

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SAMSUNG ELECTRONICS CO., LTD., SAMSUNG ELECTRONICS
AMERICA, INC.,

Petitioners

v.

WHIRLPOOL CORPORATION

Patent Owner

Case IPR2026-00336
Patent 12,232,681

PATENT OWNER'S PRELIMINARY RESPONSE

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EXHIBIT LIST

Exhibit	Description
EX2001	Complaint for Patent Infringement, <i>Whirlpool Corporation v. Samsung Electronics Co., Ltd. et al.</i> , No. 2:25-cv-01042, Dkt. No. 1, filed Oct. 10, 2025 (E.D. Tex.)
EX2002	Amended Complaint for Patent Infringement, <i>Whirlpool Corporation v. Samsung Electronics Co., Ltd. et al.</i> , No. 2:25-cv-01042, Dkt. No. 38, filed Feb. 9, 2026 (E.D. Tex.)
EX2003	Plaintiff's Motion for Preliminary Injunction, <i>Whirlpool Corporation v. Samsung Electronics Co., Ltd. et al.</i> , No. 2:25-cv-01042, Dkt. No. 4, filed Oct. 10, 2025 (E.D. Tex.)
EX2004	Samsung's Opposition to Whirlpool's Motion for Preliminary Injunction (Redacted), <i>Whirlpool Corporation v. Samsung Electronics Co., Ltd. et al.</i> , No. 2:25-cv-01042, Dkt. No. 24, filed Dec. 15, 2025 (E.D. Tex.)
EX2005	Expert Declaration of Dr. Kimberly K. Cameron Regarding Non-infringement and Invalidity of the Asserted Patents, <i>Whirlpool Corporation v. Samsung Electronics Co., Ltd. et al.</i> , No. 2:25-cv-01042, Dkt. No. 70-1, filed May 27, 2026 (E.D. Tex.)
EX2006	Expert Declaration of Dr. Kimberly K. Cameron Regarding Non-infringement and Invalidity of U.S. Patent No. 12,543,922 (Redacted), <i>Whirlpool Corporation v. Samsung Electronics Co., Ltd. et al.</i> , No. 2:25-cv-01042, Dkt. No. 70-2, filed May 27, 2026 (E.D. Tex.)
EX2007	Expert Declaration of Dr. Kimberly K. Cameron Regarding Non-infringement and Invalidity of the Asserted Patents (Redacted), <i>Whirlpool Corporation v. Samsung Electronics Co., Ltd. et al.</i> , No. 2:25-cv-01042, Dkt. No. 70-3, filed May 27, 2026 (E.D. Tex.)
EX2008	Transcript of Evidentiary Hearing Held April 8, 2026 (Redacted), <i>Whirlpool Corporation v. Samsung Electronics Co., Ltd. et al.</i> , No. 2:25-cv-01042, Dkt. No. 76, filed June 10, 2026 (E.D. Tex.)
EX2009	Plaintiff's Post-hearing Brief in Support of Motion for a Preliminary Injunction, <i>Whirlpool Corporation v. Samsung Electronics Co., Ltd. et al.</i> , No. 2:25-cv-01042, Dkt. No. 65, filed May 5, 2026 (E.D. Tex.)
EX2010	Samsung's Post-hearing Responsive Brief in Opposition to Motion for a Preliminary Injunction (Redacted), <i>Whirlpool Corporation v. Samsung Electronics Co., Ltd. et al.</i> , No. 2:25-cv-01042, Dkt. No. 70, filed May 27, 2026 (E.D. Tex.)
EX2011	Plaintiff's Post-hearing Reply Brief in Support of Motion for a Preliminary Injunction (Redacted), <i>Whirlpool Corporation v. Samsung</i>

	<i>Electronics Co., Ltd. et al.</i> , No. 2:25-cv-01042, Dkt. No. 75, filed June 10, 2026 (E.D. Tex.)
EX2012	Declaration Of Justin DeLapa In Support Of Patent Owner's Discretionary Denial Briefing Pursuant To The Director's March 26, 2025 Memorandum
EX2013	Docket Report, <i>Whirlpool Corporation v. Samsung Electronics Co., Ltd. et al.</i> , No. 2:25-cv-01042 (E.D. Tex.) last accessed June 11, 2026
EX2014	Whirlpool Corporation Product Marking Page, available at https://www.patent-listing.com/index.html (last accessed June 10, 2026)
EX2015	Docket Control Order, <i>Whirlpool Corporation v. Samsung Electronics Co., Ltd. et al.</i> , No. 2:25-cv-01042, Dkt. No. 78, filed June 12, 2026 (E.D. Tex.)
EX2016	Declaration of William B. Collier, Jr. in Support of Patent Owner's Notice of Intent to Designate Provisionally Recognized Attorney William B. Collier, Jr. as Back-Up Counsel Under 37 C.F.R. § 42.10(c)
EX2017	Declaration of Dr. Emad Tanbour
EX2018	U.S. Patent No. 12,232,681 ("the '681 Patent") (with certificate of correction)
EX2019	Declaration of Dr. Emad Tanbour, <i>Whirlpool Corporation v. Samsung Electronics Co., Ltd. et al.</i> , No. 2:25-cv-01042, Dkt. No. 65-6, filed May 5, 2026 (E.D. Tex.) (signed Oct. 10, 2025)
EX2020	Samsung, Bespoke AI Smart Dishwasher, https://www.samsung.com/us/dishwashers/freestanding/38-dba-bespoke-auto-open-door-dish (Last accessed July 11, 2026)
EX2021	Curriculum Vitae of Dr. Emad Tanbour

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I. Introduction

Patent Owner Whirlpool Corporation (“Whirlpool” or “Patent Owner”) respectfully requests that the Board deny Samsung Electronics Co., Ltd. and Samsung Electronics America, Inc.’s (collectively “Samsung” or “Petitioner”) Petition to institute *inter partes* review of U.S. Patent No. 12,232,681 (the “’681 Patent”).

The ’681 Patent discloses a unique dishwasher design introduced recently by Whirlpool in its premium product line. The ’681 Patent discloses and claims a third dishwasher rack configuration that holds utensils in a horizontal orientation, while also providing cup seats that securely hold drinkware, preventing unwanted movement in the rack to minimize breakage.

The Petition relies on two references to challenge claim 14, the only challenged independent claim. For Grounds 1 and 3, the Petition relies on Carr (EX1005), and for Grounds 2 and 4, the Petition relies on Mailander (EX1006). All grounds fail for similar reasons: neither Carr nor Mailander teach the “cup seat for supporting one [or] more cups in the depression” required in claim 14 of the ’681 Patent.

Under a proper understanding of the claimed “cup seat,” both references fail to describe a structure that supports cups in a manner consistent with the ’681 Patent. Unable to identify any structure in its cited references correlating to the claimed cup

seats, Petitioner proposes and applies an overly broad definition of “cup seat” to effectively encompass any part of a dishrack with sufficient vertical clearance to place cups “and other items to be treated within the treating chamber such as ‘baby bottles, plates, bowls, pans, or the like.’” Pet. at 9. As a result, Petitioner’s obviousness challenges ignore the claim language requiring an angled seating configuration that securely holds cups to minimize movement and breakage during the washing process.

The Petition fails to present *prima facie* evidence that Carr teaches or suggests an angled cup seat arrangement in a dishwasher rack in conjunction with a “substantially horizontal planar portion.” Carr only describes a surface that can receive bowls on their top face but does not teach the function and design of the cup seat. In Mailander, the surfaces are not formed by the bottom wall of the dish rack, as required by claim 14, and instead, they are separate inserts that rest above the dish rack’s bottom wall. And like Carr, Mailander only describes a flat surface for holding items and not one that forms a cup seat to hold or retain the cups to minimize movement inside the dishwasher. In light of these failures, the Petition fails to establish a reasonable likelihood that the claims of the ’681 Patent are obvious.

II. Background

A. Technology

Household dishwashers are a common appliance in most homes. The dishwasher defines an interior space commonly referred to as the “dishwasher tub” where washing activity occurs. EX2018, 1:22-24. Within the tub, dishwashers typically include dish racks for holding various types of dishware. *Id.* Traditionally, dishwashers include only two racks: an upper dish rack for small items, such as glassware and small dishes, and a lower rack for larger items, such as plates. *Id.* 1:24-26. These two racks typically occupy most of the space in the dishwasher tub. *Id.* 1:26-28. More recently, some dishwashers have begun to include a small third top rack that can accommodate silverware or other flat-laying utensils, but little else. *Id.* 1:28-32.

Another option for storing utensils is a utensil caddy that is designed to hold silverware. *Id.* 1:33-34. Typically, the utensil caddy, also known as a silverware basket, is a removable part placed on the lower dishrack or mounted on the inner surface of the dishwasher door. *Id.* 1:34-36. Some dishwashers include both a silverware basket and a third level rack, where the third level rack can accommodate long handled items, such as spatulas, serving spoons, knives, etc., that would be too tall for a silverware basket and would collide with the sprayer mounted below the

upper rack. *Id.* 1:39-44. However, this combination consumes a large amount of space that cannot be filled with dishes.

B. The '681 Patent Invention

The '681 Patent is titled “Dishwasher with a dish rack.” EX1001, cover. It was invented by inventors employed by Whirlpool Corporation. EX2018, Cert. of Correction. The '681 Patent was filed on December 11, 2023, and claims priority through a chain of continuation applications to March 30, 2020. *Id.*, cover. The '681 Patent issued on February 25, 2025. *Id.*

The inventors of the '681 Patent recognized and sought to improve on the limitations of the prior dishwasher designs described above. One solution described by the '681 Patent is an improved third (or top) dish rack that includes both utensil holders including seats 126 and loops 128, and cup seats 114, 115 to support cups in the same dish rack. *Id.*, 1:57-65; 5:58-60 (“depression ... forms a first set of cup seats 114 and a second set of cup seats 115, which ***hold cups as illustrated***) (emphasis added); 6:60-7:1 (“first side wall 120 can include a first set of utensil holders illustrated as a set of ***utensil seats 126 or loops 128***” which “can be ***configured to retain or hold*** a set of utensils”) (emphasis added). As the '681 Patent explains, these “seats” are configured to “hold” or “retain” the cups and utensils securely in the dishwasher’s top shelf. *Id.* An example of this improved dish rack is illustrated in Figure 4:

Thus, the '681 Patent describes a dishwasher containing a third, upper dish rack assembly specifically configured to securely hold or retain one or more different sets of utensils and one or more different sets of cups or mugs. *Id.* at Fig. 6, 7:40-50. Consistent with this disclosure, Claim 14 recites an automatic dishwasher with a tub that includes a specially configured dish rack in which sets of both utensils and cups may be securely supported. *Id.* The dish rack has a bottom wall with a “horizontal planar portion” and an angled second portion that extends below the first portion relative to the peripheral sidewall. *Id.*, 12:60-13:3. The angled second portion includes a depression portion, which in the preferred embodiment, is defined by a first and second angled wall 110, 112. *Id.* at 5:55-60. The first horizontal portion

supports a set of utensil holders and the second angled portion defines a “cup seat for supporting one or more cups in the depression.” *Id.* 13:4-7.

Claim 14, the only independent claim of the '681 Patent challenged in the Petition, covers this new dish rack configuration:

- 14[pre]. An automatic dishwasher configured to implement an automatic treating cycle of operation, comprising:
- [a] a tub defining a dish treating chamber; and
 - [b(i)] a dish rack located within the dish treating chamber having a first end spaced from a second end and comprising a bottom wall from which extends a peripheral wall defining side walls of the dish rack, [b(ii)] at the first end of the dish rack, the bottom wall has a first portion defined by a first substantially horizontal planar portion extending across a first portion of the bottom wall and [b(iii)] at the second end of the dishrack, a second portion is angled with respect to the first portion and defining a depression; [b(iv)] the depression extending lower than the first portion relative to the peripheral wall;
 - [c(i)] the first portion supporting a first set of utensil holders for supporting one or more utensils and [c(ii)] the second portion defining a cup seat for supporting one of more cups in the depression.

Id., 12:57-13:7.

C. Effective Filing Date of the '681 Patent

The '681 Patent claims priority to March 30, 2020, as a continuation of application No. 17/830,947, filed on June 2, 2022, which is in turn a continuation of application No. 16/833,984, filed on March 30, 2020. There is no dispute that the priority date of the '681 Patent is March 30, 2020. *See* Pet., 8.

D. Level of Ordinary Skill in the Art

For purposes of this Preliminary Response only, Patent Owner has applied Petitioner's recitation of the level of skill in the art, because even under Petitioner's proposed level of skill (Pet., 8), Petitioner has failed to demonstrate a reasonable likelihood of success. Patent Owner reserves the right to propose to define the appropriate level of ordinary skill in future responses, if necessary.

E. Petitioner's References

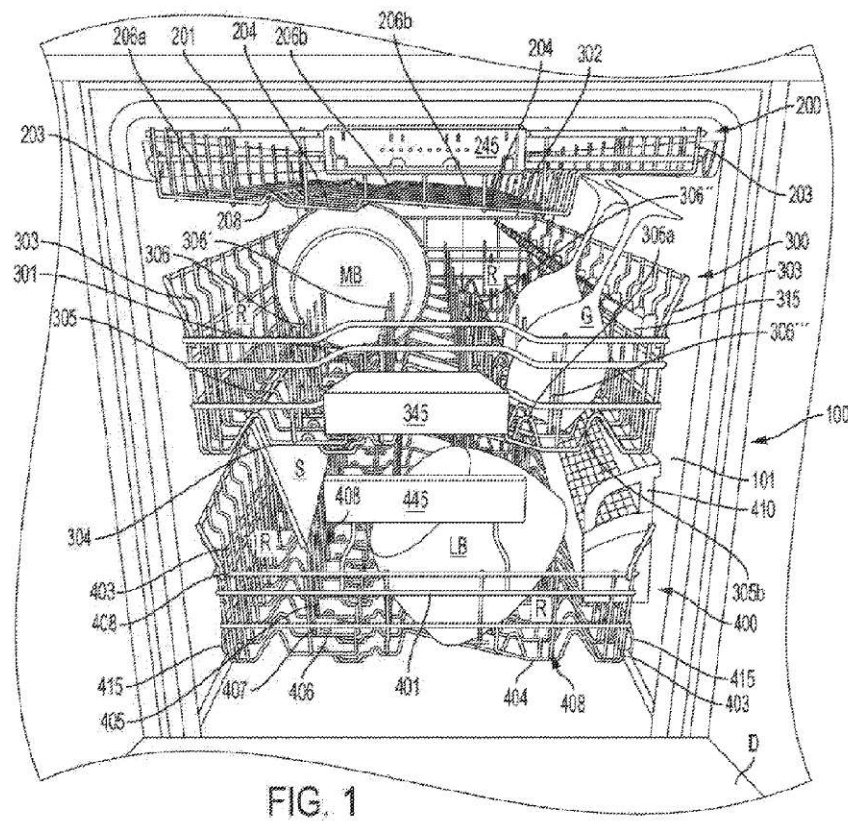
Petitioner asserts four grounds of invalidity based on combinations of three references: (1) Carr; (2) Mailander; and (3) Ochoa. Pet., 3. Grounds 1 and 3 both rely on Carr as the primary reference, combined with Ochoa in Ground 3. *Id.* Grounds 2 and 4 both rely on Mailander as the primary reference, combined with Ochoa in Ground 4. *Id.*

Groun d	Claims	Statute	References
1	14 and 15	§ 103	Carr
2	14–16	§ 103	Mailander
3	19	§ 103	Carr and Ochoa
4	19	§ 103	Mailander and Ochoa

Id.

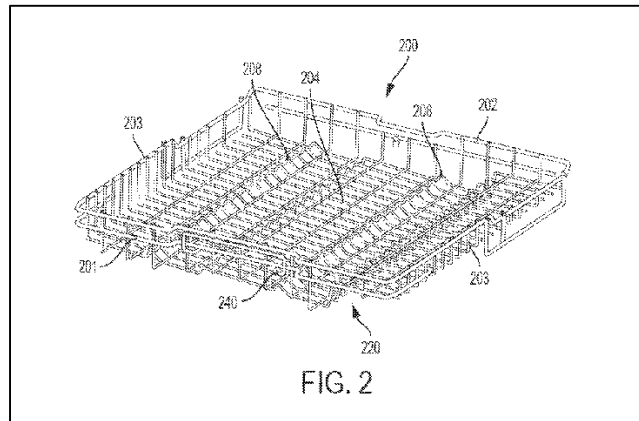
1. Carr

Carr, U.S. Patent Application Publication No. 2018/0220867 A1, titled “Wire Dishware and Cutlery Rack,” published August 9, 2018, discloses a wire washware rack for a dishwasher. EX1005, Abstract. Figure 1 of Carr depicts a front perspective of the dishwasher that includes a third, top washware rack. *Id.* at ¶28.



The third rack 200 in Figure 1 is configured as a basket having front, rear, and opposing side walls interconnected with a bottom portion 204. EX1005 ¶41. The bottom portion 204 includes a notch section located “along at least one side” to

accommodate cutlery and one or more angled portions 206 tilted approximately 3 to 5 degrees from horizontal to hold bowls and drain water from them. *Id.* ¶¶43. This configuration of the third rack is shown in isolation in Figure 2:

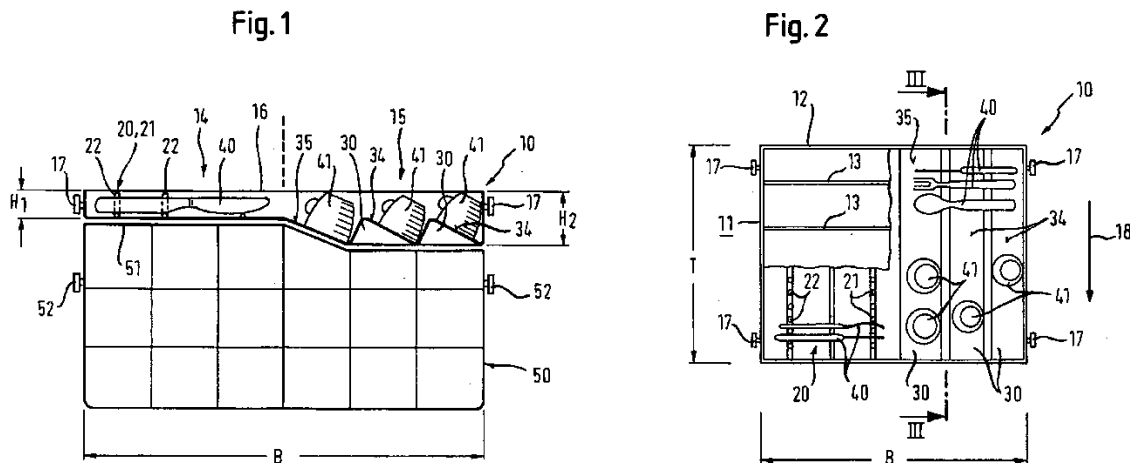


Id. Fig. 2. Carr describes stopper ribs or forms 208 (which appear as small bumps in the Figures) to keep bowls from sliding in a single (front-back) direction. *Id.* ¶¶22, 44. Carr generically indicates that cutlery and washware larger than cutlery, such as small dishes, bowls, cups, and cooking utensils, may be washed. *Id.* ¶41. However, Carr lacks any description of a specially-configured cup seat arrangement in the top rack that holds or retains cups or mugs securely in place during dishwashing cycles. *See id.* ¶¶43-44; EX2017 ¶¶41-44. Rather than disclosing a cup seat, the Carr disclosure notes that bowls may be placed “at a slight tilt ... in order to drain off water from the bowls.” *Id.* at ¶¶9, 19, 26; *see* EX2017 ¶41.

2. Mailander

Mailander is U.S. Patent Application Publication No. 2008/0169009 A1, titled “Washing Items Support for a Dishwasher,” and published July 17, 2008. Mailander

describes a “washing items support assembly for a dishwasher” that includes two sections. The first section includes a “cutlery container” and the second includes a “second container region” for washing “other items.” EX1006, Abstract. The structure described by Mailander is illustrated in figures 1 and 2:



Id. Figs. 1, 2. The first container region includes a cutlery container on which pieces of cutlery are placed horizontally, and the second container region can include a pair of removable washing items holders 30, that does not form part of the bottom wall, with an inclined support surface for smaller items such as cups, small bowls, shallow glasses, or cutlery. EX1006 ¶¶11-13; EX2017 ¶¶45-47. Importantly, the washing item holders are “designed as inserts” and are “releasably inserted in the” base of the holder. *Id.* ¶28; EX2017 ¶¶45-47.

3. Ochoa

Ochoa is U.S. Patent No. 6,869,029, titled “Water Spray System for a Dishwasher” and issued on March 22, 2005. EX1011, cover. It describes a water

spray system for a dishwasher having upper and lower dish racks. One objective of this system is to provide more even water distribution so that the lateral sides and corners of a wide dishwasher receive spray comparable to the center. *Id.* 1:26–29. Ochoa contains several configurations, but generally, Ochoa’s spray system is mounted on the underside of an upper rack, including water conduits and rotatably mounted spray tubes. The spray tubes include a plurality of spray outlets spaced such that they cause the tube to rotate when water is forced through them. *Id.*, abstract, 3:2–19. Ochoa further describes spray spinners mounted below the dish racks with outlets directed both upward and downward to spray the contents of the upper and lower racks. *Id.*, 5:8–20.

III. Claim Construction

Neither party has submitted any terms for construction in the underlying litigation. However, Petitioner contends that Patent Owner has asserted implied claim construction arguments in the litigation. Pet., 8-9. In its Petition, Samsung identifies constructions for several terms. Pet., 9. For the purposes of this Preliminary Response, Patent Owner only addresses Petitioner’s construction for the term “cup seat,” because the construction of that term is dispositive relative to the references and issues presented in this Petition. But even under Petitioner’s proposed construction, the Petition fails to establish that any of its cited references include a “seat” for the reasons noted in the element-by-element analysis below. *See id.*

Whirlpool reserves the right to submit constructions for these or other terms in future submissions.

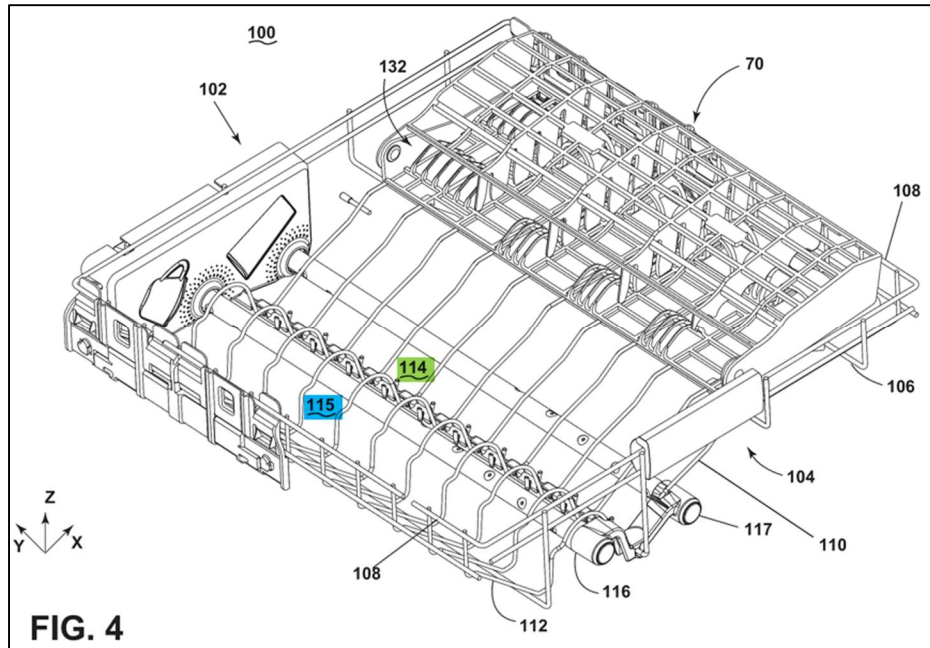
IV. Arguments

Petitioner has failed to show a reasonable likelihood that any of its proposed grounds render claim 14 of the '681 Patent obvious, the only challenged independent claim. Accordingly, institution should be denied.

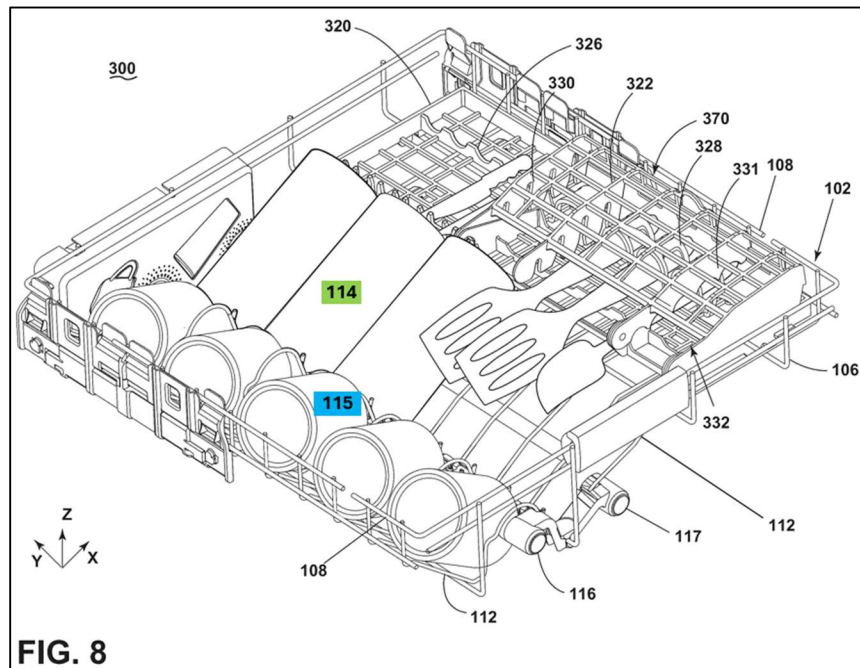
A. Grounds 1 and 3: Carr does not teach a cup seat for supporting one or more cups in the depression.

Grounds 1 and 3 fail for the same reason: Carr fails to teach a cup seat for supporting one or more cups in a depression. For this element, the Petition relies on Carr's third, top washware rack 200 for "cutlery and washware which is larger than cutlery such as, but not limited to, small dishes, bowls, cups, as well as cooking utensils." Pet. 32 (citing EX1005 ¶41). But this nebulous, all-purpose, washware rack does not teach the claimed cup seat for supporting one or more cups in a depression. EX2017 ¶¶49-51.

The '681 Patent claims and describes a cup seat defined by the second, angled portion of the bottom wall of the dish rack. The preferred embodiment of the '681 Patent describes two opposed cup seats, 114 and 115, that are located within a depression. EX1001, 5:55-60, 7:43-45. These cup seats are found throughout the figures, but can be seen in the perspective view of Figure 4:

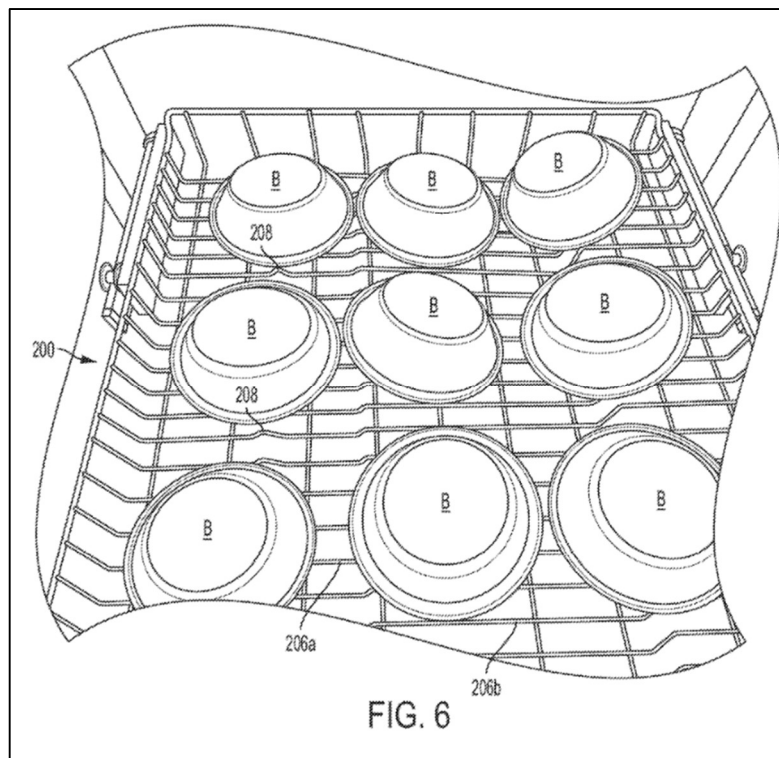


EX1001, Fig. 4 (annotated). When holding cups or mugs, the cup seat securely retains the cups or mugs such that they face down towards sprayer 116, as illustrated in Figure 8:



EX1001, Fig. 8 (annotated). As these figures illustrate, the cup seat operates as a “seat,” and is capable of securely retaining or cradling glasses and cups along their bottom and cylindrical side. EX2017 ¶50.

Carr does not disclose any similar structure. *Id.* ¶50-51. Instead, Carr describes a “third, top washware rack 200” with “[t]he bottom portion 204 includes one or more angled portions 206 that is/are configured to hold bowls at a slight tilt with respect to horizontal in order to drain off water from the bowls” EX1005 ¶43. “Each angled portion 206 is tilted at an angle in a range of 3 to 5 degrees with respect to horizontal, and preferably is tilted at an angle of approximately 4 degrees with respect to horizontal.” *Id.* The bowl holder is illustrated in figure 6:



Petitioner points out that Carr states that “the third, top washware rack 200 is configured to hold cutlery and washware which is larger than cutlery such as, but not limited to, small dishes, bowls, cups, as well as cooking utensils.” Pet., 32 (citing *id.*, ¶41). But that statement only states that assorted items could be placed in the top rack, just as they could be placed in any general-use area of any dish rack. Carr never explains that bottom portion 204 or its angled portions 206 are configured to securely and stably hold cups in any way. As noted above, Carr is only specifically configured “to hold bowls at a slight tilt.”¹ EX1005 ¶43. This does not teach “a cup seat for supporting one [or] more cups in the depression.” EX2017 ¶¶49-51.

To the extent that Petitioner maintains that the ribs or forms 208 in Carr perform a function analogous to a “cup seat,” that argument fails. *See* Pet., 32-33. The ’681 Patent’s claim 14 requires that the cup seat supports “one or more cups in the depression.” But, the forms 208 cannot be fairly identified as cup seats as they do not provide any seating functionality, particularly not for a cup. EX2017 ¶51. Carr suggests that these forms may reduce sliding of a low-profile object like a bowl along a single direction as shown in Figure 6, but such a structure could not and would not securely hold a cup even in that single direction. EX2017 ¶51. Carr does

¹ In contrast, Carr explicitly describes a “cutlery/utensil accessory insert 235” to hold cutlery. No equivalent disclosure exists for a cup seat.

not teach or suggest a cup seat capable of retaining or cradling a set of cups against movement during a wash cycle. *Id.*

Reduced to its basic premise, Petitioner’s argument is that “a cup seat for supporting one [or] more cups in the depression” can be any part of a dishrack on which a cup can be placed. This position improperly reads the cup seat limitation out of the claim, which is contrary to well-established law. *Intel Corp. v. Qualcomm Inc.*, 21 F.4th 801, 810 (Fed. Cir. 2021). As the Board is aware, “[i]t is highly disfavored to construe terms in a way that renders them void, meaningless, or superfluous.” *Id.* (quotation omitted, collecting cases). The *Intel* case is illustrative. There, the parties disputed the meaning of the phrase “hardware buffer.” *Id.*, 806. The petitioner urged that the term simply meant a “buffer implemented in hardware.” *Id.*, 809. The Federal Circuit recognized that because every buffer in the physical world “is ultimately implemented on a physical device (*i.e.*, hardware), a ‘hardware buffer’ must mean something more than [the petition’s proposal].” *Id.* On the other hand, that patent owner “in its claim language, did not just say ‘buffer,’ but instead said ‘hardware buffer,’ provides a strong reason to avoid the disfavored result of rendering the word ‘hardware’ superfluous.” *Id.*, 810. For this and other reasons, the Federal Circuit noted that the Board should have looked to the specification to ascertain the meaning of the term. *Id.*

The same reasoning applies here. The '681 Patent did not merely claim a dish rack, or a dish rack with a second portion angled with respect to the first portion. The patent instead specifically claims that the second portion defines “a cup seat for supporting one [or] more cups in the depression.” EX1001, cl. 14. As the discussion of the '681 Patent specification illustrates, the claimed cup seat is capable of securely holding or retaining glasses and cups of ordinary dimension along their cylindrical side. *Id.*, 5:58-60.

In addition to failing to follow established law, Petitioner’s proposed construction relies on a misrepresentation of the '681 Patent’s disclosure. Petitioner argues that the claimed cup seat could hold “measuring cups,” but Petitioner’s only support for that argument is the statement from the '681 Patent that “other [items] such as sporks, measuring cups, or the like can be received with the *utensil seats*....” EX1001, 7:50-51 (emphasis added); *see* Pet. at 33 (citing same). That statement says nothing about items held in the cup seats. The other statement from the '681 Patent referenced by Petitioner simply notes that other items could be placed in cup seats, as with many other parts of the dishwasher, *see* Pet. at 33-34 (quoting EX1001, 7:54-58), but does not change the fact that the claimed cup seat must “support[] one [or] more cups in the depression” and thus are configured to securely support glasses and cups along their cylindrical side. EX1001, cl. 14.

Petitioner's construction rendering the claimed "cup seat for supporting one [or] more cups in the depression" superfluous must be rejected. Without that construction, Petitioner has failed to show that Carr's bowl holding angled portions teach a "cup seat for supporting one [or] more cups in the depression."

B. Grounds 2 and 4

Because Mailander fails to render claim 14 of the '681 Patent obvious, Grounds 2 and 4 fail for the same reason.

1. Mailander does not teach a second portion of the bottom wall defining a depression.

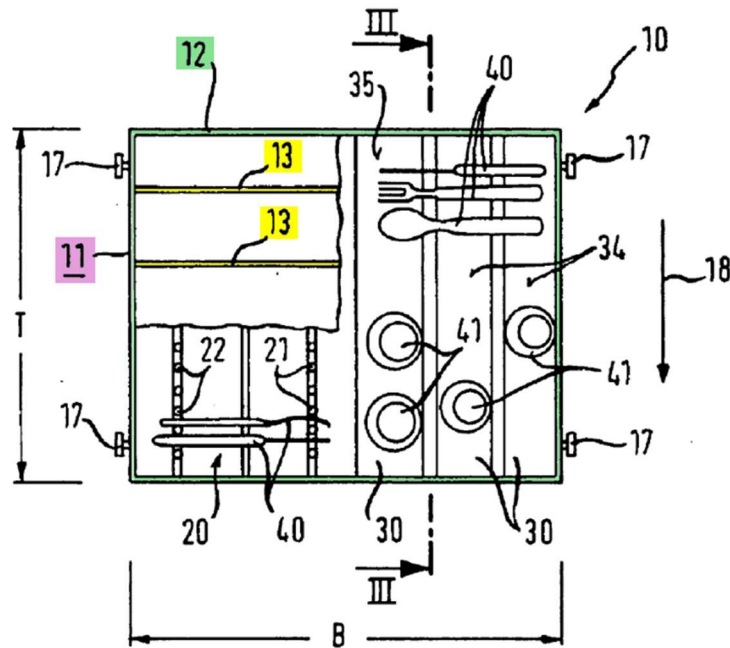
The Petition has failed to show that Mailander teaches 1) that a second portion of the bottom wall defines a depression, and 2) a cup seat for supporting one or more cups in the depression.

Claim 14 claims a bottom wall with a "first substantially horizontal planar portion" and "a second portion [that] is angled with respect to the first portion and defining a depression." EX1001, cl. 14. This second portion of the bottom wall "defin[es] a cup seat for supporting one of more cups in the depression." *Id.* In other words, claim 14 requires that the cup seats are a portion of the bottom wall. EX2017 ¶54. An example of this configuration can be seen in Figures 3 and 4 of the '681 Patent below, where a depression is formed by angled walls 110 and 112 and that depression forms two sets of cup seats, 114 and 115:



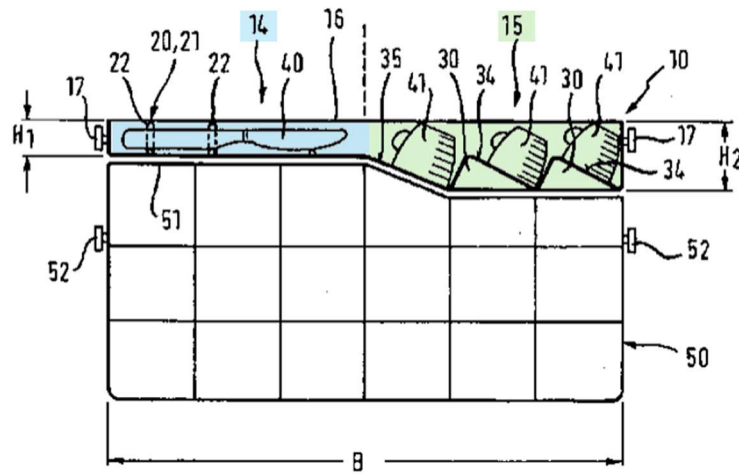
Mailander describes a dish washing rack (washing item support 10) with a base basket 11 formed by a wire frame 12 and a few base wires 13, illustrated below:

Fig. 2

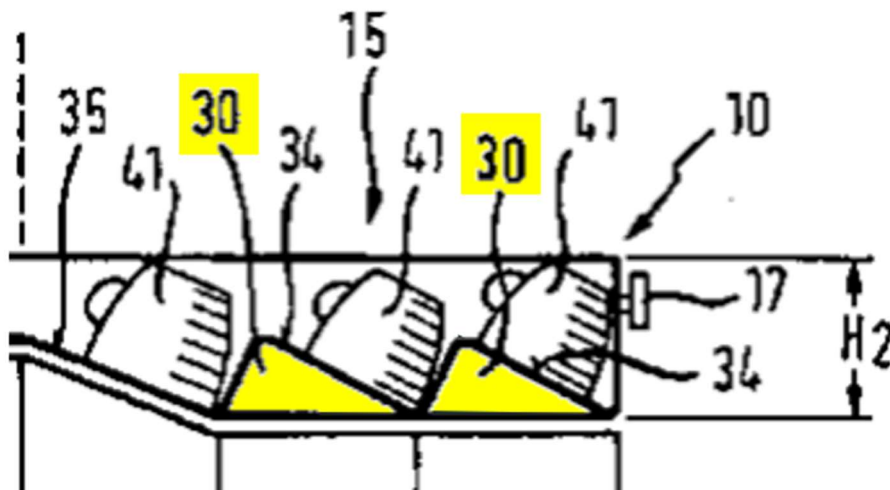


EX1006, Fig. 2 (annotated), ¶28. The dish rack is further subdivided into two “container regions” 14 and 15. *Id.* ¶25. A sectional view of the dish washing rack is illustrated in Figure 1 with region 14 on the left, illustrated holding utensils and region 15 on the right where cups may be placed:

Fig. 1



Id., Fig. 1 (annotated), ¶22. As the above illustrates, region 14 includes a cutlery insert 20, and region 15 includes “two washing items holders 30, each of which has a support surface 34 inclined to the horizontal.” *Id.* ¶¶25-27. The washing item holders 30 are highlighted below:



Id., Fig. 1 (annotated). As Mailander explains, these washing item holders 30 are not part of the bottom wall of the dish rack, and instead are “designed as inserts” that are “releasably inserted” in base basket 11:

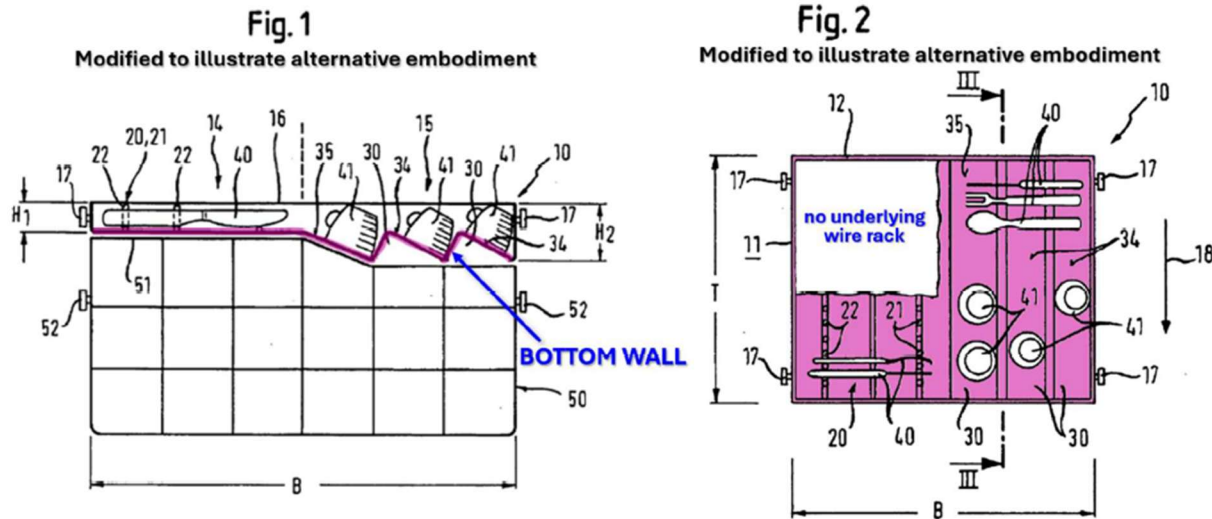
Washing items holders 30, designed as inserts, and the cutlery insert, are releasably inserted in this base basket, the connection being made by a stop in the wire frame. Washing items holders 30, as inserts, preferably consist of plastic. The inserts are supported on continuous bottom wires 13, which are also more clearly shown in FIG. 2. Washing items support 10 therefore consist of a base basket 11 and a washing items holder 30 of plastic.

Id. ¶28; EX2017 ¶¶45-46, 52.

Despite Mailander’s explanation that washing item holders 30 and cutlery insert 20 are in all instances designed as releasable inserts and do not form any portions of the base basket, Petitioner contends that washing item holders 30 can form a portion of the bottom wall of Mailander’s rack and therefore teach the claimed second portion of the dishrack. Pet., 45-46.

Petitioner’s argument is based entirely on a single sentence from Mailander, which states without further elaboration that the dish rack “may consist of only one material, e.g. plastic, i.e. without base basket 11.” *Id.*, 45 (quoting EX1006 ¶28). Petitioner uses this statement to create a version of Mailander’s Fig. 2 where

Petitioner erased the base wires of base basket 11 from the original Figure. Petitioner contends that this modified figure shows the washing item holders 30 form the bottom wall as required by claim 14:

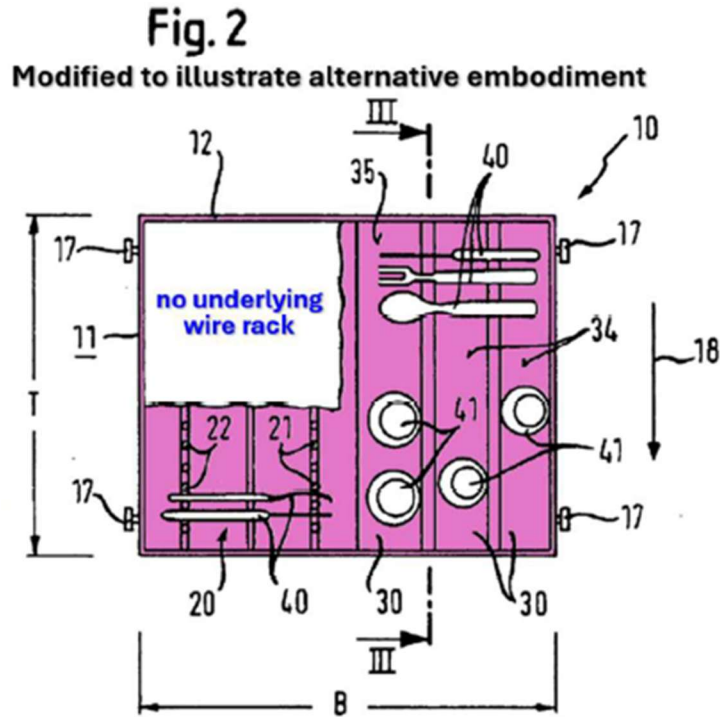


Pet., 42. Mailander does not support this argument or this newly created rendition of Mailander. EX2017 ¶53.

Mailander only states that the wired base basket 11 is not required as a separate part of washing items support 10 is constructed of plastic. *Id.* As noted above, however, Mailander consistently states that washing item holders 30 are inserts. *See, e.g.,* EX1006 ¶¶27-29, 32-33. There is no teaching that the washing item holders 30 could form the base portion of the dish rack, and doing so would eliminate the benefits of using releasable inserts, such as the ability to remove the inserts when the generic space is needed for different types of items. *See id.* ¶19 (“The advantage of separate extraction mechanics is that the washing items support according to the

Additionally, Petitioner's modification does not address Mailander's suggestion that a plastic dish rack would not include *all* of base basket 11, which includes both base wires 13 and a surrounding wire frame 12:

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Pet., 42. By only removing base wire 13 and failing to remove wire frame 12, Petitioner is being self-servingly selective in its analysis and fails to fully address the modified structure. EX2017 ¶53. By failing to consider Mailander's teaching as a whole, Petitioner improperly relies only the portion of those teachings it believes help its arguments. *See W.L. Gore & Assocs. v. Garlock, Inc.*, 721 F.2d 1540, 1551-52 (Fed. Cir. 1983) (the art as a whole must be considered and cannot render a claim obvious when it teaches away from the claimed invention). These arguments should be rejected.

Moreover, omitting base wire 13 (or some equivalent structure) entirely cannot be correct. EX2017 ¶53. It leaves nothing for the washing item holders to attached to and fails to explain how the inserts would still be releasable. *Id.* Without

fully addressing the teachings of Mailander, Petitioner has not shown how or why a POSITA would have modified Mailander as Petitioner proposes. *W.L. Gore*, 721 F.2d at 1551-52.

The Petition has failed to establish a reasonable likelihood that Mailander teaches that a second portion of the bottom wall defines a depression and a cup seat for supporting one or more cups in the depression.²

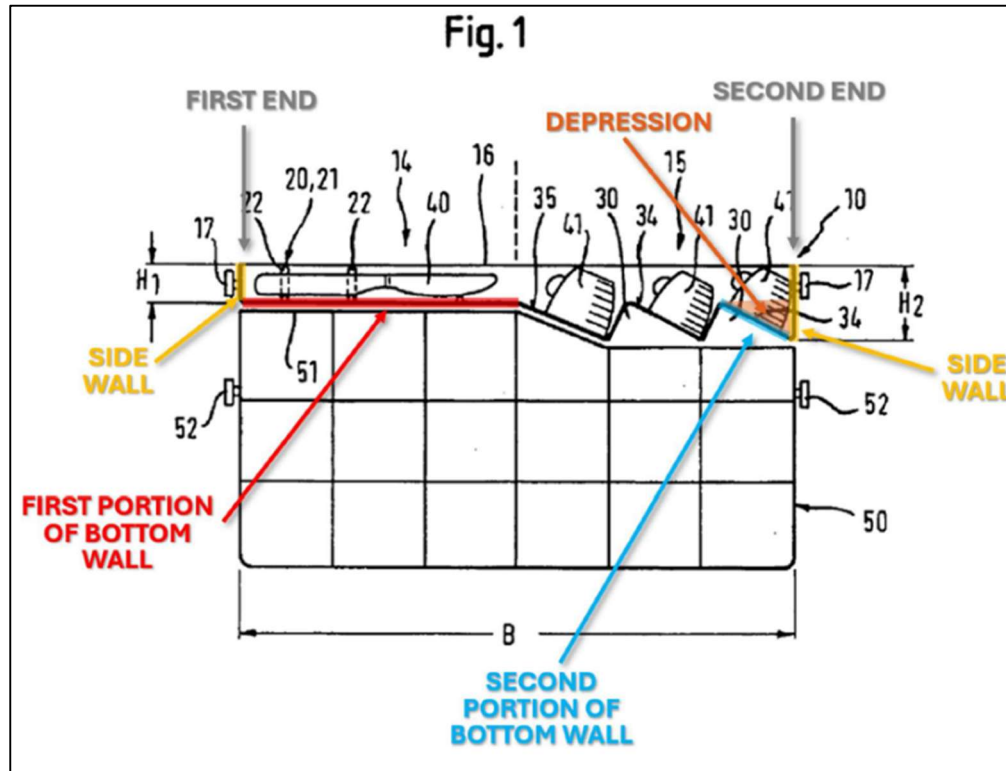
2. Mailander does not teach a cup seat for supporting one [or] more cups in the depression.

Like Carr, Mailander fails to teach the “cup seat for supporting one [or] more cups in the depression” of claim 14. As explained above, and incorporated here, the claimed cup seats are capable of cradling or securely retaining glasses and cups of ordinary dimension along their cylindrical side. *Supra* IV.A. For similar reasons as Ground 1, Mailander’s washing holder 30 and support surface 34 are not cup seats.³

² Petitioner recognized this failure in Mailander’s teaching in the related district court litigation between the parties. There, Petitioner asserts a different theory: the Mailander in view of Chinese patent CN 106343937 (“Cao”) renders the claim obvious. EX2005 ¶¶157-158. Petitioner has not asserted that theory here.

³ Mailander also fails to teach the cup seat for the same reasons it does not teach the second portion of the dish rack. To the extent those components exist in Mailander, they are two separate parts, not a single component. *Supra* IV.B.1.

Petitioner contends that support surface 34 of washing holder 30 teaches the claimed cup seat:



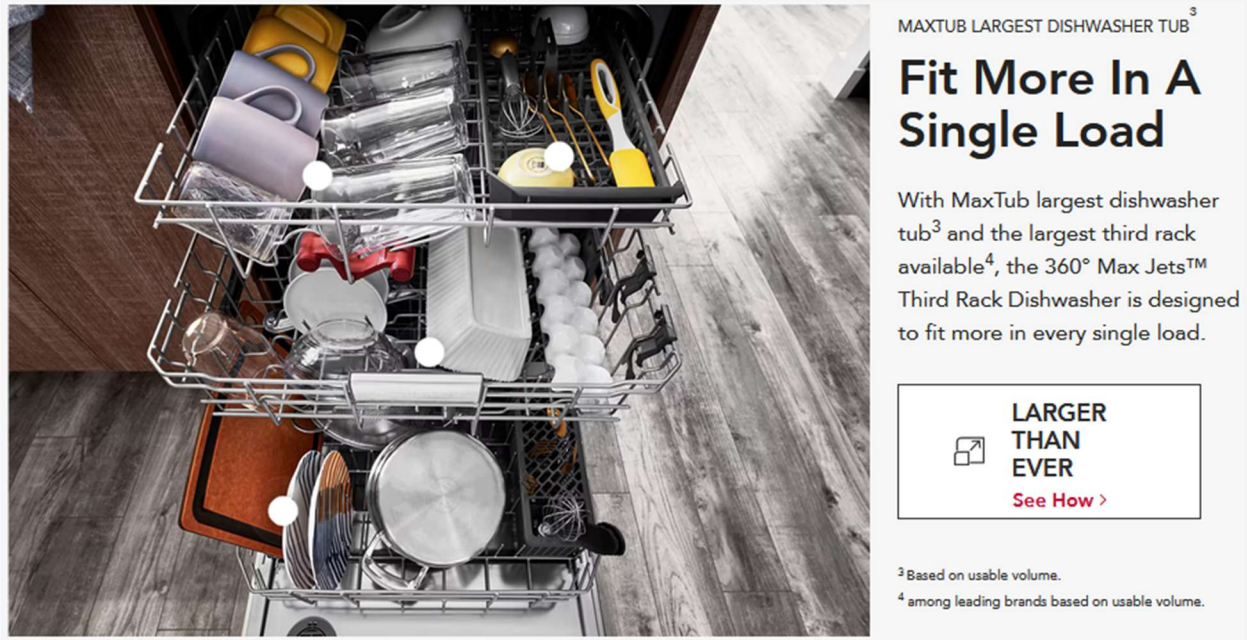
Pet. 51 (annotating EX1006, Fig. 1). However, as Figure 1 illustrates, Mailander only describes placing mugs, top down, onto the support surfaces. *Id.* These surfaces are not described or shown to be capable of securely supporting glasses and cups along their cylindrical side, as required by the claim. EX2017 ¶¶54-55. Instead, these surfaces in Mailander's design appear to be uniform linear surfaces (similar to a shelf) that do not seat the cups. While cups may be placed along a shelf, they are not seated or retained in place. *Id.* ¶54. At best, the configuration illustrated in Figure 1 of Mailander may reduce sliding to the left or right (from the perspective of Figure 1), but nothing restricts the cups from sliding forward or backward. *Id.* Thus, this

surface does not form a seat, and the Petition fails to explain how Mailander teaches a cup seat for supporting one [or] more cups in the depression. *Id.* ¶¶54-55.

C. Secondary considerations show that the '681 Patent is not obvious.

Objective indicia of nonobviousness also shows that the claimed invention of the '681 Patent would not have been obvious to a person of ordinary skill in the art. Here, the invention of the '681 Patent, which is used in Patent Owner Whirlpool's premium dishwashers, was copied by Petitioner Samsung for use in its own dishwasher and sold throughout the United States. The sales by both parties, establishing commercial success of the '681 Patent, along with Samsung's copying the patented invention, reinforce the nonobviousness of the '681 Patent.

Whirlpool dishwashers sold under the KitchenAid brand practice the claims of the '681 Patent. EX2012 ¶7. These dishwashers are three-rack dishwashers with enhanced top racks that can hold both drinkware and utensils. *Id.* This third rack includes a sprayer that is dedicated to cleaning drinkware in the cup. *Id.* An example of this third rack is illustrated below:



Id. These dishwashers first went on sale in 2020, EX2008 44:7-11, and Whirlpool has considered them a “hero feature” of their KitchenAid brand dishwashers. *Id.* 46:7-23. Since its release, Whirlpool has sold 1.7 Million of these premium dishwashers. *Id.* 48:17-20.

Samsung and Whirlpool are long term competitors in the premium household dishwasher segment. Ex2012 ¶8. Samsung, in an attempt to compete with Whirlpool, copied this third-rack design as its DW90 range of household dishwashers, which it released in 2025. EX2008 49:15-50:1. Samsung’s copied design can be seen below, mirroring Whirlpool’s design:



EX2019 ¶39 (showing Samsung’s third rack as a mirror image of Whirlpool’s). And as Whirlpool has asserted in the district court litigation, Samsung’s copy infringes the ’681 Patent. *See id.* ¶¶42-62.

Samsung’s marketing specifically highlights the copied “3rd Rack Washing System.” *See* EX2020, 2, 7. In fact, Samsung’s website plays a short video highlighting this rack and the benefits enabled by the claims of the ’681 Patent. <https://images.samsung.com/is/content/samsung/p6pim/us/feature/166669398/us-feature-dw90f24t-dw90f89p0usraa-550411969.mp4> (last accessed July 11, 2026). According to Samsung, it provides a “dedicated area for drinkware, cutlery, and

utensils,” allows users to “place cups on the 3rd rack to free up space,” and includes “dedicated wash jets...to thoroughly clean” glasses. *Id.*

The sales campaigns by both Whirlpool and Samsung highlight the benefits of dishwashers with the claimed third rack and indicate that their sales success is tied to the claimed features. Similarly, that Samsung copied Whirlpool’s design within a few years of its initial release suggests that the design was not obvious and, in fact, was a significant improvement over existing dishwasher designs.

As the Board is aware, a patentee is entitled to a presumption of nexus “when the patentee shows that the asserted objective evidence is tied to a specific product and that product embodies the claimed features, and is coextensive with them.” *Fox Factory, Inc. v. SRAM, LLC*, 944 F.3d 1366, 1373 (Fed. Cir. 2019) (quotation omitted). Here, the claims are directed to an automatic dishwasher with the claimed dishrack. EX1001, 10:57-13:7. As the “hero feature” of these dishwashers, both Whirlpool’s and Samsung’s dishwashers embody this invention and are coextensive with it.

Even if a nexus cannot be presumed, the above evidence shows there is a nexus between these considerations and the ’681 Patent. The copying, sales, and marketing discussed above are all directed towards the benefits of the dish rack found in the claims of the ’681 Patent. Samsung’s marketing specifically highlights the advantages of the dish rack, such as the greater versatility of the claimed

configuration, and improved washing efficiency. EX1001 9:34-10:11. These considerations further show that the claims of the '681 Patent are not obvious.

V. Conclusion

Whirlpool respectfully requests that the Board deny institution of *inter partes* review for the reasons stated herein.

Dated: July 15, 2026

Respectfully submitted,

/Michael F. Heim /

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Whirlpool Corporation

CERTIFICATE OF COMPLIANCE

Pursuant to 37 C.F.R. § 42.24(d), the undersigned hereby certifies that this brief complies with the type-volume limitation of 37 C.F.R. § 42.24 because this brief contains 5,277 words as calculated by Microsoft Word, excluding the items exempted under 37 C.F.R. § 42.24.

Dated: July 15, 2026

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CERTIFICATE OF SERVICE

The undersigned certifies that pursuant to 37 C.F.R. § 42.6(e), a true copy of the foregoing PATENT OWNER'S PRELIMINARY RESPONSE was served on the date below to the following lead counsel for Petitioners via e-mail:

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