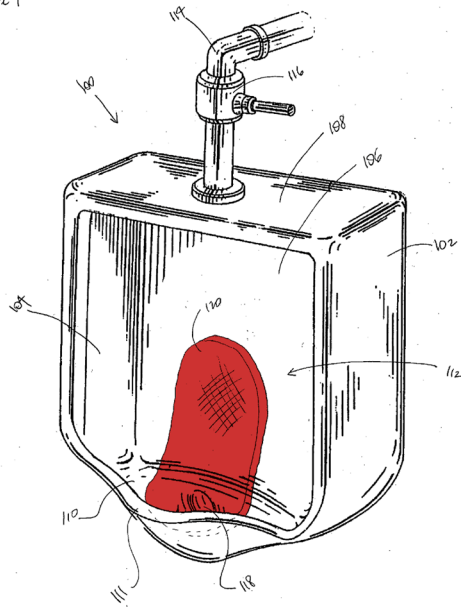
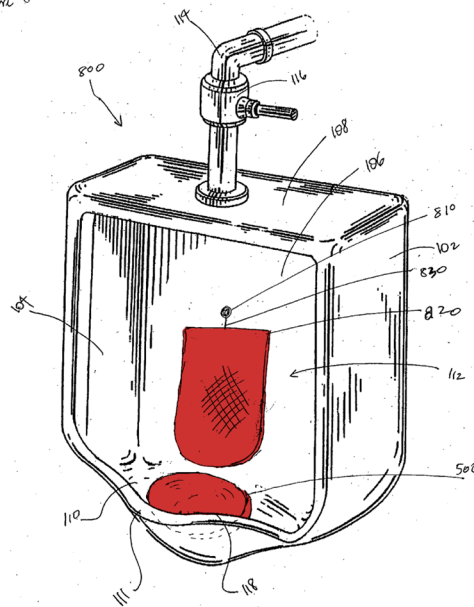


Figure 8



Ex. 1007, Figs. 1, 8 (annotated).

The anti-splash body (anti-splash guard 820) hangs vertically along the rear wall of a urinal “by means of a suction cup 810 and a hook 830.” *Id.*, ¶0038. As shown above, a length running from the bottom of Valadez’s anti-splash guard to its top extends in a direction from a ground surface toward a ceiling.

Valadez also discloses that its anti-splash body can be adapted to fit in a wide variety of urinals. *Id.*, ¶0024. Accordingly, Valadez discloses a range of sizes:

[A]nti-splash guard 120 comprises dimensional characteristics including length 122, width 124, and thickness 126. In one

embodiment, the length 122 of the anti-splash guard 102² is between about 8-16 inches, preferably between about 11-13 inches, and more preferably about 12 inches. Additionally, in one embodiment, the width 124 of the anti-splash guard 102 is between about 8-16 inches, preferably between about 11-13 inches, and more preferably about 12 inches.

Id., ¶0024. This range includes a vertical length that is twice its width. Ex. 1003 ¶47.

B. Claim 11

Claim 11, with a few minor variations, generally corresponds to Claim 1 and dependent Claim 3 addressed in Ground 1 above. The table below lists each limitation of Claim 11 and where the limitation has been previously addressed. The few differences are next addressed.

² The number 102 appears to be a mistake. In all other paragraphs and figures, the anti-splash guard is numbered 120 (or 820, for the embodiment depicted in Figure 8). Elsewhere, the number 102 represents the second sidewall of urinal 100. *See* Ex. 1007, ¶0020.

Claim 11 Limitations	Previously Addressed
Preamble	<i>See</i> §§VII(D)(1) (Ground 1, Claim 1 preamble); VII(M) (Ground 1, Claim 11)
11[A]	<i>See</i> §§VII(D)(2) (Ground 1, Claim 1[A]); VII(F) (Ground 1, Claim 3); VII(M) (Ground 1, Claim 11)
11[B]	<i>See</i> §§VII(D)(3) (Ground 1, Claim 1[B]); VII(M) (Ground 1, Claim 11)
11[C]	<i>See</i> §§VII(H) (Ground 1, Claim 6); VII(M) (Ground 1, Claim 11)
11[D]	<i>See</i> §§VII(D)(4) (Ground 1, Claim 1[C]); VII(D)(5) (Ground 1, Claim 1[D]); VII(M) (Ground 1, Claim 11)

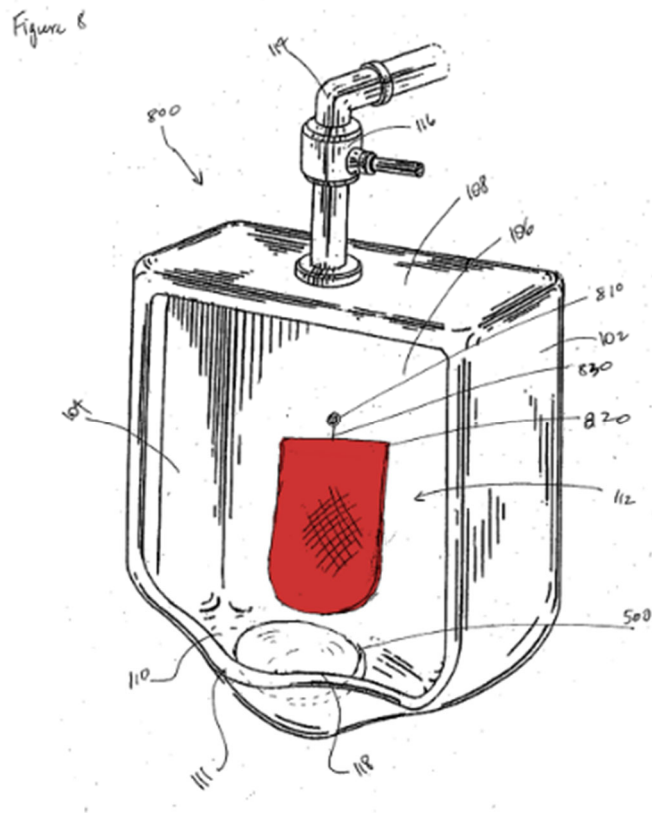
The differences between Claims 11 and Claim 1 are insignificant. First, Claim 11 requires an anti-splash body having a “longitudinal length,” which, is a length in an “elongated direction.” Ex. 1001, 4:20-24. Per the ’154 Patent, “elongated” refers to a “length that is twice as long as a width.” Ex. 1001, 5:60-61. This is obvious in view of Fushimi. Ex. 1003, ¶176. Further, this is explicitly taught by Valadez addressed below. *Id.*, ¶¶177-78. Second, Claim 11 requires an “anti-splash body “configured to couple to a urinal wall.” Fushimi discloses this limitation as explained above. *See* §VII(D)(2) (Ground 1, Claim 1[A]); Ex. 1003,

¶62. Third, Claim 11 recites a “a coupling region configured to translate the base between a first position including the base oriented in a direction parallel to the anti-splash body and a second position including the base oriented in a direction substantially perpendicular from the base.” Fushimi discloses this limitation as explained above. *See* §VII(H) (Ground 1, Claim 6); Ex. 1003, ¶¶103-12. Finally, Claim 11 does not require “*tapered* protrusions” as recited in Claim 1. This was disclosed in Brown ’098, which therefore is not included in this Ground 2.

It would have been obvious to combine Valadez’s teachings regarding dimensions of an anti-splash body with Fushimi’s anti-splash device to meet the “longitudinal length” limitation of Claim 11. As discussed in Ground 1, Fushimi’s anti-splash body is configured to couple to a urinal wall. It includes first and second portions, separated by a length. Although Fushimi discloses a length separating the first and second portions of the anti-splash body, the disclosed embodiment is not “longitudinal” because, although it extends vertically, the embodiment’s anti-splash body is not “elongated,” i.e., length twice its width. However, as also discussed in Ground 1, it would have been obvious to a POSITA to form Fushimi’s anti-splash body in a vertically elongated shape. When formed with a vertically elongated anti-splash body, Fushimi’s length would be longitudinal. Ex. 1003, ¶¶176.

Because an obvious modification of Fushimi’s anti-splash body includes a “longitudinal” length, this limitation would have been obvious to a POSITA over Fushimi in view of the knowledge of a POSITA. *Id.*, ¶176. To the extent the Board were to have any question, however, Valadez explicitly discloses an elongated anti-splash body, i.e. having a “longitudinal length,” as recited in Claim 11. *Id.*, ¶177.

Valadez discloses an anti-splash body (anti-splash guard 820) that hangs vertically along the rear wall of a urinal “by means of a suction cup 810 and a hook 830” Ex. 1007, ¶0038. As shown below, a length running from the bottom of Valadez’s anti-splash guard to its top extends in a direction from a ground surface toward a ceiling.



Ex. 1007, Fig. 8 (annotated).

Valadez discloses that its anti-splash body can be adapted to fit in a wide variety of urinals, *id.*, ¶0032 and discloses a range of sizes, including an anti-splash body having a length that is twice its width, e.g., 16 inches tall and 8 inches wide. Ex. 1007, ¶0024; Ex. 1003, ¶178.

A POSITA would have been motivated to combine the adaptable dimensions of the Valadez anti-splash body with Fushimi based on the teachings of Fushimi and Valadez, and the knowledge of a POSITA. Ex. 1003, ¶179.

A POSITA would have understood the desirability of combining the

adaptable dimensions of the Valadez anti-splash body with Fushimi based on the complimentary teachings in the references. *Id.*, ¶180. Fushimi teaches the importance of adapting the shape of an anti-splash device to match the urinal in which it will be used. The Fushimi device has “an L-shaped outer frame formed to match the inside shape of a urinal[.]” Ex. 1004, 1. Similarly, Valadez teaches the importance of adapting an anti-splash body to fit the urinal in which it will be used. “[A]nti-splash guard 120...can be contoured and/or adapted to fit various types of urinals [including] an Innsbrook 0.5 Urinal 200, a Lynbrook 0.85 Urinal 202.... [And] may also be contoured and/or adapted to fit various other types of generally known lavatory devices and/or urinals.” Ex. 1007, ¶0032.

A POSITA would have understood that this combination would have constituted nothing more than a simple substitution of one well-known element—the dimensions for an anti-splash body designed to fit a variety of urinals—for another well-known element—Fushimi’s anti-splash body designed to fit a variety of urinals, albeit without specific dimensions. Ex. 1003, ¶181. A POSITA would also have understood that doing so would have constituted nothing more than the use of a known technique—varying the size of an anti-splash body—to improve Fushimi’s anti-splash body. *Id.*

A POSITA would have had a reasonable expectation of success in

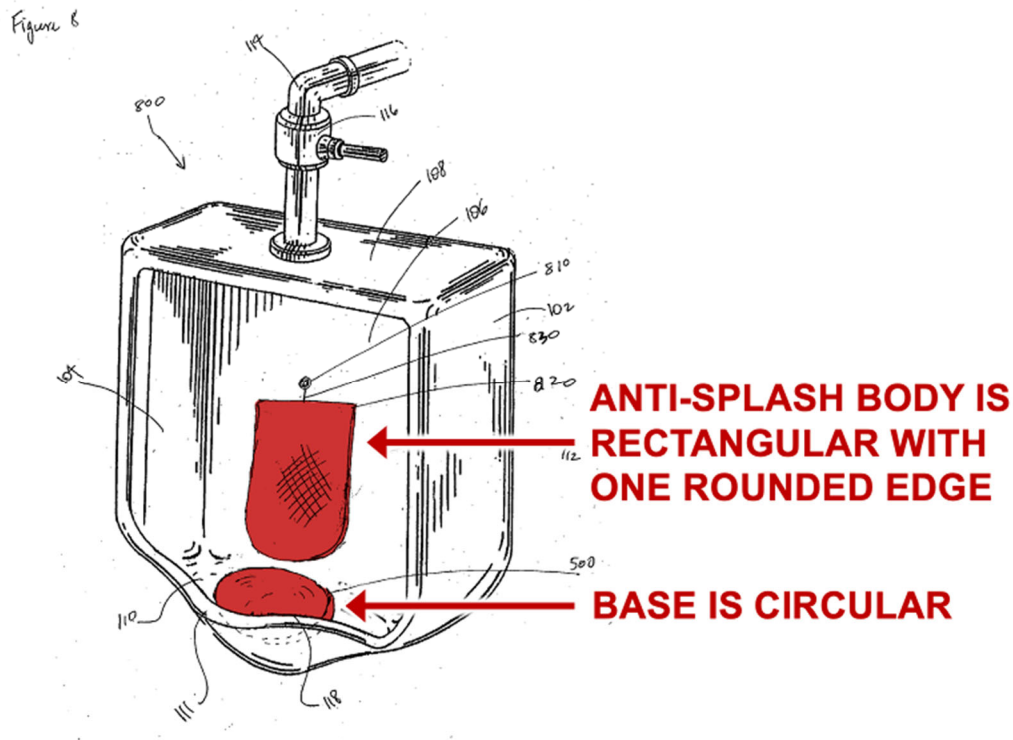
modifying Fushimi’s anti-splash body using the dimensions taught by Valadez. *Id.*, ¶182. A POSITA would have understood that a variety of sizes were useful for Fushimi’s anti-splash body, including those taught by Valadez. *Id.* Moreover, A POSITA would understand that, because Fushimi’s device could be attached to the rear wall of a urinal, there would have been no concern that the device would fall forward if it were taller. *Id.*

Because it would have been obvious to combine Fushimi and Valadez and the combination discloses each element of Claim 11, the claimed invention would have been obvious. Ex. 1003, ¶186.

C. Claim 12

Claim 12 depends from Claim 11 and adds that “the anti-splash body is of a shape different than a shape of the base.” Fushimi discloses this limitation as addressed above for Claim 2 in Ground 1. *See* §VII(E); Ex. 1003, ¶188.

Valadez also discloses an anti-splash body with a shape different than the base. As shown in Figure 8, below, Valadez discloses an embodiment with a generally rectangular anti-splash body and a round base.



Ex. 1007, Fig. 8 (annotated).

Accordingly, the claimed invention would have been obvious over Fushimi and Valadez. Ex. 1003, ¶189.

D. Claim 14

Claim 14 depends from Claim 11 and adds that “the coupling region includes a perforated edge.” Fushimi discloses this limitation as addressed above for Claim 6 in Ground 1. *See* §VII(H); Ex. 1003, ¶¶190-91.

Accordingly, the claimed invention would have been obvious over Fushimi and Valadez. Ex. 1003, ¶191.

E. Claim 16

Claim 16 depends from Claim 11 and adds that “the plurality of protrusions substantially span the longitudinal length and define a plurality of protrusion voids.” Fushimi discloses this additional limitation as addressed above for Claim 16 in Ground 1. *See* §VII(Q); Ex. 1003, ¶¶192-93.

Because Fushimi discloses the additional limitation of Claim 16, the claimed invention would have been obvious over Fushimi and Valadez. Ex. 1003, ¶193.

F. Claim 18

As described in Ground 1 above, independent Claim 18 is a method claim directed to installing a urinal anti-splash device in a urinal. Claim 18 would have been obvious for the reasons discussed above. Ex. 1003, ¶¶195-207. Below is a table correlating the limitations of Claim 18 with the corresponding limitations discussed above.

Claim 18 Limitations	Previously Addressed
18[A]	<i>See</i> §§VII(D)(1) (Ground 1, Claim 1 preamble); VII(M) (Ground 1, Claim 11); VIII(B) (Ground 2, Claim 11)
18[A][1]	<i>See</i> §§VII(D)(2) (Ground 1, Claim 11[A]); VII(F) (Ground 1, Claim 3); VII(M) (Ground 1, Claim 11); VIII(B) (Ground 2, Claim 11)

Claim 18 Limitations	Previously Addressed
18[A][2]	<i>See</i> §§VII(D)(3) (Ground 1, Claim 1[B]); VII(M) (Ground 1, Claim 11); VIII(B) (Ground 2, Claim 11)
18[A][3]	<i>See</i> §§VII(H) (Ground 1, Claim 6) VII(M) (Ground 1, Claim 11); VIII(B) (Ground 2, Claim 11)
18[A][4]	<i>See</i> §§VII(D)(4) (Ground 1, Claim 1[C]); VII(M) (Ground 1, Claim 11); VIII(M) (Ground 2, Claim 11)
18[A][5]	<i>See</i> §§VII(D)(5) (Ground 1, Claim 1[D]); VII(M) (Ground 1, Claim 11); VIII(M) (Ground 2, Claim 11)
18[B]	<i>See</i> §VII(R)(3)(a) (Ground 1, Claim 18[B])
18[C]	<i>See</i> §VII(R)(3)(b) (Ground 1, Claim 18[C])

Because the combination of Fushimi and Valadez discloses or renders obvious each element of Claim 18, the claimed invention would have been obvious to a POSITA over Fushimi and Valadez. Ex. 1003, ¶207.

G. Claim 20

Claim 20 depends from Claim 18 and adds an additional step of “bending the urinal anti-splash device at the coupling region.” Fushimi discloses this additional step. Ex. 1003, ¶¶206-07.

Fushimi includes a coupling region (support 6) where the urinal anti-splash device can be bent. Fushimi’s anti-splash body (vertical side 4) and base (bottom

side 5) are joined at and “supported by supports (6) that can be detached and bent freely to make it easy to handle[.]” Ex. 1004, 2.

Because Fushimi discloses the additional method step of Claim 20, the claimed invention would have been obvious to a POSITA over Fushimi and Valadez. Ex. 1003, ¶207.

IX. GROUND 3: CLAIMS 3, 8 AND 15 WOULD HAVE BEEN OBVIOUS OVER FUSHIMI IN VIEW OF VALADEZ AND BROWN ’098

Claim 3, 8 and 15 would have been obvious as described in Ground 1. To the extent there were any question regarding the obviousness of an elongated anti-splash body as recited in Claim 3 or “longitudinal length” as recited in Claim 11 from which Claim 15 depends, this Ground 3 further demonstrates these claims were obvious in view of Valadez’s explicit teaching of an elongated anti-splash body. Valadez also provides further disclosure of a circular-like base and rectangular-like anti-splash body as recited in Claim 8.

As described above in Grounds 1 and 2, it would have been obvious to combine Fushimi with Valadez and Brown ’098. *See* §§VII(D)(4), VIII(B)(1). The obviousness of Claims 3, 8 and 15 over this combination of prior art is addressed below.

A. Claim 3

Claim 3 depends from Claim 1 and adds that “the anti-splash body includes

an elongated shape of a flexible material configured to couple to a back wall of a urinal.” This limitation was obvious in view of Fushimi and Brown ’098. *See* §VII(F). Further, Valadez also discloses this additional limitation. Ex. 1003, ¶¶211-14.

As discussed in Ground 2, Valadez discloses an elongate anti-splash body configured to couple to a back wall of a urinal, which a POSITA would have been motivated to combine with Fushimi’s anti-splash device. *See* §V(A)(2); Ex. 1003, ¶213.

Valadez also discloses that its anti-splash body can be made from a mesh of fibrous strands 124 which may be formed of a “flexible material, such as polyethylene (PE), polypropylene (PP), [], various types of synthetic polyester meshes, etc.” Ex. 1007, ¶0025, 0033.

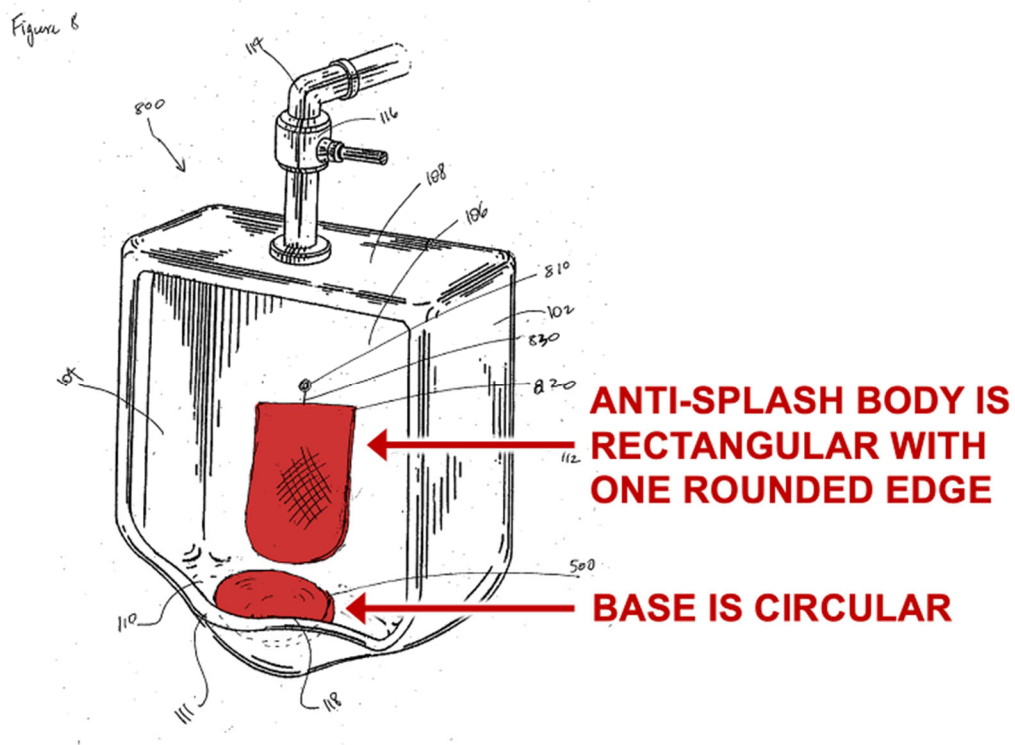
Because the combination of Fushimi and Valadez discloses the additional limitation of Claim 3, the claimed invention would have been obvious to a POSITA over Fushimi, Brown ’098, and Valadez. Ex. 1003, ¶214.

B. Claim 8

Claim 8 depends from Claim 1 and adds “wherein the anti-splash body is a rectangular-like shape; and the base is a circular-like shape.” This limitation is taught by Fushimi and Brown ’098. *See* §VII(J). Further, Valadez specifically

discloses this additional limitation. Ex. 1003, ¶¶215-17.

As discussed above, Valadez discloses an embodiment of its urinal anti-splash device with a separate anti-splash body (anti-splash guard 820) and base (pouch 500). As shown below, Valadez's anti-splash body is a rectangular-like shape, and its base is a circular-like shape.



Ex. 1007, Fig. 8 (annotated).

Because Valadez also discloses the additional limitation of Claim 8, the claimed invention would have been obvious to a POSITA over Fushimi, Brown '098, and Valadez. Ex. 1003, ¶217.

C. Claim 15

Claim 15 depends from Claim 11 and adds that “the plurality of protrusions taper downwardly in a direction toward an upper surface of the anti-splash body and the base.” As discussed in Ground 2, Claim 11 is obvious over Fushimi and Valadez. *See* §VIII(B). And as addressed in Ground 1, Brown ’098 discloses the additional limitation of Claim 15. *See* §VII(P); Ex. 1003, ¶¶218-19.

Because Brown discloses the additional limitation of Claim 15, the claimed invention would have been obvious to a POSITA over Fushimi, Brown ’098, and Valadez. *Id.*, ¶219.

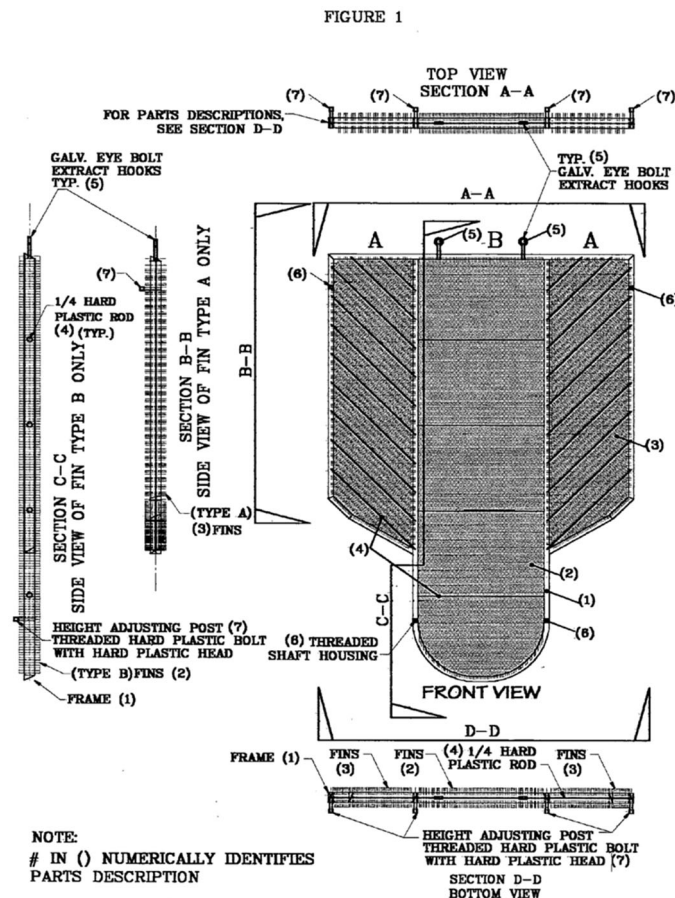
X. GROUND 4: CLAIMS 11, 12, 14, 16, 18, AND 20 WOULD HAVE BEEN OBVIOUS OVER FUSHIMI IN VIEW OF WISE

The claims addressed in this Ground 4 would have been obvious as described in the above Grounds 1-3. Specifically, Fushimi discloses or renders obvious a device having each limitation of Claims 11, 12, 14, 16, 18, and 20. To the extent there were any question regarding the obviousness of an anti-splash body having a “longitudinal” length, however, Wise (Ex. 1008), addressed herein, further demonstrates the obviousness of such feature. Thus, Claims 11, 12, 14, 16, 18, and 20 also would have been obvious over Fushimi and Wise.

A. Overview of Wise

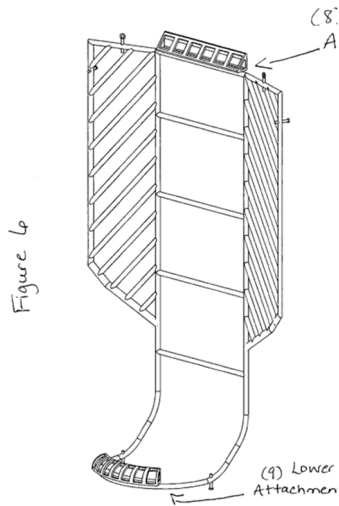
Wise discloses a splashless urinal insert for urinals. The insert is a flat shape

with three main sections, a center section containing vertical fins, and wings containing angled fins on either side of the center. Wise reduces urine splashback via the fins in each section, “which serve in slicing urine streams.” Ex. 1008, ¶¶0012. Figure 1, below, shows an embodiment of the insert.



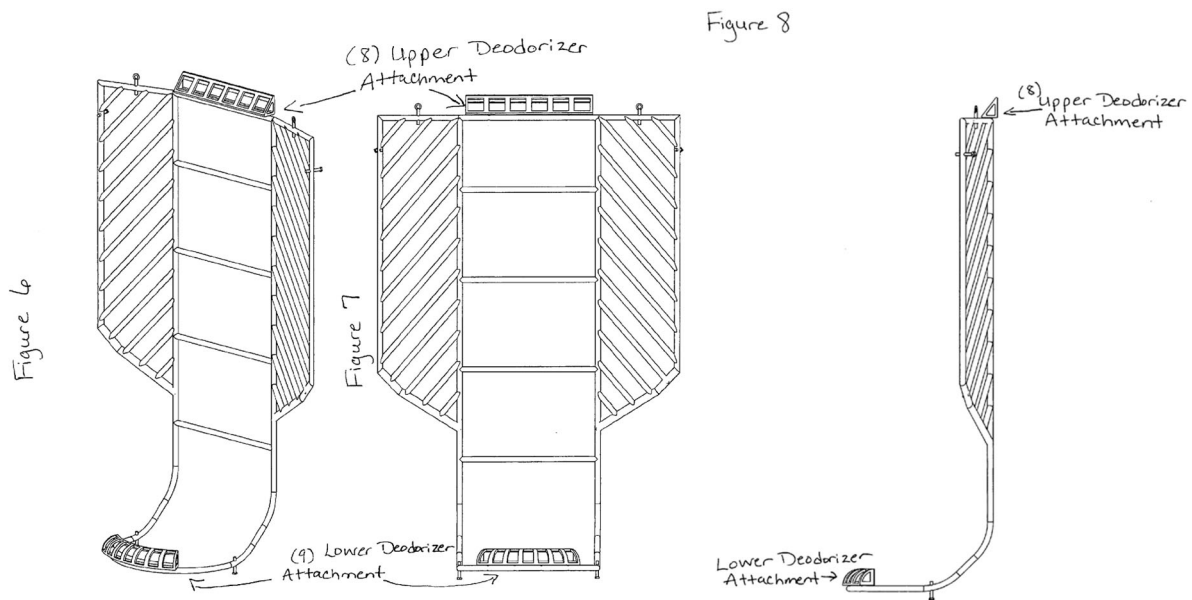
Id., Fig. 1.

When installed, as shown below, the side wings are angled forward to match the shape of the urinal’s rear wall.



Ex. 1008, Fig. 6.

Additionally, Wise discloses optional top and bottom deodorizer attachments. Figures 6-8, below, show the device with both deodorizer attachments installed.



Id., Figs. 6-8.

As depicted, the Wise insert comprises a horizontal base and a vertical anti-splash body, connected at a coupling region. Ex. 1003, ¶51. Additionally, the upper deodorizer has an angled portion “which serves to smoothly channel water onto the finned surface of the insert thereby assisting in preventing water splashing during the urinal flush cycle.” *Id.*; Ex. 1008, ¶0018.

B. Claim 11

Claim 11, with a few minor variations, generally corresponds to Claim 1 and dependent Claim 3 addressed in Ground 1 above. The table below lists each limitation of Claim 11 and where the limitation has been previously addressed, and in particular, where Fushimi is shown to disclose or render obvious corresponding limitations of Claims 1 and 3. The few differences are next addressed.

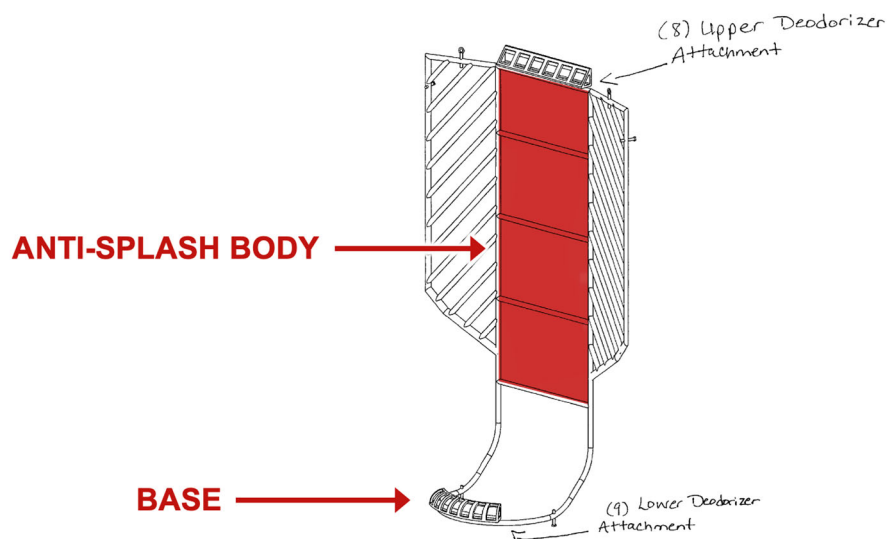
Claim 11 Limitations	Previously Addressed
Preamble	<i>See</i> §§VII(D)(1) (Ground 1, Claim 1 preamble); VII(M) (Ground 1, Claim 11)
11[A]	<i>See</i> §§VII(D)(2) (Ground 1, Claim 1[A]); VII(F) (Ground 1, Claim 3); VII(M) (Ground 1, Claim 11)
11[B]	<i>See</i> §§VII(D)(3) (Ground 1, Claim 1[B]); VII(M) (Ground 1, Claim 11)

Claim 11 Limitations	Previously Addressed
11[C]	<i>See</i> §§VII(H) (Ground 1, Claim 6); VII(M) (Ground 1, Claim 11)
11[D]	<i>See</i> §§VII(D)(4) (Ground 1, Claim 1[C]); VII(D)(5) (Ground 1, Claim 1[D]); VII(M) (Ground 1, Claim 11)

The differences between Claims 11 and Claim 1 are insignificant. First, Claim 11 requires an anti-splash body having a “longitudinal length,” which, according to the ’154 Patent specification is a length in an “elongated direction.” Ex. 1001, 4:20-24. And per the ’154 Patent, “elongated” refers to a “length that is twice as long as a width.” Ex. 1001, 5:60-61. This is explicitly taught by Wise. Ex. 1003, ¶¶226-28. Second, Claim 11 requires an “anti-splash body “configured to couple to a urinal wall.” Fushimi discloses this limitation as explained above. *See* §VII(D)(2) (Ground 1, Claim 1[A]); Ex. 1003, ¶62. Third, Claim 11 recites a “a coupling region configured to translate the base between a first position including the base oriented in a direction parallel to the anti-splash body and a second position including the base oriented in a direction substantially perpendicular from the base.” Fushimi discloses this limitation as explained above. *See* §VII(H) (Ground 1, Claim 6); Ex. 1003, ¶¶103-12. Finally, Claim 11 does not

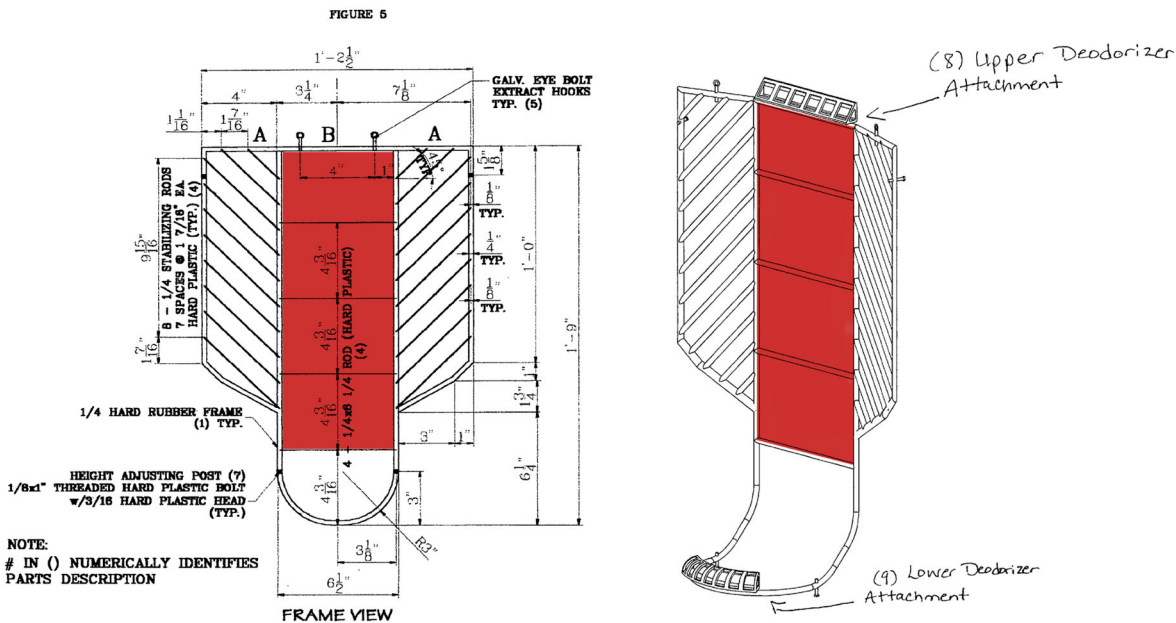
require “*tapered protrusions*” as recited in Claim 1. This was disclosed in Brown ’098, which therefore is not included in this Ground.

It would have been obvious to combine Fushimi and Wise. Wise discloses a urinal insert that prevents urine splash-back, i.e. an anti-splash body. Ex. 1008, Abstract. The Wise insert is installed vertically, with the bottom positioned at water level. *Id.*, Claim 1. Wise’s insert has an anti-splash body (the center section highlighted in red, below), and a base.



Id., Fig. 6.

Wise includes two “wings” extending away from its anti-splash body, angled slightly forward.



Id., Figs. 5, 6 (annotated).

Figure 5 includes measurements for the Wise insert. The center section is elongated because it has a width of $6\frac{1}{2}$ inches, and a length of over 16 inches vertically, i.e., a length at least twice as long as a width. A length extending vertically (i.e. from the floor to the ceiling) along the elongated anti-splash body is, therefore, longitudinal.

A POSITA would be motivated to combine the vertically elongated anti-splash body disclosed by Wise with Fushimi's urinal anti-splash device based on the teachings of Fushimi and Wise, and the knowledge of a POSITA. Ex. 1003, ¶¶229-33.

A POSITA would understand the desirability of combining a vertically

elongated anti-splash body disclosed by Wise with Fushimi's urinal anti-splash device based on the complimentary teachings in both references. *Id.*, ¶230. Fushimi teaches the importance of adapting the shape of an anti-splash guard to match the urinal in which it will be used. The Fushimi device has "an L-shaped outer frame formed to match the inside shape of a urinal[.]" Ex. 1004, 1. Similarly, Wise's device "employs an insert designed to fit into a variety of styles of conventional upright urinals." Ex. 1008, ¶0002. A POSITA would understand that the vertically elongated anti-splash body of Wise would provide additional anti-splash protection by increasing the proportion the rear wall's surface that was covered by the anti-splash body, while remaining compatible with a variety of urinals. Ex. 1003, ¶231.

Further, a POSITA would recognize that using the elongated anti-splash body taught by Wise with Fushimi's anti-splash device would have constituted nothing more than a simple substitution of one well-known element—a longer anti-splash body of Wise—for another well-known element—the anti-splash body of Fushimi. *Id.*, ¶232. A POSITA would also have understood that doing so would have constituted nothing more than the use of a known technique—varying the size of an anti-splash body—to improve Fushimi's known anti-splash body. *Id.*

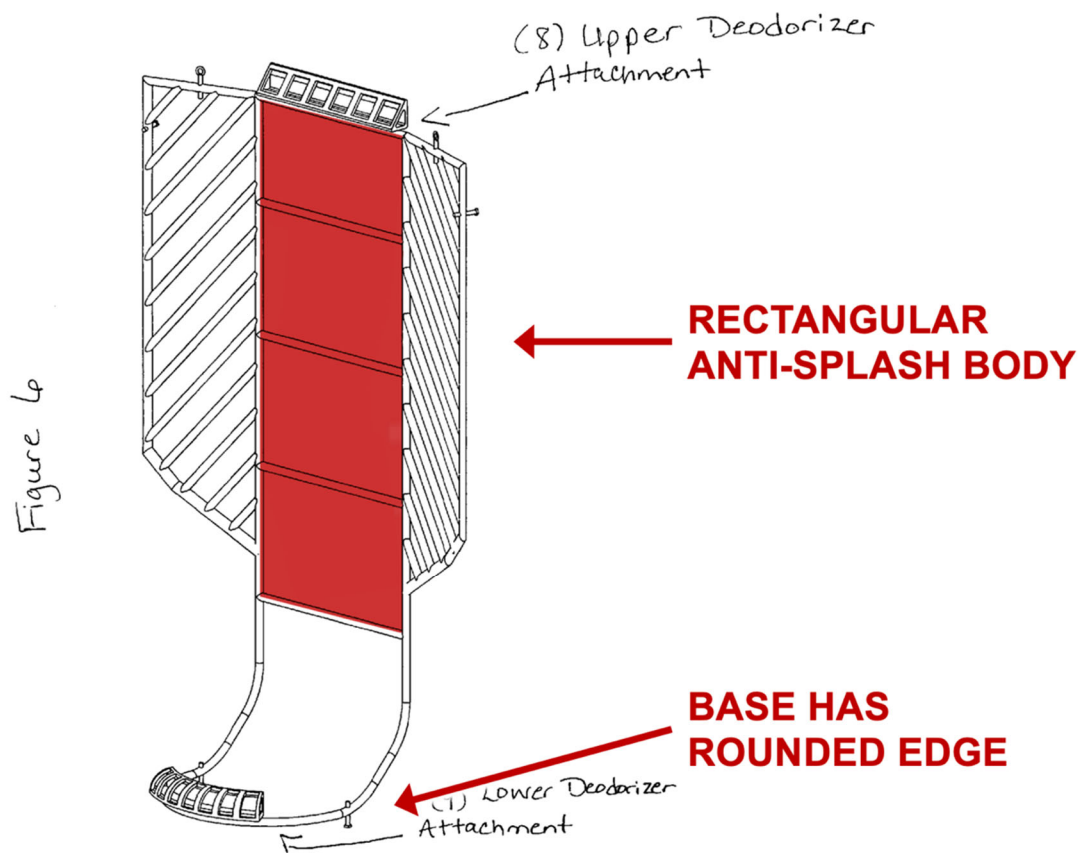
Finally, a POSITA would have had a reasonable expectation of success in

modifying Fushimi to use the vertically elongated anti-splash body feature of Wise. *Id.*, ¶233. A POSITA would have understood that a variety of sizes were useful for Fushimi’s anti-splash body, including the size of Wise’s anti-splash body. *Id.* Moreover, A POSITA would understand that, because Fushimi’s device could be attached to the rear wall of a urinal, there would have been no concern that the device would fall forward if it were taller. *Id.*

C. Claim 12

Claim 12 depends from Claim 11 and adds that “the anti-splash body is of a shape different than a shape of the base.” Fushimi discloses this limitation as addressed above for Claim 2 in Ground 1. *See* §VII(E); Ex. 1003, ¶¶238-41.

Wise also discloses an anti-splash body that is of a shape different than the base. As shown in Figure 6, below, Wise discloses a rectangular anti-splash body and a base with a rounded front.



Ex. 1008, Fig. 6 (annotated).

Accordingly, the claimed invention would have been obvious over Fushimi and Wise. Ex. 1003, ¶241.

D. Claim 14

Claim 14 depends from Claim 11 and adds that “the coupling region includes a perforated edge.” Fushimi discloses this limitation as addressed above for Claim 6 in Ground 1. *See* §VII(H); Ex. 1003, ¶¶242-43.

Accordingly, the claimed invention would have been obvious over Fushimi

and Wise. Ex. 1003, ¶243.

E. Claim 16

Claim 16 depends from Claim 11 and adds that “the plurality of protrusions substantially span the longitudinal length and define a plurality of protrusion voids.” Fushimi discloses this additional limitation as addressed above for Claim 16 in Ground 1. *See* §VII(Q); Ex. 1003, ¶¶244-45.

Because Fushimi discloses the additional limitation of Claim 16, the claimed invention would have been obvious over Fushimi and Wise. Ex. 1003, ¶245.

F. Claim 18

As described in Ground 1 above, independent Claim 18 is a method claim directed to installing a urinal anti-splash device in a urinal. Claim 18 would have been obvious for the reasons discussed above. Ex. 1003, ¶¶247-59. Below is a table correlating the limitations of Claim 18 with the corresponding limitations discussed above.

Claim 18 Limitations	Previously Addressed
18[A]	<i>See</i> §§VII(D)(1) (Ground 1, Claim 1 preamble); VII(M) (Ground 1, Claim 11); X(B) (Ground 4, Claim 11)
18[A][1]	<i>See</i> §§VII(D)(2) (Ground 1, Claim 11[A]); VII(F) (Ground 1, Claim 3); VII(M) (Ground 1, Claim 11);

Claim 18 Limitations	Previously Addressed
	X(B) (Ground 4, Claim 11)
18[A][2]	<i>See</i> §§VII(D)(3) (Ground 1, Claim 1[B]); VII(M) (Ground 1, Claim 11); X(B) (Ground 4, Claim 11)
18[A][3]	<i>See</i> §§VII(H) (Ground 1, Claim 6); VII(M) (Ground 1, Claim 11); X(B) (Ground 4, Claim 11)
18[A][4]	<i>See</i> §§VII(D)(4) (Ground 1, Claim 1[C]); VII(M) (Ground 1, Claim 11) ; X(B) (Ground 4, Claim 11)
18[A][5]	<i>See</i> §§VII(D)(5) (Ground 1, Claim 1[D]); VII(M) (Ground 1, Claim 11) ; X(B) (Ground 4, Claim 11)
18[B]	<i>See</i> §VII(R)(3)(a) (Ground 1, Claim 18[B])
18[C]	<i>See</i> §VII(R)(3)(b) (Ground 1, Claim 18[C])

Because the combination of Fushimi and Wise discloses each element of Claim 18, the claimed invention would have been obvious to a POSITA over Fushimi and Wise. Ex. 1003, ¶259.

G. Claim 20

Claim 20 depends from Claim 18 and adds an additional method step of “bending the urinal anti-splash device at the coupling region.” Fushimi discloses this additional method step, as addressed above. *See* §VII(S); Ex. 1003, ¶¶260-61.

Because Fushimi discloses the additional method step of Claim 20, the

claimed invention would have been obvious to a POSITA over Fushimi and Wise.
Id., ¶261.

**XI. GROUND 5: CLAIMS 3, 10, AND 15 WOULD HAVE BEEN
OBVIOUS OVER FUSHIMI IN VIEW OF WISE AND BROWN '098**

Claims 3, 10 and 15 would have been obvious as addressed above. To the extent there were any questions regarding the obviousness of an elongated anti-splash body in view of Fushimi, however, Wise explicitly teaches an elongated anti-splash body/longitudinal length as recited in Claim 3 and 15. Wise also further teaches the angled portion of Claim 10.

A. Claim 3

Claim 3 would have been obvious over Fushimi and Brown '098 as described above. *See* §VII(F); Ex. 1003, ¶¶263-66.

As discussed in Ground 4, Wise discloses an anti-splash body with an elongated shape configured to couple to a back wall of a urinal, which a POSITA would have been motivated to combine with Fushimi's anti-splash device.

Wise also discloses that the frame of its anti-splash body can be made from a "hard rubber material," Ex. 1008, ¶0012, which a POSITA would understand is a flexible material Ex. 1003, ¶265.

Because Wise discloses the additional limitation of Claim 3, the claimed invention would have been obvious to a POSITA over Fushimi, Wise, and Brown

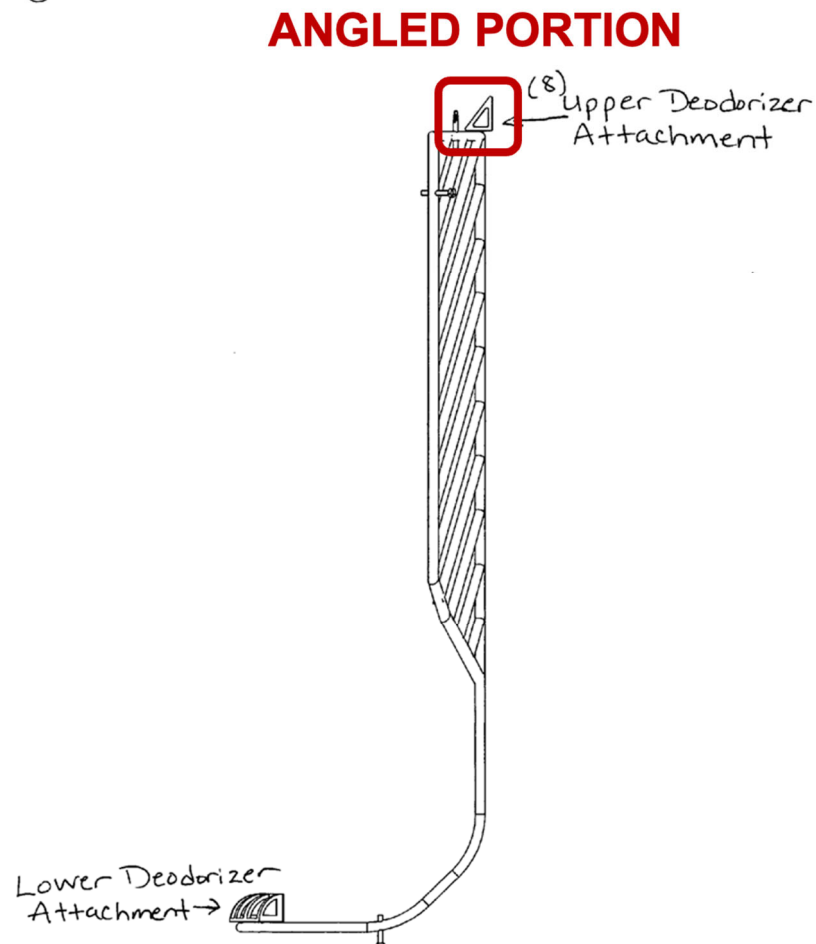
'098. *Id.*, ¶266.

B. Claim 10

Claim 10 depends from Claim 1 and adds that the anti-splash body further comprises “an angled portion at a top of the anti-splash body configured to facilitate flow along the upper surface.” Brown discloses this additional limitation. *See* §VII(L); Ex. 1003, ¶¶267-70.

Wise discloses an angled portion (upper deodorizer attachment 8) at a top of the anti-splash body configured to facilitate flow along the upper surface. As shown in Figure 8, Wise’s upper deodorizer attachment is an angled device that attaches to the top of Wise’s anti-splash body.

Figure 8



Ex. 1008, Fig. 8 (annotated).

Additionally, Wise discloses that “[t]he upper deodorizer attachment 8 has a wedge shape which serves to smoothly channel water onto the finned surface of the insert thereby assisting in preventing water splashing during the urinal flush cycle.” *Id.*, ¶0019.

As discussed in Ground 4, a POSITA would have been motivated combine

the larger anti-splash body disclosed by Wise with Fushimi's urinal anti-splash device based on complimentary teachings in both references, and the knowledge of a POSITA. Ex. 1003, ¶270. In making this modification, a POSITA would have also been motivated to include the upper deodorizer attachment disclosed by Wise. *Id.*

A POSITA would understand that the wedge-shaped angle of the Wise attachment would more effectively channel water over the front surface of the larger anti-splash body than Fushimi's angled portion. *Id.*, ¶271. Additionally, a POSITA would understand that the improved channeling would be important, because enlarging the anti-splash body would increase the surface area to be cleaned during each flush without additional flush water. *Id.*

A POSITA would also understand that, because the Wise anti-splash body is at least 16 inches tall and extends upward, a deodorizer with a fragrance placed at the top of the body would be positioned much closer to a user's nose than a Brown '098's fragranced base. Ex. 1003, ¶272; Ex. 1005, 4:22-27 ("One method of manufacturing an embodiment of the urinal screen 10 can include... loading the plastic or EVA with at least 15% to about 75% by weight of fragrance material to produce a fragranced plastic or EVA").

A POSITA making this modification would expect success because Wise

already discloses attaching an upper deodorizer to the Wise anti-splash body. *Id.*, ¶273.

Because Wise discloses the additional limitation of Claim 10, the claimed invention would have been obvious to a POSITA over Fushimi, Wise and Brown '098. Ex. 1003, ¶274.

C. Claim 15

Claim 15 depends from Claim 11 and adds that “the plurality of protrusions taper downwardly in a direction toward an upper surface of the anti-splash body and the base.” Brown '098 discloses the additional limitation of Claim 15. *See* §VII(P); Ex. 1003, ¶¶275-76.

As discussed in Ground 1, Brown '098 discloses tapered protrusions, which a POSITA would have been motivated to combine with Fushimi.

Because Brown '098 discloses the additional limitation of Claim 15, the claimed invention would have been obvious to a POSITA over Fushimi, Wise, and Brown '098. *Id.*, ¶276.

XII. SECONDARY CONSIDERATIONS

Secondary considerations should be considered but do not control the obviousness conclusion. *Newell Cos., Inc. v. Kenney Mfg. Co.*, 864 F.2d 757, 768 (Fed. Cir. 1988). Where, as here, a strong *prima facie* case of obviousness has

been made, even relevant secondary considerations supported by substantial evidence may not dislodge an obviousness conclusion. *Leapfrog Enters. v. Fisher-Price, Inc.*, 485 F.3d 1157, 1162 (Fed. Cir. 2007). Petitioner is aware of no evidence supporting a claim for secondary considerations.

XIII. CONCLUSION

Petitioner respectfully requests institution of this IPR and cancellation of the challenged claims because they are unpatentable for the reasons described above.

Dated: July 23, 2025

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KNOBBE MARTENS OLSON & BEAR, LLP

CERTIFICATE OF COMPLIANCE

Pursuant to 37 C.F.R. §42.24(d), the undersigned certifies that the foregoing **PETITION FOR *INTER PARTES* REVIEW OF U.S. PATENT NO. 10,036,154**, exclusive of the parts exempted as provided in 37 C.F.R. §42.24(a), contains 13,988 words and therefore complies with the type-volume limitations of 37 C.F.R. §42.24(a).

Dated: July 23, 2025

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CERTIFICATE OF SERVICE

The undersigned hereby certifies that on the date below a copy of this **PETITION FOR *INTER PARTES* REVIEW OF U.S. PATENT NO. 10,036,154** **PETITIONER’S POWER OF ATTORNEY, AND EXHIBITS 1001 – 1024** were served by Federal Express overnight mail on the Patent Owner at the correspondence address of record for the subject patent as follows:

11930 - The Concept Law Group, P.A.
6400 North Andrews Avenue, Suite 500
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UNITED STATES

A courtesy copy has been sent by email on this day to Patent Owner’s counsel of record in the matter identified in Section I.B of the Petition as follows:

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