

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

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

v.

WHIRLPOOL CORPORATION
Patent Owner.

Case No. IPR2026-00336
U.S. Patent No. 12,232,681

**PETITION FOR *INTER PARTES* REVIEW
OF U.S. PATENT NO. 12,232,681**

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LIST OF EXHIBITS¹

Ex. No.	Description
Ex-1001	U.S. Patent No. 12,232,681 (“the ’681 Patent”)
Ex-1002	Declaration of Dr. Kimberly K. Cameron
Ex-1003	Curriculum Vitae of Dr. Kimberly K. Cameron
Ex-1004	Prosecution History of U.S. Patent No. 12,232,681
Ex-1005	U.S. Patent Application Publication No. 2018/0220867 A1 to Carr (“Carr”)
Ex-1006	U.S. Patent Application Publication No. 2008/0169009 A1 to Mailander (“Mailander”)
Ex-1007	D.E. Patent No. 6810173 to Bosch (“Bosch”) (Certified English Translation)
Ex-1008	E.P. Patent No. 2368479 to Fumagalli (“Fumagalli”)
Ex-1009	U.S. Patent No. 9,445,703 B2 to Heidel et al. (“Heidel”)
Ex-1010	U.S. Patent No. 9,510,729 B2 to Fey et al. (“Fey”)
Ex-1011	U.S. Patent No. 6,869,029 B2 to Ochoa (“Ochoa”)
Ex-1012	U.S. Patent No. 10,045,681 B2 to Schessl et al. (“Schessl”)
Ex-1013	U.S. Patent No. 2,910,207 to Andrew (“Andrew”)
Ex-1014	D.E. Patent No. 6810173 to Bosch (“Bosch”)
Ex-1015	U.S. Patent No. 7,365 to Houghton (“Houghton”)

¹ Four-digit pin citations that begin with 0 are to the branded numbers added by Samsung in the bottom right corner of the exhibits. All other pin citations are to original page, column, paragraph, or line numbers.

Ex. No.	Description
Ex-1016	U.S. Patent No. 10,602,910 B2 to Gutkowski (“Gutkowski”)
Ex-1017	U.S. Patent No. 51,000 to Alexander (“Alexander”)
Ex-1018	U.S. Patent No. 355,139 to Cochrane (“Cochrane”)
Ex-1019	G.B. Patent No. 219,103 to Livens (“Livens”)
Ex-1020	INTENTIONALLY LEFT BLANK
Ex-1021	U.S. Patent No. 2,734,520 to Abresch et al. (“Abresch”)
Ex-1022	Decl. of Emad Tanbour, Ph.D., in Reply to the Expert Decl. of Dr. Kimberly K. Cameron Regarding Non-Infringement and Invalidity of the Asserted Patents, <i>Whirlpool Corp. v. Samsung Elecs. Co., Ltd.</i> , No. 25-cv-01042-JRG-RSP (Jan. 16, 2026)
Ex-1023	U.S. Patent No. 2,648,588 to Ruspino (“Ruspino”)
Ex-1024	U.S. Patent No. 4,402,556 to Schwind (“Schwind”)
Ex-1025	U.S. Patent No. 3,464,566 to Gilson (“Gilson”)
Ex-1026	U.S. Patent No. 4,475,656 to Collier (“Collier”)
Ex-1027	U.S. Patent Application Publication No. 2010/0051069 A1 to Schessl et al. (“Schessl”)
Ex-1028	U.S. Patent Application Publication No. 2013/0002107 A1 to Paschini et al. (“Paschini”)
Ex-1029	U.S. Patent Application Publication No. 2015/0196189 A1 to Shaffer et al. (“Shaffer”)
Ex-1030	U.S. Patent Application Publication No. 2006/0237051 A1 to Bengston et al. (“Bengston”)
Ex-1031	U.S. Patent Application Publication No. 2006/0127051 A1 to Tsumagari et al. (“Tsumagari”)

Ex. No.	Description
Ex-1032	U.S. Patent Application Publication No. 2015/0053238 A1 to Lee et al. (“Lee”)
Ex-1033	U.S. Patent Application Publication No. 2015/0320290 A1 to Hederstierna et al. (“Hederstierna”)
Ex-1034	E.P. Patent No. 2594186 A1 to Milani et al. (“Milani”)
Ex-1035	U.S. Patent Application Publication No. 2014/0190528 A1 to Wegener et al. (“Wegener”)
Ex-1036	U.S. Patent No. 3,402,975 to Smith (“Smith”)
Ex-1037	U.S. Patent No. 3,044,842 to Abresch et al. (“Abresch”)
Ex-1038	U.S. Patent No. 7,032,604 B2 to Welch (“Welch”)
Ex-1039	U.S. Patent No. 2,745,707 to Sebens (“Sebens”)
Ex-1040	U.S. Patent No. 5,332,105 to Standfield (“Standfield”)

I. INTRODUCTION

Samsung Electronics Co., Ltd. and Samsung Electronics America, Inc. (collectively, “Petitioner”) requests *inter partes* review (“IPR”) of Claims 14-16, and 19 of U.S. Patent No. 12,232,681 (“the ’681 Patent”) (Ex-1001), currently assigned to Whirlpool Corp. (“Patent Owner”).

II. MANDATORY NOTICES UNDER 37 C.F.R. § 42.8

Real Parties-in-Interest: Petitioner identifies the following real parties-in-interest: Samsung Electronics Co., Ltd., and Samsung Electronics America, Inc.

Related Matters: PO has asserted the ’681 Patent against Petitioner in *Whirlpool Corp. v. Samsung Electronics Co., Ltd. et al.*, No. 2:25-cv-01042, (E.D. Tex.).

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III. FEE AUTHORIZATION

The PTO is authorized to charge any fees due during this proceeding to Deposit Account No. LA500639.

IV. GROUNDS FOR STANDING

Petitioner certifies that the '681 Patent is available for review, and Petitioner is not barred or estopped from requesting review.

V. PRECISE RELIEF REQUESTED

Petitioner requests review and cancellation of Claims 14–16, and 19 as unpatentable based on the following grounds, supported by a declaration from Dr. Kimberly K. Cameron. Ex-1002 ¶¶ 24–166; Ex-1003.

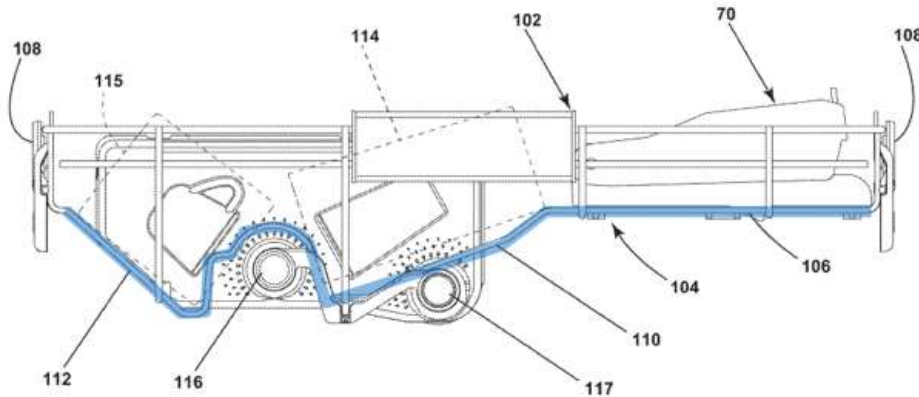
Ground	Summary
1	Claims 14 and 15 are obvious over Carr (Ex-1005)
2	Claims 14–16 are obvious over Mailander (Ex-1006)
3	Claim 19 is obvious over Carr in view of Ochoa (Ex-1010)
4	Claim 19 is obvious over Mailander in view of Ochoa

VI. THE CHALLENGED PATENT

The '681 Patent relates to an automatic dishwasher that shares “many features of a conventional automatic dishwasher.” Ex-1001, 2:54–55; Ex-1002 ¶¶ 53–56. As the '681 Patent notes, such conventional dishwashers often employ utensil caddies, which are “removably carried by the lower dish rack,” and “oriented such that they

hold the utensils in an upright or vertical orientation during washing.” *Id.*, 1:33–38. In addition to a utensil caddy, the ’681 Patent explains that some “dishwashers can also include a third dish rack, often referred to as a third level rack, of a much shorter height [than] the upper and lower dish racks, with the height being such as to only accommodate silverware or other low profile utensils.” *Id.*, 1:28–32. The ’681 Patent notes that such a third level rack offers advantages over a utensil caddy, particularly in the context of accommodating long-handled items: “[t]he third level rack can normally accommodate long handle items, such as spatulas, [serving] spoons, [and] stirring spoons” that cannot be carried vertically, within the utensil caddy, because their long vertical extension would interfere with the rotation of the sprayer positioned above the caddy. *Id.*, 1:39–44. Recognizing this advantage, the ’681 Patent seeks to further extend the flexibility offered by the third rack. Ex-1002 ¶ 53.

As shown in Figure 3 below, the ’681 Patent teaches an upper wire-frame dish rack within an automatic dishwasher that includes “bottom wall 104 [annotated below] from which extends a peripheral wall 108 defining the sides of the dishrack.” Ex-1001, 5:50–53.



The bottom wall “can define multiple planes.” *Id.*, 5:61. For example, the bottom wall has a “first plane transverse to the X-axis” such as planar portion 106 (red), which can receive a utensil caddy 70 (pink). *Id.*, 5:61–65, 5:55–58, 6:9–14. The bottom wall also includes a first angled wall that defines a second plane and a second angled wall 112 that defines a third plane. *Id.*, 5:61–6:2. The angled walls 110 (green) and 112 (blue) form a depression (orange), “which forms a first set of cup seats 114 and second set of cup seats 115, which hold cups.” *Id.*, 5:55–60.

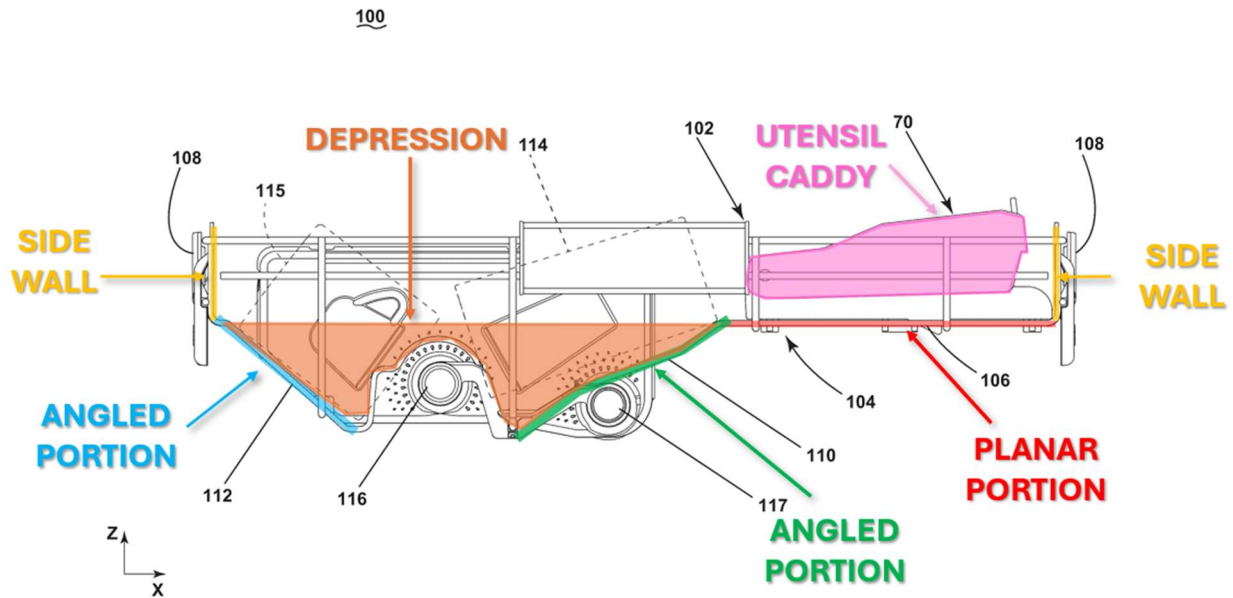


FIG. 3

As explained by the '681 Patent, the purported benefits offered by the disclosed rack include “more versatil[ity] when compared to traditional dish rack assemblies,” owing to its ability to accommodate both cups and utensils (Ex-1001, 9:36–61), and “an improved washing efficiency of utensils when compared to traditional vertical utensil caddies,” as it “ensures that all of the utensils are horizontally secured and that all portions of the utensils which need to be treated are within the spray zone” (*id.*, 9:62–10:5).

However, as explained in detail below, dishwasher racks capable of accommodating both cups and horizontally-positioned utensils were well known, including as disclosed in both Carr and Mailander. Ex-1002 ¶ 56.

VII. PROSECUTION HISTORY OF THE '681 PATENT

The '681 Patent was filed December 11, 2023, as a continuation of U.S. Patent No. 11,864,712, filed on June 2, 2022, which is a continuation of U.S. Patent No. 11,375,874, filed on March 30, 2020. Ex-1002 ¶¶ 57–59.

The '681 Patent was allowed after one office action. On July 5, 2024, the Examiner rejected the claims as being anticipated by U.S. Patent Publication No. 2006/0237051 to Bengston and cited only to paragraph 19 and Figure 1 for every claim. Ex-1004, 96–101. In response, the Applicant amended the claims and argued that Bengston did not teach a horizontal planar portion extending across a first portion of the bottom wall to support a first set of utensils and an angled second section that has a plurality of pins or a cup set for supporting one or more cups. *Id.*, 133–134. The Examiner allowed the claims on October 28, 2024 stating that Bengston was the closest prior art, which did not teach Claim 1's "second portion connected to and extending from the first portion and angled away from the first portion; the first portion supporting a first set of utensil holders for supporting one or more utensils and the second portion supporting a plurality of spaced pins defining spaced slots for supporting one or more utensils." Ex-1004, 142. The Examiner further noted that Bengston did not teach Claim 14's "depression extending lower than the first portion relative to the peripheral wall; the first portion supporting a first set of utensil holders for supporting one or more utensils and the second portion

defining a cup seat for supporting one of more cups in the depression.” *Id.* at 143.
The ’681 Patent issued on February 5, 2025. *Id.*, 159–161.

This Petition presents new arguments and prior art not considered during prosecution, and nothing precludes considering them in the first instance under 35 U.S.C. § 325(d). Ex-1002 ¶¶ 58–59.

VIII. LEVEL OF ORDINARY SKILL IN THE ART

A person of ordinary skill in the art at the relevant time (“POSITA”) would have had at least a bachelor’s degree in mechanical engineering or a related field, and two years of experience in the design or development of consumer appliances, including dishwashers or comparable fluid-delivery systems, with additional education substituting for experience and vice versa. Ex-1002 ¶¶ 20–22, 24–52.

IX. PRIORITY DATE

For purposes of this proceeding only, Petitioner applies the earliest alleged priority date of the ’681 Patent: March 30, 2020.²

X. CLAIM CONSTRUCTION

Neither Petitioner nor Patent Owner has yet proposed any terms for construction in the underlying litigation. Regardless, Patent Owner has taken certain positions in the related litigation that appear to, at least, reflect implied claim scope

² Petitioner respectfully reserves the right to challenge the priority date in other proceedings.

arguments. Ex-1022. These implied positions are incorrect for reasons that will be discussed further in the element-by-element analysis below. Ex-1002 ¶ 61.

For clarity, Petitioner’s understanding of the plain meaning of certain terms is set forth here. Ex-1002 ¶ 62–66.

“Tub”: The plain meaning of this term includes an open-faced component that defines an access opening for the treating chamber. Ex-1001, 2:67–3:5, Fig. 1.

“Cup Seats”: The plain meaning of this term includes seats for various types of cups, such as measuring cups and mugs, and other items to be treated within the treating chamber such as “baby bottles, plates, bowls, pans, or the like.” Ex-1001, 7:51–58.

“at the second end of the dishrack, a second portion is angled with respect to the first portion”: The plain meaning of this term means that the second portion of the bottom wall terminates at the peripheral wall. Ex-1001, Cl. 14.

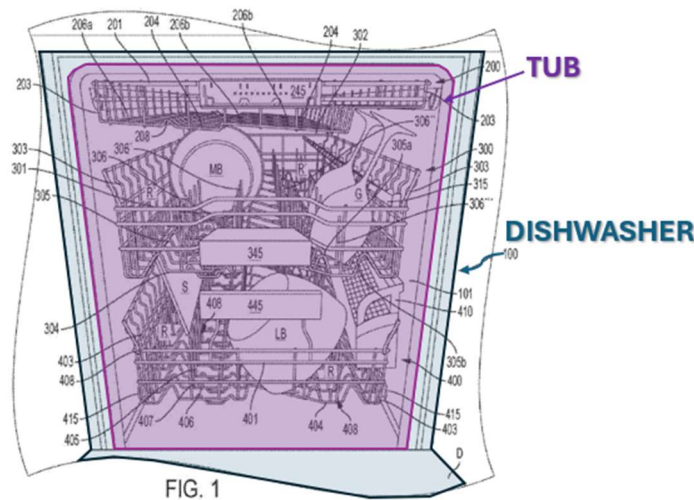
“Bottom wall”: The plain meaning of this term means the structures that form the bottommost portion of the dish rack. Ex-1001, 5:50–55, Fig. 3.

XI. BRIEF DESCRIPTION OF THE APPLIED PRIOR ART

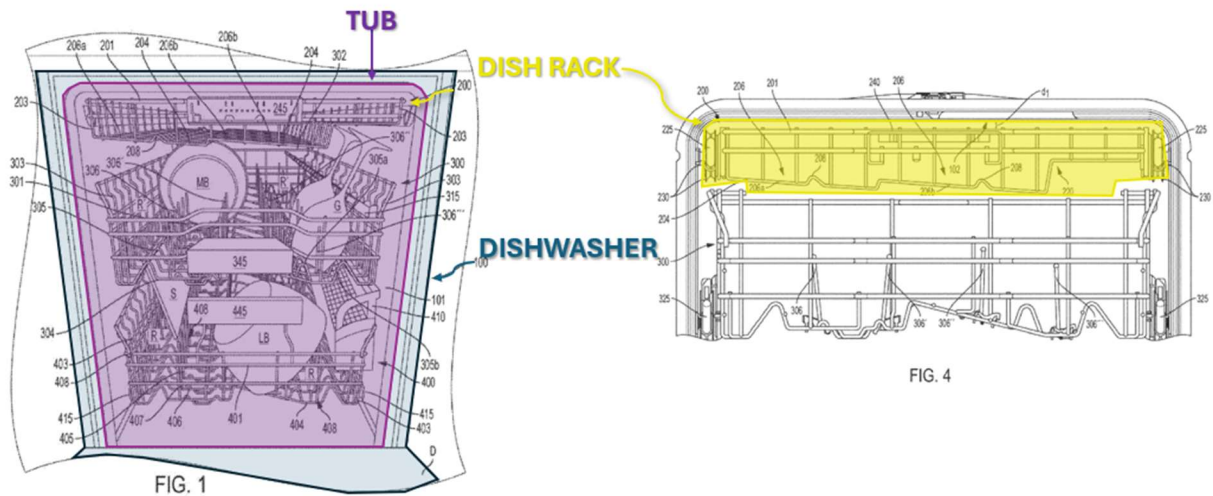
A. Carr (Ex-1005)

Carr (U.S. Patent Publication No. 2018/0220867) was published August 9, 2018, and is prior art to the ’681 Patent under 35 U.S.C. § 102(a)(1). Ex-1002 ¶¶ 67–71.

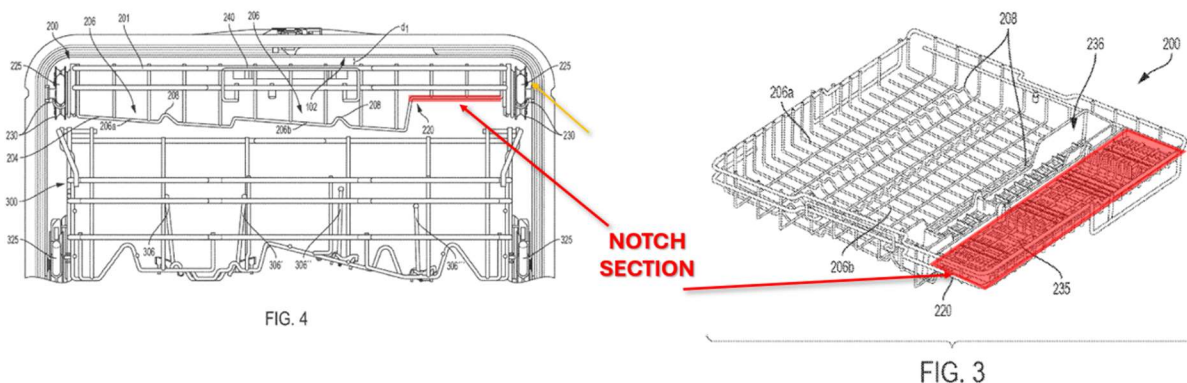
Carr teaches a dishwasher appliance 100 (blue, below) that, “as is known in the art,” “includes a tub, a pump and filter assembly, a heating element, one or more wash arms, and a drain hose.” Ex-1005 ¶ 37. Figure 1, annotated below, shows Carr’s dishwashing appliance (blue) “with the door open so as to reveal the dishwashing compartment,” colored in purple. *Id.* ¶ 28.



Carr’s dishwasher includes a “top washware rack configured for movement out of and into the dishwashing compartment.” Ex-1005 ¶ 13. The top washware rack, shown in Figures 1 and 4 below, is “formed of wire thereby to hold washware including cutlery and washware which is larger than cutlery and to enhance drying performance.” *Id.* Carr’s “top washware rack 200 is configured as a basket and includes front 201, rear 202, and opposing side walls 203 interconnected with a bottom portion 204.” *Id.* ¶ 41.



As shown in Figure 4, below, “top washware rack 200 is formed with a notch section 220 along at least one side . . . in the bottom portion 204.” Ex-1005 ¶ 47. Notch section 220 (red) accommodates “at least one of cutlery or utensils” (*id.* ¶ 18) and is positioned at a higher vertical position than the rest of the rack, to allow the middle dish rack to accommodate stemmed wine glasses, directly below it (*id.* ¶ 47). As shown in Figure 3, below, a cutlery/utensil accessory insert 235 may be disposed above notch section 220. *Id.* ¶ 48.



In addition to notch portion 220, bottom portion 204 of washware rack 200 “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.” Ex-1005 ¶ 43. Carr’s angled portion 206 is “tilted at an angle in a range of 3 to 5 degree with respect to horizontal, and preferable is tilted at an angle of approximately 4 degrees with respect to horizontal.” *Id.*

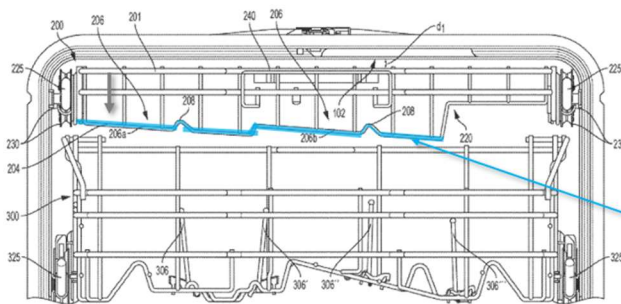


FIG. 4

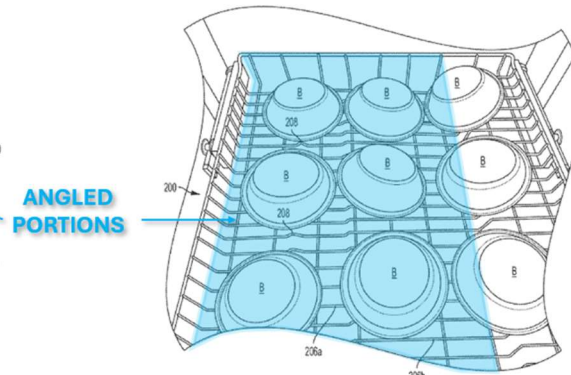


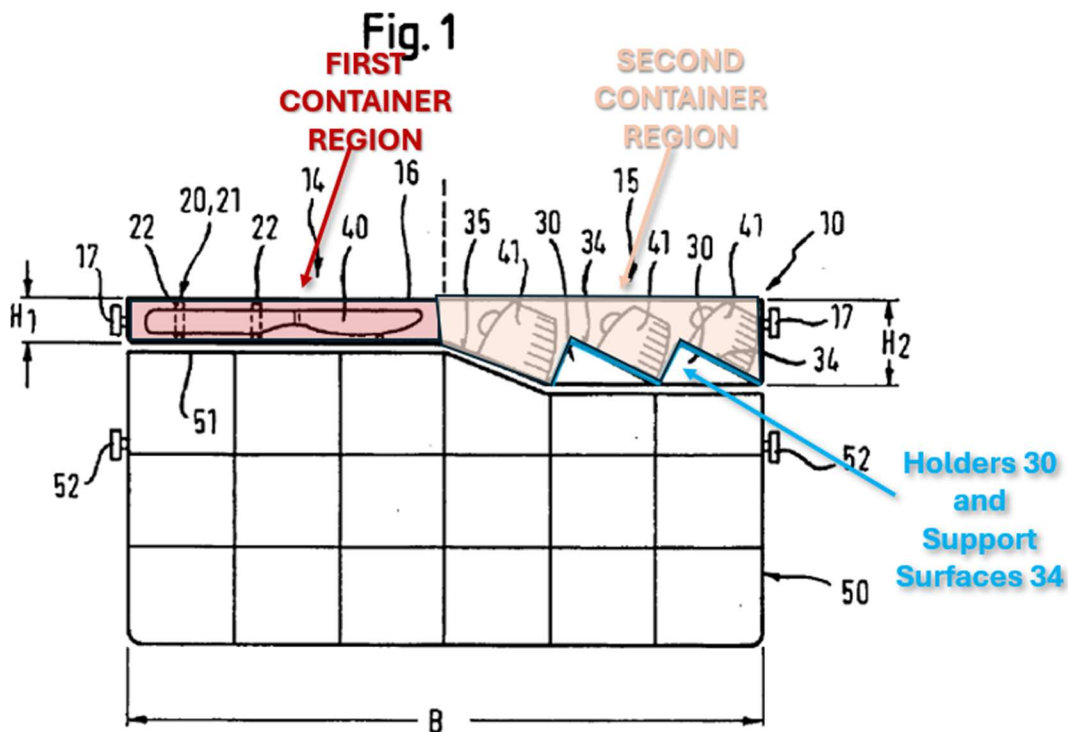
FIG. 6

B. Mailander (Ex-1006)

Mailander (U.S. Patent Publication No. 2008/0169009) was published July 17, 2008, and is prior art to the '681 Patent under 35 U.S.C. § 102(a)(1). Ex-1002 ¶¶ 72–77.

Mailander teaches a dishwasher rack in the form of “a washing items support for a dishwasher.” Ex-1006 ¶ 1; *see also id.* ¶ 12 (describing the washing items support as “a kind of cutlery drawer which is arranged in addition to the crockery baskets provided in the dishwasher”). “In contrast to the state of the art,” Mailander teaches that the disclosed rack can hold “smaller containers ... in addition to pieces of cutlery.” *Id.* ¶ 12. As illustrated in annotated Figure 1, below, Mailander’s washing item support 10 includes two regions, first container region 14 and second

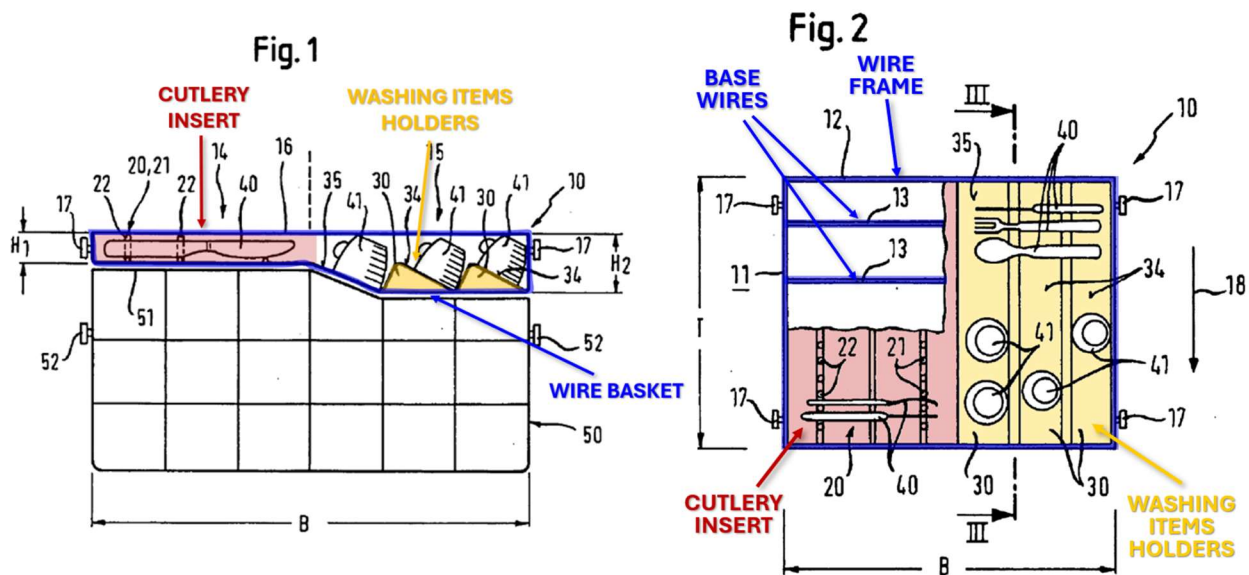
container region 15, “each of them occupying approximately half width B of washing items support 10.” Ex-1006 ¶ 25. Mailander’s first container region 14 (red) includes “a cutlery insert 20,” which is configured to “arrange pieces of cutlery 40 ..., lying one next to the other, ... throughout the depth of washing items support 10.” *Id.* ¶ 26.



Mailander teaches that second container region 15 (peach) is includes “two washing items holders 30, each of which has a support surface 34 inclined to the horizontal,” so that pieces of crockery can be placed at an angle for an increased drying effect. Ex-1006 ¶ 27. Pieces of crockery that may be positioned on the inclined support surfaces of second container region 15 include “smaller washing

items, e.g. cups, shallow glasses, dessert bowls, or alternatively cutlery in the transverse and longitudinal directions, long knives, cooking spoons etc.” *Id.* Consistent with that goal, Mailander teaches a variety of different rack configurations. For instance, Mailander teaches that cutlery insert 20 and washing items holders 30 “may be formed integrally together or they may be provided as separate inserts.” *Id.* ¶ 27.

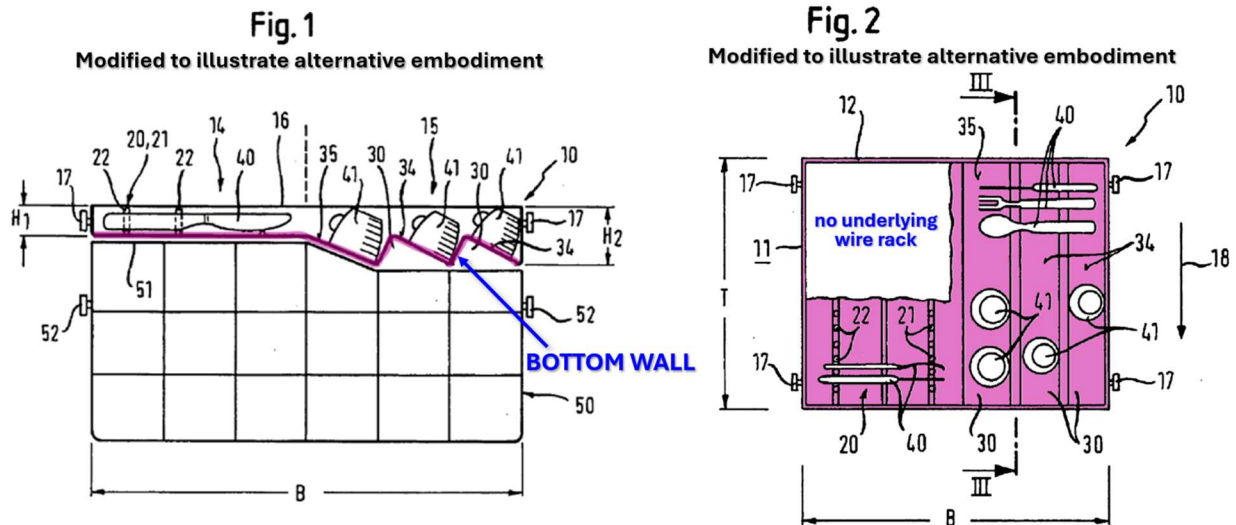
For example, in certain embodiments, washing items support 10 includes “a base basket 11 produced from a surrounding wire frame 12.” *Id.* ¶ 28. This is illustrated below, in annotated Figures 1 and 2:



Alternatively, Mailander expressly discloses that cutlery basket and washing items holders can be used as the rack themselves—without an underlying wire rack—explaining that the “washing items support 10 may consist of only one

material, e.g. plastic, i.e. ***without base basket 11.***” Ex-1006 ¶ 28 (emphasis added).

This is illustrated in the modified versions of Figures 1 and 2, below:

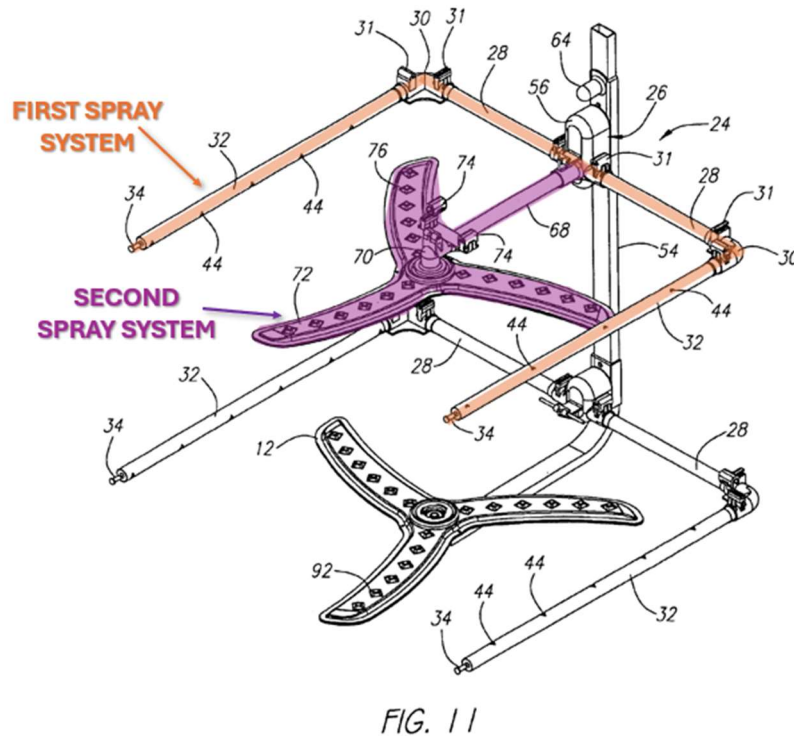


C. Ochoa (Ex-1011)

Ochoa (U.S. Patent No. 6,869,029) issued March 22, 2005, and is prior art to the '681 Patent under 35 U.S.C. § 102(a)(1). Ex-1002 ¶¶ 78–80.

Ochoa teaches a dish rack comprising of a “wire basket constructed in a conventional manner with a plurality of crisscrossing and encircling wire segments 18 connected to each other to provide space for supporting cups, glasses, small dishware, long utensils and the like in the usual manner.” Ex-1011, 3:2–9. Ochoa also teaches that the upper rack 12 includes a “water spraying system ... that is mounted on the underside of the rack 16 and moves into and out of the front of the dishwasher 10 with the rack 16.” *Id.*, 3:15–19.

Ochoa teaches a spray system that includes “a plurality of water spray outlets 44 are provided along the length of spray tube 32 and preferably the water spray outlets 44 are also circumferentially offset along the length of the spray tube 32.” Ex-1011, 3:63–68. Ochoa further teaches a second sprayer in its “spray spinners,” which are mounted below each dish rack. *Id.*, Abstract, 5:1–20, Cls. 7, 8, 27–29. As shown in Figure 11 below, Ochoa teaches that water spray outlets 44 are sprayers at each end of the dish rack and spinner 72 includes “somewhat conventional design having a plurality of spray outlets 76 directed upwardly and downwardly to spray the contents of the upper and lower racks.” Ex-1011, 5:8–20; *see also id.*, Abstract. Ochoa ensures that “lateral sides and corners of a modern premiere dishwasher of increased width ... receive the same amount of water spray from the spinners as the center portion.” Ex-1011, 1:26–29.



XII. DETAILED EXPLANATION OF THE UNPATENTABILITY GROUNDS

A. Ground 1: Claims 14 and 15 are obvious over Carr

1. Independent Claim 14

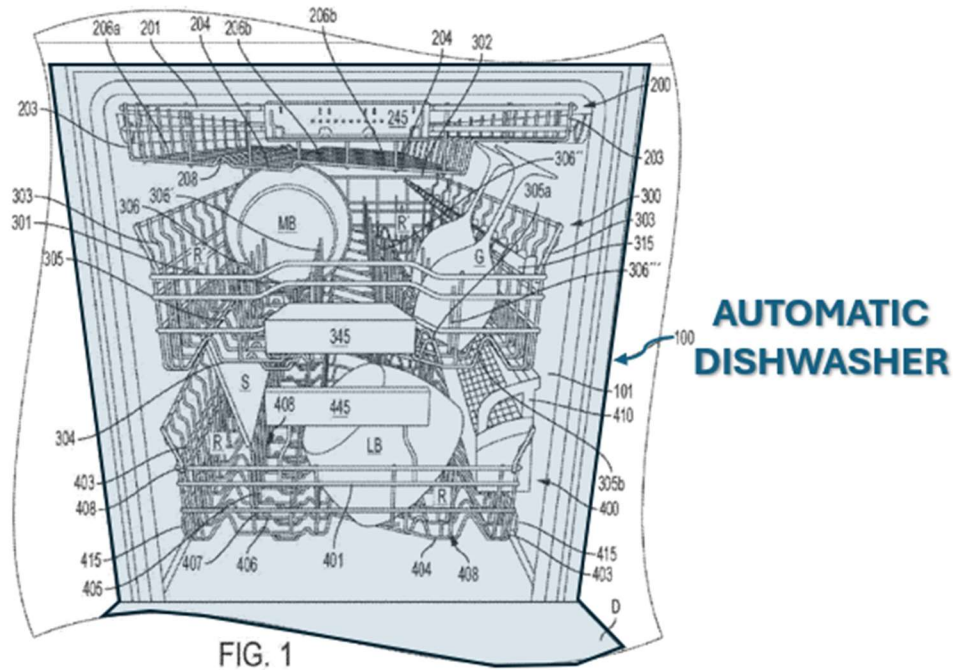
- a. **Element 14[pre]: An automatic dishwasher configured to implement an automatic treating cycle of operation, comprising:**

Carr teaches the preamble of claim 14, to the extent that it is limiting. Ex-1002

¶¶ 81–83.

Carr teaches a dishwasher appliance 100 (blue, below). Ex-1005 ¶ 37. Carr explains that, “as is known in the art, the dishwasher appliance 100 includes a tub, a

pump and filter assembly, a heating element, one or more wash arms, and a drain hose.” *Id.*



Carr’s apparatus “increases [a] dishwasher capacity, flexibility, and versatility, as well as enhancing the drying performance of [a] dishwasher,” (*id.* ¶ 6), and incorporates by reference U.S. Patent No. 9,445,703 to Hiedel et al. [Ex-1009] for the detailed description of the “suitable structure and operation of the dishwasher appliance.” *Id.* ¶ 37. Hiedel teaches that the dishwasher acts on “actuators of the dishwashers in a controlling and/or regulating manner, thereby allowing wash processes, also referred to as wash cycles or wash runs, in which the items being washed can be cleaned using water, to be **carried out automatically.**”

Ex-1009, 1:39–46. Thus, Carr teaches an “automatic dishwasher,” as claimed. Ex-1002 ¶ 83.

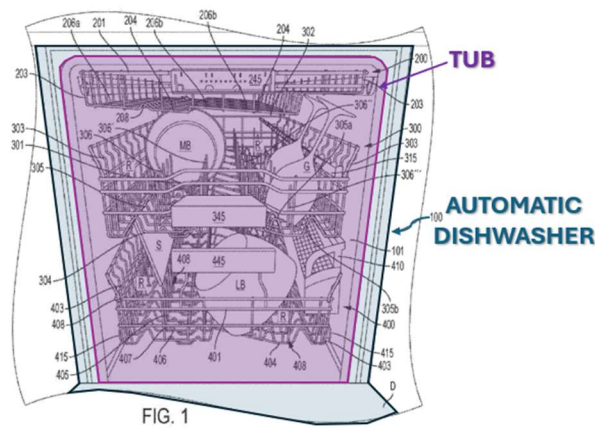
b. Element 14[a]: a tub defining a dish treating chamber; and

Carr teaches element 14[a]. Ex-1002 ¶¶ 84–86.

Carr’s dishwasher appliance 100 includes a “tub defining a dish treating chamber,” as claimed. Specifically, Carr teaches that “as is known in the art, the dishwasher appliance 100 includes **a tub**, a pump and filter assembly, a heating element, one or more wash arms, and a drain hose.” Ex-1005 ¶ 37 (emphasis added).³

Carr provides a “dishwasher, comprising: a **dishwashing compartment** having a loading opening.” Ex-1005 ¶ 10 (emphasis added); *see also id.* ¶ 13. Carr’s dishwashing appliance (blue) is shown in Figure 1, below, “with the door open so as to reveal the **dishwashing compartment**,” colored in purple. *Id.* ¶ 28 (emphasis added); Ex-1002 ¶ 86.

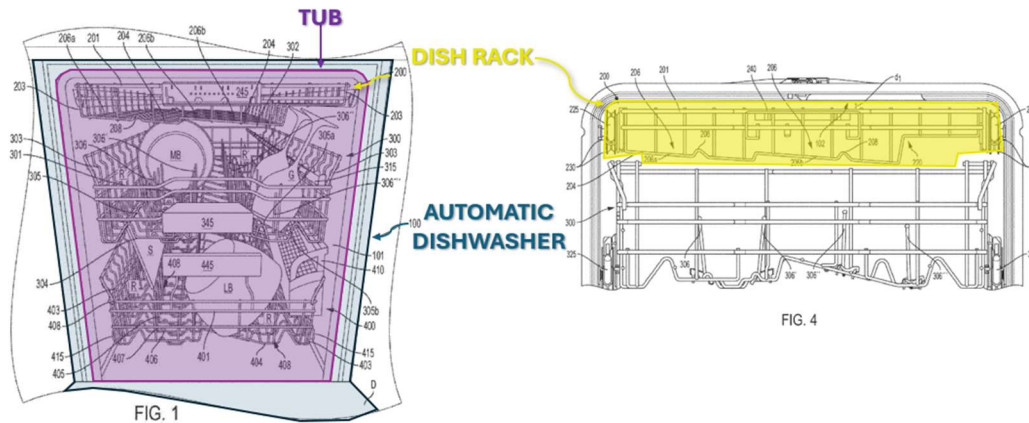
³ As described above, Carr incorporates by reference U.S. Patent No. 9,445,703 to Heidel et al. for detailed description of its dishwasher’s structure and operation. Ex-1005 ¶ 37. Heidel teaches that the dishwasher “further comprises a wash container 5, which can be closed off by a door 6, so that a closed wash chamber 7 results for washing items to be washed.” Ex-1009, 6:21–23.



- c. **Element 14[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,**

Carr teaches element 14[b(i)]. Ex-1002 ¶¶ 87–89.

Carr’s “top washware **rack**,” which is “configured for movement out of and into the dishwashing compartment,” corresponds to “a dish rack located within the dish treating chamber,” as claimed. Ex-1005 ¶ 13. Carr’s top washware rack, shown in Figures 1 and 4 below, is located within the dish treating chamber and is “formed of wire thereby to hold washware including cutlery and washware larger than cutlery and to enhance drying performance.” *Id.*



Carr’s top washware rack (the claimed “dish rack”) includes “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,” as claimed. Carr teaches that “top washware rack 200 is configured as a basket and includes front 201, rear 202, and **opposing side walls 203 interconnected with a bottom portion 204.**” Ex-1005 ¶ 41 (emphasis added). Carr’s side walls correspond to peripheral walls of the dishrack. As shown below in Figure 4, Carr’s dish rack has a first end spaced from a second end (gray text) by the bottommost structure (bottom portion 204, blue), from which extends a peripheral wall defining side walls of the dish rack (opposing side walls 203, yellow). Ex-1002 ¶ 89.

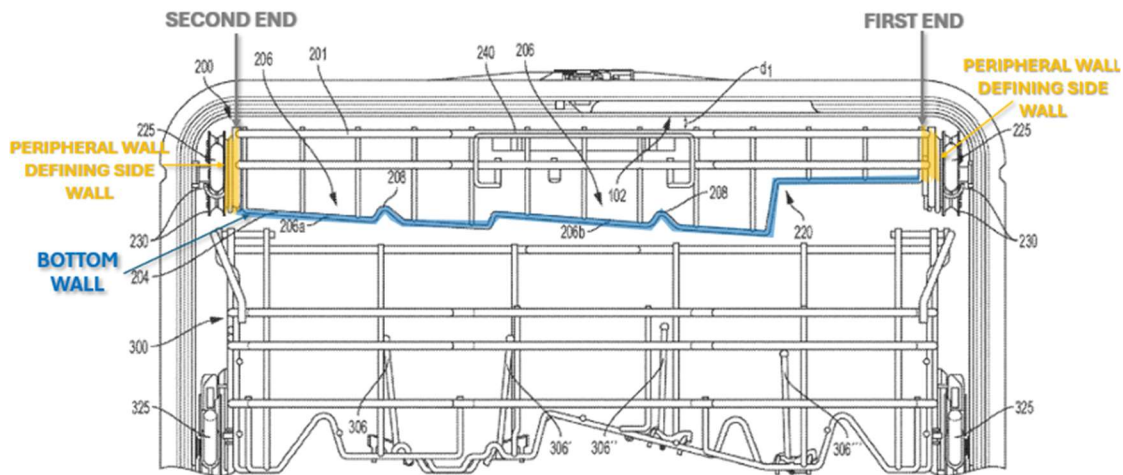


FIG. 4

- d. **Element 14[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

Carr teaches element 14[b(ii)]. Ex-1002 ¶¶ 90–93.

Bottom portion 204 of Carr’s top washware rack (claimed “bottom wall” of the claimed “dish rack”) has a first portion that is located “at the first end of the dish rack,” and that is “a substantially horizontal planar portion extending across a first portion of the bottom wall,” as illustrated in Figure 4, below. As shown below in Figure 4, “top washware rack 200 is formed with a notch section 220 [(red)] along at least one side ... in the bottom portion 204.” Ex-1005 ¶ 47.

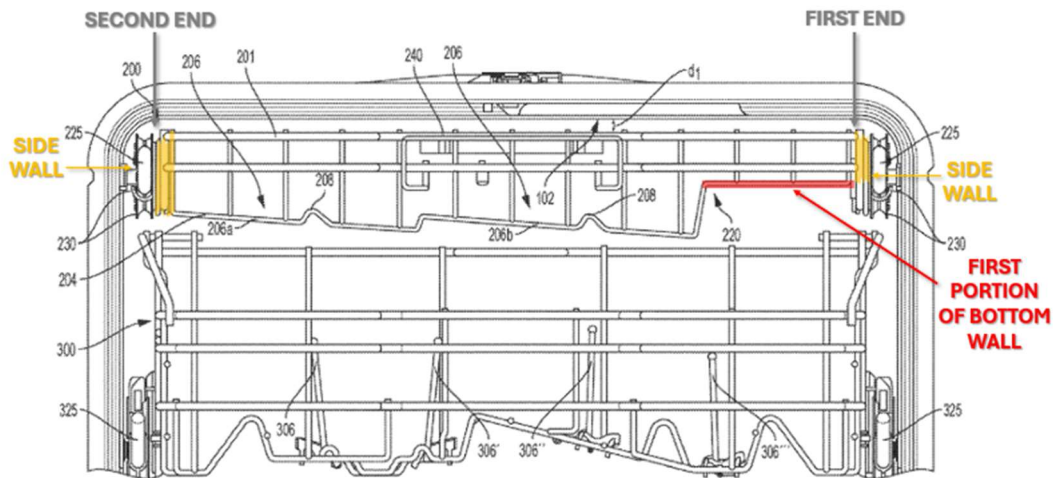


FIG. 4

As shown, the first portion is adjacent to the sidewall “at the first end of the dish rack.” Ex-1002 ¶ 92.

Notch section 220 is substantially horizontal and planar to accommodate “at least one of cutlery or utensils” (*id.* ¶ 18). Indeed, as shown in Figure 3, below, a cutlery/utensil accessory insert 235 (pink) may be disposed above the horizontal and planer notch section 220. *Id.* ¶ 48; *see also, Id.*, Cl. 7 (reciting that the “notch section” includes a “**substantially horizontal top surface**”); Ex-1002 ¶ 93.

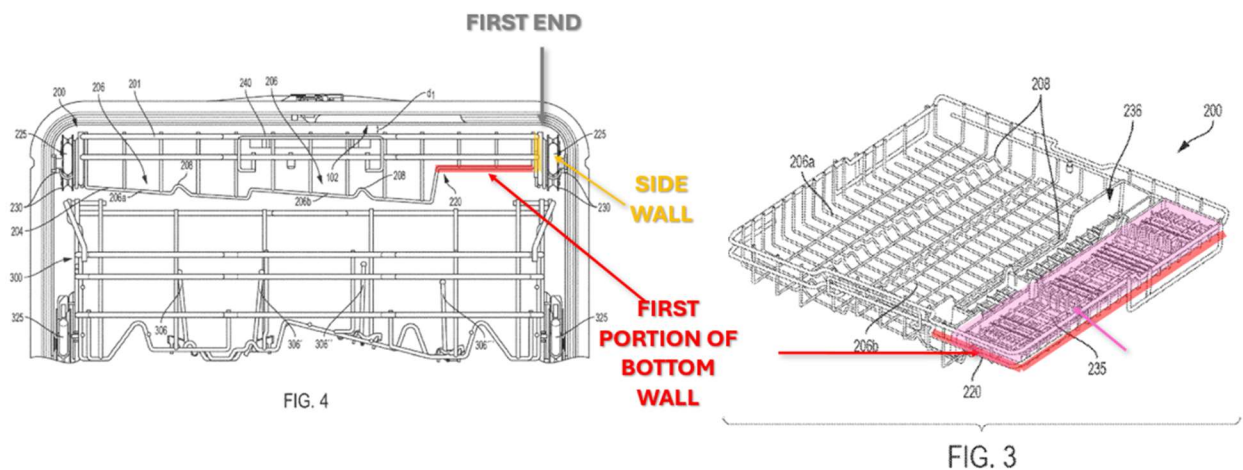


FIG. 3

- e. **Element 14[b(iii)]: at the second end of the dishrack, a second portion is angled with respect to the first portion and defining a depression;**

Carr teaches element 14[b(iii)]. Ex-1002 ¶¶ 94–98.

Carr teaches that, “at the second end of the dishrack, a second portion of the bottom wall that is angled with respect to the first portion and defines a depression,” as claimed. Specifically, Carr teaches that bottom portion 204 of washware rack 200 “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.” Ex-1005 ¶ 43. As Carr explains, 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.* Figure 4, annotated below, shows that second portion (blue) is angled 3–5 degrees with respect to the first portion (horizontal notch portion 220, red). Ex-1002 ¶ 95. Additionally, as shown in the figure below (left hand side), the second portion of the bottom wall terminates directly at the peripheral wall at the second end of the dishrack.

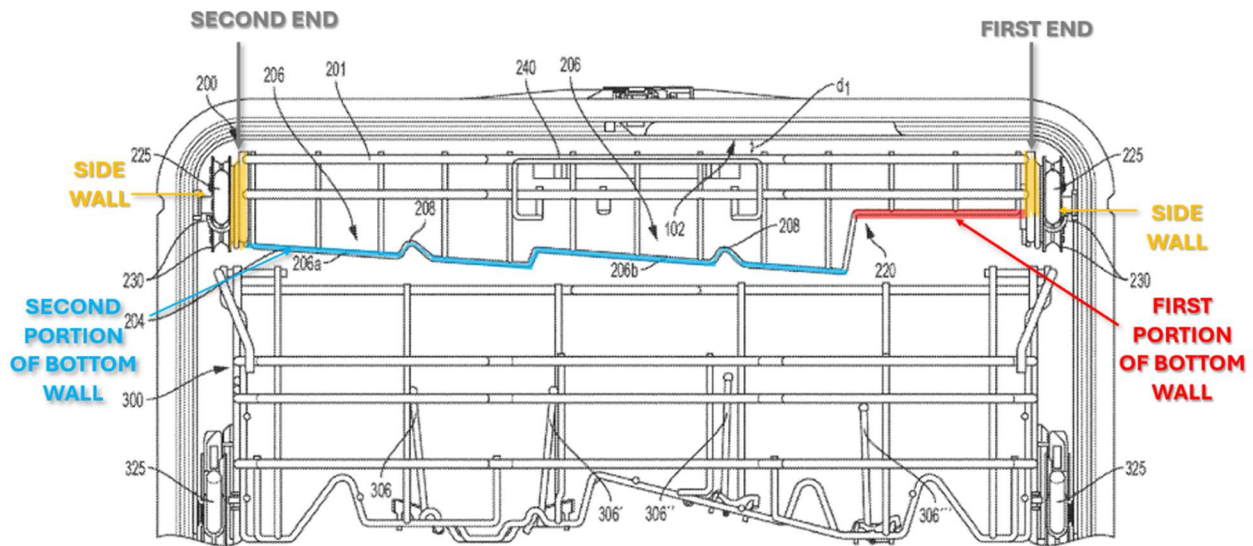


FIG. 4

Carr's angled portion 206 (the claimed "second portion"), comprising subportions 206a and 206b, defines a depression. Ex-1002 ¶ 96. Each angled portion 206a/b is at a slight downward tilt in order to drain water off from the bowls, cups, or other items placed in that portion of the rack. Ex-1005 ¶¶ 43–44. Therefore, as illustrated in annotated Figure 4, below, Carr's second portion (angled portion(s) 206, blue) is angled with respect to the first portion (notch portion 220, red) and defines a depression (orange) to provide space for the bowls to sit at an angle. Ex-1002 ¶ 97.

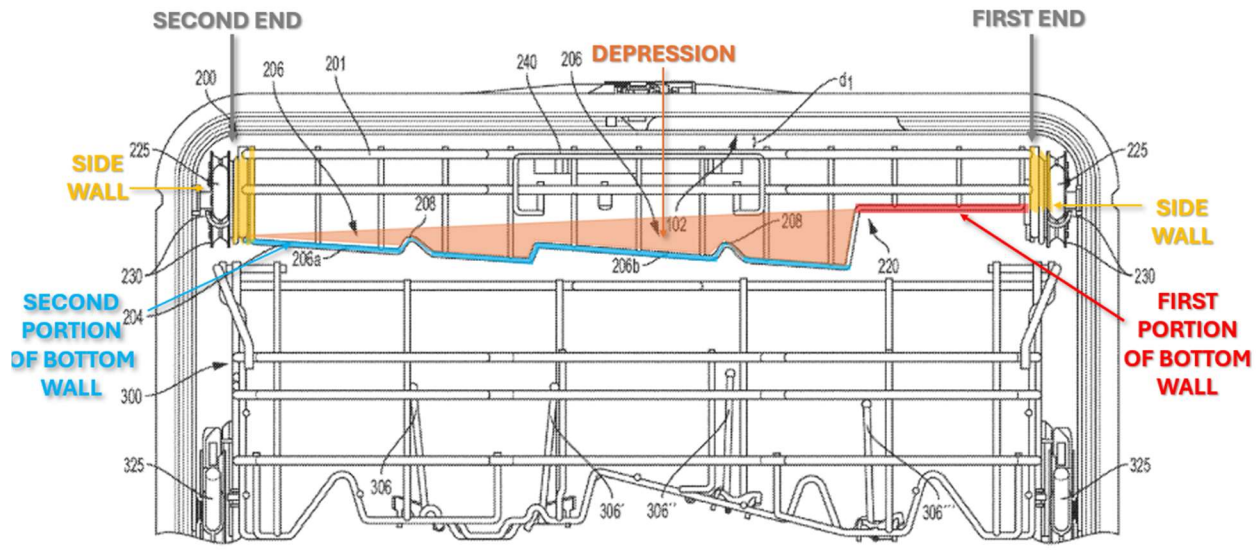


FIG. 4

Indeed, Carr specifically identifies the interior end of angled portion(s) 206 (opposite the end adjacent to the side wall) as the “deepest portion 225 of the third, top washware rack 200.” Ex-1005 ¶ 46. Carr explains that the “deepest portion 225” at the bottom of the rack is “d₂” in Figure 5,⁴ as measured from the top of the dishwasher tub to the bottom of the rack at that point. Ex-1005 ¶ 46. Ex-1002 ¶ 98.

⁴ Figure 5 depicts the same rack as Figure 4, but with only one set of stopper ribs 208, rather than two. Ex-1005 ¶ 44. A POSITA would have understood that whether or not a second set of stopper ribs 208 is present does not affect the location of the deepest point of the rack. Ex-1002 ¶ 98.

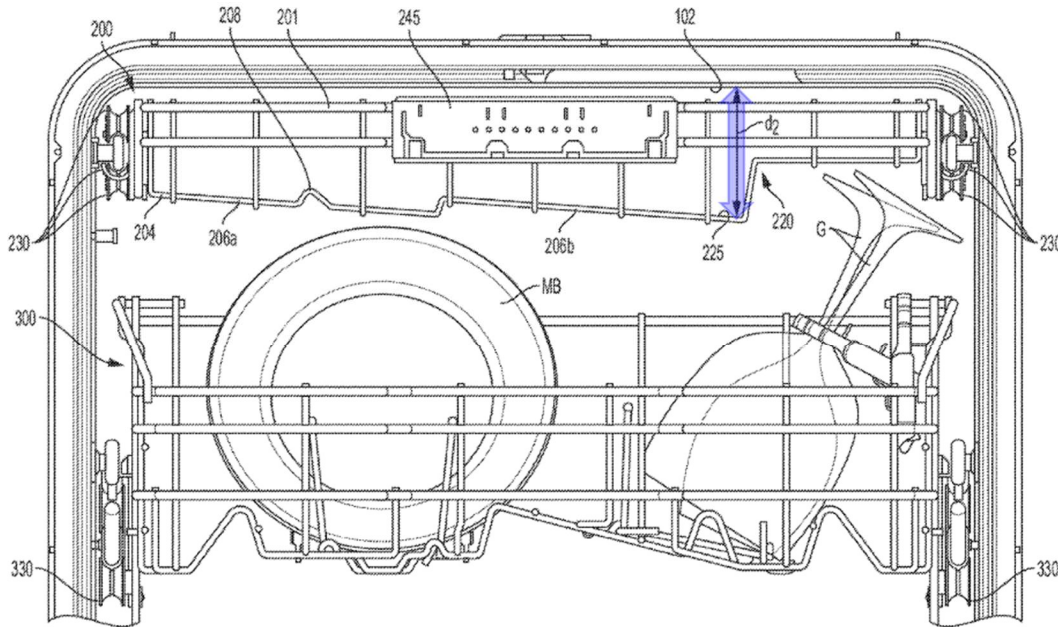


FIG. 5

f. Element 14[b(iv)]: the depression extending lower than the first portion relative to the peripheral wall;

Carr teaches element 14[b(iv)]. Ex-1002 ¶ 99–101.

Carr teaches that the depression formed by angled portion(s) 206 extends lower than notched portion 220 (claimed “first portion”) relative to the peripheral wall. Specifically, Carr’s angled portion(s) 206 create a depression at an angle relative to notch portion and extend lower than the first portion so that a bowl or other item can sit within the depression. Ex-1005 ¶¶ 43–44. Carr’s top washware rack 200’s depression is lower than the first portion relative to the peripheral wall, which is the side wall (yellow), as illustrated in annotated Figures 4 and 5, below. Ex-1002 ¶ 100. As depicted by d_2 in Figure 5, the dishrack’s “deepest point 225” extends further below the top of the tub than does notch 220, thus forming the recited

depression that extends lower than the first portion relative to the peripheral wall.

Ex-1002 ¶ 101.

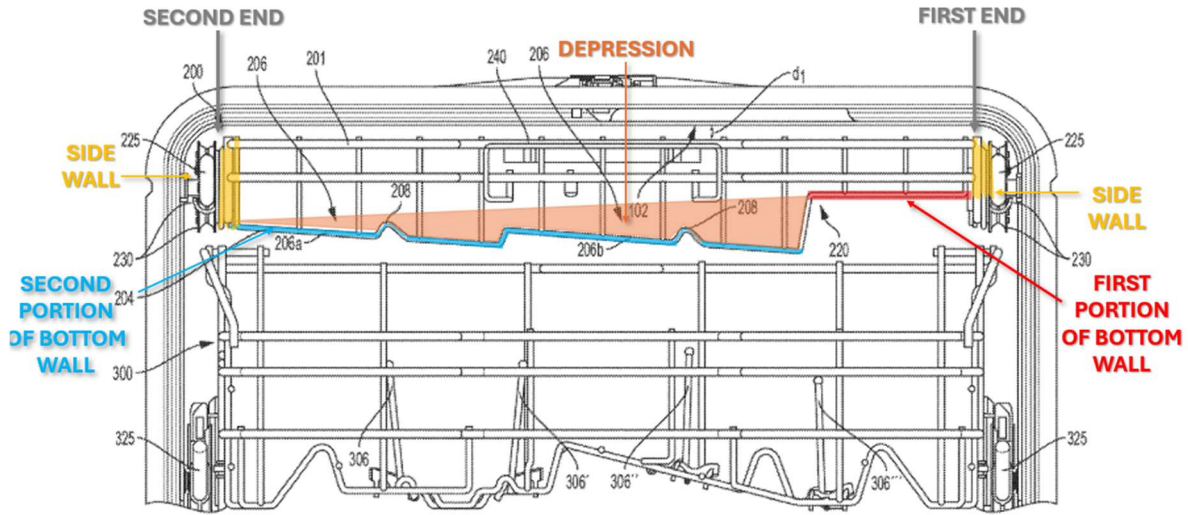


FIG. 4

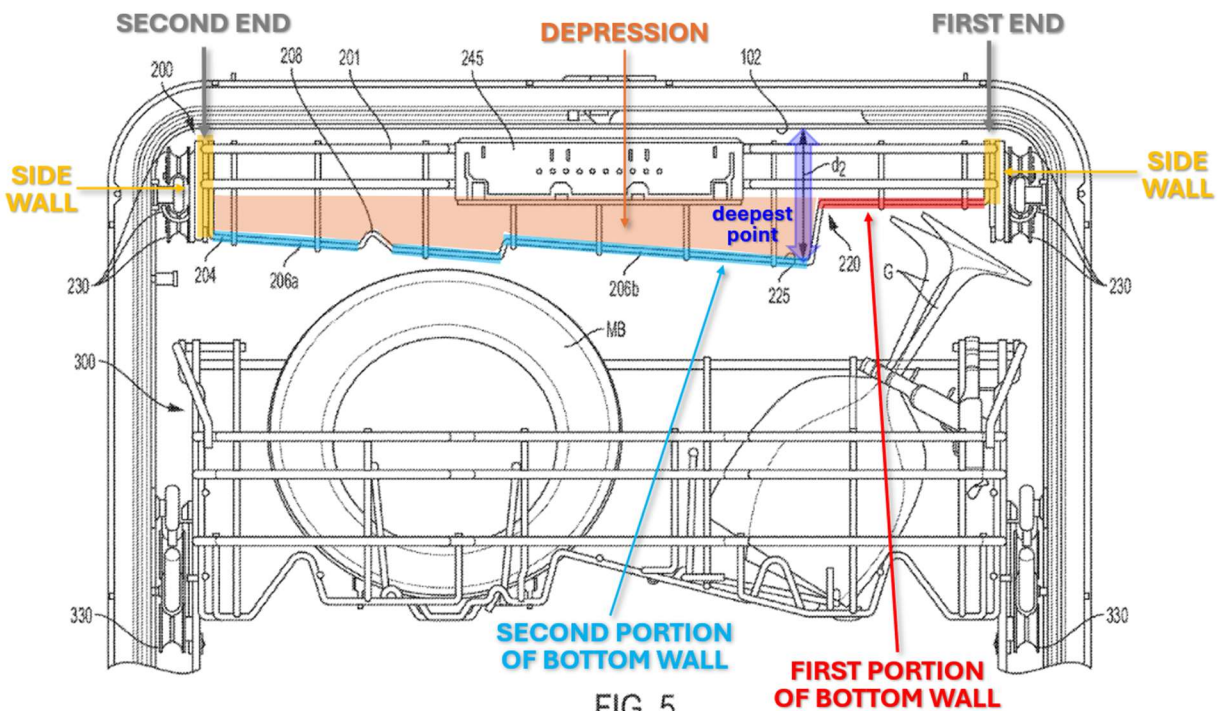


FIG. 5

g. Element 14[c(i)]: the first portion supporting a first set of utensil holders for supporting one or more utensils and

Carr teaches element 14[c(i)]. Ex-1002 ¶¶ 102–103.

Carr teaches that notch portion 220 (claimed “first portion”) supports a first set of utensil holders for supporting one or more utensils, as claimed. Specifically, Carr teaches that notch section 220 “is configured to accommodate at least one of cutlery or utensils.” Ex-1005 ¶ 18. As illustrated in Figure 3 (annotated below), a cutlery/utensil accessory insert 235 may be disposed above notch section 220. *Id.* ¶ 48. Carr’s utensil accessory insert 235 includes a first set of utensil holders which supports one or more utensils, in the same way described by the ’681 Patent: “first set of utensil holders illustrated as a set of utensil seats 126 or loops 128. The utensil holders can be configured to retain or hold a set of utensils such as, but not limited to, spoons, forks, sporks, knives, ladles, spatulas, or the like.” Ex-1001, 6:61–65. As shown below, in annotated Figure 3, the multiple raised loops in utensil insert 235 along with the insert itself may collectively be considered a set of utensil holders. Ex-1002 ¶ 103.

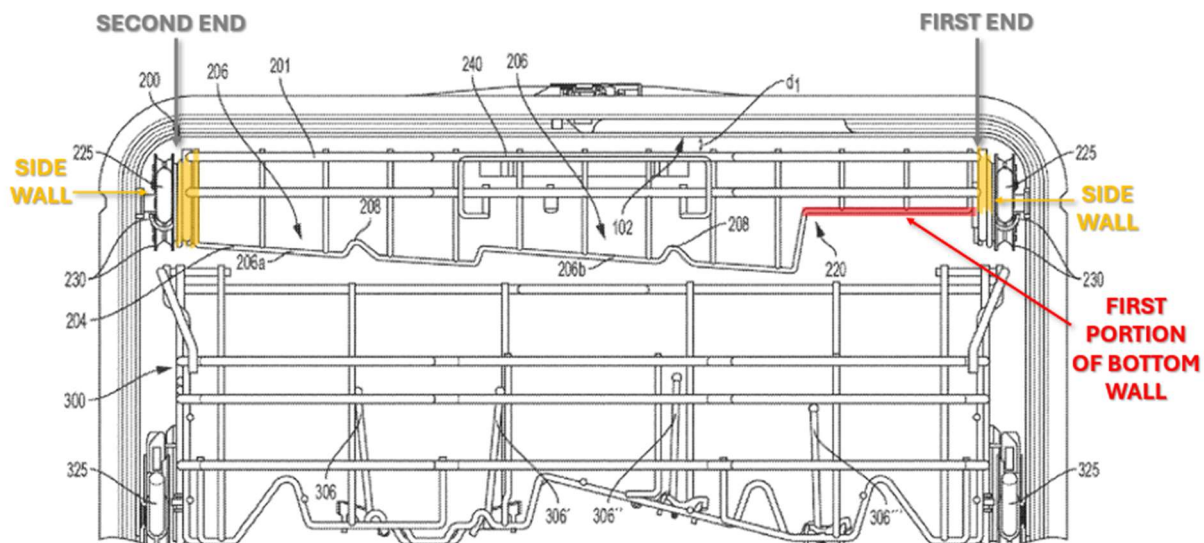


FIG. 4

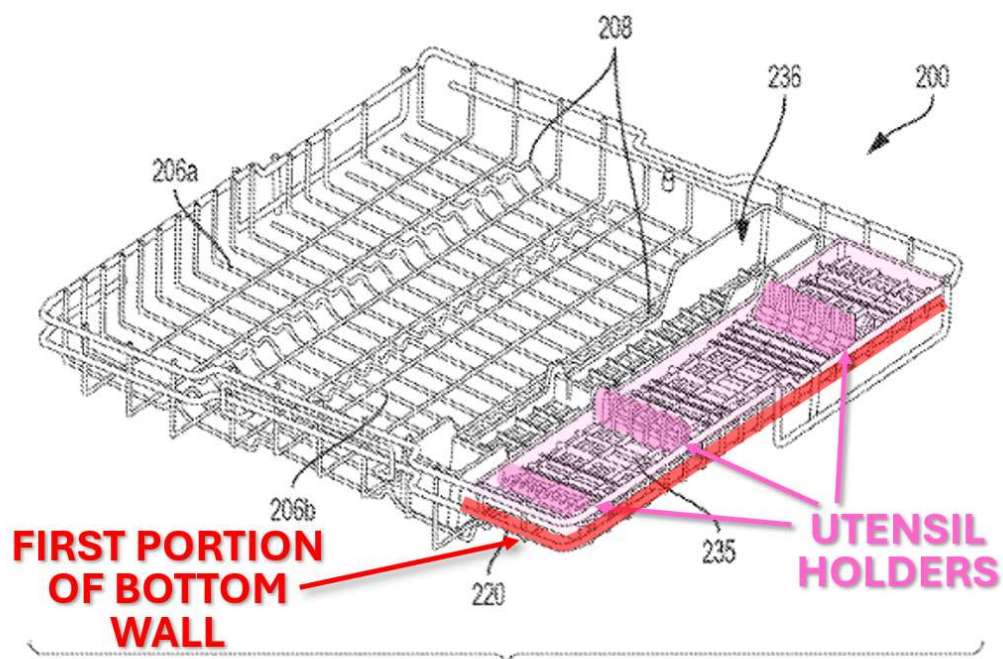
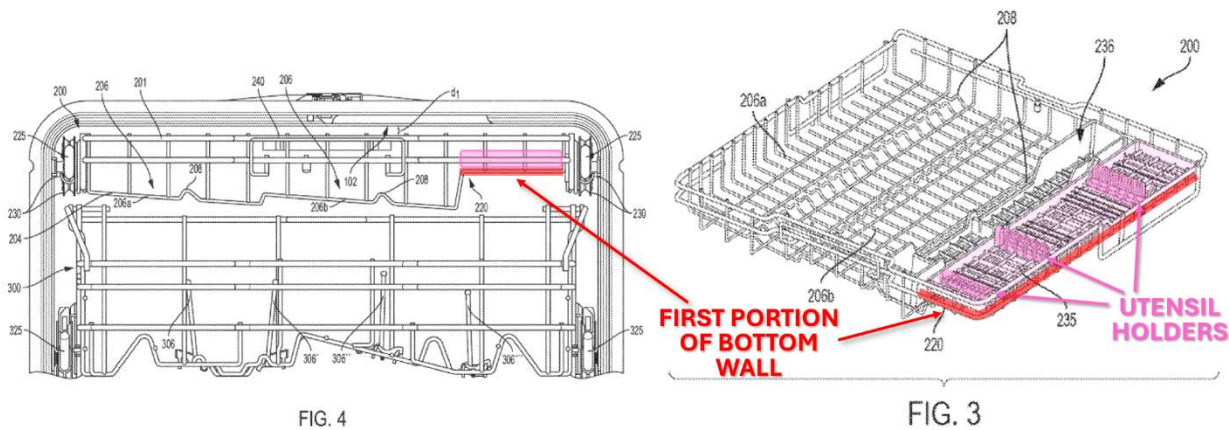


FIG. 3



h. Element 14[c(ii)]: the second portion defining a cup seat for supporting one or more cups in the depression.

Carr teaches element 14[c(ii)]. Ex-1002 ¶¶ 104–108.

Carr teaches that angled portion(s) 206 (claimed “second portion”) defines a cup seat for supporting one or more cups in the depression. As previously explained in Section XII.A.1.e (element 14[b(iii)]), each angled portion is “configured to hold bowls” at a slight tilt in order to drain water off from the bowls. Ex-1005 ¶¶ 43–44. In Figure 6, Carr shows how the angled portion(s) provide a seat for supporting one or more bowls. *Id.* ¶¶ 33, 50.⁵ Ex-1002 ¶ 105.

⁵ The rack shown in Figure 6 is the same as the rack shown in Figures 3 and 4, but utensil holder 235 accommodating cutlery appears to have been removed in Figure 6 to make room for additional bowls.

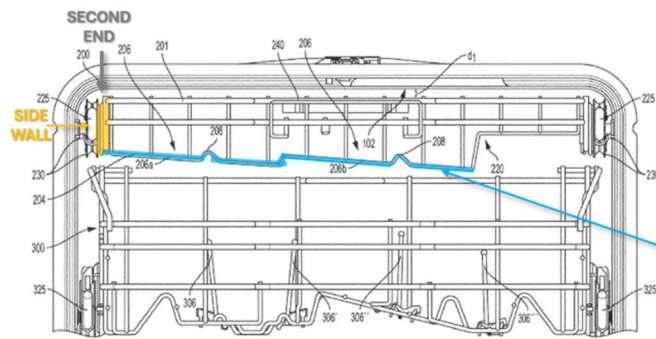


FIG. 4

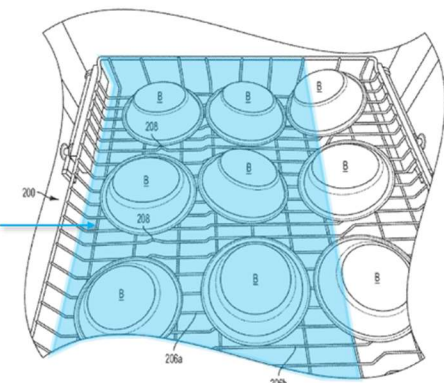


FIG. 6

While Carr's figures depict an example using bowls, Carr states that the "top washware rack 200 is configured to hold cutlery and washware . . . , *but not limited to, small dishes, bowls, cups, as well as cooking utensils.*" Ex-1005 ¶ 41 (emphasis added). As shown below in Figure 4, the depression (orange) formed by angled portion(s) 206 defines a cup seat for cups to fit on Carr's dishrack, unlike the first portion (notch section 220, red), which has a shorter height for utensils. Indeed, Carr explains that the depression formed by angled portion(s) 206 may "greatly enhance[] the versatility of the third, top washware rack 200 over conventional dishwasher configurations which are limited to holding only cutlery and other very small items due to limited spacing," by providing a "greater spacing between an upper surface of a deepest portion [] of the third, top washware rack and an inner surface of a top wall 102 of the dishwashing compartment." Ex-1005 ¶ 46.⁶ Angled portions 206

⁶ This disclosure in Carr is made in the context of discussing Figure 6, which corresponds to the same embodiment illustrated in Figures 3 and 4, annotated to label the deepest portion of the third, washware rack as "deepest portion 225." Ex-1005 ¶ 46.

may include “stopper ribs 208” “to keep bowls” or cups from sliding from front to back on the third rack. *Id.* ¶ 44. Thus, as shown in orange in Figure 4, below, Carr teaches that the depression defined by angled portion(s) 206 (claimed “second portion”) includes space to provide seats for one or more cups positioned in the depression. Ex-1002 ¶ 106.

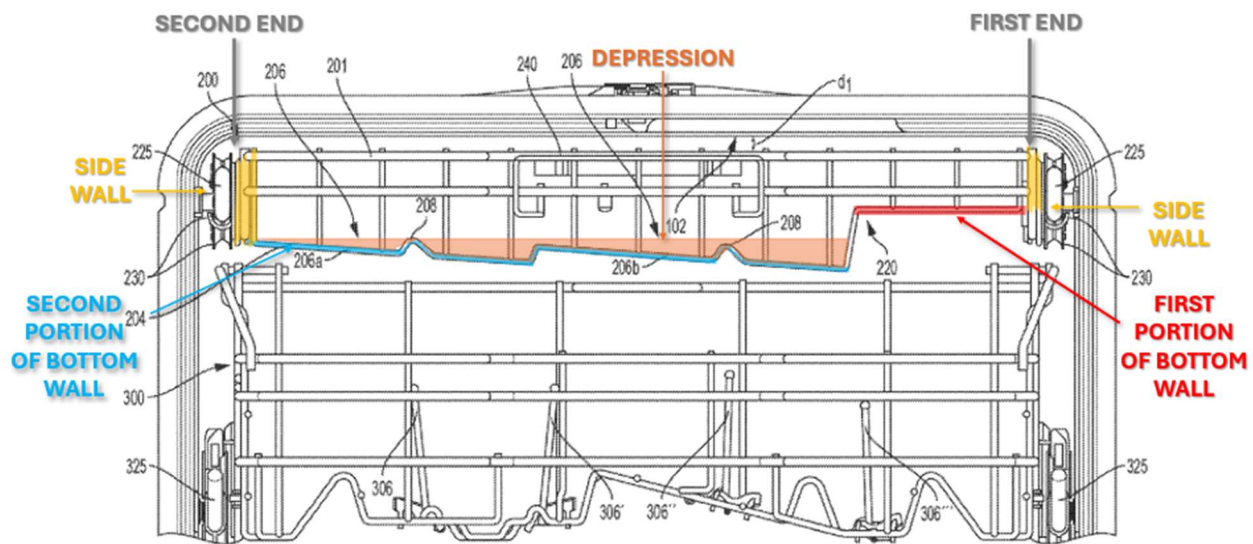


FIG. 4

In the related litigation Patent Owner has argued that “[t]he cup seat disclosed in Claim 14 of the ’681 Patent is capable of securely supporting glasses and cups of ordinary dimension along their cylindrical side.” Ex-1022. But there is nothing in the claim that requires these limitations. Specifically, the claim recites only a “cup seat.” It says nothing about the dimensions of any cup or which side of the cup is positioned on the rack. Moreover, the ’681 specification specifically teaches washing small cups, such as “measuring cups.” Ex-1001, 7:51. The ’681

specification further explains that shallow objects, such as bowls, may be placed in the cup seats: “It will be further appreciated that although illustrated as cups and mugs either the first or the second set of *cup seats 114, 115 can receive other objects* to be treated within the treating chamber 16 such as, but *not limited to, baby bottles, plates, bowls*, pans, or the like.” Ex-1001, 7:54–58 (emphasis added). Ex-1002 ¶ 107.

Here, Carr, specifically teaches that the depression formed by angled portion(s) 206 “greatly enhances the versatility” of the rack, as compared to “conventional dishwasher configurations which are limited to holding only cutlery and other very small items due to limited spacing” (Ex-1005 ¶ 46), thus enabling the rack to accommodate “washware which is larger than cutlery, such as . . . cups” to be placed in the “second container region,” (Ex-1005 ¶ 41), directly teaching the claimed cup seats. Ex-1005 ¶ 16. Regardless, the same second region also accommodates “bowls,” just like the “cup seats 114 and 115” as taught in the ’681 specification. Ex-1001, 7:54–58. Ex-1002 ¶ 108.

2. Dependent Claim 15

- a. **Element 15[a]: The automatic dishwasher of claim 14, further comprising a third portion of the bottom wall defined by an angled third planar portion relative to the substantially horizontal first portion and extending across a third portion of the bottom wall;**

Carr teaches element 15[a]. Ex-1002 ¶¶ 109–112.

Carr teaches a third portion of the bottom wall defined by an angled third planar portion relative to the substantially horizontal first portion, extending across a third portion of the bottom wall. As shown in Figure 4 below, bottom portion 204 of Carr's washware rack 200 includes an angled portion (green), which is angled away from notched portion 220 (claimed "first portion," red) and extends across the bottom wall. As described above in Section XII.A.1, bottom portion 204 of Carr's top washware rack 200 includes one or more angled portions 206 that are configured to hold bowls at a slight tilt with respect to the horizontal. Ex-1005 ¶ 43. The angled portion (green) that extends downward from notched portion 220 and allows angled portion(s) 206 (blue) to form a depression from notched portion 220 is a third angled planar portion, as claimed. Ex-1002 ¶ 110.

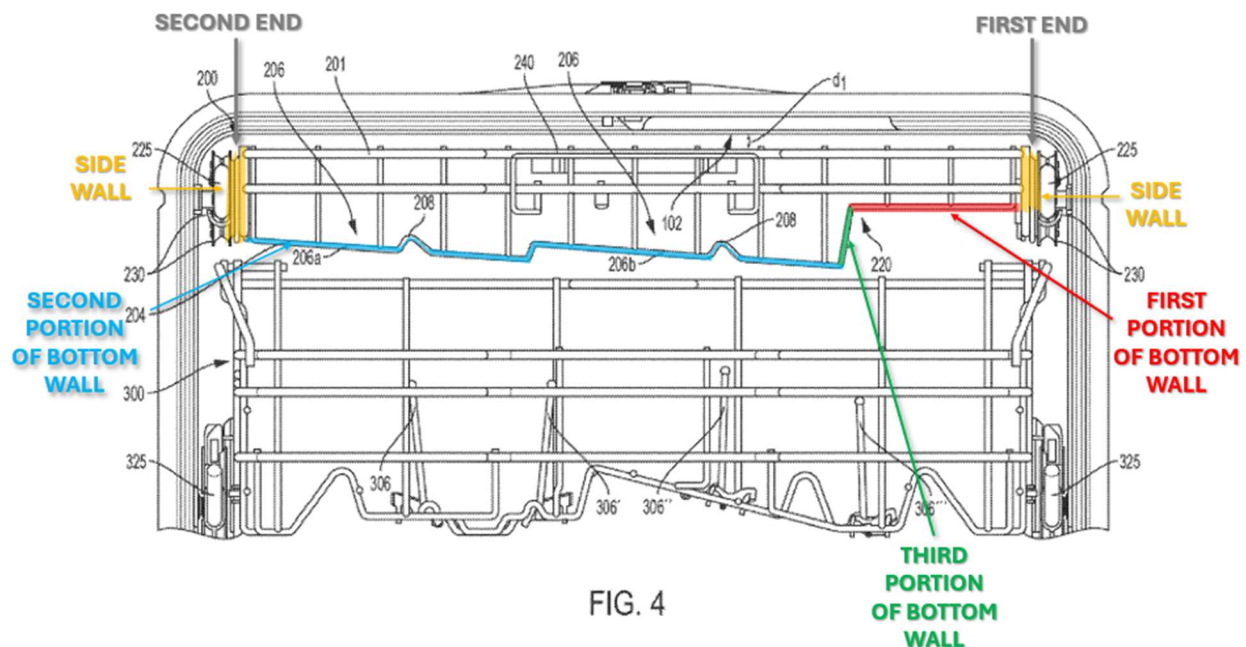
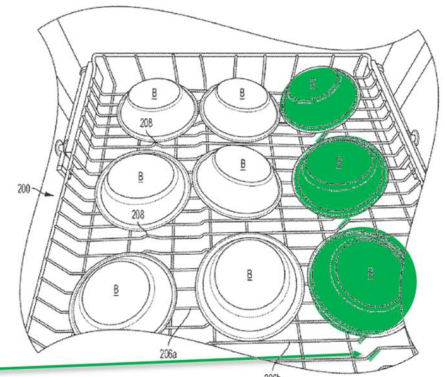


FIG. 4

In the related litigation Patent Owner has argued that “Claim 15 of the ’681 Patent discloses a minimum of three portions *of the top rack*.” This is not correct. The claim specifically recites “a third portion *of the bottom wall*.” This is an important distinction because Patent Owner attempts to distinguish Carr’s third bottom wall portion on an alleged failure to teach what PO believes is the function of the “third portion” of the dish rack. *See, e.g.*, Ex-1022 ¶ 157 (“As shown in the figures of the ’681 Patent, each ‘portion’ disclosed in the Asserted Claims is designed to be able to securely hold items for washing.”); ¶ 158 (“Carr discloses no functional third portion as disclosed in the ’681 Patent.”). But the claim recites no functional requirements for the “third portion of the bottom wall.” Rather, it merely recites the structural features that make up this third portion of the bottom wall of the dish rack. As explained above, those structural features are taught by Carr. Ex-1002 ¶ 111.

Regardless, even if there were some functional requirement for the “third portion of the bottom wall” to “hold items for washing” (but there is no such requirement), this feature is plainly taught by Carr. Specifically, in Carr’s Figure 6, the bowls highlighted in green are placed over the third angled portion, holding them in place for washing. Ex-1002 ¶ 112.

THIRD
PORTION
OF BOTTOM
WALL



b. Element 15[b]: the third portion connected to and extending from the first portion and angled away from the first portion.

Carr teaches that the third portion is connected to and extends from the first portion and is angled away from the first portion. As explained in the previous section, Carr's third portion (green) is connected to and extends from the notch portion 220 (claimed "first portion," red) in order to provide the depression defined by angled portion(s) 206 (blue). Carr's third portion is angled away from the first portion by being angled greater than 90 degrees from notch portion 220, as highlighted below in Figure 4 in purple. Ex-1002 ¶ 114.

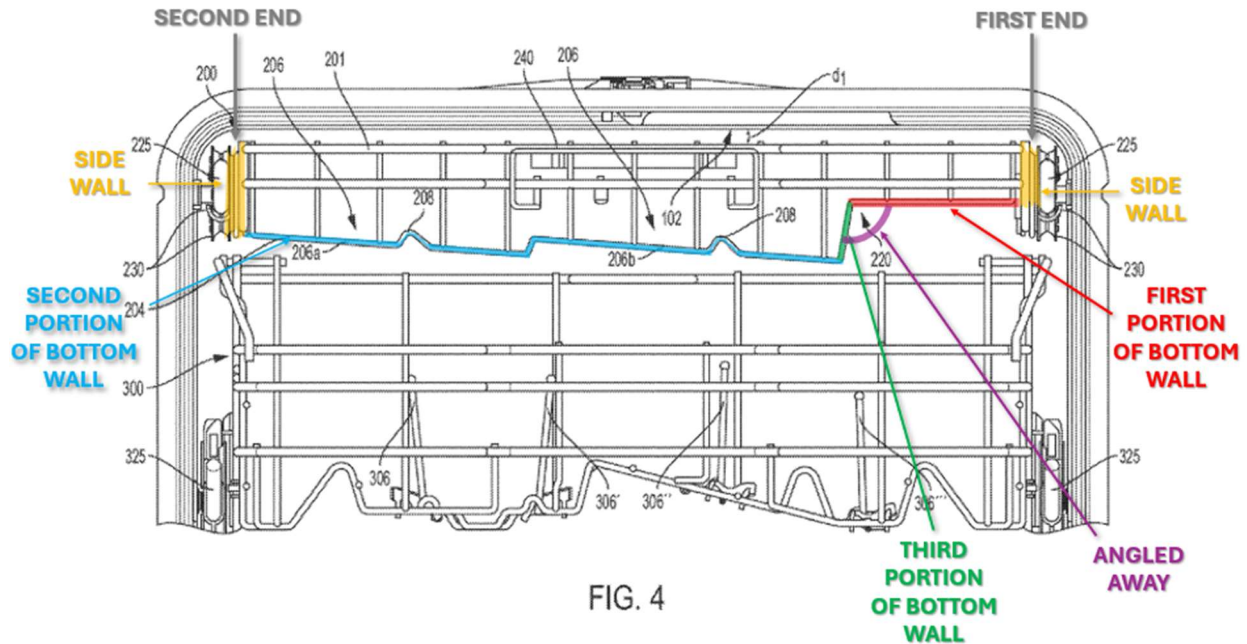


FIG. 4

B. Ground 2: Claims 14-16 are obvious over Mailander

1. Independent Claim 14

- a. Element 14[pre]: An automatic dishwasher configured to implement an automatic treating cycle of operation, comprising:**

Mailander teaches the preamble of Claim 14, to the extent it is limiting.

Ex-1002 ¶¶ 115–116.

Mailander discloses a “washing items support” for a “dishwasher” that includes “a washing space that can be sealed by a door, the washing space having at least one spraying device and at least one removable crockery basket therein.” Ex-1006, Cl. 22. As Mailander explains, by enabling “pieces of cutlery to be received individually on each side,” the washing items support “prevents the formation of accumulations of water,” and enables the washing water “to run off the pieces of

cutlery unhindered,” which “can [] considerably shorten the **drying programme** time.” Ex-1006 ¶ 7. A POSITA would have understood that Mailander’s reference to a “drying programme time” refers to the duration of the dishwasher’s programmed drying cycle. Ex-1002 ¶ 116. Indeed, it would have been well-known to a POSITA that dishwashers operate through automatic programs that sequentially perform washing and drying steps. *Id.* Accordingly, Mailander teaches an automatic dishwasher configured to implement an automatic treating cycle of operation, as claimed.

**b. Element 14[a]: a tub defining a dish treating chamber;
and**

Mailander teaches element 14[a]. Ex-1002 ¶¶ 117–118.

Mailander discloses a dishwasher having a washing space that receives dishware during operation. For instance, Mailander teaches a dishwasher that includes “a washing space that can be sealed by a door,” within which crockery basket(s) and “a washing items support assembly” are arranged to hold “cutlery” and other “washing item[s]” during washing. Ex-1006, Cl. 22. A POSITA would have understood that the disclosed “washing space” corresponds to the interior chamber of the dishwasher, within which dishes are treated with washing fluid and drying heat. Ex-1002 ¶ 118. In conventional dishwasher terminology, this chamber is formed by the dishwasher tub, which defines the access opening for the treating

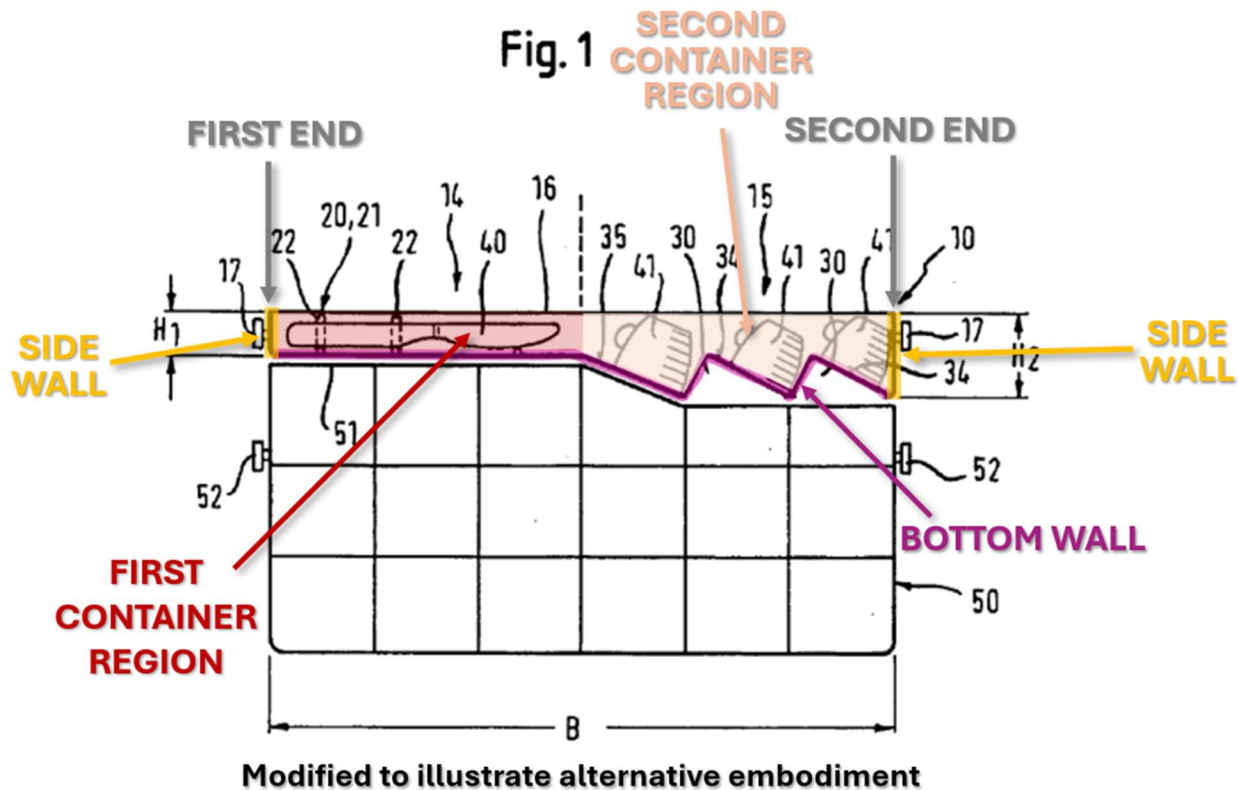
chamber. *Id.* As Mailander explains, its open-faced opening to the treating chamber is further “sealed by a door,” thus corresponding to the claimed tub in the same manner described by the ’681 patent.

- c. **Element 14[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,**

Mailander teaches element 14[b(i)]. Ex-1002 ¶¶ 119–122.

Mailander’s “washing items support 10” corresponds to “a dish rack located within the dish treating chamber,” as claimed. Specifically, Mailander teaches that washing items support 10 corresponds to “a kind of cutlery drawer which is arranged in addition to the crockery baskets provided in the dishwasher.” Ex-1006 ¶ 12. As Mailander explains, “washing items support 10” is within “the washing space of a dishwasher.” Ex-1006 ¶ 25.

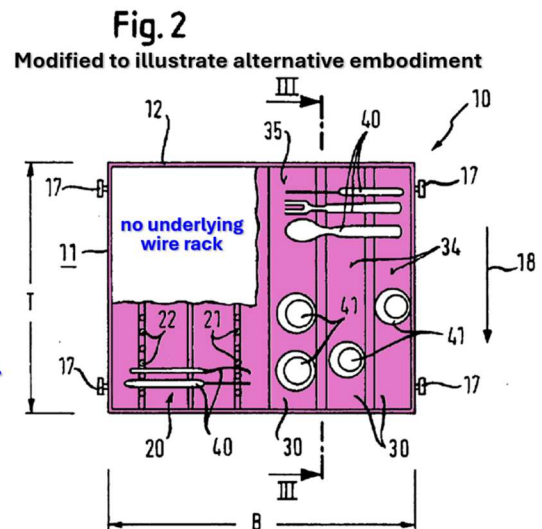
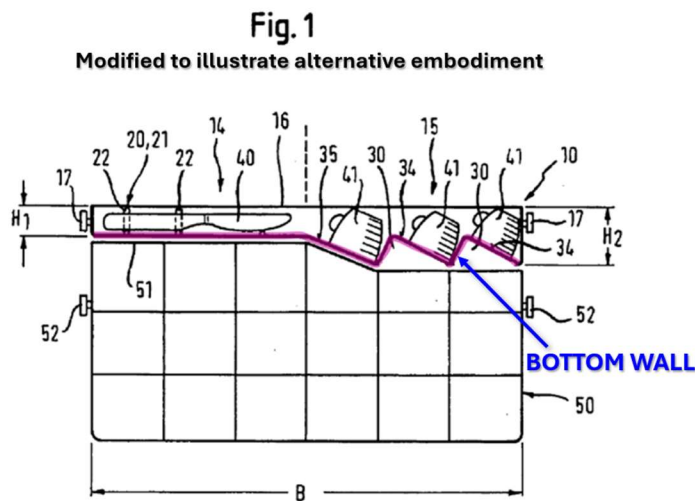
As illustrated in annotated Figure 1, below, Mailander’s washing items support 10 has a first end spaced from a second end and comprising a bottom wall, consisting of a bottommost structure from which extends a peripheral wall defining side walls of the dish rack. Ex-1002 ¶¶ 119–120.



As illustrated above, Mailander’s dish rack has a first end spaced from a second end in order to accommodate two container regions, first container region 14 (red) and second container region 15 (peach), “each of them occupying approximately half [the] width B of washing items support 10.” Ex-1006 ¶ 25.

Notably, in the related district court litigation, PO argues that the inclined “support surface[s]” of Mailander’s “washing items holders 30” (Ex-1006 ¶ 27) do not form part of the bottom wall of Mailander’s rack. Ex-1022 (Tanbour Reply Decl.) ¶ 124. But PO relies on embodiments of Mailander’s rack in which washing items holders 30 correspond to inserts placed within a base wire basket not part of the bottom wall itself. *Id.* ¶ 123 (asserting that “the washing items holders” in

Mailander are “‘designed as inserts’ and ‘releasably inserted’ and placed on the bottom wall of the dish rack”); *see also* Ex-1006 ¶¶ 27–28 (similar). But PO ignores that Mailander also teaches embodiments in which washing item holders 30, together with utensil insert 20, form part of the bottommost structure of the bottom wall itself, explaining that “[i]n a further embodiment, not shown, washing items support 10 may consist of only one material, e.g. a plastic, i.e. ***without base basket 11.***” Ex-1006 ¶ 28 (emphasis added). Ex-1002 ¶ 122.



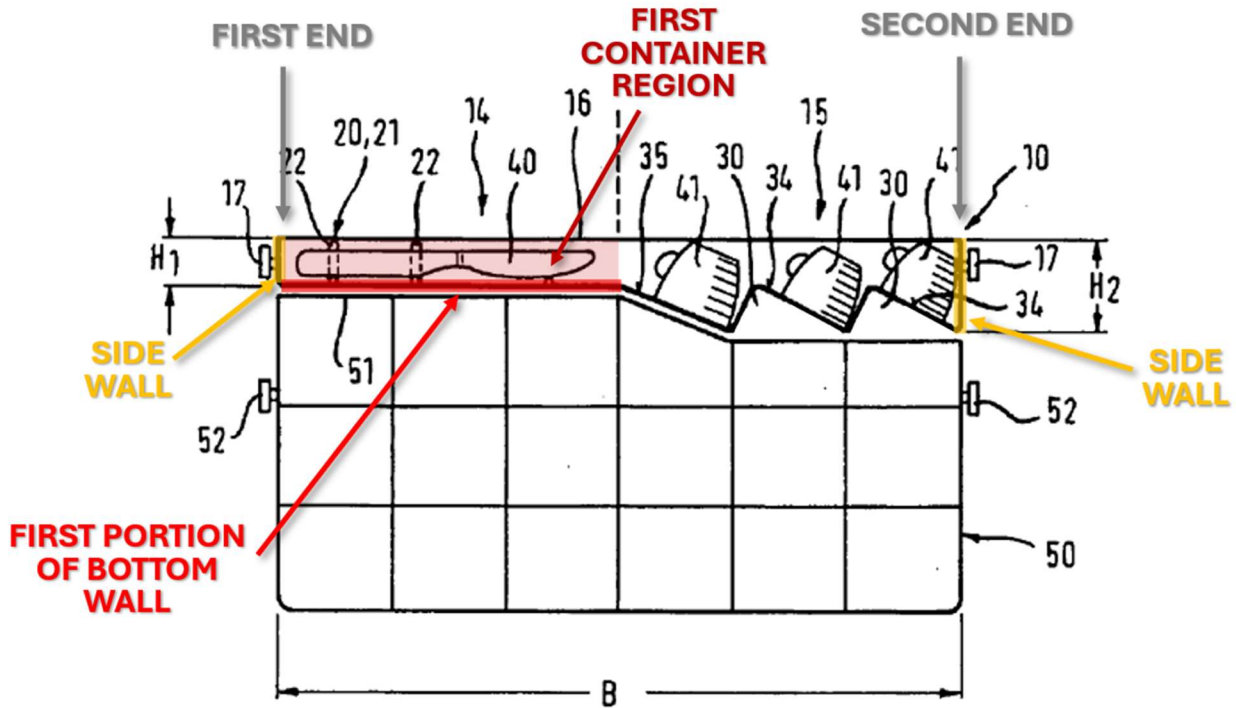
A POSITA would have understood that, in these embodiments, the inclined surfaces of each of Mailander’s washing items support 30 and the bottom surface of utensil insert 20 correspond to the bottom wall of Mailander’s rack, as illustrated in the modified version of Figures 1 and 2, above. Ex-1002 ¶ 122.

- d. **Element 14[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**

Mailander teaches element 14[b(ii)]. Ex-1002 ¶¶ 123–124.

Mailander teaches that, at the first end of washing items support 10 (claimed “dish rack”), the bottom wall has a first portion defined by a substantially horizontal planar portion extending across a first portion of the bottom wall, as claimed. Specifically, Mailander teaches that washing items support 10 includes “a first container region designed as a cutlery container, on which pieces of cutlery **can be placed horizontally**,” as illustrated in annotated Figure 1, below. Ex-1006 ¶ 11 (emphasis added).

Fig. 1



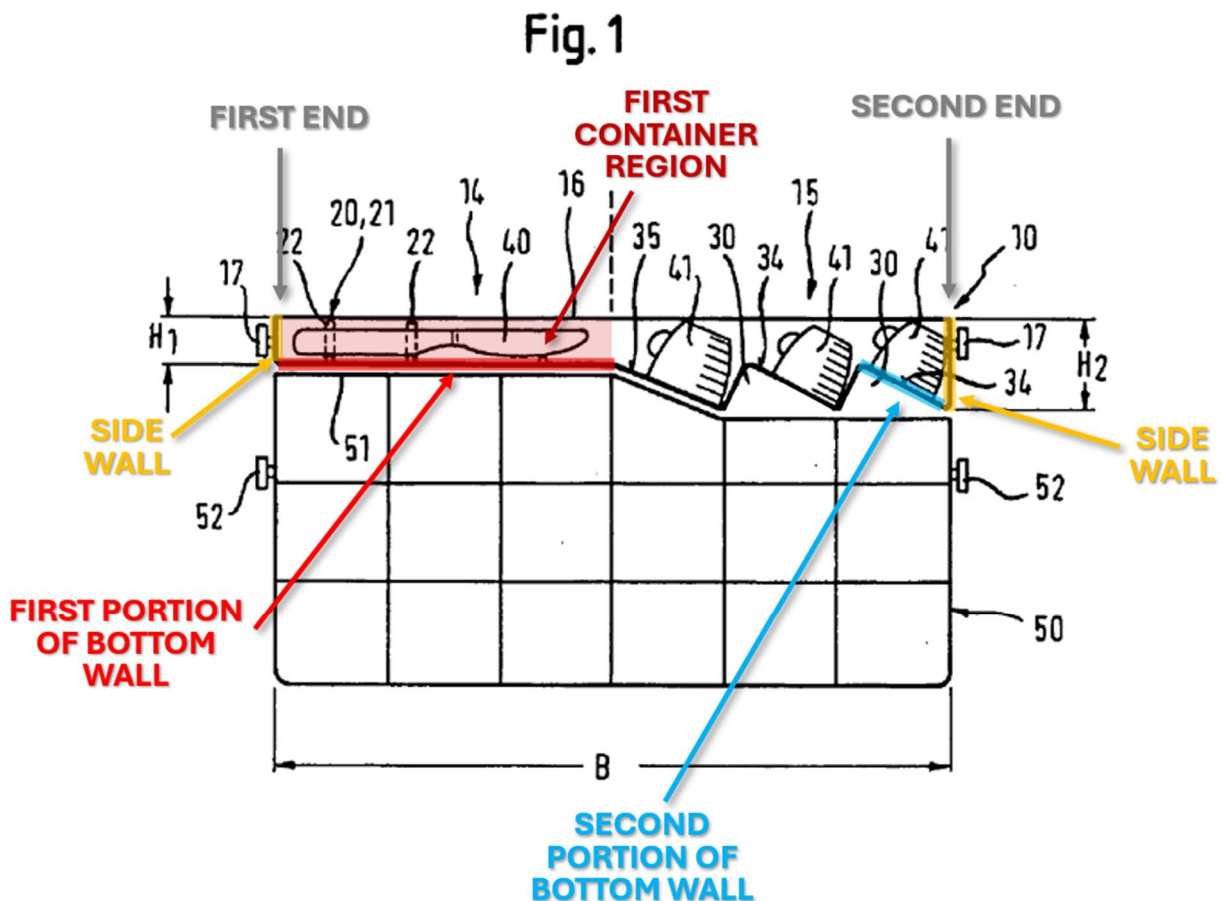
As Mailander explains, this container portion of washing items support 10 is “preferably [] **essentially horizontal**,” to “enable[] the pieces of cutlery to be positioned so that the washing water is able to run off unhindered.” *Id.* ¶ 13; Ex-1002 ¶ 124.

- e. Element 14[b(iii)]: at the second end of the dishrack, a second portion is angled with respect to the first portion and defining a depression;**

Mailander teaches element 14[b(iii)]. Ex-1002 ¶¶ 125–128.

Mailander teaches that, at the second end of washing items support 10 (the claimed “dish rack”), the bottom wall has a second portion that is angled with respect to the first portion and defines a depression, as claimed. Specifically, Mailander

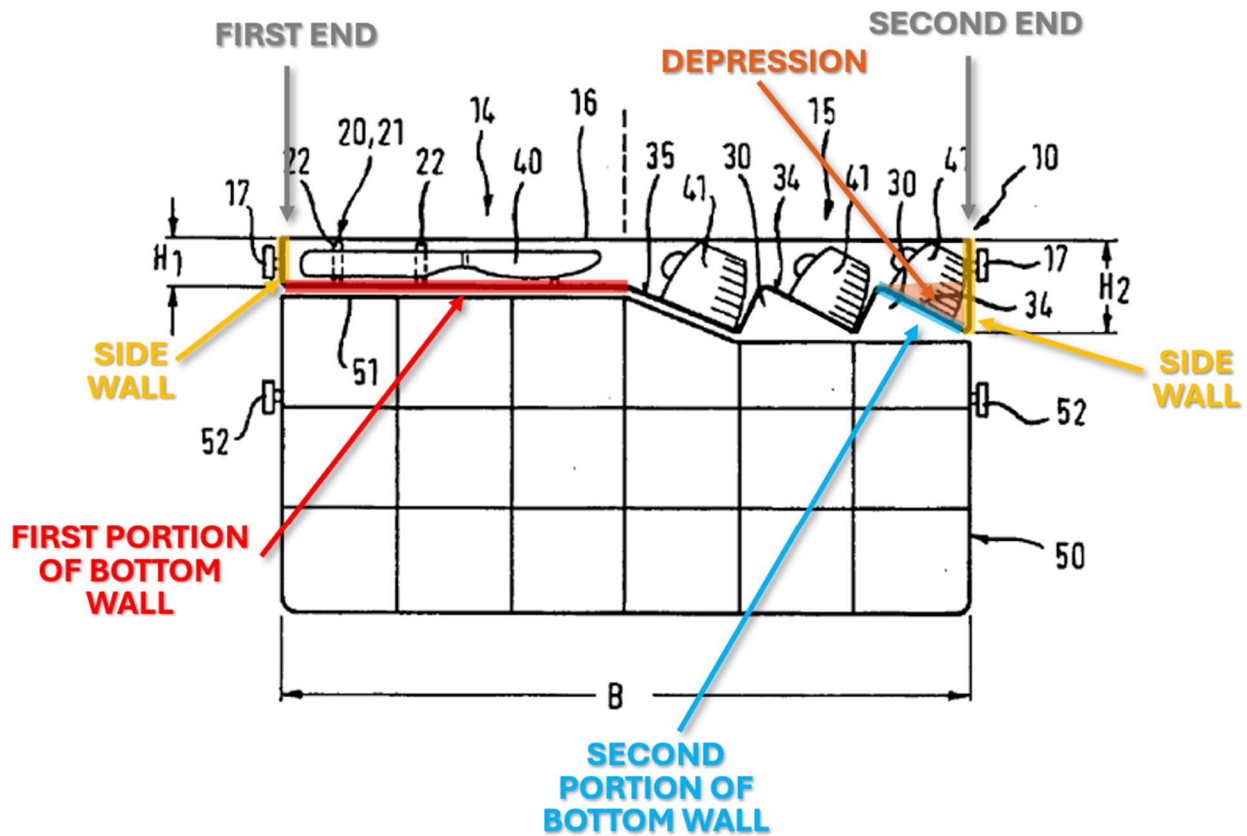
teaches that washing items support 10 includes second container region 15, which is designed with “washing items holders 30, each of which has a support surface 34 inclined to the horizontal,” so that pieces of crockery can be placed at an angle for an improved drying effect. Ex-1006 ¶ 27. As illustrated in annotated Figure 1, below, the rightmost support surface 34 is angled downward relative to the horizontal bottom wall of first container portion 14 (claimed “first portion”), meeting the rightmost side wall at its lowest point. Specifically, as shown in the figure below (right hand side), the second portion of the bottom wall terminates directly at the peripheral wall. Ex-1002 ¶ 126.



As explained for Element 14[b(i)], while Mailander teaches that, in certain embodiments, washing item holders 30 correspond to inserts supported on an underlying wire rack (Ex-1006 ¶¶ 27–28), Mailander also teaches embodiments in which washing item holders 30, form part of the bottom wall itself: “In a further embodiment, not shown, washing items support 10 may consist of only one material, e.g. a plastic, i.e. ***without base basket 11.***” Ex-1006 ¶ 28 (emphasis added). A POSITA would have understood that, in these embodiments, the inclined surfaces of each of Mailander’s washing items support 30 correspond to a portion of the bottom wall of Mailander’s rack, as illustrated in the modified version of Figure 1, above. Ex-1002 ¶ 127.

Mailander’s rightmost washing items holder 30 and support surface 34 also define a depression. As explained above, support surface 34 provides an inclined surface for crockery items to be placed at an angle. Mailander teaches that support surface 34 may support “smaller washing items, e.g. cups, shallow glasses, dessert bowls, ...” Ex-1006 ¶ 27. As illustrated in annotated Figure 1, below, the rightmost support surface 34 defines a depression (orange) within which a cup may be supported at an angle. Ex-1002 ¶ 128.

Fig. 1



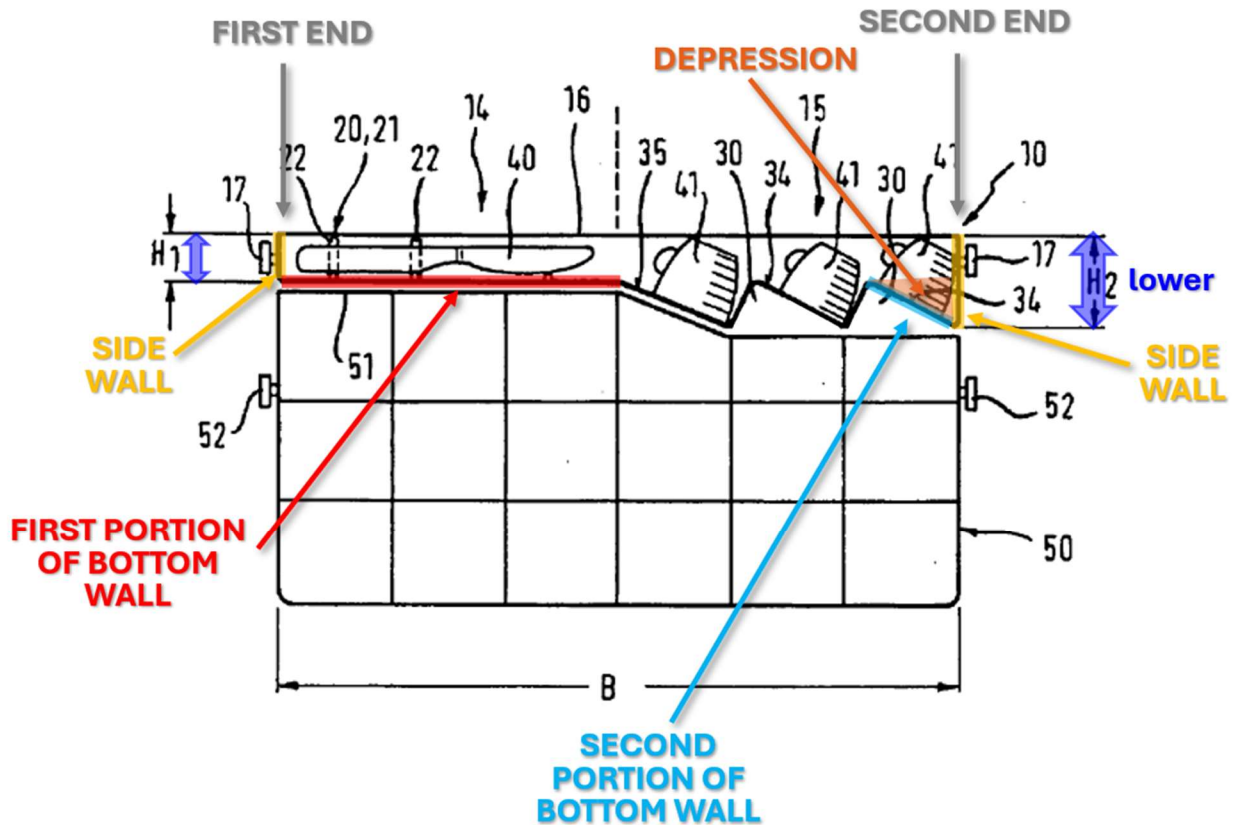
- f. **Element 14[b(iv)]: the depression extending lower than the first portion relative to the peripheral wall;**

Mailander teaches element 14[b(iv)]. Ex-1002 ¶¶ 129–130.

Mailander teaches that the depression defined by the rightmost support surface 34 extends lower than the horizontal cutlery supporting portion (claimed “first portion”) relative to the peripheral wall. In particular, Mailander teaches that washing items support 10 has “a height H1 along first container region 14” (Ex-1006 ¶ 26) and, “in the second container region, a height H2 which is greater than height H1 (*id.* ¶ 29). Further, Mailander teaches that “[t]he bottom end of first container

region 14 is higher in the vertical direction than the bottom end of second container region 15 in the vertical direction.” Ex-1006 ¶ 29. Thus, as illustrated in annotated Figure 1, below, the depression (orange) defined by support surface 34 extends lower than the first portion (red) relative to the peripheral wall. Ex-1002 ¶ 130.

Fig. 1



- g. Element 14[c(i)]: the first portion supporting a first set of utensil holders for supporting one or more utensils and**

Mailander teaches element 14[c(i)]. Ex-1002 ¶¶ 131–132.

Mailander teaches that first container region 14 (the bottom of which corresponds to the claimed “first portion”) is “designed as a cutlery container, on

which pieces of cutlery can be placed horizontally.” Ex-1006 ¶ 11. As Mailander explains, this cutlery container includes “first cutlery containers 21 and cutlery holders 22,” which are used “to arrange pieces of cutlery 40 sorted, lying one next to the other, in the first container region throughout the depth of washing items support 10.” *Id.* ¶ 26. Collectively, Mailander’s cutlery containers 21 and cutlery holders 22, illustrated in annotated Figures 1 and 2, below, correspond to the claimed “first set of utensil holders.” Ex-1002 ¶ 132.

Fig. 1

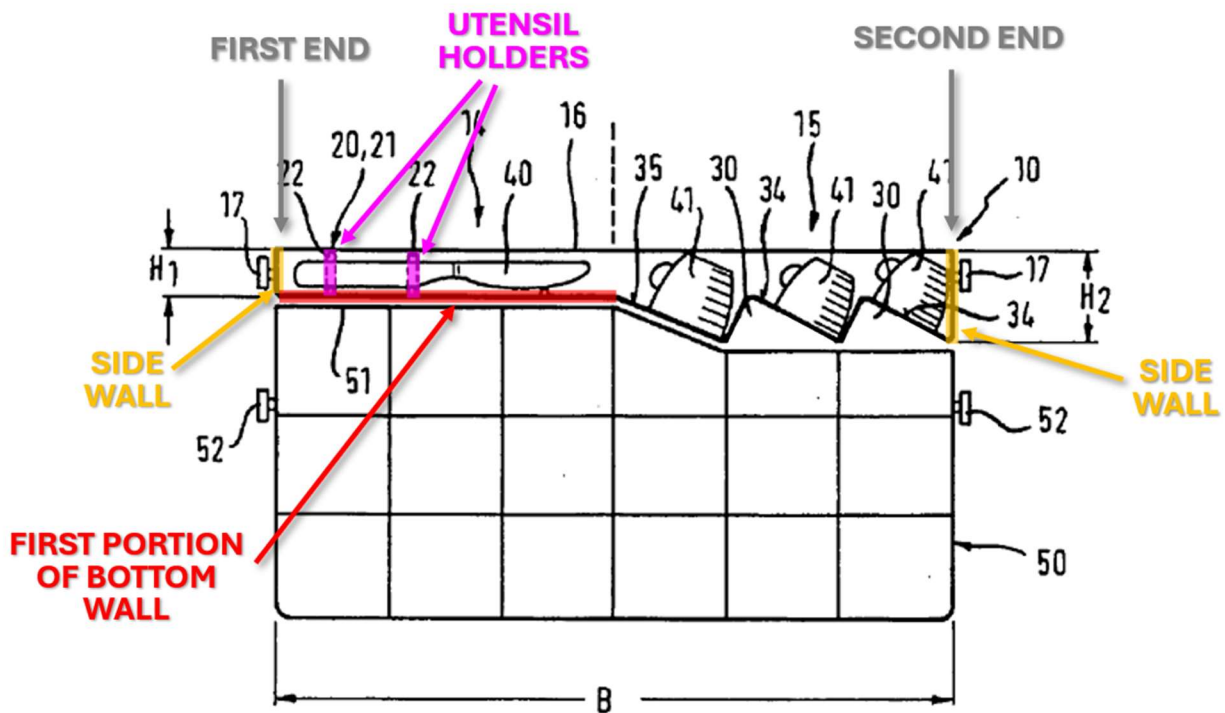
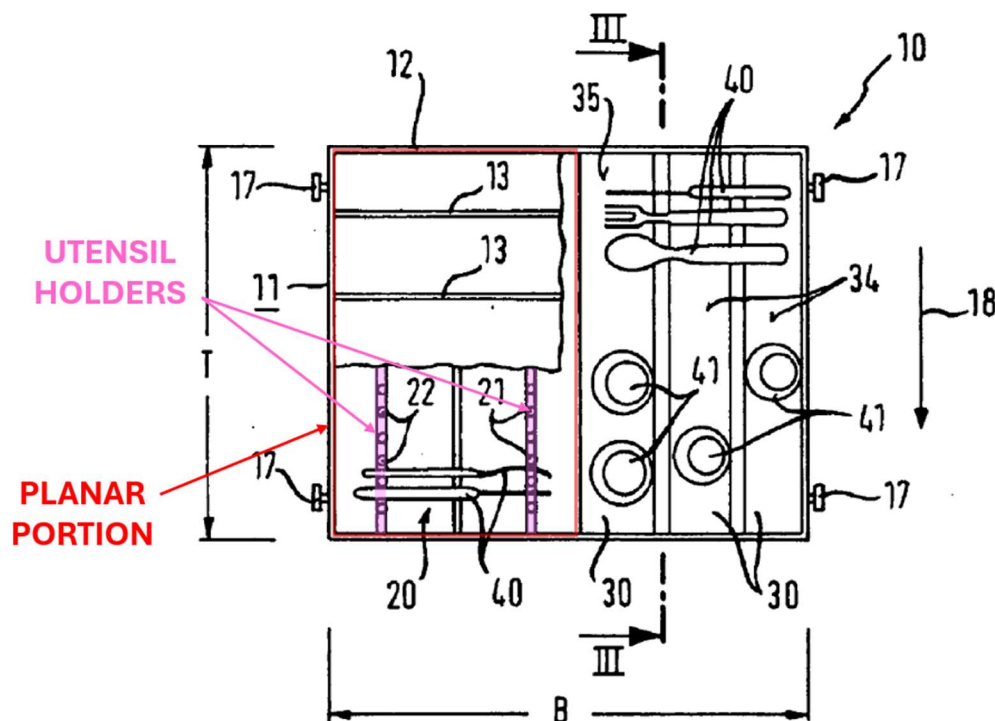


Fig. 2

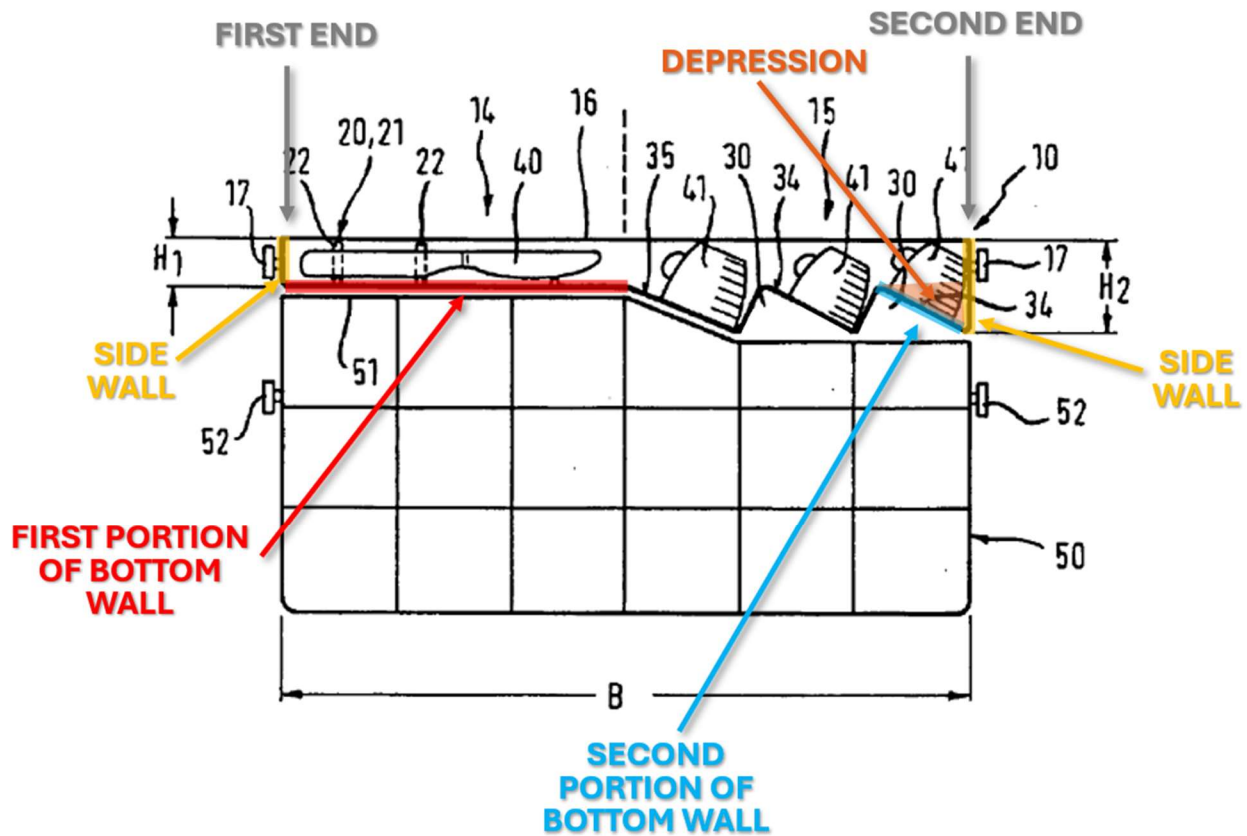


- h. Element 14[c(ii)]: the second portion defining a cup seat for supporting one or more cups in the depression.**

Mailander teaches element 14[c(ii)]. Ex-1002 ¶¶ 133–134.

As explained for Element 14[b(iii)], and illustrated in annotated Figure 1, below, Mailander teaches that the rightmost support surface 34 (claimed “second portion”) defines a depression (orange) within which a cup may sit at an angle “inclined to the horizontal” Ex-1006 ¶ 27.

Fig. 1



Accordingly, Mailander teaches that this support surface 34 (claimed “second portion”) defines a cup seat for supporting one or more cups in the depression. Ex-1002 ¶ 134.

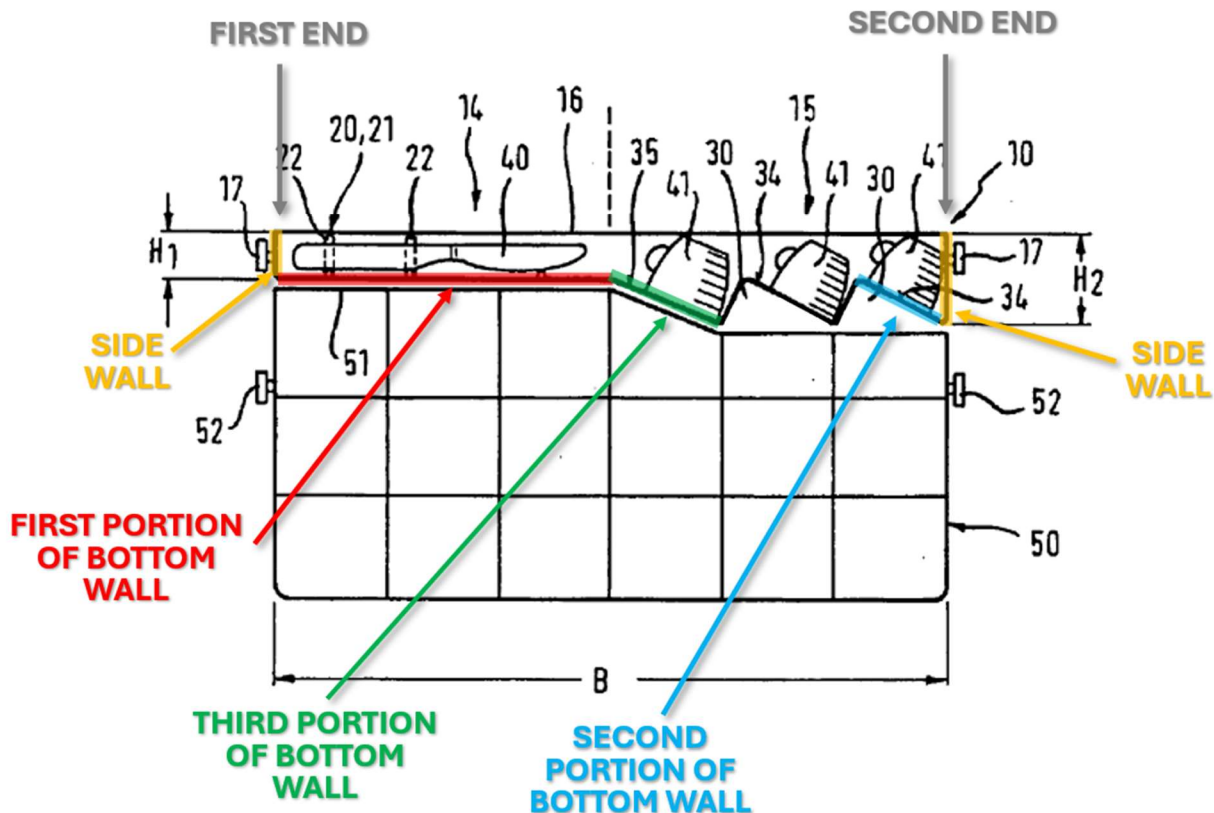
2. Dependent Claim 15

- a. **Element 15[a]:** The automatic dishwasher of claim 14, further comprising a third portion of the bottom wall defined by an angled third planar portion relative to the substantially horizontal first portion and extending across a third portion of the bottom wall;

Mailander teaches element 15[a]. Ex-1002 ¶¶ 135–137.

Mailander teaches a “transition region between height H2 and height H1, which is assigned to the second container region, [and] functionally represents a support surface 35.” Ex-1006 ¶ 29. As illustrated in Figure 1, below, transition region 35 is angled downward relative to the substantially horizontal bottom wall of first container region 14 (claimed “first portion”), in order to transition from height H1 of first container region 14 down to height H2 of second container region 15. Ex-1002 ¶ 136.

Fig. 1



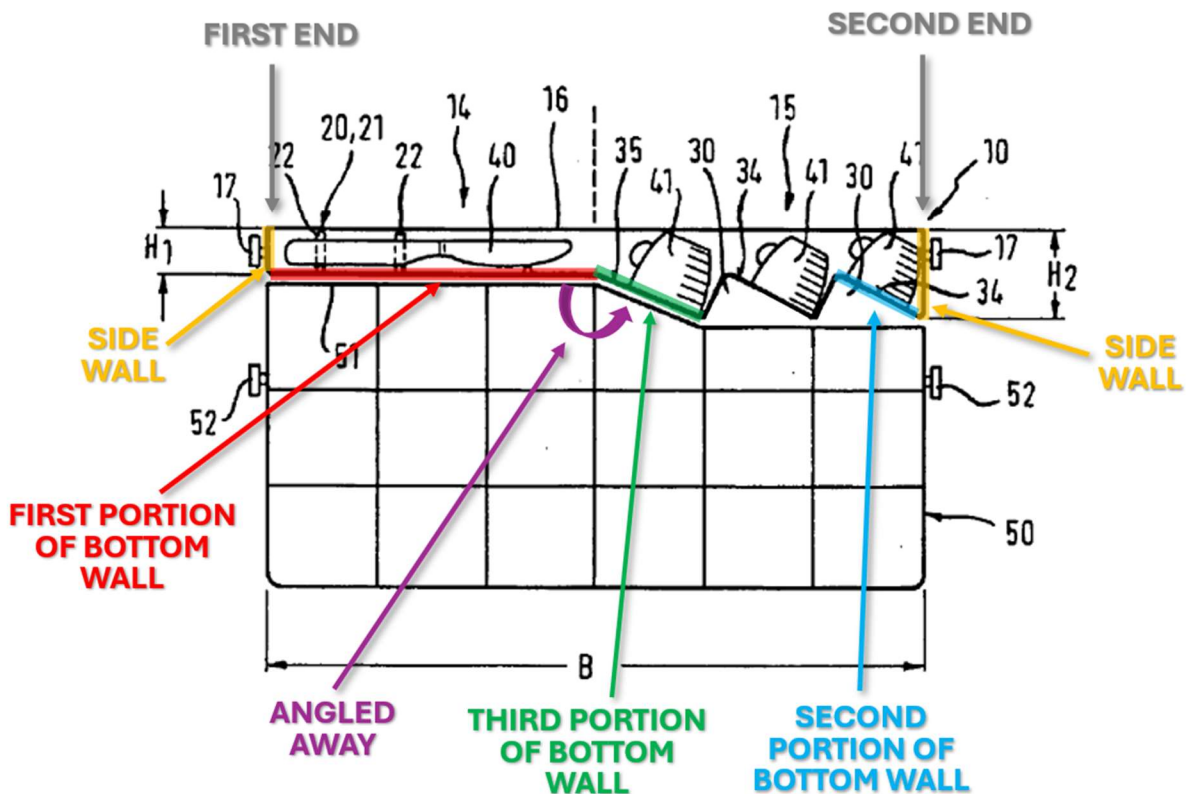
As explained for Element 14[b(i)], in embodiments in which “washing items support 10 may consist of only one material, e.g. a plastic, i.e. *without base basket 11*” (Ex-1006 ¶ 28) (emphasis added), transition region 35—like support surfaces 34—corresponds to a portion of the bottom wall of Mailander’s rack. Ex-1002 ¶ 137. In such embodiments, transition region 35 (green) corresponds to a third portion of the bottom wall, which consists of a planar portion that is angled, and extends across a third portion of the bottom wall, as claimed.

b. Element 15[b]: the third portion connected to and extending from the first portion and angled away from the first portion.

Mailander teaches element 15[b]. Ex-1002 ¶¶ 138–139.

Mailander’s transition region 35 is connected to, extends from, and is angled away from the substantially horizontal bottom wall of first container region 14 (claimed “first portion”). As explained for Element 15[a], transition region 35 is angled in order to transition from the first container region height H1 to the second container region height H2. Ex-1006 ¶ 29. Therefore, Mailander’s transition region 35 (claimed “third portion”) is connected to and extends from the bottom of first container region 14 (claimed “first portion”), and is angled away from first container region 14, as illustrated in annotated Figure 1, below. Ex-1002 ¶ 139.

Fig. 1

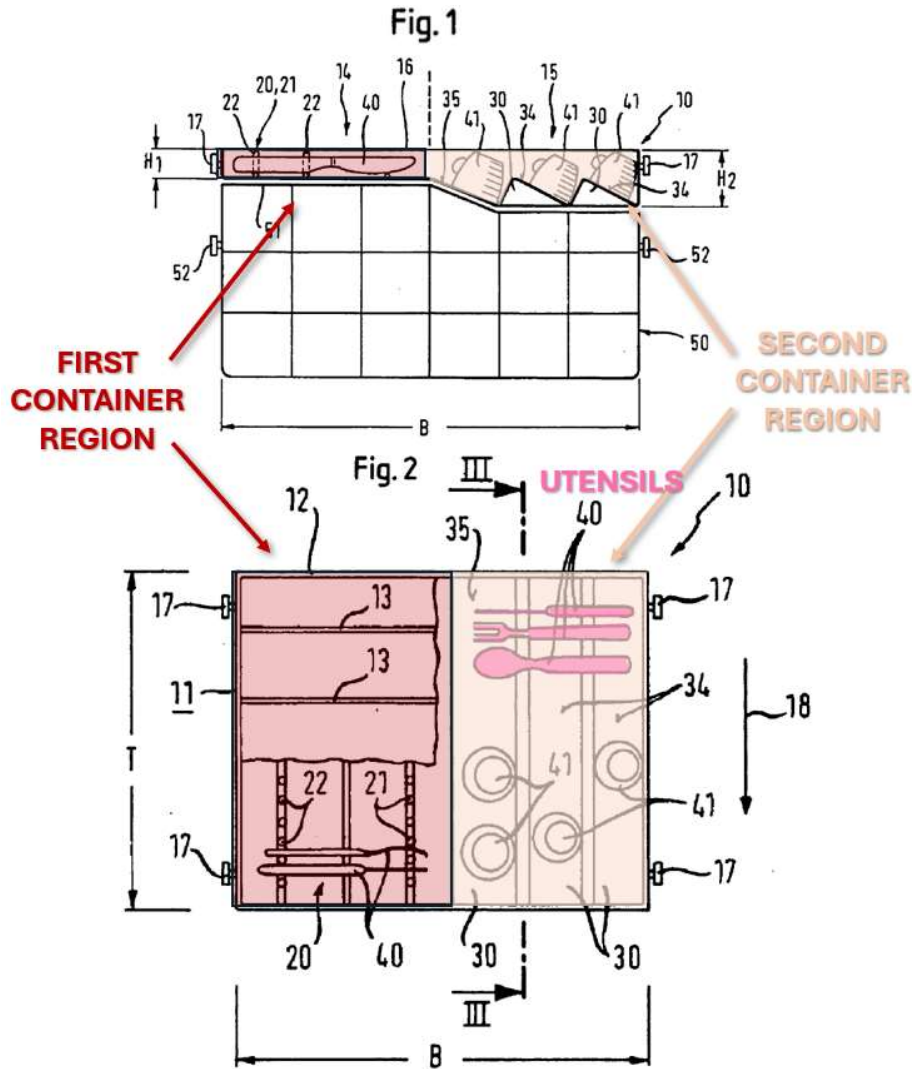


3. **Dependent Claim 16:** The automatic dishwasher of claim 15, wherein the second portion supports a plurality of spaced pins defining spaced slots for supporting one or more utensils.

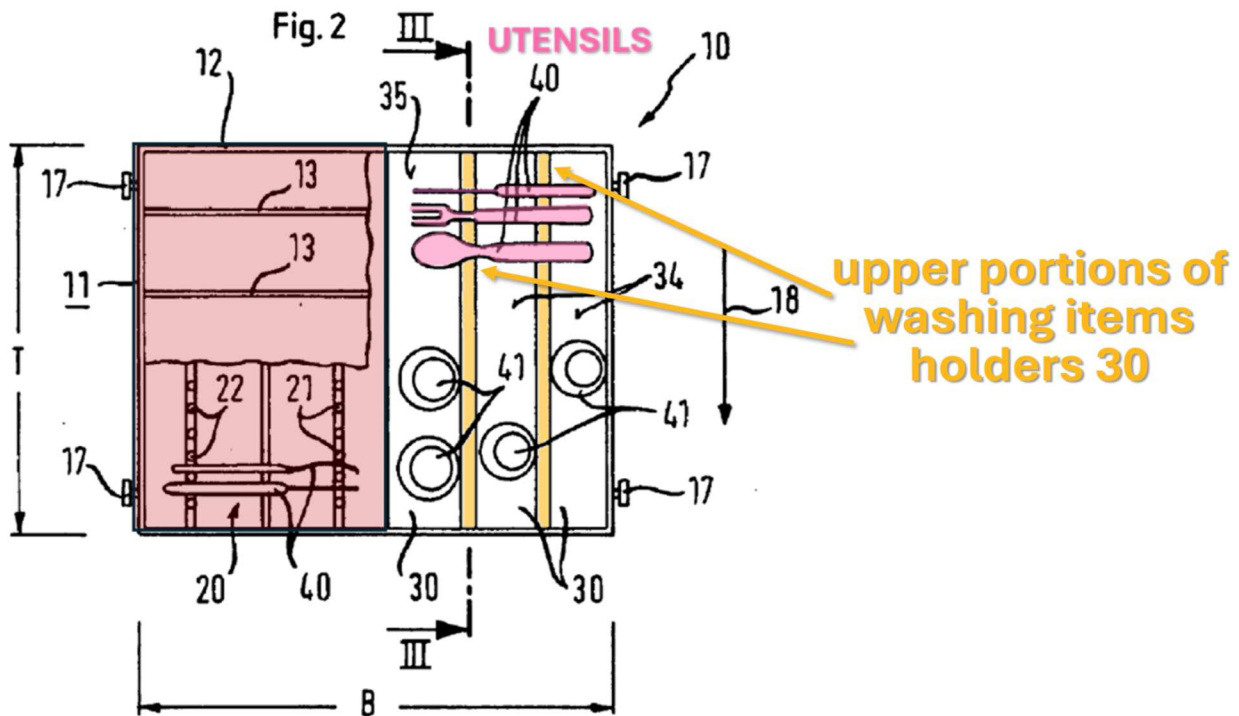
Mailander teaches claim 16. Ex-1002 ¶¶ 140–146.

Mailander teaches that the versatility of its disclosed dish rack may be increased by configuring “second container region 15” to accommodate pieces of “cutlery 40” in addition to cups. Ex-1006 ¶ 31; *see also id.* ¶ 12 (“Whilst the first container region is classically designed for the ordered receiving of pieces of cutlery, [the] design of the second container region enables both **pieces of cutlery** and other

pieces of crockery to be placed in it.”) (emphasis added). This is illustrated in Figure 2, annotated below. Ex-1002 ¶ 141.

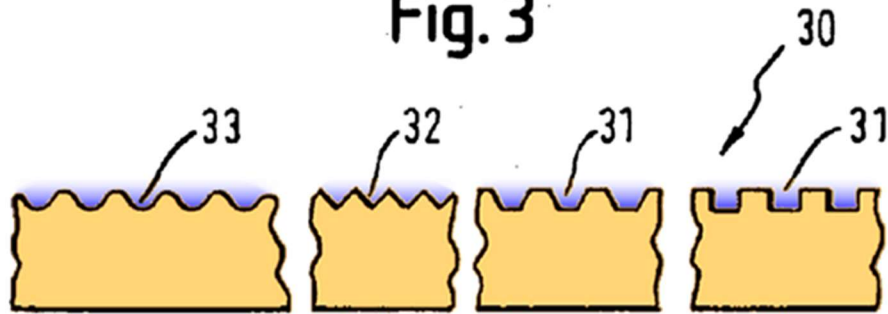


In particular, Mailander explains that the “upper sections” of “washing items holders” 30 (illustrated in orange, below) may be used to support utensils within second container region 15. Ex-1002 ¶ 142.



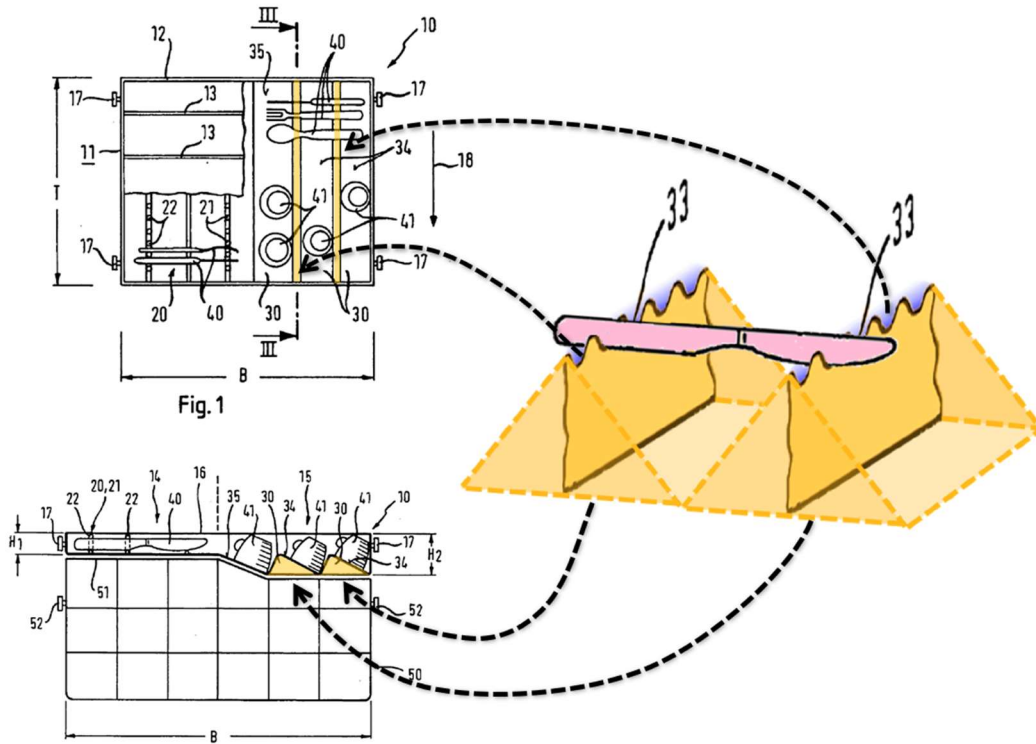
Specifically, Mailander explains that cutlery may be placed perpendicularly to the longitudinal extension of the contact surfaces provided by washing items holders 30, such that it is supported by the upper portions of washing items holders 30. Ex-1006 ¶ 15. To this end, Mailander teaches “profiling the upper sections of the washing items holders,” to create “cutlery supports and cutlery holders” to “allow sorted receiving of the pieces of cutlery.” *Id.* As Mailander explains, “recesses” of any suitable shape may be formed in the upper sections of washing items holder 30, into which cutlery may be mounted, “perpendicularly to support surfaces 34, 35 of washing items holder 30.” *Id.* ¶ 33. As shown below in Figure 3, these recesses 33 may be formed from “trapezium, zigzag, wave or rectangle” shapes. Ex-1002 ¶ 143.

Fig. 3



Mailander's recessed upper portions of washing items supports 30, for accommodating utensils, are depicted below, illustrating a knife positioned within one of the utensil holders created by imparting a wave profile to the upper portions of adjacent washing items supports (orange). Ex-1002 ¶ 144.

Fig. 2



Because Mailander's recessed portions are formed by profiling the upper portion of washing items support 30—corresponding to the point at which inclined support surface 34 meets the opposing inclined surface of the support—a POSITA would have understood that the recessed portions are formed within, and thereby supported by inclined support surface 34 (as well as the opposing inclined surface). Ex-1002 ¶ 145. Thus, Mailander's cutlery holders are supported by each inclined support surface 34, including the rightmost inclined support surface 34 of Figure 1 (claimed “second portion”). *Id.*

A POSITA also would have viewed Mailander's cutlery holders as corresponding to “plurality of spaced pins defining spaced slots for supporting one or more utensils,” because they include multiple recessed portions, each bordered by elevated or surrounding portions. Ex-1002 ¶ 146. These recessed portions serve as slots for receiving and retaining utensils, while the surrounding portions function as projections or barriers that separate adjacent utensils and hold them securely in place. Indeed, Mailander's pins and slots are of the same form as those described in the '681 Patent. In particular, the '681 Patent explains that “the second side wall 122 can further include a second set of utensil holders illustrated as a pin 130 . . . ***formed as a triangular projection*** extending from a surface while the seat 131 can be formed as a curved projection of the second side wall 122.” Ex-1001, 7:19–29.

C. Ground 3: Claim 19 is obvious over Carr in view of Ochoa

- 1. A POSITA would have been motivated to combine Carr’s and Ochoa’s teachings and would have had a reasonable expectation of success.**

A POSITA would have been motivated to combine the teachings of Carr and Ochoa, and would have had a reasonable expectation of success in doing so because each relates to a dishwasher with a spray system. Ex-1005 ¶ 37; Ex-1011, Title, Abstract, 1:26–29; Ex-1002 ¶¶ 147–152.

Carr teaches that “as is known in the art, the dishwasher appliance 100 includes a tub, a pump and filter assembly, a heating element, one or more wash arms, and a drain hose.” Ex-1005 ¶ 37. Carr’s incorporation by reference of Hiedel for detailed description of its dishwasher’s structure and operation (*id.*) further teaches “spray facility 23, 24 comprises an upper rotatable spray arm 23 and a lower rotatable spray arm 24. However fixed spray elements and/or other movable spray facilities could alternatively or additionally also be provided.” Ex-1009, 7:62–67. A POSITA would have understood Carr’s teachings to thus include a sprayer to spray liquid under the second and third portions because the spray facility can include one or more movable spray facilities, but that Carr leaves the implementation details up to a POSITA. Ex-1002 ¶ 148.

Ochoa is a reference that a POSITA would have consulted to teach the implementation details of one or more sprayers. Ex-1002 ¶ 149. Ochoa teaches that

its upper rack 12 includes a “water spraying system . . . that is mounted on the underside of the rack.” Ex-1011, 3:15–19. Ochoa teaches a spray system that teaches “a plurality of water spray outlets 44 are provided along the length of spray tube 32 and preferably the water spray outlets 44 are also circumferentially offset along the length of the spray tube 32.” Ex-1011, 3:63–68. Ochoa further teaches a second sprayer: its “spray spinners,” which are mounted below each dish rack. *Id.*, Abstract, 5:1–20, Cls. 7, 8, 27–29. As shown in Figure 11 below, Ochoa teaches that water spray outlets 44 are sprayers at each end of the dish rack and spinner 72 includes “somewhat conventional design having a plurality of spray outlets 76 directed upwardly and downwardly to spray the contents of the upper and lower racks.” Ex-1011, 5:8–20; *see also id.*, Abstract.

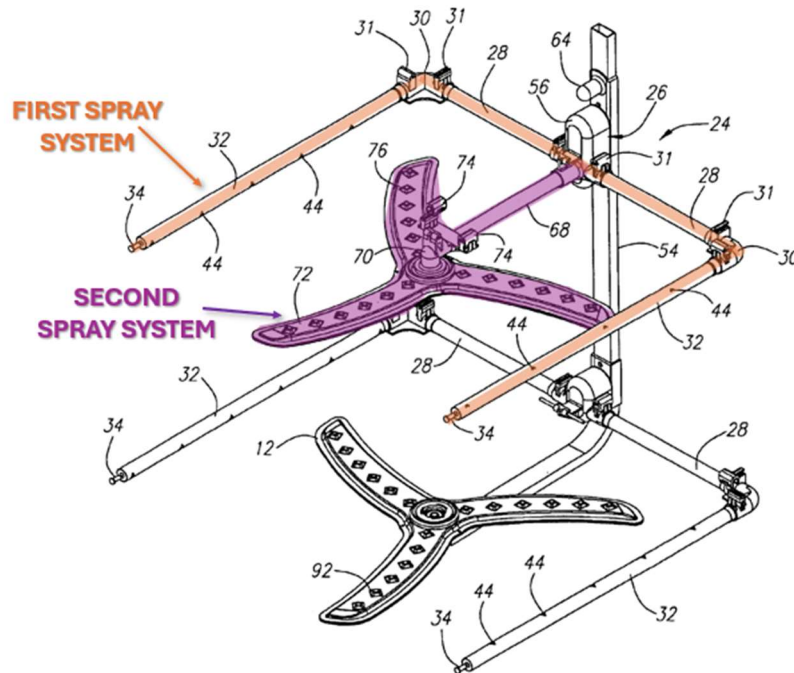
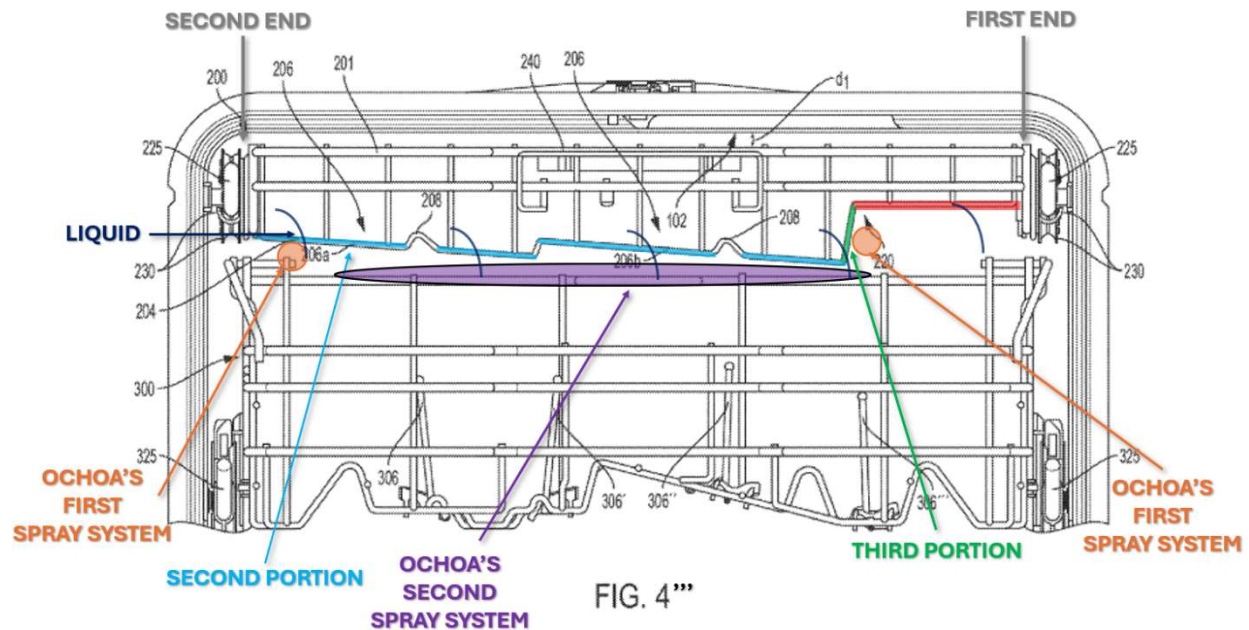


FIG. 11

A POSITA would have been motivated to implement Carr’s one *or more* spray systems under its second and third portions as two sprayers, as taught by Ochoa, in order to ensure that “lateral sides and corners of a modern premiere dishwasher of increased width . . . receive the same amount of water spray from the spinners as the center portion.” Ex-1011, 1:26–29. Specifically, Carr already teaches, including via its incorporated patent, using one *or more* spray systems and Ochoa provides the explicit teachings of at least two spray systems and associated benefits. Ex-1002 ¶ 150.

A POSITA would have had a reasonable expectation of success in combining the teachings of Carr and Ochoa. Ex-1002 ¶ 151. Indeed, as shown below in Modified Figure 4''' below, a POSITA would have been motivated to implement Ochoa’s first spray system (water spray outlets 44, orange) under Carr’s second portion (blue) and third portion (green), and Ochoa’s second spray system (spinner sprayer in the middle of the dishrack, purple) between Carr’s second portion and the third portion for spraying liquid at the second portion and the third portion (blue and green) to ensure that all of the areas within the dish rack receive liquid. In particular, a POSITA would have been motivated to implement one of Ochoa’s spray outlets 44 underneath the third portion (green) of Carr’s rack, to help ensure that liquid is delivered to notch section 220, without obstructing the region below notch section

220, which Carr teaches is provided to accommodate the stems of wine glasses. Ex-1005 ¶ 26.



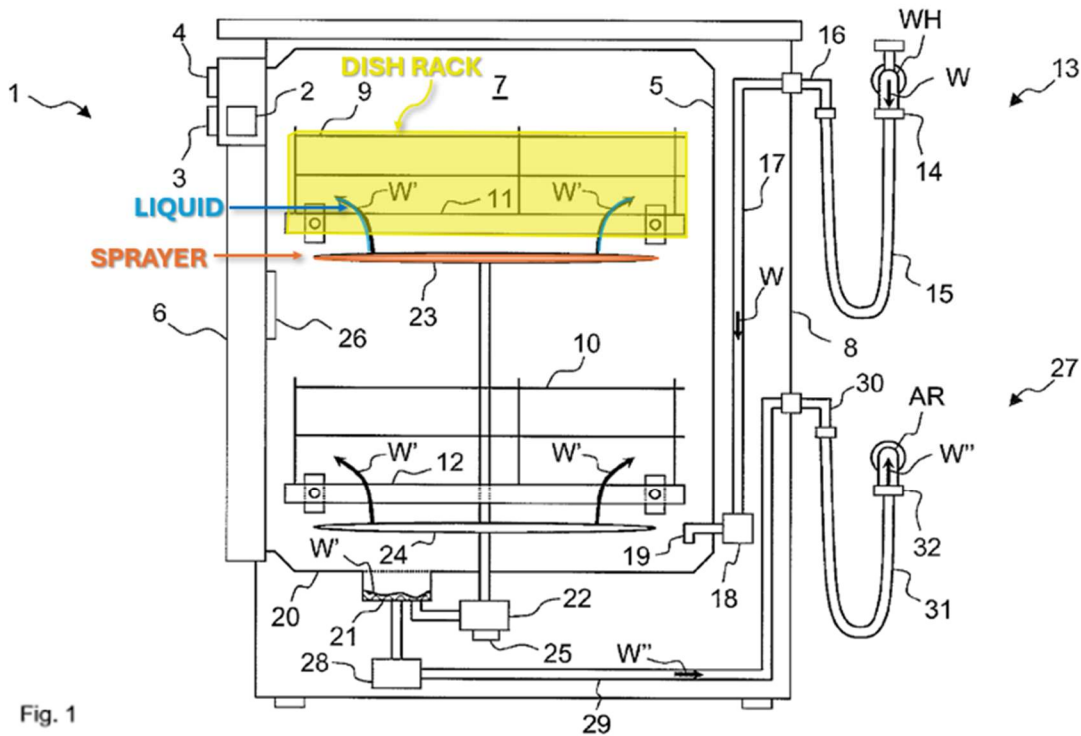
Moreover, the references describe a dishwasher spray system to ensure efficient cleaning of the washware. Ex-1005 ¶ 37; Ex-1010, Title, Abstract, 1:26–29. A POSITA would thus have understood that these references disclose interrelated teachings based on well-understood technologies that would have been amenable to various well-understood and predictable combinations. Ex-1002 ¶ 152.

2. Dependent Claim 19

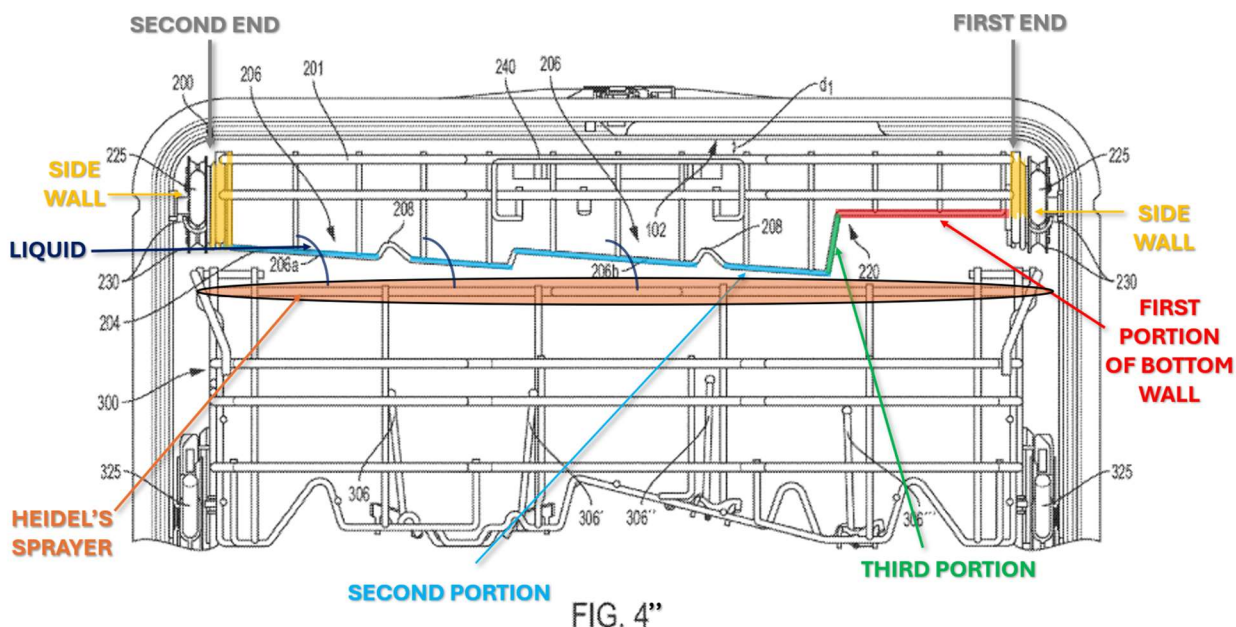
- a. **Claim 19: The automatic dishwasher of claim 15, further comprising a first sprayer positioned beneath the third portion for spraying liquid at the third portion and a second sprayer positioned between the second portion and the third portion for spraying liquid at the second portion and the third portion.**

Carr in view of Ochoa (“Carr-Ochoa”) teaches Claim 19. Ex-1002 ¶¶ 153–158.

Carr-Ochoa teaches a sprayer positioned between the second portion and the third portion for spraying liquid at the second portion and the third portion. Carr teaches that “as is known in the art, the dishwasher appliance 100 includes a tub, a pump and filter assembly, a heating element, *one or more wash arms*, and a drain hose.” Ex-1005 ¶ 37 (emphasis added). As described above, Carr incorporates by reference U.S. Patent No. 9,445,703 to Heidel et al. for a detailed description of its dishwasher’s structure and operation. *Id.* As shown in Figure 1 below, Heidel teaches a “spray facility 23, 24, which allows washing water W’ to be applied to the items to be washed.” Ex-1009, 7:59–62. Washing water refers to “washing liqu[id] or washing fluid.” *Id.*, 2:35–36. Heidel teaches that the “spray facility 23, 24 comprises an upper rotatable spray arm 23 and a lower rotatable spray arm 24. However fixed spray elements and/or other movable spray facilities could alternatively or additionally also be provided.” *Id.*, 7:62–67. Ex-1002 ¶ 154.



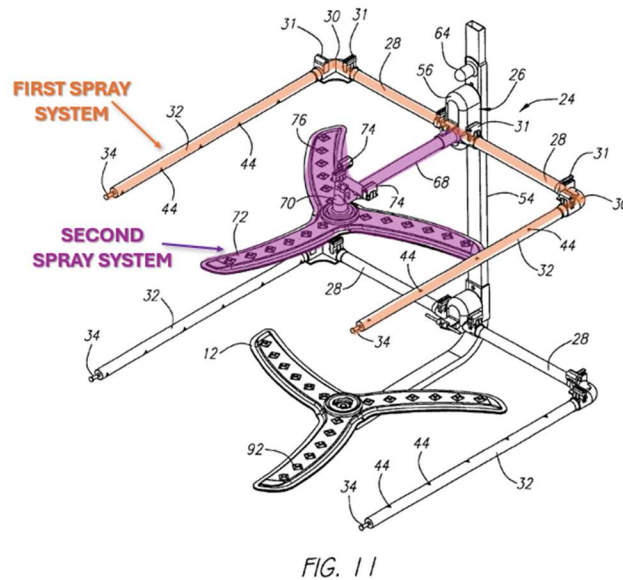
A POSITA would have understood that Carr, via its incorporation of Heidel, teaches a sprayer positioned between the second portion and the third portion for spraying liquid at the second portion and the third portion, because the spray facility comprises an “upper rotatable spray arm” that sprays washing liquid upwards from under the dishrack. Ex-1002 ¶ 155. For example, Carr’s “one or more wash arms” would include a sprayer between the second portion and the third portion of the bottom wall by using Heidel’s spray facility 23 (orange) to spray washing liquid (dark blue) broadly to items positioned on Carr’s dish rack, as shown in modified Figure 4’’ below. Ex-1002 ¶ 155.



Carr-Ochoa also teaches another sprayer positioned under the third portion for spraying liquid at the third portion. In addition to Heidel’s spray facility 23, Heidel teaches that “fixed spray elements and/or *other movable spray facilities could alternatively or additionally* also be provided.” Ex-1009, 7:62–67 (emphasis added). A POSITA would have understood Carr’s teachings to thus include a sprayer to spray liquid under the third portion because the spray facility can include one or more movable spray facilities. Ex-1002 ¶ 156.

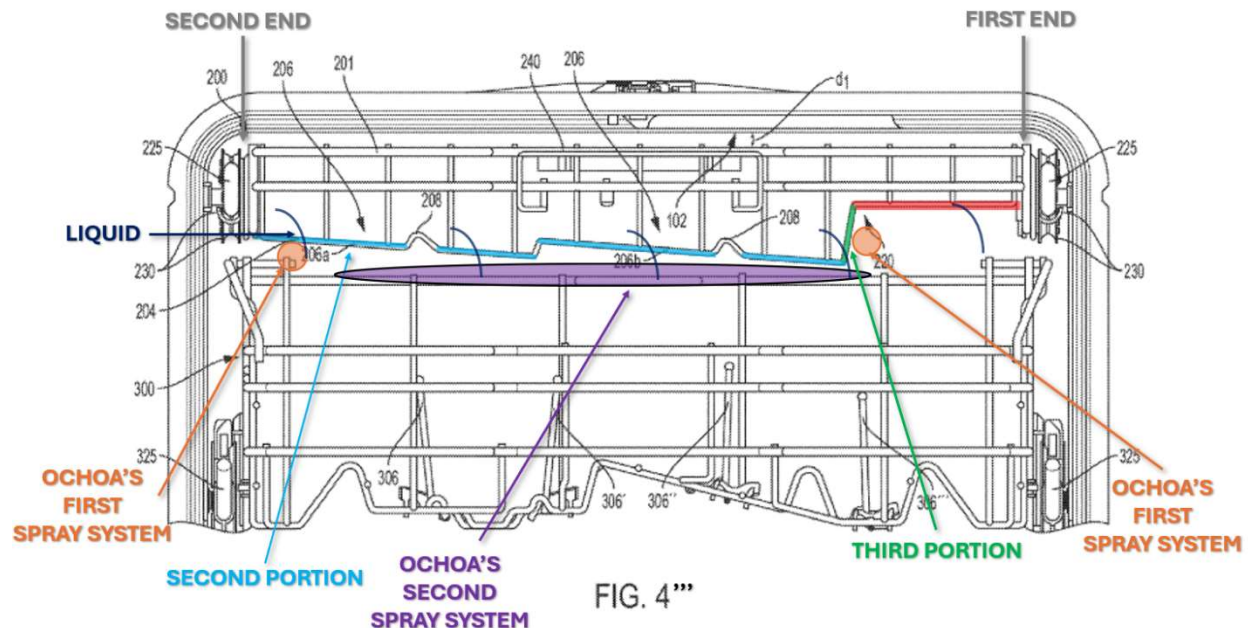
For example, as taught by Ochoa, the spray facility can include multiple conduits to spray washing liquid. Ex-1002 ¶ 157. Ochoa teaches a spray system that includes “a plurality of water spray outlets 44 are provided along the length of spray tube 32 and preferably the water spray outlets 44 are also circumferentially offset along the length of the spray tube 32.” Ex-1011, 3:63–68. Ochoa further teaches a

sprayer in its “spray spinners,” which are mounted below each dish rack. *Id.* As shown in Figure 11 below, Ochoa teaches that water spray outlets 44 are sprayers at each end of the dish rack (orange) and spinner 72 includes “somewhat conventional design having a plurality of spray outlets 76 directed upwardly and downwardly to spray the contents of the upper and lower racks.” Ex-1011, 5:8–20; *see also id.*, Abstract.



In the Carr-Ochoa combination (as shown in Modified Figure 4'''), Ochoa's spinner spray system (purple) includes spray outlets between Carr's second and third portions (blue and green) because it is a spinner spray arm that includes a plurality of spray outlets in the middle of the rack. In the Carr-Ochoa combination, a POSITA would have positioned Ochoa's spray tube 32 (orange) under Carr's third portion (green), to enable it to deliver washing liquid to notch portion 220 of the rack,

without obstructing the region directly underneath notch section 220, which Carr teaches is provided to accommodate the stems of wine glasses. Ex-1005 ¶ 26. A POSITA would have been motivated to implement two sprayers, as taught by Ochoa, as Carr's one or more spray systems for the reasons described in the previous section. Ex-1002 ¶ 158.



D. Ground 4: Claim 19 is obvious over Mailander in view of Ochoa

- 1. A POSITA would have been motivated to combine Mailander's and Ochoa's teachings and would have had a reasonable expectation of success.**

A POSITA would have been motivated to combine the teachings of Mailander and Ochoa, and would have had a reasonable expectation of success in doing so because each relates to a dishwasher with a spray system. Ex-1006, Cl. 22; Ex-1011, Title, Abstract, 1:26–29; Ex-1002 ¶¶ 159–163.

Mailander teaches a dishwasher that includes “at least one spraying device.” Ex-1006, Cl. 22. However, Mailander leaves the well-known implementation details of such one or more spraying devices up to a POSITA. Ex-1002 ¶ 160.

Ochoa is a reference that a POSITA would have consulted to teach the implementation details of one or more sprayers. Ex-1002 ¶ 161. As explained for Ground 3, above, Ochoa teaches that its upper rack 12 includes a “water spraying system . . . that is mounted on the underside of the rack.” Ex-1011, 3:15–19. Ochoa teaches a spray system that includes “a plurality of water spray outlets 44 are provided along the length of spray tube 32 and preferably the water spray outlets 44 are also circumferentially offset along the length of the spray tube 32.” Ex-1011, 3:63–68. Ochoa further teaches a second sprayer: its “spray spinners,” which are mounted below each dish rack. *Id.* As shown in Figure 11 below, Ochoa teaches that water spray outlets 44 are sprayers at each end of the dish rack and spinner 72 includes “somewhat conventional design having a plurality of spray outlets 76 directed upwardly and downwardly to spray the contents of the upper and lower racks.” Ex-1011, 5:8–20; *see also id.*, Abstract.

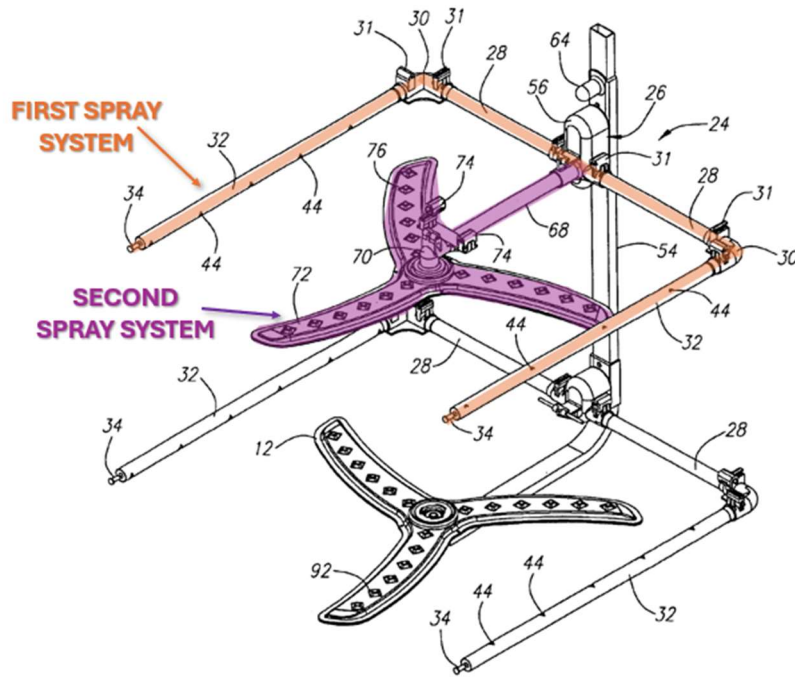
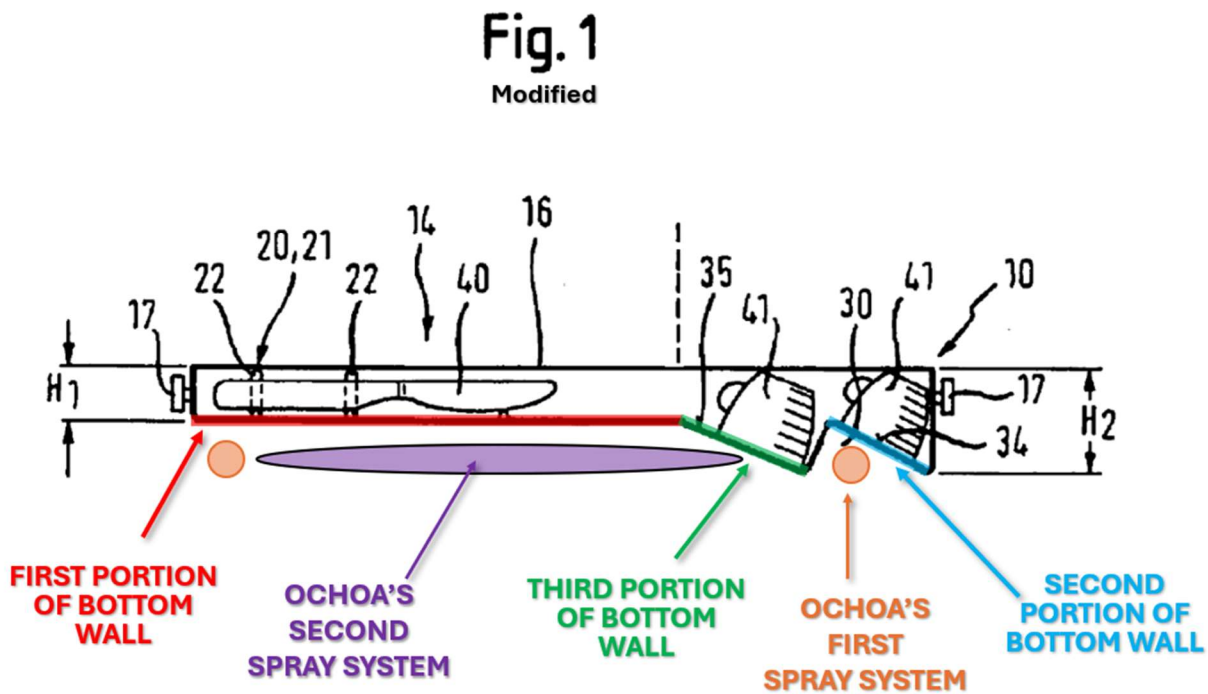


FIG. 11

A POSITA would have been motivated to implement Mailander's *at least one* spraying device under its washing items support 10, as taught by Ochoa. Specifically, Mailander already teaches using one or more spraying devices and Ochoa provides the explicit teachings of at least two spray systems and associated benefits. Ex-1002 ¶ 162.

A POSITA would have had a reasonable expectation of success in combining the teachings of Mailander and Ochoa. Ex-1002 ¶ 163. Mailander teaches that the disclosed washing items support 10 may include one or more washing items holders 30. *See* Ex-1006 ¶ 11 (“The washing items support according to the invention for a dishwasher comprises . . . a second container region for washing items, e.g. cups, small bowls, shallow glasses or pieces of cutlery, with *at least one* washing items

holder.”) (emphasis added). In embodiments in which Mailander’s washing items support 10 includes a single washing items holder 30, a POSITA would have been motivated to implement Ochoa’s second spray system (spinner sprayer in the middle of the dishrack, purple) under Mailander’s first portion (red) and third portion (green), and Ochoa’s first spray system (water spray outlets 44 along the lateral sides of the dishwasher, orange) between Mailander’s second portion (blue) and third portion (green), to ensure that spraying liquid is delivered to all of the areas within the dish rack, as illustrated in the modified version of Figure 1, below. Ex-1002 ¶ 162.



In particular, a POSITA would have recognized that positioning Ochoa’s second spray system (orange) between Mailander’s second portion (blue) and third

portion (green) would help to ensure that spraying liquid is delivered to the interior of cups positioned on support surface 34, while positioning Ochoa's second spray system (purple) underneath Mailander's third portion (green) would help to ensure that spraying liquid is delivered to the interiors of cups positioned on transition region 35 (claimed "third portion"). Ex-1002 ¶ 163. A POSITA also would have recognized that Ochoa's spray systems could easily be fastened to the "course [sic] mesh" of Mailander's rack. Ex-1006 ¶¶ 20, 27; Ex-1002 ¶ 163.

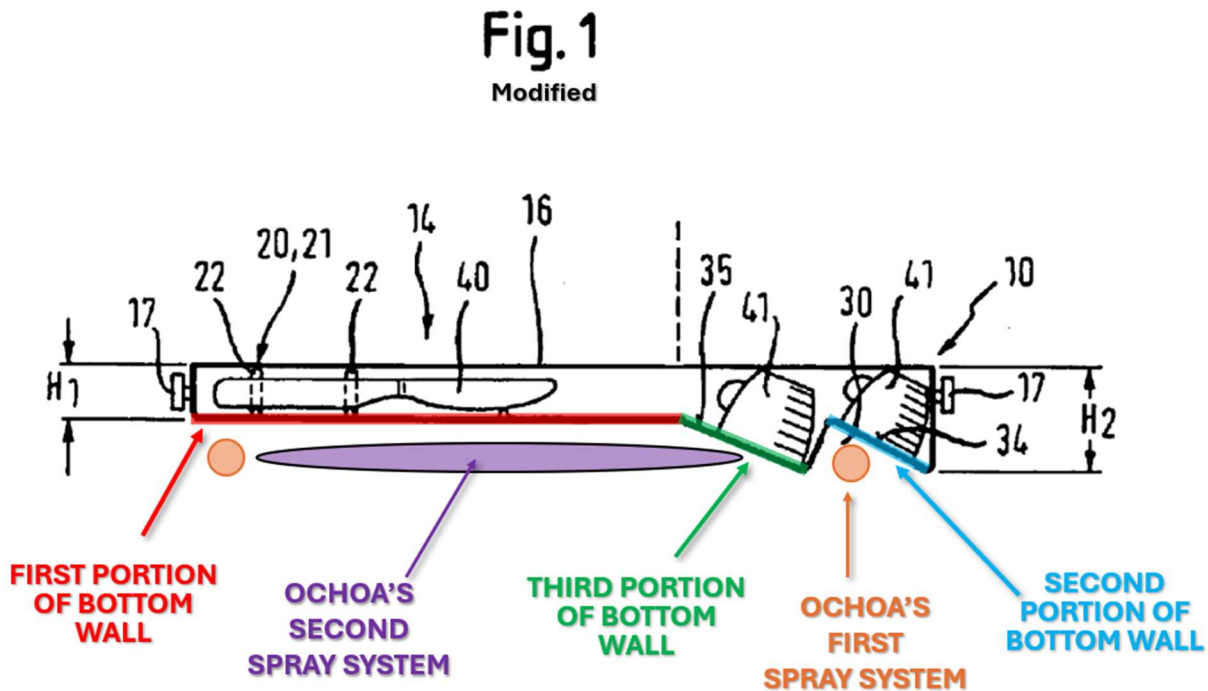
2. Dependent Claim 19

- a. **Claim 19: The automatic dishwasher of claim 15, further comprising a first sprayer positioned beneath the third portion for spraying liquid at the third portion and a second sprayer positioned between the second portion and the third portion for spraying liquid at the second portion and the third portion.**

Mailander in view of Ochoa ("Mailander-Ochoa") teaches Claim 19. Ex-1002 ¶¶ 164–165.

Mailander teaches a dishwasher that includes "at least one spraying device." Ex-1006, Cl. 22. As explained in Section XII.D.1 (motivation to combine Mailander and Ochoa), a POSITA would have turned to a reference such as Ochoa for implementation details for Mailander's one or more spraying devices. Ex-1002 ¶ 165. And, in embodiments in which Mailander's washing items support 10 includes a single washing items holder 30, a POSITA would have recognized that positioning Ochoa's second spray system (orange) between Mailander's second portion (blue)

and third portion (green) would help to ensure that spraying liquid is delivered to the interior of cups positioned on support surface 34, while positioning Ochoa's second spray system (purple) underneath Mailander's third portion (green) would help to ensure that spraying liquid is delivered to the interiors of cups positioned on transition region 35 (claimed "third portion"). Ex-1002 ¶ 165.



XIII. CONCLUSION

Petitioner requests institution of IPR for Claims 14–16, and 19 of the '681 Patent based on each of the grounds in this Petition.

Respectfully submitted,

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CERTIFICATE OF WORD COUNT

Pursuant to 37 C.F.R. § 42.24(d), Petitioner certifies that this petition includes 10,224 words, as measured by Microsoft Word, exclusive of the table of contents, mandatory notices under § 42.8, certificates of service, word count, and exhibits.

CERTIFICATE OF SERVICE (37 C.F.R. §42.6(e)(1))

The undersigned hereby certifies that the above document was served on April 13, 2026, by filing this document through the Patent Trial and Appeal Board P-TACTS System, as well as delivering a copy via express mail upon the following attorneys of record for the Patent Owner:

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