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On behalf of **Fresh Products, LLC**

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UNITED STATES PATENT AND TRADEMARK OFFICE

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**BEFORE THE PATENT TRIAL AND APPEAL BOARD**

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FRESH PRODUCTS, LLC  
Petitioner  
v.

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

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IPR2025-01366  
Patent 10,294,649

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**PETITION FOR *INTER PARTES* REVIEW OF  
U.S. PATENT NO. 10,294,649**

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| Exhibit No. | Description                                                                                                                                                  |
|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1001        | U.S. Patent No. 10,294,649 (“the ’649 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”)                                                                                          |

| Exhibit No. | Description                                                                                                                                                                                                            |
|-------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1013        | United States Patent No. 7,398,565 to Chou (“Chou”)                                                                                                                                                                    |
| 1014        | *Intentionally Omitted*                                                                                                                                                                                                |
| 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> , <a href="https://www.bpf.co.uk/plastipedia/polymers/EVA.aspx">https://www.bpf.co.uk/plastipedia/polymers/EVA.aspx</a> (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, 2, 5-6, 8-11, 13-18, and 20 (“challenged claims”) of U.S. Patent No. 10,294,649 (“the ’649 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 ’649 Patent by Petitioner’s Tsunami product. *Sanastar, Inc. d/b/a/ WizKidProducts v. Fresh Products, LLC*, No. 3:25-cv-00418 (N.D. Ohio). In the district court action PO also alleges infringement of related U.S. Patent No. 10,036,154 (“the ’154 Patent”). Petitioner filed an IPR directed to the ’154 Patent on July 23, 2025. IPR2025-01339.

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.

| Lead Counsel                                                                                                                                                                                                                                                | Back-up Counsel                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Joseph F. Jennings (Reg. No. 40,664)<br>2jff@knobbe.com<br><br><u>Postal and Hand-Delivery Address:</u><br>Knobbe, Martens, Olson & Bear, LLP<br>2040 Main Street, 14th Floor<br>Irvine, CA 92614<br>Telephone: (949) 760-0404<br>Facsimile: (949) 760-9502 | Edward A Schlatter (Reg. No. 32,297)<br>2eas@knobbe.com<br><br>Rhett D. Ramsey (Reg No. 78,415)<br><a href="mailto:2rxr@knobbe.com">2rxr@knobbe.com</a><br><br><u>Postal and Hand-Delivery Address:</u><br>Knobbe, Martens, Olson & Bear, LLP<br>2040 Main Street, 14th Floor<br>Irvine, CA 92614<br>Telephone: (949) 760-0404<br>Facsimile: (949) 760-9502<br><br>Shawn P. Hickey (Reg. No. 83,014)<br>2sph@knobbe.com<br><br><u>Postal and Hand-Delivery Address:</u><br>Knobbe, Martens, Olson & Bear, LLP<br>555 110th Avenue NE, Suite 500<br>Bellevue, WA 98004<br>Telephone: (206) 405-2000<br>Facsimile: (206) 405-2001 |

**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 BoxFreshProds649@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 '649 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 '649 Patent. Ex. 1002.

**II. INTRODUCTION**

The '649 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 '649 Patent is depicted below, prior to being folded, separated, or installed.

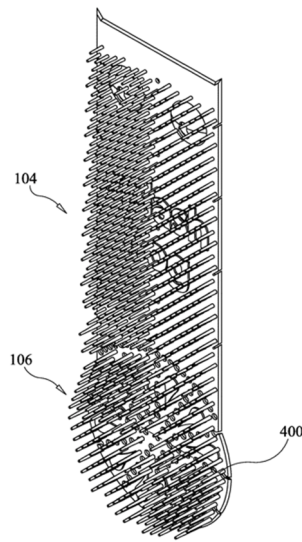


FIG. 4

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

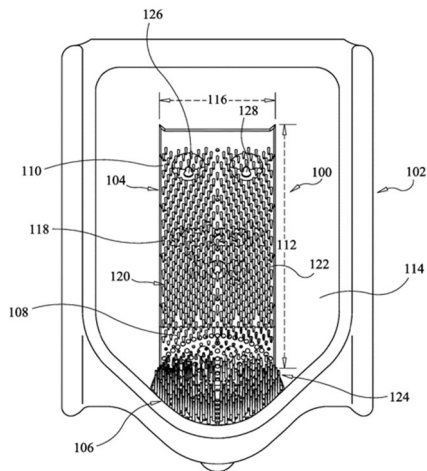


FIG. 1

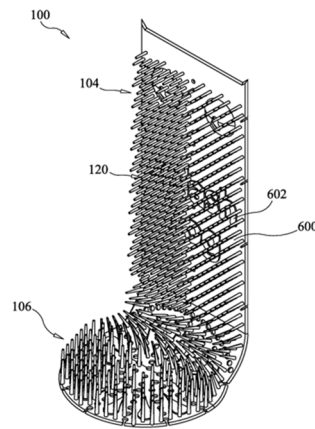
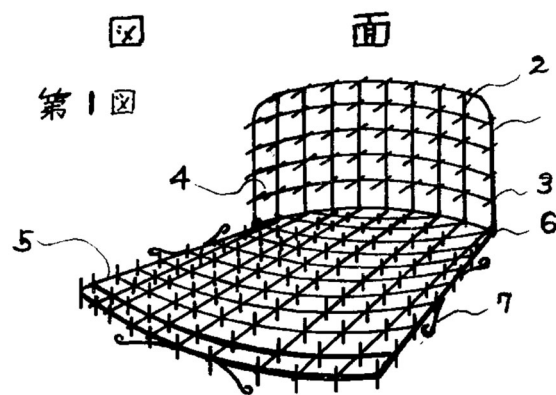


FIG. 6

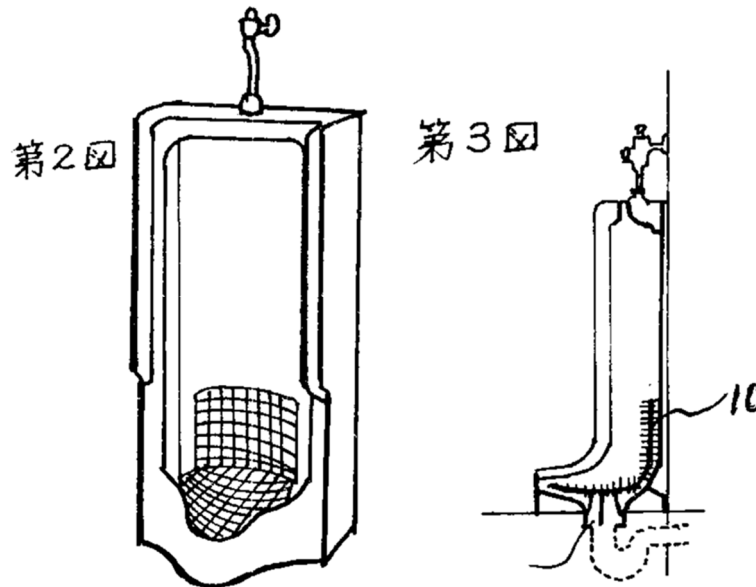
*Id.*, Figs. 1, 6. According to the '649 specification, “known devices designed to be placed within urinals, often referred to as urinal screens or occasionally as urinal mats, are sized and shaped to cover either the urinal’s back wall or the drain. Such

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, 1:39-45 (emphasis added). As described herein, however, the ’649 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 '649 Patent should be cancelled as unpatentable over Fushimi and the additional prior art relied on herein.

### **III. THE '649 PATENT**

#### **A. Overview**

The '649 Patent issued from a continuation application and claims priority to 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.*, 2:43-55. 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 '649 specification, the anti-splash body has a length 112 extending from the first portion to the second portion. *Id.*, 6:8-11. Figure 1, below, shows an embodiment of the '649 Patent's anti-splash device installed in a urinal.

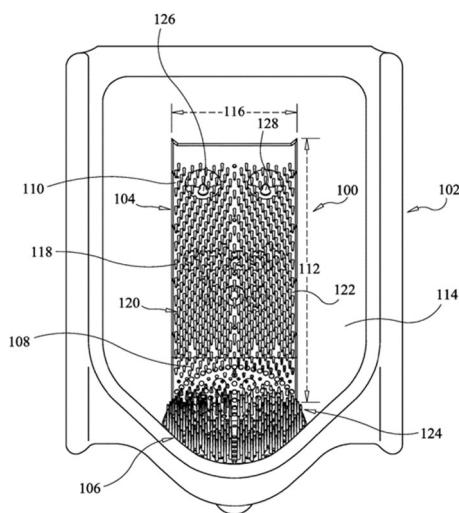
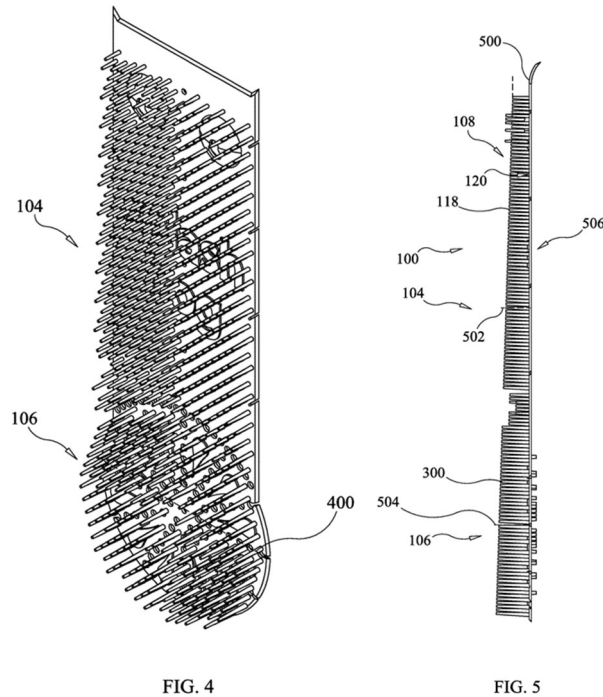


FIG. 1

*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 front 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.*, 6:60-64. A first plurality of protrusions 118 extends from the anti-splash body 104. *Id.*, 10:40-43. A second plurality of protrusions 300 extends from the base 106.

A urine stream approaching the urinal is broken apart by the protrusions to prevent the urine from splashing on a user. *Id.*, 6:64-7:2. 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.*, 7:37-47. 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.*, 7:59-65. The device is shown below in its second position, alone (Fig. 6) and installed in a urinal (Fig. 1).

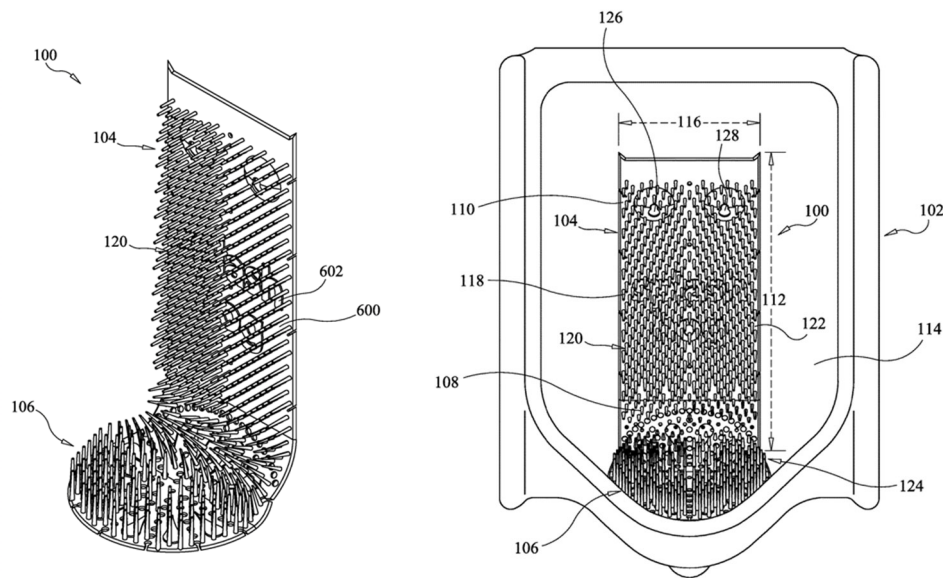


FIG. 6

FIG. 1

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

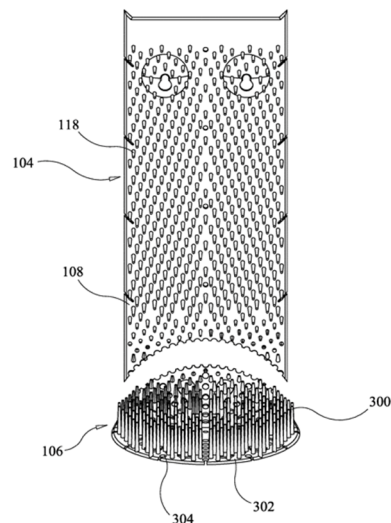


FIG. 3

*Id.*, Fig. 3.

**B. The Challenged Claims**

The '649 Patent issued with 20 claims, of which Claims 1, 8, and 18 are independent. Ex. 1001. Claim 1 is set forth below (with claim limitations labeled for reference and the main claim elements bolded).

| <b>Claim 1</b> |                                                                                                                                                                                                                                                                                                                                                                                   |
|----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Preamble       | A urinal anti-splash device, comprising:                                                                                                                                                                                                                                                                                                                                          |
| 1[A]           | <b>an anti-splash body</b> configured to be mounted vertically on a back wall of a urinal and having <b>a plurality of protrusions</b> that extend from a front surface of the anti-splash body;                                                                                                                                                                                  |
| 1[B]           | <b>a base</b> attached to the anti-splash body at <b>a coupling region</b> formed between the base and the anti-splash body, the base being configured to cover at least a portion of a urinal drain and<br><br>having <b>a plurality of protrusions</b> extending away from the base on a surface of the base that is contiguous with the front surface of the anti-splash body; |
| 1[C]           | the coupling region is configured [sic] allow the base to move between<br><br><b>a first position</b> including the base oriented in a direction parallel to the anti-splash body and<br><br><b>a second position</b> including the base oriented in a direction substantially perpendicular from the base.                                                                       |

Challenged Independent Claim 8 is similar but includes an additional limitations that some protrusions are tapered and omits the coupling region.

Challenged Independent Claim 18 is a method for mounting a urinal anti-splash device.

#### **IV. STATEMENT OF RELIEF REQUESTED**

##### **A. IPR Grounds**

IPR is requested for the following grounds of unpatentability:

| <b>Ground</b> | <b>Claims Challenged</b>                             | <b>35 U.S.C. §</b> | <b>References</b>                               |
|---------------|------------------------------------------------------|--------------------|-------------------------------------------------|
| 1             | 1, 2, 5, 6, 8, 9, 10, 11, 13, 14, 15, 16, 17, 18, 20 | 103                | Fushimi + Brown '098 + Brown '394               |
| 2             | 6, 10, 15, 17                                        | 103                | The Prior Art of Ground 1 + Valadez and/or Wise |

##### **B. The Asserted References Are Prior Art**

The '649 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.

| <b>Exhibit</b> | <b>Reference</b> | <b>Date</b>              | <b>Prior Art Type</b>  |
|----------------|------------------|--------------------------|------------------------|
| 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 '649 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.*, ¶25. 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 be obvious from the perspective of a POSITA under any reasonable definition. *Id.*, ¶26.

## **VI. CLAIM CONSTRUCTION**

### **A. Lexicography**

The '649 Patent provides explicit definitions for several claim terms. The definitions are described below and Petitioner applies them herein.

**1. “elongated”**

Claim 10 recites that the anti-splash body includes “an *elongated* shape of a flexible material.” Ex. 1001, Claim 10 (emphasis added). The specification defines “elongated” as “having a length that is at least twice as long as a width.” *Id.*, 6:22-25.

**2. “longitudinal”**

Claim 6 recites that the anti-splash body includes a “plurality of protrusions [that] substantially span a *longitudinal* length of the anti-splash body. . . .” Ex. 1001, Claim 6 (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.*, 4:49-52.

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

Claim 15 recites that “the anti-splash body is a *rectangular-like shape*; and the base is a *circular-like shape*.” Ex. 1001, Claim 15 (emphasis added). The specification defines “rectangular-like” as “having at least one pair of opposing parallel sides of equal length,” *Id.*, 6:34-36. “Circular-like” is similarly defined as “having at least two round edges.” *Id.*, 8:51-52.

**B. Other Claim Constructions**

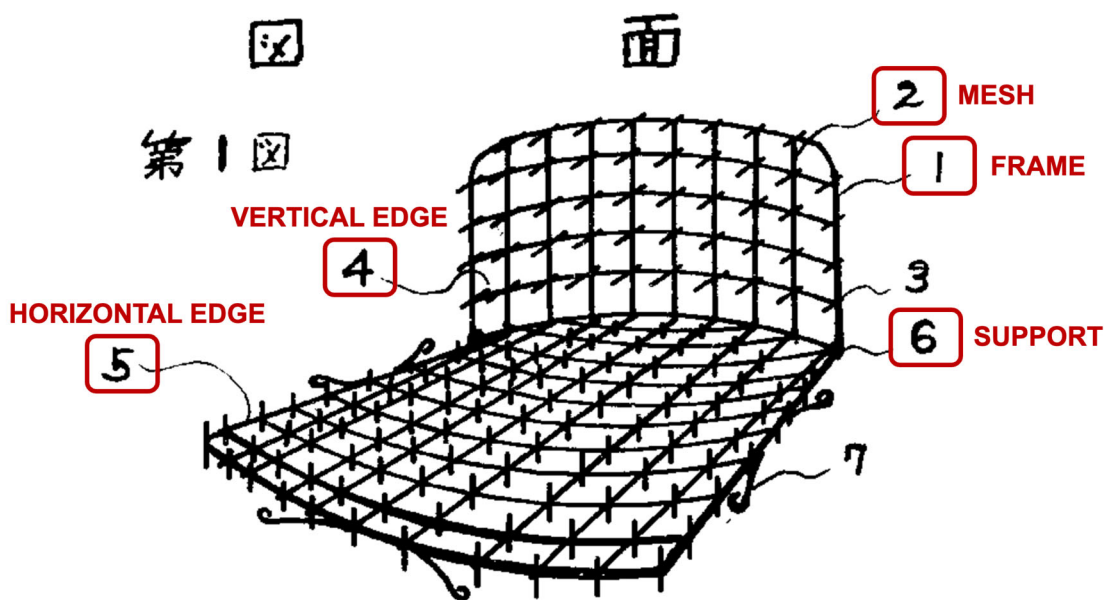
Petitioner submits that no other claim terms require construction to resolve

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, 5, 6, 8, 9, 10, 11, 13, 14, 15, 16, 17, 18, AND 20 WOULD HAVE BEEN OBVIOUS OVER FUSHIMI IN VIEW OF BROWN '098 AND BROWN '394**

**A. Overview of Fushimi**

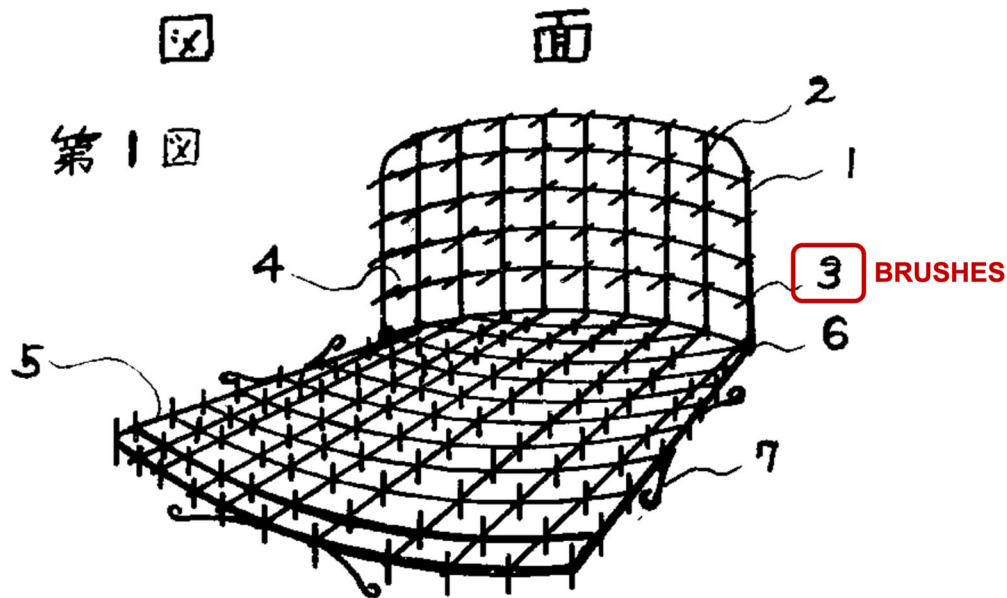
Fushimi (Ex. 1004) discloses a urinal anti-splash device comprising a frame 1 to which a mesh 2 is attached to provide a body having a base (bottom side 5) and an anti-splash body (vertical side 4). Fushimi's base and anti-splash body are joined at support 6. Ex. 1004, 1; Ex. 1003, ¶36.



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).

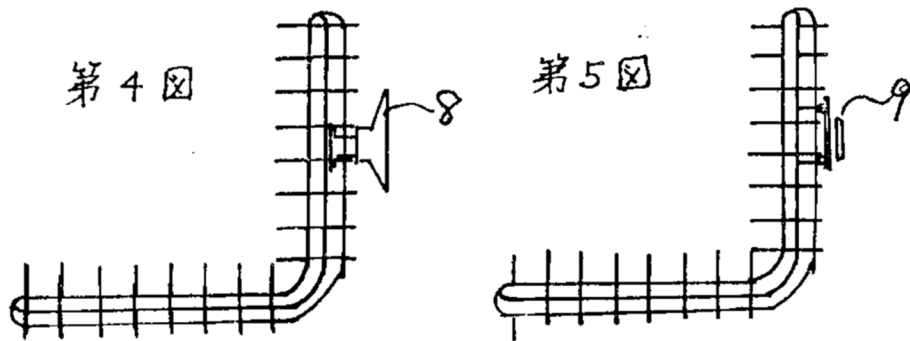
Fushimi's urinal anti-splash device includes fasteners (fastening members 7) for installation in a urinal. *Id.*, 2. The fasteners include a suction cup 8 and/or magnet(s) 9<sup>1</sup> that attach to the rear wall of a urinal. Specifically, Fushimi discloses that "[t]he following are some possible implementations of this device: Attachment

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<sup>1</sup> 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.

of a fastener (7) with a suction cup. Attachment of the fastener (7) with a magnet.”

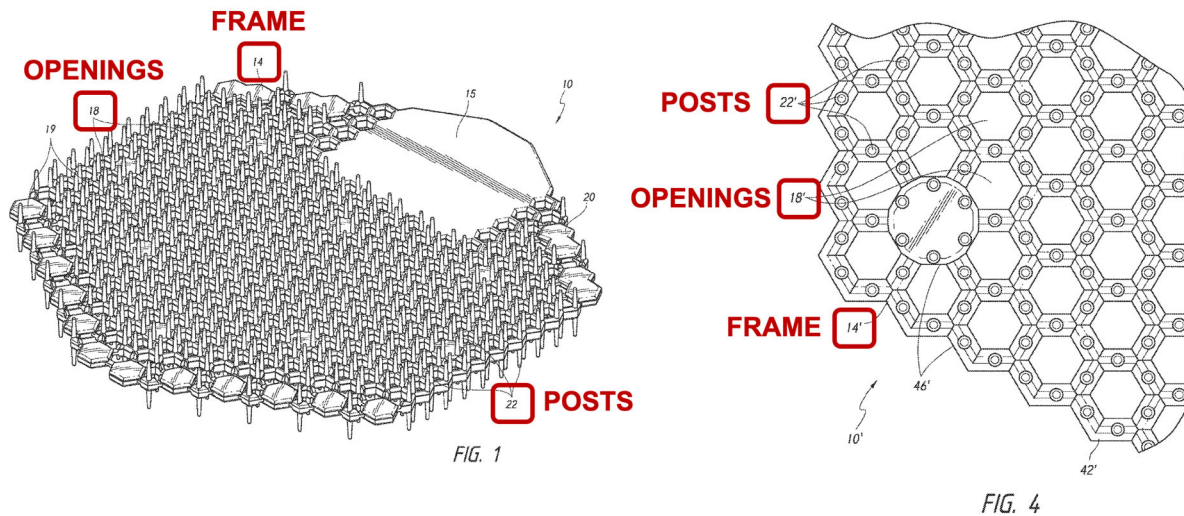
*Id.*, 3.



*Id.*, Figs. 4, 5; Ex. 1003, ¶38.

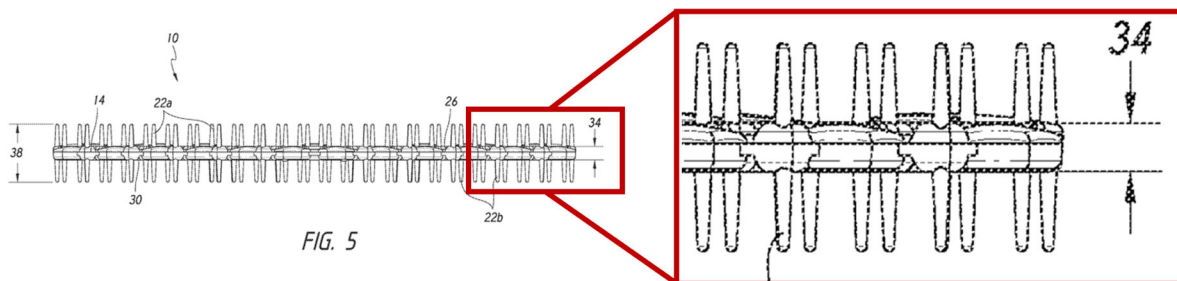
## **B. Overview of Brown '098**

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).

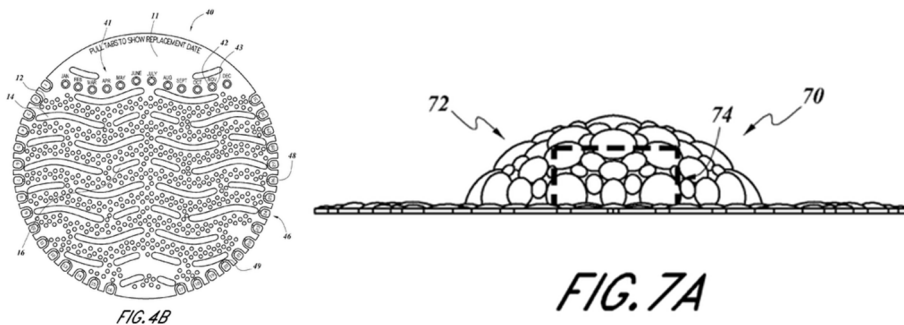
As shown in Figure 5, Brown '098's protrusions are tapered, i.e., they are more narrow at their tip than their base.



*Id.*, Fig. 5 (annotated). Brown '098 describes that the urinal screen can be molded using, for example, a plastic or EVA (ethylene-vinyl acetate). *Id.*, 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 '394 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.*, 11:45-47.

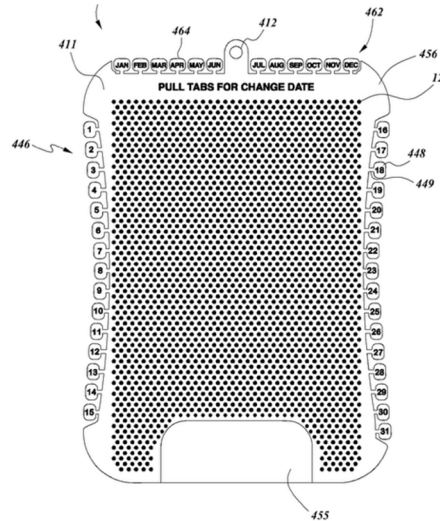


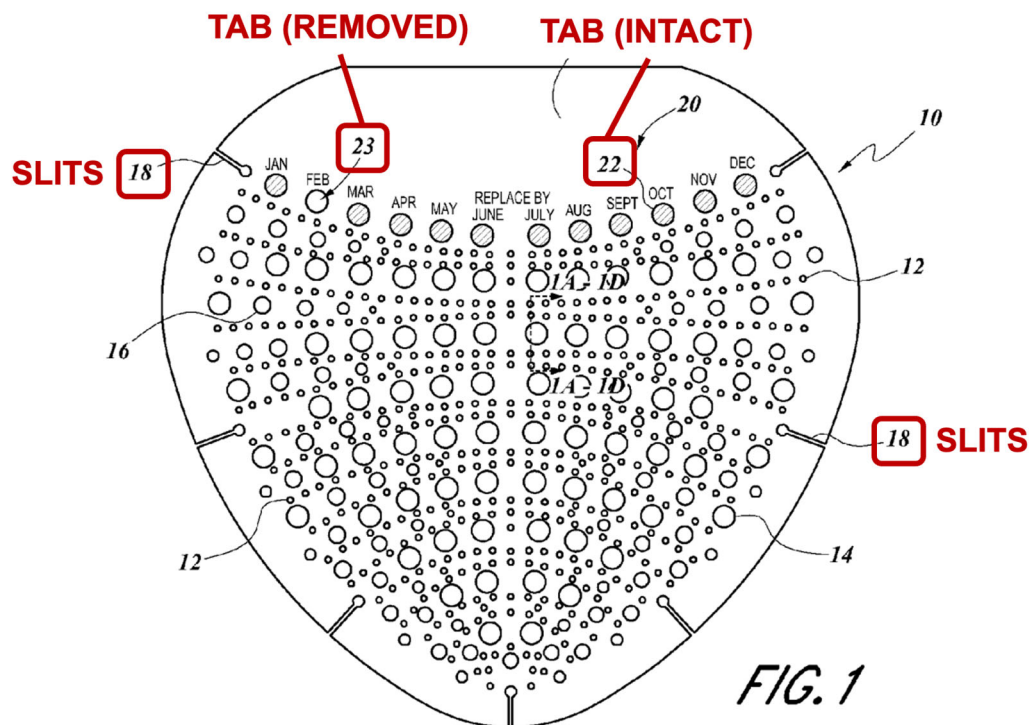
FIG. 12

*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, ¶46.

#### D. Claim 1

As described below, both Fushimi and Brown '394 independently disclose or render obvious a device meeting all limitations of Claim 1. Additionally, in any

event, Claim 1 would have been obvious over the combination of Fushimi and Brown '394 in light of the knowledge of a POSITA, Ex. 1003, ¶¶56-87.

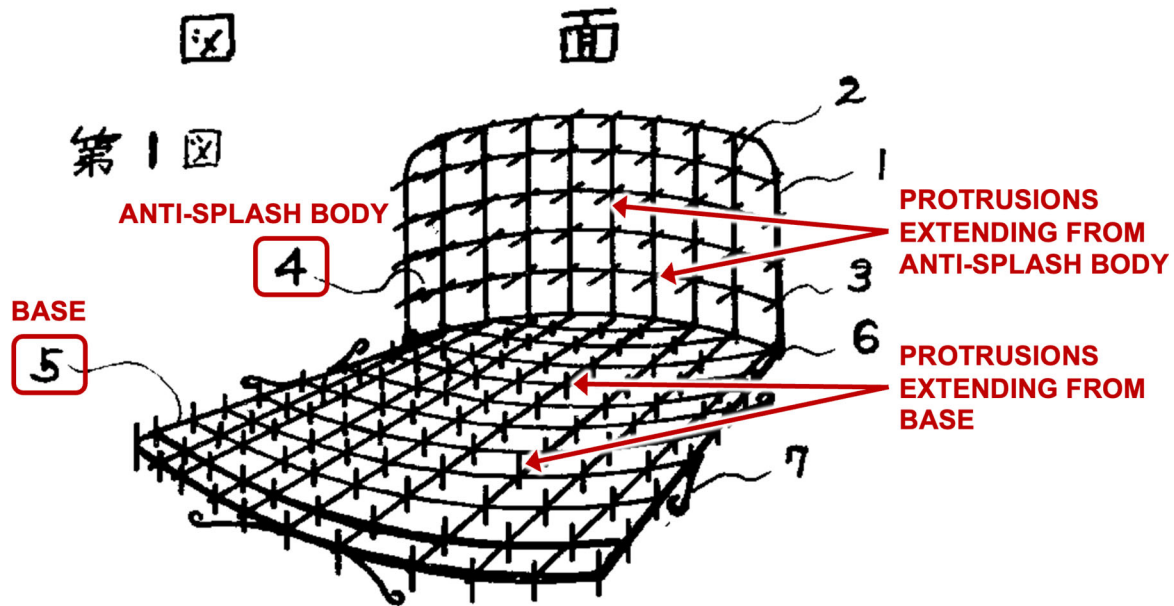
**1. Preamble**

The preamble to Claim 1 recites “[a] urinal anti-splash device.” If the preamble were limiting, both Fushimi and Brown '394 disclose it. Fushimi is titled “urine splash prevention device.” Ex. 1003, ¶58; Ex. 1004. Similarly, Brown '394 describes urinal screens that reduce splashing. Ex. 1003, ¶59; Ex. 1006, 4:19-24.

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

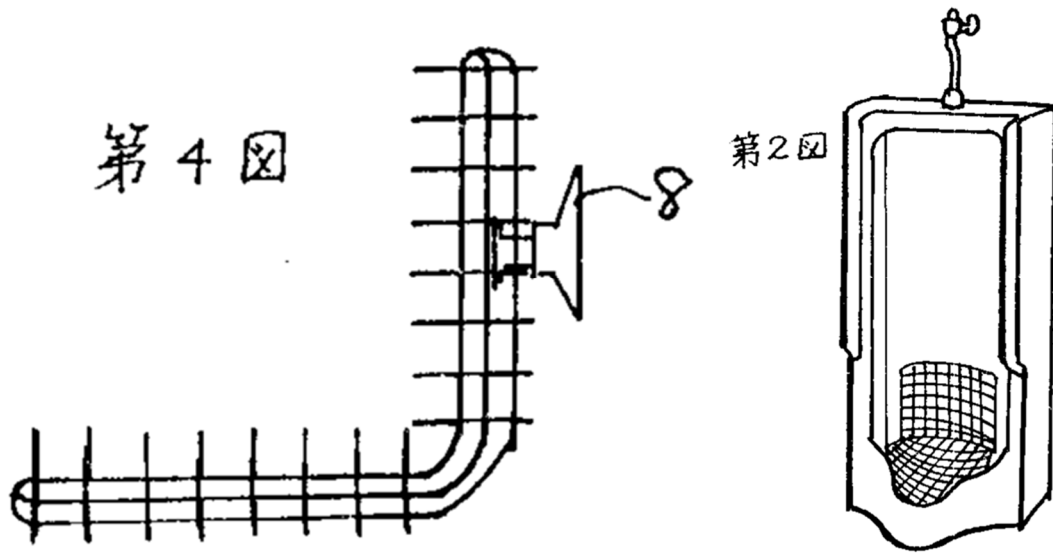
Limitation 1[A] recites: “an anti-splash body configured to be mounted vertically on a back wall of a urinal and having a plurality of protrusions that extend from a front surface of the anti-splash body.” Both Fushimi and Brown '394 independently disclose this limitation, which, in any event, would have been obvious over the combination of Fushimi and Brown '394 in light of the knowledge of a POSITA. Ex. 1003, ¶¶60-65.

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. Fushimi further discloses a plurality of protrusions (brushes 3) extending outwardly from the upper surface of the anti-splash body. *Id.*, 2. The anti-splash body and the plurality of protrusions are shown in Figure 1, below.



*Id.*, Fig. 1. (annotated).

Fushimi discloses an embodiment shown in Figure 4, below, where fastening device 7 includes a suction cup for attaching the anti-splash body to the back wall of a urinal. A POSITA would understand that when Fushimi's device was installed in a urinal, as shown in Figure 2, below, the suction cup would attach to the urinal's back wall and the anti-splash body would be oriented vertically, parallel to the rear wall. Ex. 1003, ¶62.



*Id.*, Figs. 2, 4.

Likewise, Brown '394 discloses this limitation. Brown '394 discloses an embodiment of its urinal screen that “can be can be configured to be installed on the back wall of a urinal.” Ex. 1006, 11:14-15; Ex. 1003 ¶64. A POSITA would understand that a urinal screen mounted on a urinal’s rear wall is an “anti-splash body” as described by the '649 Patent. As shown in Figure 12, below, Brown '394’s anti-splash body has “protrusions 456 configured to reduce splashing.” Ex. 1006, 11:49-50.

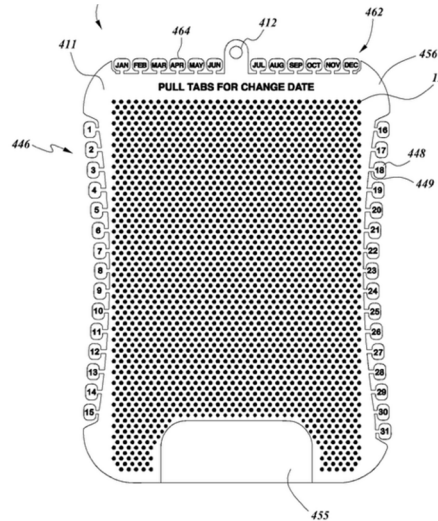


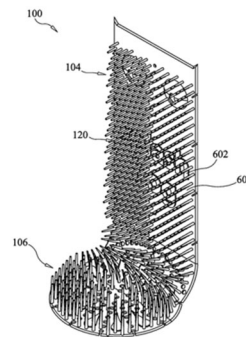
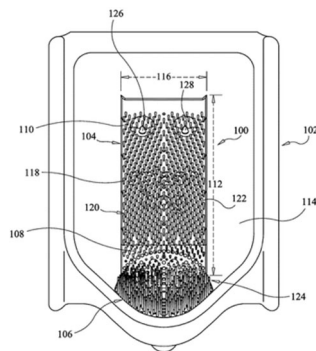
FIG. 12

*Id.*, Fig. 12.

3. **Limitation 1[B]: “a base attached to the anti-splash body at a coupling region . . .”**

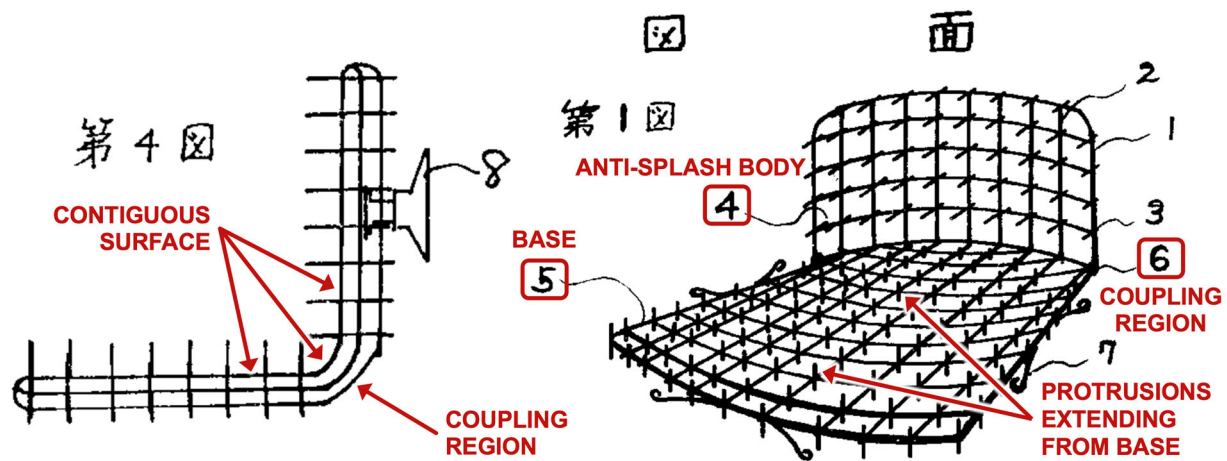
Limitation 1[B] recites: “a base attached to the anti-splash body at a coupling region formed between the base and the anti-splash body, the base being configured to cover at least a portion of a urinal drain and having a plurality of protrusions extending away from the base on a surface of the base that is contiguous with the front surface of the anti-splash body.” Fushimi discloses this limitation. Ex. 1003, ¶¶66-69. Furthermore, the limitation would have been obvious over Brown ’394 in light of the knowledge of a POSITA. Ex. 1003, ¶¶66, 70-72.

Limitation 1[B] reads on the embodiment disclosed in the '649 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.



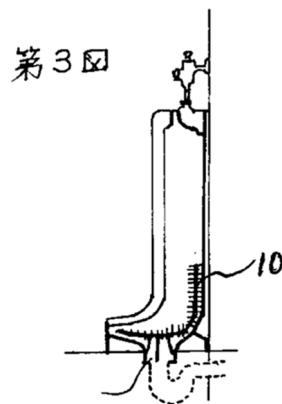
Ex. 1001, Figs. 1, 6.

Fushimi discloses that its splash prevention device includes a base, namely bottom side 5. Ex. 1004, 1. It is coupled to the anti-splash body (vertical side 4) at a coupling region (support 6). *Id.* As shown below, the top surface of Fushimi's base is contiguous with, and extends substantially perpendicular from the first portion of its anti-splash body. Like its anti-splash body, Fushimi's base has protrusions (brushes 3) extending from its top surface.



*Id.*, Fig. 4,1. (annotated)

Finally, 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. 3; *see also* Ex. 1003, ¶69.

Additionally, this limitation would have been obvious in light of Brown '394. Brown '394 discloses the use of two-part screens in a single urinal, namely one part on the back wall and one covering the drain. Ex. 1006, 12:1-5. A POSITA

would understand that the screen covering the drain is a “base” as described by the ’649 Patent. Further, Brown ’394’s urinal screens have protrusions. “The protrusions 12, 14 and 16 are generally formed vertically with respect to the screen body 11 and assist in breaking up the force of the urine stream...” *Id.* 4:20-23.

A POSITA designing a two-part urinal screen or screen assembly as taught by Brown ’394, *Id.*, 12:1-5, would be motivated to manufacture the device as a single unitary assembly, with the two parts joined at a coupling region. 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, ¶72. Finally, a POSITA would have recognized that, when manufactured as a unitary assembly, both parts of a two-part device would share a contiguous surface.

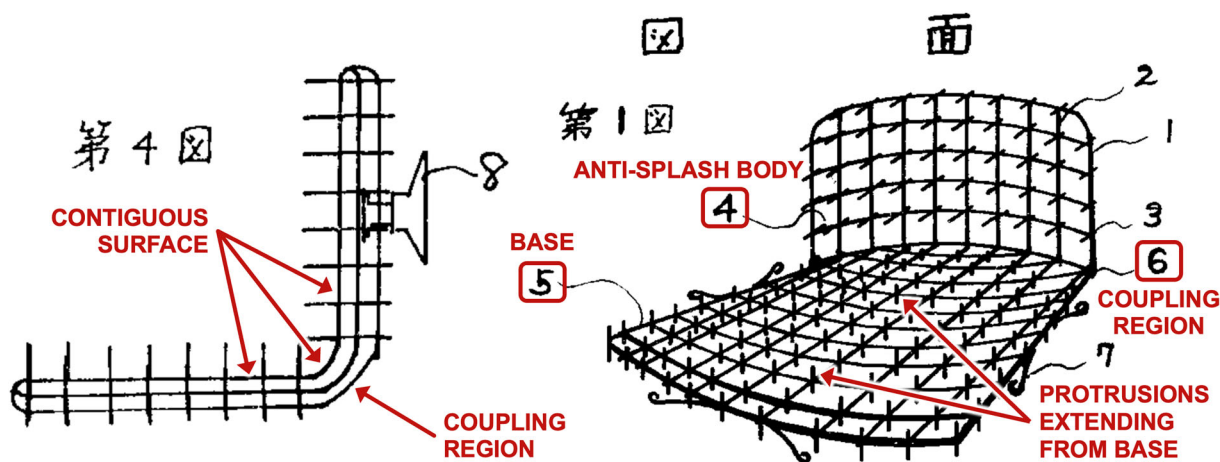
Thus, this limitation would have been obvious over Brown ’394 in light of the knowledge of a POSITA.

**4. Limitation 1[C]: “the coupling region . . .”**

Limitation 1[C] recites: “the coupling region is configured [sic] allow the base to move 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<sup>2</sup> [sic].” Fushimi discloses this limitation. Ex. 1003, ¶¶73-87. Furthermore, the limitation would have been obvious over Brown ’394, alone or combined with Fushimi, in light of the knowledge of a POSITA. *Id.*

Fushimi teaches a coupling region (support 6) between the base and anti-splash body. As depicted in the side views of the Fushimi embodiments below, the coupling region is disposed between the anti-splash body (vertical side 4) and base (bottom side 5).



Ex. 1004, Figs. 1, 4 (annotated); Ex. 1003, ¶74.

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<sup>2</sup> This appears to be a typo and should read “anti-splash body.” Petitioner so treats it herein.

Fushimi teaches that it can be “bent freely” at this region “to make it easy to handle.” Ex. 1004, 2. A POSITA would understand the coupling region allows the base to be moved from a position parallel to the anti-splash body to a position substantially perpendicular to the anti-splash body. Ex. 1003, ¶75.

As discussed in Claim 1[B], above, Brown ’394 teaches a two-part urinal screen or screen assembly, which would have been obvious to manufacture as a unitary assembly with a coupling region connecting the base and the anti-splash body. §VII(D)(3). It would have been obvious to a POSITA that the coupling region would be used to move the base from a position parallel to the anti-splash body to a position substantially perpendicular to the anti-splash body. Ex. 1003, ¶76.

A POSITA would have understood the desirability of manufacturing an L-shaped splash prevention device in a flat configuration for ease of handling and transporting the product, e.g., when packing, storing, and shipping the product. *Id.*, ¶77. Persons of ordinary skill understand that flat products consume less usable space in a box or shipping container compared to three-dimensional products. *Id.* It is customary, when shipping products that will ultimately be bent or reconfigured for use, to ship the products in a flat configuration, possibly with instructions for a retailer or user to bend or re-configure them prior to use. *Id.*

Examples of this technique are common and have been known for decades. *Id.*, ¶78. For example, Thomsen (Ex. 1015) issued in 1899 and discloses “a light, simple, and durable coop especially adapted for poultry and capable of being conveniently folded for shipment when empty and of being quickly set up when required for use.” Ex. 1015, 1:8-13. Partridge (Ex. 1016) issued in 1971 and discloses “collapsible buildings which can be erected easily and collapsed at will for movement to another site or for storage or transportation.” Ex. 1016, 1:24-26. Smith (Ex. 1017) issued in 2011 and discloses “an empty container [that] can be shipped in a knocked-down flat state and opened to form an assembled container that is ready for use. Shipping and storing containers in a knocked-down flat state saves money and space.” Ex. 1017, 1:21-25. Further, foldable stadium-style seats, such as the one shown below, offer an everyday example of a product that can be folded into a flat configuration (below, left) for shipping and storage. Ex. 1003, ¶78. Before use, users reconfigure the base and back support sections in an orthogonal configuration (below, right). *Id.*



Thus, the limitation of 1[C] would have been obvious to a POSITA because (1) Fushimi specifically teaches that the device is adjustable to make it easy to handle; (2) a person of ordinary skill would have recognized configuring the device in a flat configuration for shipping and handling would have been desirable; (3) in such flat configuration the base would be parallel to the anti-splash body; and (4) for use the base would be perpendicular to the anti-splash body. *Id.*, ¶79.

It also would have been obvious to a POSITA to combine the devices of Fushimi and Brown '394 for several reasons. Ex. 1003, ¶¶80-86.

First, A POSITA would have understood that Fushimi and Brown '394 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. Ex. 1003, ¶81. Both devices accomplish these ends using a screen (Fushimi's frame 1 and mesh 2, and Brown '394's screen body 11) that defines a plurality of openings, and a plurality of protrusions extending from the screen (Fushimi's brushes 3, and Brown '394's protrusions 12). *Id.*; Ex. 1006, 3:54-55 (disclosing "[an] embodiment where the screen body 11 has protrusions 12 and openings 14"). The protrusions of both devices extend from the upper surface of the device, and help reduce splashing by breaking apart a urine stream before it impacts against the urinal's rear wall. Ex. 1003, ¶81.

Second, Fushimi is more terse and its figures less detailed than Brown '394. A POSITA would have looked to Brown '394 for its more specific disclosures including manufacturing instructions and material selection. *Id.*, ¶82. For example, Brown '394 discloses the use of injection molding. Ex. 1006, 8:52-54. Additionally, Brown '394 discloses many examples of thermoplastic resins that may be used to manufacture its device, *id.* 7:30-51, and manufacturing instructions including specific temperatures and material percentages. *Id.* 12:6-18.

Third, A POSITA would have looked to Brown '394 for features of the device, including Brown '394's screen body, protrusions, and openings in view of the generically described mesh and brushes of Fushimi. Ex. 1003, ¶83. Using Brown's screen body, protrusions, and openings for Fushimi's mesh and brushes

would have constituted no more than a routine design choice. *Id.*

Fourth, a POSITA would have understood that using Brown '394's screen body for Fushimi's mesh would have constituted nothing more than a simple substitution of one known element—Brown '394's screen body, with its protrusions and openings—for another known element—Fushimi's more generically described mesh, with its brushes. *Id.*, ¶84.

Fifth, 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 '394 for the additional reason that Brown '394 describes a device molded as a single piece. Ex. 1003, ¶85

Finally, A POSITA also would have had a reasonable expectation of success in modifying Fushimi to use Brown '394's screen body, protrusions, and openings. *Id.*, ¶86. A POSITA would have understood that using Brown '394's screen body, protrusions, and openings 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 '394's screen body, protrusions, and openings would require minimal design changes and advantageously provide a single-piece, molded urinal screen device. And a

POSITA would recognize the device would be configurable to have a base that was perpendicular to an anti-splash body either by using perforations to separate the base from the anti-splash body or simply folding the two portions using slits as disclosed in Brown '394. *Id.*

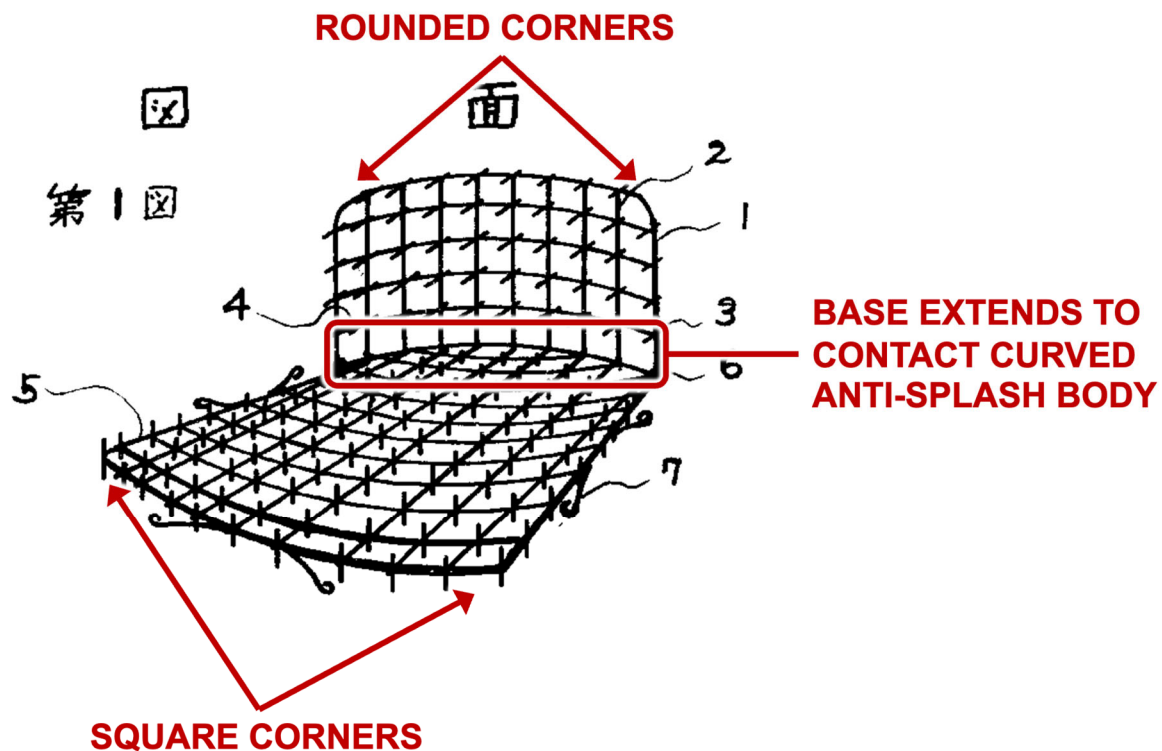
Because the Fushimi and Brown '394 each independently disclose each limitation of Claim 1, and, in any event, the combination of Fushimi and Brown '394 teaches a urinal anti-splash device satisfying each limitation of Claim 1, the claimed invention would have been obvious. *Id.*, ¶87.

**E. Claim 2**

Claim 2 depends from Claim 1 and adds that “the anti-splash body is of a shape different than a shape of the base.” Fushimi discloses this additional limitation. Ex. 1003, ¶¶88-93, 95. Furthermore, this limitation would have been obvious over Brown '394 in light of the knowledge of a POSITA. *Id.*, ¶¶88, 91-95.

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 shapes of the base (horizontal) and body (vertical) have different relative orientations. Third, 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 downwardly toward the urinal's floor but does not extend past the ends of the parallel sides toward the user. The base's rear edge, however, extends past the sides in order to make continuous contact with the concave front surface of the anti-splash body as it curves along the urinal's rear wall.



Ex. 1004, Fig. 1 (annotated); see also Ex. 1003, ¶¶89-90.

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 of Fushimi's base and anti-splash body to better fit into various urinal designs. A POSITA would also have realized that it would be desirable to make the vertical anti-splash body longer to cover a greater portion of the urinal back wall, as discussed in Claim 6, below. §VII(G); Ex. 1003, ¶92.

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. Ex. 1003, ¶93-94. 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. As discussed in Claim 1, above, it would have been obvious to a POSITA to manufacture Brown '394's two-part urinal screen, using the disclosed shapes, as a single unitary assembly. §VII(D).

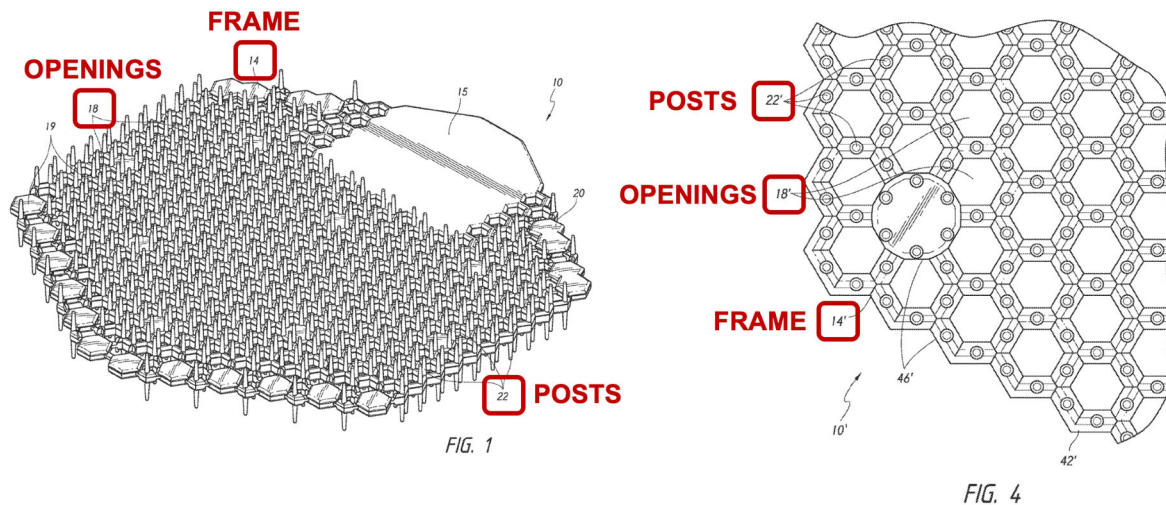
Accordingly, the claimed invention would have been obvious to a POSITA over Fushimi, Brown '098, and Brown '394. Ex. 1003, ¶95.

**F. Claim 5**

Claim 5 depends from Claim 1 and adds that “the plurality of protrusions taper downwardly in a direction toward an [sic] front surface of the anti-splash body and the base.” Brown '098 discloses the additional limitation. Ex. 1003, ¶¶96-106.

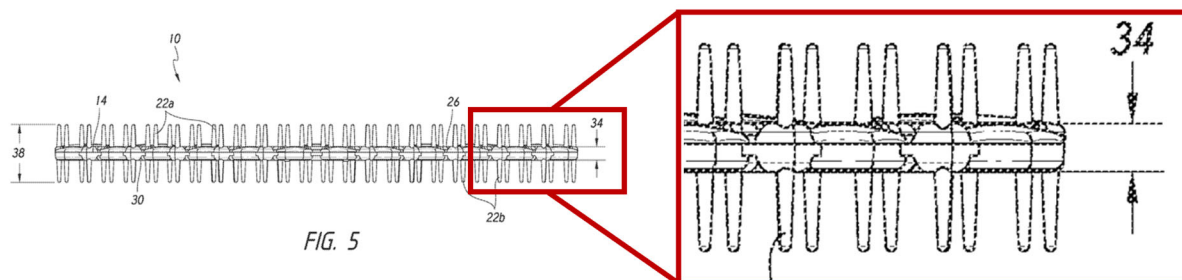
As discussed in Claim 1, above, Fushimi discloses an anti-splash body and a base that each have a plurality of protrusions extending from both faces. §VII(D).

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 priority date of the '649 Patent, would have been motivated to combine Fushimi's urinal anti-splash device with features of Brown '098's urinal screen to achieve the invention of the '649 Patent for several reasons.

Ex. 1003, ¶¶92-98.

First, A POSITA would have understood that Brown '098 and Fushimi disclose the same type of devices. *Id.*, ¶93. 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 '098's frame 14) defining a plurality of openings. Both also include a plurality of protrusions (Fushimi's brushes 3, and Brown '098's posts 22) that extend from the upper surface of the device and break apart a stream of urine to reduce splashing. *Id.*

Fushimi is more terse and its figures less detailed than Brown '098. Brown '098 includes manufacturing techniques (e.g. injection molding), manufacturing instructions, and specific materials suitable for manufacturing its urinal screen. *See, e.g.*, Ex. 1005, 4:16-34. A POSITA would have looked to Brown '098 for features of the device, including its frame and tapered posts in view of the generically described mesh and brushes of Fushimi. Ex. 1003, ¶¶101-02. Using Brown '098's frame and posts for Fushimi's mesh and brushes would have constituted no more than a routine design choice. *Id.*, ¶102.

Second, a POSITA would have understood that using Brown '098's frame for Fushimi's mesh would have constituted nothing more than a simple substitution

of one known element—Brown ’098’s frame and posts—for another known element—Fushimi’s more generically described mesh and brushes. *Id.*, ¶103.

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 ’098 for the additional reason that Brown ’098 describes a device molded as a single piece. Ex. 1003, ¶104.

A POSITA also would have had a reasonable expectation of success in modifying Fushimi to use Brown ’098’s frame and posts. *Id.*, ¶105. A POSITA would have understood that using Brown ’098’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 ’098’s frame and posts would require minimal design changes and advantageously provide a single-piece, molded urinal screen device. *Id.*

Accordingly, the claimed invention would have been obvious to a POSITA over Fushimi, Brown ’098, and Brown ’394. Ex. 1003, ¶106.

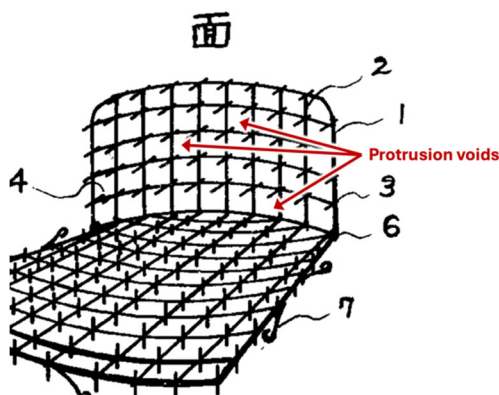
**G. Claim 6**

Claim 6 depends from Claim 1 and adds that “the plurality of protrusions on the anti-splash body substantially span a longitudinal length of the anti-splash body

and define a plurality of protrusions voids between the protrusions of the plurality of protrusions.” This limitation would have been obvious over Fushimi in light of the knowledge of a POSITA. Ex. 1003, ¶¶107-19.

The '649 Patent describes that protrusion voids “permit the urine to effectively flow in the downward direction toward the urinal drain,” Ex. 1001, 8:29-37, and “may also provide space for the protrusions 118 to bend and deflect when struck by the urine.” *Id.* 7:11-13.

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, 1.

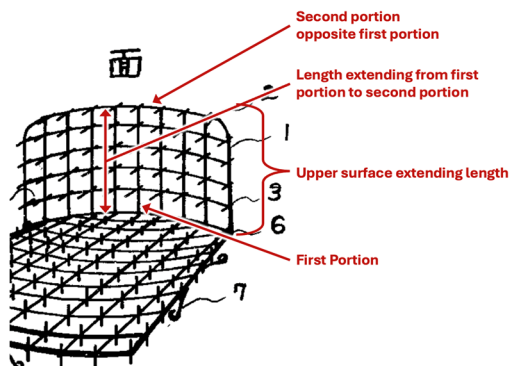


*Id.*, Fig. 1 (annotated).

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 when struck by urine. Ex. 1003, ¶110.

Regarding “span[ing] a longitudinal length,” Fushimi teaches this. According to the '649 Patent specification a “longitudinal length” is a length in an “elongated direction.” Ex. 1001, 4:48-52. Fushimi discloses an anti-splash body that extends vertically along and couples to the rear wall of a urinal. In the embodiment depicted in Fushimi the anti-splash body is not elongated as defined in the '649 Patent because it does not have a length at least 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, ¶112. 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, ¶112.

An anti-splash device with an anti-splash body extending up the back wall of a urinal of the ’649 Patent was a known element in view of the essentially identical device in Fushimi. Ex. 1003, ¶113. 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 of 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, ¶113.

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, ¶114.

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, ¶115.

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.*, ¶116.

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 ’649 Patent’s invention. *Id.* ¶117. 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.”).

Accordingly, the claimed invention would have been obvious to a POSITA over Fushimi, Brown ’098, and Brown ’394. Ex. 1003, ¶119.

#### H. Claim 8

Independent Claim 8 is directed to a urinal anti-splash device. Claim 8 is set forth below (with reference numbers added and the main claim element bolded):

| Claim 8  |                                                                                                                                                                                                                                                                                                                                                                                                        |
|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Preamble | A urinal anti-splash device comprising:                                                                                                                                                                                                                                                                                                                                                                |
| 8[A]     | <b>an anti-splash body</b> configured to be mounted on a back wall of a urinal,<br>the anti-splash body including <b>a plurality of protrusions</b> extending from a front surface of the anti-splash body,<br>wherein at least some of the protrusions have a base at the front surface of the anti-splash body that is wider than a top of the protrusion at the opposite end of the protrusion; and |

| Claim 8 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|---------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 8[B]    | <p><b>a base</b> that is attached to the anti-splash body</p> <p>and which is configured to extend in a direction substantially perpendicular from the anti-splash body to at least partially cover a drain of a urinal,</p> <p>and which further includes <b>a plurality of protrusions</b> extending outwardly from the base which are arranged to extend in a direction substantially perpendicular to plurality of protrusions of the anti-splash body.</p> |

Claim 8 generally corresponds to Independent Claim 1 and Dependent Claim 5 addressed above. The table below lists each limitation of Claim 11 and where the limitation has been previously 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 5)       |
| 11[B]                | <i>See</i> §§VII(D)(3) (Claim 1[B]); VII(D)(4) (Claim 1[C]) |

Because the combination of Fushimi, Brown '098, and Brown '394 teaches a urinal anti-splash device satisfying each limitation of Claim 8, the claimed invention would have been obvious. Ex. 1003, ¶¶120-24.

**I. Claim 9**

Claim 9 depends from Claim 8 and adds that “the base is of a shape different than a shape of the anti-splash body.” As discussed in Claim 2, above, Fushimi discloses this additional limitation. §VII(E); Ex. 1003, ¶¶125-26.

Accordingly, the claimed invention would have been obvious to a POSITA over Fushimi, Brown '098, and Brown '394. Ex. 1003, ¶126.

**J. Claim 10**

Claim 10 depends from Claim 8 and adds that “the anti-splash body includes an elongated shape of a flexible material.” This limitation would have been obvious over Fushimi in light of the knowledge of a POSITA. Ex. 1003, ¶¶127-31.

As discussed in Claim 6, above, it would have been obvious to a POSITA to elongate Fushimi’s anti-splash body. §VII(G). Fushimi further 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, ¶129.

Accordingly, the claimed invention would have been obvious to a POSITA over Fushimi, Brown '098, and Brown '394. Ex. 1003, ¶131.

**K. Claim 11**

Claim 11 depends from Claim 8 and adds that the anti-splash device further comprises “at least one fastener that is sized and shaped to orient the anti-splash body in a vertical direction parallel to a vertical direction of a urinal wall.” As discussed in Claim 1, above, Fushimi discloses this additional limitation. §VII(D); Ex. 1003, ¶¶132-33.

Accordingly, the claimed invention would have been obvious to a POSITA over Fushimi, Brown '098, and Brown '394. Ex. 1003, ¶133.

**L. Claim 13**

Claim 13 depends from Claim 8 and adds “a perforated coupling region disposed between the anti-splash body and the base, the perforated coupling region configured to allow the base [sic] move 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.” Fushimi discloses this limitation, and this limitation would have been obvious to a POSITA in light of Brown '394. Ex. 1003, ¶¶ 134-43.

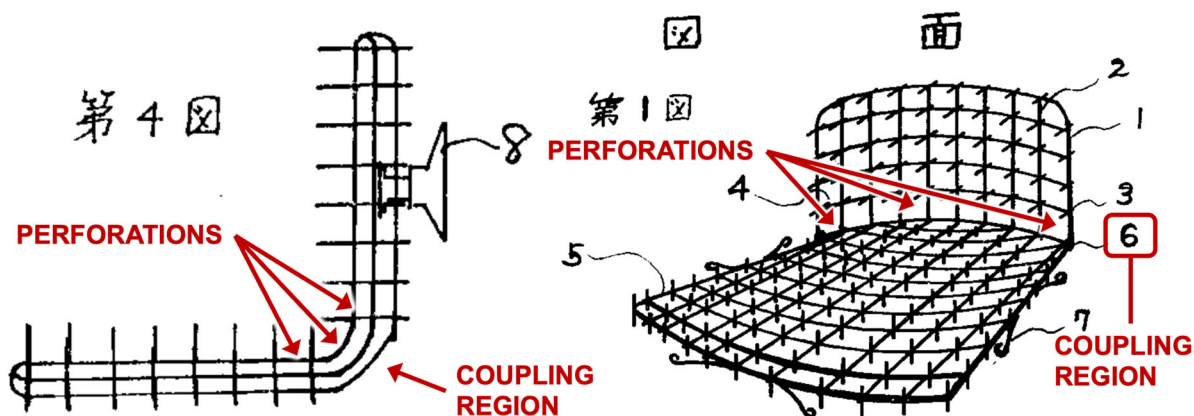
Claim 13 requires that, in the second position, the base must be in the direction substantially perpendicular from *the first portion* of the anti-splash body. The '649 Patent specification describes “the first portion” as the bottom portion that couples to the base. “FIG. 1 depicts the anti-splash body 104 having a first portion 108, a second portion 110 opposite the first portion 108, and a length 112, i.e., a longitudinal length, extending from the first portion 108 to the second portion”. Ex. 1001, 6:8-11. “With reference now to FIG. 2, the base 106 is depicted as being coupled to the first portion 108 of the anti-splash body 104.” *Id.* 7:27-29.

For the purposes of this Petition only, Petitioner assumes that “the first portion” of the anti-splash body is the bottom part of the anti-splash body that connects to the base.

The '649 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.” *Id.*, 7:47-53. The specification also states that the base may be translated from the first position

(parallel to anti-splash body) to the second, perpendicular position when coupled to or separated from the anti-splash body. *Id.*, 2:17-21.

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.



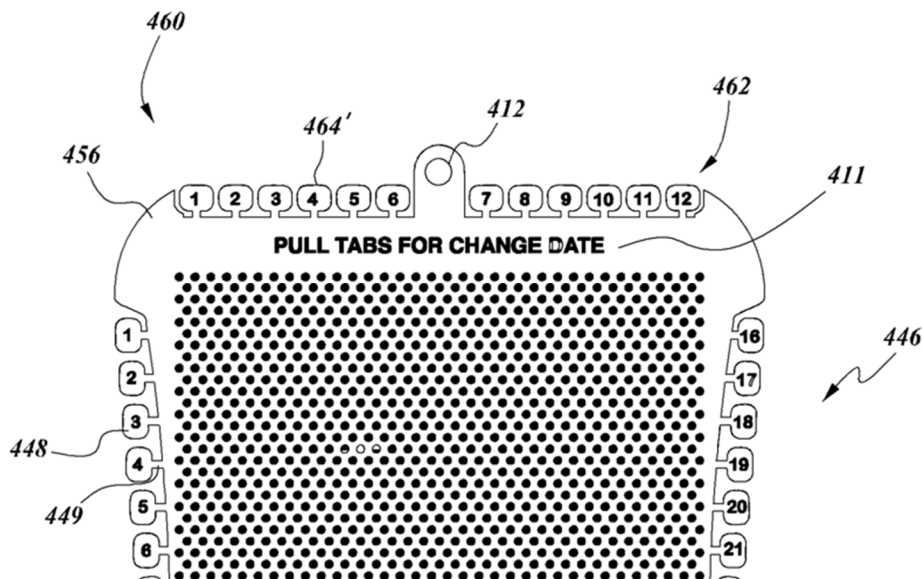
Ex. 1004, Figs. 1, 4 (annotated); Ex. 1003, ¶136.

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, ¶137. As described above, Fushimi teaches that it can be “bent freely” at this region “to make it easy to handle.” Ex. 1004, 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, ¶137. Thus, Fushimi teaches the limitation of Claim 6. *Id.*

Brown '394 similarly teaches, or at least suggests, the added limitation of Claim 13. Brown '394 discloses a perforated coupling region. As discussed above, Brown '394 discloses urinal screens with perforations to separate portions of the screen. §VII(C). 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, ¶138.

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 '394 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 '649 Patent's invention, to join the two parts at a perforated coupling region based on the teachings of Brown '394 and Fushimi. Ex. 1003, ¶¶140-42.

A POSITA designing a two-part screen would be motivated to manufacture the device as a single unitary assembly, which would be bent or 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, ¶41.

A POSITA would understand that a perforated region, as taught by Brown '394, 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, ¶142. Additionally, a POSITA would understand that Brown '394 also teaches slits 18 that provide the user with an indication of where the user of a two-part urinal screen manufactured as a unitary assembly would allow a user to fold or translate the two parts from parallel to perpendicular while they remained coupled. *Id.*

Accordingly, the invention of Claim 13 would have been obvious to a POSITA over Fushimi, Brown '098, and Brown '394. Ex. 1003, ¶143.

**M. Claim 14**

Claim 14 depends from Claim 8 and adds that “the base is made of buoyant material.” Brown '098 discloses this additional limitation. Ex. 1003, ¶¶144-47.

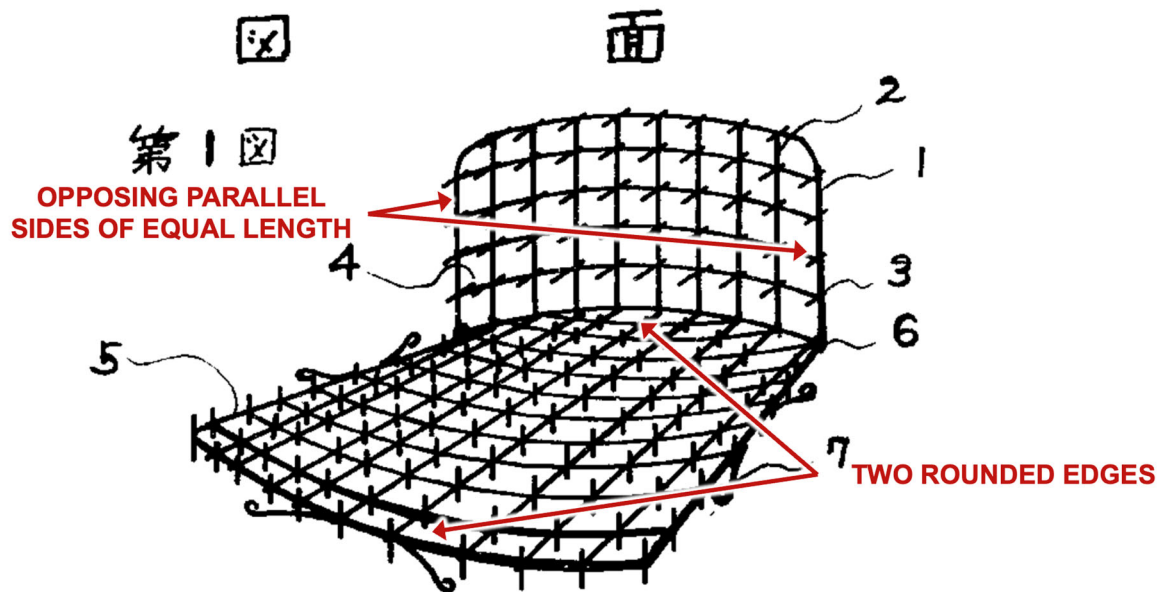
Brown '098 discloses that its frame and posts can be made molded from ethylene vinyl acetate (EVA). Ex. 1005, 4:22-25. A POSITA would know that EVA is a buoyant material. Ex. 1003, ¶146; Ex. 1022.

Accordingly, the claimed invention would have been obvious to a POSITA over Fushimi, Brown '098, and Brown '394. Ex. 1003, ¶147.

**N. Claim 15**

Claim 15 depends from Claim 8 and adds that “the anti-splash body is a rectangular-like shape, and the base is a circular-like shape.” Fushimi discloses this additional limitation. Ex. 1003, ¶¶148-49, 154. Additionally, this additional limitation would have been obvious over Brown '394 and/or Brown '098. *Id.*, 150-54.

As discussed in Claim 1, above, Fushimi discloses an anti-splash device with an anti-splash body and a base. §VII(D). As shown below, Fushimi's anti-splash body is “rectangular-like” because, using the definition of the '649 Patent, it includes a pair of opposing parallel sides of equal length. Fushimi's anti-splash body is therefore a rectangular-like shape. Ex. 1003, ¶149. Likewise, Fushimi's base is “circular-like” because, using the definition of the '649 Patent, it has at least two rounded edges. *Id.*



Ex. 1004, Fig. 1 (annotated).

It also would have been obvious to a POSITA to make a urinal screen with a rectangular-like anti-splash body and a circular-like base based on the disclosures in Brown '394 and Brown '098, in light of the knowledge of a POSITA. Ex. 1003, ¶¶150-53.

As discussed in Claim 1, above, Brown '394 discloses a two-part urinal screen, and a POSITA would have been motivated to manufacture such a screen as a single, unitary assembly. §VII(D). In doing so, A POSITA would have been motivated to shape a urinal screen according to the contours of the urinal in which it would be installed based, and doing so was common at the time of the '649 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, ¶151.

A POSITA would have recognized that urinal drains are typically round. Ex. 1001, 8:52-54; Ex. 1003, ¶152. Accordingly, using round urinal screens to cover round drains was common at the time. *See, e.g.*, Ex. 1005, 4:11-14 (disclosing that its urinal screen is round, among other shapes); *See also e.g.*, 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 and may be adapted for placement in a urinal”); Ex. 1003, ¶152.

Similarly, A POSITA would recognize that the upstanding portion of a urinal, i.e. its back wall, is generally rectangular, having two sides extending vertically, parallel to each other. Ex. 1003, ¶153. A POSITA would have naturally been motivated to make the anti-splash body rectangular-like to match the shape of rectangular urinals. For example, Brown ’394 discloses a rectangular embodiment, shown below, “configured to be installed on the back wall of a urinal.” Ex. 1006, 11:14-15. This embodiment has a pair of opposing, parallel sides, and is therefore rectangular-like.

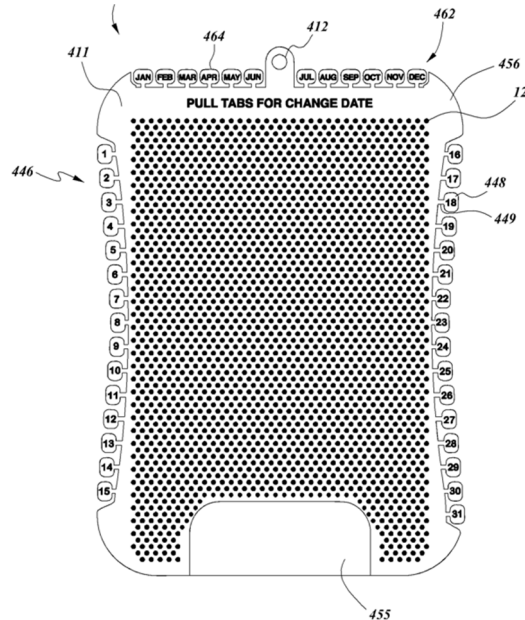


FIG. 12

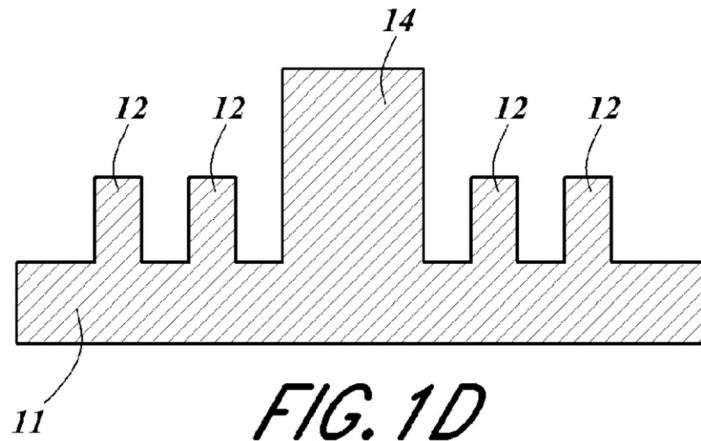
Ex. 1006, Fig. 12; *See also, e.g.*, Ex. 1009 (disclosing a rectangular-like urinal screen for installation on the rear wall of a urinal); Ex. 1011 (same); Ex. 1012 (same); Ex. 1013 (same).

Accordingly, the claimed invention would have been obvious to a POSITA over Fushimi, Brown '098, and Brown '394. Ex. 1003, ¶154.

**O. Claim 16**

Claim 16 depends from Claim 8 and adds “wherein the plurality of protrusions on the anti-splash body are of a variable length.” This limitation is disclosed by Brown '394 and Brown '098. Ex. 1003, ¶¶155-58.

Brown '394 discloses that its protrusions may vary in size, shape, and pattern, as shown below.



Ex. 1006, Fig. 1D.

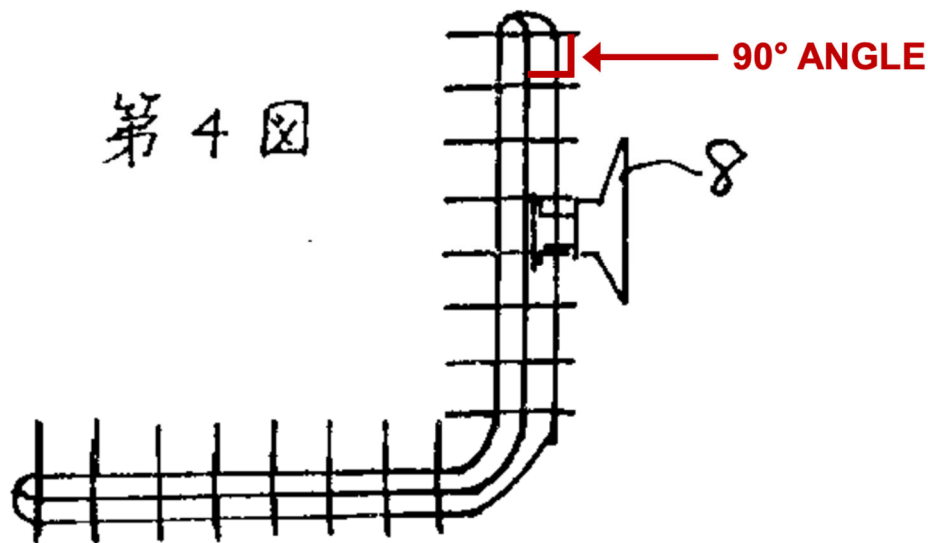
Similarly, Brown '098 discloses using a variety of lengths for its posts. Ex. 1005, 6:10-18.

Accordingly, the claimed invention would have been obvious to a POSITA over Fushimi, Brown '098, and Brown '394. Ex. 1003, ¶158.

**P. Claim 17**

Claim 17 depends from Claim 8 and adds that the anti-splash device further comprises “an angled surface at a top of the anti-splash body that is configured to direct a flow of water from the back wall of the urinal over the front surface of the anti-splash body when the anti-splash device is mounted in the urinal.” Fushimi discloses this additional limitation. Ex. 1003, ¶¶159-62.

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; Ex. 1003, ¶160. A POSITA would understand that Fushimi’s angled portion would help direct flush water passing in front of the device onto the face of the device and ensure adequate spacing between the device and the rear wall of the urinal to ensure water could flow over the entire device. *Id.*

Accordingly, the claimed invention would have been obvious to a POSITA over Fushimi, Brown ’098, and Brown ’394. Ex. 1003, ¶162.

**Q. 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 with the septs and main element bolded):

| <b>Claim 18</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-----------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Preamble        | A method of mounting a urinal anti-splash device within a urinal comprising:                                                                                                                                                                                                                                                                                                                                                                          |
| 18[A]           | <b>providing a urinal anti-splash device</b> including:                                                                                                                                                                                                                                                                                                                                                                                               |
| 18[A][1]        | <b>an anti-splash body</b> configured to be mounted on a back wall of a urinal, the anti-splash body including <b>a plurality of protrusions</b> extending from a front surface of the anti-splash body, wherein at least some of the protrusions have a base at the front surface of the anti-splash body that is wider than a top of the protrusion at the opposite end of the protrusion;                                                          |
| 18[A][2]        | <b>a base</b> that is attached to the anti-splash body and which is configured to extend in a direction substantially perpendicular from the first portion to cover a drain of a urinal, and which further includes <b>a plurality of protrusions</b> extending outwardly from the base, the second plurality of protrusions are arranged to extend in a direction substantially perpendicular from plurality of protrusions of the anti-splash body; |
| 18[B]           | <b>mounting the anti-splash body on the back wall of a urinal;</b><br>and                                                                                                                                                                                                                                                                                                                                                                             |
| 18[C]           | <b>placing the base over a urinal drain.</b>                                                                                                                                                                                                                                                                                                                                                                                                          |

**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, ¶¶164-65.

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

The device recited in Claim 18 is, with two variations, almost identical to the device claimed in Claim 8, is disclosed or rendered obvious by the same references and for the same reasons discussed in §§VII(D), (F), and (H) above. Ex. 1003, ¶¶166-68.

The variations in Claim 18 are insignificant for the purposes of this IPR. Whereas the device of Claim 8 has a base with protrusions that extend generally perpendicular to *the anti-splash body*, Claim 18 recites a base with protrusions that extend generally perpendicular to “the first portion.” *Compare* Ex. 1001, Claim 8 *with* Claim 18. As described above, the ’649 Patent specification describes “the first portion” as the bottom part of the anti-splash body that couples to the base. *Id.*, 6:8-11; 7:27-29.

Likewise, whereas the device of Claim 8 has a base with a “plurality of protrusions extending outwardly from the base which are arranged to extend in a

direction. . .”, the device of Claim 18 instead has a base with “a plurality of protrusions extending outwardly from the base, *the second plurality of protrusions* are arranged to extend in a direction . . .” *Compare* Ex. 1001, Claim 8 *with* Claim 18. This difference in language does not impact the scope of the claims. Per the specification, the “second plurality of protrusions” are the protrusions that extend from the base. *Id.* 10:40-47.

As discussed in Claim 1, above, Fushimi’s base extends perpendicularly from the bottom (i.e. “first”) portion of its anti-splash body, and the plurality of protrusions extending from the base (i.e. “the second plurality”) extend perpendicularly from the plurality of protrusions extending from the anti-splash body. §VII(D).

**3. Limitations 18[B]-18[C] (the method limitations)**

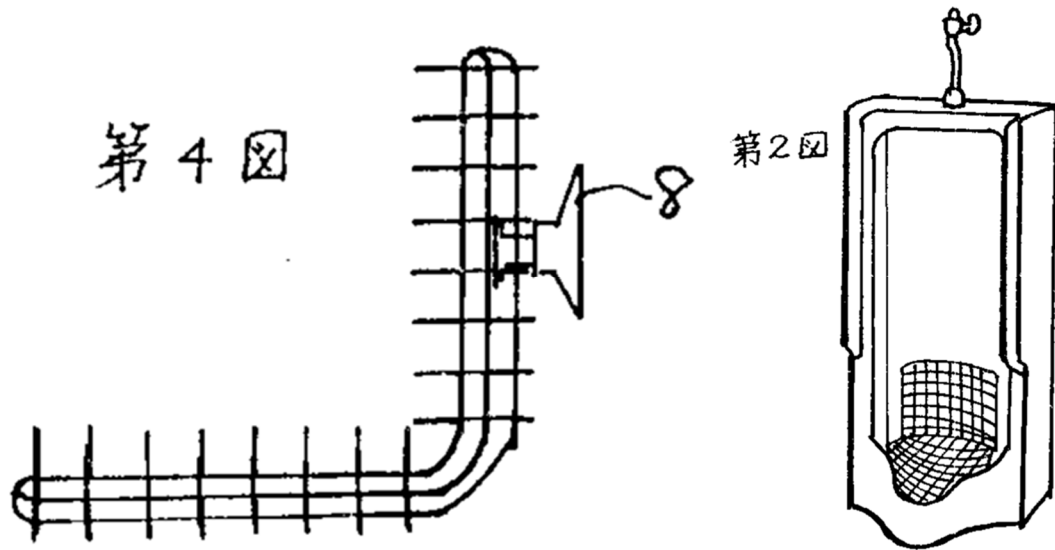
**a. Limitation 18[B]: “mounting the anti-splash body . . .”**

Limitation 18[B] recites: “mounting the anti-splash body on the back wall of a urinal.” Fushimi discloses this method step. Ex. 1003, ¶¶169-70.

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.



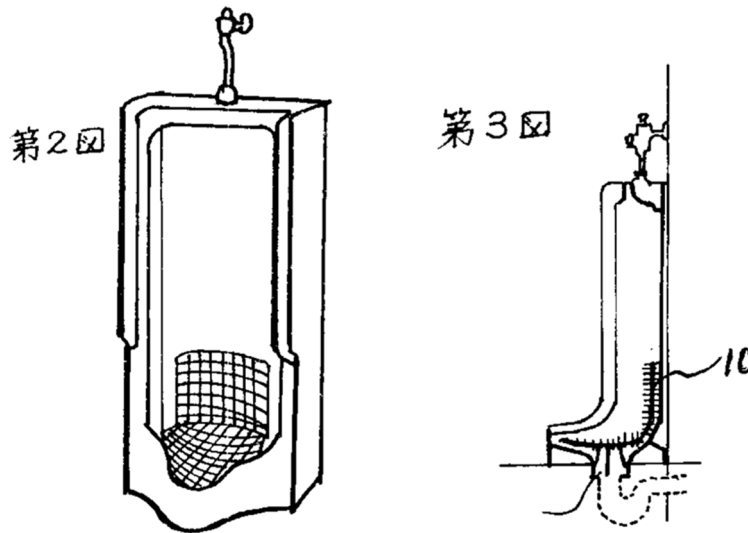
*Id.*, Figs. 4, 2. As discussed in Claim 1[A], above, when attached with the suction cup, the anti-splash body is mounted to a back wall of the urinal. §VII(D)(2); Ex. 1003, ¶170.

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

Limitation 18[C] recites: “placing the base over a urinal drain.” Fushimi discloses this method step. Ex. 1003, ¶¶171-74.

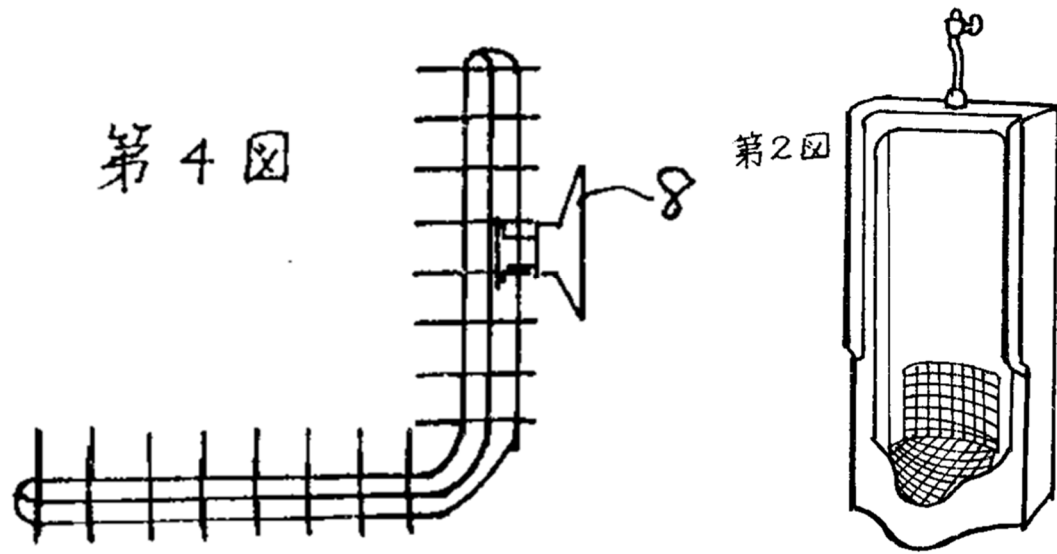
As discussed in Claim 1, above, Fushimi discloses that the base of its urinal anti-splash device is placed over a urinal drain. §VII(D). “Attachment [is possible] by stretching it into the drainage cavity of the urinal.” Ex. 1004, 4. Additionally,

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, ¶173.



Ex. 1004, Figs. 4, 2.

Because the combination of Fushimi, Brown '098, and Brown '394 discloses each element of Claim 18, the claimed invention would have been obvious. *Id.*, 174.

#### **R. Claim 20**

Claim 20 depends from Claim 18 and adds an additional step of “bending the urinal anti-splash device at a perforated coupling region[.]” As discussed in Claims 1 and 13, above, Fushimi discloses this additional step. §§VII(D), (L); Ex. 1003, ¶¶175-76.

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.

Accordingly, the claimed invention would have been obvious to a POSITA over Fushimi, Brown '098, and Brown '394. Ex. 1003, ¶176.

**VIII. GROUND 2: CLAIMS 6, 10, 15 AND 17 WOULD HAVE BEEN OBVIOUS OVER THE PRIOR ART OF GROUND 1 IN VIEW OF VALADEZ AND/OR WISE**

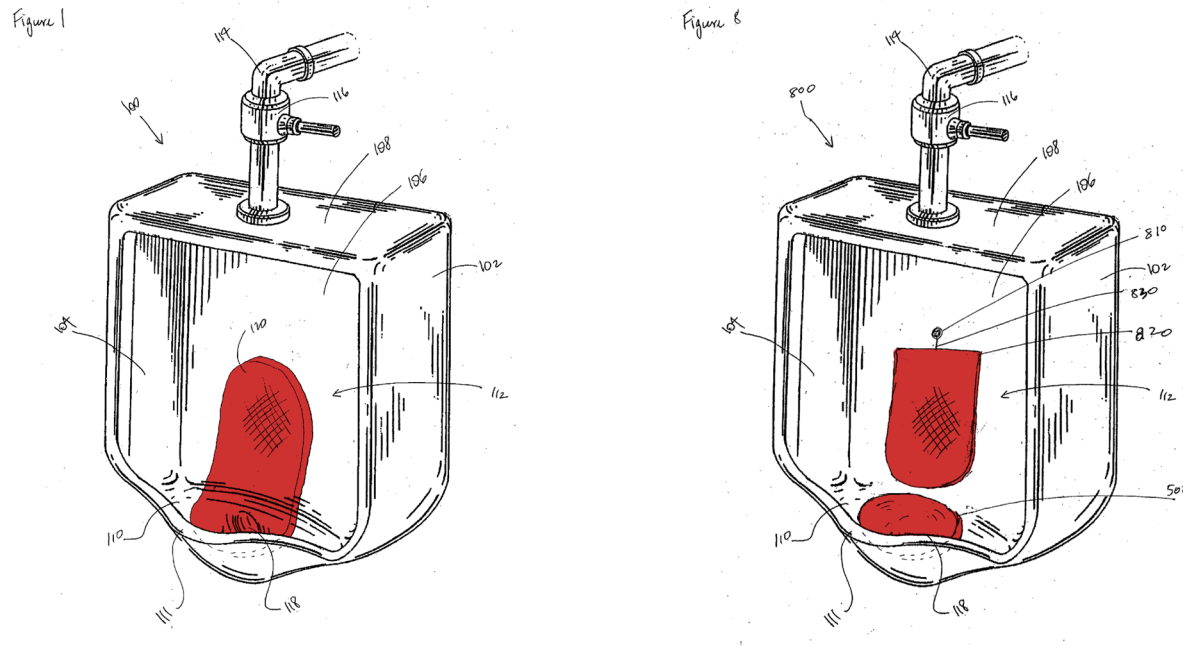
As described above, challenged Claim 6 requires an anti-splash body with a “longitudinal length.” Per the '649 Patent, a “longitudinal length” is a length in an “elongated direction.” Challenged Claim 10 requires an anti-splash body with an “elongated shape.” To the extent these features were not obvious over the prior art of Ground 1, these claims would have been obvious over the prior art of Ground 1 in combination with Valadez and/or Wise, both of which explicitly teach the claimed “longitudinal length” and “elongated shape” features.

Wise and Valadez also further demonstrate that other features addressed in Ground 1 would have been obvious. As described below, Valadez further supports the conclusion that Claim 15 would have been obvious because it also discloses an anti-splash body that is rectangular-like and a base that is a circular-like as recited in Claim 15. Wise further supports the conclusion that Claim 17 would have been obvious because it also discloses the “angled-portion” recited in Claim 17.

**A. Overview of Valadez**

Valadez (Ex. 1007) discloses a several configurations of 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.

In the first configuration, below left, the base and anti-splash body are a single unit; the base rests on the urinal drain area 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 rests on the urinal drain area, while the anti-splash body is mounted on the urinal's rear wall, extending vertically, substantially perpendicular to the base. Ex. 1003, ¶48. In this configuration, the base has a deodorizer sandwiched between two mesh layers which are joined around their edges. Ex. 1007, ¶0033.



*Id.*, Figs. 1, 8 (annotated).

In the embodiment on the right, 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 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 102<sup>3</sup> 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.

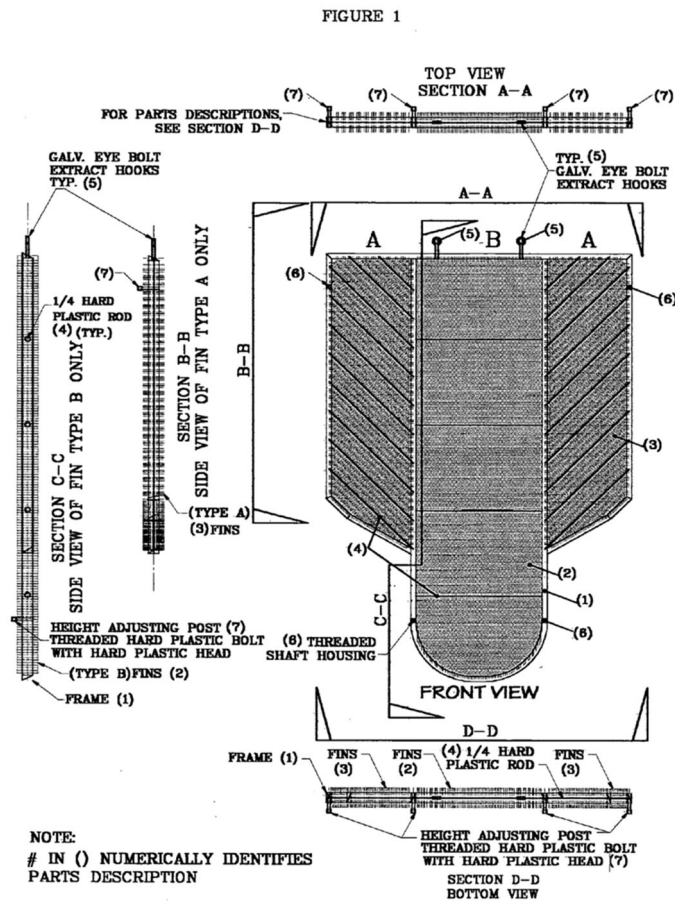
*Id.*, ¶0024. This range includes a vertical length that is twice its width. Ex. 1003 ¶50.

**B. 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 two wing sections 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.

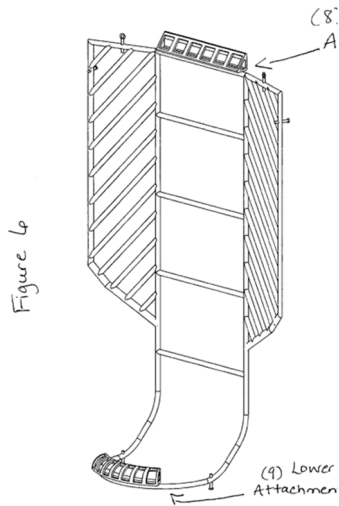
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<sup>3</sup> The number 102 appears to be a mistake. In all other paragraphs and figures, the anti-splash guard is numbered 120 (or 820, for the embodiment depicted in Figure 8). Elsewhere, the number 102 represents the second sidewall of urinal 100. *See* Ex. 1007, ¶0020.



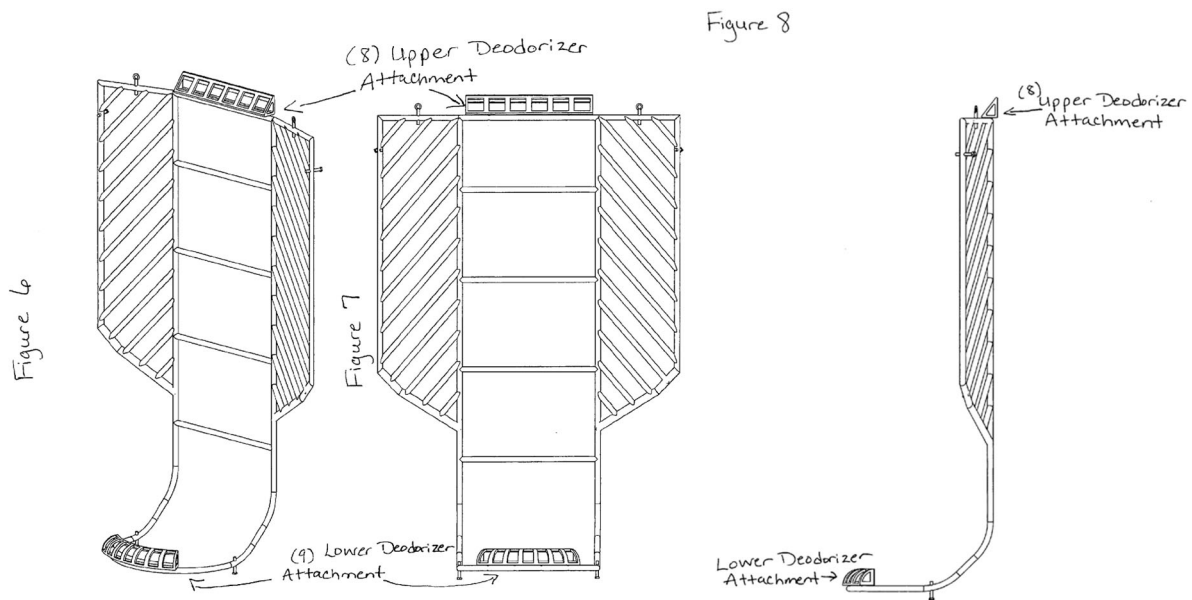
*Id.*, Fig. 1.

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



Ex. 1008, Fig. 6 (rotated counterclockwise).

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



*Id.*, Figs. 6, 7 (rotated counterclockwise), 8.

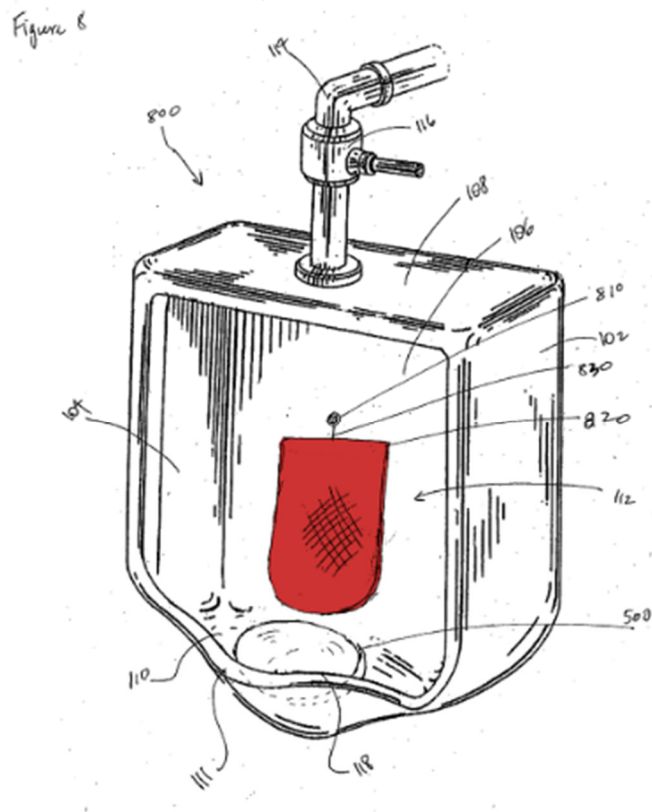
As depicted, the Wise insert comprises a horizontal base and a vertical anti-splash body, connected at a coupling region. Ex. 1003, ¶54. Additionally, the upper deodorizer has an angled portion “which serves to smoothly channel water onto the finned surface of the insert thereby assisting in preventing water splashing during the urinal flush cycle.” *Id.*; Ex. 1008, ¶0018.

**C. Claim 6**

Claim 6 depends from Claim 1 and adds that “the plurality of protrusions on the anti-splash body substantially span a longitudinal length of the anti-splash body and define a plurality of protrusions voids between the protrusions of the plurality of protrusions.” Fushimi, Valadez and Wise disclose this limitation. §§VII(D), (G); Ex. 1003 ¶¶178-94

As discussed in Ground 1, Claim 1, above, Fushimi discloses an anti-splash body with a plurality of protrusions that span its length. §VII(D). As discussed in Ground 1, Claim 6, above, it would have been obvious to a POSITA to elongate Fushimi’s anti-splash body in the vertical direction, thus making Fushimi’s length longitudinal. §VII(G); Ex. 1003, ¶¶56-87; 107-19. To the extent the Board were to have any question, however, elongating Fushimi’s anti-splash body would have been obvious over the combination of Fushimi with Valadez and/or Wise. Ex. 1003, ¶¶178-94.

Valadez explicitly discloses an elongated 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. Additionally, Valadez discloses a range of dimensions for its anti-splash body, including elongated dimensions. *Id.* ¶0032; Ex. 1003, ¶181.

A POSITA would have been motivated to combine Fushimi’s anti-splash device with the range of dimensions taught by Valadez, based on the teachings of Fushimi and Valadez, and the knowledge of a POSITA. Ex. 1003, ¶182.

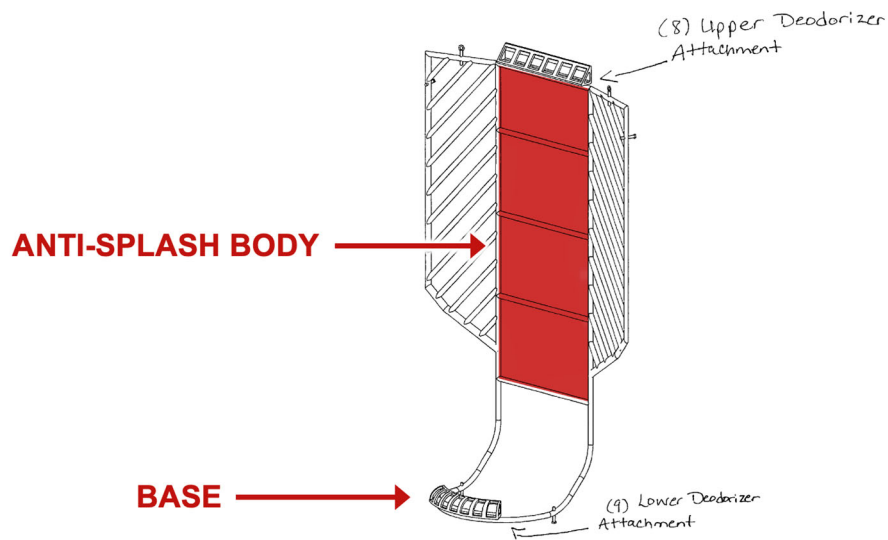
A POSITA would have understood the desirability of combining the adaptable dimensions of the Valadez anti-splash body with Fushimi based on the complimentary teachings in the references. *Id.*, ¶183 Fushimi teaches the importance of adapting the shape of an anti-splash device to match the urinal in which 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, ¶184. 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.*

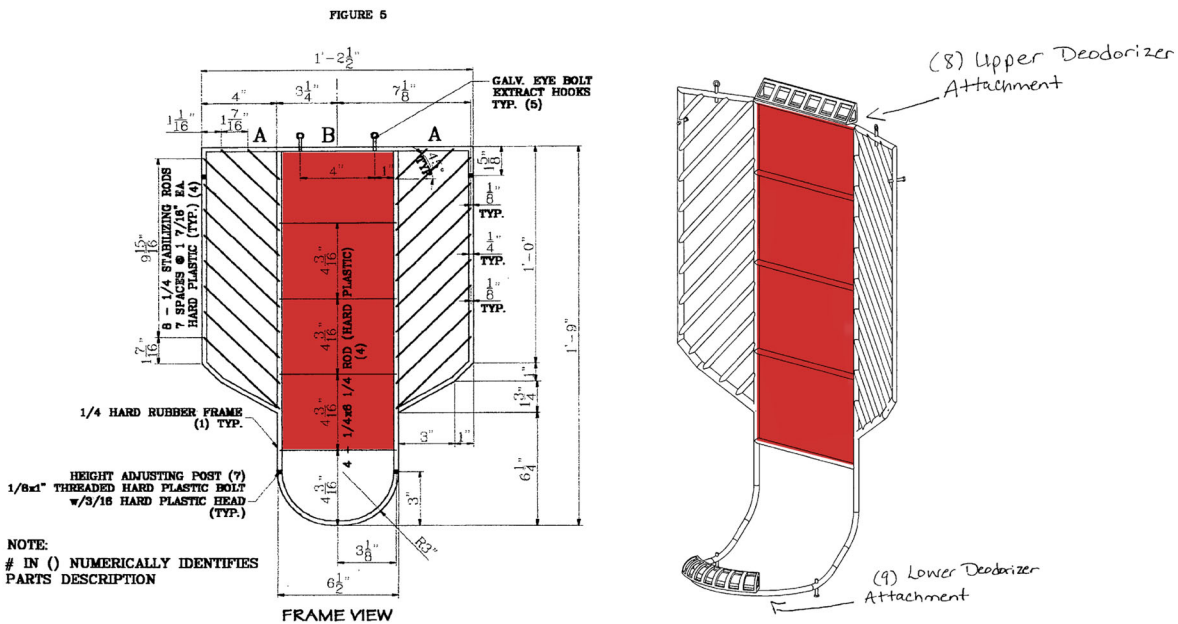
A POSITA would have had a reasonable expectation of success in modifying Fushimi’s anti-splash body using the dimensions taught by Valadez. *Id.*, ¶185. A POSITA would have understood that a variety of sizes were useful for Fushimi’s anti-splash body, including those taught by Valadez. *Id.* Moreover, 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.*

Like Valadez, Wise also discloses a urinal insert with an elongated anti-splash body and a base 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 anti-splash body is the center section highlighted in red, below.



*Id.* Fig. 6 (rotated counterclockwise and annotated).

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



*Id.*, Figs. 5 (annotated), 6 (rotated counterclockwise and annotated).

Figure 5 includes measurements for the Wise insert. The center section is elongated because it has a width of 6 1/2 inches, and a length of over 16 inches vertically, i.e., a length at least twice as long as a width. Ex. 1003, ¶188. A length extending vertically (i.e. from the floor to the ceiling) along the elongated anti-splash body is, therefore, longitudinal. *Id.*

A POSITA would have been motivated to combine Fushimi's anti-splash device with Wise's vertically elongated anti-splash body based on the teachings of Fushimi and Wise, and the knowledge of a POSITA. Ex. 1003, ¶189.

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. Ex. 1003, ¶190. 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, ¶191.

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.*, ¶192. 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.*, ¶193. 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.*

Because the combination of Fushimi with Valadez and/or Wise discloses the additional limitation of Claim 6, the claimed invention would have been obvious

to a POSITA over Fushimi, Brown '394, Brown '098, and Valadez and/or Wise. Ex. 1003, ¶194.

**D. Claim 10**

Claim 10 depends from Claim 8 and adds that “the anti-splash body includes an elongated shape of a flexible material.” As discussed in Ground 1, Claims 6 and 10, above, this limitation would have been obvious over Fushimi in view of the knowledge of a POSITA. §§VII(G), (J); Ex. 1003, ¶196.

As discussed in Ground 2, Claim 6, above, it would have been obvious to elongate Fushimi’s anti-splash body using the dimensions disclosed by Valdez and/or Wise. §VIII(C); Ex. 1003, ¶197.

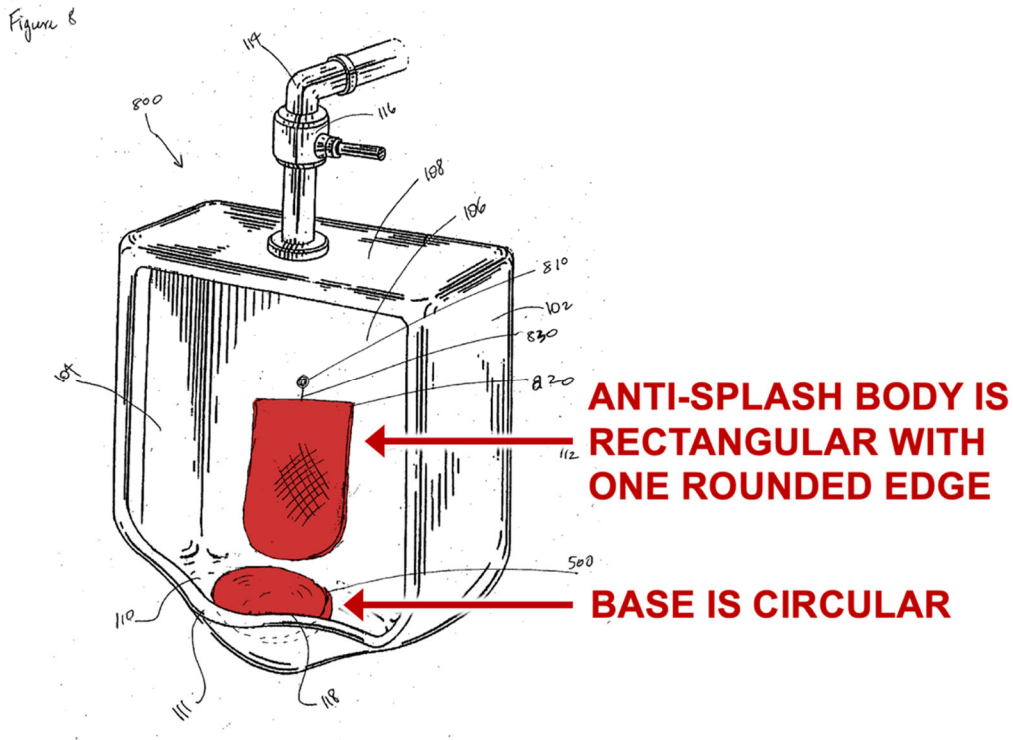
As discussed in Ground 1, Claim 10, above, Fushimi discloses that it is made of a flexible material. §VII(J). Similarly, Valadez discloses a flexible material. “[A]nti-splash guard 120 comprises fibrous strands 124...[that] may comprise translucent or opaque materials formed of a semi-rigid or flexible material, such as polyethylene (PE), polypropylene (PP). . .” Ex. 1003, ¶198; Ex. 1007, ¶0025. Likewise, Wise discloses that its frame is “made of a plastic or hard rubber material”. Ex. 1008, ¶0013 A POSITA would understand that hard rubber is a flexible material. Ex. 1003 ¶192.

Accordingly, the invention of Claim 10 would have been obvious to a POSITA over Fushimi, Brown '098, Brown '394, and Valadez and/or Wise. Ex. 1003, ¶200.

**E. Claim 15**

Claim 15 depends from Claim 8 and adds “wherein the anti-splash body is a rectangular-like shape; and the base is a circular-like shape.” Valadez discloses this additional limitation. Ex. 1003, ¶¶201-05.

As discussed above, Valadez discloses an embodiment of its urinal anti-splash device including an anti-splash body (anti-splash guard 820) and a separate base (pouch 500). §VIII(A). 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).

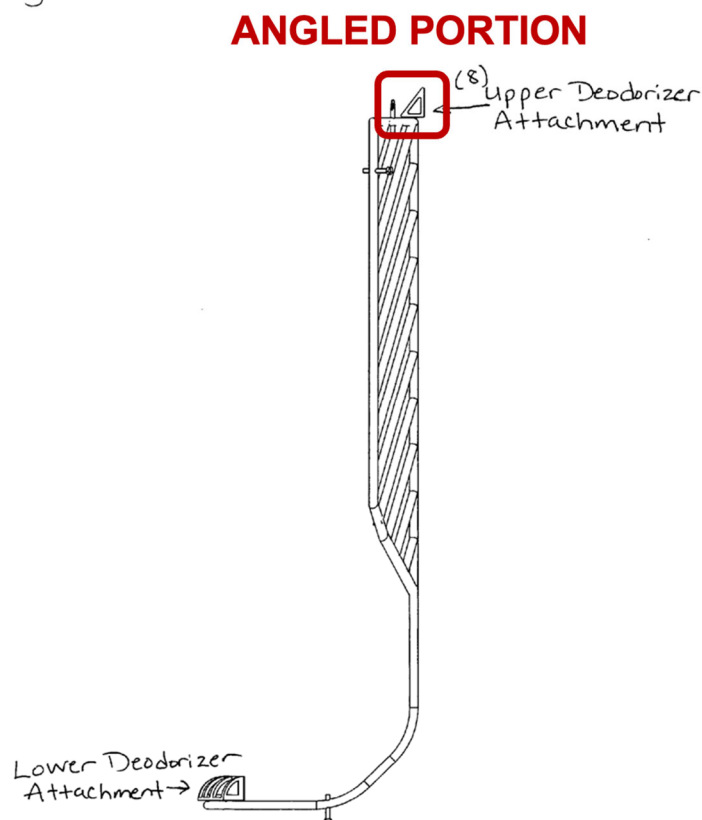
Accordingly, the claimed invention would have been obvious to a POSITA over Fushimi, Brown '098, Brown '394, and Valadez. Ex. 1003, ¶205.

### F. Claim 17

Claim 17 depends from Claim 8 and adds that the anti-splash body further comprises “an angled surface at a top of the anti-splash body that is configured to direct a flow of water from the back wall of the urinal over the front surface of the anti-splash body when the anti-splash device is mounted in the urinal.” As discussed in Ground 1, Claim 17, above, Fushimi discloses this limitation. §VII(P). Wise also discloses this additional limitation. Ex. 1003, ¶¶206-212.

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.

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 2, Claim 6, above, a POSITA would have been motivated combine the longer 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. §VIII(C); Ex. 1003, ¶208. In making this modification, a POSITA would have also been motivated to include the upper deodorizer attachment disclosed by Wise. Ex. 1003, ¶208.

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 compared to the approximately 90-degree angle of Fushimi's angled portion. *Id.*, ¶209. Additionally, a POSITA would understand that the improved channeling would be important, because lengthening the anti-splash body would increase the surface area to be cleaned during each flush without a corresponding increase to the amount of water dispensed per flush. *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, as was known in the art, placed at the top of the body and thus positioned closer to a user's nose. *Id.*, ¶210; Ex. 1005, 4:22-27 (describing fragranced deodorizing material: "loading the plastic or EVA with at least 15% to about 75% by weight of fragrance material to produce a fragranced plastic or EVA").

Accordingly, the claimed invention would have been obvious to a POSITA over Fushimi, Brown '098, Brown '394, and Wise. Ex. 1003, ¶212.

### **IX. 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.

### **X. 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 31, 2025

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**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. 10,294,649**, exclusive of the parts exempted as provided in 37 C.F.R. §42.24(a), contains 12,740 words and therefore complies with the type-volume limitations of 37 C.F.R. §42.24(a).

Dated: July 31, 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. 10,294,649, 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:

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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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