

Filed: July 23, 2025

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

FRESH PRODUCTS, LLC

Petitioner

v.

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

Patent Owner

IPR2025-01339

Patent 10,036,154

**DECLARATION OF RANDY C. HURD Ph.D.
IN SUPPORT OF PETITION FOR *INTER PARTES* REVIEW
OF U.S. PATENT NO. 10,036,154**

I. BACKGROUND	4
A. Professional Background.....	4
B. Relevant Legal Standards.....	5
1. Claim Construction	6
C. Claim Construction	6
1. “elongated”	6
2. “longitudinal”	6
3. “rectangular-like” and “circular-like”	6
4. Other Claim Constructions	7
5. Obviousness	7
D. Person Having Ordinary Skill in the Art.....	9
II. THE ’154 PATENT.....	11
A. Specification and Figures	11
B. Claims.....	15
III. PRIOR ART URINAL ANTI_SPLASH DEVICES	18
A. Fushimi.....	18
B. Brown ’098.....	21
C. Brown ’394.....	22
D. Valadez.....	25
E. Wise.....	28
IV. GROUND 1: CLAIMS 1, 2, 4, 7, 9, AND 10 WOULD HAVE BEEN OBVIOUS OVER FUSHIMI, BROWN ’098, AND BROWN ’394	31

A.	Claim 1 would have been obvious over Fushimi and Brown '098 in light of the knowledge of a person of ordinary skill.	31
1.	Preamble: “A urinal anti-splash device”	32
2.	1[A]: “an anti-splash body sized and shaped to couple to at least a portion of a urinal, the anti-splash body including: a first portion; a second portion opposite the first portion; a length extending from the first portion to the second portion; and an upper surface extending the length”	32
3.	1[B]: “a base couplable to the first portion and configured to extend in a direction substantially perpendicular from the first portion”	36
4.	1[C]: “a first plurality of protrusions extending outwardly from the upper surface of the anti-splash body and which taper downwardly in a direction toward the upper surface of the anti-splash body”	37
5.	1[D]: “a second plurality of protrusions extending outwardly from the base, the second plurality of protrusions configured to extend in the direction substantially perpendicular from the first portion of the anti-splash body”	42
B.	Claim 2 would have been obvious over Fushimi, Brown '098, and Brown '394 in light of the knowledge of a person of ordinary skill.	46
C.	Claim 3 would have been obvious over Fushimi, Brown '098, and Brown '394 in light of the knowledge of a person of ordinary skill.	49
D.	Claim 4 would have been obvious over Fushimi, Brown '098, and Brown '394 in light of the knowledge of a person of ordinary skill.	54

E.	Claim 6 would have been obvious over Fushimi, Brown '098, and Brown '394 in light of the knowledge of a person of ordinary skill.	56
F.	Claim 7 would have been obvious over Fushimi, Brown '098, and Brown '394 in light of the knowledge of a person of ordinary skill.	60
G.	Claim 8 would have been obvious over Fushimi, Brown '098, and Brown '394 in light of the knowledge of a person of ordinary skill.	61
H.	Claim 9 would have been obvious over Fushimi, Brown '098, and Brown '394 in light of the knowledge of a person of ordinary skill.	63
I.	Claim 10 would have been obvious over Fushimi, Brown '098, and Brown '394 in light of the knowledge of a person of ordinary skill.	64
J.	Claim 11 would have been obvious over Fushimi, Brown '098, and Brown '394 in light of the knowledge of a person of ordinary skill.	66
1.	Preamble: “A urinal anti-splash device”	67
2.	11[A]: “an anti-splash body configured to couple to a urinal wall, the anti-splash body including a first portion, a second portion opposite the first portion, and a longitudinal length separating the first portion from the second portion”	67
3.	11[B]: “a base couplable to the first portion of the anti-splash body, the base sized and shaped to cover at least a portion of a urinal drain”	68
4.	11[C]: “a coupling region configured to translate the base between a first position including the base oriented in a direction parallel to the anti-splash body and a second position including the base oriented in a direction substantially perpendicular from the base”	69

5.	11[D]: “a plurality of protrusions coupled to the anti-splash body and the base”	70
K.	Claim 12 would have been obvious over Fushimi, Brown '098, and Brown '394 in light of the knowledge of a person of ordinary skill.	70
L.	Claim 14 would have been obvious over Fushimi, Brown '098, and Brown '394 in light of the knowledge of a person of ordinary skill.	71
M.	Claim 15 would have been obvious over Fushimi, Brown '098, and Brown '394 in light of the knowledge of a person of ordinary skill.	71
N.	Claim 16 would have been obvious over Fushimi, Brown '098, and Brown '394 in light of the knowledge of a person of ordinary skill.	72
O.	Claim 18 would have been obvious over Fushimi, Brown '098, and Brown '394 in light of the knowledge of a person of ordinary skill.	74
1.	Preamble: “A method of mounting a urinal anti-splash device within a urinal”	74
2.	18[A]: “providing a urinal anti-splash device”	75
3.	18[A][1]: “an anti-splash body sized and shaped to couple to at least a portion of a urinal, the anti-splash body including: a first portion; a second portion opposite the first portion; a longitudinal length extending from the first portion to the second portion; and an upper surface extending the longitudinal length”	75
4.	18[A][2]: “a base couplable to the first portion and configured to extend in a direction substantially perpendicular from the first portion”	76

5.	18[A][3]: “a coupling region disposed between the first portion of the anti-splash body and the base, the coupling region configured to allow the base to be moved from being substantially parallel to the anti-splash body in a first position to a second position substantially perpendicular to the anti-splash body”	76
6.	18[A][4]: “a first plurality of protrusions extending outwardly from the upper surface of the anti-splash body”	77
7.	18[A][5]: “a second plurality of protrusions extending outwardly from the base, the second plurality of protrusions configured to extend in the direction substantially perpendicular from the first portion of the anti-splash body”	77
8.	18[B]: “mounting the anti-splash body within a back wall of a urinal”	77
9.	18[C]: “placing the base over a urinal screen”	78
P.	Claim 20 would have been obvious over Fushimi, Brown ’098, and Brown ’394 in light of the knowledge of a person of ordinary skill.	81
V. GROUND 2: CLAIMS 11, 12, 14, 16, 18, AND 20 WOULD HAVE BEEN OBVIOUS OVER FUSHIMI IN VIEW OF VALADEZ.....		82
A.	Claim 11 would have been obvious over Fushimi in view of Valadez	82
1.	Preamble: “A urinal anti-splash device”	82
2.	11[A]: “an anti-splash body configured to couple to a urinal wall, the anti-splash body including a first portion, a second portion opposite the first portion, and a longitudinal length separating the first portion from the second portion”	83

3.	11[B]: “a base couplable to the first portion of the anti-splash body, the base sized and shaped to cover at least a portion of a urinal drain”	86
4.	11[C]: “a coupling region configured to translate the base between a first position including the base oriented in a direction parallel to the anti-splash body and a second position including the base oriented in a direction substantially perpendicular from the base”	87
5.	11[D]: “a plurality of protrusions coupled to the anti-splash body and the base”	87
B.	Claim 12 would have been obvious over Fushimi in view of Valdez.....	88
C.	Claim 14 would have been obvious over Fushimi in view of Valdez.....	89
D.	Claim 16 would have been obvious over Fushimi in view of Valdez.....	90
E.	Claim 18 would have been obvious over Fushimi in view of Valdez.....	90
1.	Preamble: “A method of mounting a urinal anti-splash device within a urinal”	90
2.	18[A]: “providing a urinal anti-splash device”	91
3.	18[A][1]: “an anti-splash body sized and shaped to couple to at least a portion of a urinal, the anti-splash body including: a first portion; a second portion opposite the first portion; a longitudinal length extending from the first portion to the second portion; and an upper surface extending the longitudinal length”	91
4.	18[A][2]: “a base couplable to the first portion and configured to extend in a direction substantially perpendicular from the first portion”	92

5.	18[A][3]: “a coupling region disposed between the first portion of the anti-splash body and the base, the coupling region configured to allow the base to be moved from being substantially parallel to the anti-splash body in a first position to a second position substantially perpendicular to the anti-splash body”	92
6.	18[A][4]: “a first plurality of protrusions extending outwardly from the upper surface of the anti-splash body”	93
7.	18[A][5]: “a second plurality of protrusions extending outwardly from the base, the second plurality of protrusions configured to extend in the direction substantially perpendicular from the first portion of the anti-splash body”	93
8.	18[B]: “mounting the anti-splash body within a back wall of a urinal”	94
9.	18[C]: “placing the base over a urinal screen”	94
F.	Claim 20 would have been obvious over Fushimi in view of Valdez.....	94
VI. GROUND 3: CLAIMS 3, 8, AND 15 WOULD HAVE BEEN OBVIOUS OVER FUSHIMI IN VIEW OF VALDEZ AND BROWN '098		95
A.	Claim 3 would have been obvious over Fushimi in view of Valdez and Brown '098.....	95
B.	Claim 8 would have been obvious over Fushimi in view of Valdez and Brown '098.....	97
C.	Claim 15 would have been obvious over Fushimi in view of Valdez and Brown '098.....	98
VII. GROUND 4: CLAIMS 11, 12, 14, 16, 18, AND 20 WOULD HAVE BEEN OBVIOUS OVER FUSHIMI IN VIEW OF WISE.....		98

A.	Claim 11 would have been obvious over Fushimi in view of Wise.....	99
1.	Preamble: “A urinal anti-splash device”	99
2.	11[A]: “an anti-splash body configured to couple to a urinal wall, the anti-splash body including a first portion, a second portion opposite the first portion, and a longitudinal length separating the first portion from the second portion”	99
3.	11[B]: “a base couplable to the first portion of the anti-splash body, the base sized and shaped to cover at least a portion of a urinal drain”	103
4.	11[C]: “a coupling region configured to translate the base between a first position including the base oriented in a direction parallel to the anti-splash body and a second position including the base oriented in a direction substantially perpendicular from the base”	104
5.	11[D]: “a plurality of protrusions coupled to the anti-splash body and the base”	104
B.	Claim 12 would have been obvious over Fushimi in view of Wise.....	105
C.	Claim 14 would have been obvious over Fushimi in view of Wise.....	106
D.	Claim 16 would have been obvious over Fushimi in view of Wise.....	107
E.	Claim 18 would have been obvious over Fushimi in view of Wise.....	107
1.	Preamble: “A method of mounting a urinal anti-splash device within a urinal”	108
2.	18[A]: “providing a urinal anti-splash device”	108

3.	18[A][1]: “an anti-splash body sized and shaped to couple to at least a portion of a urinal, the anti-splash body including: a first portion; a second portion opposite the first portion; a longitudinal length extending from the first portion to the second portion; and an upper surface extending the longitudinal length”	108
4.	18[A][2]: “a base couplable to the first portion and configured to extend in a direction substantially perpendicular from the first portion”	109
5.	18[A][3]: “a coupling region disposed between the first portion of the anti-splash body and the base, the coupling region configured to allow the base to be moved from being substantially parallel to the anti-splash body in a first position to a second position substantially perpendicular to the anti-splash body”	109
6.	18[A][4]: “a first plurality of protrusions extending outwardly from the upper surface of the anti-splash body”	110
7.	18[A][5]: “a second plurality of protrusions extending outwardly from the base, the second plurality of protrusions configured to extend in the direction substantially perpendicular from the first portion of the anti-splash body”	110
8.	18[B]: “mounting the anti-splash body within a back wall of a urinal”	111
9.	18[C]: “placing the base over a urinal screen”	111
F.	Claim 20 would have been obvious over Fushimi in view of Wise	111
VIII.	GROUND 5: CLAIMS 3, 10, AND 15 WOULD HAVE BEEN OBVIOUS OVER FUSHIMI IN VIEW OF WISE AND BROWN '098	112

A.	Claim 3 would have been obvious over Fushimi in view of Wise and Brown '098.....	112
B.	Claim 10 would have been obvious over Fushimi in view of Wise and Brown '098.....	114
C.	Claim 15 would have been obvious over Fushimi in view of Wise and Brown '098.....	117
IX. CONCLUSION.....		117

1. I, Randy Hurd, PhD, am making this declaration at the request of Fresh Products, LLC (“Petitioner”) in support of its Petition for *Inter Partes* Review (“IPR”) of U.S. Patent No. 10,036,154 (“the ’154 patent”). I understand that this declaration will be submitted as Exhibit 1003 to the IPR petition.

2. I am being compensated at my customary hourly rate for my work in this matter, and I am being reimbursed at cost for my reasonable expenses. My compensation does not depend in any way on the outcome of this proceeding. I have no financial interest in any of the parties to this proceeding.

3. In conducting the analysis and forming the opinions set forth in this Declaration, I considered, in addition to my knowledge and expertise in the relevant field, the following materials, which I understand will be submitted as Exhibits to the IPR petition:

Exhibit No.	Description
1001	U.S. Patent No. 10,036,154 (“the ’154 patent”)
1002	Sanastar District Court Complaint dated March 3, 2025, in <i>Sanastar, Inc. d/b/a/ WizKidProducts v. Fresh Products, LLC</i> , No. 3:25-cv-00418 (N.D. Ohio)
1003	*Intentionally Omitted*
1004	Certified English Translation of Japanese Publication No. JPS 60-190865 to Fushimi (“Fushimi”)

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

Exhibit No.	Description
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”)
1013	United States Patent No. 7,398,565 to Chou (“Chou”)
1014	United States Patent No. 3,170,169 to Clark (“Clark”)
1015	United States Patent No. 639,628 to Thomsen (“Thomsen”)
1016	United States Patent No. 3,559,353 to Partridge (“Partridge”)
1017	United States Patent No. 7,886,958 to Smith (“Smith”)
1018	United States Patent No. 3,599,677 to O’Brien (“O’Brien”)
1019	United States Patent No. 4,615,926 to Hsu (“Hsu”)
1020	United States Patent No. 5,665,439 to Andersen (“Andersen”)

Exhibit No.	Description
1021	Kota, Sridhar, and G. K. Ananthasuresh. "Designing compliant mechanisms." Mechanical Engineering-CIME 117.11 (1995): 93-97. ("Kota")
1022	British Plastics Federation, <i>Ethylene Vinyl Acetate (EVA)</i> , https://www.bpf.co.uk/plastipedia/polymers/EVA.aspx (last accessed July 22, 2025)
1023	Translation Certificate for Japanese Publication No. JPS 60-190865 to Fushimi
1024	Japanese Publication No. JPS 60-190865 to Fushimi

I. BACKGROUND

A. Professional Background

4. In 2012 and 2015, I received my Bachelor of Science and Master of Science degrees in mechanical engineering from Brigham Young University. I subsequently received my Ph.D. in mechanical engineering from Utah State University, where my research focused on investigating the impact dynamics of highly deformable spheres with water free surfaces.

5. I am currently an assistant professor of mechanical engineering at Weber State University in Ogden, UT, where I teach courses including Introduction to Engineering, Statics, Fluid Mechanics, and Mechanical Measurement. My research involves studying water impact and splash mechanics in varying contexts. For example, I am involved in international collaborations involving research for

urinal splash prevention.

6. Appendix A to this declaration is a copy of my curriculum vitae, which further expands on my qualifications and expertise and includes a list of my publications and prior testimony.

B. Relevant Legal Standards

7. I have been asked to provide my opinion as to whether certain claims of the '154 patent were anticipated by the prior art and/or would have been obvious to a person of ordinary skill in the art at the time of the claimed invention—which I will refer to as a “person of skill in the art” or “one skilled in the art” throughout this declaration—in view of the prior art.

8. I am an engineer, a scientist, and an academic by training and profession. My opinions in this declaration come from applying my technical education, knowledge, training, and experience to evaluate certain prior art with respect to the '154 patent.

9. While I have experience acting as an expert in patent proceedings, I am not a lawyer or expert in patent law. Therefore, Fresh Products' attorneys from Knobbe, Martens, Olson & Bear, LLP advised me as to the legal principles to be applied in this case. The following paragraphs express my understanding of how I must apply these principles in forming my opinions.

1. Claim Construction

10. I understand that, in assessing the patentability of a patent claim, the language of the claim generally should be given its plain and ordinary meaning as would be understood by a person having ordinary skill in the art at the time of the patented invention consistent with the patent specification and prosecution history.

11. I understand that a patentee may define terms in the specification. Certain terms in the '154 patent claims have been defined. The definitions are set forth below and I have used these definitions herein.

C. Claim Construction

1. “elongated”

12. The specification defines “elongated” as “having a length that is at least twice as long as a width.” Ex. 1001, 5:60-61.

2. “longitudinal”

13. 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.” Ex. 1001, 4:20-24.

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

14. The specification defines “rectangular-like” as “having at least one pair

of opposing parallel sides of equal length,” Ex. 1001, 6:5-7. And “circular-like” is defined as “having at least two round edges.” *Id.*, 8:22-23.

4. Other Claim Constructions

15. Unless otherwise noted, I have given claim terms their plain and ordinary meaning.

5. Obviousness

16. I understand that a claim is “obvious” if the subject matter of the claim as a whole would have been obvious to one skilled in the art at the time of the claimed invention. I understand that a determination of obviousness takes into account the scope and content of the prior art, the differences between the claimed subject matter and the prior art, and the level of ordinary skill in the art at the time of the invention. I understand that an obviousness analysis also considers whether there are additional factors that would indicate that the invention would not have been obvious. Such factors include whether the invention satisfied a long-felt need in the industry; whether the invention produced any unexpected results; whether the invention was met with skepticism by those in the relevant field; whether the prior art taught away from the invention; whether the invention was a commercial success; and whether the invention was praised or copied by others.

17. I understand that, in determining the scope and content of the prior art,

a reference is considered analogous (i.e., appropriate) prior art if: (1) it falls within the field of the inventor's endeavor; or (2) it is reasonably pertinent to the particular problem the inventor was involved with. I have been informed that a reference is reasonably pertinent if it logically would have commended itself to an inventor's attention in considering the problem—put another way, if one skilled in the art would reasonably have consulted those references and applied their teachings in seeking a solution to the problem that the inventor was attempting to solve. I understand that, if a reference relates to the same problem as the claimed invention, that supports use of the reference as prior art in an obviousness analysis. The prior art I have relied on herein satisfies this standard.

18. I understand that, to assess the differences between prior art and the claimed subject matter, the claimed invention is to be considered as a whole, such that one skilled in the art at the time of invention, confronted by the same problems as the inventor and with no knowledge of the claimed invention, would have selected the elements from the prior art and combined them in the claimed manner.

19. I understand that the Supreme Court has recognized several rationales for combining references or modifying a reference to show obviousness of claimed subject matter, including:

- combining prior art elements according to known methods to yield predictable results;

- simple substitution of one known element for another to obtain predictable results;
- a predictable use of prior art elements according to their established functions;
- applying a known technique to a known device (method or product) ready for improvement to yield predictable results;
- choosing from a finite number of identified, predictable solutions, with a reasonable expectation of success; and
- some teaching, suggestion, or motivation in the prior art that would have led one skilled in the art to modify the prior art reference or to combine the prior art reference teachings to arrive at the claimed invention.

20. I understand that the obviousness analysis is performed from the perspective of one skilled in the art at the time of the patented invention. To avoid using impermissible hindsight in my analysis, I have not used the claims of the patent as a road map for obviousness.

D. Person Having Ordinary Skill in the Art

21. I understand that when interpreting the claims of the '154 patent and evaluating the prior art, I must do so based on the perspective of a person having ordinary skill in the art at the relevant priority date of the '154 patent. I have been asked to assume that the priority date for the patent is November 3, 2016.

22. I understand that the person of skill in the art is a hypothetical person who is presumed to have known the relevant art at the time of the invention. I understand it is a person of ordinary creativity and is not an automaton.

23. I understand that, in determining the level of ordinary skill in the art, several factors are considered, including: the type of problems encountered in the art; prior art solutions to those problems; the rapidity with which innovations are made; the sophistication of the technology; and the educational level of active workers in the field. I understand that one skilled in the art must be capable of understanding the scientific and engineering principles applicable to the pertinent art.

24. The '154 patent describes the use of well-known technologies for designing anti-splash urinal inserts. Based on my review of the '154 patent, it is my opinion that one skilled in the art would have had an undergraduate degree in mechanical engineering or equivalent coursework, as well as one or more years of experience in designing, prototyping, and/or manufacturing urinal inserts or similar products. More work experience may substitute for less education, and vice versa.

25. It is my opinion that the above definition of one skilled in the art is not necessary to reach the same opinions I have in this declaration. I believe that under any reasonable definition for one skilled in the art, the claims would have been obvious from the perspective of one skilled in the art at the time of the alleged invention.

26. I have based my opinions on the qualifications of one of skill in the art

on my review of the '154 patent, the relevant prior art, and my experience. By 2016 I was familiar with design principles common in the mechanical arts. I had the requisite knowledge and experience to make and use the articles described in the '154 patent. Based on my experience and knowledge, I believe that people of the above-defined level of education and skill would have the capability to interpret and understand the invention claimed in the '154 patent and the scientific and engineering principles applicable to the pertinent art.

II. THE '154 PATENT

A. Specification and Figures

27. The '154 patent is titled, “Urinal anti-splash device,” and discloses a urinal insert with a base and an anti-splash body. Ex. 1001, Abstract. The base is the portion covering the drain. The anti-splash body is the vertical portion against the back of the wall of the urinal. An exemplary embodiment of the anti-splash device disclosed in the '154 patent is shown below, installed in a urinal.

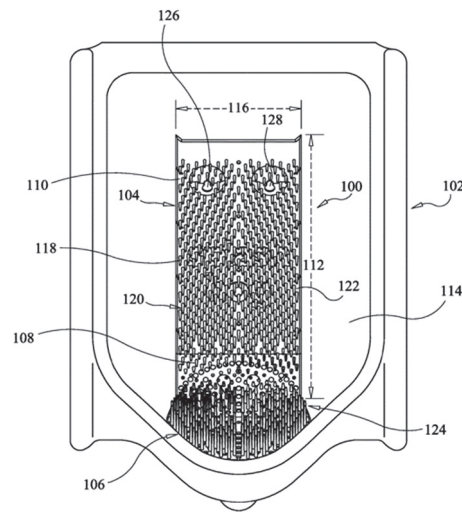
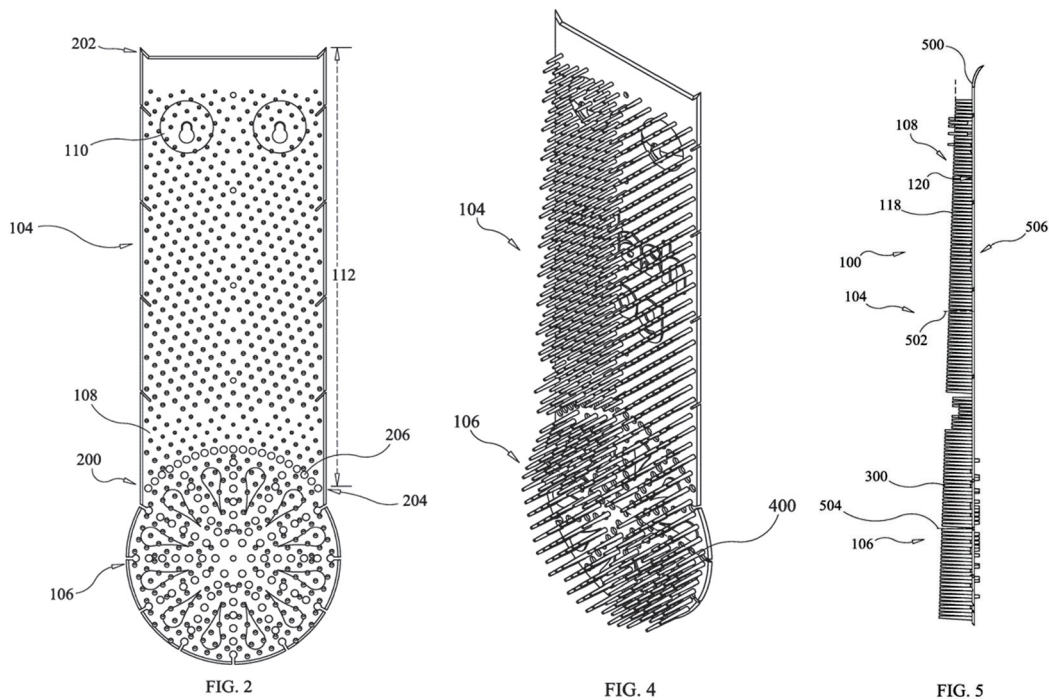


FIG. 1

Ex. 1001, Fig. 1.

28. Both the base and anti-splash body of the anti-splash device disclosed in the '154 are covered with protrusions extending away from the device. Ex. 1001, 6:27-30; 7:58-60. Per the specification, the protrusions break apart urine streams before they strike the base or anti-splash body. *Id.* 8:52-53. This prevents the urine from reflecting off of those surfaces toward the user, and instead the urine flows through the spaces between the protrusions, which the '154 patent calls “protrusion voids” to the urinal drain. *Id.*, 6:41-45. Several views of the device shown below illustrate the arrangement of the protrusions.



Id., Figs. 2, 4, 5.

29. The '154 patent discloses three “configurations” of the anti-splash device. The “straight” configuration, shown above, seems to be the default, or uninstalled configuration. In this configuration, the base and anti-splash body extend contiguously along a single plane. The two components are connected by “perforated coupling region 204.”

30. The second configuration, the “bent” configuration, can be used to install the device in a urinal. In this configuration, the device is bent at “perforated coupling region 204,” such that the base extends roughly perpendicularly away from the anti-splash body. This configuration is shown below.

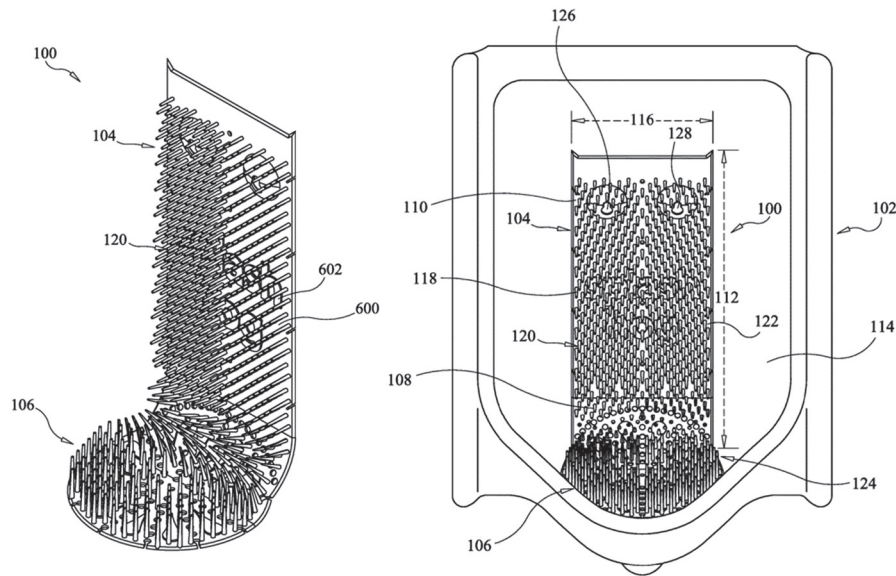


FIG. 6

FIG. 1

Id., Figs. 1, 6.

31. The final configuration, the “detached” configuration, is similar to the bent configuration, but instead of bending the device at “perforated coupling region 204,” the base is separated from the anti-splash body so the two parts can be installed separately. The ’154 patent does not show the detached configuration installed in a urinal, but Figure 3 shows the configuration without context.

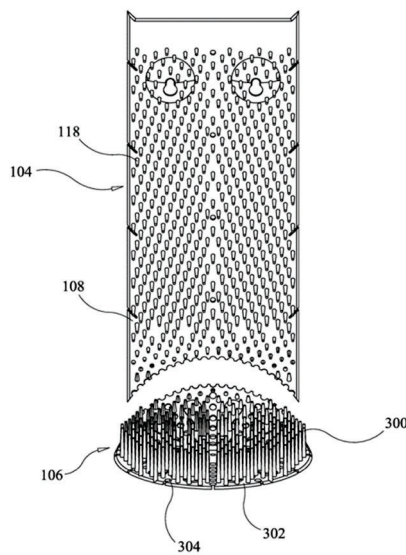


FIG. 3

Id. Fig. 3.

B. Claims

32. The '154 patent includes 20 claims. Claims 1, 11, and 18 are the only independent claims. I understand that a claim that depends from another claim includes all the limitations of the claim from which it depends and the additional limitations of that dependent claim.

33. Independent Claims 1, 11, and 18 of the '154 patent are set forth below (with bracketed labels added for reference):

Claim 1	
Preamble	A urinal anti-splash device comprising:
1[A]	an anti-splash body sized and shaped to couple to at least a portion of a urinal, the anti-splash body including:

Claim 1	
	a first portion; a second portion opposite the first portion; a length extending from the first portion to the second portion; and an upper surface extending the length;
1[B]	a base couplable to the first portion and configured to extend in a direction substantially perpendicular from the first portion;
1[C]	a first plurality of protrusions extending outwardly from the upper surface of the anti-splash body and which taper downwardly in a direction toward the upper surface of the anti-splash body; and
1[D]	a second plurality of protrusions extending outwardly from the base, the second plurality of protrusions configured to extend in the direction substantially perpendicular from the first portion of the anti-splash body.

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

Claim 11	
	oriented in a direction substantially perpendicular from the base; and
11[D]	a plurality of protrusions coupled to the anti-splash body and the base.

Claim 18	
Preamble	A method of mounting a urinal anti-splash device within a urinal comprising:
18[A]	providing a urinal anti-splash device including:
18[A][1]	an anti-splash body sized and shaped to couple to at least a portion of a urinal, the anti-splash body including: a first portion; a second portion opposite the first portion; a longitudinal length extending from the first portion to the second portion; and an upper surface extending the longitudinal length;
18[A][2]	a base couplable to the first portion and configured to extend in a direction substantially perpendicular from the first portion;
18[A][3]	a coupling region disposed between the first portion of the anti-splash body and the base, the coupling region configured to allow the base to be moved from being substantially parallel to the anti-splash body in a first position to a second position substantially perpendicular to the anti-splash body;
18[A][4]	a first plurality of protrusions extending outwardly from the upper surface of the anti-splash body; and
18[A][5]	a second plurality of protrusions extending outwardly from the base, the second plurality of protrusions configured to

Claim 18	
	extend in the direction substantially perpendicular from the first portion of the anti-splash body;
18[B]	mounting the anti-splash body within a back wall of a urinal; and
18[C]	placing the base over a urinal screen.

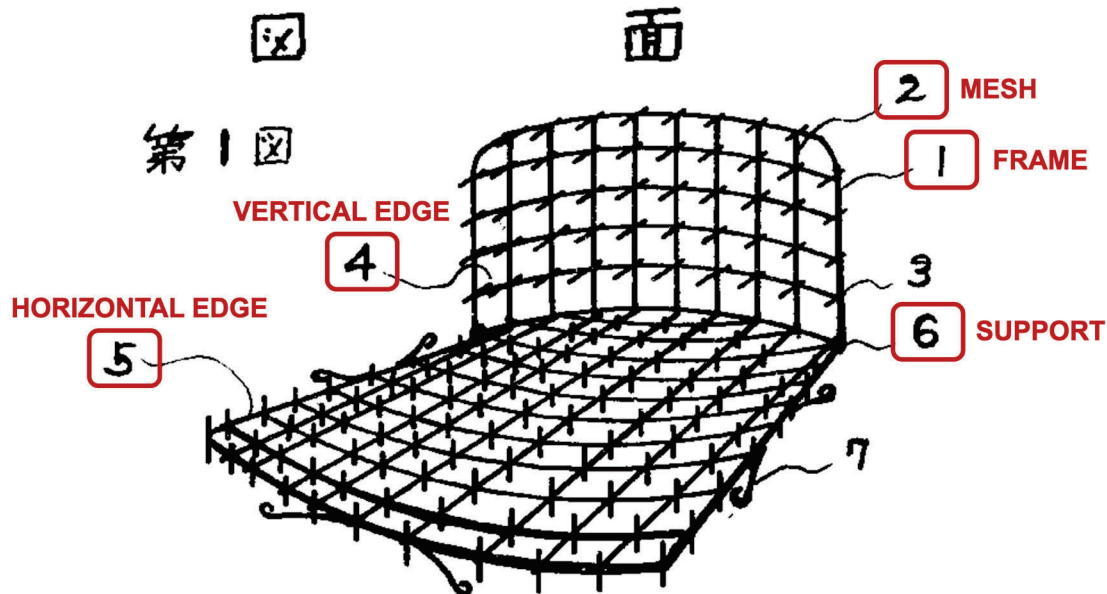
III. PRIOR ART URINAL ANTI SPLASH DEVICES

34. Anti-splash devices for insertion in urinals have long been known. Urinal inserts that include a base that at least partially covers the urinal drain, and a vertical portion that extends along the rear wall of a urinal have also been known since well before the '154 patent's priority date. I briefly summarize certain references below, each of which would have been known to a person of skill in the art and would have informed that person's knowledge of the structure, components, and materials that could be used in the design of urinal anti-splash devices. I note, however, that these references are merely exemplary, and are not exhaustive of the prior art that would have been known to and relied upon by a person of ordinary skill in the art in the design of urinal anti-splash devices.

A. Fushimi

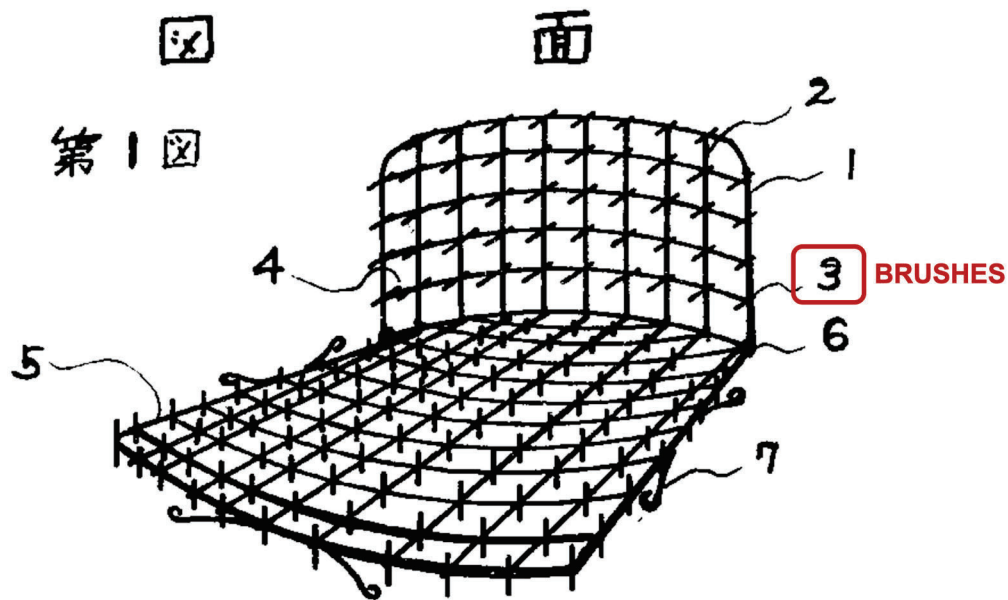
35. Fushimi (Ex. 1004) discloses a urinal anti-splash device comprising a frame 1 to which a mesh 2 is attached to provide a body having a base (bottom side 5) and an anti-splash body (vertical side 4). Fushimi's base and anti-splash body are

joined at support 6. Ex. 1004, 1.



Id., Fig. 1 (annotated).

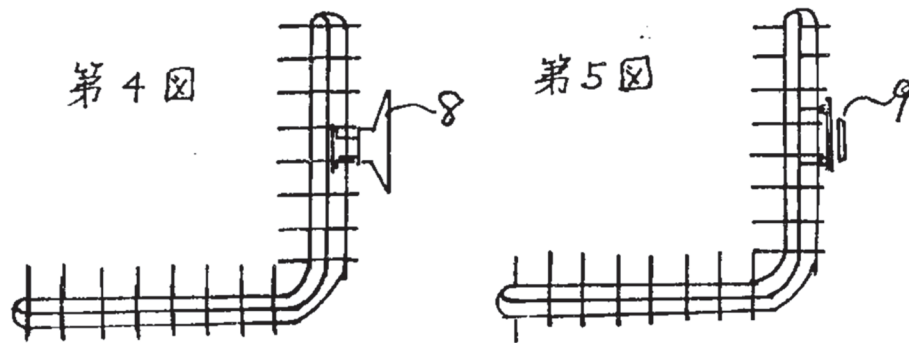
36. Fushimi's mesh 2 includes an array of protrusions referred to as brushes 3. *Id.*, 2. These protrusions extend perpendicularly from the front and rear surfaces of the anti-splash body (vertical side 4). Likewise, the base (bottom side 5) is covered with protrusions extending perpendicularly from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



Id., Figs 1 (annotated).

37. Fushimi's urinal anti-splash device includes fasteners (fastening members 7) for installation in a urinal. *Id.*, 2. The fasteners include suction cups(s) 8 and/or magnet(s) 9¹ that attach to the rear wall of a urinal. Specifically, Fushimi discloses that "[t]he following are some possible implementations of this device: Attachment of a fastener (7) with a suction cup. Attachment of the fastener (7) with a magnet." *Id.*, 3.

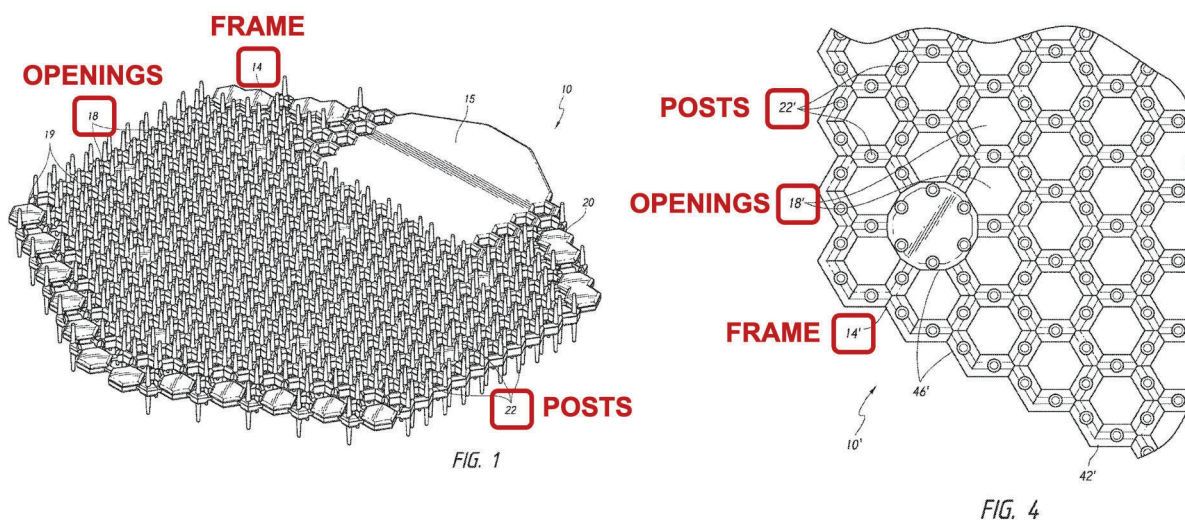
¹ Fushimi's suction cup and magnet are numbered 8 and 9, respectively, in Figures 4 and 5. The specification refers to these components by name, not number.



Id., Figs. 4, 5.

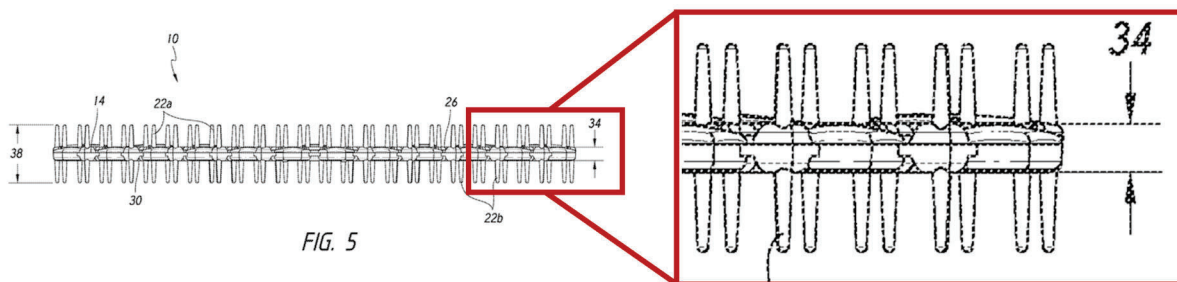
B. Brown '098

38. 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).

39. 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. EVA is a well-known polymer that is easily molded to make various lightweight flexible objects, e.g., flexible tubing, *see ex. 1018*, product packaging film, *see ex. 1019*, and hinged food containers. *See Ex. 1020*.

C. Brown '394

40. Brown '394 (Ex. 1006) discloses a variety of urinal anti-splash devices. For example, Brown '394 discloses that “a urinal screen can be configured to be installed on the back wall of a urinal.” Ex. 1006, 11:14-15. For example, Figure 12, below, shows a generally rectangular urinal screen with “protrusions 456 configured to reduce splashing.” *Id.* 11:50-51. This embodiment is designed for placement on the back wall of a urinal. It includes an 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.

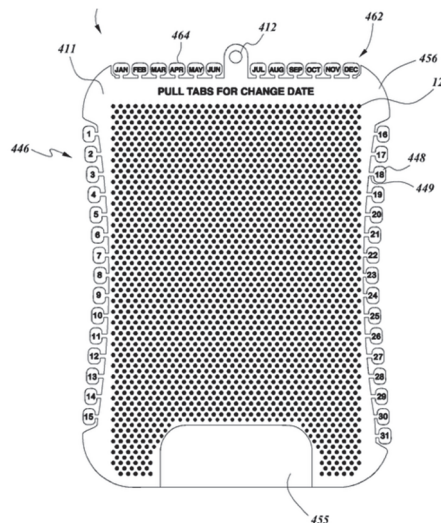


FIG. 12

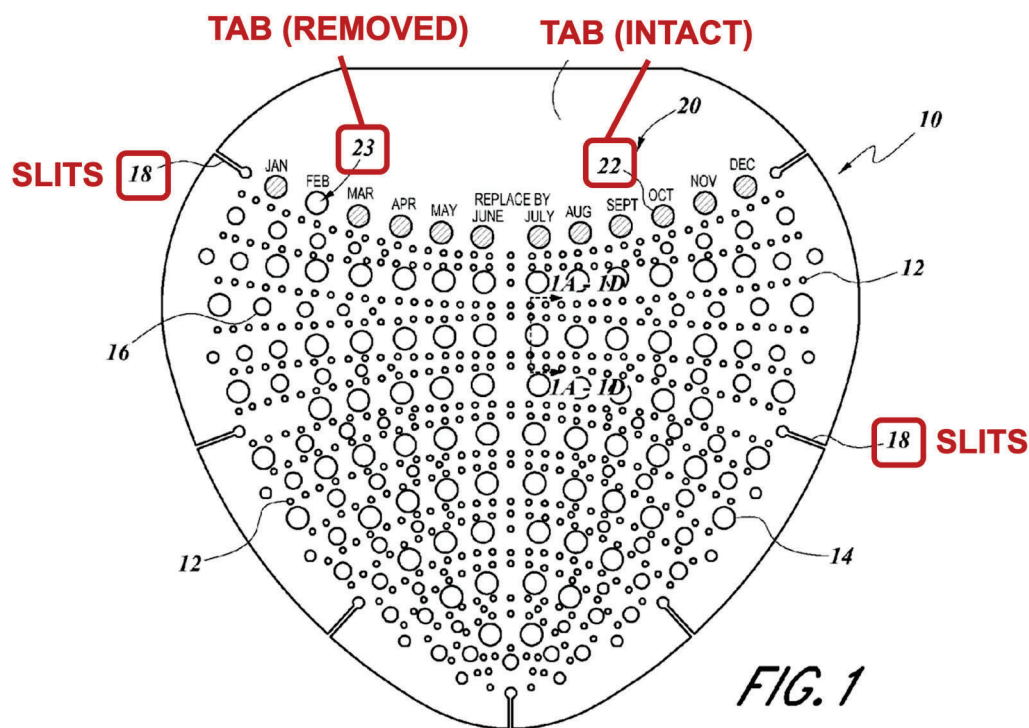
Id., Fig. 12.

41. Brown '394 also discloses the use of two screens in a urinal: “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.

42. Brown '394 also describes the use of perforations to detach a portion 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”). 12:1-5. The use of perforation to enable a user to separate parts of a device would have been well known to a person of ordinary skill.

43. Figure 1, below, shows an embodiment of a urinal screen with the perforated date tab feature. Tabs corresponding the months of the year, are arranged across the top portion of the device. Brown ’394 explains that the removed tab may correspond to the month when the device was installed in a urinal, or the month when the device must be replaced. *Id.* 5:57-60.



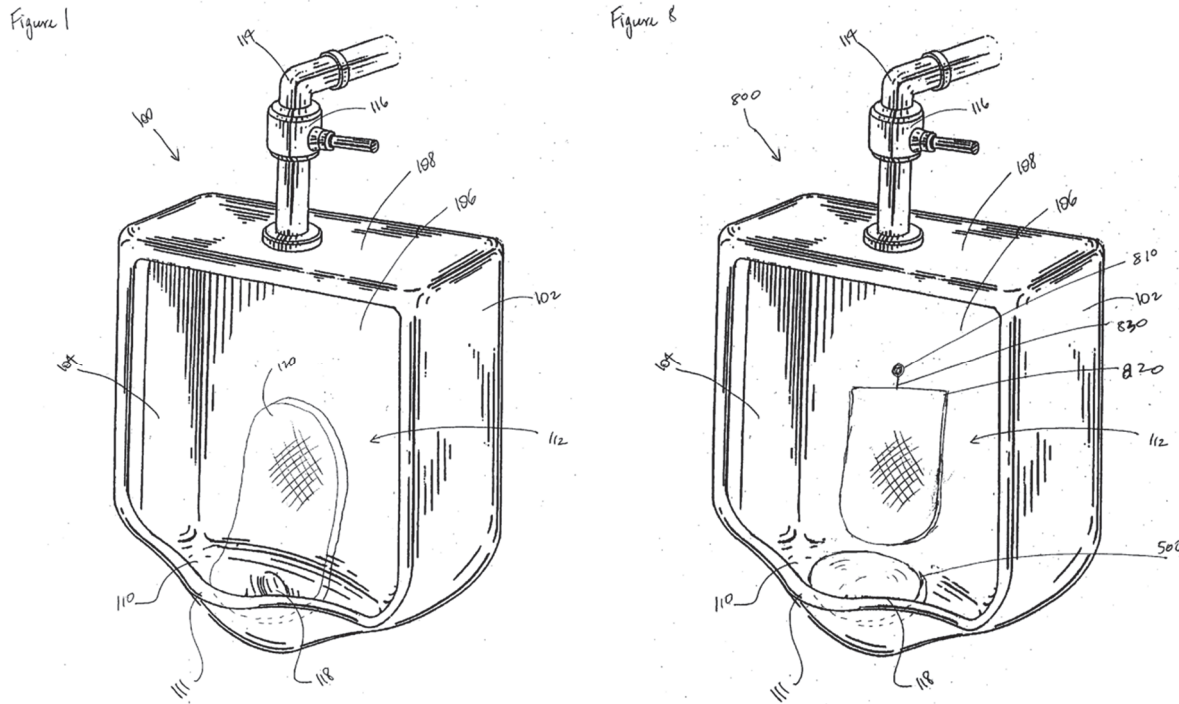
Id., Fig 1 (annotated). Brown ’394 also discloses slit openings 18, which allow the screen to fold and conform to the shape of a urinal. *Id.*, 4:7-9; see also 3:60-64. One of ordinary skill would understand that the uppermost slits on the left and right of

the embodiment above are intended to and do allow the top portion of the screen to fold up against the vertical back wall of a urinal.

D. Valadez

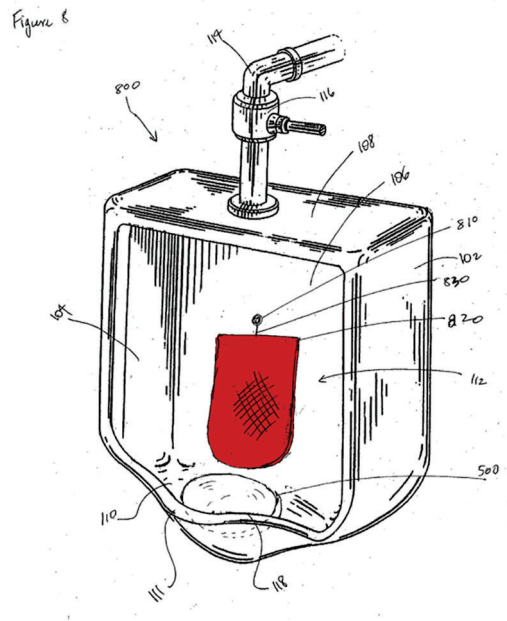
44. Valadez (Ex. 1007) discloses a urinal anti-splash device with an anti-splash body (anti-splash guard 120) and base (deodorant pouch 500). Ex. 1007, ¶0003. The base and anti-splash body are made of a porous mesh of fibrous strands that absorb fluid and prevent urine from splashing off of the urinal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

45. Valadez discloses two main configurations for its anti-splash body and base. In the first configuration, shown in Figure 1 below (left), the base and body are a single unit; the base rests on the bottom of the urinal while the anti-splash body extends upwardly along the urinal's rear wall. In the second configuration, shown in Figure 8 below (right), the base and body are separate. The base sits on the bottom of the urinal, while the body is mounted on the urinal's rear wall, extending vertically, substantially perpendicular to the base.



Id., Figs. 1, 8.

46. Valadez discloses an anti-splash body (anti-splash guard 820) that hangs vertically along the rear wall of a urinal “by means of a suction cup 810 and a hook 830” *Id.*, ¶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.



Id., Fig. 8 (annotated).

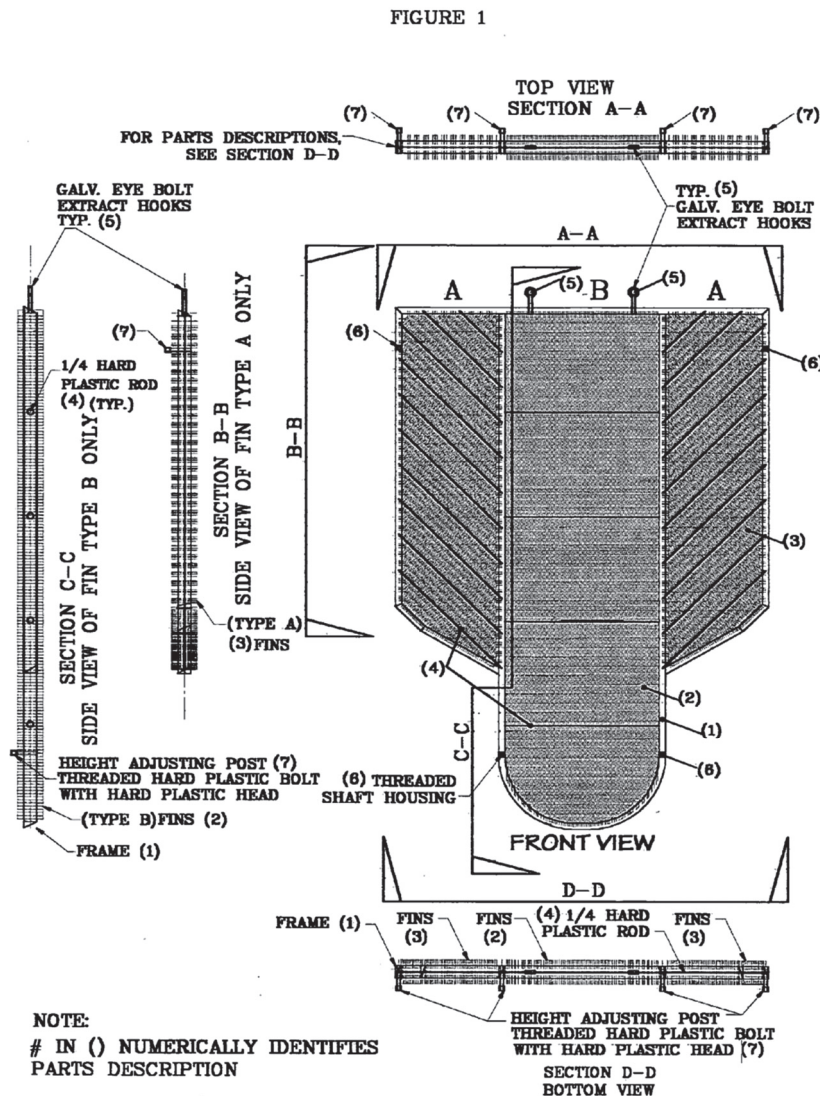
47. Valadez also discloses that its anti-splash body can be adapted to fit in a wide variety of urinals. *Id.*, ¶0032. To that end, Valadez discloses a range of possible sizes. “[A]nti-splash guard 120 comprises dimensional characteristics including length 122, width 124, and thickness 126. In one embodiment, the length 122 of the anti-splash guard 102² is between about 8-16 inches, preferably between

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

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. The disclosed ranges include, for example, an embodiment with a length of twice its width (16 inches long by 8 inches wide).

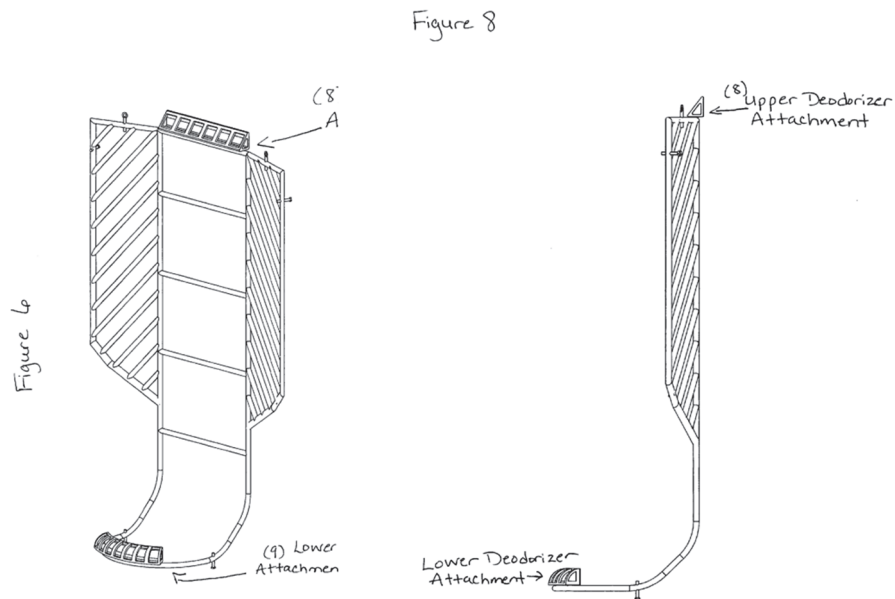
E. Wise

48. Wise (Ex. 1008) discloses a urinal anti-splash insert for vertical urinals. The insert is a flat shape divided into three main sections, a center section containing vertical fins, and two wings containing angled fins on either side of the center section. The insert reduces urine splashback via the fins in each section, “which serve in slicing urine streams.” Ex. 1008, ¶0012. Figure 1 is shown below.



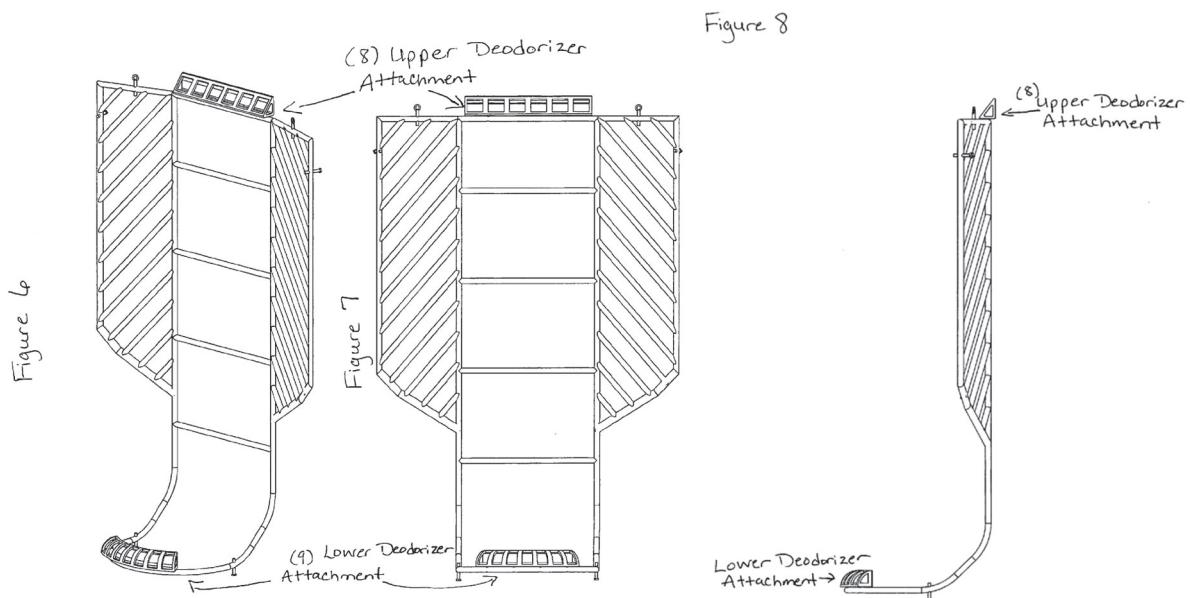
Id., Fig. 1

49. As shown in the ‘TOP VIEW SECTION A-A’ portion of Figure 1, Wise has a flat configuration. However, as shown below, Wise also has a “bent” configuration with its wings folded forward to match the shape of the urinal’s rear wall.



Ex. 1008, Figs. 6, 8.

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



Id., Figs. 6-8.

51. As depicted in Figures 6-8, the Wise insert comprises a horizontal base and a vertical anti-splash body, connected at a coupling region. Additionally, with the upper deodorizer attachment attached, the Wise insert 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.*, ¶0018.

IV. GROUND 1: CLAIMS 1, 2, 4, 7, 9, AND 10 WOULD HAVE BEEN OBVIOUS OVER FUSHIMI, BROWN '098, AND BROWN '394

52. As I explain below, Fushimi, Brown '098, and Brown '394 expressly disclose or at least suggest all the elements of Claims 1, 2, 3, 4, 6, 7, 8, 9, 10, 11, 12, 14, 15, 16, 18, and 20. To the extent Fushimi, Brown '098, and Brown '394 do not expressly disclose any element of Claims 1, 2, 3, 4, 6, 7, 8, 9, 10, 11, 12, 14, 15, 16, 18, and 20, the claims would have been obvious over Fushimi, Brown '098, and Brown '394 in view of the knowledge of one skilled in the art at the time of the '154 patent invention. Accordingly, in my opinion, each of Claims 1, 2, 3, 4, 6, 7, 8, 9, 10, 11, 12, 14, 15, 16, 18, and 20, would have been obvious to a person of ordinary skill in the art over Fushimi, Brown '098, and Brown '394.

A. Claim 1 would have been obvious over Fushimi and Brown '098 in light of the knowledge of a person of ordinary skill.

53. I address below how Fushimi and Brown '098, in view of the

knowledge of a person of ordinary skill in the art, renders obvious each element of Claim 1.

1. Preamble: “A urinal anti-splash device”

54. The preamble to Claim 1 recites a “[a] urinal anti-splash device.” I understand that patent preambles are not always limiting. I have not been asked to render an opinion on whether the preamble of Claim 1 is limiting. Regardless, Fushimi and Brown ’098 both disclose “urinal anti-splash devices.”

55. For example, Fushimi discloses that its invention is named “Urine splash prevention device,” ex. 1004, 1, and is “formed to fit the shape of the inner periphery of [a] urinal. *Id.* One skilled in the art would have understood that the “urine splash prevention device” in Fushimi is a urinal splash prevention device because it is designed to be inserted into a urinal.

56. Likewise, Brown ’098 describes a urinal screen that reduce splashing. Ex. 1005, 5:4-9.

2. 1[A]: “an anti-splash body sized and shaped to couple to at least a portion of a urinal, the anti-splash body including: a first portion; a second portion opposite the first portion; a length extending from the first portion to the second portion; and an upper surface extending the length”

57. Limitation 1[A] recites, “an anti-splash body sized and shaped to couple to at least a portion of a urinal, the anti-splash body including: a first portion; a

second portion opposite the first portion; a length extending from the first portion to the second portion; and an upper surface extending the length.” As I explain below, Fushimi discloses this limitation.

58. The '154 Patent describes a midpoint “disposed approximately halfway between the first [bottom] end 200 and the second [top] end 202.” Ex. 1001, 7:5-8. The '154 Patent’s first portion “includes the region extending approximately from a first end 200 to a midpoint,” and the second portion “includes the region extending approximately from a second end 202 to the midpoint....” *Id.*, 6:67-7:4.

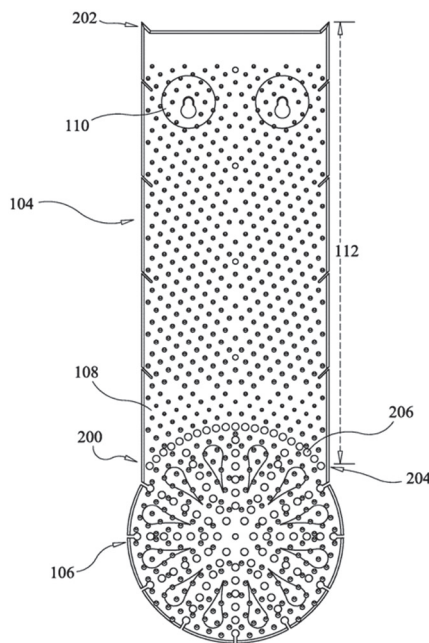


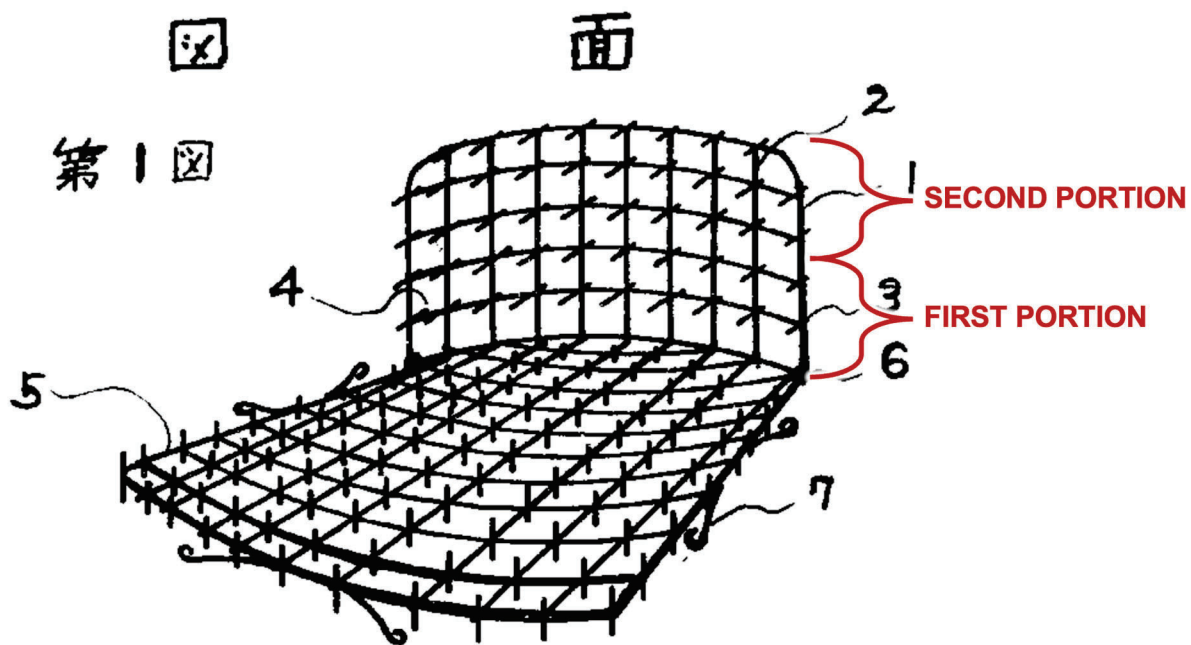
FIG. 2

Id., Fig. 2.

59. Likewise, Fushimi discloses that its splash prevention device includes an anti-splash body, namely “vertical side (4)... is attached to the inside of the urinal

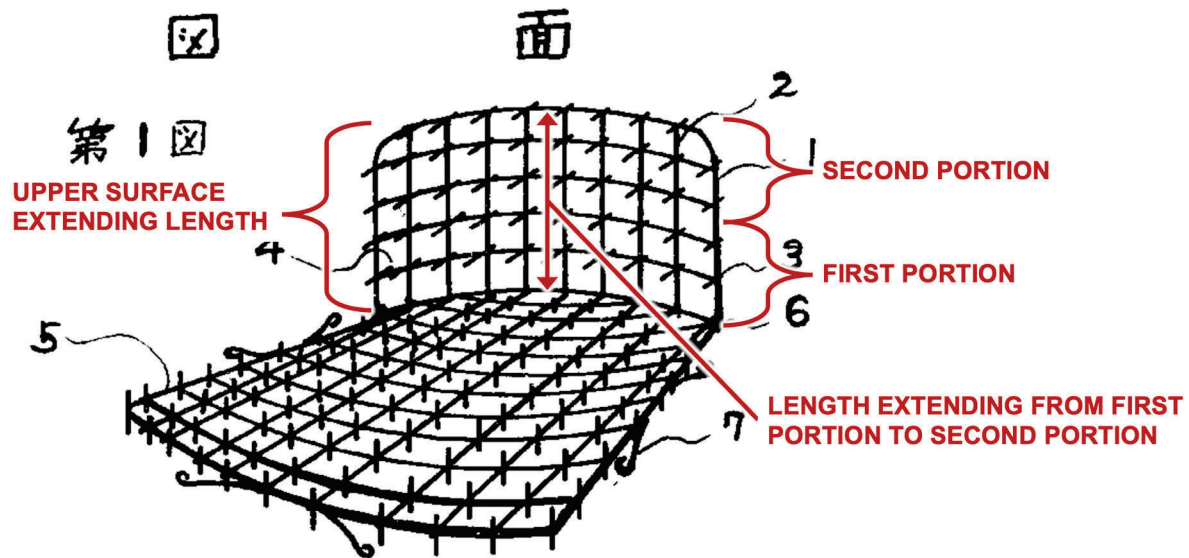
for use.” Ex. 1004, 1.

60. As shown below, Fushimi’s anti-splash body also includes top and bottom ends, and a midpoint halfway between them. A bottom portion includes the region between the bottom end and the midpoint, and a top portion includes the region between the midpoint and the top end.



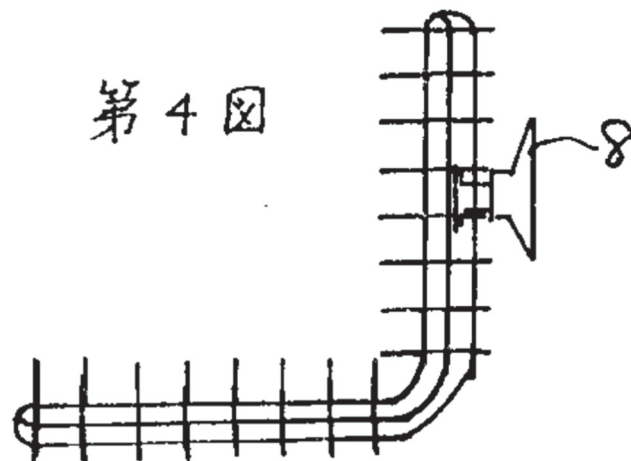
Id., Fig. 1 (annotated).

61. Fushimi’s Figure 1 also shows a length extending from the first portion to the second portion, and an upper surface extending the length.



Id., Fig. 1 (annotated).

62. Finally, Fushimi discloses that it is sized and shaped to be coupled to the rear wall of a urinal. For example, Fushimi discloses that its “shape is formed to fit the inside periphery of the urinal.” *Id.*, 3. Fushimi also discloses attaching the device to a urinal with a suction cup. *Id.*



Id., Fig. 4.

3. **1[B]: “a base couplable to the first portion and configured to extend in a direction substantially perpendicular from the first portion”**

63. Limitation 1[B] recites, “a base couplable to the first portion and configured to extend in a direction substantially perpendicular from the first portion.” First, I note that the device disclosed in the ’154 Patent meets this limitation only in its “bent” and “detached” configurations. In its “straight” configuration, the device’s base extends substantially *parallel* from the first portion, as shown below.

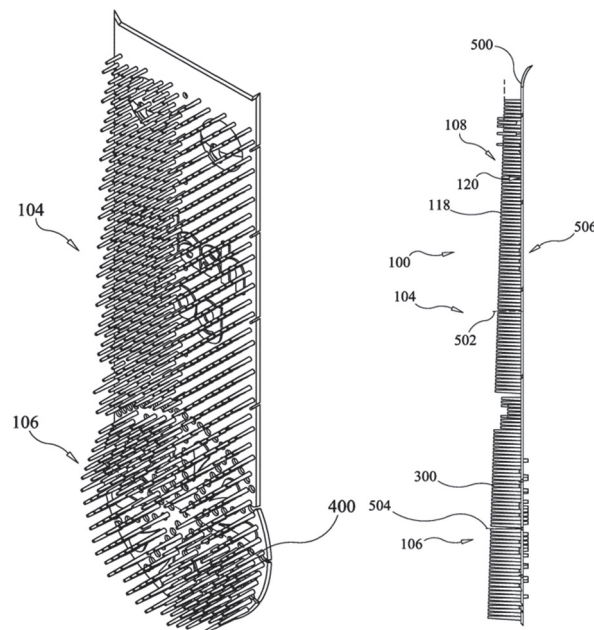


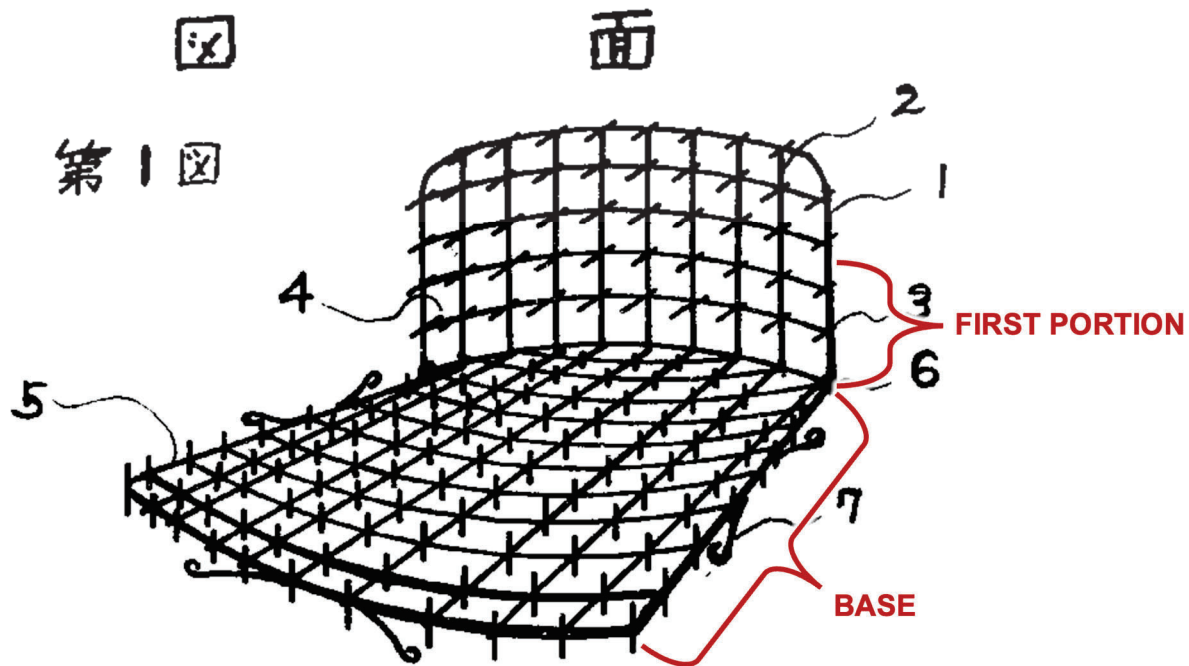
FIG. 4

FIG. 5

Ex. 1001, Figs. 4, 5. As I explain below, Fushimi discloses this limitation.

64. As shown below, Fushimi discloses a base (bottom side 5) that extends substantially perpendicular from the first portion of its anti-splash body (vertical side

4). Additionally, Fushimi describes that its base is couplable to the first portion of its anti-splash body. Fushimi’s device includes “a body formed by a vertical side (4)... and a bottom side (5) being fitted together by a support (6)...” Ex. 1004, 1.

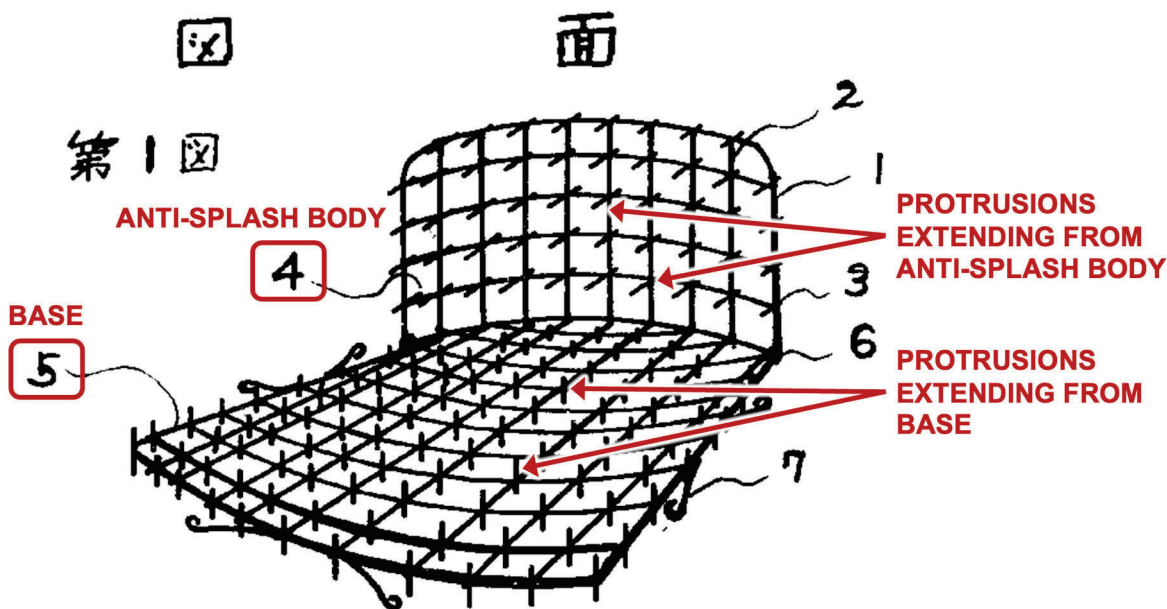


Id., Fig. 1 (annotated).

4. 1[C]: “a first plurality of protrusions extending outwardly from the upper surface of the anti-splash body and which taper downwardly in a direction toward the upper surface of the anti-splash body”

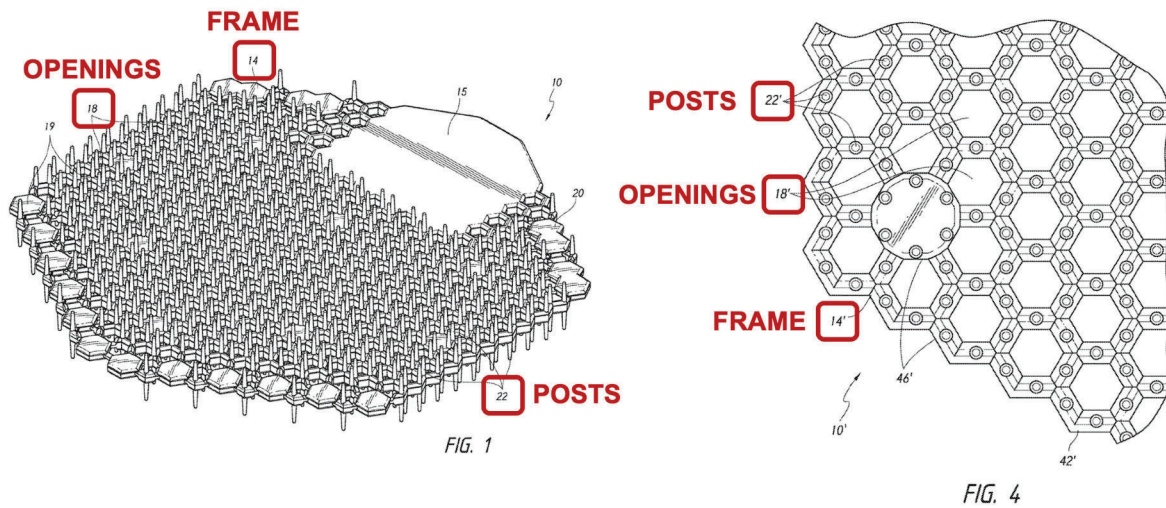
65. Limitation 1[C] recites “a first plurality of protrusions extending outwardly from the upper surface of the anti-splash body and which taper downwardly in a direction toward the upper surface of the anti-splash body[.]” As I explain below, the combination of Fushimi and Brown ’098 discloses this limitation.

66. Fushimi discloses protrusions (brushes 3) that extend away from its anti-splash body (vertical side 4). Fushimi describes that its device is covered by “an elastic brush and fine mesh, so the urine is diverted and depressurized by the brush and the mesh, the pressure is reduced, the sound is reduced and muffled, and the urine flows away without splashing elsewhere.” Ex. 1004, 2. Fushimi does not disclose any details about its protrusions, such as their size or shape.



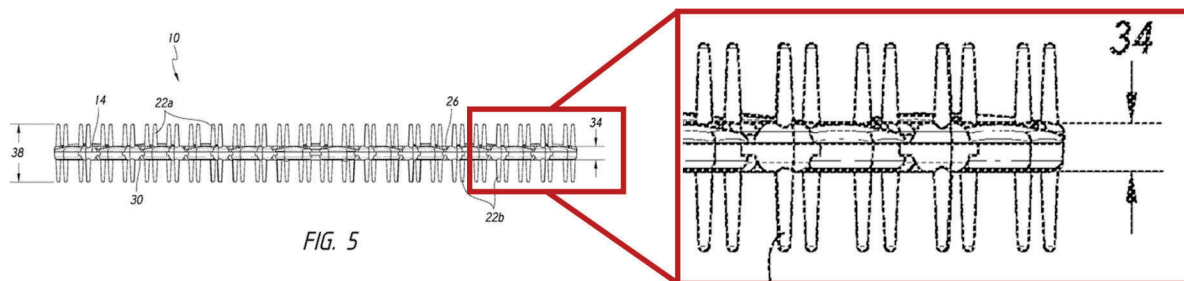
Id. Fig. 1 (annotated).

67. Brown '098 discloses a urinal screen including 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).

68. 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).

69. One skilled in the art would have been motivated to combine Brown '098's frame and posts with Fushimi's urinal anti-splash device to achieve the invention of the '154 for several reasons.

70. First, a person of ordinary skill would have understood that Brown '098 and Fushimi disclose similar devices, with similar structures that perform similar functions in similar ways. Both devices are inserted into a urinal to prevent splashing and prevent debris from clogging the drain. 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.

71. Fushimi is more terse and its figures are less detailed than Brown '098. Fushimi discloses little details about the materials and manufacture of the device, whereas Brown '098 includes a more detailed description including specific materials and instructions for manufacturing its device, including molding. *See, e.g.*, Ex. 1005, 4:16-34. Brown '098's specification also includes more detailed drawings. A person of ordinary skill would have looked to Brown '098 for features of the device, including the use of Brown '098's more defined frame and tapered posts, to use in place of Fushimi's generically described mesh and brushes. A person of ordinary skill would have recognized that using Brown '098's frame and posts for Fushimi's mesh and brushes would have constituted no more than a routine design choice.

72. Second, a person of ordinary skill would have understood that substituting Brown '098's frame and posts for Fushimi's mesh and brushes 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.

73. 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 person of ordinary skill 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. A person of ordinary skill would have recognized that manufacturing costs could be reduced by reducing the number of separate molded parts required for each unit. For example, “[s]tudies have indicated that in a wide variety of industries, assembly costs account for about 40 to 50 percent of the total product cost. Designers, therefore, are always trying to reduce the part count to keep assembly costs down and improve product quality.” Ex. 1021, 2.

74. A person of ordinary skill also would have had a reasonable expectation of success in modifying Fushimi to use Brown '098's frame and posts. A person of ordinary skill 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 to cover a urinal drain and a vertically oriented anti-splash body to cover the back wall of the urinal. Using Brown '098's frame and posts would require minimal, design changes and advantageously provide a single piece molded urinal screen device.

5. **1[D]: “a second plurality of protrusions extending outwardly from the base, the second plurality of protrusions configured to extend in the direction substantially perpendicular from the first portion of the anti-splash body”**

75. Limitation 1[D] recites that the cap assembly comprises “a second plurality of protrusions extending outwardly from the base, the second plurality of protrusions configured to extend in the direction substantially perpendicular from the first portion of the anti-splash body.” This limitation is similar to limitation 1[B], in that the device disclosed in the '154 Patent meets this limitation only in certain configurations. Unlike that limitation, however, this limitation is met when the device is in its “straight” configuration, and *not* when it is in its “bent” and “detached” configurations. As I explain below, Fushimi discloses this limitation.

76. Fushimi discloses several embodiments of its invention, but I note that all of the disclosed embodiments show Fushimi's device in its “bent” or perpendicular configuration as it would be installed in a urinal. However, Fushimi describes that its base (bottom side 5) and anti-splash body (vertical side 4) are

connected “fitted together by a support (6).” Ex. 1004, 1. Fushimi notes that its support 6 “can be detached and bent freely to make it easy to handle.” *Id.*, 2. By bending Fushimi at support 6, a person of skill would understand that the it would be configured to be generally flat, like the “straight” configuration of the ’154 Patent.

77. A person of ordinary skill would have recognized that arranging Fushimi’s urine splash prevention device in a flat configuration would have been desirable for ease of handling and transporting the product, e.g., when packing, storing, and shipping the product. Persons of ordinary skill understand that flat products consume less usable space in a box or shipping container compared to three-dimensional products. 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.

78. Examples of this technique are common and have been known for decades. 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 for shipping and storage (below, left). Before use, users reconfigure the base and back support sections in an orthogonal configuration (below, right)..



79. Thus, it is my opinion that a person of ordinary skill would understand Fushimi to teach a device as recited in limitation 1[D] 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; and (3) in such flat configuration the protrusions extending from the base would be perpendicular to the anti-splash body.

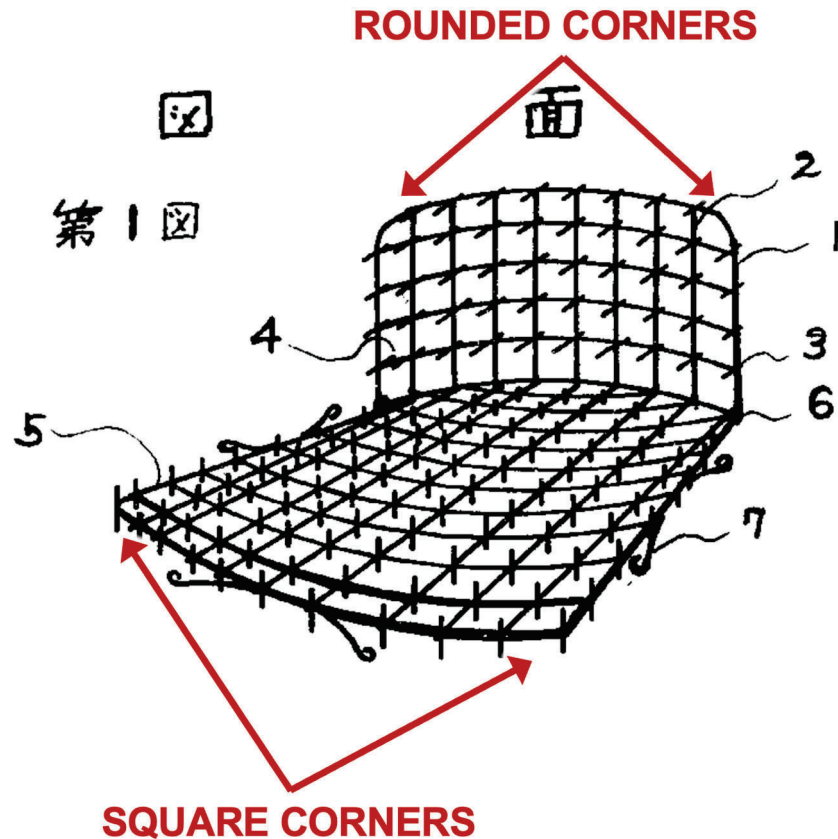
80. Limitation 1[D] also would have been obvious in the combination of Fushimi in combination with Brown '098. Using Brown '098's molded urinal screen in the configurations as taught by Fushimi would have been obvious for the reasons described above. Further, a person of ordinary skill would have molded a device having a frame and protrusions as taught in Brown '098 to be used in Fushimi's L-shaped configuration in a flat configuration. And a person of ordinary skill doing so would have recognized that the resulting device would have an adjustable coupling region between the base and the anti-splash body as taught by Fushimi to configure the device for use in a urinal.

81. Accordingly, it is my opinion that the combination of Fushimi and Brown '098 discloses or teaches each limitation of Claim 1, and therefore the invention claimed therein would have been obvious over Fushimi and Brown '098 in view of the knowledge of a person of ordinary skill in the art.

B. Claim 2 would have been obvious over Fushimi, Brown '098, and Brown '394 in light of the knowledge of a person of ordinary skill.

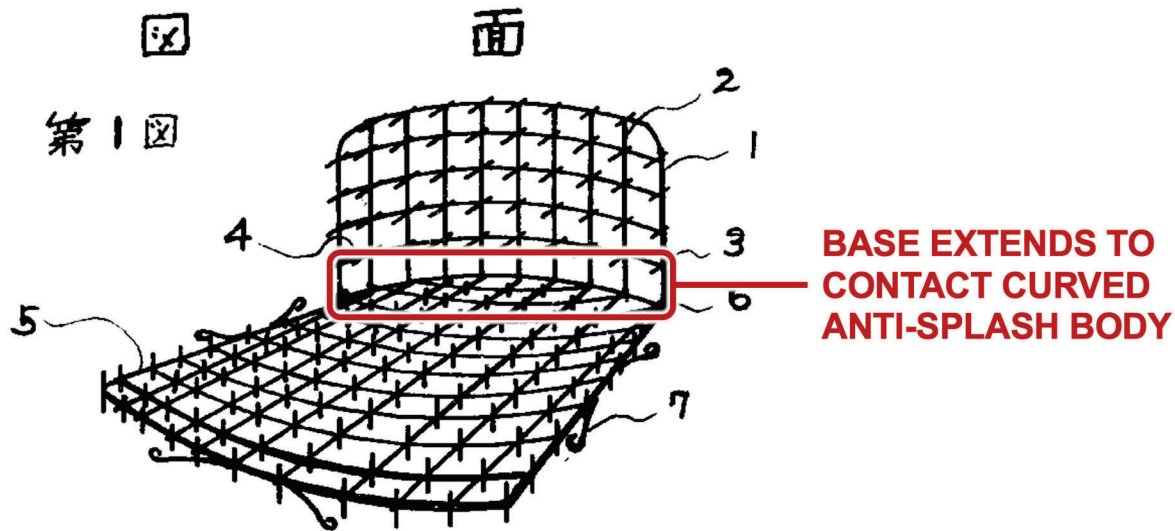
82. Claim 2 depends from Claim 1, and thus incorporates the limitations of Claim 1. Claim 2 further recites, “wherein: the base is of a shape different than a shape of the anti-splash body.” As I explain below, Fushimi discloses this additional limitation.

83. Fushimi discloses a base (horizontal side 5) and an anti-splash body (vertical side 4), the shapes of which differ in at least two ways. First, vertical side 4 and bottom side 5 have differently shaped corners on their edges distal to support 6. Vertical side 4 has rounded corners, whereas bottom side 5 has square corners.



Ex. 1004, Fig. 1 (annotated). Second, the surfaces of vertical side 4 and bottom side 5 are shaped and curved differently. Vertical side 4 is generally rectangular, with two sets of parallel edges, and a slightly concave curvature to conform to the shape of a urinal's rear wall. However, while the lateral edges of horizontal side 5 are generally parallel, the front and rear edges are not. The front edge is rounded downward, in the direction of the urinal floor. However, it does not extend beyond ends of the parallel, lateral sides. This edge is not parallel to the rounded rear edge, which must extend past the ends of the lateral sides to contact the entire interior

periphery of vertical side 4's concave surface.



Id., Fig. 1 (annotated).

84. Moreover, it would have been obvious to a person of ordinary skill to make Fushimi's base and anti-splash body with different shapes even if doing so were not already taught by Fushimi. There are only two choices – to make the shapes the same or not. A person of ordinary skill would understand that both options were predictable solutions, and would have had a reasonable expectation of success with either one. It would have been obvious to try both, making the shapes of the base and anti-splash body the same, and making them different.

85. A person of ordinary skill would have recognized the desirability of adjusting the shapes for various urinal designs, and also of making the vertical anti-splash body with a longer shape to cover a greater portion of the urinal back wall as

discussed in further detail below for Claim 3. A person of ordinary skill would understand that because Fushimi's device would be attached to the rear wall of a urinal with a suction cup or a magnet, there would have been no concerns associated with the use of a lengthened shape. For example, there would be no concern of a taller device falling forward because of its length.

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

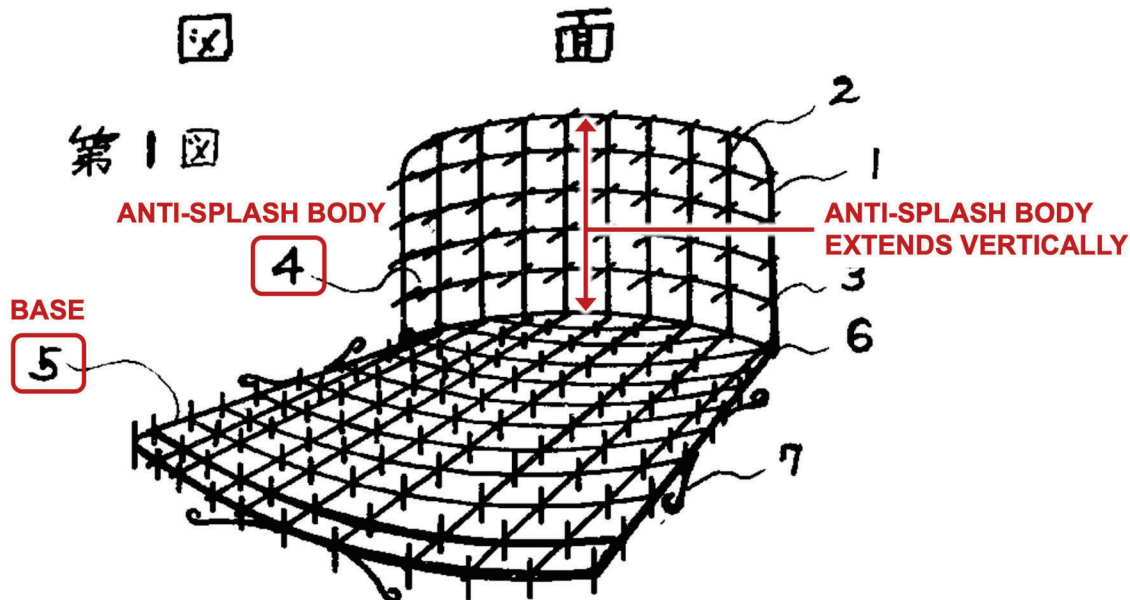
87. Accordingly, it is my opinion that Fushimi discloses the additional limitations of Claim 2, and therefore the invention claimed therein would have been obvious over Fushimi, Brown '098, and Brown '394 in view of the knowledge of a person of ordinary skill in the art.

C. Claim 3 would have been obvious over Fushimi, Brown '098, and Brown '394 in light of the knowledge of a person of ordinary skill.

88. Claim 3 depends from Claim 1, and thus incorporates the limitations of Claim 1. Claim 3 further recites that “the anti-splash body includes an elongated shape of a flexible material configured to couple to a back wall of a urinal.” As I

explain below, this limitation would have been obvious in view of Fushimi in light of the knowledge of a person of ordinary skill.

89. I discussed in Claim 1[A], above, that Fushimi’s urinal anti-splash device includes an anti-splash device (vertical side 4) that extends vertically along, and couples to, the rear wall of a urinal. Fushimi’s vertical side 4 as depicted is not “elongated” because it does not have a length at least twice as long as a width.



Ex. 1004, Fig. 1 (annotated).

90. It would have been obvious to a person of ordinary skill 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 person of ordinary skill, who would have understood how to size, scale, and otherwise form the device taught by Fushimi for use in various urinals.

91. Further, anti-splash devices with anti-splash bodies extending vertically along the back wall of a urinal, as described by the '154 Patent, were known well before time of the '154 Patent's invention. For example, such a device was disclosed by Fushimi in 1985, over three decades before 2016, when the '154 Patent's application was filed. *See* Exs. 1001; 1004. Further, the anti-splash body will produce the desired reduced splashing result for a wide range of sizes. A person of ordinary skill would have known that making the anti-splash body longer or taller 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.

92. A person of ordinary skill would have been motivated to modify the shape of the anti-splash body because Fushimi teaches that its shape is “formed to match the inside shape of [the] urinal” Ex. 1004, 1. A person of ordinary skill would have understood that a single shape would not match the inner periphery all urinals, and thus understood that Fushimi teaches modifying the shape and size of the depicted embodiment.

93. A person of ordinary skill would have been further motivated because, as such a person would have recognized, altering the shape of the anti-splash body would improve the functionality of the device. Urine splashing is reduced when the urine stream passes through Fushimi’s mesh (2) and brushes (3). Ex. 1004, 2. A person of ordinary skill would have recognized that increasing the surface area of the anti-splash body would reduce the exposed surface area of the urinal rear wall and increase the likelihood the urine stream contacted the anti-splash body.

94. A person of ordinary skill would also 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.

95. A person of ordinary skill would have expected success in modifying the size of Fushimi’s anti-splash body because it was common to adapt the dimensions of urinal screens to the dimensions of urinals at the time of the ’154 Patent’s invention. 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.”).

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

97. A person of ordinary skill would understand that because Fushimi’s

device would be attached to the rear wall of a urinal with a suction cup or a magnet, there would have been no concern to lengthen it to accommodate taller urinals or to cover more of the rear wall of the urinal. For example, there would be no concern of it falling forward because of its length.

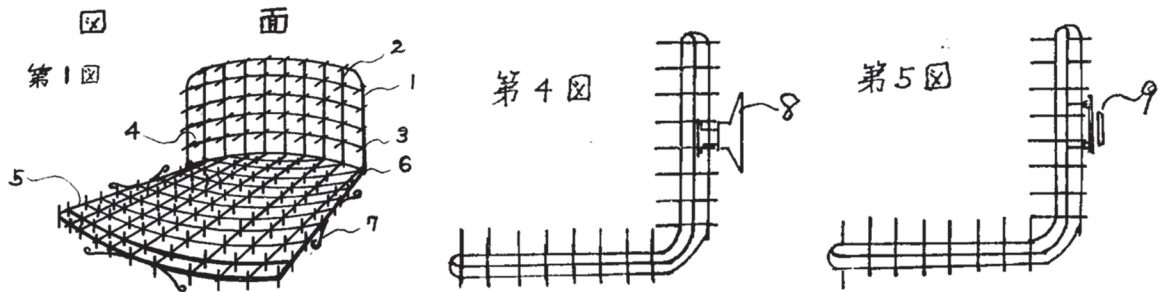
98. Accordingly, it is my opinion that the additional limitation of Claim 3 would have been obvious over Fushimi in light of the knowledge of a person of ordinary skill, and therefore the invention claimed therein would have been obvious over Fushimi, Brown '098, and Brown '394 in view of the knowledge of a person of ordinary skill in the art.

D. Claim 4 would have been obvious over Fushimi, Brown '098, and Brown '394 in light of the knowledge of a person of ordinary skill.

99. Claim 4 depends from Claim 1, and thus incorporates the limitations of Claim 1. Claim 4 further recites that the urinal anti-splash device further comprises “at least one fastener sized and shaped to orient the anti-splash body in a vertical direction parallel to a vertical direction of a urinal wall.” As I explain below, Fushimi discloses this additional limitation.

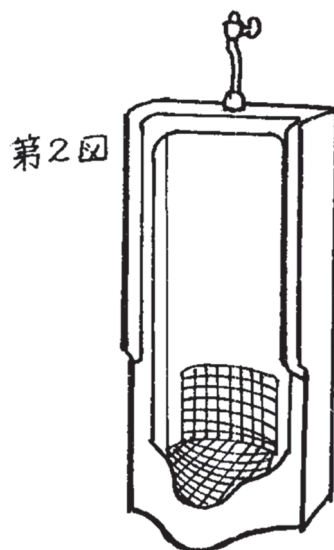
100. Fushimi’s anti-splash device includes a fastener (fastening device 7) which “is attached to the inside of the urinal for use.” Ex. 1004, 1. Fushimi discloses several embodiments of fastening device 7, shown below, including “tensioning legs

having bent tips,” *id.*, 2, “fastener (7) with a suction cup,” *id.*, 3, and “fastener (7) with a magnet.” *Id.*



Id., Figs. 1, 4, 5.

101. A person of ordinary skill would understand that when, e.g., the suction cup embodiment pictured in Figure 4, above, was installed in a urinal as shown in Figure 2, below, the suction cup would be pressed against a back wall of the urinal, and that the anti-splash body would be thus oriented vertically along the urinal’s rear wall.



Id., Fig. 2

102. Accordingly, it is my opinion that Fushimi discloses the additional limitations of Claim 4, and therefore the invention claimed therein would have been obvious over Fushimi, Brown '098, and Brown '394 in view of the knowledge of a person of ordinary skill in the art.

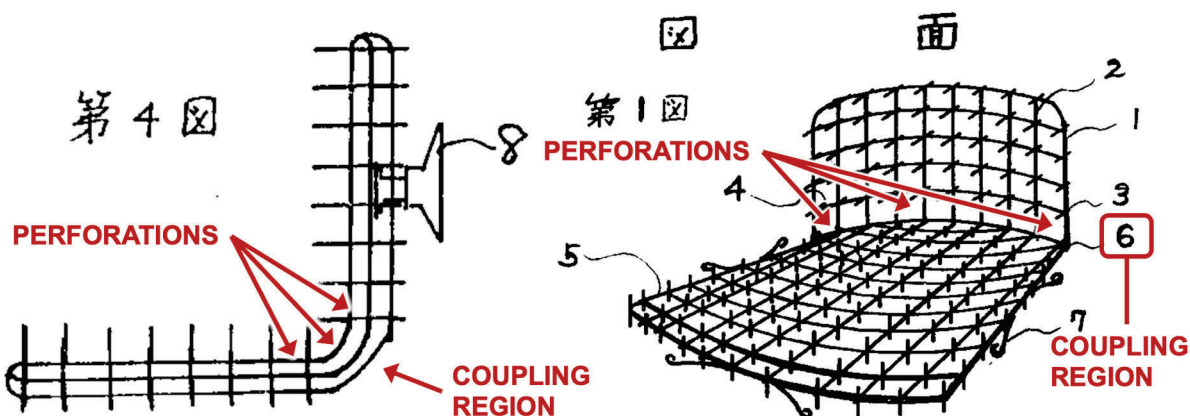
E. Claim 6 would have been obvious over Fushimi, Brown '098, and Brown '394 in light of the knowledge of a person of ordinary skill.

103. Claim 6 depends from Claim 1, and thus incorporates the limitations of Claim 1. Claim 6 further recites that the anti-splash device further comprises “a perforated coupling region disposed between the first portion of the anti-splash body and the base, the perforated coupling region configured to translate the base from a first position parallel to the anti-splash body to a second position including the base being in the direction substantially perpendicular from the first portion of the anti-splash body.” As I explain below, both Fushimi and Brown '394 disclose this additional limitation.

104. The '154 Patent describes that “‘perforated’ is defined herein as visibly displaying a hole, perforation, puncture, or other visible marking such that the user is provided with a visual indication of where the anti-splash body 104 may be uncoupled, i.e., separated, from the base 106. Said another way, the anti-splash body

104 may be removably coupled from the base 106.” Ex. 1001, 7:19-23. 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.*, 7:39-41.

105. Fushimi includes 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.



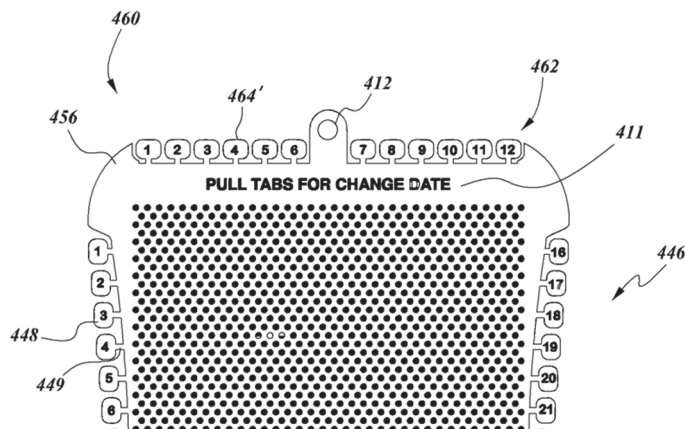
Ex. 1004, Figs. 1, 4 (annotated).

106. A person of ordinary skill would understand the coupling region at the bend (support 6) 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. As described above, Fushimi teaches the it can be “bent freely” at this region “to make

it easy to handle.” *Id.*, 2. A person of ordinary skill would further understand Fushimi to teach that the base and anti-splash body of its device can be configured such that the device is flat for handling and then can be bent to a perpendicular configuration for use as depicted above. Thus, it is my opinion that Fushimi teaches the limitation of Claim 6.

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

108. Additionally, as shown in Figure 12 below, Brown ’394 also discloses a visible marking indicating to the user that the date tabs may be uncoupled from the urinal screen.



Id., Fig. 12 (cropped).

109. 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 person of ordinary skill, at the time of the '154 Patent's invention, to join the two parts at a perforated coupling region based on the teachings of Brown '394 and Fushimi.

110. A person of ordinary skill designing a two-part urinal screen as disclosed in Brown '394 would be motivated to manufacture the device as a single unitary assembly, which could be separated by the user prior to installation in a urinal. It would have been obvious to do so because use of one-piece construction is well known, and is merely a matter of obvious engineering choice. Additionally, a person of ordinary skill would have recognized that manufacturing costs could be reduced by reducing the number of separate molded parts required for each unit. For example, "[s]tudies have indicated that in a wide variety of industries, assembly

costs account for about 40 to 50 percent of the total product cost. Designers, therefore, are always trying to reduce the part count to keep assembly costs down and improve product quality. Ex. 1021, 2.

111. A person of ordinary skill would understand that a perforated region, as taught by Brown '394, would provide the user with the ability to separate the two parts of a two-part urinal (vertical and horizontal as taught by Brown '394, Ex. 1006, 12:1-5) if it were manufactured as a unitary assembly. Likewise, the perforated region would provide an indication to the user about where the two parts could be separated. Additionally, a person of ordinary skill would understand that Brown '394 also teaches a slit 18 that provides the user with an indication of where the user of a two-part urinal manufactured as a unitary assembly would translate the two parts from parallel to perpendicular while they remained coupled.

112. Accordingly, it is my opinion that both Fushimi and Brown '394 disclose the additional limitations of Claim 6, and therefore the invention claimed therein would have been obvious over Fushimi, Brown '098, and Brown '394 in view of the knowledge of a person of ordinary skill in the art.

F. Claim 7 would have been obvious over Fushimi, Brown '098, and Brown '394 in light of the knowledge of a person of ordinary skill.

113. Claim 7 depends from Claim 1, and thus incorporates the limitations of

Claim 1. Claim 7 further recites, “wherein: the base is made of buoyant material.”

As I explain below, Brown '098 discloses this additional limitation.

114. A person of ordinary skill would generally understand that a “buoyant” material, in the context of designing and manufacturing urinal screens, to mean a material which floats in water at regular temperatures and pressures. In that environment, water has a density of 1g/cm^3 , so a buoyant material would have a density less than 1g/cm^3 .

115. Brown '098 discloses that its frame and posts can be made molded from ethylene vinyl acetate (EVA). Ex. 1005, 4:22-25. A person of ordinary skill would know EVA is buoyant. EVA has a density between 0.926 and 0.950 g/cm^3 . Ex. 1022. Brown '098 is therefore made of buoyant material.

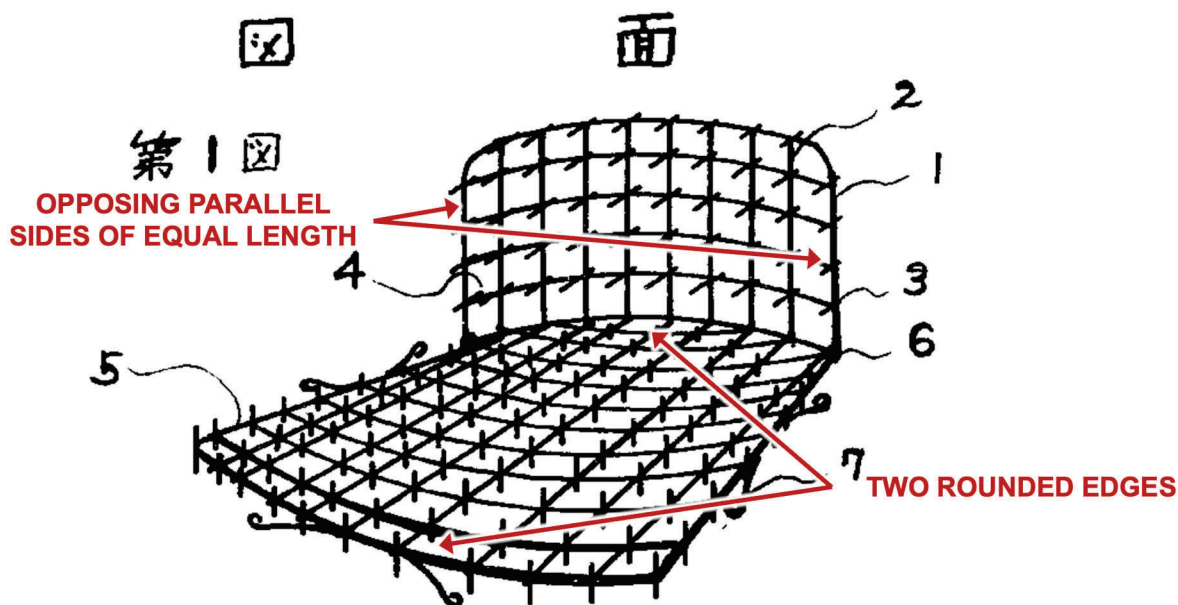
116. Accordingly, it is my opinion that Brown '098 discloses the additional limitations of Claim 7, and therefore the invention claimed therein would have been obvious over Fushimi, Brown '098, and Brown '394 in view of the knowledge of a person of ordinary skill in the art.

G. Claim 8 would have been obvious over Fushimi, Brown '098, and Brown '394 in light of the knowledge of a person of ordinary skill.

117. Claim 8 depends from Claim 1, and thus incorporates the limitations of Claim 1. Claim 8 further recites, “wherein: the anti-splash body is a rectangular-like

shape; and the base is a circular-like shape.” As I explain below, Fushimi discloses this additional limitation, and, in any event, it would have been obvious over Fushimi in light of the knowledge of a person of ordinary skill.

118. I discussed in Claims 1[A] and 1[B], above, that Fushimi includes an anti-splash body (vertical side 4) and a base (horizontal side 5). As shown below, Fushimi’s base is “circular-like” because it has at least two round edges. Likewise, Fushimi’s anti-splash body is “rectangular-like” because it has at least one pair of opposing parallel sides of equal length.



Ex. 1004, Fig. 1.

119. Additionally, Brown '098 discloses that urinal screens can be made in a variety of shapes, and specifically formed according to the specific shape of a urinal where the screen will be installed. “ In some embodiments, the screen 10 has

a polygonal, elliptical, circular, or other overall shape. For example, as illustrated in FIG. 2, the screen 10 can have a generally hexagonal shape, though many other shapes are contemplated (e.g., rectangles, pentagons, triangles, circles, or some combination thereof). In some embodiments, the screen 10 is shaped to fit a particular urinal or toilet.” Ex. 1005, 4:9-15. A person of ordinary skill would understand that urinal screens with bases and anti-splash bodies would frequently have bases and bodies of different shapes, i.e., the base would be shaped according to the dimensions and contours of the urinal drain area, whereas the body would have a different shape according to the dimensions and contours of the urinal’s rear wall.

120. Accordingly, it is my opinion that Fushimi discloses the additional limitation of Claim 8, and, in any event, it would have been obvious over Fushimi in light of the knowledge of a person of ordinary, and therefore the invention claimed therein would have been obvious over Fushimi, Brown ’098, and Brown ’394 in view of the knowledge of a person of ordinary skill in the art.

H. Claim 9 would have been obvious over Fushimi, Brown ’098, and Brown ’394 in light of the knowledge of a person of ordinary skill.

121. Claim 9 depends from Claim 1, and thus incorporates the limitations of Claim 1. Claim 9 further recites, “wherein: the first plurality of protrusions are of a

variable length.” As I explain below, Brown ’098 discloses this additional limitation.

122. Brown ’098 discloses that its protrusions (posts 22) can be a variety of lengths. “In some cases, each post is at least $1/5$ shorter, at least $1/10$ shorter, at least $1/8$ shorter, at least $1/4$ shorter, at least $1/3$ shorter, at least $1/2$ taller, at least $1/4$ taller, at least $1/8$ taller, at least $1/10$ taller, and/or at least $1/16$ taller than at least one of the 3 closest posts 22, at least one of the 5 closest posts 22, at least one of the 7 closest posts 22, at least one of the 9 closest posts 22, at least one of the 10 closest posts 22, at least one of the 12 closest posts 22, and/or at least one of the 15 closest posts 22.” Ex. 1005, 6:10-18.

123. Accordingly, it is my opinion that Brown ’098 discloses the additional limitations of Claim 9, and therefore the invention claimed therein would have been obvious over Fushimi, Brown ’098, and Brown ’394 in view of the knowledge of a person of ordinary skill in the art.

I. Claim 10 would have been obvious over Fushimi, Brown ’098, and Brown ’394 in light of the knowledge of a person of ordinary skill.

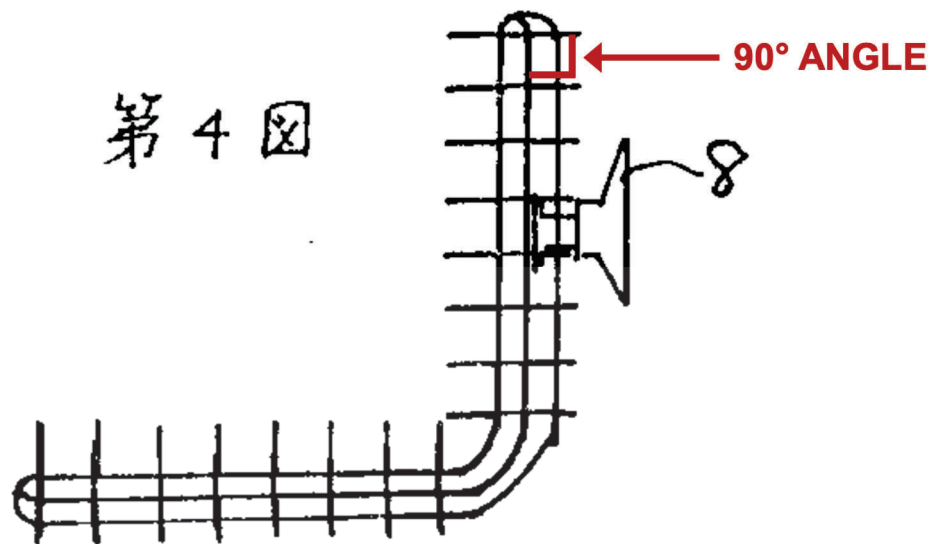
124. Claim 10 depends from Claim 1, and thus incorporates the limitations of Claim 1. As explained above, it is my opinion that the combination of Fushimi, Brown ’098, and Brown ’394 discloses each limitation of Claim 1, and therefore the invention claimed therein would have been obvious over Fushimi, Brown ’098, and

Brown '394 in view of the knowledge of a person of ordinary skill in the art.

125. Claim 10 further recites that the urinal anti-splash device further comprises “an angled portion at a top of the anti-splash body configured to facilitate flow along the upper surface.” As I explain below, Fushimi discloses this additional limitation.

126. Fushimi discloses that its shape, shown below, 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. One aspect of Fushimi’s shape that ensures water flows across the entire device are the horizontal protrusions (brushes 3) extending away from vertical side 4. The projections help to direct water onto vertical edge 4 which may otherwise pass just barely in front of or behind the surface of mesh 2 without contacting it. Additionally, the rear projections push vertical edge 4 away from the wall, preventing contact that may block flowing water.

127. As shown below, brushes 3 create an angled portion as they extend away from vertical edge 4.



Id., Fig. 4 (annotated).

128. Accordingly, it is my opinion that Fushimi discloses the additional limitations of Claim 10, and therefore the invention claimed therein would have been obvious over Fushimi, Brown '098, and Brown '394 in view of the knowledge of a person of ordinary skill in the art.

J. Claim 11 would have been obvious over Fushimi, Brown '098, and Brown '394 in light of the knowledge of a person of ordinary skill.

129. I address below how Fushimi, Brown '098, and Brown '394, in view of the knowledge of a person of ordinary skill in the art, renders obvious the claimed invention of Claim 11. Further, as I explain below, Fushimi alone also teaches each element of Claim 11.

1. Preamble: “A urinal anti-splash device”

130. The preamble to Claim 11 recites a “[a] urinal anti-splash device.” I understand that patent preambles are not always limiting. I have not been asked to render an opinion on whether the preamble of Claim 11 is limiting. Regardless, as I discussed in Claim 1, above, Fushimi, Brown ’098, and Brown ’394 all disclose “urinal anti-splash devices.”

2. 11[A]: “an anti-splash body configured to couple to a urinal wall, the anti-splash body including a first portion, a second portion opposite the first portion, and a longitudinal length separating the first portion from the second portion”

131. Limitation 11[A] recites, “an anti-splash body configured to couple to a urinal wall, the anti-splash body including a first portion, a second portion opposite the first portion, and a longitudinal length separating the first portion from the second portion.” This limitation would have been obvious to a person of ordinary skill over Fushimi in light of the knowledge of a person of ordinary skill.

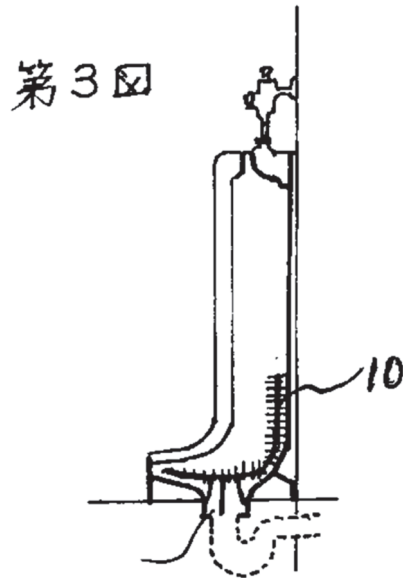
132. As I discussed in Claim 1, above, Fushimi discloses an anti-splash body that couples to the rear wall of urinal, a first and second portion, and a length. Fushimi does not explicitly disclose a longitudinal length because it does not disclose anti-splash body with an elongated shape. According to the ’154 patent lengths are longitudinal if they run in an elongated direction of the anti-splash body. However, as I discussed in Claim 3, above, it would have been obvious to a person

of ordinary skill to elongate Fushimi’s anti-splash body to cover a larger portion of a urinal’s rear wall when installed. The length separating the first and second portions in Fushimi with an elongated anti-splash body would be a longitudinal length because it would run in an elongated direction and in a direction from the ground toward the ceiling.

3. **11[B]: “a base couplable to the first portion of the anti-splash body, the base sized and shaped to cover at least a portion of a urinal drain”**

133. Limitation 11[B] recites, “a base couplable to the first portion of the anti-splash body, the base sized and shaped to cover at least a portion of a urinal drain.” As I discussed in Claim 1, above, Fushimi, Brown ’098, and Brown ’394 all disclose an anti-splash body with a base.

134. Fushimi, Brown ’098, and Brown ’394 all disclose that their base is sized and shaped to cover at least a portion of a urinal drain. Ex. 1004, 4; Ex. 1005, 4:2-4; Ex. 1006, 3:39-41. Additionally, as shown below, Fushimi shows the base of its anti-splash device covering a urinal drain.



Ex. 1004, Fig. 3.

4. **11[C]: “a coupling region configured to translate the base between a first position including the base oriented in a direction parallel to the anti-splash body and a second position including the base oriented in a direction substantially perpendicular from the base”**

135. Limitation 11[C] recites, “a coupling region configured to translate the base between a first position including the base oriented in a direction parallel to the anti-splash body and a second position including the base oriented in a direction substantially perpendicular from the base.” Fushimi discloses this limitation.

136. First, I note that this limitation is almost identical to the limitation recited in Claim 6, except that Claim 6 requires the coupling region be “perforated” and Claim 11[C] does not. As I discussed in Claim 6, above, Fushimi discloses a perforated coupling region according to Claim 6. Therefore, Fushimi also discloses

this limitation.

5. 11[D]: “a plurality of protrusions coupled to the anti-splash body and the base”

137. Limitation 11[D] recites, “a plurality of protrusions coupled to the anti-splash body and the base.” Fushimi discloses this limitation.

138. As I discussed in Limitations 1[C] and 1[D], above, Fushimi discloses a plurality of protrusions coupled to its anti-splash body 1[C] and its base 1[D]. Together, these protrusions comprise a plurality of protrusions coupled to the anti-splash body and the base.

139. Accordingly, it is my opinion that the combination of Fushimi, Brown ’098, and Brown ’394 discloses or teaches each limitation of Claim 11, and therefore the invention claimed therein would have been obvious over Fushimi, Brown ’098, and Brown ’394 in view of the knowledge of a person of ordinary skill in the art. The same is true considering Fushimi alone.

K. Claim 12 would have been obvious over Fushimi, Brown ’098, and Brown ’394 in light of the knowledge of a person of ordinary skill.

140. Claim 12 depends from Claim 11, and thus incorporates the limitations of Claim 11. Claim 12 further recites that “the anti-splash body is of a shape different than a shape of the base.” As I discussed in Claim 2, above, Fushimi discloses this additional limitation.

141. Accordingly, it is my opinion that Fushimi discloses the additional limitations of Claim 12, and therefore the invention claimed therein would have been obvious over Fushimi, Brown '098, and Brown '394 in view of the knowledge of a person of ordinary skill in the art.

L. Claim 14 would have been obvious over Fushimi, Brown '098, and Brown '394 in light of the knowledge of a person of ordinary skill.

142. Claim 14 depends from Claim 11, and thus incorporates the limitations of Claim 11. Claim 14 further recites “the coupling region includes a perforated edge.” As I discussed in Claim 6, both Fushimi and Brown '394 disclose this added limitation.

143. Accordingly, it is my opinion that both Fushimi and Brown '394 disclose the additional limitations of Claim 14, and therefore the invention claimed therein would have been obvious over Fushimi, Brown '098, and Brown '394 in view of the knowledge of a person of ordinary skill in the art.

M. Claim 15 would have been obvious over Fushimi, Brown '098, and Brown '394 in light of the knowledge of a person of ordinary skill.

144. Claim 15 depends from Claim 11, and thus incorporates the limitations of Claim 11. Claim 15 further recites that “the plurality of protrusions taper downwardly in a direction toward an upper surface of the anti-splash body and the

base.” As I discussed in limitation 1[C] above, Brown ’098 discloses this added limitation.

145. Accordingly, it is my opinion that Brown ’098 discloses the additional limitations of Claim 15, and therefore the invention claimed therein would have been obvious over Fushimi, Brown ’098, and Brown ’394 in view of the knowledge of a person of ordinary skill in the art.

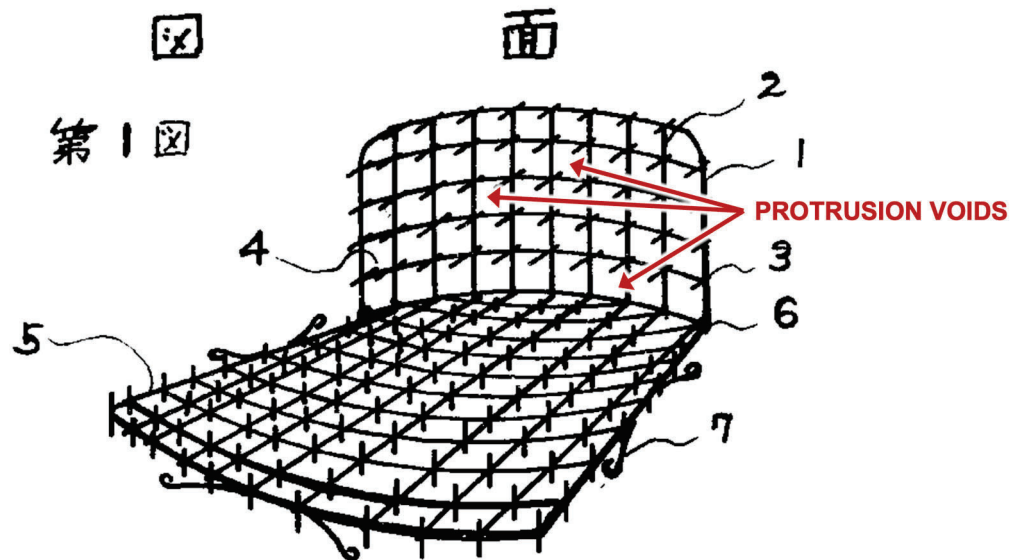
N. Claim 16 would have been obvious over Fushimi, Brown ’098, and Brown ’394 in light of the knowledge of a person of ordinary skill.

146. Claim 16 depends from Claim 11, and thus incorporates the limitations of Claim 11. Claim 16 further recites that “the plurality of protrusions substantially span the longitudinal length and define a plurality of protrusion voids.”

147. According to the ’154 Patent, protrusion voids “allow the urine to flow in the direction toward the urinal drain,” Ex. 1001, 5:18-19, and “may also provide space for the protrusions 118 to bend and deflect when struck by the urine.” *Id.*, 6:50-51. Fushimi discloses this additional limitation.

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

body.



Id., Fig. 1.

149. A person of ordinary skill would understand that the spaces between Fushimi’s protrusions are “protrusion voids” because, for example, they are open spaces, i.e., voids, and they allow urine to flow toward the drain, and provide space for Fushimi’s protrusions to bend and deflect when struck by urine.

150. Accordingly, it is my opinion that Fushimi discloses the additional limitations of Claim 16, and therefore the invention claimed therein would have been obvious over Fushimi, Brown ’098, and Brown ’394 in view of the knowledge of a person of ordinary skill in the art.

O. Claim 18 would have been obvious over Fushimi, Brown '098, and Brown '394 in light of the knowledge of a person of ordinary skill.

151. I address below how Fushimi, Brown '098, and Brown '394, in view of the knowledge of a person of ordinary skill in the art, renders obvious the claimed invention of Claim 18.

1. Preamble: “A method of mounting a urinal anti-splash device within a urinal”

152. The preamble to Claim 18 recites a “[a] method of mounting a urinal anti-splash device within a urinal.” I understand that patent preambles are not always limiting. I have not been asked to render an opinion on whether the preamble of Claim 18 is limiting. Regardless, as I explain below, Fushimi discloses a method for installing a urinal anti-splash device within a urinal.

153. As I discussed in Claim 1, above, Fushimi discloses a urinal anti-splash device. Further, Fushimi discloses that “[w]hen the urinal is attached to the inner periphery of the urinal by sliding and pressing the tip of the tensioning legs, the entire unit is composed of an elastic brush and fine mesh, so the urine is diverted and depressurized by the brush and the mesh, the pressure is reduced, the sound is reduced and muffled, and the urine flows away without splashing elsewhere.” Ex. 1004, 2. A person of ordinary skill would understand that Fushimi’s device could be attached (i.e. installed) in a urinal by first placing the device in a urinal, and then

“sliding and pressing the tip of the tensioning legs.” Fushimi also teaches mounting to the back wall of the urinal with a suction cup. Therefore, it is my opinion that Fushimi discloses a method for installing a urinal anti-splash device within a urinal.

2. 18[A]: “providing a urinal anti-splash device”

154. Limitation 18[A] recites “providing a urinal anti-splash device.” As I discussed in Claim 1, above, Fushimi, Brown ’098, and Brown ’394 all disclose “urinal anti-splash devices.”

3. 18[A][1]: “an anti-splash body sized and shaped to couple to at least a portion of a urinal, the anti-splash body including: a first portion; a second portion opposite the first portion; a longitudinal length extending from the first portion to the second portion; and an upper surface extending the longitudinal length”

155. Limitation 18[A][1] recites “an anti-splash body sized and shaped to couple to at least a portion of a urinal, the anti-splash body including: a first portion; a second portion opposite the first portion; a longitudinal length extending from the first portion to the second portion; and an upper surface extending the longitudinal length.” This limitation would have been obvious to a person of ordinary skill over Fushimi in light of the knowledge of a person of ordinary skill.

156. As I discussed in Claim 1, above, Fushimi, Fushimi discloses an anti-splash body that couples to the rear wall of urinal, a first and second portion, a length, and an upper surface. Fushimi does not explicitly disclose a longitudinal length

because it does not disclose anti-splash body with an elongated shape, and per the '154 Patent, lengths are longitudinal only if they run in an elongated direction of the anti-splash body. However, as I discussed in Claims 3 and 11, it would have been obvious to a person of ordinary skill to modify Fushimi by elongating its anti-splash body, making Fushimi's length longitudinal.

4. **18[A][2]: “a base couplable to the first portion and configured to extend in a direction substantially perpendicular from the first portion”**

157. Limitation 18[A][2] recites “a base couplable to the first portion and configured to extend in a direction substantially perpendicular from the first portion.” As I discussed in Claim 11, above, Fushimi discloses this limitation.

5. **18[A][3]: “a coupling region disposed between the first portion of the anti-splash body and the base, the coupling region configured to allow the base to be moved from being substantially parallel to the anti-splash body in a first position to a second position substantially perpendicular to the anti-splash body”**

158. Limitation 18[A][3] recites “a coupling region disposed between the first portion of the anti-splash body and the base, the coupling region configured to allow the base to be moved from being substantially parallel to the anti-splash body in a first position to a second position substantially perpendicular to the anti-splash body.” As I discussed in Claim 6, Fushimi discloses this limitation.

6. **18[A][4]: “a first plurality of protrusions extending outwardly from the upper surface of the anti-splash body”**

159. Limitation 18[A][4] recites “a first plurality of protrusions extending outwardly from the upper surface of the anti-splash body.” As I discussed in Claim 11, above, Fushimi discloses this limitation.

7. **18[A][5]: “a second plurality of protrusions extending outwardly from the base, the second plurality of protrusions configured to extend in the direction substantially perpendicular from the first portion of the anti-splash body”**

160. Limitation 18[A][5] recites “a second plurality of protrusions extending outwardly from the base, the second plurality of protrusions configured to extend in the direction substantially perpendicular from the first portion of the anti-splash body.” As I discussed in Claim 11, above, Fushimi discloses this limitation.

8. **18[B]: “mounting the anti-splash body within a back wall of a urinal”**

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

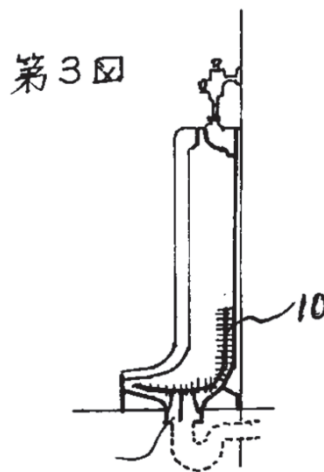
162. As I discussed in Claims 1 and 11, above, Fushimi discloses that it can be mounted to a urinal for use, and that it can be mounted to a urinal by pressing a suction cup, positioned on the rear face of its anti-splash body, against the back wall of a urinal.

9. **18[C]: “placing the base over a urinal screen”**

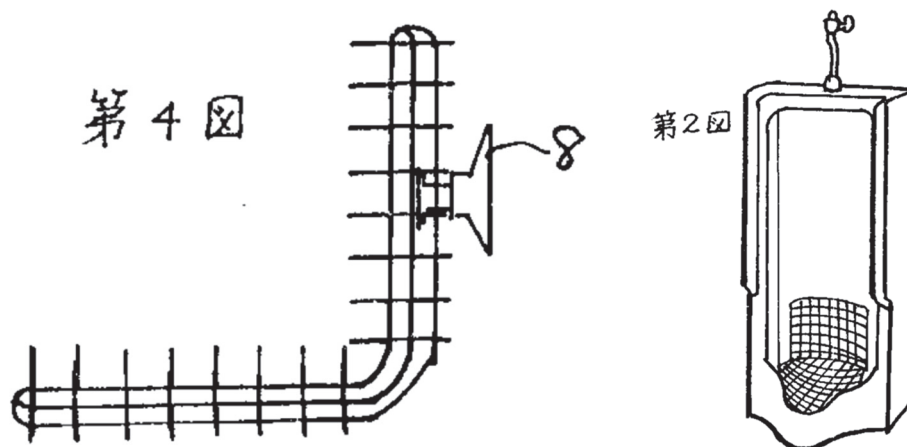
163. Limitation 18[C] recites “placing the base over a urinal screen.”

Fushimi discloses this method step.

164. As I discussed in Claim 11, above, Fushimi discloses that its base is sized and shaped to cover at least a portion of a urinal drain. When installed in a urinal, Fushimi’s base would cover at least a portion of the urinal’s drain, as shown below.



Ex. 1004, Fig. 3. In this configuration, the device is attached by “stretching it into the drainage cavity of the urinal.” *Id.*, 4. However, Fushimi also discloses that it can be attached to the rear wall of a urinal with a magnet or suction cup, *id.*, 3, as shown in Figures 2 and 4, below.

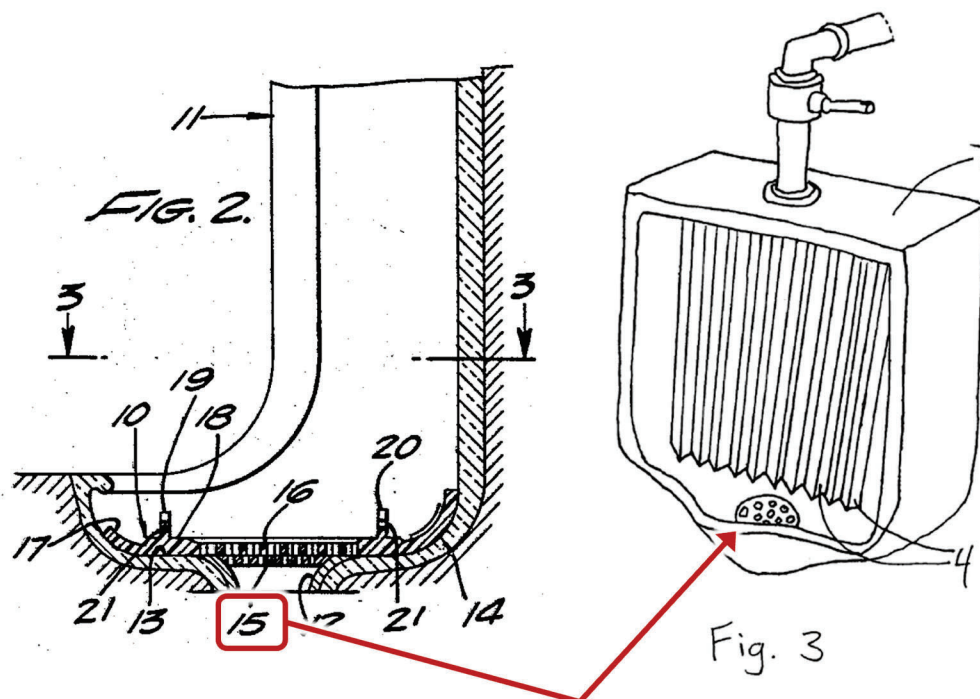


Id. Figs. 2, 4.

165. A person of ordinary skill would understand that when Fushimi's device was attached using a suction cup instead of stretching the device into the drainage cavity, the base would extend over, but not into, the urinal's drain. A person of ordinary skill would further understand that, when the urinal drain were already covered by a urinal screen as was typical, when Fushimi's device were installed in this way, Fushimi's base would be placed over the already-installed screen.

166. A person of ordinary skill would understand that it would be common to place Fushimi's base over an already-installed urinal screen. Since well before 2016, urinals typically included a small, fixed metal urinal screen covering the opening of the drain. For example, Clark (Ex. 1014) discloses that "[t]he urinal 11 is typical of various types of urinals in that at a drain line 12 is provided in the lower

most portion of the urinal.... A metal screen 15 may be provided and permanently installed over the drain 12.” Ex. 1004, 2:22-29. Examples of such screens are shown below..



FLAT METAL URINAL SCREEN

Ex. 1014, Fig. 2 (annotated); Ex. 1013, Fig. 3 (annotated). Such screens prevented debris from entering the urinal drain whether or not the urinal maintainer opted to use an optional secondary urinal screen such as the '154 Patent's "Urinal anti-splash device," Fushimi's "Urine splash prevention device", and the other prior art urinal screens I discuss in this declaration.

167. It is my opinion that step 18[C] would have been obvious to a person of ordinary skill, because such a person would have known that Fushimi's device

would often be installed be installed with its base overlaying a fixed metal urinal screen when used many typical urinal configurations

168. Accordingly, it is my opinion that the combination of Fushimi, Brown '098, and Brown '394 discloses or teaches each limitation of Claim 18, and therefore the invention claimed therein would have been obvious over Fushimi, Brown '098, and Brown '394 in view of the knowledge of a person of ordinary skill in the art.

P. Claim 20 would have been obvious over Fushimi, Brown '098, and Brown '394 in light of the knowledge of a person of ordinary skill.

169. Claim 20 depends from Claim 18, and thus incorporates the limitations of Claim 18. Claim 20 further recites the step of “bending the urinal anti-splash device at the coupling region.” As I discussed in limitation 6 above, Fushimi, both alone and in combination in Brown '098 and Brown '394, teach bending or translating the urinal anti-splash device and a coupling region to configure the base to be perpendicular to the anti-splash body discloses this added limitation.

170. Accordingly, it is my opinion that both Fushimi discloses the additional limitations of Claim 20, and therefore the invention claimed therein would have been obvious over Fushimi, Brown '098, and Brown '394 in view of the knowledge of a person of ordinary skill in the art.

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

171. As I explain below, Fushimi and Valadez expressly disclose or at least suggest all the elements of Claims 11, 12, 14, 16, 18, 20. To the extent Fushimi and Valadez do not expressly disclose any element of Claims 11, 12, 14, 16, 18, 20, the claims would have been obvious over Fushimi and Valadez in view of the knowledge of one skilled in the art at the time of the '154 patent invention. Accordingly, in my opinion, each of Claims 11, 12, 14, 16, 18, 20 would have been to a person of ordinary skill in the art over Fushimi and Valadez.

A. Claim 11 would have been obvious over Fushimi in view of Valadez

172. I address below how Fushimi, alone or in combination with Valadez, in view of the knowledge of a person of ordinary skill in the art, renders obvious the claimed invention of Claim 11.

1. Preamble: “A urinal anti-splash device”

173. The preamble to Claim 11 recites a “[a] urinal anti-splash device.” I understand that patent preambles are not always limiting. I have not been asked to render an opinion on whether the preamble of Claim 11 is limiting. Regardless, Fushimi and Valadez both disclose “urinal anti-splash devices.”

174. As I discussed in Ground 1, Claims 1 and 11, above, Fushimi discloses

a “urinal anti-splash device.” Additionally, Valadez discloses an “anti-splash guard and deodorant pouch for urinals.” Ex. 1007.

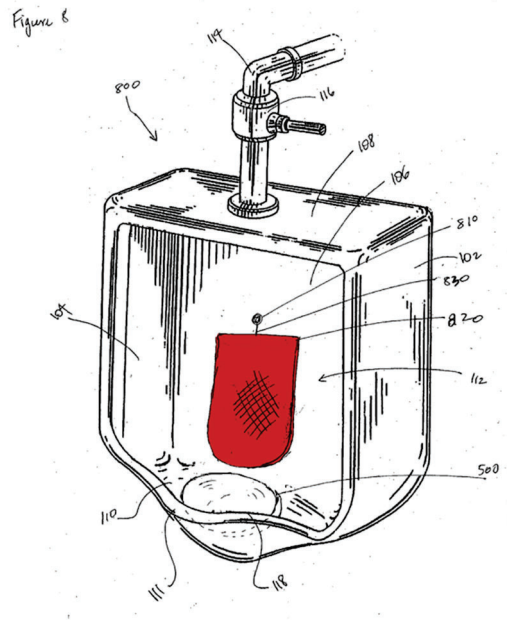
2. **11[A]: “an anti-splash body configured to couple to a urinal wall, the anti-splash body including a first portion, a second portion opposite the first portion, and a longitudinal length separating the first portion from the second portion”**

175. Limitation 11[A] recites, “an anti-splash body configured to couple to a urinal wall, the anti-splash body including a first portion, a second portion opposite the first portion, and a longitudinal length separating the first portion from the second portion.” As I discuss below, both Fushimi and Valadez disclose this limitation.

176. As I discussed in Ground 1, Claim 1, above, Fushimi discloses an anti-splash body that couples to the rear wall of urinal, a first and second portion, and a length. As I discussed in Ground 1, Claims 3 and 11, above, would have been obvious to a person of ordinary skill to elongate Fushimi’s anti-splash body thereby making Fushimi’s length “longitudinal” length because it would run in an elongated direction and in a direction from the ground toward the ceiling.

177. Valadez also discloses this limitation. Valadez discloses several embodiments of anti-splash guards, including the one shown below, which includes an anti-splash body that hangs vertically along the rear wall of a urinal “by means of a suction cup 810 and a hook 830.” Ex. 1007, ¶0038. The anti-splash body has a first portion (its bottom half), a second portion (its top half), and a length separating

the two portions.



Id., Fig. 8 (annotated).

178. Additionally, Valadez discloses that its anti-splash body can be vertically elongated, making its length longitudinal. Valadez discloses a range of dimensions for its anti-splash guard. “In one embodiment, the length 122 of the anti-splash guard 102 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.” Ex. 1007, ¶10024. An embodiment of Valadez’s anti-splash guard like the one pictured above in Figure 8, measuring 16 inches tall and 8 inches wide, (i.e. twice as long as wide)

is within the ranges disclosed by Valadez, and is elongated according to the '154 Patent. Accordingly, it is my opinion that Valadez discloses a longitudinal length.

179. A person of ordinary skill would be motivated to combine Fushimi's anti-splash device with the flexible range of dimensions taught by Valadez, based on the teachings of Fushimi and Valadez, as well as the knowledge of a person of ordinary skill.

180. A person of ordinary skill would understand the desirability of combining the adaptable dimensions of Valadez's anti-splash body with Fushimi based on complimentary teachings in both references. According to Fushimi's teachings, it is important to adapt the shape of an anti-splash to match the shape of the urinal in which it will be installed. Fushimi's frame is "formed to fit the shape of the inner periphery of the urinal." Ex. 1004, 1. Valadez likewise teaches that it is important to adapt the shape of its anti-splash body according to the shape of 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 including waterless urinals, dual-flush urinals, and high efficiency urinals." Ex. 1007, ¶0032.

181. A person of ordinary skill would have understood that combining

Fushimi with Valadez in this way 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 designed to fit a variety of urinals, albeit without calling out specific dimensions. Likewise, a person of ordinary skill 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.

182. A person of ordinary skill would have had a reasonable expectation of success in modifying Fushimi to use the range of dimensions taught by Valadez. Such a person would have understood that a variety of sizes were useful for the Fushimi anti-splash body, including the sizes within the ranges specified by Valadez. Moreover, a person of ordinary skill would understand that, because Fushimi’s device could be attached to the rear wall of a urinal with a suction cup or a magnet, there would have been no concern that the device would fall forward out of the urinal if it were made to be taller to accommodate various urinals.

3. **11[B]: “a base couplable to the first portion of the anti-splash body, the base sized and shaped to cover at least a portion of a urinal drain”**

183. Limitation 11[B] recites, “a base couplable to the first portion of the anti-splash body, the base sized and shaped to cover at least a portion of a urinal

drain.” As I discussed in Ground 1, Claims 1 and 11, above, Fushimi discloses this limitation.

4. **11[C]: “a coupling region configured to translate the base between a first position including the base oriented in a direction parallel to the anti-splash body and a second position including the base oriented in a direction substantially perpendicular from the base”**

184. Limitation 11[C] recites, “a coupling region configured to translate the base between a first position including the base oriented in a direction parallel to the anti-splash body and a second position including the base oriented in a direction substantially perpendicular from the base.” As I discussed in Ground 1, Claims 6 and 11, above, Fushimi discloses this limitation.

5. **11[D]: “a plurality of protrusions coupled to the anti-splash body and the base”**

185. Limitation 11[D] recites, “a plurality of protrusions coupled to the anti-splash body and the base.” As I discussed in Ground 1, Claims 1 and 11, above, Fushimi discloses a plurality of protrusions coupled to its anti-splash body 1[C] and its base 1[D]. Together, these protrusions comprise a plurality of protrusions coupled to the anti-splash body and the base.

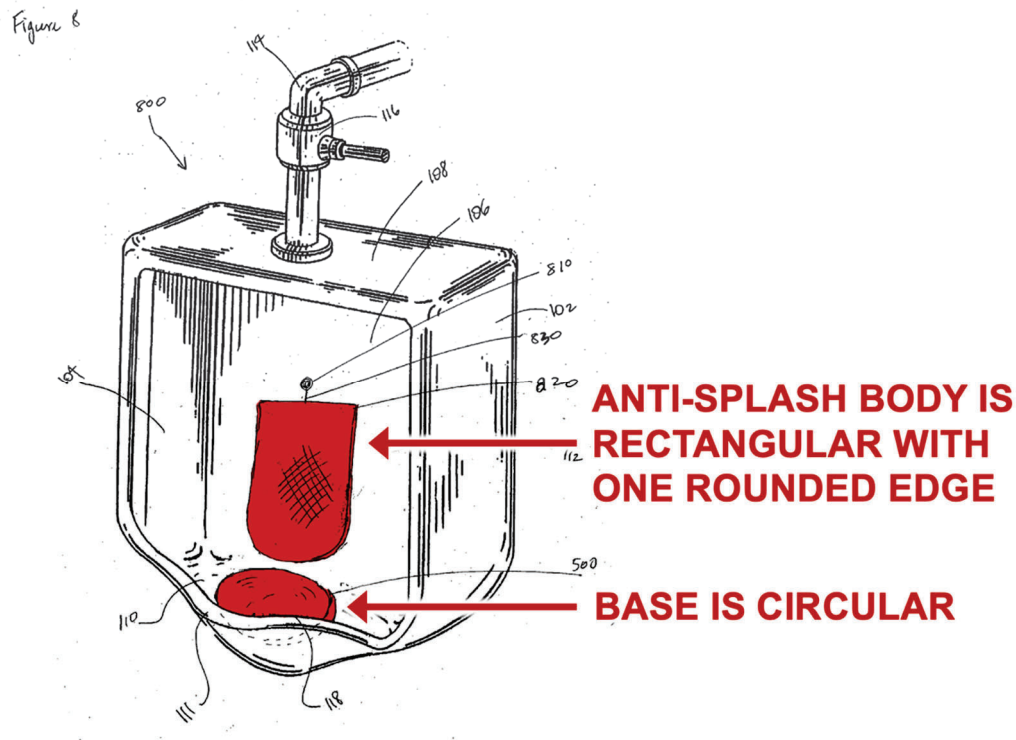
186. Accordingly, it is my opinion that the combination of Fushimi and Valadez discloses or teaches each limitation of Claim 11, and therefore the invention claimed therein would have been obvious over Fushimi and Valadez in view of the

knowledge of a person of ordinary skill in the art. The same is true considering Fushimi alone.

B. Claim 12 would have been obvious over Fushimi in view of Valdez

187. Claim 12 depends from Claim 11, and thus incorporates the limitations of Claim 11. Claim 12 further recites that “the anti-splash body is of a shape different than a shape of the base.” Both Fushimi and Valadez disclose this limitation.

188. As I discussed in Ground 1, Claims 2 and 12, above, Fushimi discloses an anti-splash body and a base that have different shapes. Additionally, Valadez discloses an embodiment, shown below, with a rectangular-like anti-splash body and a circular base.



Ex. 1007, Fig. 6 (annotated).

189. Accordingly, it is my opinion that both Fushimi and Valadez disclose the additional limitations of Claim 12, and therefore the invention claimed therein would have been obvious over Fushimi and Valadez in view of the knowledge of a person of ordinary skill in the art.

C. Claim 14 would have been obvious over Fushimi in view of Valdez

190. Claim 14 depends from Claim 11, and thus incorporates the limitations of Claim 11. Claim 14 further recites “the coupling region includes a perforated edge.” As I discussed in Ground 1, Claim 6, Fushimi discloses this added limitation.

191. Accordingly, it is my opinion that Fushimi discloses the additional

limitations of Claim 14, and therefore the invention claimed therein would have been obvious over Fushimi and Valadez in view of the knowledge of a person of ordinary skill in the art.

D. Claim 16 would have been obvious over Fushimi in view of Valdez

192. Claim 16 depends from Claim 11, and thus incorporates the limitations of Claim 11. Claim 16 further recites that “the plurality of protrusions substantially span the longitudinal length and define a plurality of protrusion voids.” As I discussed in Ground 1, Claims 1, 3, and 16, above, and Claim 11 in this ground, Fushimi discloses this added limitation.

193. Accordingly, it is my opinion that Fushimi discloses the additional limitations of Claim 16, and therefore the invention claimed therein would have been obvious over Fushimi and Valadez in view of the knowledge of a person of ordinary skill in the art.

E. Claim 18 would have been obvious over Fushimi in view of Valdez

194. I address below how Fushimi, alone or in combination with Valadez, in view of the knowledge of a person of ordinary skill in the art, renders obvious the claimed invention of Claim 18.

1. Preamble: “A method of mounting a urinal anti-splash device within a urinal”

195. The preamble to Claim 18 recites a “[a] method of mounting a urinal

anti-splash device within a urinal.” I understand that patent preambles are not always limiting. I have not been asked to render an opinion on whether the preamble of Claim 18 is limiting. Regardless, Both Fushimi and Valadez disclose this limitation.

196. As I discussed in Ground 1, Claims 1, 11, and 18, above, and Claim 11 in this ground, Fushimi discloses a method for installing a urinal anti-splash device within a urinal. Likewise, Valadez discloses how its attachment device can be used to mount its anti-splash guard within a urinal. “When in use, the hook 606 is adapted to removably attach to the anti-splash guard 600 while the suction cup 604 is adapted to attach to a mounting surface such as a urinal. Thus, the pouch 600 may be replaced with a new pouch without removing the suction cup 604.” Ex. 1007, ¶0037.

2. 18[A]: “providing a urinal anti-splash device”

197. Limitation 18[A] recites “providing a urinal anti-splash device.” As I discussed in Ground 1, Claims 1, 11, and 18, above, and Claim 11 in this ground, Fushimi and Valadez both disclose “urinal anti-splash devices.”

3. 18[A][1]: “an anti-splash body sized and shaped to couple to at least a portion of a urinal, the anti-splash body including: a first portion; a second portion opposite the first portion; a longitudinal length extending from the first portion to the second portion; and an upper surface extending the longitudinal length”

198. Limitation 18[A][1] recites “an anti-splash body sized and shaped to couple to at least a portion of a urinal, the anti-splash body including: a first portion;

a second portion opposite the first portion; a longitudinal length extending from the first portion to the second portion; and an upper surface extending the longitudinal length.” Both Fushimi and Valadez disclose this limitation.

199. As I discussed in Ground 1, Claims 1, 11, and 18, above, and Claim 11 in this ground, Fushimi, Fushimi discloses an anti-splash body that couples to the rear wall of urinal, a first and second portion, a length, and an upper surface. Further, as I discussed in Ground 1, Claim 3, it would have been obvious to a person of ordinary skill to modify Fushimi by elongating its anti-splash body, making Fushimi’s length longitudinal.

200. Additionally, as I discuss in Claim 11 of this ground, above, Valadez discloses an anti-splash body with a longitudinal length.

4. **18[A][2]: “a base couplable to the first portion and configured to extend in a direction substantially perpendicular from the first portion”**

201. Limitation 18[A][2] recites “a base couplable to the first portion and configured to extend in a direction substantially perpendicular from the first portion.” As I discussed in Ground 1, Claims 1, 11, and 18, above, and Claim 11 in this ground, Fushimi discloses this limitation.

5. **18[A][3]: “a coupling region disposed between the first portion of the anti-splash body and the base, the coupling region configured to allow the base to be moved from being substantially parallel to**

the anti-splash body in a first position to a second position substantially perpendicular to the anti-splash body”

202. Limitation 18[A][3] recites “a coupling region disposed between the first portion of the anti-splash body and the base, the coupling region configured to allow the base to be moved from being substantially parallel to the anti-splash body in a first position to a second position substantially perpendicular to the anti-splash body.” As I discussed in Ground 1, Claims 6, 11, and 18, above, and Claim 11 in this ground, Fushimi discloses this limitation.

6. 18[A][4]: “a first plurality of protrusions extending outwardly from the upper surface of the anti-splash body”

203. Limitation 18[A][4] recites “a first plurality of protrusions extending outwardly from the upper surface of the anti-splash body.” As I discussed in Claims 1, 11, and 18, above, and Claim 11 in this ground, Fushimi discloses this limitation.

7. 18[A][5]: “a second plurality of protrusions extending outwardly from the base, the second plurality of protrusions configured to extend in the direction substantially perpendicular from the first portion of the anti-splash body”

204. Limitation 18[A][5] recites “a second plurality of protrusions extending outwardly from the base, the second plurality of protrusions configured to extend in the direction substantially perpendicular from the first portion of the anti-splash body.” As I discussed in Ground 1, Claims 1, 11, and 18, above, and Claim 11 in this ground, Fushimi discloses this limitation.

8. **18[B]: “mounting the anti-splash body within a back wall of a urinal”**

205. Limitation 18[B] recites “mounting the anti-splash body within a back wall of a urinal.” As I discussed in Ground 1, Claim 18, above, Fushimi discloses this method step.

9. **18[C]: “placing the base over a urinal screen”**

206. Limitation 18[C] recites “placing the base over a urinal screen.” As I discussed in Ground 1, Claim 18, above, Fushimi discloses this method step.

207. Accordingly, it is my opinion that the combination of Fushimi and Valadez discloses or teaches each limitation of Claim 18, and therefore the invention claimed therein would have been obvious over Fushimi and Valadez in view of the knowledge of a person of ordinary skill in the art.

F. **Claim 20 would have been obvious over Fushimi in view of Valdez**

208. Claim 20 depends from Claim 18, and thus incorporates the limitations of Claim 18. Claim 20 further recites the step of “bending the urinal anti-splash device at the coupling region.” As I discussed in Ground 1, Claims 6, 11, and 20, above, and Claim 11 in this ground, Fushimi discloses this method step.

209. Accordingly, it is my opinion that Fushimi discloses the additional limitations of Claim 20, and therefore the invention claimed therein would have been obvious over Fushimi and Valadez in view of the knowledge of a person of ordinary

skill in the art.

**VI. GROUND 3: CLAIMS 3, 8, AND 15 WOULD HAVE BEEN OBVIOUS
OVER FUSHIMI IN VIEW OF VALDEZ AND BROWN '098**

210. As I explain below, Fushimi, Valadez, and Brown '098 expressly disclose or at least suggest all the elements of Claims 3, 8, and 15. To the extent Fushimi, Valadez, and Brown '098 do not expressly disclose any element of Claims 3, 8, and 15, the claims would have been obvious over Fushimi, Valadez, and Brown '098 in view of the knowledge of one skilled in the art at the time of the '154 patent invention. Accordingly, in my opinion, each of Claims 3, 8, and 15 would have been to a person of ordinary skill in the art over Fushimi, Valadez, and Brown '098.

**A. Claim 3 would have been obvious over Fushimi in view of Valdez and
Brown '098**

211. Claim 3 depends from Claim 1, and thus incorporates the limitations of Claim 1. Claim 3 further recites that “the anti-splash body includes an elongated shape of a flexible material configured to couple to a back wall of a urinal.” Fushimi and Valadez both disclose this added limitation.

212. As I discussed in Ground 1, Claims 1 and 3, above, Fushimi discloses

the added limitation of Claim 3.³

213. Valadez also discloses the added limitation. As I discussed in Ground 2, Claim 11, Valadez discloses an anti-splash body with an elongated length. Valadez also discloses that it is made of a flexible material. “As further illustrated in FIG. 2, the anti-splash guard 120 comprises fibrous strands 124 that are arranged, positioned, or joined together so as to define a porous mesh or lattice configuration. In one embodiment, the fibrous strands 124 may comprise translucent or opaque materials formed of a semi-rigid or flexible material, such as polyethylene (PE), polypropylene (PP), polyvinyl-chloride (PVC), polyethylene-terephthalate (PET), various types of synthetic polyester meshes, etc.” Ex. 1007, ¶0025.

214. Accordingly, it is my opinion that because combination of Fushimi and Brown '098 discloses the additional limitations of Claim 3, as does Valadez, the invention claimed therein would have been obvious over Fushimi, Brown '098, and Valadez in view of the knowledge of a person of ordinary skill in the art.

³ My discussion of Ground 1, generally, relies on Brown '394, which I do not rely on in Ground 3. Brown '394 was not necessary for my conclusion that Claim 3 was obvious.

B. Claim 8 would have been obvious over Fushimi in view of Valdez and Brown '098

215. Claim 8 depends from Claim 1, and thus incorporates the limitations of Claim 1. Claim 8 further recites, “wherein the anti-splash body is a rectangular-like shape; and the base is a circular-like shape.” Fushimi and Valadez both disclose this added limitation.

216. As I discussed in Ground 1, Claim 8, above, this limitation is disclosed by Fushimi.⁴ Likewise, as I discussed in Ground 2, Claim 12, this limitation is disclosed by Valadez.

217. Accordingly, it is my opinion that because both Fushimi and Valadez disclose the additional limitations of Claim 8, the invention claimed therein would have been obvious over Fushimi, Brown '098, and Valadez in view of the knowledge of a person of ordinary skill in the art.

⁴ My discussion of Ground 1, generally, relies on Brown '394, which I do not rely on in Ground 3. Brown '394 was not necessary for my conclusion that Claim 8 was obvious.

C. Claim 15 would have been obvious over Fushimi in view of Valdez and Brown '098

218. Claim 15 depends from Claim 11, and thus incorporates the limitations of Claim 11. Claim 15 further recites, “the plurality of protrusions taper downwardly in a direction toward an upper surface of the anti-splash body and the base.” As I discussed in Ground 1, Claim 1 and 15, above, this limitation is disclosed by Brown '098.

219. Accordingly, it is my opinion that because Brown '098 discloses the additional limitation of Claim 15, the invention claimed therein would have been obvious over Fushimi, Brown '098, and Valadez in view of the knowledge of a person of ordinary skill in the art.

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

220. As I explain below, Fushimi and Wise expressly disclose or at least suggest all the elements of Claims 11, 12, 14, 16, 18, 20. To the extent Fushimi and Wise do not expressly disclose any element of Claims 11, 12, 14, 16, 18, 20, the claims would have been obvious over Fushimi and Wise in view of the knowledge of one skilled in the art at the time of the '154 patent invention. Accordingly, in my opinion, each of Claims 11, 12, 14, 16, 18, 20 would have been obvious to a person of ordinary skill in the art over Fushimi and Wise.

A. Claim 11 would have been obvious over Fushimi in view of Wise

221. I address below how Fushimi, alone or in combination with Wise, in view of the knowledge of a person of ordinary skill in the art, renders obvious the claimed invention of Claim 11.

1. Preamble: “A urinal anti-splash device”

222. The preamble to Claim 11 recites a “[a] urinal anti-splash device.” I understand that patent preambles are not always limiting. I have not been asked to render an opinion on whether the preamble of Claim 11 is limiting. Regardless, Fushimi and Wise both disclose “urinal anti-splash devices.”

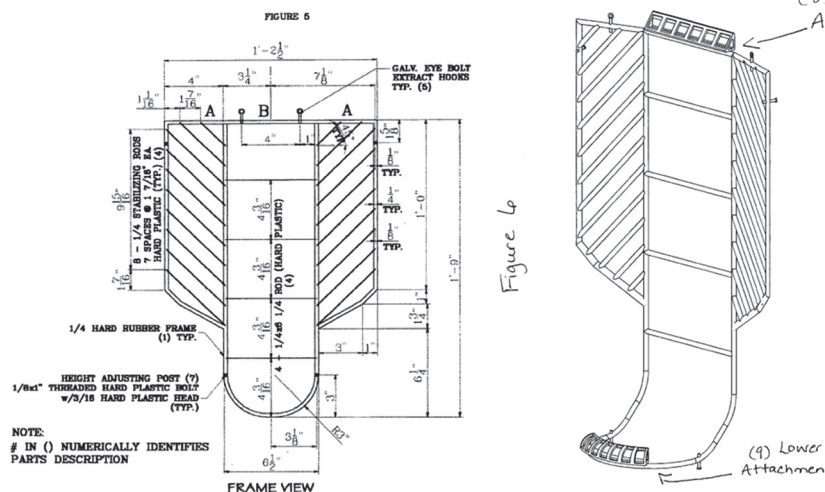
223. As I discussed in Ground 1, Claims 1 and 11, above, Fushimi discloses a “urinal anti-splash device.[.]” Additionally, Wise describes its invention as “an insert for use in conventional urinals which prevents urine splash-back.” Ex. 1008.

2. 11[A]: “an anti-splash body configured to couple to a urinal wall, the anti-splash body including a first portion, a second portion opposite the first portion, and a longitudinal length separating the first portion from the second portion”

224. Limitation 11[A] recites, “an anti-splash body configured to couple to a urinal wall, the anti-splash body including a first portion, a second portion opposite the first portion, and a longitudinal length separating the first portion from the second portion.” As I discuss below, both Fushimi and Wise disclose this limitation.

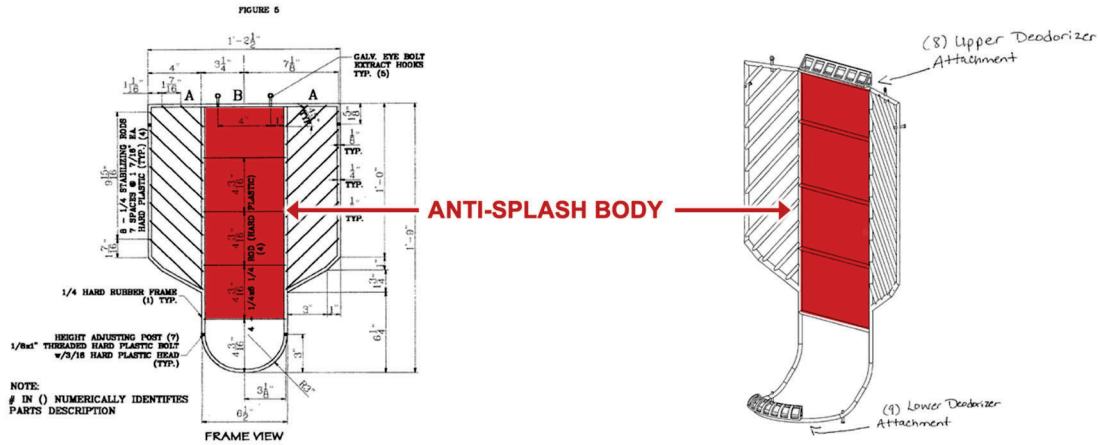
225. As I discussed in Ground 1, Claim 1, above, Fushimi discloses an anti-splash body that couples to the rear wall of urinal, a first and second portion, and a length. As I discussed in Ground 1, Claims 3 and 11, above, would have been obvious to a person of ordinary skill to elongate Fushimi's anti-splash body thereby making Fushimi's length "longitudinal" length because it would run in an elongated direction and in a direction from the ground toward the ceiling.

226. Wise also discloses this limitation. Wise discloses an anti-splash urinal insert, shown below in Figures 5 (without optional deodorant attachments) and 6 (including deodorant attachments).



Ex. 1008, Figs. 5, 6 [rotated counter clockwise].

227. As shown below, Wise discloses an anti-splash body including a first and second portion separated by a longitudinal length.



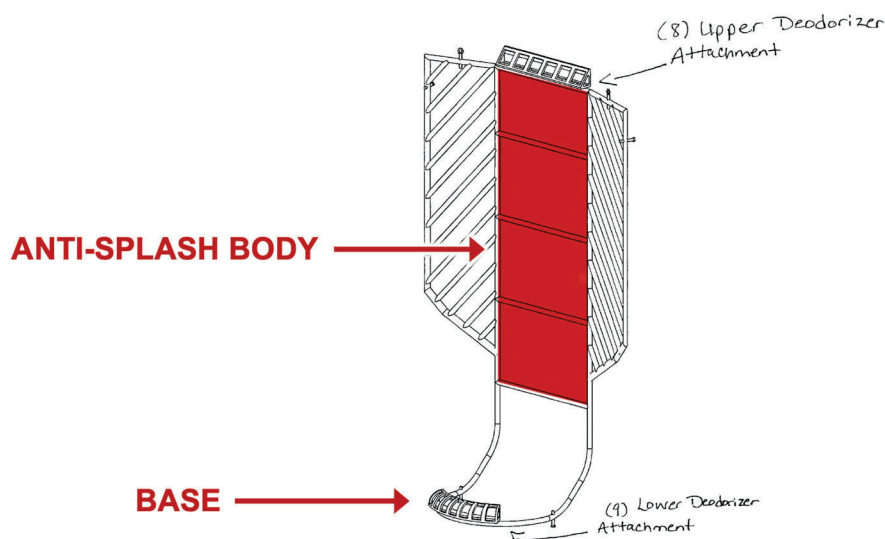
Id. Figs. 5, 6 (annotated).

228. Figure 5 of Wise includes detailed measurements for its insert. The center section, highlighted in orange above, is elongated because it has a width of 6 1/2 inches, and a height of over 16 inches (i.e., a length at least twice as long as a width). The length running from the bottom of the anti-splash body to its top is, therefore, longitudinal.

229. A person of ordinary skill would have been motivated to combine Wise's vertically elongated anti-splash body with Fushimi's urinal anti-splash device based on the teachings of Fushimi and Wise, as well as the knowledge of a person of ordinary skill.

230. A person of ordinary skill would understand the desirability of combining the vertically elongated anti-splash body disclosed by Wise with Fushimi's urinal anti-splash device based on the complimentary teachings in both

references. According to Fushimi’s teachings, it is important to adapt the shape of an anti-splash to match the shape of the urinal in which it will be installed. Fushimi’s frame is “formed to fit the shape of the inner periphery of the urinal.” Ex. 1004, 1. Similarly, the Wise anti-splash device “employs an insert designed to fit into a variety of styles of conventional upright urinals.” Ex. 1008, ¶0002. Wise also has an vertical anti-splash body and a base for covering a urinal drain, as shown below.



Id., Fig. 6.

231. A person of ordinary skill 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.

232. Further, a person of ordinary skill would recognize that using a longer

anti-splash body, as taught as taught by Wise, with the Fushimi 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. A person of ordinary skill 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.

233. Finally, a person of ordinary skill would have had a reasonable expectation of success in modifying Fushimi to use the vertically elongated anti-splash body feature of Wise. Such a person would have understood that a variety of sizes were useful for the Fushimi anti-splash body, including the size of Wise’s anti-splash body. Moreover, a person of ordinary skill would understand that, because Fushimi’s device could be attached to the rear wall of a urinal with a suction cup or a magnet, there would have been no concern that the device would fall forward out of the urinal if it were made to be taller to accommodate various urinals.

3. **11[B]: “a base couplable to the first portion of the anti-splash body, the base sized and shaped to cover at least a portion of a urinal drain”**

234. Limitation 11[B] recites, “a base couplable to the first portion of the anti-splash body, the base sized and shaped to cover at least a portion of a urinal

drain.” As I discussed in Ground 1, Claims 1 and 11, above, Fushimi discloses this limitation.

4. **11[C]: “a coupling region configured to translate the base between a first position including the base oriented in a direction parallel to the anti-splash body and a second position including the base oriented in a direction substantially perpendicular from the base”**

235. Limitation 11[C] recites, “a coupling region configured to translate the base between a first position including the base oriented in a direction parallel to the anti-splash body and a second position including the base oriented in a direction substantially perpendicular from the base.” As I discussed in Ground 1, Claims 6 and 11, above, Fushimi discloses this limitation.

5. **11[D]: “a plurality of protrusions coupled to the anti-splash body and the base”**

236. Limitation 11[D] recites, “a plurality of protrusions coupled to the anti-splash body and the base.” As I discussed in Ground 1, Claims 1 and 11, above, Fushimi discloses a plurality of protrusions coupled to its anti-splash body 1[C] and its base 1[D]. Together, these protrusions comprise a plurality of protrusions coupled to the anti-splash body and the base.

237. Accordingly, it is my opinion that the combination of Fushimi and Wise discloses or teaches each limitation of Claim 11, and therefore the invention claimed therein would have been obvious over Fushimi and Wise in view of the knowledge

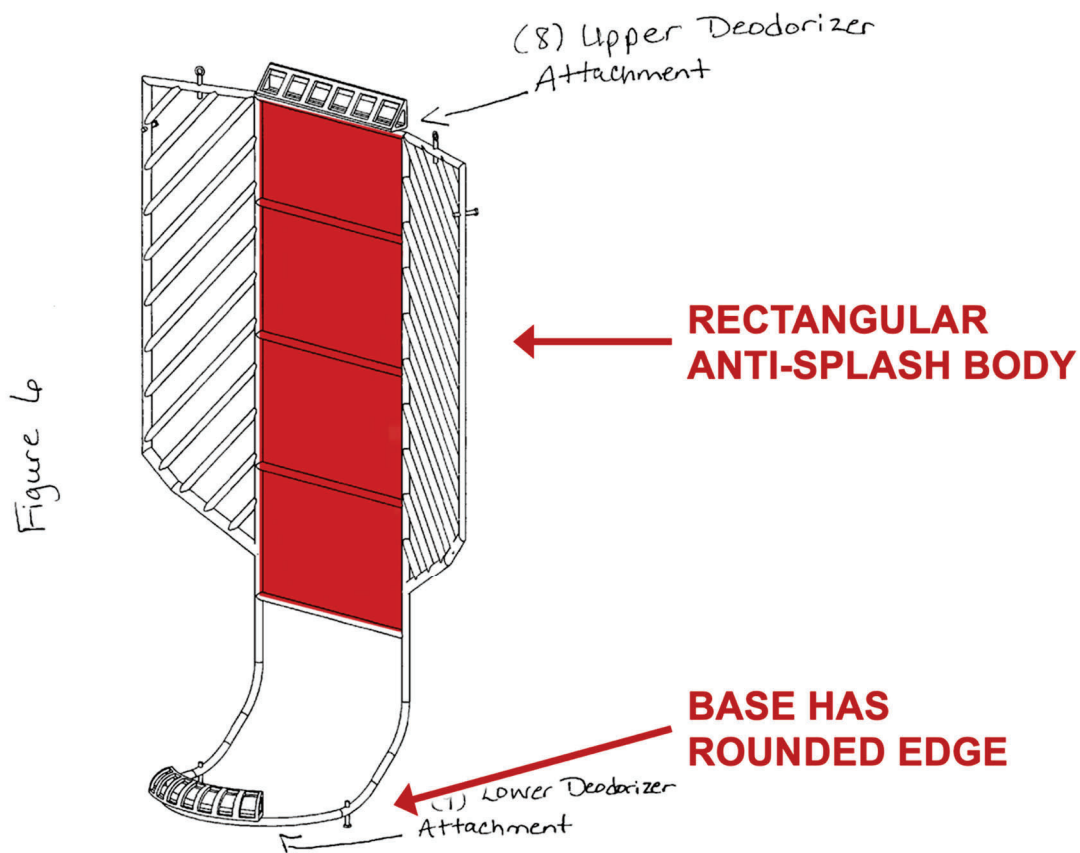
of a person of ordinary skill in the art. The same is true considering Fushimi alone.

B. Claim 12 would have been obvious over Fushimi in view of Wise

238. Claim 12 depends from Claim 11, and thus incorporates the limitations of Claim 11. Claim 12 further recites that “the anti-splash body is of a shape different than a shape of the base.” Both Fushimi and Wise disclose this limitation.

239. As I discussed in Ground 1, Claims 2 and 12, above, Fushimi discloses an anti-splash body and a base that have different shapes.

240. Wise also discloses an anti-splash body and a base, as shown in Figure 6, below.



Ex. 1008, Fig. 6 (annotated and rotated counter clockwise). As shown above, Wise's base and anti-splash body are of different shapes.

241. Accordingly, it is my opinion that both Fushimi and Wise disclose the additional limitations of Claim 12, and therefore the invention claimed therein would have been obvious over Fushimi and Wise in view of the knowledge of a person of ordinary skill in the art.

C. Claim 14 would have been obvious over Fushimi in view of Wise

242. Claim 14 depends from Claim 11, and thus incorporates the limitations

of Claim 11. Claim 14 further recites “the coupling region includes a perforated edge.” As I discussed in Ground 1, Claim 6, Fushimi discloses this added limitation.

243. Accordingly, it is my opinion that Fushimi discloses the additional limitations of Claim 14, and therefore the invention claimed therein would have been obvious over Fushimi and Wise in view of the knowledge of a person of ordinary skill in the art.

D. Claim 16 would have been obvious over Fushimi in view of Wise

244. Claim 16 depends from Claim 11, and thus incorporates the limitations of Claim 11. Claim 16 further recites that “the plurality of protrusions substantially span the longitudinal length and define a plurality of protrusion voids.” As I discussed in Ground 1, Claims 1, 11, and 16, Fushimi discloses this added limitation.

245. Accordingly, it is my opinion that Fushimi discloses the additional limitations of Claim 16, and therefore the invention claimed therein would have been obvious over Fushimi and Wise in view of the knowledge of a person of ordinary skill in the art.

E. Claim 18 would have been obvious over Fushimi in view of Wise

246. I address below how Fushimi, alone or in combination with Wise, in view of the knowledge of a person of ordinary skill in the art, renders obvious the claimed invention of Claim 18.

1. **Preamble: “A method of mounting a urinal anti-splash device within a urinal”**

247. The preamble to Claim 18 recites “[a] method of mounting a urinal anti-splash device within a urinal.” I understand that patent preambles are not always limiting. I have not been asked to render an opinion on whether the preamble of Claim 18 is limiting. Regardless, Both Fushimi and Wise disclose this limitation.

248. As I discussed in Ground 1, Claims 1 and 18, above, Fushimi discloses a method for installing a urinal anti-splash device within a urinal. Likewise, Wise discloses that its device can be installed in a urinal by hanging the device from hooks. “The extract hooks₅ are utilized in the removal and replacement of the splashless urinal insert. Utilizing extract hooks₅ prevent the hands having direct contact with insert during cleaning or replacement.” Ex. 1008, ¶0012.

2. **18[A]: “providing a urinal anti-splash device”**

249. Limitation 18[A] recites “providing a urinal anti-splash device.” As I discussed in Ground 1, Claims 1, 11, and 18, above, and Claim 11 in this ground, above, Fushimi and Wise both disclose “urinal anti-splash devices.”

3. **18[A][1]: “an anti-splash body sized and shaped to couple to at least a portion of a urinal, the anti-splash body including: a first portion; a second portion opposite the first portion; a longitudinal length extending from the first portion to the second portion; and an upper surface extending the longitudinal length”**

250. Limitation 18[A][1] recites “an anti-splash body sized and shaped to

couple to at least a portion of a urinal, the anti-splash body including: a first portion; a second portion opposite the first portion; a longitudinal length extending from the first portion to the second portion; and an upper surface extending the longitudinal length.” Both Fushimi and Wise disclose this limitation.

251. As I discussed in Ground 1, Claims 1, 11, and 18, above, Fushimi discloses an anti-splash body that couples to the rear wall of urinal, a first and second portion, a length, and an upper surface. Further, as I discussed in Ground 1, Claim 3, it would have been obvious to a person of ordinary skill to modify Fushimi by elongating its anti-splash body, making Fushimi’s length longitudinal.

252. Additionally, as I discuss in Claim 11 of this ground, above, Wise discloses an anti-splash body with a longitudinal length.

4. **18[A][2]: “a base couplable to the first portion and configured to extend in a direction substantially perpendicular from the first portion”**

253. Limitation 18[A][2] recites “a base couplable to the first portion and configured to extend in a direction substantially perpendicular from the first portion.” As I discussed in Ground 1, Claims 1, 11, and 18, above, Fushimi discloses this limitation.

5. **18[A][3]: “a coupling region disposed between the first portion of the anti-splash body and the base, the coupling region configured to allow the base to be moved from being substantially parallel to**

the anti-splash body in a first position to a second position substantially perpendicular to the anti-splash body”

254. Limitation 18[A][3] recites “a coupling region disposed between the first portion of the anti-splash body and the base, the coupling region configured to allow the base to be moved from being substantially parallel to the anti-splash body in a first position to a second position substantially perpendicular to the anti-splash body.” As I discussed in Ground 1, Claims 1, 6, 11, and 18, above, Fushimi discloses this limitation.

6. 18[A][4]: “a first plurality of protrusions extending outwardly from the upper surface of the anti-splash body”

255. Limitation 18[A][4] recites “a first plurality of protrusions extending outwardly from the upper surface of the anti-splash body.” As I discussed in Ground 1, Claims 1, 11, and 18, above, Fushimi discloses this limitation.

7. 18[A][5]: “a second plurality of protrusions extending outwardly from the base, the second plurality of protrusions configured to extend in the direction substantially perpendicular from the first portion of the anti-splash body”

256. Limitation 18[A][5] recites “a second plurality of protrusions extending outwardly from the base, the second plurality of protrusions configured to extend in the direction substantially perpendicular from the first portion of the anti-splash body.” As I discussed in Ground 1, Claims 1, 11, and 18, above, Fushimi discloses this limitation.

8. **18[B]: “mounting the anti-splash body within a back wall of a urinal”**

257. Limitation 18[B] recites “mounting the anti-splash body within a back wall of a urinal.” As I discussed in Ground 1, Claim 18, above, Fushimi discloses this method step.

9. **18[C]: “placing the base over a urinal screen”**

258. Limitation 18[C] recites “placing the base over a urinal screen.” As I discussed in Ground 1, Claim 18, above, Fushimi discloses this method step.

259. Accordingly, it is my opinion that the combination of Fushimi and Wise discloses or teaches each limitation of Claim 18, and therefore the invention claimed therein would have been obvious over Fushimi and Wise in view of the knowledge of a person of ordinary skill in the art.

F. **Claim 20 would have been obvious over Fushimi in view of Wise**

260. Claim 20 depends from Claim 18, and thus incorporates the limitations of Claim 18. Claim 20 further recites the step of “bending the urinal anti-splash device at the coupling region.” As I discussed in Ground 1, Claims 1, 6, 11, and 20, above, and Claim 11 in this ground, Fushimi discloses this method step.

261. Accordingly, it is my opinion that Fushimi discloses the additional limitations of Claim 20, and therefore the invention claimed therein would have been obvious over Fushimi and Wise in view of the knowledge of a person of ordinary

skill in the art.

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

262. As I explain below, Fushimi, Wise, and Brown '098 expressly disclose or at least suggest all the elements of Claims 3, 10, and 15. To the extent Fushimi, Wise, and Brown '098 do not expressly disclose any element of Claims 3, 10, and 15, the claims would have been obvious over Fushimi, Wise, and Brown '098 in view of the knowledge of one skilled in the art at the time of the '154 patent invention. Accordingly, in my opinion, each of Claims 3, 10, and 15 would have been obvious to a person of ordinary skill in the art over Fushimi, Wise, and Brown '098.

**A. Claim 3 would have been obvious over Fushimi in view of Wise and
Brown '098**

263. Claim 3 depends from Claim 1, and thus incorporates the limitations of Claim 1. Claim 3 further recites that “the anti-splash body includes an elongated shape of a flexible material configured to couple to a back wall of a urinal.” Fushimi and Wise both disclose this added limitation.

264. As I discussed in Ground 1, Claims 1 and 3, above, Fushimi discloses

the added limitation of Claim 3⁵.

265. Wise also discloses this limitation. As I discussed in Claim 11, above, Wise discloses an elongated anti-splash body. Additionally, Wise discloses that its frame is “made of a plastic or hard rubber material”. Ex. 1008, ¶0013 The ’154 Patent discloses that its “ anti-splash body 104 may be made of a material that is flexible and tough, such as DuPoint Elvax®250, PVC plastic, or the like.” Ex. 1001, 6:12-14. A person of ordinary skill would understand that hard rubber, while rigid enough to function as a frame for a device like Wise, was at least as flexible as the materials disclosed in the ’154 Patent.

266. Accordingly, it is my opinion that both Fushimi and Wise disclose the additional limitation of Claim 3, and therefore the invention claimed therein would have been obvious over Fushimi, Wise, and Brown ’098 in view of the knowledge of a person of ordinary skill in the art.

⁵ My discussion of Ground 1, generally, relies on Brown ’394, which I do not rely on in Ground 5. Brown ’394 was not necessary for my conclusion that Claim 3 was obvious.

B. Claim 10 would have been obvious over Fushimi in view of Wise and Brown '098

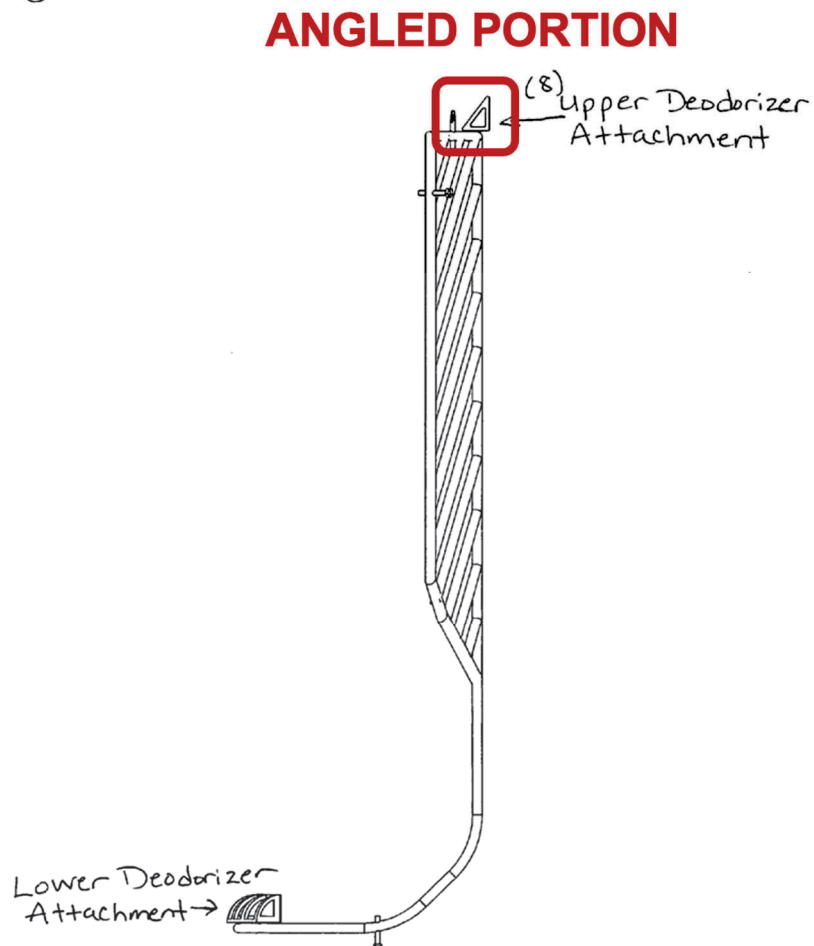
267. Claim 10 depends from Claim 1, and thus incorporates the limitations of Claim 1. Claim 10 further recites “an angled portion at a top of the anti-splash body configured to facilitate flow along the upper surface.” Fushimi and Wise both disclose this added limitation.

268. As I discussed in Ground 1, Claim 10, above, Fushimi discloses the added limitation of Claim 3⁶.

269. Wise also discloses this limitation. As shown below, Wise’s optional upper deodorizer attachment is an angled portion, and is attached to the top of the anti-splash body.

⁶ My discussion of Ground 1, generally, relies on Brown '394, which I do not rely on in Ground 5. However, I do not rely on Brown '394 in my discussion of Claim 10, or Claim 1, on which Claim 10 depends.

Figure 8



Ex. 1008, Fig. 8 (annotated). Further, Wise discloses that “[t]he upper deodorizer attachment₈ 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.*, ¶0018.

270. As I discussed in discussed in Ground 4, a person of ordinary skill

would have been motivated combine the larger anti-splash body disclosed by Wise with Fushimi's urinal anti-splash device based on complimentary teachings in both references, and the knowledge of a person of ordinary skill. In making this modification, a person of ordinary skill would have also been motivated to include the upper deodorizer attachment disclosed by Wise.

271. A person of ordinary skill would understand that the wedge-shaped angle of the Wise attachment would more effectively channel water over the front surface of the larger anti-splash body than the approximately 90-degree angle of Fushimi's angled portion. Additionally, a person ordinary skill would understand that the improved channeling would be important, because enlarging the anti-splash body would increase the surface area to be cleaned during each flush without a corresponding increase to the amount of water dispensed per flush.

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

273. A POSITA making this modification would expect success, because Wise already discloses attaching an upper deodorizer to the Wise anti-splash body.

274. Accordingly, it is my opinion that both Fushimi and Wise disclose the additional limitation of Claim 10, and therefore the invention claimed therein would have been obvious over Fushimi, Wise, and Brown '098 in view of the knowledge of a person of ordinary skill in the art.

C. Claim 15 would have been obvious over Fushimi in view of Wise and Brown '098

275. Claim 15 depends from Claim 11, and thus incorporates the limitations of Claim 11. Claim 15 further recites, “the plurality of protrusions taper downwardly in a direction toward an upper surface of the anti-splash body and the base.” As I discussed in Ground 1, Claims 1 and 15, above, this limitation is disclosed by Brown '098.

276. Accordingly, it is my opinion that because Brown '098 discloses the additional limitation of Claim 15, the invention claimed therein would have been obvious over Fushimi, Brown '098, and Wise in view of the knowledge of a person of ordinary skill in the art.

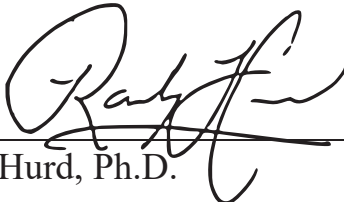
IX. CONCLUSION

277. For the above reasons, it is my opinion that Claims 1, 2, 3, 4, 6, 7, 8, 9,

10, 11, 12, 14, 15, 16, 18, and 20 of the '154 Patent would have been obvious over the prior art.

278. I declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under section 1001 of Title 18 of the United States Code.

Dated: July 23, 2025

By: 
Randy C. Hurd, Ph.D.