UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE PATENT TRIAL AND APPEAL BOARD

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DUKE MANUFACTURING CO.
Petitioner

v.

MARMON FOODSERVICE TECHNOLOGIES, INC.
Patent Owner

_____

Case: IPR2026-00482
Patent No. 11,771,264

DECLARATION OF GLENN VALLEE

Duke Manufacturing Co. EX1003
U.S. Patent No. 11,771,264

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IV. GROUND 1: CLAIMS 1-6, 8-12, and 16-20 WOULD HAVE BEEN OBVIOUS OVER THE IRHS DOCUMENTS 98

A. Combination of the IRHS Documents 98

B. Independent Claim 1 108

1.P: a method of maintaining different temperatures within a multi-zone food holding bin, the multi-zone food holding bin comprising 108

1.a.1: a chassis having a top panel, a first side panel, a second side panel, a bottom panel, and a front face 113

1.a.2: the multi-zone food holding bin having a first food holding compartment within the chassis and comprising a first food holding zone and a second food holding zone 118
1.a.3: the first food holding compartment being defined by the first side panel, the second side panel, the top panel that provides a first top surface, and a first substantially planar bottom surface of a thermally conductive material being substantially unobstructed between the first side panel and the second side panel and 121
1.a.4: a first opening through the front face configured to allow a tray for food items to be passed through the first opening into the first food holding compartment and onto the first substantially planar surface and 125
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C. Claim 2: the method of claim 1, wherein the multi-zone food holding bin further comprises a shelf disposed between the first side panel and the second side panel, wherein a top surface of the shelf provides the first substantially planar bottom surface and a bottom surface of the shelf provides the second top surface.....237

D. Claim 3 240

3.a.1: the method of claim 1, wherein the multi-zone food holding bin further comprises a third food holding compartment within the chassis between the first food holding compartment and the second food holding compartment..... 240
3.a.2: the third food holding compartment comprising a fifth food holding zone and a sixth food holding zone..... 242
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3.b: the method further comprising: operating the fifth food holding zone to a fifth temperature setpoint by independently operating a ninth heating element in the fifth food holding zone and thermally coupled to the third top surface and independently operating a tenth heating element in the fifth food holding zone and thermally coupled to the third substantially planar surface..... 251

3.c: operating the sixth food holding zone to a sixth temperature setpoint by independently operating an eleventh heating element in the sixth food holding zone and thermally coupled to the third top surface and independently operating a twelfth heating element in the sixth food holding zone and thermally coupled to the third substantially planar surface 264

E. Claim 4 278

4.a.1: the method of claim 3, wherein the multi-zone food holding bin comprises a first shelf disposed between the first side panel and the second side panel and between the first compartment and the second compartment 278
4.a.2: wherein a first top surface of the first shelf provides the first substantially planar bottom surface and a first bottom surface of the first shelf provides the third top surface..... 279
4.a.3: the multi-zone food holding bin further comprises a second shelf disposed between the first side panel and the second side panel and between the third compartment and the second compartment .. 280
4.a.4: wherein a second top surface of the second shelf provides the third substantially planar bottom surface and a second bottom surface of the second shelf provides the second top surface 281

F. Claim 5 283

5.a: the method of claim 1, further comprising: receiving a first tray of a first food product through the first opening into the first food holding zone 283
5.b: receiving a second tray of a second food product through the first opening into the second food holding zone..... 292
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6.c: providing a fourth opening through the rear face configured to allow the third or fourth tray to be passed through the fourth opening into the second food holding compartment and onto the second substantially planar surface 330

H. Claim 8 335

8.a: the method of claim 1, wherein the multi-zone food holding bin comprises a plurality of bays, the plurality of bays comprising a first bay and a second bay within the first food heating zone, a third bay and a fourth bay within the second food heating zone, a fifth bay and a sixth bay within the third food heating zone, and a seventh bay and an eighth bay within the fourth food heating zone 335
8.b: wherein each bay of the plurality of bays is configured to receive a tray of food product 337

I. Claim 9: the method of claim 8, further comprising plurality of lid holding shelves, a lid holding shelf of the plurality of lid holding shelves associated with each bay of the plurality of bays, wherein each lid holding shelf is configured to receive a lid thereon.....339

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10.a: the method of claim 9, further comprising: receiving a first lid through the first opening into the first bay of the first food holding zone 342
10.b: retaining the first lid within the first bay on the lid holding shelf associated with the first bay 345

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11.a: the method of claim 10, further comprising: receiving a first tray of a first food product through the first opening into the first bay of the first food holding zone onto the first substantially planar bottom surface below the first lid 347
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M. Claim 16: The method of claim 1, further comprising receiving a user input of the first temperature setpoint 359

N. Claim 17: The method of claim 16, wherein the user input is a user selection of a food item for the first food holding zone, wherein the user selection of the food item is associated with independent operation and control of the first heating element and the second heating element 364

O. Claim 18: the method of claim 17, further comprising operating the first heating element to output more heat than the second heating element 366

P. Claim 19: the method of claim 17, further comprising operating the second heating element to output more heat than the first heating element 369

Q. Claim 20: 370

20.a: the method of claim 16, further comprising: providing a bezel set forward of the front face, the bezel comprising a user interface 370
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13.a: the method of claim 12, further comprising providing a latch associated with at least one of the lid holding shelves 385
13.b: the latch movably secured to the front face 393

C. Claim 14: The method of claim 13, further comprising biasing the latch into a position that retains a lid on the associated lid holding shelf with gravity. 397

D. Claim 15 400

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3. Independently Controllable Top and Bottom Heaters per Zone. 525
4. Modified Controls 535
5. Temperature Control 544
6. Timer Bar/Bezel 552
7. Discrete Lids for Each Pan Holding Location 574
8. Latches 590

B. Independent Claim 1 597

1.P: a method of maintaining different temperatures within a multi-zone food holding bin, the multi-zone food holding bin comprising597
1.a.1: a chassis having a top panel, a first side panel, a second side panel, a bottom panel, and a front face 602
1.a.2: the multi-zone food holding bin having a first food holding compartment within the chassis and comprising a first food holding zone and a second food holding zone 605
1.a.3: the first food holding compartment being defined by the first side panel, the second side panel, the top panel that provides a first top surface, and a first substantially planar bottom surface of a thermally conductive material being substantially unobstructed between the first side panel and the second side panel and..... 609
1.a.4: a first opening through the front face configured to allow a tray for food items to be passed through the first opening into the first food holding compartment and onto the first substantially planar surface and 613

1.a.5: a second food holding compartment within the chassis and comprising a third food holding zone and a fourth food holding zone 617

1.a.6: the second food holding compartment being defined by the first side panel, the second side panel, the bottom panel that provides a second substantially planar bottom surface of a thermally conductive material, and a second top surface 622

1.a.7: the second substantially planar bottom surface being substantially unobstructed between the first side panel and the second side panel and 630

1.a.8: a second opening into the second food holding compartment and onto the second substantially planar surface 633

1.b: the method comprising: operating the first food holding zone to a first temperature setpoint by independently operating a first heating element in the first food holding zone and thermally coupled to the first top surface and independently operating a second heating element in the first food holding zone and thermally coupled to the first substantially planar surface 637

1.c: operating the second food holding zone to a second temperature setpoint by independently operating a third heating element in the second food holding zone and thermally coupled to the first top surface and independently operating a fourth heating element in the second food holding zone and thermally coupled to the first substantially planar surface 650

1.d: operating the third food holding zone to a third temperature setpoint by independently operating a fifth heating element in the third food holding zone and thermally coupled to the second top surface and independently operating a sixth heating element in the third food holding zone and thermally coupled to the second substantially planar surface..... 654

1.e: operating the fourth food holding zone to a fourth temperature setpoint by independently operating a seventh heating element in the fourth food holding zone and thermally coupled to the second top surface and independently operating an eighth heating element in the fourth food holding zone and thermally coupled to the second substantially planar surface 659

1.f: wherein the first temperature, second temperature, third temperature, and fourth temperature are independent from each other 664

C. Claim 2: the method of claim 1, wherein the multi-zone food holding bin further comprises a shelf disposed between the first side panel and the second side panel, wherein a top surface of the shelf provides the first substantially planar bottom surface and a bottom surface of the shelf provides the second top surface.....666

D. Claim 3 671

3.a.1: the method of claim 1, wherein the multi-zone food holding bin further comprises a third food holding compartment within the chassis between the first food holding compartment and the second food holding compartment..... 672
3.a.2: the third food holding compartment comprising a fifth food holding zone and a sixth food holding zone..... 677
3.a.3: the third food holding compartment being defined by the first side panel, the second side panel, a third top surface, and a third substantially planar bottom surface of a thermally conductive material being substantially unobstructed between the first side panel and the second side panel..... 679
3.a.4: a third opening through the front face configured to allow a tray for food items to be passed through the third opening into the third food holding compartment and onto the third substantially planar surface..... 683
3.b: the method further comprising: operating the fifth food holding zone to a fifth temperature setpoint by independently operating a ninth heating element in the fifth food holding zone and thermally coupled to the third top surface and independently operating a tenth heating element in the fifth food holding zone and thermally coupled to the third substantially planar surface..... 687
3.c: operating the sixth food holding zone to a sixth temperature setpoint by independently operating an eleventh heating element in the sixth food holding zone and thermally coupled to the third top surface and independently operating a twelfth heating element in the sixth food holding zone and thermally coupled to the third substantially planar surface 690

E. Claim 4 694

4.a.1: the method of claim 3, wherein the multi-zone food holding bin comprises a first shelf disposed between the first side panel and the second side panel and between the first compartment and the second compartment..... 694

4.a.2: wherein a first top surface of the first shelf provides the first substantially planar bottom surface and a first bottom surface of the first shelf provides the third top surface..... 697
4.a.3: the multi-zone food holding bin further comprises a second shelf disposed between the first side panel and the second side panel and between the third compartment and the second compartment.. 699
4.a.4: wherein a second top surface of the second shelf provides the third substantially planar bottom surface and a second bottom surface of the second shelf provides the second top surface 702

F. Claim 5 705

5.a: the method of claim 1, further comprising: receiving a first tray of a first food product through the first opening into the first food holding zone 705
5.b: receiving a second tray of a second food product through the first opening into the second food holding zone..... 708
5.c: receiving a third tray of a third food product through the second opening into the third food holding zone 711
5.d: receiving a fourth tray of a fourth food product through the second opening into the fourth food holding zone..... 714

G. Claim 6 718

6.a: the method of claim 5 wherein the multi-zone food holding bin comprises a rear face 718
6.b: the method further comprises: providing a third opening through the rear face configured to allow the first or second tray to be passed through the third opening into the first food holding compartment and onto the first substantially planar surface..... 719
6.c: providing a fourth opening through the rear face configured to allow the third or fourth tray to be passed through the fourth opening into the second food holding compartment and onto the second substantially planar surface 721

H. Claim 7: the method of claim 6, further comprising: receiving a tray of the first, second, third, and fourth trays, when said tray is filled with freshly cooked food product, through the respective third or fourth opening; and receiving the tray of the first, second, third, and fourth trays, when food product has been removed from said tray, through the respective first or second opening 725

I. Claim 8 739

8.a: the method of claim 1, wherein the multi-zone food holding bin comprises a plurality of bays, the plurality of bays comprising a first bay and a second bay within the first food heating zone, a third bay and a fourth bay within the second food heating zone, a fifth bay and a sixth bay within the third food heating zone, and a seventh bay and an eighth bay within the fourth food heating zone 739
8.b: wherein each bay of the plurality of bays is configured to receive a tray of food product 742

J. Claim 9: the method of claim 8, further comprising plurality of lid holding shelves, a lid holding shelf of the plurality of lid holding shelves associated with each bay of the plurality of bays, wherein each lid holding shelf is configured to receive a lid thereon.....745

K. Claim 10 751

10.a: the method of claim 9, further comprising: receiving a first lid through the first opening into the first bay of the first food holding zone 751
10.b: retaining the first lid within the first bay on the lid holding shelf associated with the first bay 753

L. Claim 12: the method of claim 9, wherein at least some of the lid holding shelves of the plurality of lid holding shelves downwardly depend from the first top surface towards the first substantially planar bottom surface, leaving the first substantially planar bottom surface substantially unobstructed between the first side panel and the second side panel.....760

M. Claim 13 767

13.a: the method of claim 12, further comprising providing a latch associated with at least one of the lid holding shelves..... 767
13.b: the latch movably secured to the front face 771

N. Claim 14: The method of claim 13, further comprising biasing the latch into a position that retains a lid on the associated lid holding shelf with gravity.....776

O. Claim 15 779

15.a: The method of claim 14, further comprising providing a bezel set forward of the front face to form a gap between the front face and the bezel,..... 779
15.b: wherein the latch moves within the gap..... 783

P. Claim 16: The method of claim 1, further comprising receiving a user input of the first temperature setpoint 789

Q. Claim 17: the method of claim 16, wherein the user input is a user selection of a food item for the first food holding zone, wherein the user selection of the food item is associated with independent operation and control of the first heating element and the second heating element, wherein the user selection of the food item is associated with independent operation and control of the first heating element and the second heating element 792

R. Claim 20: 800

20.a: the method of claim 16, further comprising: providing a bezel set forward of the front face, the bezel comprising a user interface 800
20.b: operating the user interface to receive the user input 801

XIV. GROUND 11: Claim 18 Would Have Been Obvious Over Fortmann'748 in view of the IRHS Documents, Jones, Fortmann'197, McMillan, Vaseloff, Hartfelder, Shei'099, Stanger, Loy, Veltrop, and/or Prince Castle.....803

A. Claim 18: the method of claim 17, further comprising operating the first heating element to output more heat than the second heating element 803

XV. GROUND 12: Claims 11 and 19 Would Have Been Obvious Over Fortmann'748 in view of the IRHS Documents, Jones, Fortmann'197, McMillan, Vaseloff, Hartfelder, Shei'099, Stanger, Loy, Veltrop, and/or Merco 810

A. Claim 11 810

11.a: the method of claim 10, further comprising: receiving a first tray of a first food product through the first opening into the first bay of the first food holding zone onto the first substantially planar bottom surface below the first lid 810
11.b: receiving a second tray of a second food product through the first opening into the second bay of the first food holding zone onto the first substantially planar bottom surface 813
11.c: maintaining, with the first lid, an increased moisture within the first tray compared to a moisture within the second tray, while operating the first bay and the second bay of the first food holding

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B. Claim 19: the method of claim 17, further comprising operating the second heating element to output more heat than the first heating element 825

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Emphasis added throughout unless indicated otherwise.

DECLARATION OF GLENN VALLEE

I, Glenn Vallee, hereby declare as follows:

I. INTRODUCTION

1. I am currently the Owner and Principal Engineer of G. Vallee Consulting, LLC and I hold the rank of Professor Emeritus at Western New England University where I was formerly an Associate Professor and Chair of Mechanical Engineering.

2. I have a Ph.D. in Mechanical Engineering from the University of Rhode Island and my Ph.D. dissertation research focused on the use of polymeric materials in pneumatic nailers.

3. I am a member of the American Society of Mechanical Engineers (ASME member no. 1259837), and I am a licensed Professional Engineer (RI Lic. No. 6765).

4. I have substantial expertise in the areas of mechanical engineering, consumer product design and development, quality assurance, mechanical testing, and the design of a wide variety of products. I have an extensive background and understanding of the principles and processes involved with the field of technology of U.S. Patent No. 11,771,264 ("the '264 Patent").

5. I am an inventor on nine patents, including an electrical power strip, a water purification system, pneumatic nailers, and surgical devices.

6. As the Owner and Principal Engineer of G. Vallee Consulting, I serve as a consultant in the areas of mechanical engineering design, product development, numerical stress analysis, and mechanical testing, as well as serving as a technical expert in product liability and patent litigation.

7. Amongst the mechanical engineering design and product development projects I have been retained for, in one of my projects I was retained by a local inventor to serve as an advisor to a project involving the design of a two compartment, heated food holding bin aimed at maintaining the temperature of fast food (pizza, burgers, etc.) delivered by motorcycle. The device utilized two ceramic heating elements, programmable temperature control, and an onboard power supply.

8. I have testified before the ITC twice in patent related matters and I have supported over 20 IPR matters before the PTAB.

9. I have also provided testimony related to a wide variety of products, some of which utilize heating elements such as e-cigarettes, and others related to cooking, such as barbecue grills.

10. I have also been retained as a technical expert in several patent cases related to the food industry. Products included salad spinners, water bottles, and grills, such that I am familiar with material selection considerations in this area as well.

11. As an Associate Professor of Mechanical Engineering, I taught courses in Mechanical Design, Materials Science, Kinematics, Vibrations, Mechanics of Materials, and a Product Development and Innovation (PDI) course where students design consumer products having commercial potential. Six utility patents have been filed for student inventions developed in the PDI course, and many of the products that were developed related to kitchen applications and heating elements, including: an automatic cleaning device for microwave ovens, a temperature indicating cooking pan, and an improved efficiency electric oven.

12. I have also served as the faculty advisor to over 100 capstone senior design projects, one of which dealt with maintaining food temperature.

13. Prior to joining Western New England University, I served as the Director of Engineering and Quality Assurance, Worldwide for the Remington Products Company, L.L.C., in Bridgeport, CT, from 1997 until 2002. Remington Products Company is a major manufacturer of consumer products, including electric shavers, beard trimmers, and products utilizing heating elements, such as hair dryers and hair setters. My responsibilities included directing the activities of Design and Product Engineering, Quality Assurance, and Manufacturing departments in the U.S., U.K., and Asia, and I was responsible for the design and development of international consumer products, and for focusing new product engineering toward continuously improving customer satisfaction through

improved product design, performance, and quality.

14. Prior to my employment at Remington Products, I served as the Manager of the Engineering Laboratories at the Stanley Bostitch Company, now a division of Stanley/Black & Decker. Stanley Bostitch is a leading manufacturer of pneumatic nailers and staplers, a variety of hand tools such as hammer tackers and staplers, and a number of other office products. I was employed by Stanley Bostitch from 1985 until 1997, serving first as a Technician, then Test Engineer, then Product Design/Development Engineer, and was promoted to Manager of the Engineering Laboratories in 1995. During my employment at Stanley Bostitch, I acquired extensive experience in the design and testing of a variety of mechanical, pneumatic and electromechanical products, including pneumatic fastening tools, electric tackers and staplers, and electric pencil sharpeners. My work as a Technician and then Test Engineer allowed me to acquire experience in conducting and developing test methodologies for all products. My work as a Product Design/Development Engineer involved designing and developing products from conception through manufacture and quality control, most of which required the design of fluid containment systems and methods of sealing. As the Manager of the Engineering Laboratories, I managed the largest of the Engineering Laboratories in Stanley Works and supervised 18 employees. This position required that I coordinate testing and allocate resources to meet stringent scheduling requirements

of the Product Development, Manufacturing, and Marketing departments.

15. Exhibit 1004 is a copy of my curriculum vitae, which further expands on my qualifications and expertise and includes a list of my publications and prior testimony over the past five years.

16. I am being compensated at $450/hour. My compensation is in no way dependent on the outcome of this proceeding, and my compensation in no way affects the substance of my statements and opinions in this Declaration.

17. In providing the testimony set out in this declaration, I have reviewed the figures, specification, and claims of the ’264 Patent and the file history of the ’264 Patent. I have also reviewed the following documents:

Exhibit No.	Description
1001	U.S. Patent No. 11,771,264 (“the ’264 Patent”)
1002	Prosecution History of the ’264 Patent
1005	Infrared Heatsink Holding Unit Operators Manual (“IRHS Manual”)
1006	Infrared Heatsink Specifications (“IRHS Specifications”)
1007	bk.dukemfg.com (“Duke Website”)
1008	Infrared Heatsink Holding Unit Service Manual (“IRHS Service Manual”)
1009	Prince Castle Holding Bins (“Prince Castle”)
1010	U.S. Patent Publication No. 2010/0288748 (“Fortmann’748”)
1011	U.S. Patent Publication No. 2016/0073821 (“Shei’821”)

Exhibit No.	Description
1012	U.S. Patent Publication No. 2007/0108178 (“Jones”)
1013	U.S. Patent Publication No. 2009/0126580 (“Hartfelder”)
1014	U.S. Patent No. 10,258,197 (“Fortmann’197”)
1015	U.S. Patent Publication No. 2008/0302778
1016	U.S. Patent Publication No. 2004/0069155 (“Shei’155”)
1017	U.S. Patent No. 6,175,099 (“Shei’099”)
1018	U.S. Patent No. 5,852,967 (“Fortmann’967”)
1019	U.S. Patent No. 6,658,994 (“McMillan”)
1020	U.S. Patent Publication No. 2011/0114618
1021	U.S. Patent Publication No. 2011/0114624
1022	U.S. Patent Publication No. 2011/0252813 (“Veltrop”)
1023	U.S. Provisional Patent Application No. 62/193,992 (“the ’992 Provisional”)
1024	U.S. Patent No. 6,119,587
1025	U.S. Patent No. 3,461,275 (“Poole”)
1026	U.S. Patent No. 7,258,064 (“Vaseloff”)
1027	U.S. Patent Publication No. 2014/0130684 (“Reese”)
1028	Merco Holding Cabinets
1029	U.S. Patent No. 6,011,243
1042	U.S. Patent Publication No. 2014/0010937 (“Stanger”)
1043	PCT Publication No. WO 2015/031500 (“Loy”)
1044	E-mail (EMEA Approved Equipment List (AEL) + Policy –

Exhibit No.	Description
	12/2013)
1045	E-mail (PHU Specifications DRAFT)
1046	E-mail (IRHS specification questions)
1047	U.S. Patent No. 6,607,766
1048	U.S. Patent No. 5,590,586
1049	E-mail (Trip Report – BK April 24-26)

18. In forming my opinions, I have relied upon various legal principles as explained to me by Duke's counsel. My understanding of these principles is summarized below.

19. I understand that in patent law, a patent's claims define the scope of protection for the claimed invention.

20. I understand that the validity of a patent's claims is determined on a claim-by-claim basis.

21. I understand that in this proceeding, Duke has the burden of proving that the challenged claims would have been unpatentable over the prior art by a preponderance of the evidence.

22. Grounds 1-12 assert that the claims of the '264 Patent should be found unpatentable as obvious over one or more combinations of prior art references.

23. I understand that a claim is unpatentable as obvious if the differences between the claimed subject matter and the prior art are such that the subject

matter, as a whole, would have been obvious to a hypothetical person having ordinary skill in the art before the effective filing date and who is presumed to have known the relevant prior art.

24. I understand that the question of obviousness is resolved based on underlying factual determinations, including: (1) the scope and content of the prior art; (2) any differences between the claimed subject matter and the prior art; (3) the level of ordinary skill in the art; and (4) objective evidence of non-obviousness.

25. I further understand that for each of the obviousness grounds, Duke must demonstrate a person of ordinary skill would have: (1) a motivation to combine the teachings of the relevant references and (2) a reasonable expectation of success in developing the claimed invention.

26. I understand that a motivation to combine the teachings of the relevant references may come from, but is not limited to: teachings, suggestions, or motivations found in the prior art; the nature of the problem; or the knowledge of a person having ordinary skill in the art.

27. I understand that the United States Patent and Trademark Office ("USPTO") will interpret the claims of the '264 Patent as they would have been understood by those of ordinary skill in the art as of the filing date of the '264 Patent in view of the claim language itself, the specification and figures of the '264 Patent, the prosecution history of the '264 Patent, and other relevant evidence

showing how one of ordinary skill would have understood the language.

28. In forming my opinions, I have applied the understanding of one of ordinary skill in the art working at the time of the invention claimed in the ’264 Patent, *i.e*., shortly prior to April 20, 2016.

29. The person having ordinary skill in the art (“POSA”) would have an engineering degree and/or 4 years of experience in the design and/or manufacture of food service equipment. The POSA would have been familiar with existing designs of food service equipment in 2016—including food holding cabinets—and would have known how to modify food service equipment designs and incorporate features based on various design criteria. As the claimed invention contains interdisciplinary aspects—namely appliance design and control systems design—the POSA may have worked as a part of a multi-disciplinary team and drawn upon not only his or her own skills, but also consulted with others on the team, having specialized skills.

30. In my opinion, the level of ordinary skill is not determinative, as those of less or more skill would also find the claims to be unpatentable.

II. BACKGROUND OF THE ’264 PATENT

31. The ’264 Patent pertains to a multi-zone food holding bin (10) for keeping food warm, as would typically be found in the kitchen of a fast-food restaurant. EX1001: Abstract, 1:66-2:4.

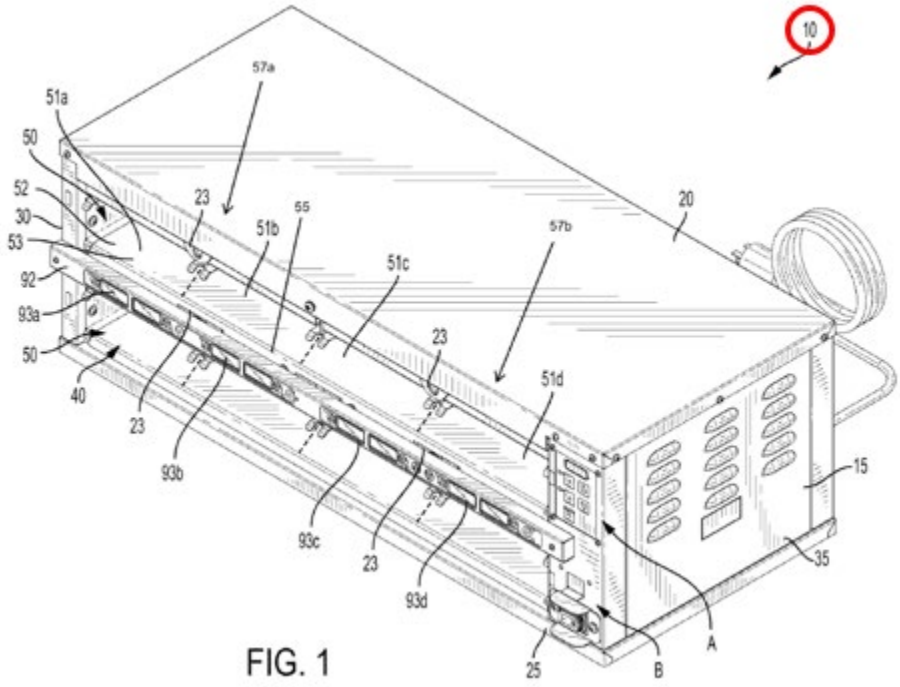


FIG. 1

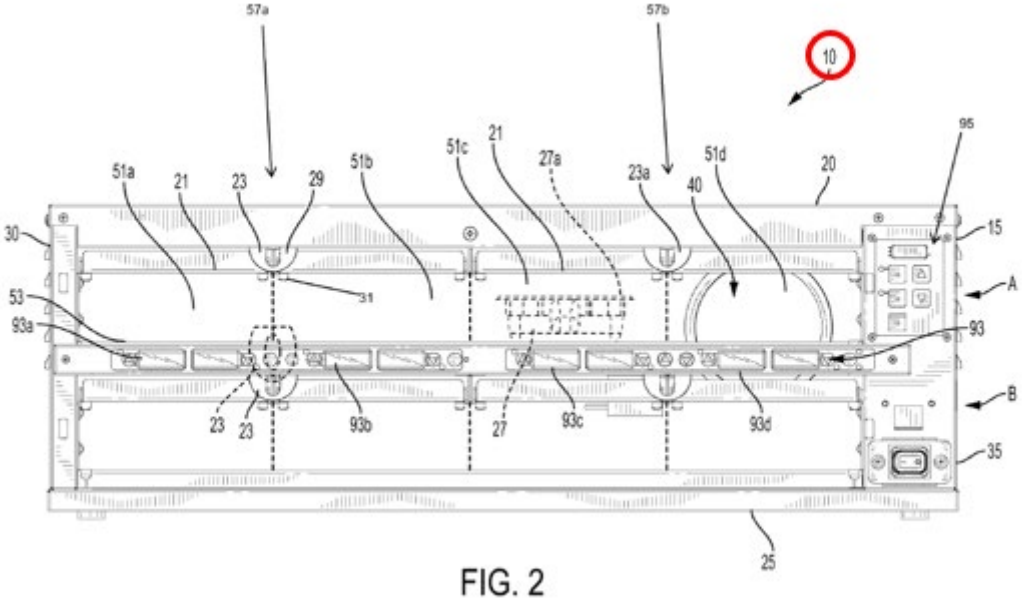


FIG. 2

EX1001: Figs. 1, 2.

32. As shown in Figures 2 and 5, the food holding bin (10) has at least two food holding compartments (50) but may have three or more. EX1001: Fig. 5,

3:26-37. Each food holding compartment has two or more food holding zones (57a-b). EX1001: 2:2-6. Each food holding zone is further subdivided into food holding bays (51a-51d) capable of receiving a food tray (27) containing food. EX1001: Fig. 2, 2:6-14.

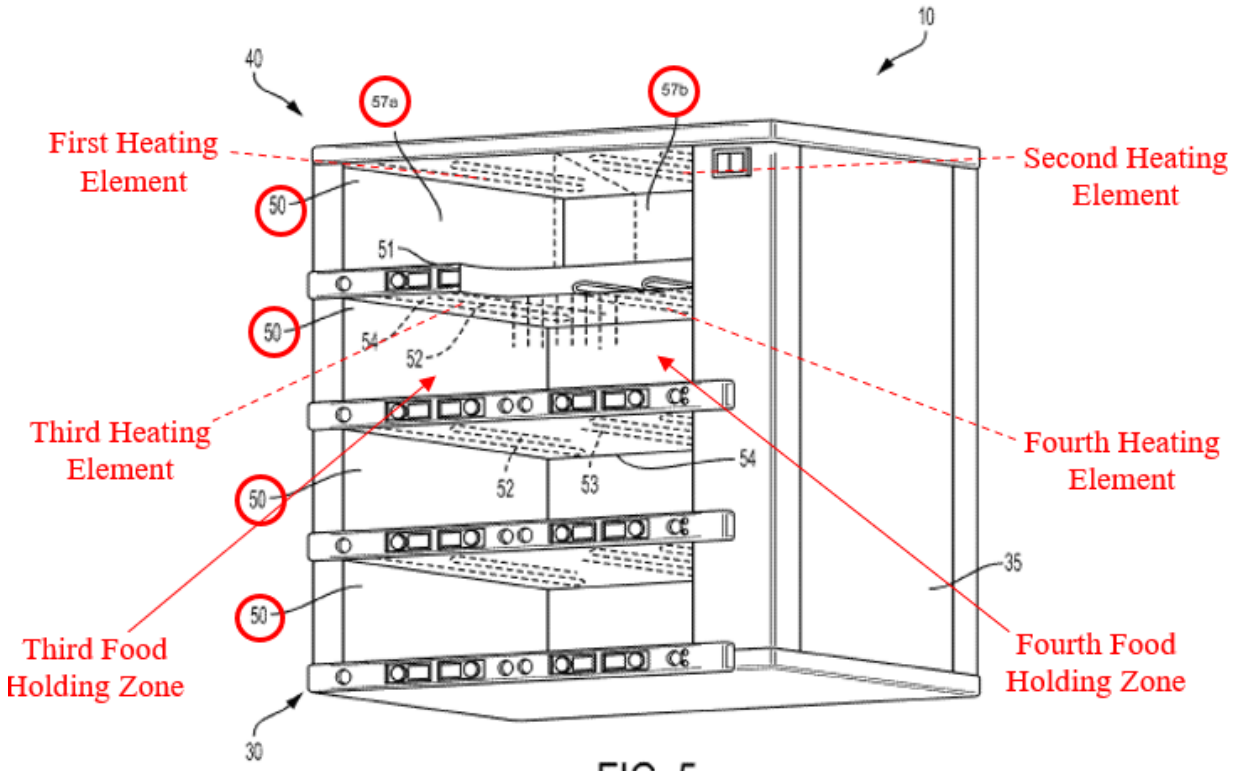


FIG. 5

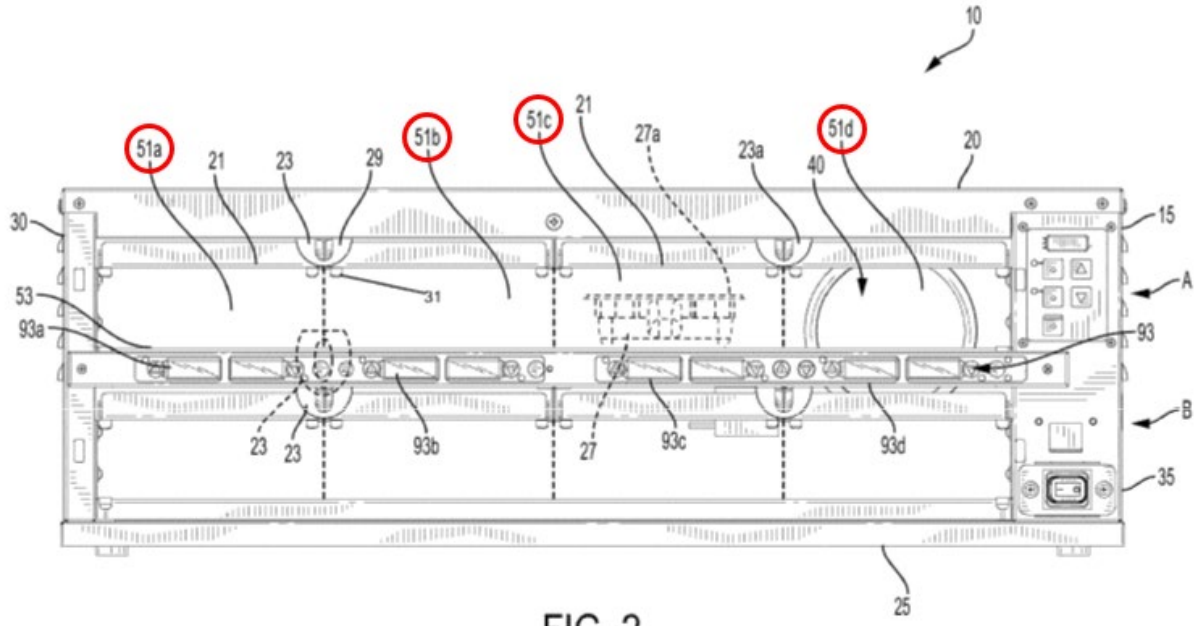


FIG. 2

EX1001: Figs. 2 and 5 (annotated).

33. The food holding zones (57a-b) of each food holding compartment (50) can be operated at different temperature setpoints. EX1001: 4:41-44. To this end, the food holding bin (10) includes various heating elements (65, 67) to heat the different food holding zones (57a-b). EX1001: 2:47-52.

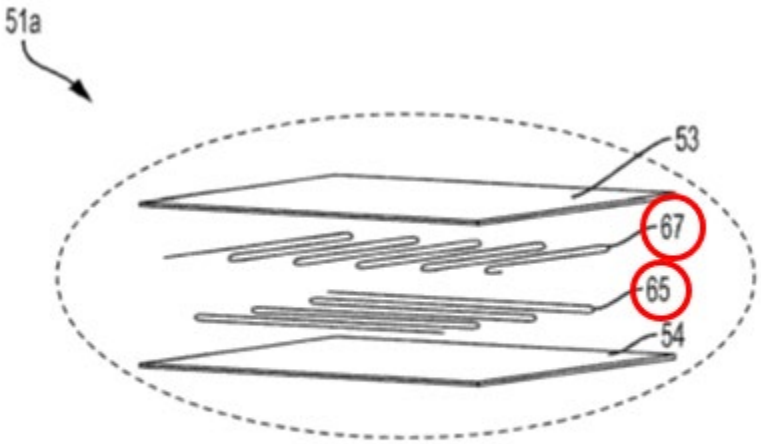


FIG. 4B

EX1001: Fig. 4B (annotated).

34. Other features recited by the claims include a third holding compartment (50) having additional food holding zones and corresponding heating elements; bays within each food holding zone for receiving a tray of food; shelves (31) for supporting lids (21) that cover the food tray (27) in the food holding zone; latches (23) for retaining the lids on the shelves; bezel (92) including a user interface. EX1001: 3:35-36; 2:11-13; 4:57-65; 3:65-4:2; 7:15-20.

35. In general, and in my opinion, the claims of the ’264 Patent mix and match independent features and design choices that were each already well known in the art (*e.g.*, number and configuration of food holding bays, location and configuration of heating elements, location and configuration of the controls, inclusion of shelves and latches to hold and secure lids, and independent

temperature control). These features are combined according to their established functions and yield predictable results.

A. Prosecution History of the ’264 Patent

36. I understand that the application that turned into the ’264 Patent was filed on November 4, 2020. EX1002: 162. A preliminary amendment was filed on December 10, 2020, canceling the original claims and adding new claims. EX1002: 154-161. The Examiner issued an Office Action on January 12, 2023. EX1002: 68-73. The Patent Owner responded to the Office Action by submitting a terminal disclaimer and canceling the claims which had been rejected as being indefinite. EX1002: 46-54, 57-59, 62. Subsequently, a Notice of Allowance was issued. EX1002: 32-36.

III. BACKGROUND OF THE ART

37. Multi-zone food holding bins for keeping food warm were well known in the art. Likewise, the individual features of the multi-zone food holding bins as claimed in the ’264 Patent were previously available in the art.

38. With the exception of U.S. Patent No. 3,461,275 (“Poole”) (EX1025)—the prior art references identified in this declaration each pertain to food holding cabinets and are in the same field of endeavor with each other and with the ’264 Patent. EX1001: 1:64-2:18; EX1005: 1; EX1006: 1; EX1007: 8, 21-22, 26; EX1008: 1; EX1009: 7, 19, 36; EX1010: ¶[0002]; EX1011: ¶[0002];

EX1012: ¶[0003]; EX1013: ¶[0002]; EX1014: 1:13-21; EX1016: ¶[0002]; EX1017: 1:13-15; EX1018: 1:5-7; EX1019: 1:9-14; EX1022: ¶[0010]; EX1025: 1:25-26; EX1026: 1:5-7; EX1027: ¶[0001]; EX1028: 8, 14, 21; EX1042: ¶[0003]; EX1043: ¶[0001].

39. As discussed below, the food holding cabinets of these prior art references significantly overlap as to their basic design and intended operation, while presenting interchangeable design options and part configurations regarding the various features of the food holding cabinets that could be readily mixed and matched.

40. The lone reference that is not expressly directed to a food holding cabinet—Poole (EX1025)—is instead directed to heater elements of the type that would commonly be used in kitchen appliances such as food holding cabinets and thus is in the same field of endeavor with the other prior art references and with the ’264 Patent.

1. IRHS Documents

41. The Infrared Heatsink Holding Unit Operators Manual (EX1005) (“IRHS Manual”), the Infrared Heatsink Specifications (EX1006) (“IRHS Specifications”), the bk.dukemfg.com (EX1007) (“Duke Website”), Infrared Heatsink Holding Unit Service Manual (EX1008) (“IRHS Service Manual”) (collectively the “IRHS Documents” and each individually as an “IRHS

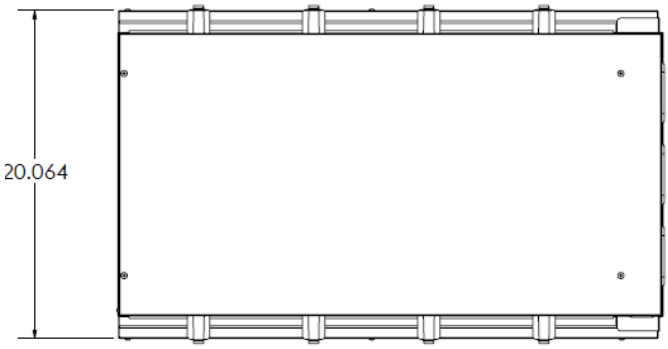
Document") each describe the same family of food holding units manufactured by Duke referred to as the Infrared Heatsink (IRHS) Holding Unit.

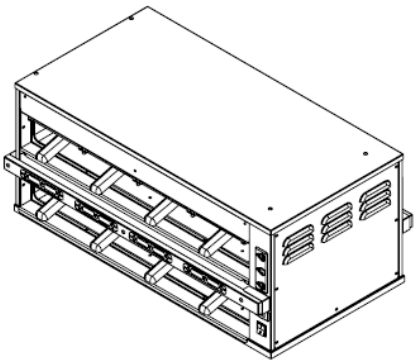
42. I understand that the IRHS Holding Unit was a commercial product that was introduced by Duke to the market in 2013, with sale beginning in 2014. I understand that the IRHS was originally developed for Burger King and was widely purchased by Burger King franchisees, but that the IRHS was not exclusive to Burger King.

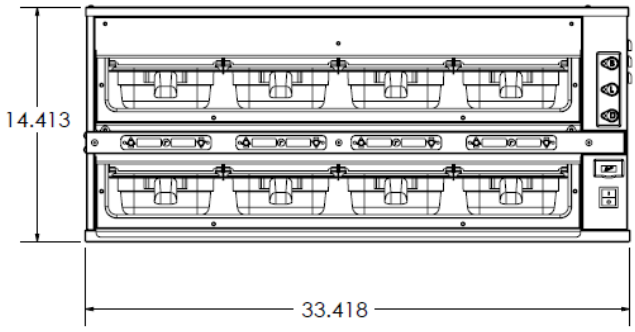
i. IRHS Manual (EX1005)

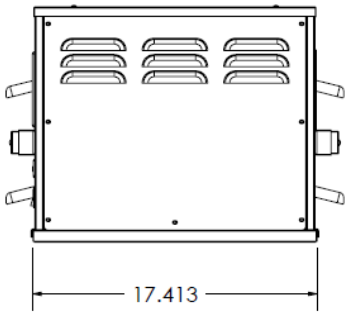
43. The IRHS Manual is a user manual published by Duke for the IRHS Holding Unit. EX1005: 1. I understand that the version of the IRHS Manual present in this proceeding was tailored to Burger King and distributed with approximately hundreds of IRHS units that were sold from February 2014 to September 2014. I understand that there have been earlier and later revisions, as well as versions of the IRHS Manual that were not tailored to Burger King.

44. The IRHS Manual lists the different configurations of the IRHS Holding Unit, including the 2x4 IRHS Holding Unit and the 3x4 IRHS Holding Unit shown below:

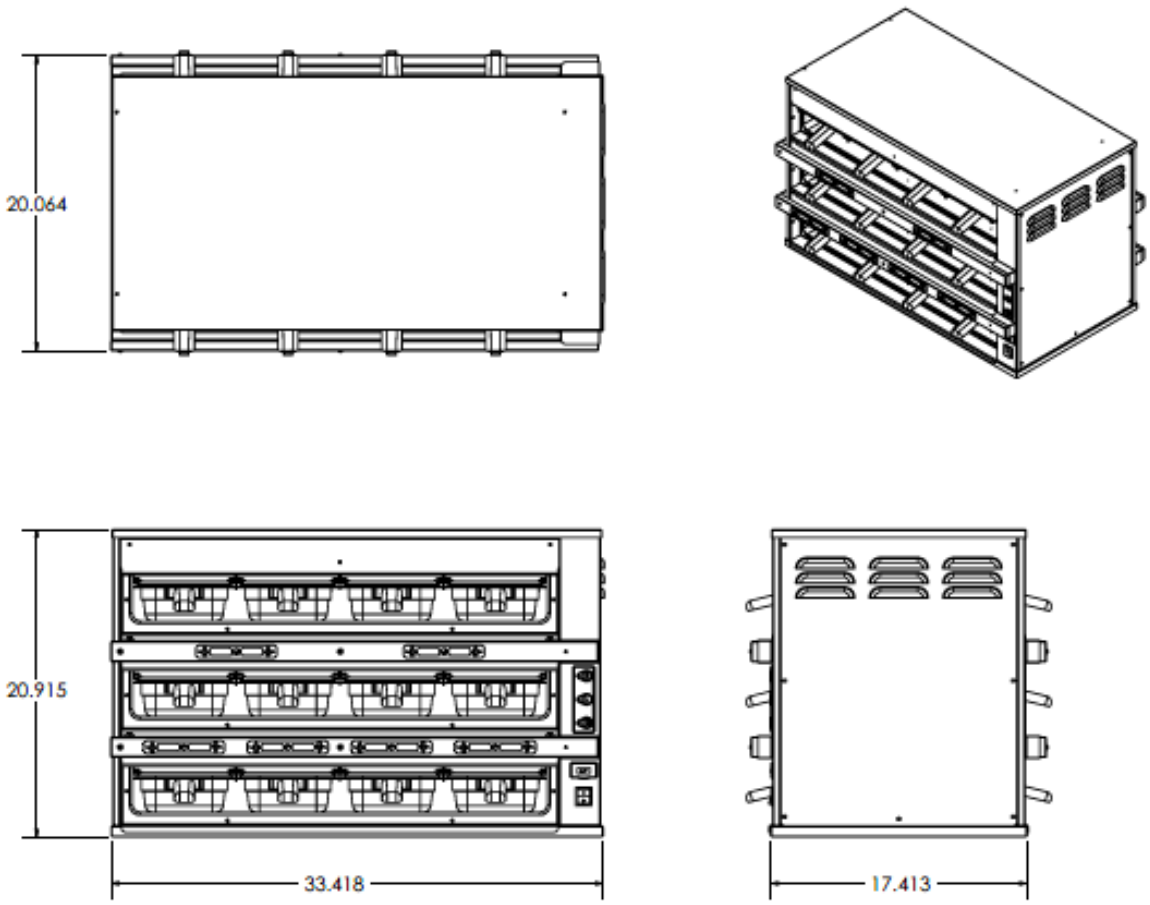








EX1005: 8.



EX1005: 9.

45. The IRHS Manual lists the IRHS22, IRHS23, IRHS24, IRHS34, and IRHS42 models of the IRHS Holding Unit. The numerical portion of the model number was indicative of the configuration of the IRHS Holding Unit identifying the number of shelves within the IRHS Holding Unit and the number of food holding locations across the shelves. As an example, the 2x4 IRHS Holding Unit shown above had the model number IRHS24.

46. The IRHS Manual states:

> "The IRHS Holding Unit was developed specifically to address the needs of Burger King restaurant operations and profitability. ... This

> new technology allows you to precisely control the environment in each pan, allowing customized settings for each food product. This gives you the ability to maintain gold standard sensory attributes at drastically extended hold times while delivering hotter food to your customers." EX1005: 4.

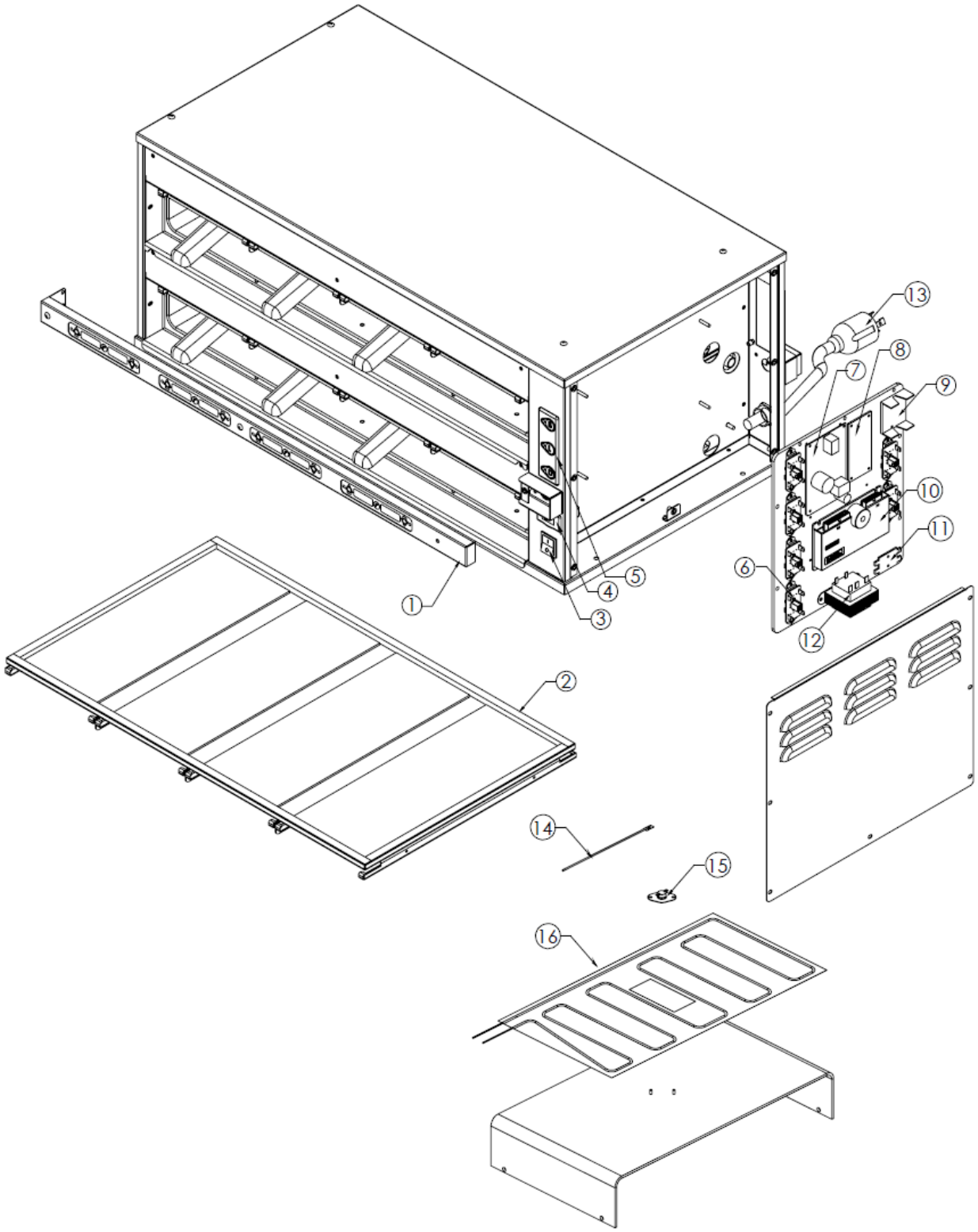
47. The IRHS Manual further states:

> "This new technology allows you to precisely control the environment in each pan, allowing customized settings for each food product. This gives you the ability to maintain gold standard sensory attributes at drastically extended hold time while delivering hotter food to your customers. To accomplish this, each food product has a tailored HeatSink temperature and InfraRed pulse rate. To ensure optimal hold quality, it is essential to press the up or down arrow corresponding with the pan location to activate a hold cycle. This starts the appropriate IR pulse rate as well as the timer countdown." EX1005: 16.

48. The IRHS Manual explains how to switch between breakfast, lunch, and dinner menus using the daypart buttons and how to view product names and temperatures on the displays. EX1005: 16-17.

49. The IRHS Manual also provides an exploded view of the 2x4 IRHS Holding Unit and a parts list. EX1005: 19-20.

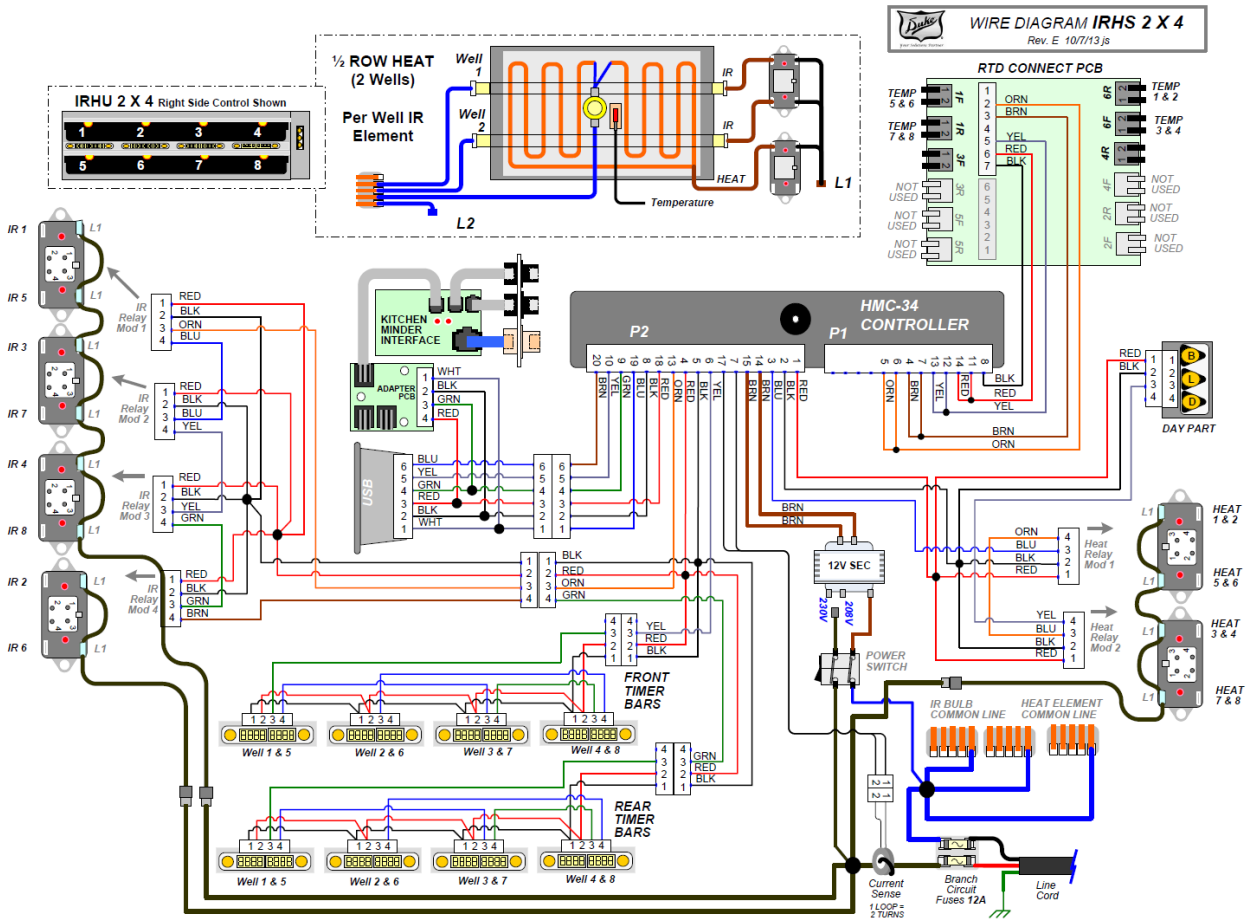
PARTS LISTS AND ILLUSTRATIONS



EX1005: 19.

50. The IRHS Manual further includes wiring schematics for the different configurations of the IRHS Holding Unit. EX1005: 22-27.

51. The wiring diagram for the 2x4 IRHS Holding Unit is shown below:

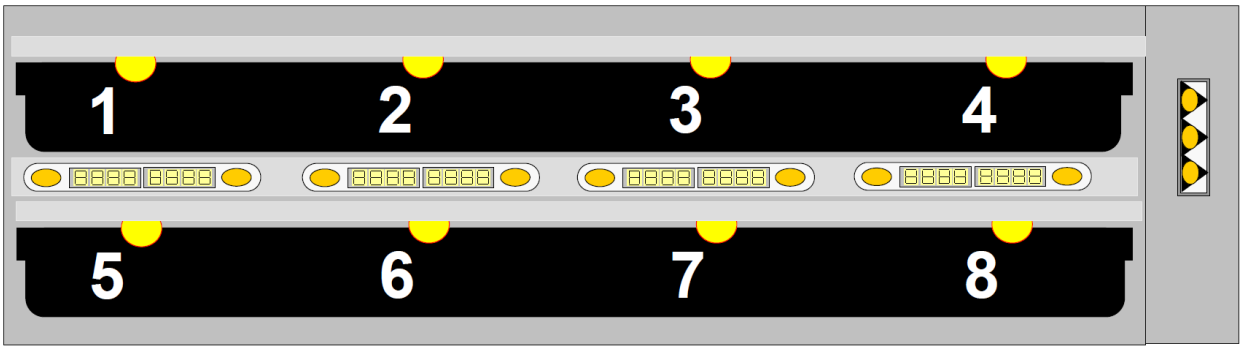


EX1005: 25.

52. The wiring diagram demonstrates the 2x4 IRHS Holding Unit has a controller for controlling operation that is in wired communication with the electronically controlled dual output relays (*e.g.*, IR1-8 and Heat 1&2-7&8) that switch the heating elements on and off. EX1005: 25. The wiring diagram also

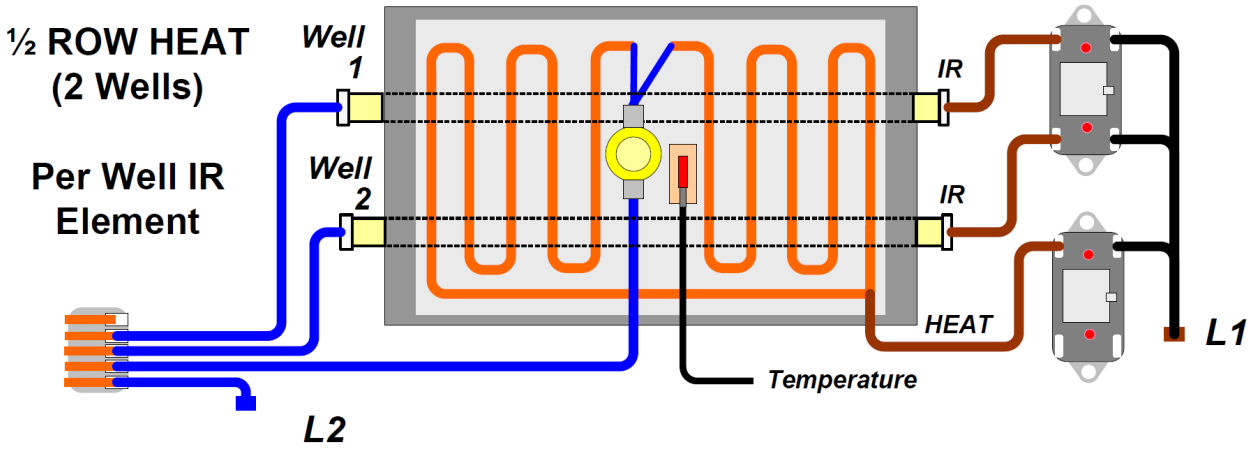
demonstrates that the controller is in communication with the displays and buttons of the timer bars for transmitting and receiving signals therebetween. EX1005: 25.

53. The wiring schematic also includes a diagram showing each pan holding location or well (numbered 1-8) of the 2x4 IRHS Holding Unit having a dedicated IR heating element (yellow bulb) as shown schematically below:



EX1005: 25.

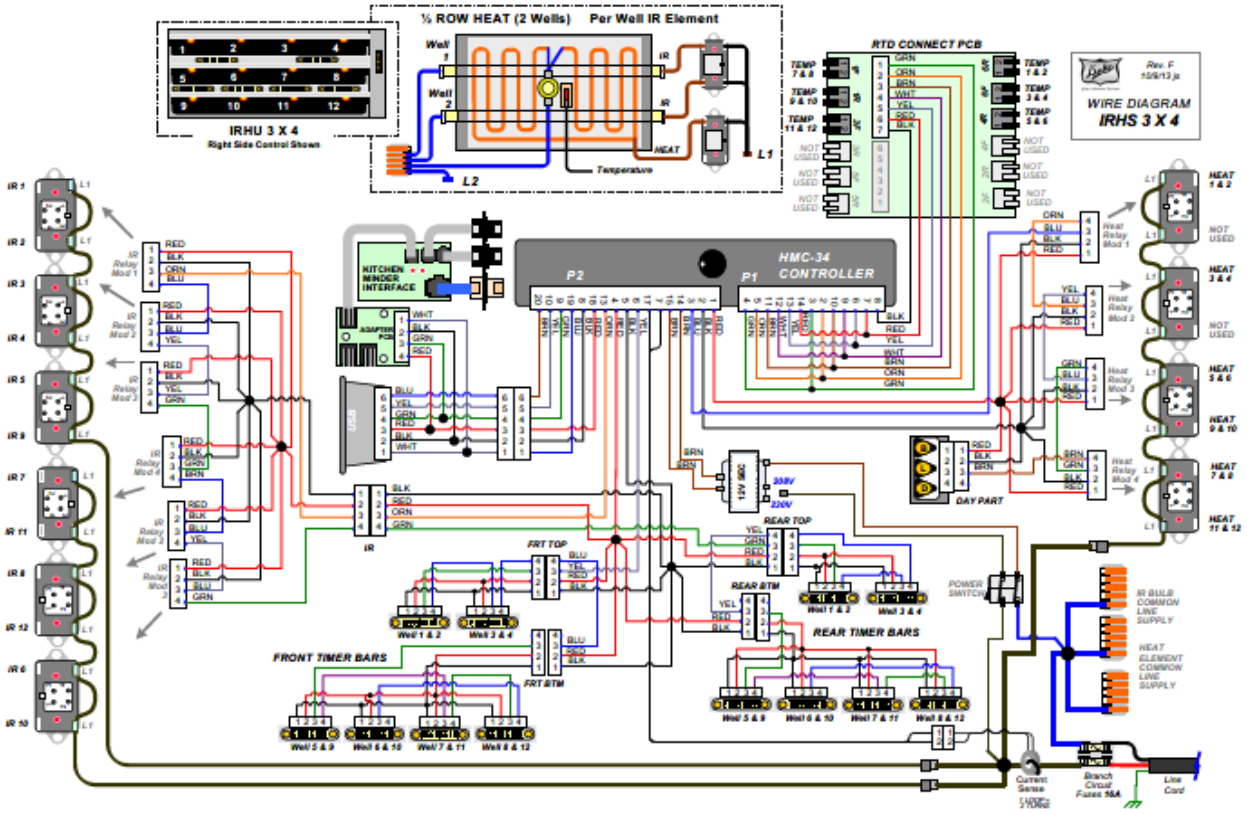
54. Another diagram of the wiring schematic illustrates the general arrangement of the electric heating elements for half of a row of the 2x4 IRHS Holding Unit (*e.g.*, for two adjacent pan locations/wells). EX1005: 25. For example, this diagram illustrates the heating element arrangement for pan holding locations 1 and 2. Based on this diagram, it is understood that this heating element arrangement is duplicated four times in the 2x4 IRHS Holding Unit, one for pan holding locations 1 and 2, one for pan holding locations 3 and 4, one for pan holding locations 5 and 6, and one for pan holding locations 7 and 8.



EX1005: 25.

55. Thus, the wiring schematic would be understood as disclosing that each pan holding location is heated from above by dedicated IR heating elements (*e.g.*, eight IR heating elements total). EX1005: 25. The wiring schematic further would be understood as disclosing that each compartment or row is heated from below by two electric heating elements (*e.g.*, four electric heating elements total) arranged side-by-side, such that each electric heating element heats two adjacent pan holding locations. EX1005: 25.

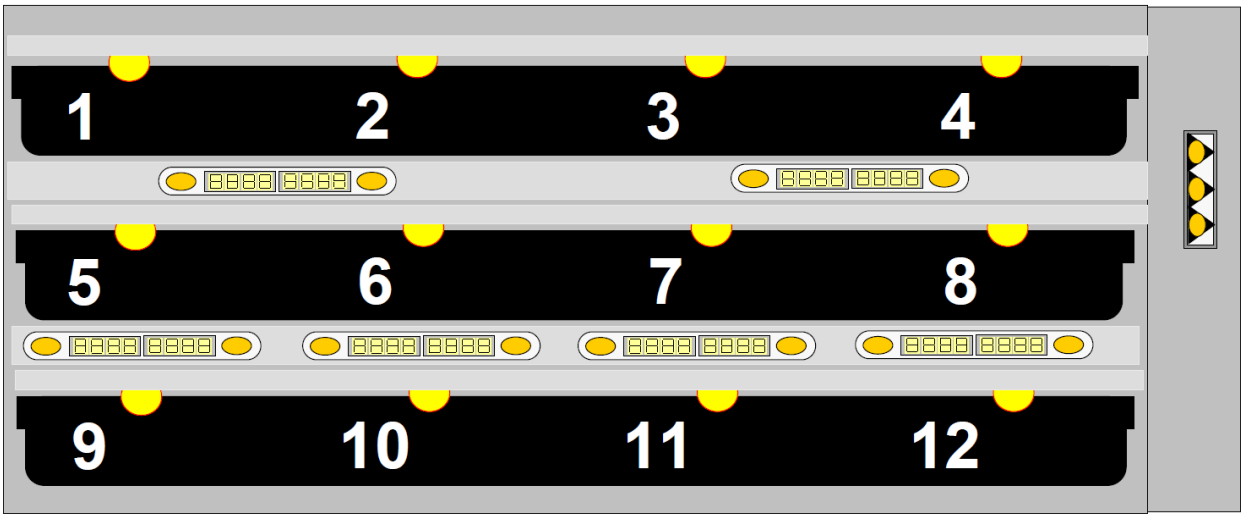
56. Similarly, the IRHS Manual includes the wiring diagram for the 3x4 IRHS Holding Unit shown below:



EX1005: 26.

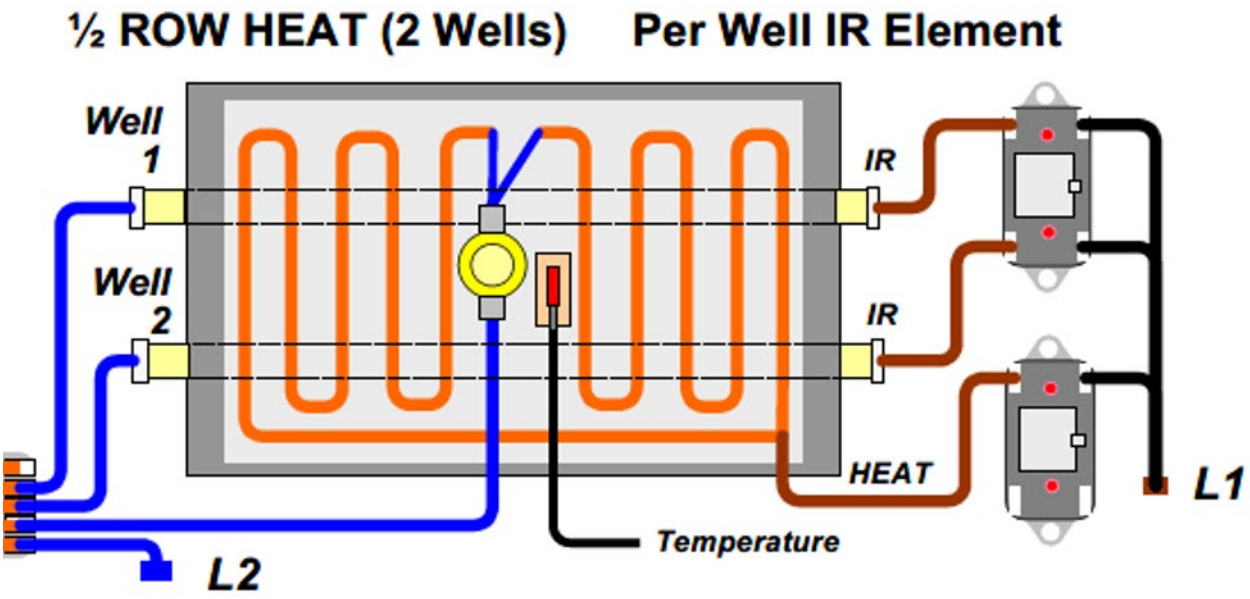
57. The wiring diagram demonstrates the 3x4 IRHS Holding Unit has a controller for controlling operation that is in wired communication with the electronically controlled dual output relays (e.g., IR1-12 and Heat 1&2-11&12) that switch the heating elements on and off. EX1005: 26. The wiring diagram also demonstrates the controller is in communication with the displays and buttons of the timer bars, for transmitting and receiving signals therebetween. EX1005: 26.

58. The wiring schematic includes a diagram showing each pan holding location, bay, or well (numbered 1-12) of the 3x4 IRHS Holding Unit having a discrete IR heating element (yellow bulb, as shown schematically below:



EX1005: 26.

59. Another diagram of the wiring schematic illustrates the general arrangement of the electric heating elements for half of a row of the 3x4 IRHS Holding Unit (e.g., for two adjacent pan locations/wells). EX1005: 26. For example, this diagram illustrates the heating element arrangement for pan holding locations 1 and 2. Based on this diagram, it is understood that this heating element arrangement is duplicated six times in the 3x4 IRHS Holding Unit, one for pan holding locations 1 and 2, one for pan holding locations 3 and 4, one for pan holding locations 5 and 6, one for pan holding locations 7 and 8, one for pan holding locations 9 and 10 and one for pan holding locations 11 and 12.



EX1005: 26.

60. Thus, the wiring schematic tells the user that each pan holding location is heated from above by discrete IR heating elements (e.g., twelve IR heating elements total). EX1005: 26. The wiring schematic further tells the user that each compartment or row is heated from below by two electric heating elements (e.g., six electric heating elements total) arranged side-by-side, such that each electric heating element heats two adjacent pan holding locations. EX1005: 26.

ii. IRHS Specifications (EX1006)

61. The IRHS Specifications is a 2013 two-page document from Duke summarizing the different models of the IRHS Holding Unit and their features. EX1006. The IRHS Specifications disclose a number of features of the IRHS Holding Unit, including:

- A model with a 2x4 (two rows of pan holding locations by four columns of pan holding locations) configuration (the IRHS24 model);
- "Anodized aluminum HeatSink";
- "Individually controlled IR emitters pulse on and off for controlling optimum amount of energy being applied to the food";
- "Zoned bottom heat to provide additional holding environment customization";
- "IR Turbo Boost for instant shot of IR energy";
- "Custom heat settings for food product";
- "Each compartment individually controlled";
- "Alphanumeric displays to indicate product description, temp and hold time remaining";
- "Web based programming via USB";
- "Day part switch for global recipe changes (B, L, D)";
- "Upper IR emitters provide optimum environment";
- "Bottom zoned heat element provides gentle heat to minimize temperature distribution from top to bottom of pan"; and
- "Programmable via website & USB with daypart switch to facilitate global recipe changes."

EX1006: 1.

iii. Duke Website (EX1007)

62. The Duke Website is an archived collection of URLs from the Wayback Machine as they existed in January 2015 from a Duke website tailored for Burger King restaurants—but that I understand was publicly available and accessible—for marketing a variety of commercial kitchen equipment. The Duke Website included a landing webpage with indexed links to additional information

for a number of Duke products and to a literature webpage (EX1007: 5-6), a webpage ("IRHS Webpage") about the IRHS Holding Unit (EX1007: 8-13); a webpage ("Expedite Webpage") about an Expedite Station that includes an IRHS Holding Unit (EX1007: 20-23); a literature webpage (EX1007: 15), and a 2014 Burger King Catalog ("IRHS Catalog") available from the literature webpage which includes details about the IRHS Holding Unit (EX1007: 26-73).

63. The IRHS Webpage discloses various illustrations, details, and information about the IRHS Holding Unit:

Menu Item	Hold Time Increase with New IRHS (%)	Hold Time Increase with New IRHS (min)
EXPEDITE - FRIED		
Chicken Strips	200%	40 min
Nuggets	100%	30 min
MAIN BOARD - FRIED		
Chick'n Crisp	100%	30 min
OCS	500%	30 min
Tendercrisp	150%	45 min
Fish	50%	15 min
MAIN BOARD - BROILED		
Whopper Jr.	78%	45 min
Tendergrill	25%	30 min
1.7 burger	100%	45 min
Whopper	100%	45 min
Turkey Burger	100%	45 min
Stuffed Burger	100%	45 min
Rib Patty	100%	45 min
BKFST		
Eggs	100%	45 min
Sausage Patty	50%	30 min
French Toast Sticks	33%	15 min

Significantly extend all hold times across the menu, including fried foods



EX1007: 9.



EX1007: 10.

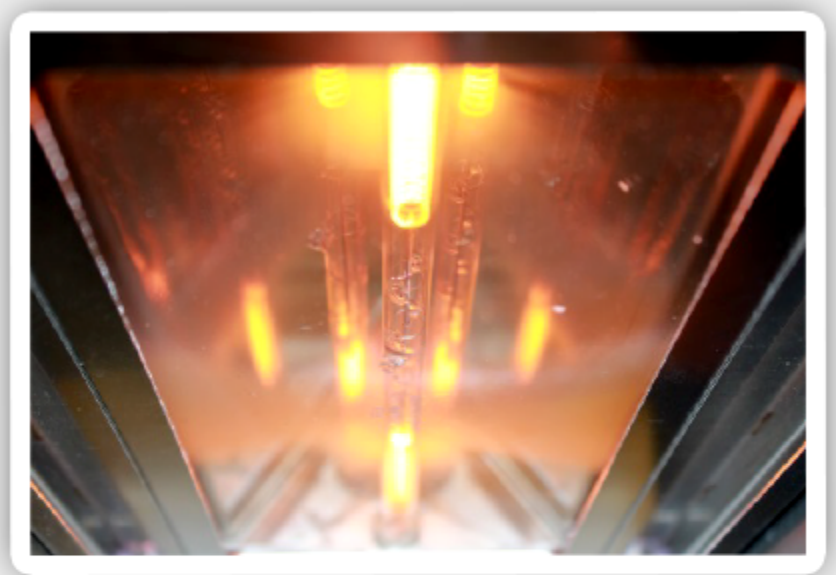


More Product Information at Each Well

(Product, Hold Time Remaining, Temperature)

EX1007: 10.

Duke Sealed IR



- Long lasting, proven emitters have been used in Duke holding equipment for 10 years.
- The IR energy is pulsed on only when needed to control energy usage and extend the life of the emitters.
- There are no moving parts or openings for grease to compromise the components.
- IR emitter is securely housed in a sealed compartment behind tempered glass.
- Idle mode creates Serv-Safe environment if operator forgets to start hold cycle

EX1007: 11.



EX1007: 12.

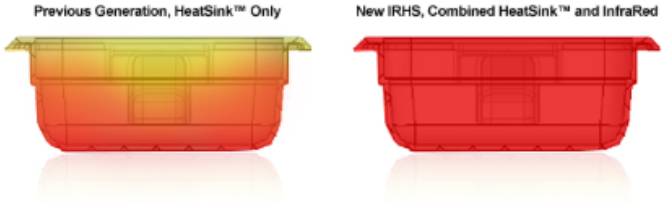
64. The Expedite Webpage likewise includes additional illustrations, details, and information about the IRHS:

Duke's IRHS includes advanced holding technologies to produce a consistently hot product, while doubling hold times across the board. The improved design, flexibility, consistency and kitchen integration will position your operation for continued growth.

- Dual holding technologies for hot, consistent product temperatures
- Solid-state, fanless, design and fully sealed cavity prevent grease migration
- Heavy, robust aluminum covers for individual control
- Utilize "Turbo Boost" for a quick shot of heat to the product
- Unlimited flexibility for current and future menus
- Hold any food item in any well, knowing it is optimized for that product
- Energy efficient technology that utilizes idle mode, preventing forced hot air into the kitchen
- Web programming to quickly and easily update menus
- Connect to your kitchen management system
- Reduced footprint

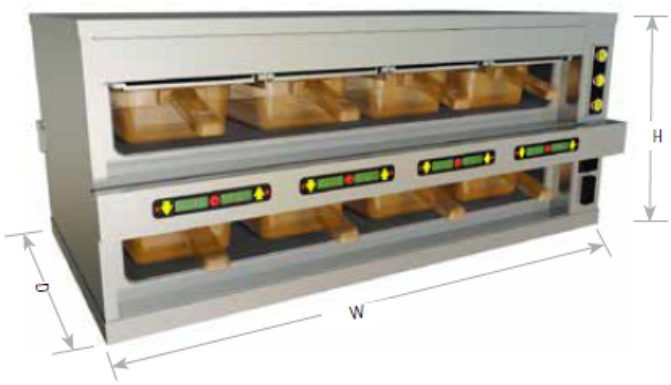
Learn more about the InfraRed HeatSink™ Holding Unit





EX1007: 21-22.

65. The IRHS Catalog is a 2014 catalog from Duke containing a variety of commercial kitchen equipment for Burger King restaurants. Included in this catalog was a section for the IRHS Holding Unit. EX1007: 51-58. The IRHS Catalog listed different IRHS Holding Unit configurations, including the 2x4 and the 3x4 configurations shown below:



2x4 | IRHS (InfraRed HeatSink™)

H 13.33 in 33.86 cm W 33.42 in 84.88 cm D 17.42 in 44.24 cm

Cubed ft. Crated 13.0 | Crated Ship Weight 165 lbs / 75 kg

c UL us LISTED CE

Part #'s	Controls	Stand-Alone/ Master/Satellite	Electrical Requirements			
			Voltage	Hz	Amps	NEMA
IRHS24-**XXX**4T1R	Single	Stand-Alone	208 / 230 / 240	50/60	12	6-15P (208V/240V)
IRHS24-**XXX**4T2R	Double	Stand-Alone	208 / 230 / 240	50/60	12	6-15P (208V/240V)
IRHS24-**XXX**4T1S	Single	Satellite	208 / 230 / 240	50/60	12	6-15P (208V/240V)
IRHS24-**XXX**4T1M	Single	Master	208 / 230 / 240	50/60	12	6-15P (208V/240V)
IRHS24-**XXX**4T2S	Double	Satellite	208 / 230 / 240	50/60	12	6-15P (208V/240V)
IRHS24-**XXX**4T2M	Double	Master	208 / 230 / 240	50/60	12	6-15P (208V/240V)

Notes
1. Replace "XXX" in the part # with the respective power supply
2. 230V Unit Electrical Requirements: IEC 60309 PIN & SLEEVE PLUG, 16 AMP

WARRANTY:
3 year parts and 1 year labor for timer bar IRHS
3 year parts and 2 year labor for VISIONenabled IRHS – no timer bar unit

EX1007: 56.



3x4 | IRHS (InfraRed HeatSink™)

H 19.30 in 49.02 cm W 33.42 in 84.88 cm D 17.42 in 44.24 cm

Cubed ft. Crated 16.5 | Crated Ship Weight 240 lbs / 109 kg

Part #'s Right Hand	Controls	Stand-Alone/ Master/Satellite	Electrical Requirements			
			Voltage	Hz	Amps	NEMA
IRHS34-**XXX**6T2R	Double	Stand-Alone	208 / 230 / 240	50/60	16	6-20P (208V/240V)
IRHS34-**XXX**6T2M	Double	Master	208 / 230 / 240	50/60	16	6-20P (208V/240V)
IRHS32-XXX6T2S	Double	Satellite	208 / 230 / 240	50/60	16	6-20P (208V/240V)

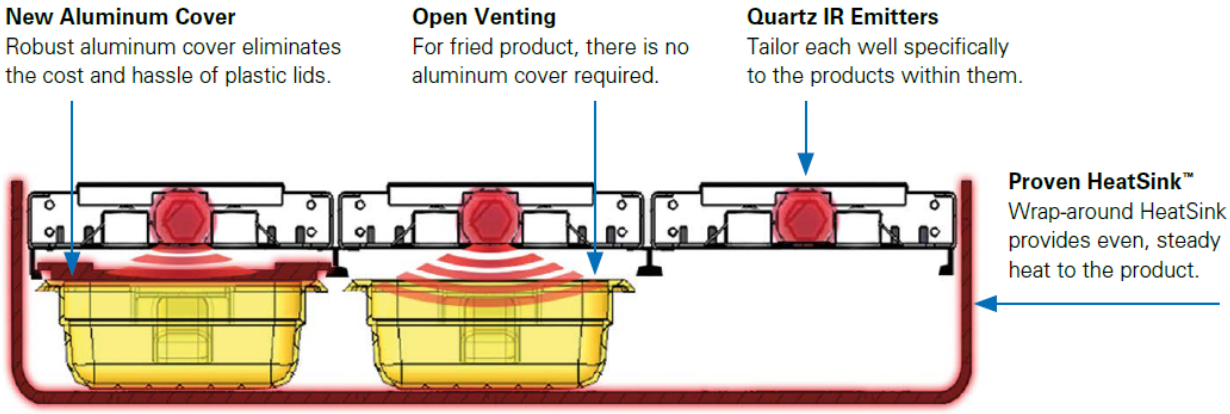
Notes
1. Replace "XXX" in the part # with the respective power supply
2. 230V Unit Electrical Requirements: IEC 60309 PIN & SLEEVE PLUG, 16 AMP

WARRANTY:
3 year parts and 1 year labor for timer bar IRHS
3 year parts and 2 year labor for VISIONenabled IRHS – no timer bar unit

EX1007: 56.

66. The IRHS Catalog explains the IRHS Holding Unit heats each food pan from the bottom with a HeatSink and from the top with InfraRed heat.

EX1007: 51.



EX1007: 53.

67. The IRHS Catalog further disclosed the IRHS Holding Unit as having the following features and benefits:

- "Improved temperature consistency throughout the pan through the unique use of dual holding technologies, InfraRed and HeatSink" (EX1007: 53);
- "IR is pulsed only when needed, leading to drastic energy savings" (EX1007: 53);
- "Robust Duke timer bars" (EX1007: 53);
- "Precise holding for each product in an optimized environment tailored to that product" (EX1007: 53);
- "Total well independence allows freedom in product placement in the IRHS" (EX1007: 53);
- "Smaller footprint allows IRHS to fit into smaller space" (EX1007: 53); and
- "USB Drive: Allows for web programming updates for your [] IRHS holding unit[]" (EX1007: 58).

iv. IRHS Service Manual (EX1008)

68. The IRHS Service Manual is a sixty-eight page document from Duke explaining technical and service information about the IRHS Holding Unit. EX1008. The IRHS Service Manual includes various views of the IRHS Holding Unit and disclosures of the features of the products.



EX1008: 1.

2. Fortmann'748 (EX1010)

69. U.S. Patent Publication No. 2010/0288748 ("Fortmann'748") teaches a warming cabinet (10) for keeping food in trays (100) warm before serving. EX1010: ¶¶[0002], [0014], Fig. 1. The cabinet (10) has a plurality of shelves (21) dividing the warming volume (18) into separate compartments that receive multiple trays (100) of food. EX1010: ¶¶[0014]-[0015], Figs. 1 and 6.

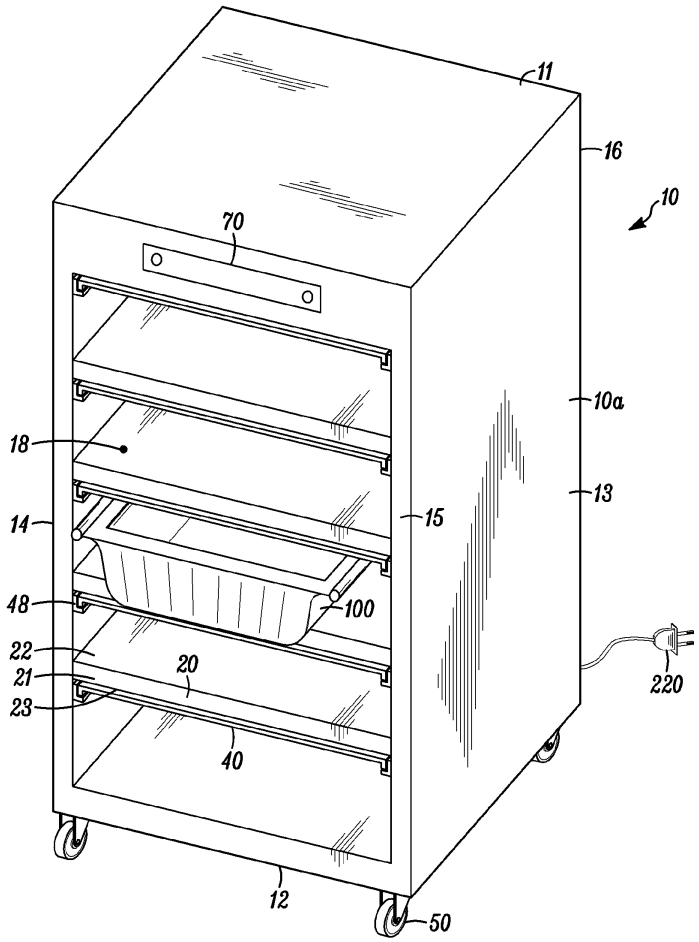


FIG. 1

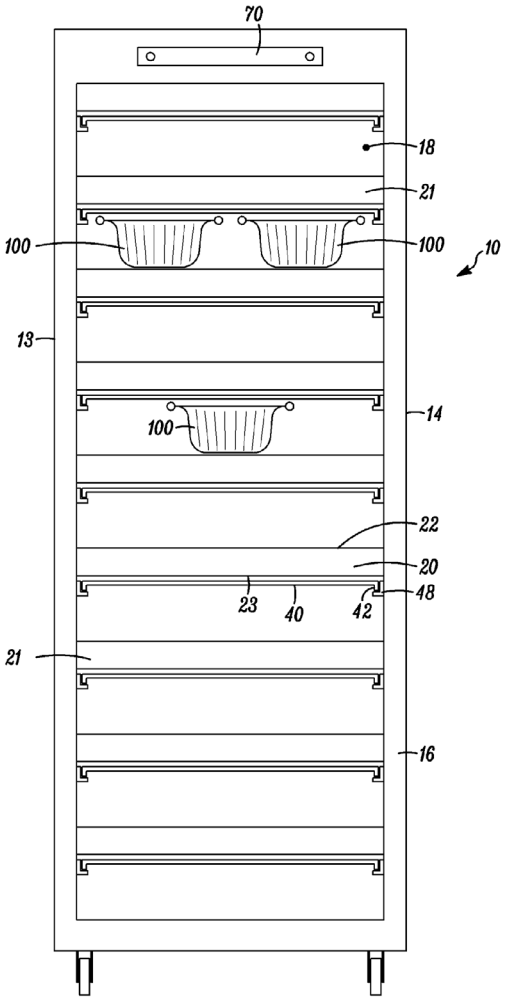


FIG. 6

EX1010: Figs. 1 and 6.

70. Each shelf (21) of Fortmann'748's cabinet (10) includes "one or more heaters 60 … that are disposed within the internal volume [of the] shelf 21." EX1010: ¶[0019], Fig. 2. The heaters (60) associated with each shelf (21) are disclosed as being independently controllable relative to the heaters of other shelves "to establish two or more heat zones of differing temperatures within the warming volume [18]." EX1010: ¶¶[0021], [0024].

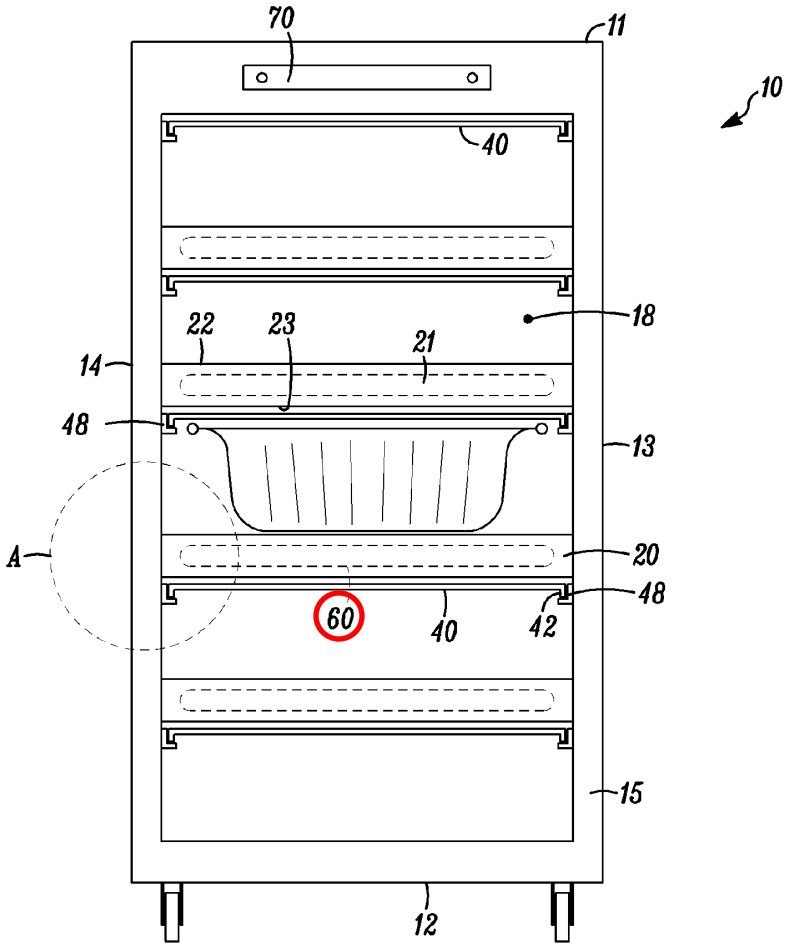


FIG. 2

EX1010: Fig. 2 (annotated).

71. Each compartment of Fortmann'748's cabinet is disclosed as including a removable lid or cover (40) to prevent the heat in the pans from escaping and to retain moisture within the pan. EX1010: ¶[0017], Fig. 4.

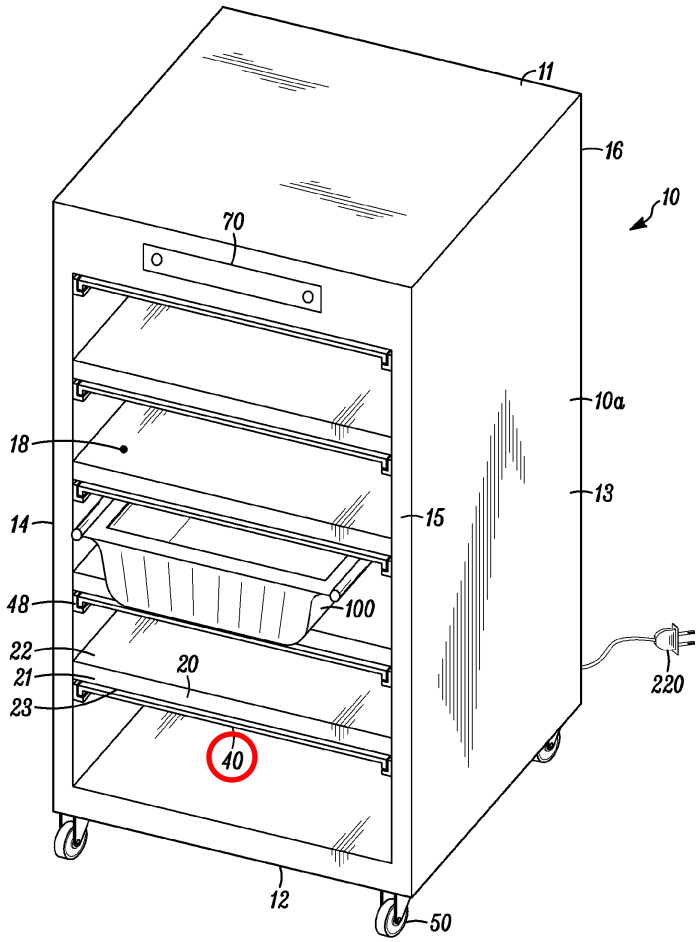


FIG. 1

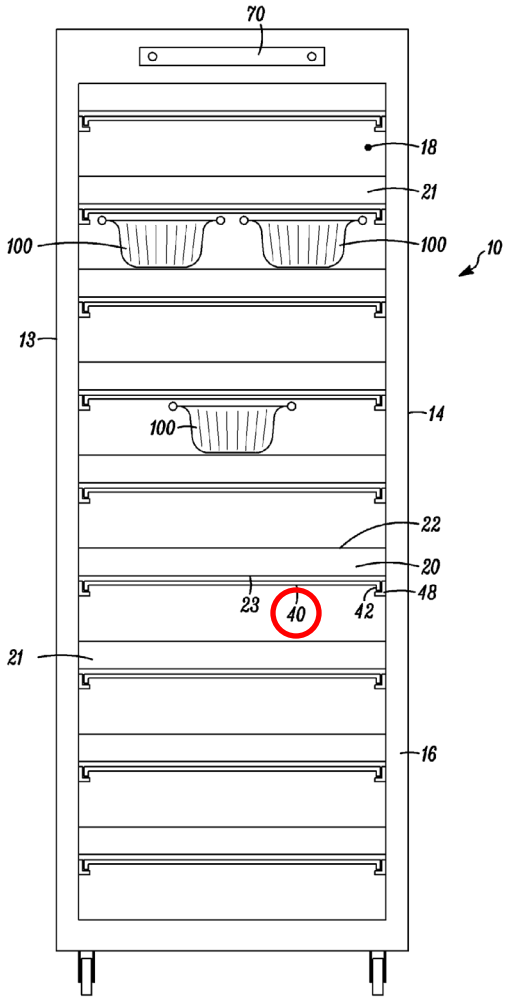


FIG. 6

EX1010: Figs. 1 and 6 (annotated).

72. Fortmann'748 further teaches one embodiment of a control system having "one [or] more sensors disposed in each heating zone," "an input device for the user to select the desired temperature [] within the heating zone" and a "controller [that] selectively provide[s] or secure[s] current to the one or more heaters 60 disposed within each zone to control the temperature of the zone." EX1010: ¶[0027]. The control system is described as "adjust[ing] the heat output within each zone to achieve the desired temperature." EX1010: ¶[0027].

3. Jones (EX1012)

73. U.S. Patent Publication No. 2007/0108178 ("Jones") teaches a food holding cabinet (12b) with an upper heating compartment (UHC) and a lower heating compartment (LHC), each for receiving food trays (14). EX1012: ¶¶[0069], [0072], Fig. 1B. The upper and lower heating compartments (UHC, LHC) are separated by a shelf (36). EX1012: ¶[0072], Fig. 1B.

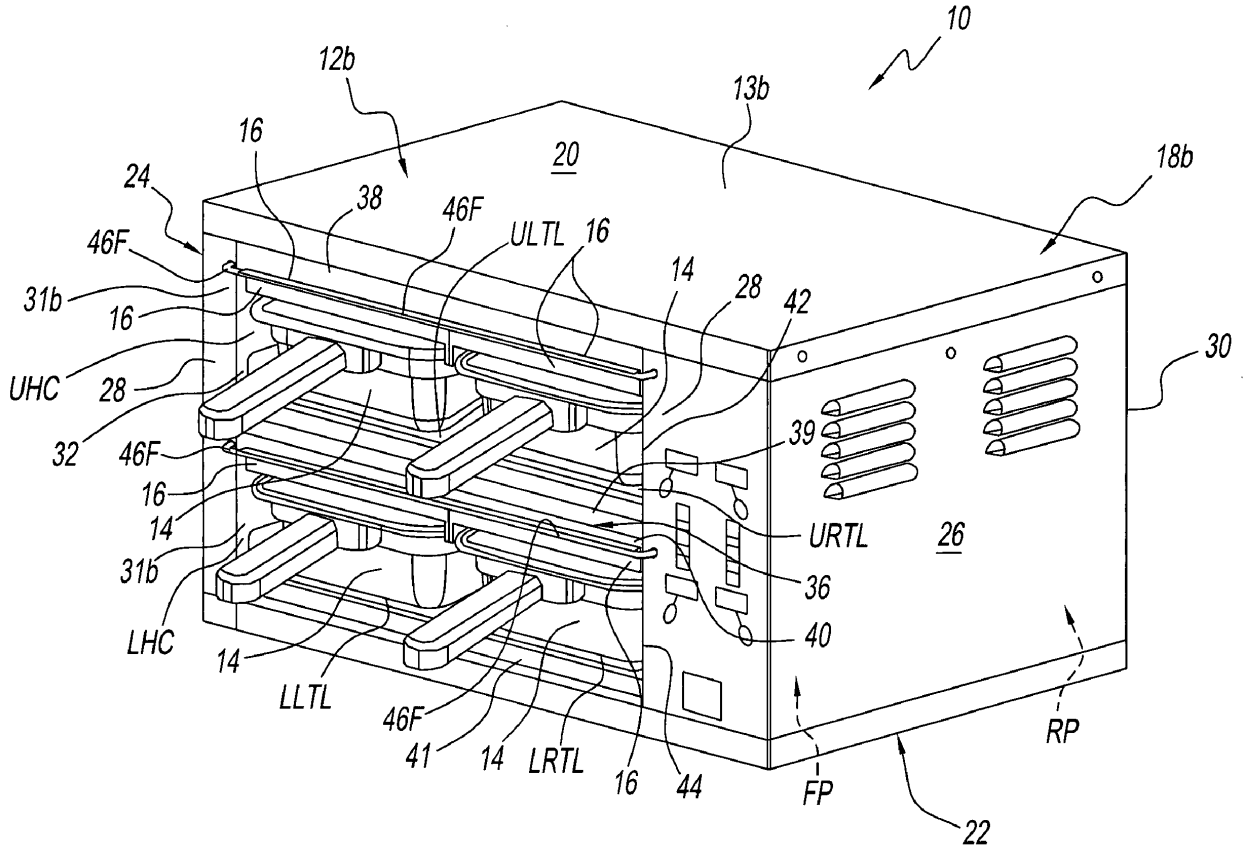


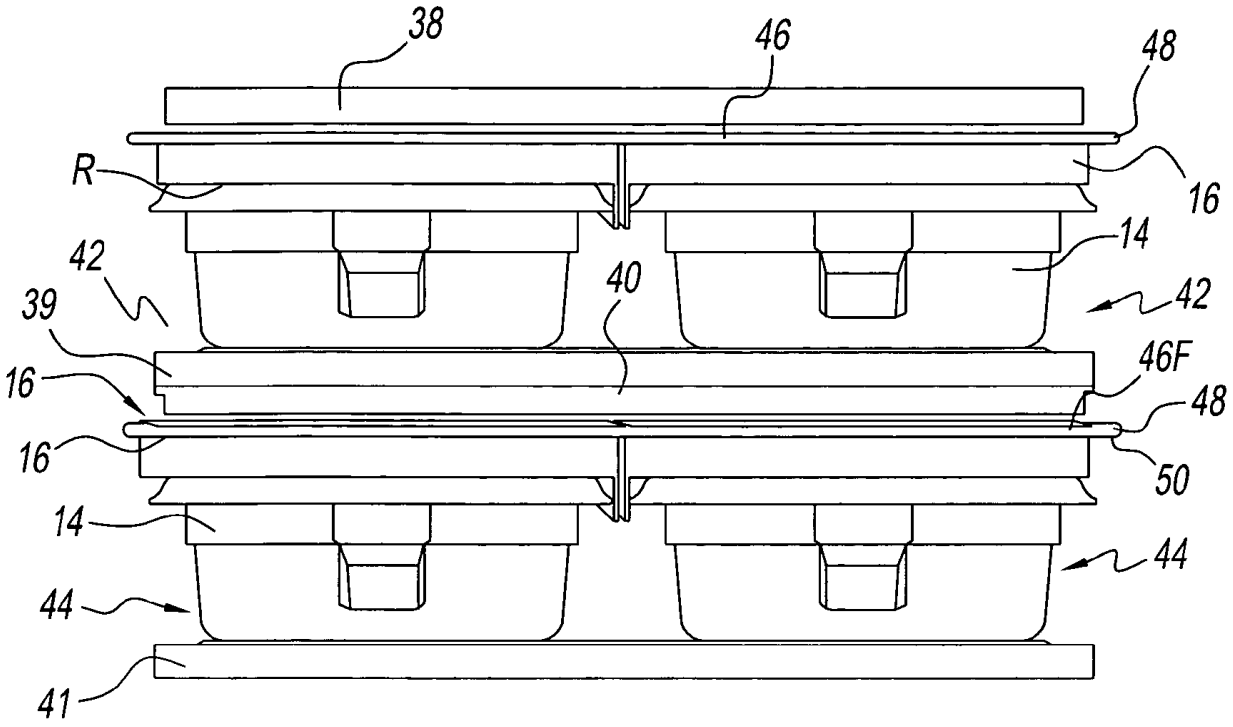
Fig. 1B

EX1012: Fig. 1B.

74. The food holding cabinet (12b) receives four food trays (14). EX1012: ¶[0072], Fig. 1B. Specifically, the upper heating compartment (UHC)

has an upper left tray location (ULTL) and an upper right tray location (URTL), while the lower heating compartment (LHC) similarly has a lower left tray location (LLTL) and a lower right tray location (LRTL). EX1012: ¶[0072], Fig. 1B.

75. As illustrated in Figure 1G, Jones's food holding cabinet (12b) has one set of an upper heater (38, 40) and lower heater (39, 41) for each heating compartment (UHC, LHC). EX1012: ¶[0073], Fig. 1G.



EX1012: Fig. 1G.

76. Jones further explains that instead of having only one set of an upper heater and lower heater for each heating compartment (UHC, LHC), each tray location (ULTL, URTL, LLTL, LRTL) may include its own dedicated upper and lower heaters. Jones identifies this configuration as a preferred embodiment.

> "In preferred embodiments, for example, in food holding cabinet 12b of FIG. 1B, there are eight heaters, one mounted above and another mounted below each of the upper left and right tray locations, and one mounted above and another mounted below each of the lower left and right tray locations."

EX1012: ¶[0096].

77. Jones explains that in this preferred configuration the respective temperature settings for the top and bottom heating elements for each of its tray locations/zones can be set and associated with a specific food product type, regardless of the other food product types being held in the other zones. EX1012: ¶[0098] ("unique control features of the invention provide control over … upper and lower heat settings [] that are programmed into the software for each product name. Thus, the product holding parameters are tied to the product name and not a specific location in the cabinet, no matter at which locations the product name is displayed" and "temperature settings for the top and bottom heater that are set to the product name and no matter how many locations have the same product name displayed"). Furthermore, the control panel operations of the embodiment are disclosed as providing the ability to individually set the temperature of the upper and lower heating elements for each food product type:

> Set Temperatures
> Press and Hold 'Program' Button
> Use 'Up' and 'Down' Arrows to ***Select Product***
> Press 'Temperature' Button
> Use 'Up' and 'Down' Arrows to Set ***Upper Heater Temperature***

Press ‘Temperature’ Button
Use ‘Up’ and ‘Down’ Arrows to Set ***Lower Heater Temperature***
Press and Hold ‘Program’ Button to Finish.

EX1012: ¶[0130].

78. Jones also teaches the inclusion of a discrete lid for each pan/pan holding location. EX1012: ¶[0072] (“a food tray cover 16 above each respective upper left tray location ULTL and upper right food tray location URTL, and … a food tray cover above each respective lower left and lower right food tray locations, LLTL and LRTL”), Fig. 1B.

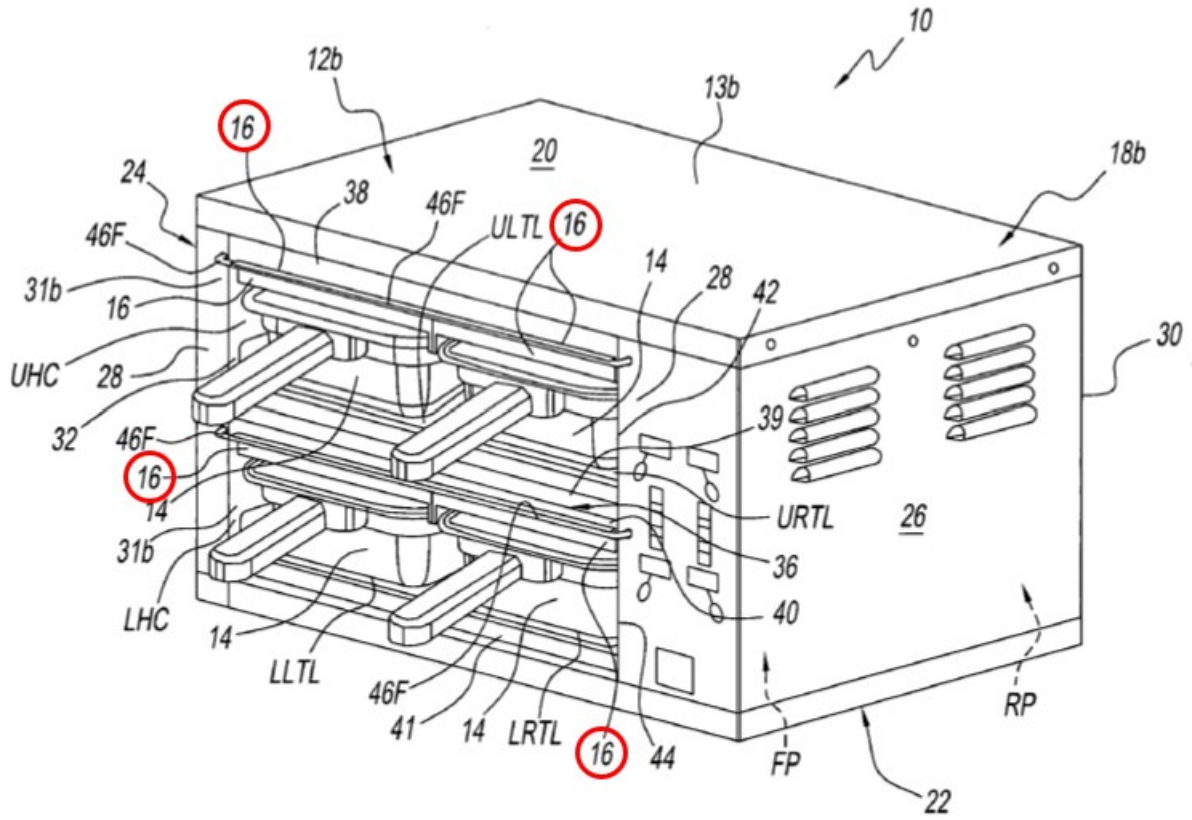


Fig. 1B

EX1012: Fig. 1B (annotated).

79. Jones also teaches a control system that is programmed so that "food product holding parameters are assigned to and follow the name of the food product, not the tray or bin location." EX1012: ¶[0098]. Such parameters include the top and bottom temperature settings. EX1012: ¶[0098].

80. Jones's control system operates the cabinet (e.g., heating elements) for each particular holding location/bay based on the food product name assigned to that particular holding location/bay. EX1012: ¶[0098] ("assigns the holding parameters, top and bottom temperature and count down timings to the product name, so wherever the product name is displayed, the holding parameters follow").

81. To set the food product name for each holding location/bay, Jones includes program button (82) "for accessing a given list of food items to be held in [the] holding cabinet." EX1012: ¶¶[0097], [0112]-[0115].

82. Jones also has temperature and arrow buttons (85, 86, 88) for setting the temperature. EX1012: ¶¶[0097], [0124]-[0125].

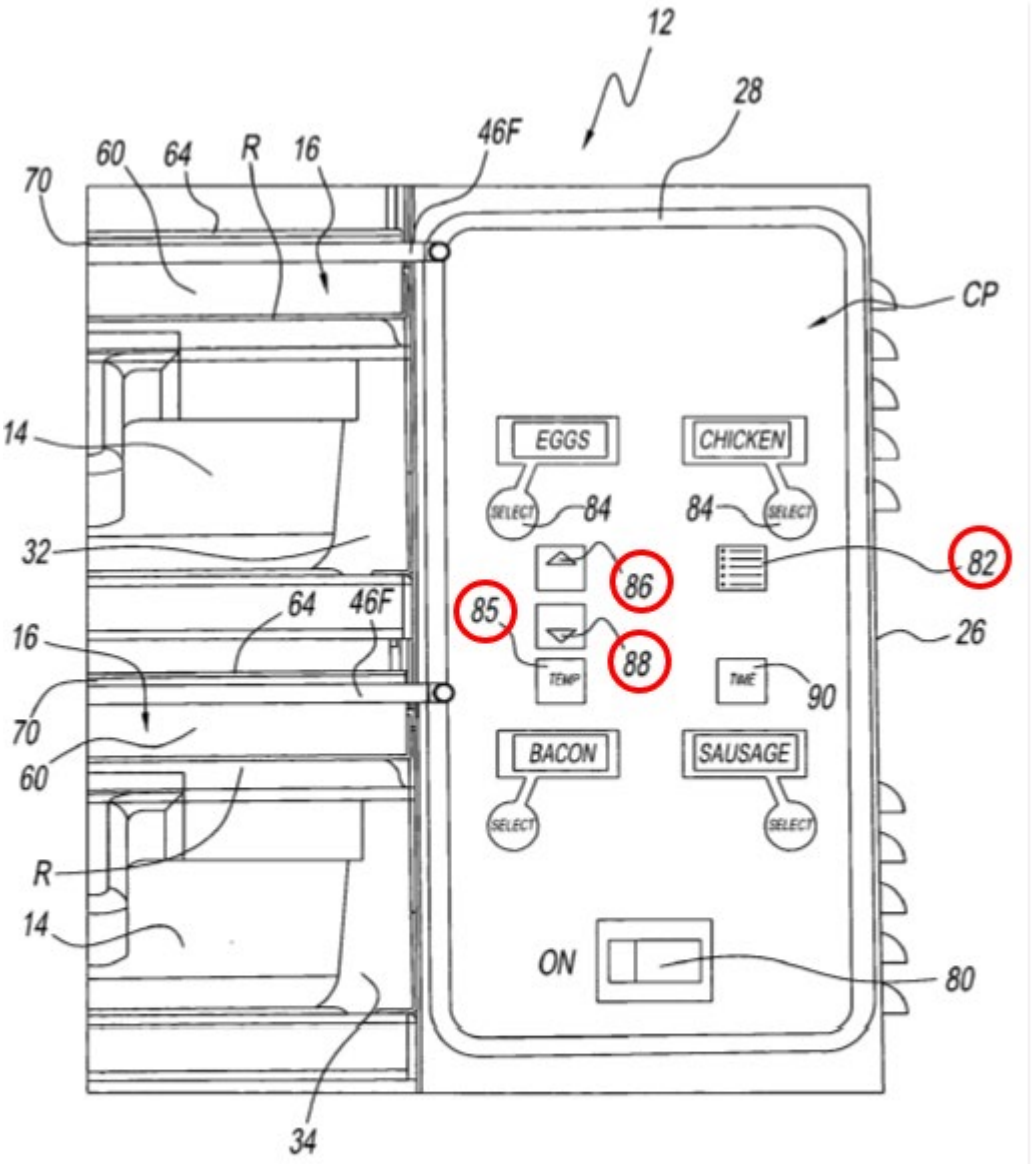


Fig. 17

EX1012: Fig. 17 (annotated).

4. Fortmann'197 (EX1014)

83. U.S. Patent No. 10,258,197 ("Fortmann'197") teaches a holding cabinet (10) with an internal volume (27) divided by "one or more plates 40 that serve as shelves." EX1014: 2:30, 2:50-51, 2:58-59, Fig. 1.

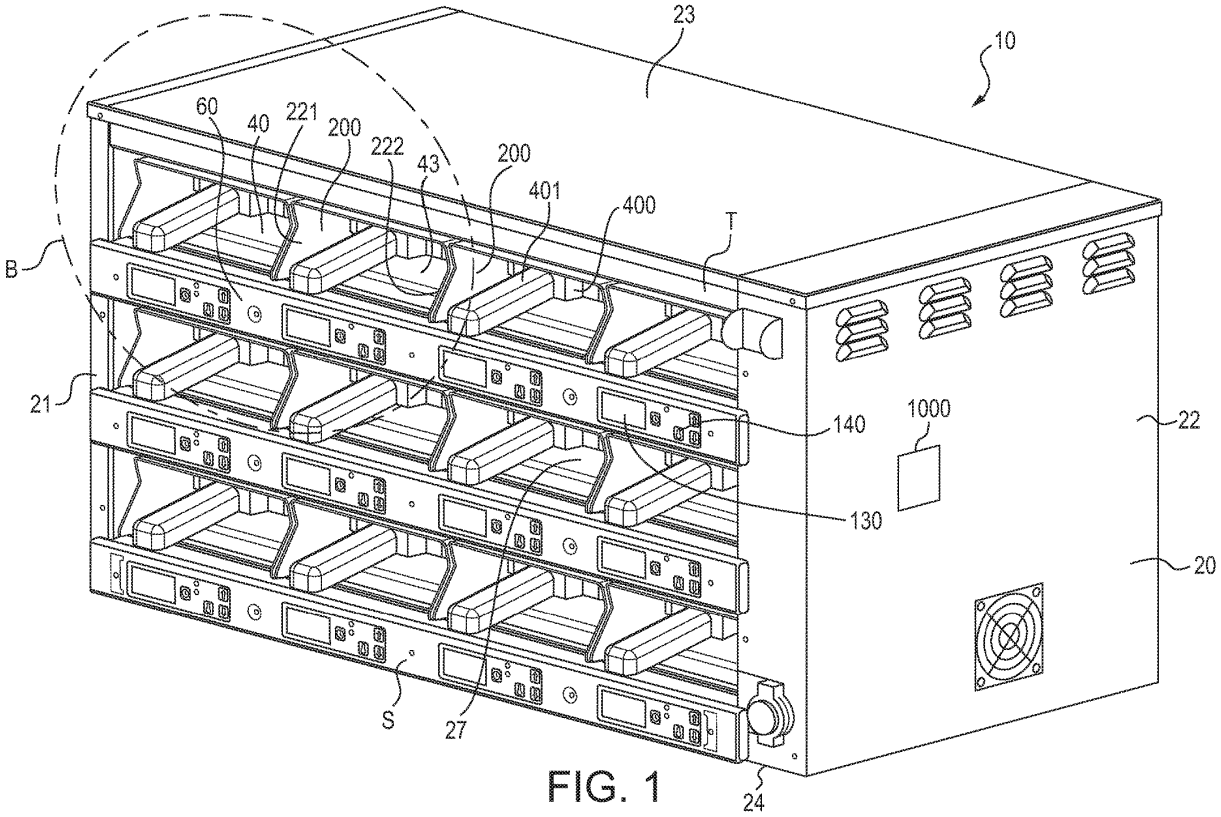


FIG. 1

EX1014: Fig. 1.

84. Each shelf (40) is described as establishing a plurality of discrete heating zones (100) within the internal volume (27), with each heating zone receiving a food pan (400). EX1014: 3:6-19.

85. Each heating zone (100) includes a discrete upper heater (521)-(524) above the food pan (400) and discrete lower heater (501) below the food pan.

EX1014: 3:19-27, 8:63-67 (“the plate 40 may include multiple heaters 501, such as one heater 501 per discrete heating zone 100”), 9:1-19.

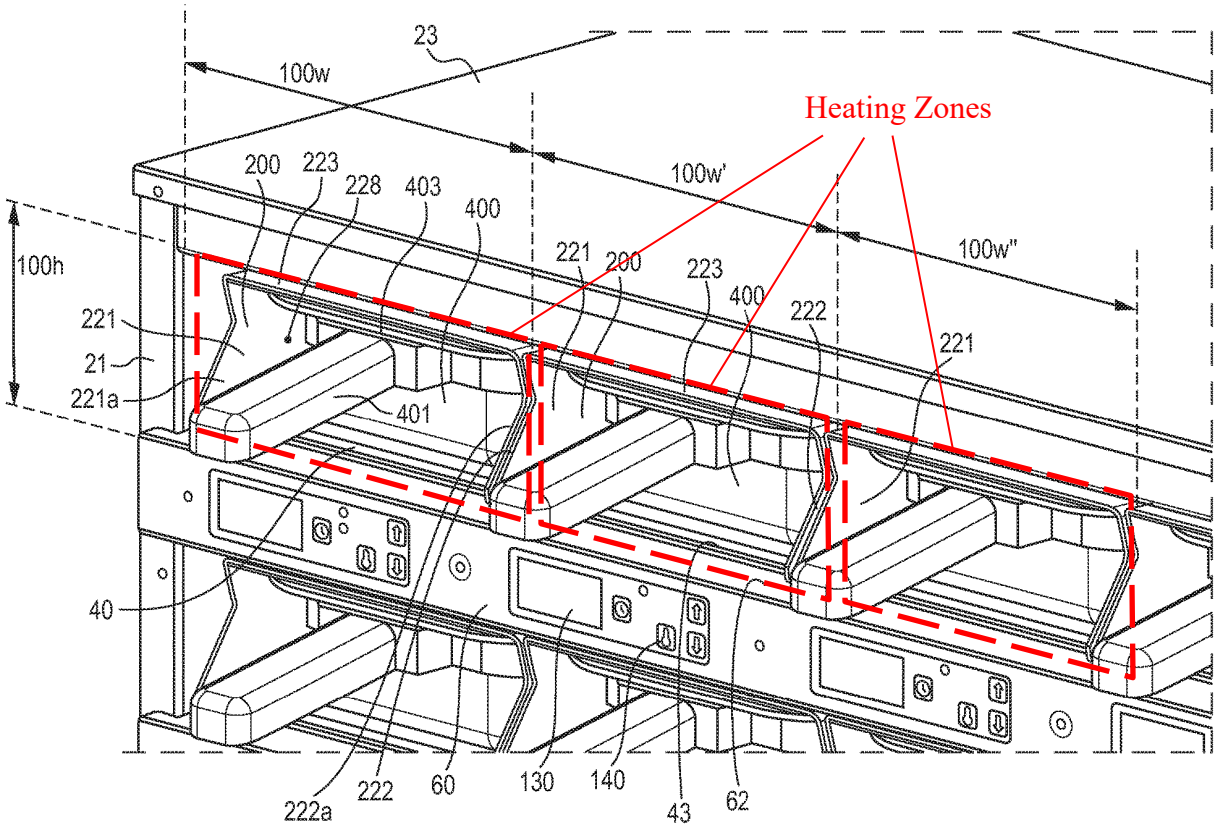


FIG. 2

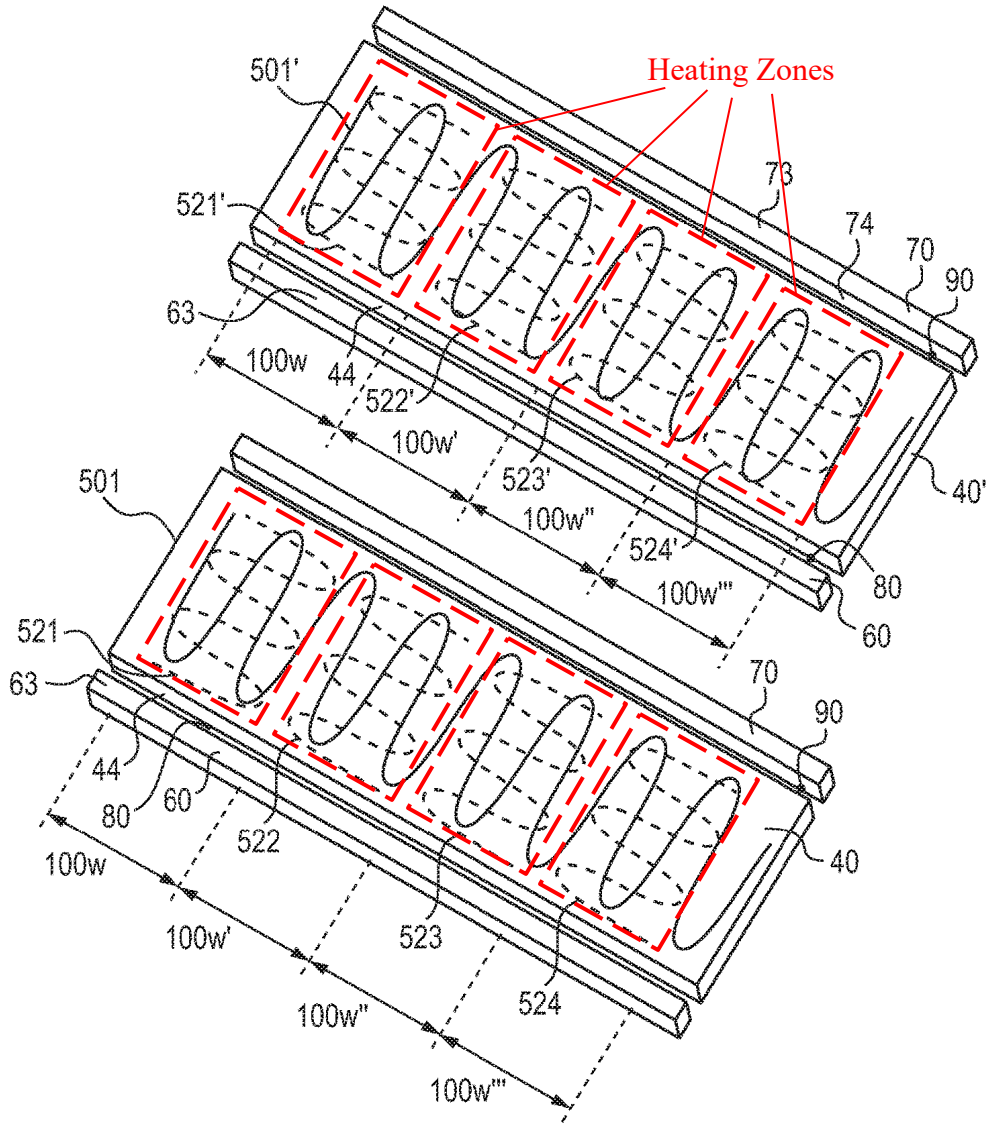


FIG. 10

EX1014: Figs. 2 and 10 (annotated).

86. Fortmann'197 explains that "insulation may be provided between the upper heaters 521, 522, 523, 524 in a plate 40 and the lower heater 501 in the same plate, so that the heat generated by the respective heater travels generally through

the surface of the plate 40 proximate to the plate and not in the direction of the other heater within the plate 40." EX1014: 9:32-37, Fig. 10.

87. Fortmann'197 also discloses a controller (1000) for independently controlling the upper and lower heating elements (501, 521-524) for each discrete heating zone (100). EX1014: 8:63-67 ("the plate 40 may include multiple heaters 501, such as one heater 501 per discrete heating zone 100, with the controller 1000 controlling the heat to each heater 501 to maintain the desired temperature in the specific discrete heating zone 100"), 9:50-10:2 ("[t]he upper heaters 521, 522, 523, 524 may be individually controlled to maintain the temperature within the respective discrete heating zone 100 associated with the heater" and "the instructions inputted by the user (such as a timer, or controls to set a desired temperature or temperature range) may be used by the controller 1000 to operate the respective upper heater (and lower heater 501 in embodiments where the lower heater (or a portion of the lower heater may be controlled) as necessary to maintain the desired temperature within the zone)").

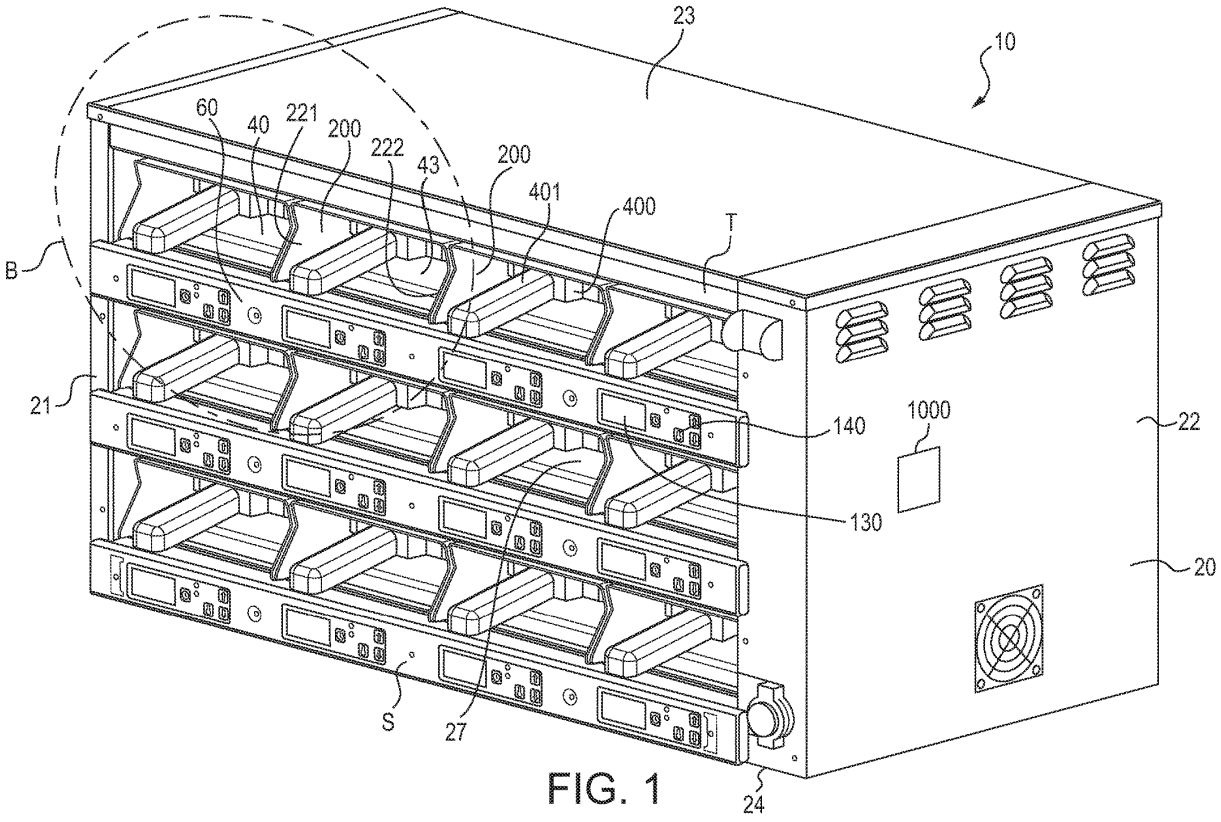


FIG. 1

EX1014: Fig. 1.

88. Fortmann'197 further discloses a discrete lid for each pan /pan holding location. EX1014: 4:50-53, Figs. 1-4.

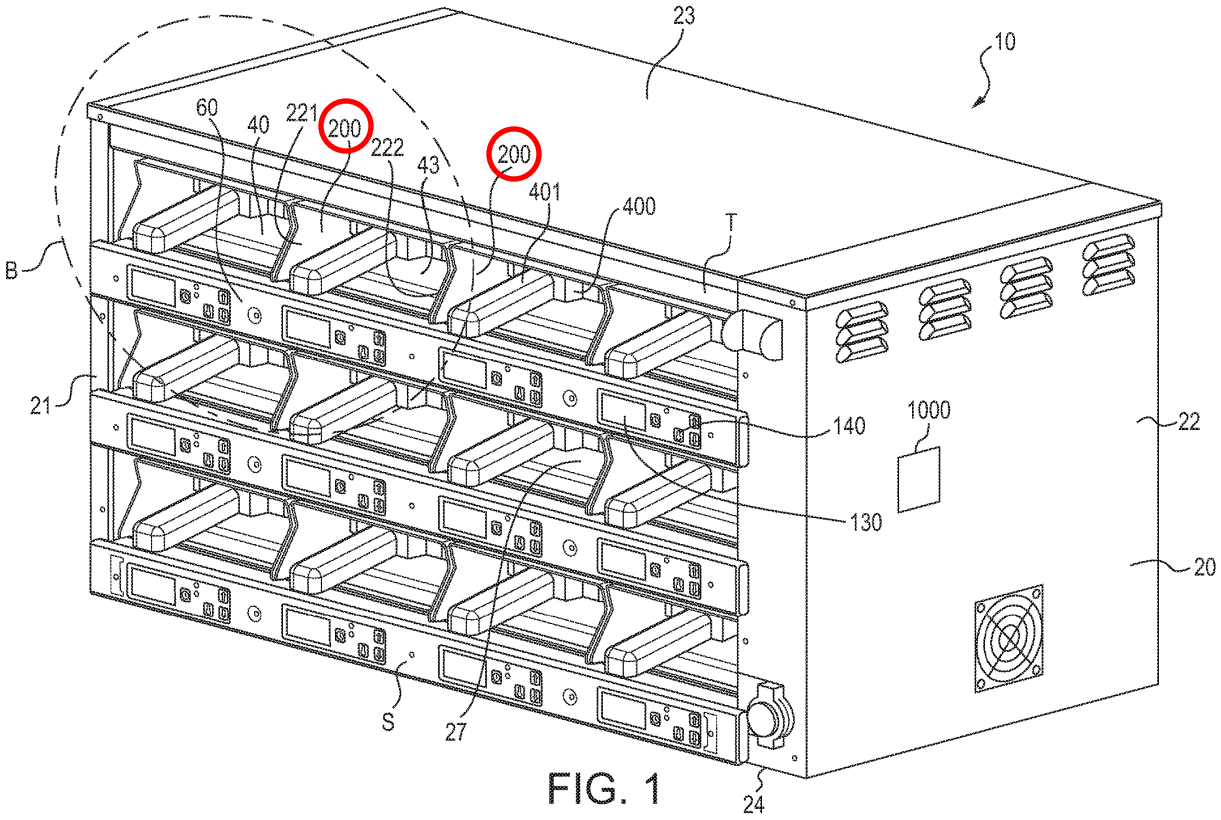


FIG. 1

EX1014: Fig. 1 (annotated).

89. Fortmann'197's holding cabinet (10) is described as having control bars (60) positioned in front of the shelves (40) and control bars (70) positioned rear of the shelves. EX1014: 2:58-59, 3:28-30, 3:55-56, 4:18-37, Figs. 1-3 and 5. As shown below, each control bar (60, 70) includes "a display 130 and input 140 that is associated with each discrete heating zone 100." EX1014: 3:51-55, 4:25-32, Figs. 1-3.

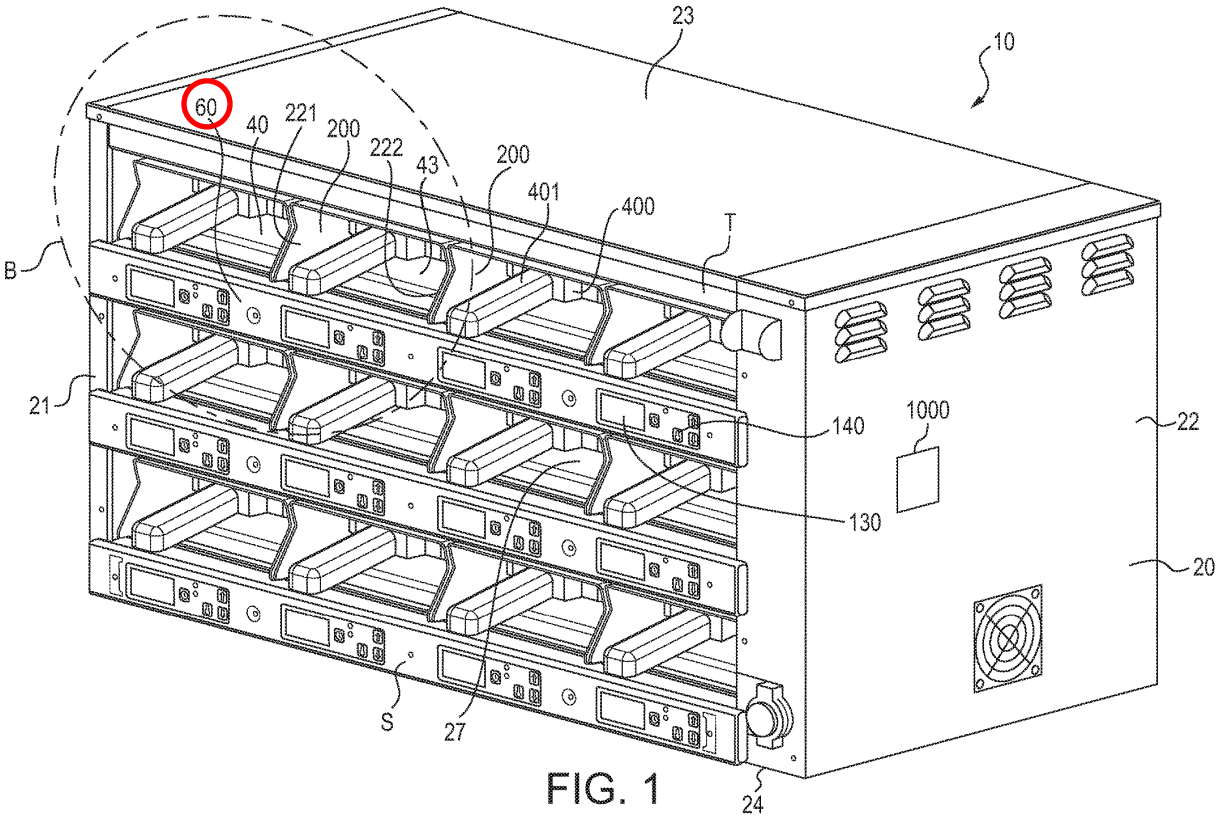

23
10
60
40
221
200
222
43
200
401
400
T
B
21
140
1000
22
130
20
S
27
24

FIG. 1

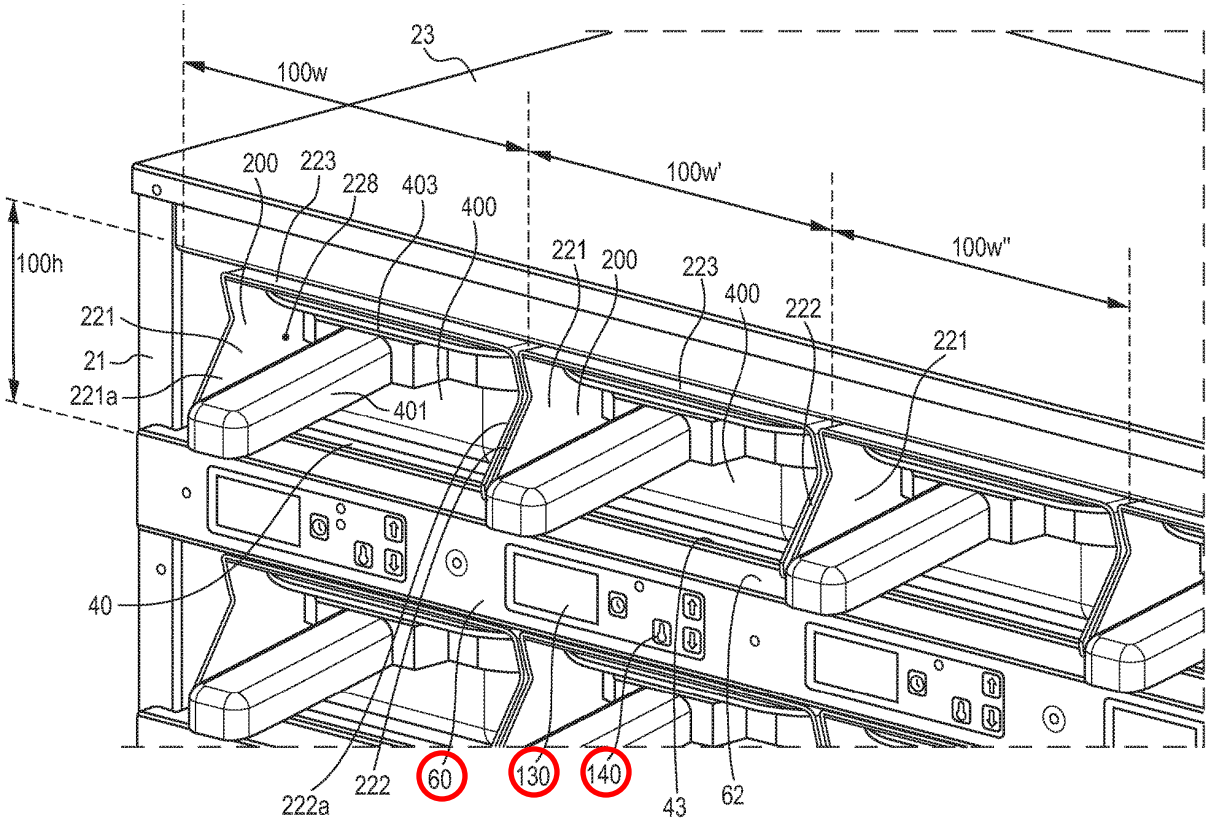

23
100w
100w'
100w"
100h
200
223
228
403
400
221
200
223
400
222
221
221
21
221a
401
40
222a
222
60
130
140
43
62

FIG. 2

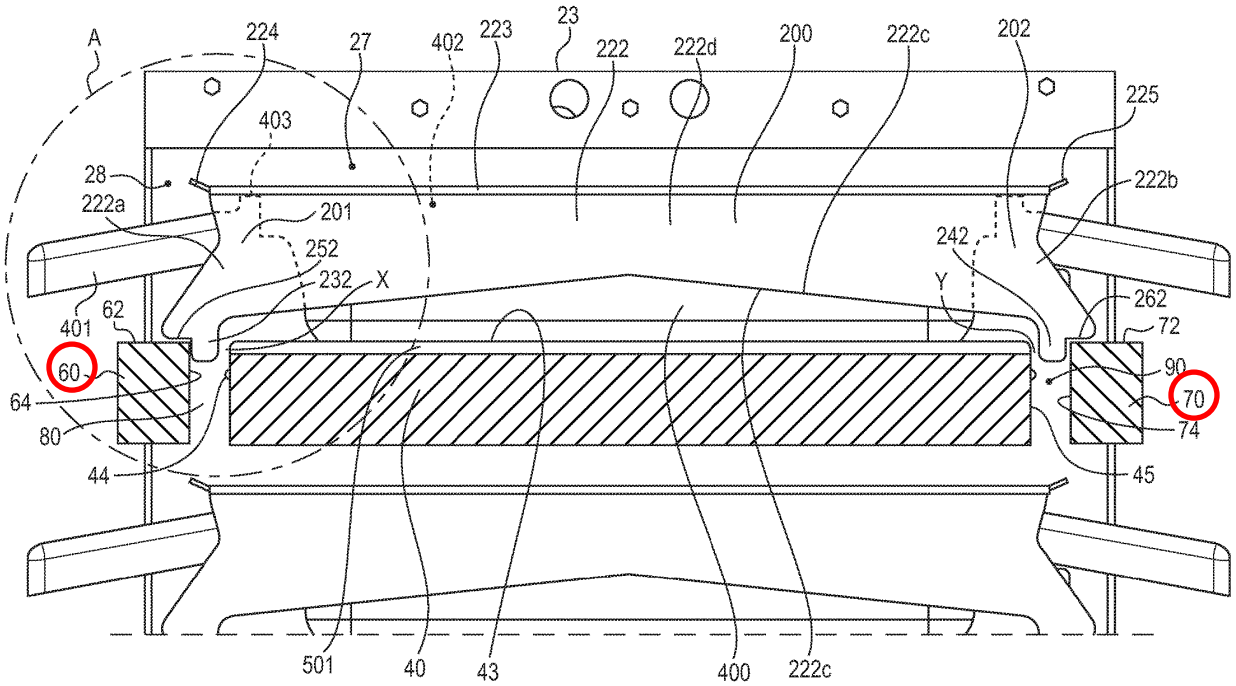

A
224
27
402
223
23
222
222d
200
222c
202
225
403
28
222a
201
252
232
X
222b
242
Y
262
72
401
62
60
64
80
44
90
70
74
45
501
40
43
400
222c

FIG. 5

EX1014: Figs. 1, 2, and 5 (annotated).

90. Fortmann'197's holding cabinet thus permits the user to interact with the displays (130) and inputs (140) to control each respective heating zone. EX1014: 4:32-37, 9:56-65.

5. Hartfelder (EX1013)

91. U.S. Patent Publication No. 2009/0126580 ("Hartfelder") teaches a food warming apparatus (10) that receives trays (40) in heating compartments (24, 26) with covers or lids (44, 46). EX1013: ¶¶[0028] ("food warming apparatus 10"), ¶[0030] ("[e]ach of heating compartments 24 and 26 is sized to accommodate a plurality of trays, as exemplified in FIG. 1 by trays 40 and 42 in heating compartment 24. Each of trays 40 and 42 are covered by covers 44 and 46, respectively.").

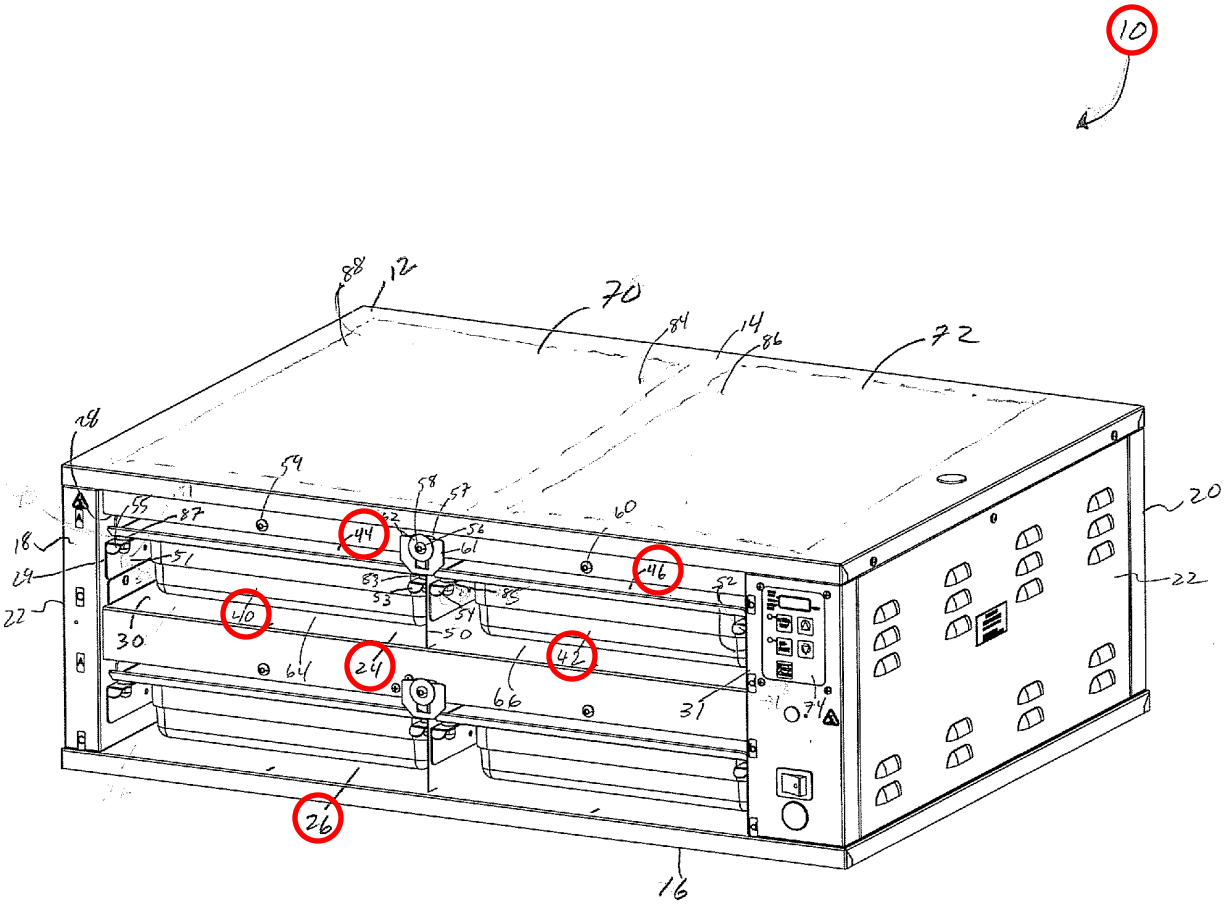


FIGURE 1

EX1013: Fig. 1 (annotated).

92. To prevent the lids (44, 46) from moving with the trays (40, 42) when the trays are removed from the heating compartment (24, 26), the apparatus (10) includes stop members (61) which retain the lids. EX1013: ¶[0058] ("[a]s best shown in FIG. 9, when tray 40 is withdrawn from sub-compartment 64 of heating compartment 24, front turned-up edge 90 of cover 44, acting as an engagement edge, engages stop member 61. The engagement of engagement edge 90 with stop

member 61 arrests the movement of cover 44. As the movement of cover 44 is arrested, cover 44 is retained upon within sub-compartment 64 while tray 40 is withdrawn"), Fig. 9.

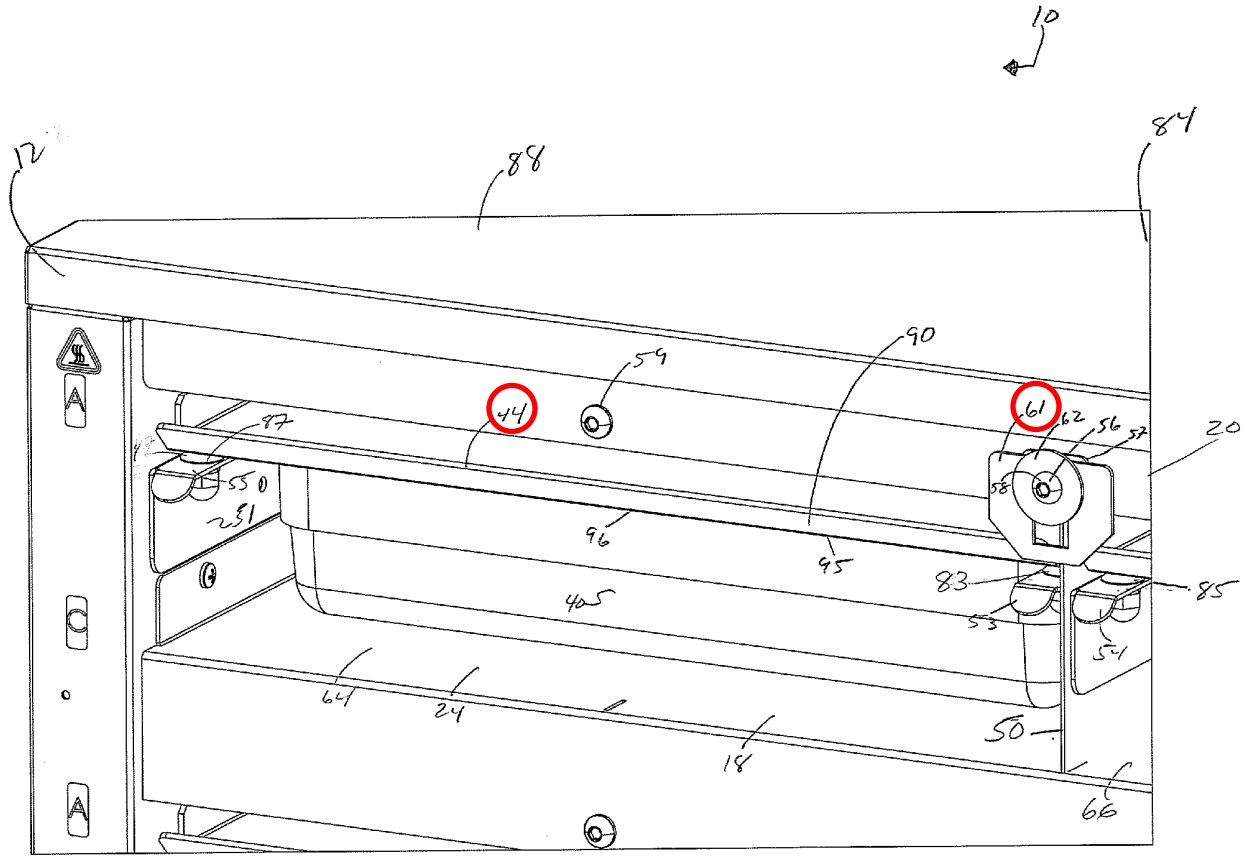


FIGURE 9

EX1013: Fig. 9 (annotated).

6. Veltrop (EX1022)

93. U.S. Patent Publication No. 2011/0252813 ("Veltrop") teaches a food holding cabinet (10) with shelves (52) having heaters in the form of an electrically-

resistive heater wire (67). EX1022: ¶¶[0010], [0025] ("[i]n another embodiment of the shelf 52, an electrically-insulated, electrically-resistive heater wire 67 is also sandwiched between the plates 51 and 53"), Fig. 2.

94. The upper plates (51) of its shelves (52) are made of aluminum. EX1022: ¶[0023] ("thermally-conductive plates 51 and 53 are preferably made of aluminum,"), Fig. 2.

95. The heater wire (67) is conductively coupled to the upper plate (52) via mechanical attachment, such as by thermally conductive adhesive or clamps. EX1022: ¶[0050] ("The heat transfer devices disclosed herein are thermally coupled to the shelf 52, preferably by way of mechanical attachment to at least one of the plates 51 and 53. Mechanical attachment and the resultant thermal coupling is preferably accomplished by a thermally-conducive adhesive, however, clamps that are attached to a plate by screws driven into a plate can also be used.").

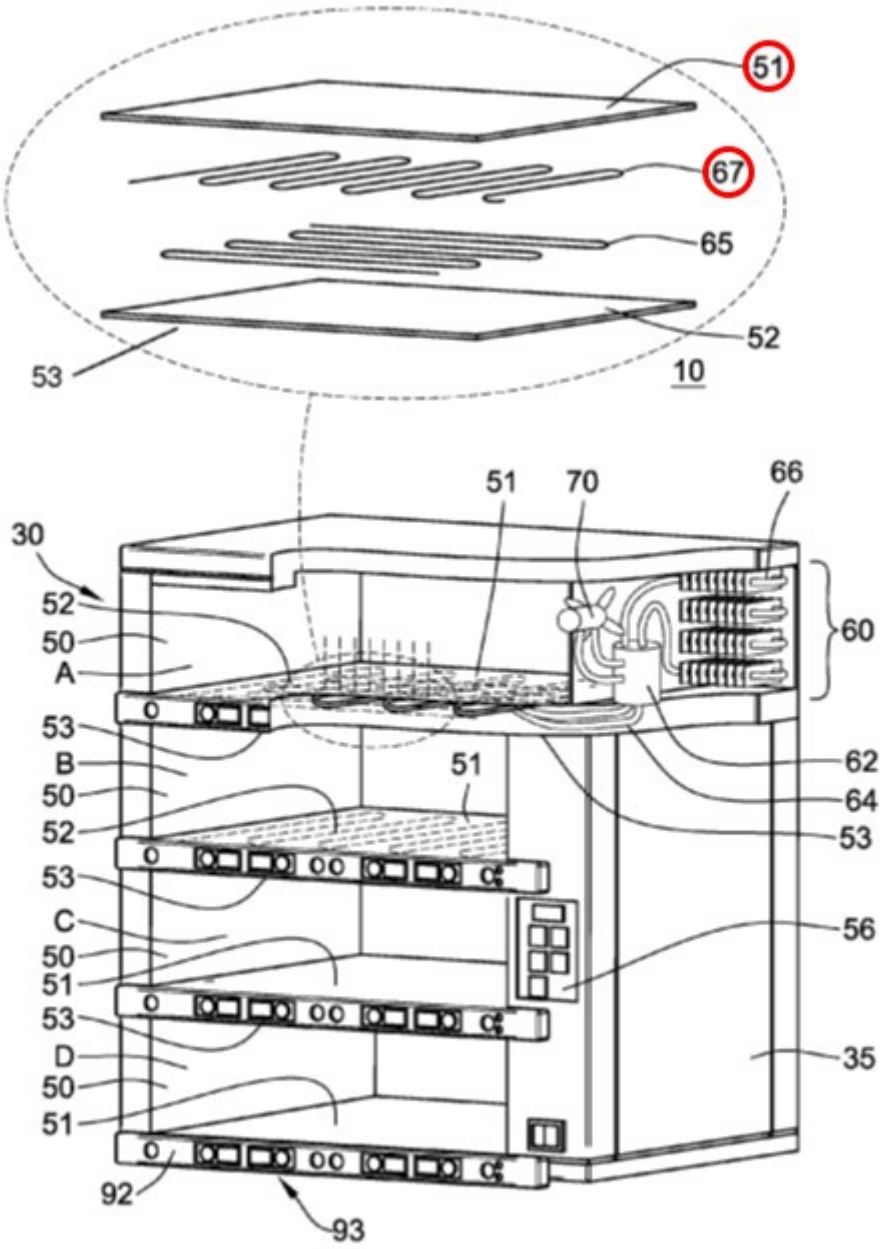


FIG. 2

EX1022: Fig. 2 (annotated).

96. Veltrop's cabinet (10) has an open front face (40) and an open rear face (45) for inserting food into and/or removing food from the food holding

compartments (50). EX1022: ¶¶[0012], [0016]. In one method of operation, Veltrop teaches that cooked food is inserted into one side of the cabinet (10) and removed from the other side of the cabinet. EX1022: ¶[0002] ("Holding ovens to keep food warm are well known. May such ovens allow a cooked food item to be put into the oven from one side of the oven and taken from the oven on the opposite side whereby food preparers add food to the oven and food servers take food from the oven.").

7. Shei'821 (EX1011)

97. U.S. Patent Publication No. 2016/0073821 ("Shei'821") teaches a pan storage apparatus (10) with lid supports (36A) for supporting lids (18) made out of sheet metal. EX1011: ¶¶[0024], [0035], [0039] ("the cover supports 36A and the cover retainers 36B, including the keepers 36E, are formed as one piece of metal").

98. The lid supports (36A) are shown as thin bent sheets of material, and Shei'821 discloses the material as being metal. EX1011: ¶[0039], Figs. 1, 7, and 8.

FIG. 1

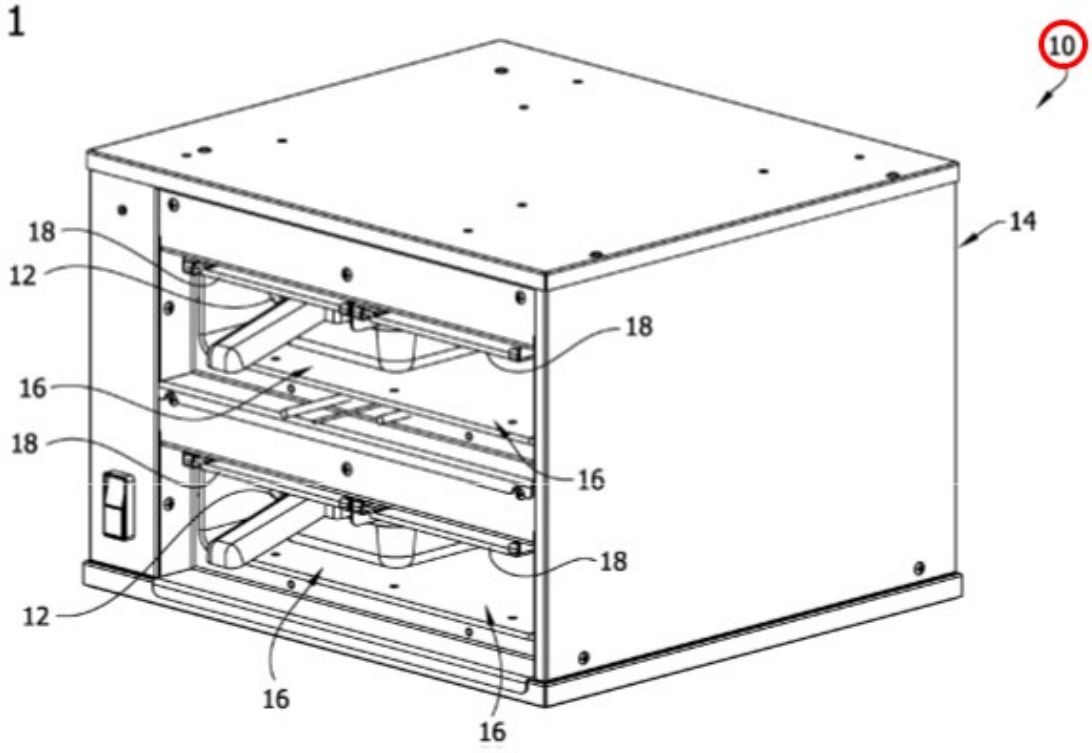
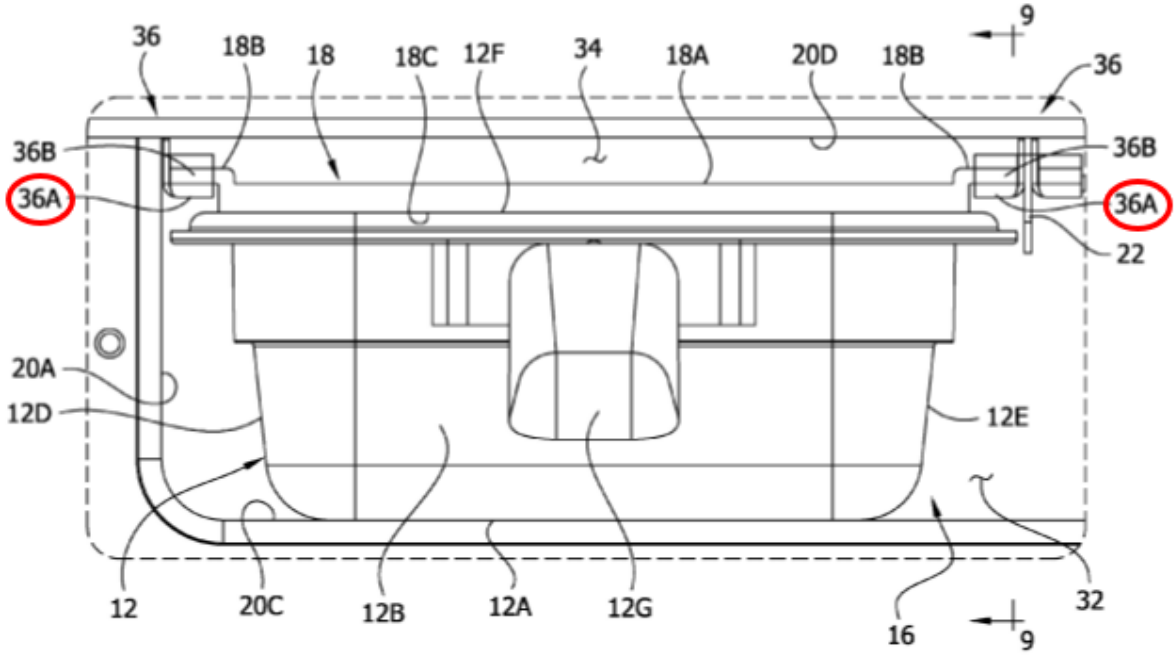
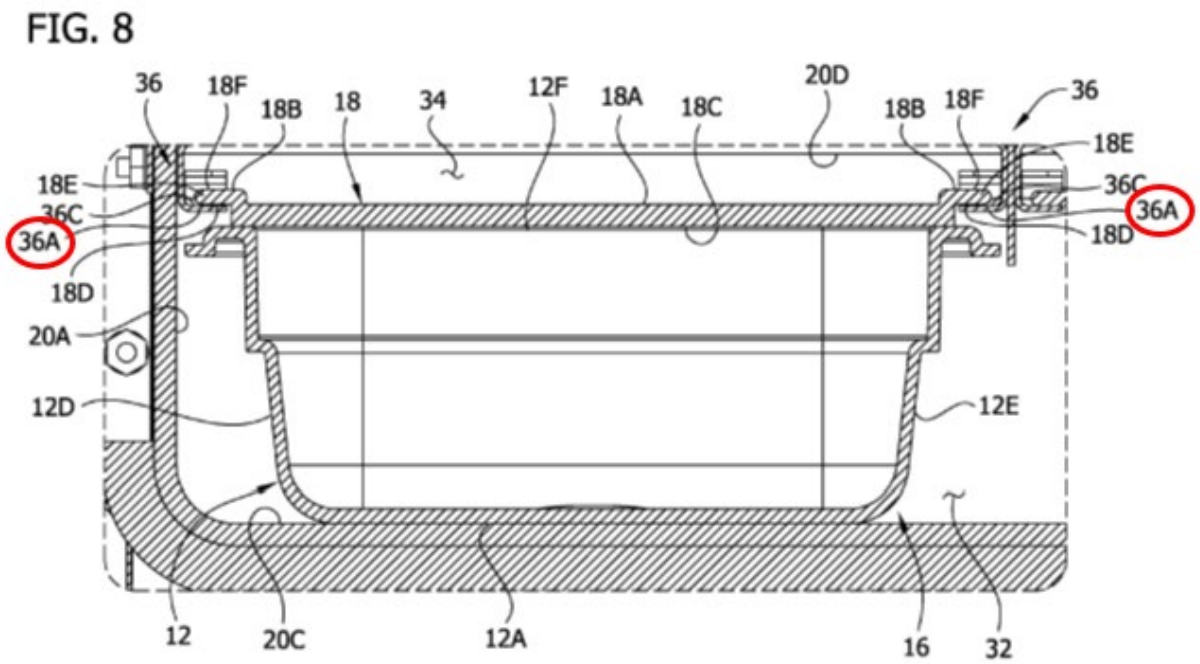

10
14
18
12
18
16
18
16
18
12
16
16

FIG. 7


9
36
18B
18
18C
12F
34
18A
20D
18B
36
36B
36A
36B
36A
22
20A
12D
12E
12
20C
12B
12A
12G
16
32
9



EX1011: Figs. 1 (annotated).

99. Shei'821 also explains that each food holding compartment has "an open front and an open back permitting pans 12 to be inserted in and accessed from either the front or back of the housing." EX1011: ¶[0025].

FIG. 1

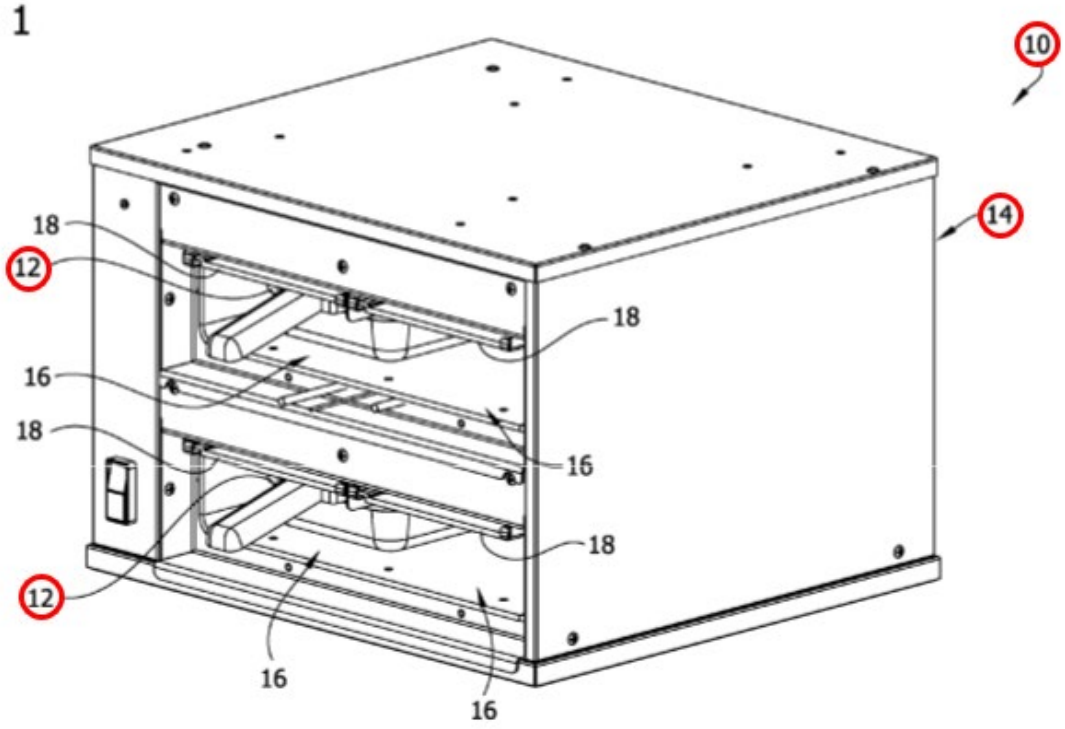
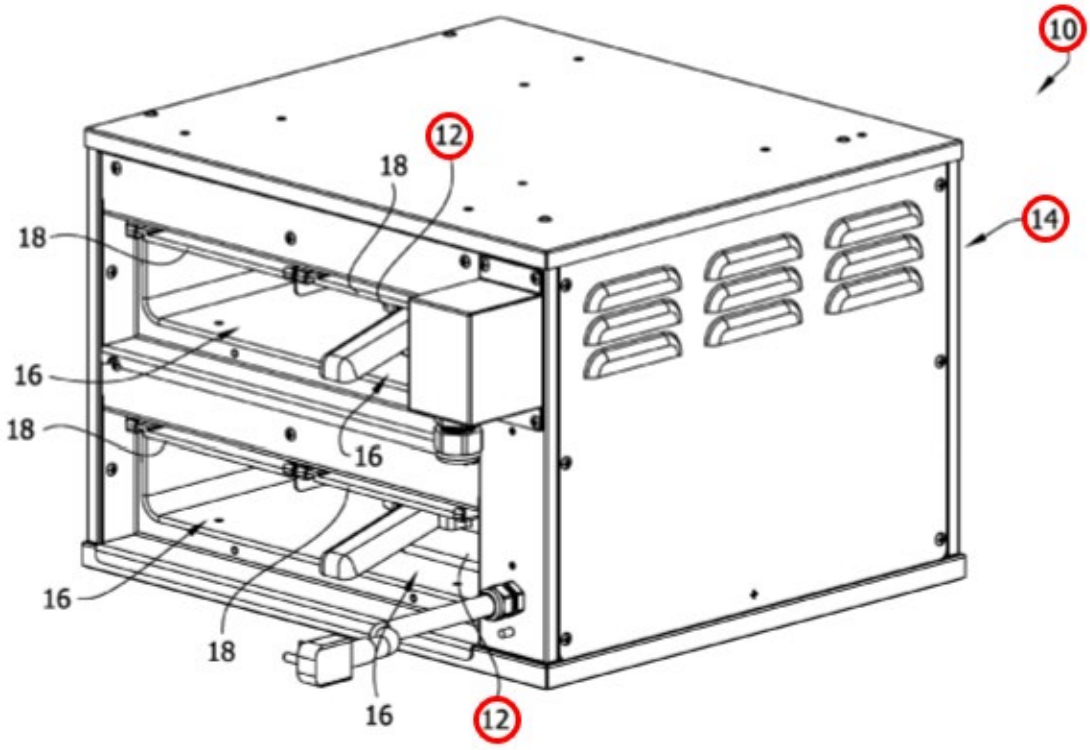


FIG. 2



EX1011: Figs. 1 and 2 (annotated).

8. Shei'155 (EX1016)

100. U.S. Patent Publication No. 2004/0069155 ("Shei'155") teaches a holding cabinet (102) entirely fabricated by sheet metal. EX1016: ¶[0046] ("the entire cabinet 102 is fabricated of sheet metal").

101. Specifically, Shei'155 explains the heat sinks (29) in the cabinet (102) are made out of aluminum. EX1016: ¶[0039] ("heat sink 29, which is made of aluminum").

102. Shei'155 further teaches conductively coupling an electrical resistance heating element (39) to the heat sink (29) via contact with the bottom of the heat sink. EX1016: ¶[0039] ("An electrical resistance heating element generally designated 39 having a bottom component 41 contacting the bottom of the heat sink").

FIG. 5

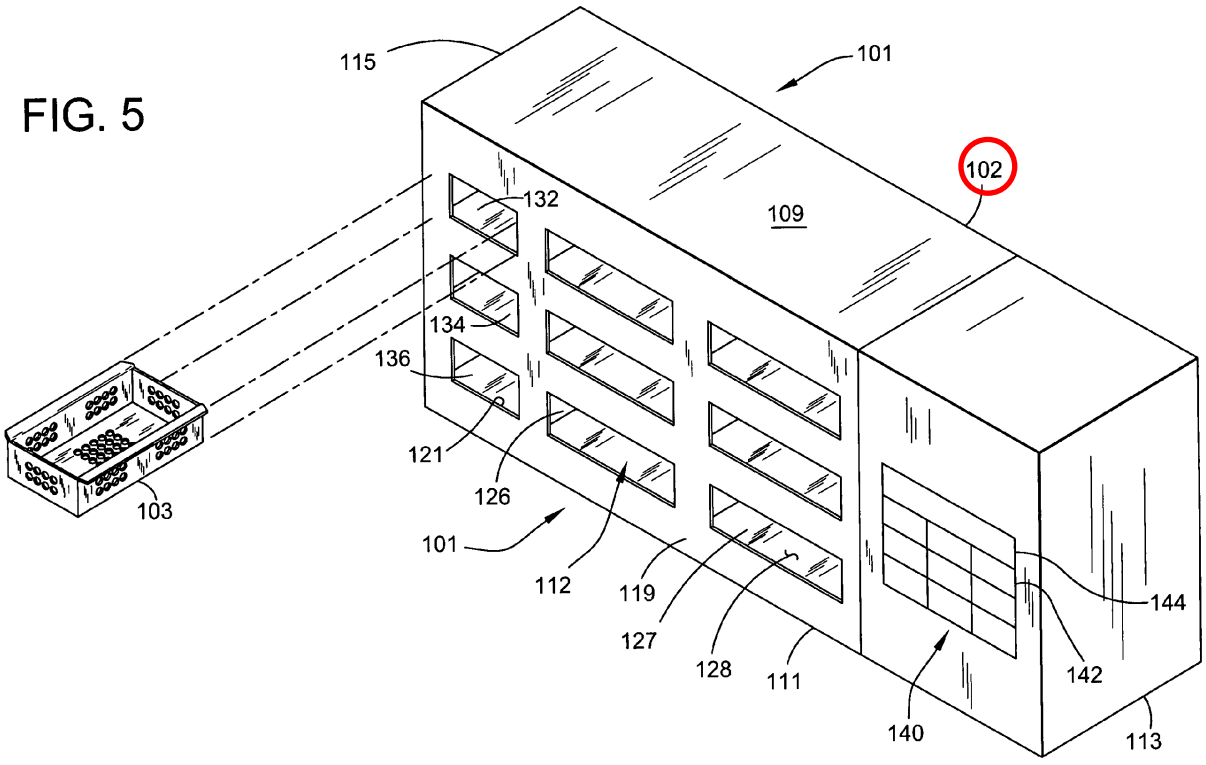
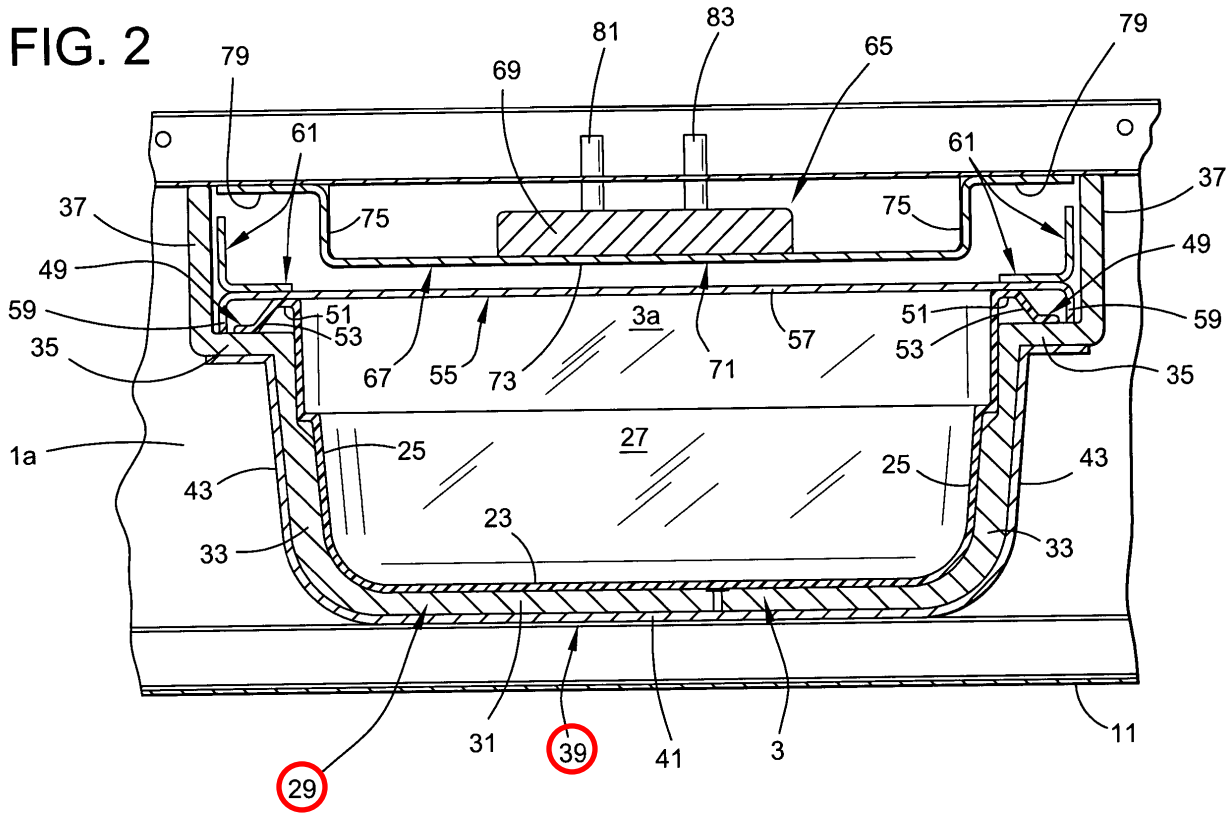


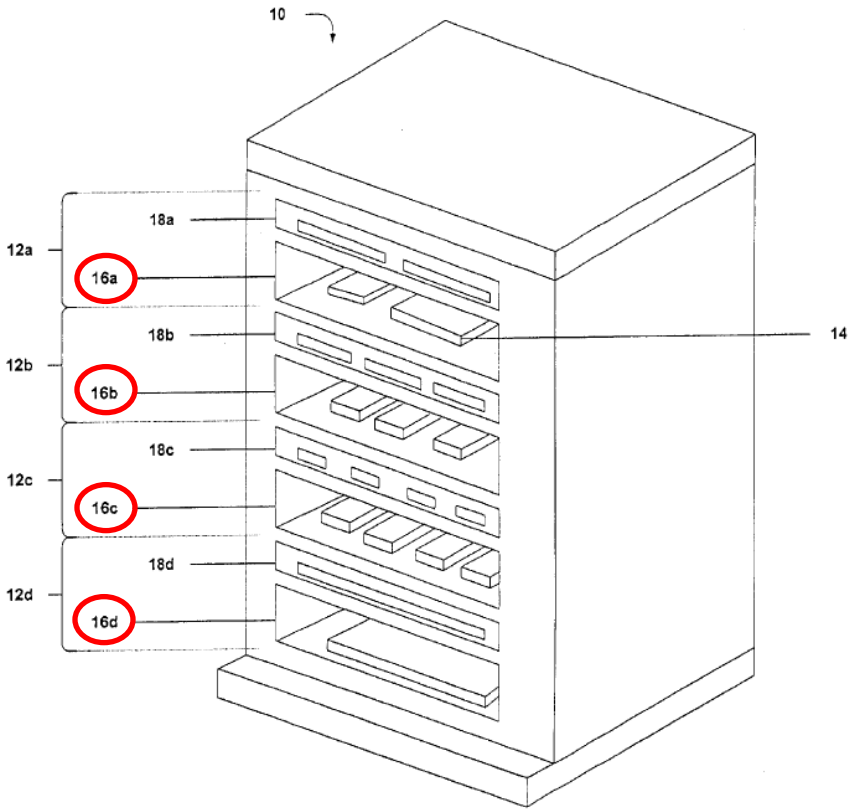
FIG. 2



EX1016: Figs. 2 and 5 (annotated).

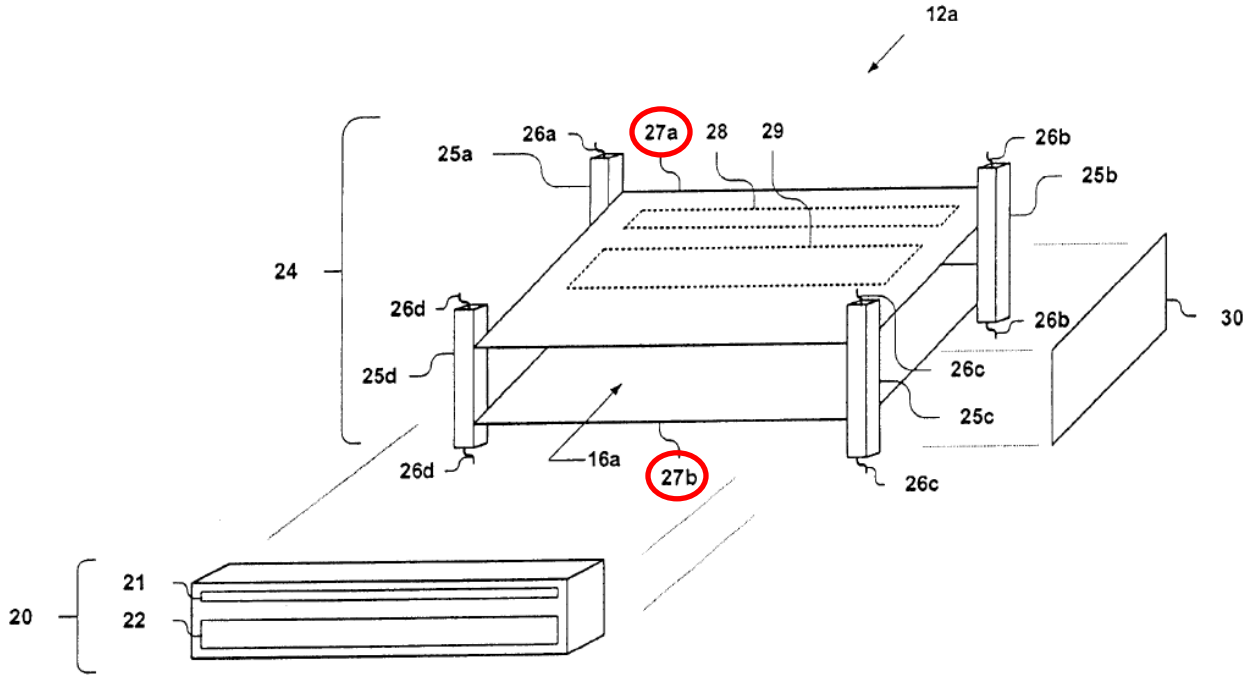
9. McMillan (EX1019)

103. U.S. Patent No. 6,658,994 ("McMillan") teaches a food holding cabinet (10) including several food passageways (16a-16d). EX1019: 2:49-52, 2:65-67.



EX1019: Fig. 1 (annotated).

104. Each passageway includes upper and lower heater plates (27a, 27b). EX1019: 4:36-52.



EX1019: Fig. 2 (annotated).

105. McMillan teaches that the upper and lower heater plates (27a, 27b) "may be individually controlled to maintain a certain temperature set by an operator" and that the upper and lower heater plates may include heating elements configured for zoned heating across the width of the compartment "such that different portions of the passageway 16a may be set to different temperatures." EX1019: 4:36-52.

106. Each food passageway has a display panel (18a-d) having a food product display (180a-d) for each food holding location. EX1019: 9:58-61, 10:5-10. Each food product display (180a-d) is further described as including a message area (183a-d) for displaying information to the user, such as name of the food products and the holding temperature (actual holding temperature and/or set

holding temperature). EX1019: 10:10-33 ("message areas 183a-d may display alpha-numeric messages to an operator regarding the stored food products 14.… For example, when a food product is selected, the message display areas 183a-d may present a description (*e.g.*, name, category) of the selected food product…. When the temperature is set, the message display areas 183a-d may present a numeric value indicating the current and/or set temperature.").

107. The display panel (18a-d) includes arrow keys (184, 185), a temperature key (187) for the user to display temperature information and/or enter operational changes, and a program key (188) for the user to set the holding temperatures. EX1019: 10:43-58 ("The up and down arrow keys 184, 185 allow an operator to increase and decrease displayed values (*e.g.*, temperature, time) or change selections…. The temperature/enter/page key 187 may respond to user input and allow an operator to display temperature information, enter operational changes, and/or scroll to different pages. The program key 188 may respond to user input and may allow an operator to change or select food products, meals, product positions, and/or holding temperatures.").

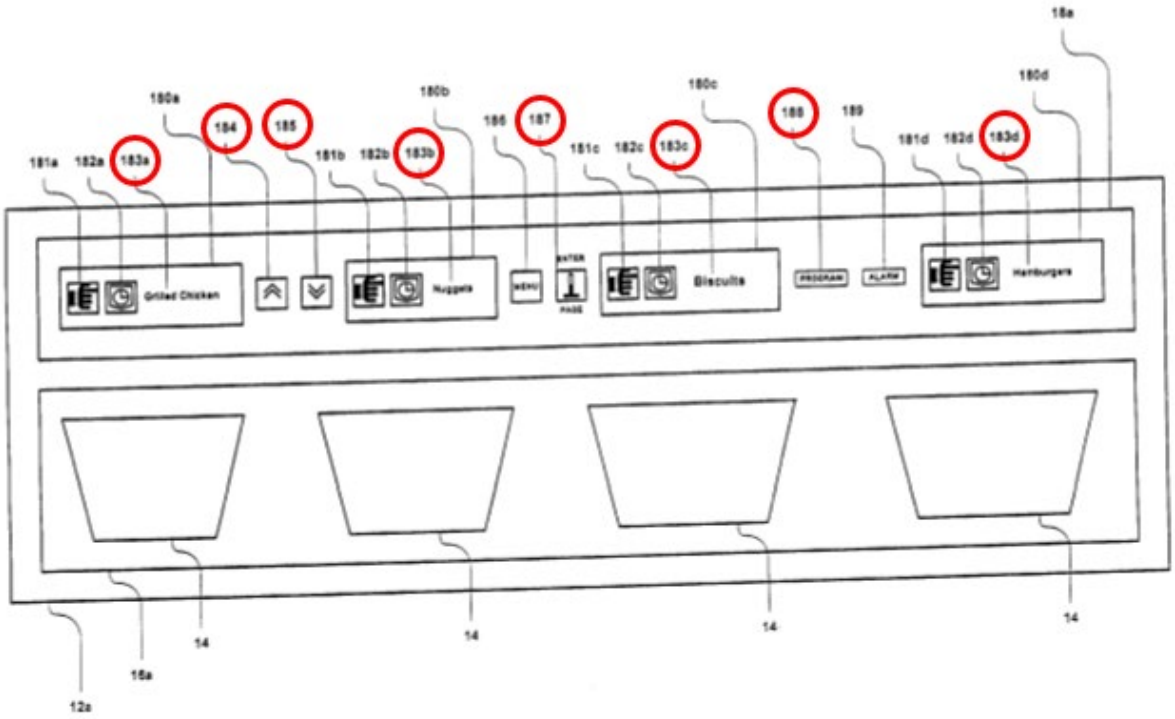


Fig. 5a

EX1019: Fig. 5a (annotated).

108. McMillan's food passageways (16a-d) are open at both ends. EX1019: 3:2-5. In one method of operation, McMillan explains one operator loads food products into the passageways from the one side and another operator removes food products from the passageways from the other side. EX1019: 3:7-11 ("a first operator may load food products 14 into the shelving units 12 a-d from the front of the holding cabinet 10, and a second operator may remove food products 14 out of the shelving units 12 a-d from the rear of the holding cabinet").

10. Shei'099 (EX1017)

109. U.S. Patent No. 6,175,099 ("Shei'099) teaches an oven (A) that receives trays (B) "in which precooked food is placed and held for limited times." EX1017: 2:45-47. The trays (B) are placed in heated openings (36) with covers or lids (80). EX1017: 2:53-54, 3:10-13, 3:28-31, 4:51-53.

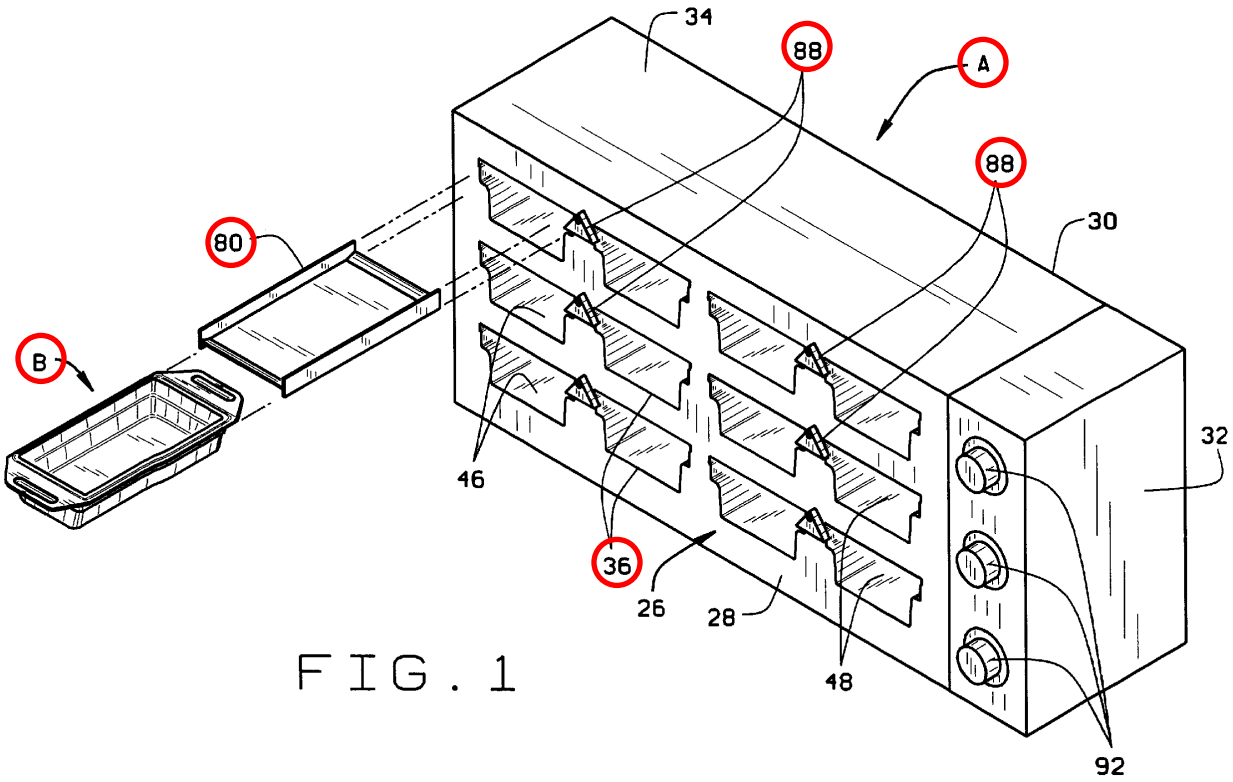


FIG. 1

EX1017: Fig. 1 (annotated).

110. To retain the lids (80) in the openings (36), the oven (A) includes stops (88). EX1017: 6:19-31. The stops (88) are disclosed as being configured to pivot to allow a user to insert and remove the lids (80) from the openings (36). EX1017: 6:22-26 ("the stop 88 at the heat sink 46 in which the cover 80 fits, is pivoted away from the opening 36 at that heat sink 46 so as to no longer block the

opening 36. While the stop 88 is held away from the opening 36, the cover 80 is removed").

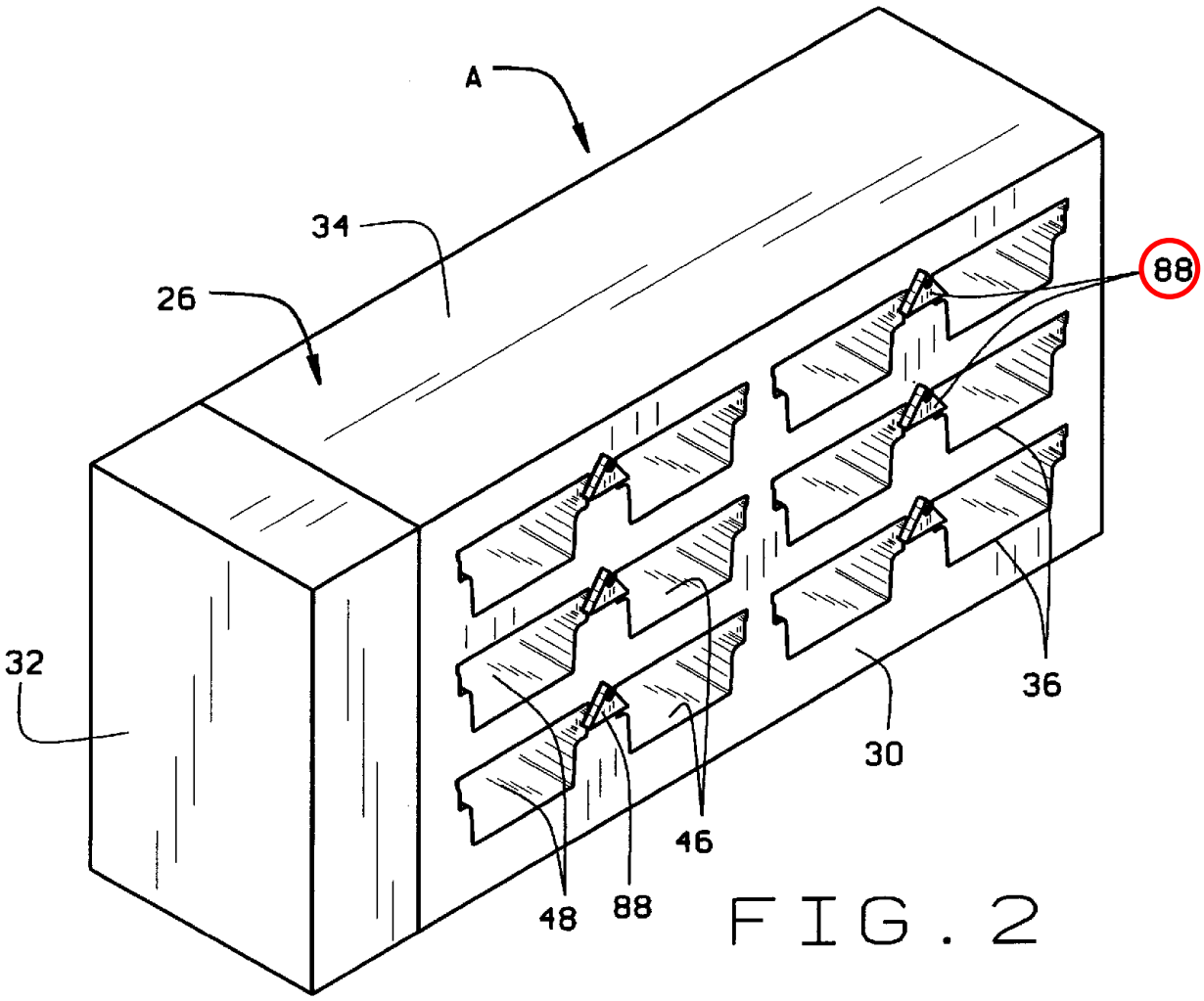


FIG. 2

EX1017: Fig. 2 (annotated).

11. Vaseloff (EX1026)

111. U.S. Patent No. 7,258,064 ("Vaseloff") teaches a food holding device (30) having a timer module (32). EX1026: 2:60-63, 3:48-49, Figs. 3, 4, 10.

112. The food holding device (30) includes upper and lower rows each having two temperature-controlled pan locations (34). EX1026: 2:60-63.

113. The timer module (32) includes display devices (60), timer status indicators (62), and timer buttons (64). EX1026: 3:48-51. Each display device (60) is grouped with a corresponding timer status indicator (62) and timer button (64), and these are positioned near and associated with a particular pan location (34) as confirmed by a visual indicator arrow (66) that points up or down to the pan location. EX1026: 4:5-6, 4:20-22, 4:26-33, 4:48-49, 6:51-52.

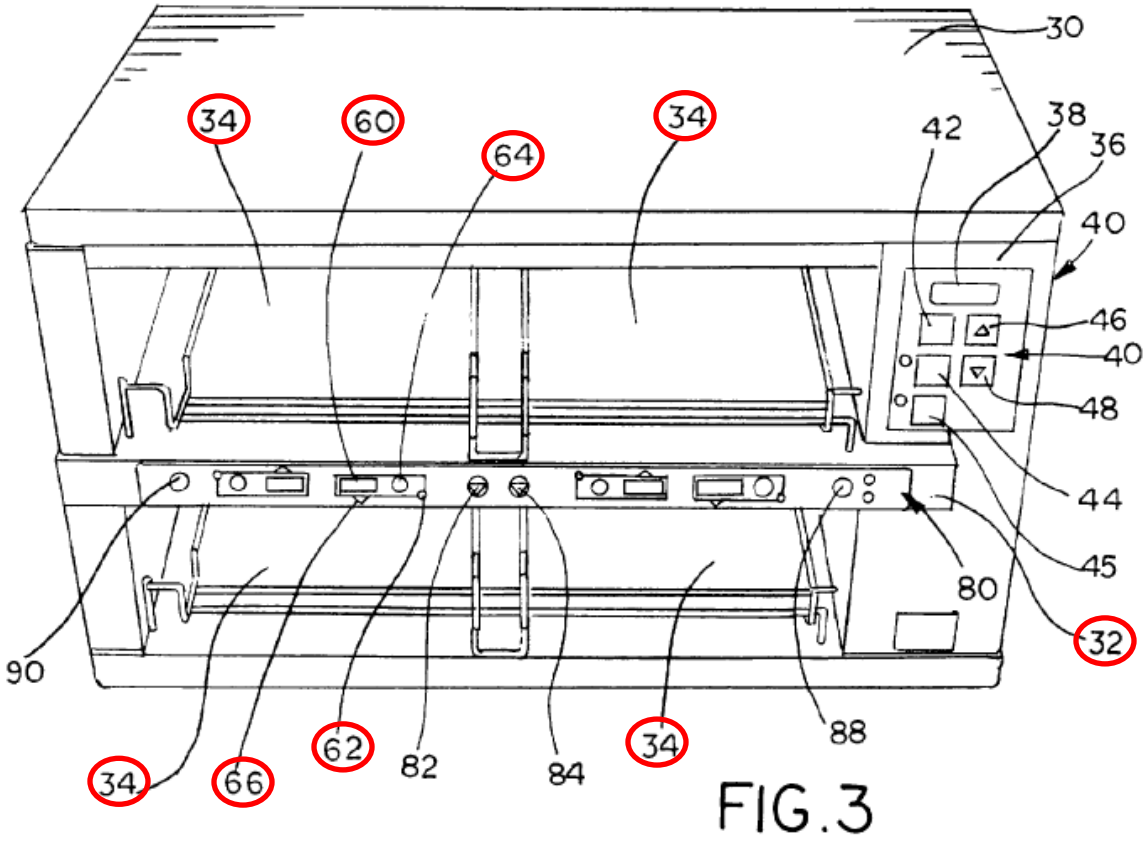


FIG.3

EX1026: FIG. 3 (annotated).

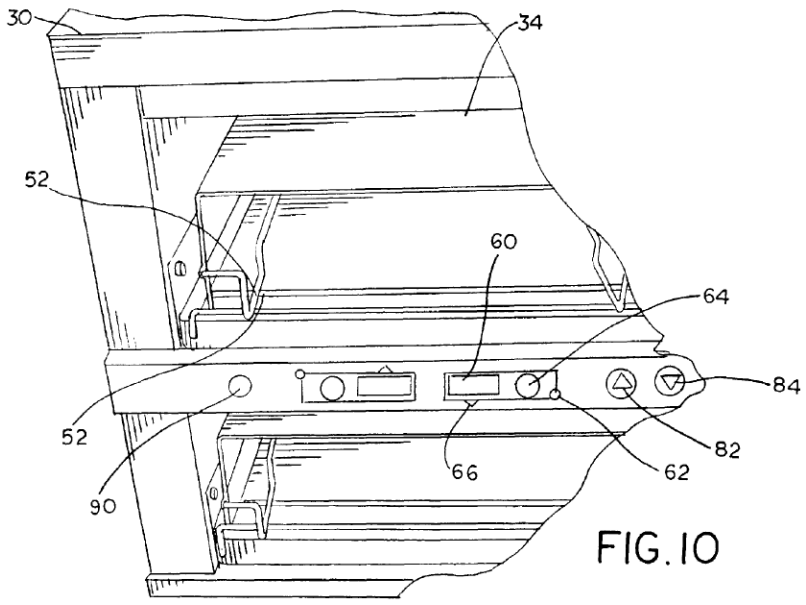


FIG. 10

EX1026: Fig. 10.

114. The display device (60) displays the identity of the food (*e.g.*, "EGGS") held at each pan location (34) and "can display or indicate a variety of information about the food." EX1026: 4:5-15.

115. The timer button (64) activates/deactivates a hold timer, and the timer status indicator (62) includes an LED capable of flashing and emitting any color for indicating statuses such as "standby", "food product has expired", "timing in progress", and "near expiration and oldest food product of its kind". EX1026: 6:51-52, 4:50-59; 6:1-25.

116. A transfer button (90) facilitates a transfer process in which a user transfers a food pan from one pan location (34) to another and the timer module (32) transfers information associated with the food pan (*e.g.*, hold time,

temperature settings) to the new pan location for updating the temperature settings and displayed information. EX1026: 6:51-7:20, 9:27-64; 10:26-33.

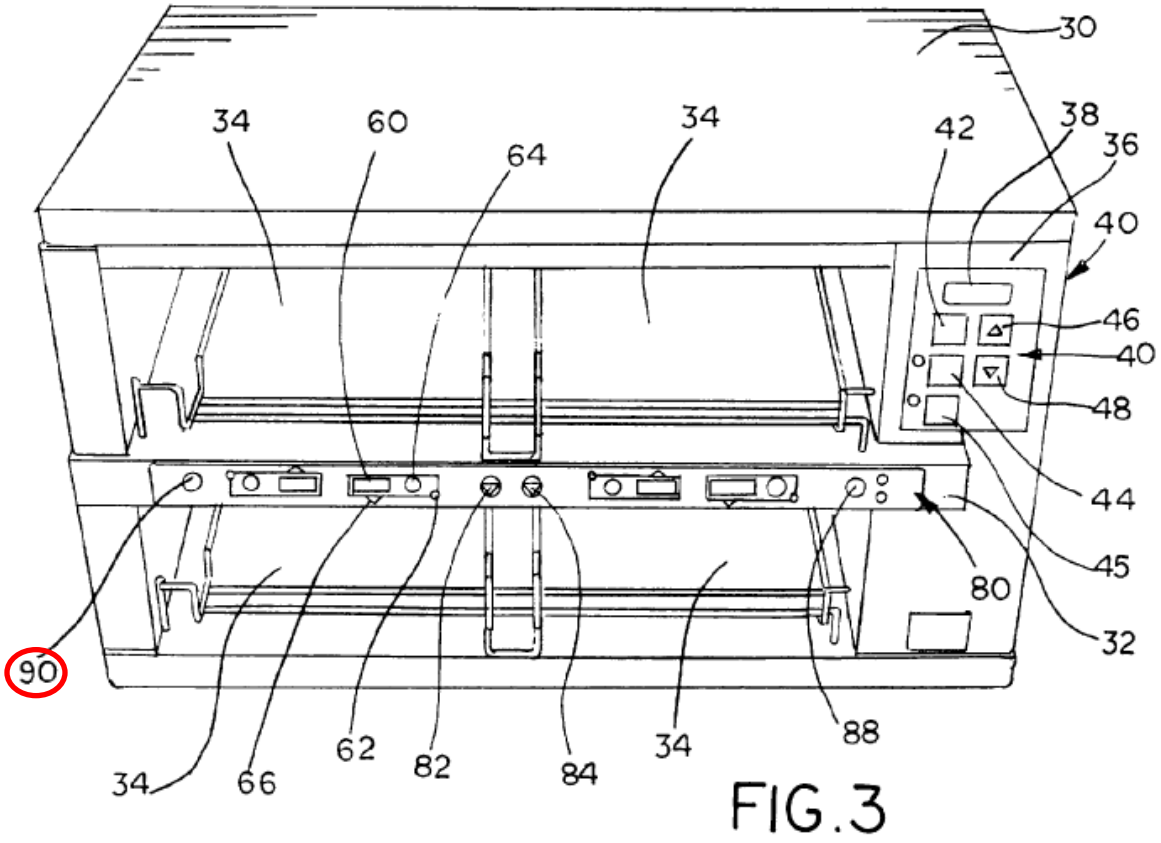


FIG.3

EX1026: FIG. 3 (annotated).

117. Each timer module (32) includes a programming system including an input system (80). EX1026: 7:21-25.

118. The programming system may use the display devices (60) for the pan locations. EX1026: 7:26-28. The input system (80) includes up-arrow and down-arrow buttons (82, 84) "for increasing and decreasing the value of a parameter, or scrolling up and down through a list of parameters." EX1026: 7:29-32. The programming system likewise permits the selection of a pre-programmed "activity

menu" (*e.g.*, breakfast) via use of an activity button (88) to assign an arrangement of food types to the plurality of pan locations. EX1026: 7:46-8:50.

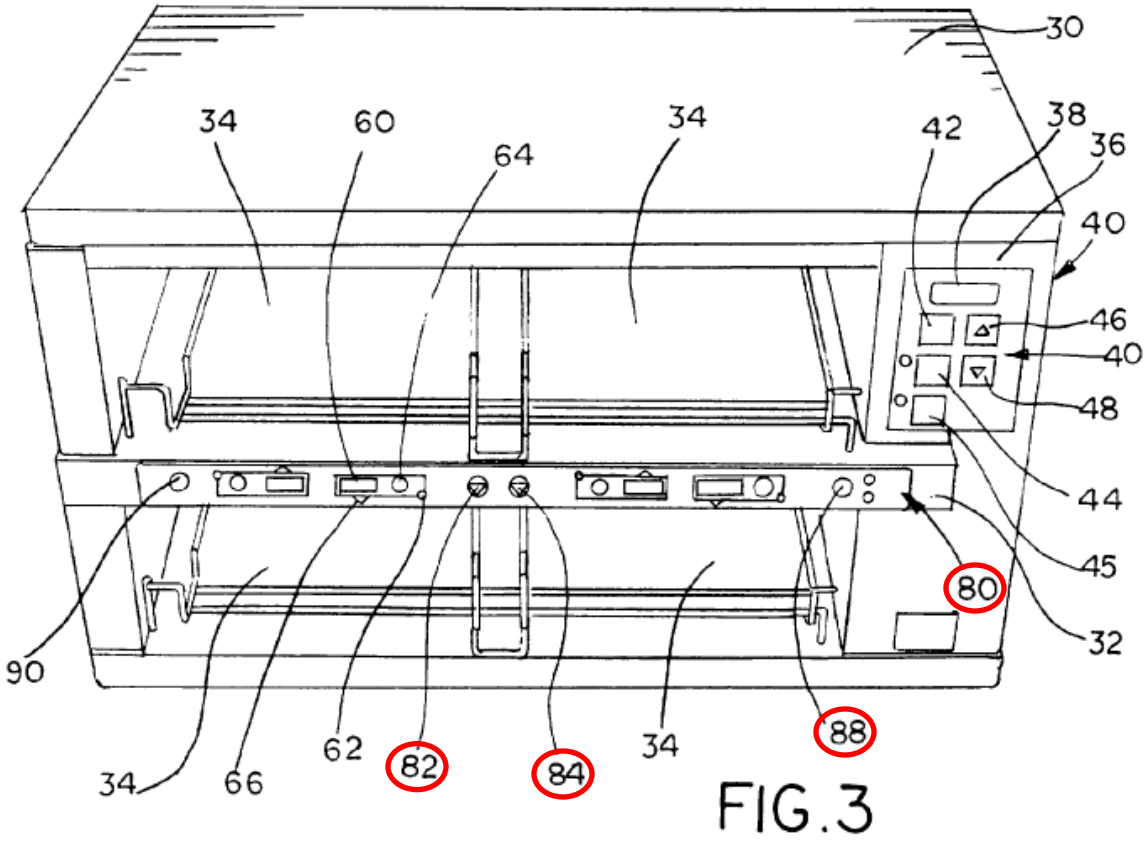


FIG.3

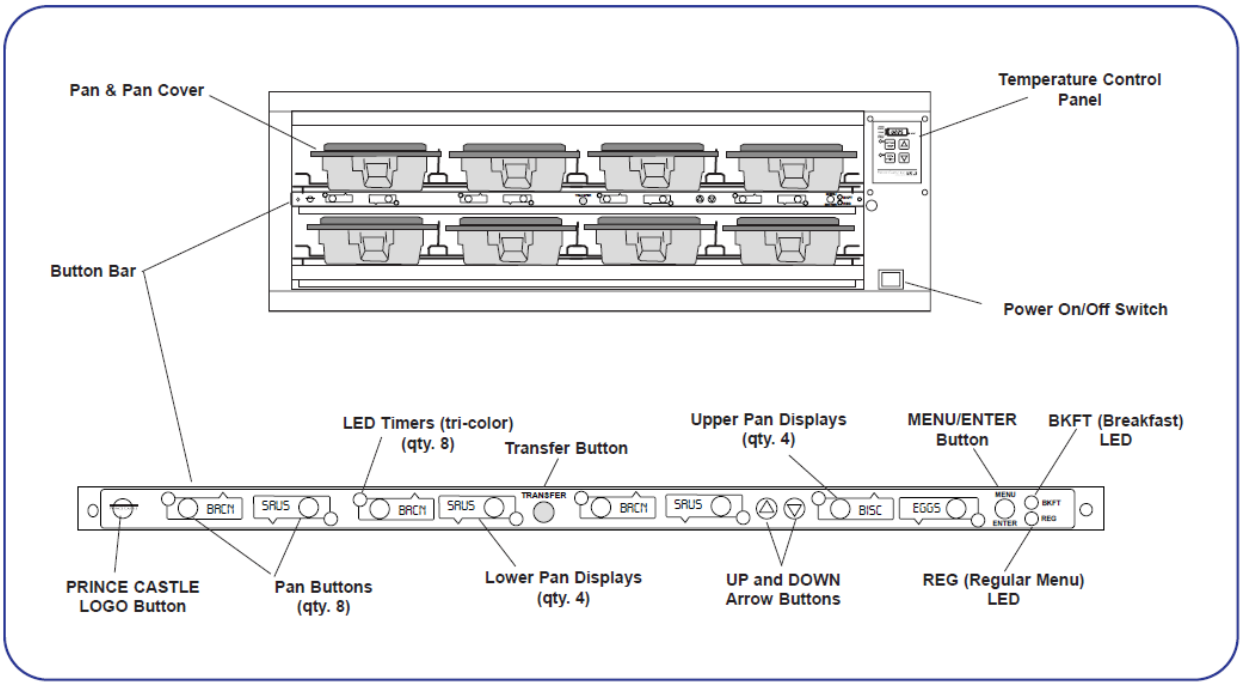
EX1026: FIG. 3 (annotated).

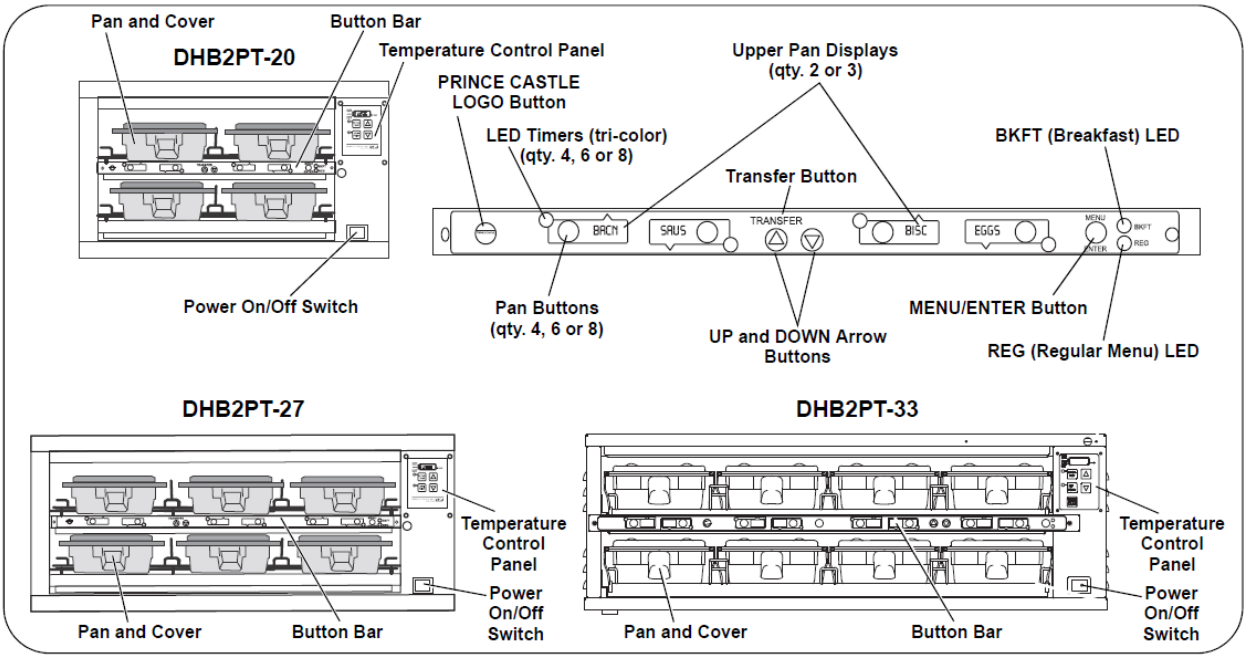
12. Prince Castle (EX1009)

119. The Prince Castle Holding Bins Website ("Prince Castle") is an archived collection of URLs from the Wayback Machine as they existed in March-May 2014 from a public website that was operated by Petitioner Marmon to advertise its commercial kitchen equipment, including Product Holding Bins (also called Holding Bins or Dedicated Holding Bins).

120. Prince Castle includes a landing page with links for different product categories including Holding Solutions (*i.e.*, product holding bins) (EX1009: 5), several webpages about the Holding Solutions/Product Holding Bins (EX1009: 6-13), a specification sheet for the DHB2PT-33 model Product Holding Bins (EX1009: 14-17), a 2006 Operation Manual for the DHB2PT-33 model Product Holding Bins (EX1009: 18-34), and a 2010 Operation Manual for the DHB2PT Series Product Holding Bins (EX1009: 35-52).

121. The 2006 and 2010 Operation Manuals provide the following views of the Product Holding Bins:

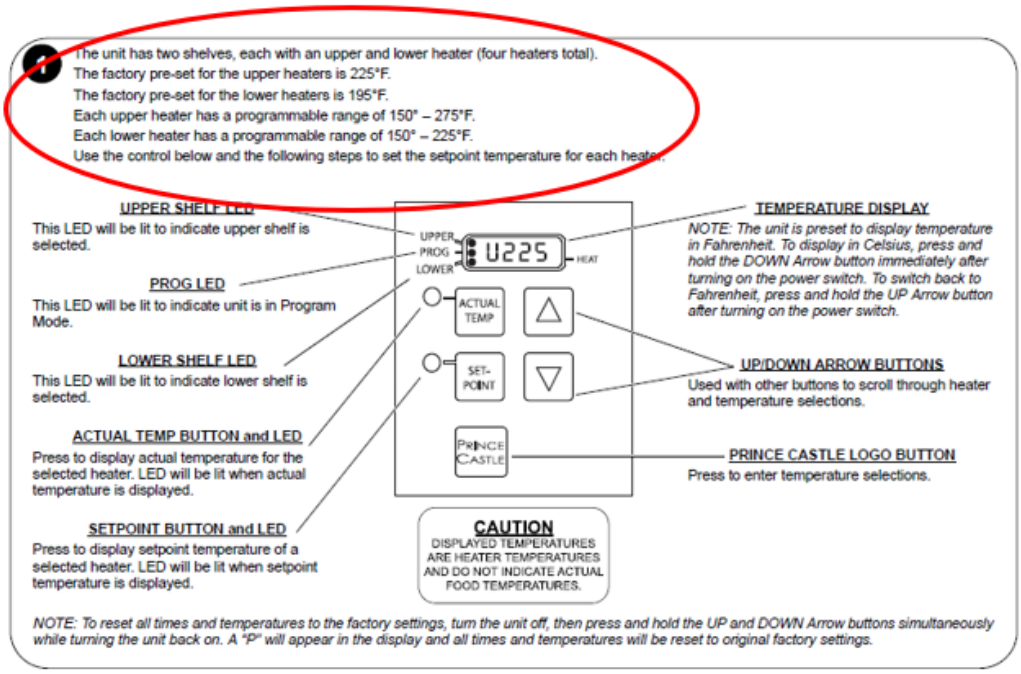




EX1009: 19, 36.

122. The 2006 and 2010 Operation Manuals explain various operations and settings of the Product Holding Bins. The two Operation Manuals teach that each compartment of the Product Holding Bin has "an upper and lower heater." EX1009: 22, 40.

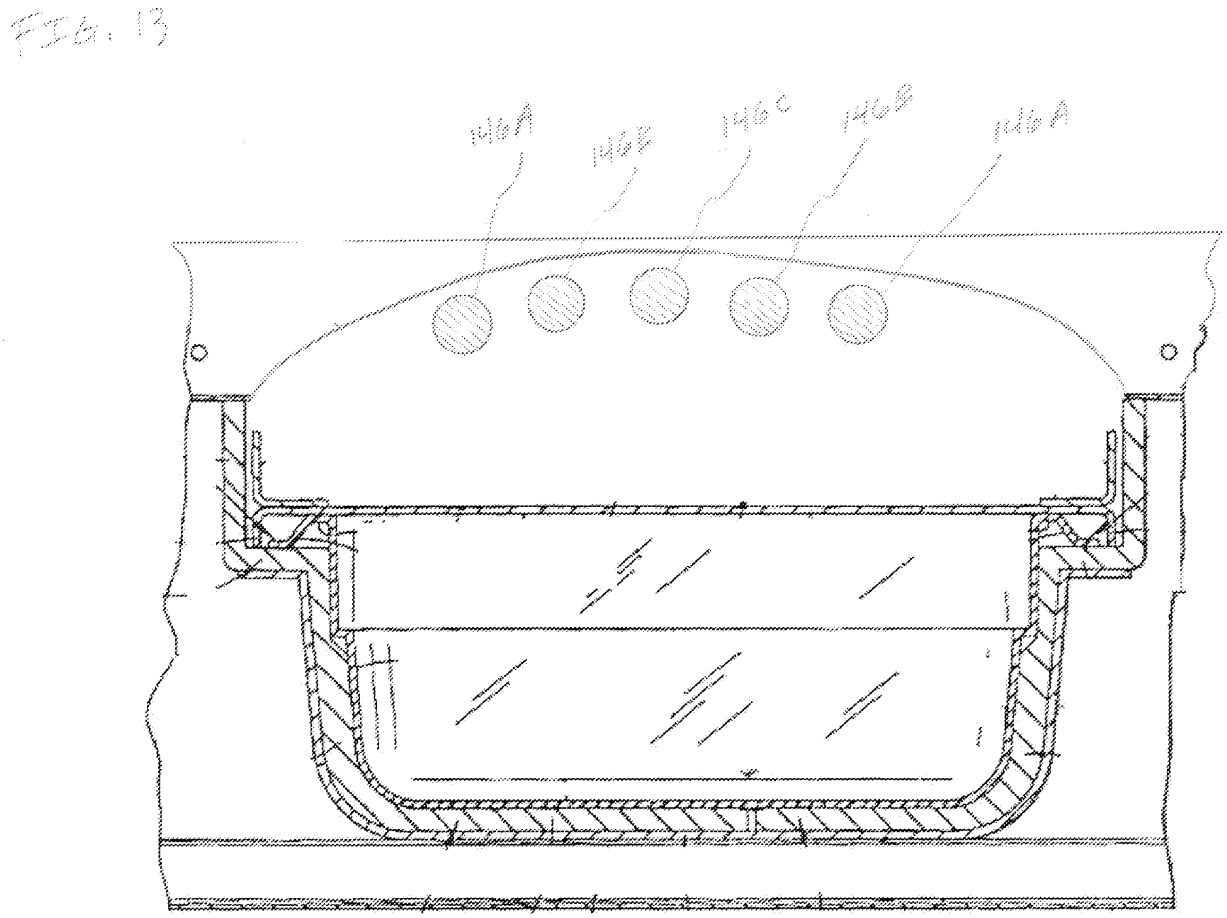
123. Both Operation Manuals state that "[t]he factory pre-set for the upper heaters is 225°F" and "[t]he factory pre-set for the lower heaters is 195°F." EX1009: 22, 40.



EX1009: 40 (annotated).

13. Reese (EX1027)

124. U.S. Patent Publication No. 2014/0130684 ("Reese") teaches a product holding unit for holding pre-cooked food before it is served having upper heating elements in the form of infrared emitters. EX1027: ¶¶[0001], [0025].



EX1027: Fig. 13.

125. Reese further explains its product holding unit has a "Turbo Boost" actuator which, when pressed, increases the heat from the heating elements. EX1027: ¶[0019] ("deliver an increased amount of heat to the food"). Reese explains the turbo boost function can be used "to re-crisp breaded (fried) food, to melt cheese on fries, to melt cheese on burger patties, to brown grilled food products, and/or to brown burger patties." EX1027: ¶[0021]. For example, Reese states "[t]he turbo boost could be used before it is anticipated to remove food from a respective heating compartment to increase heat delivered to breaded food to re-

crisp it such as by drying potentially soggy breading or to increase heat delivered to food on which cheese has been positioned for melting it." EX1027: ¶[0021].

14. Merco (EX1028)

126. The Merco website and linked brochure, manuals, and specification sheet (EX1028) is an archived collection of URLs from the Wayback Machine as they existed in May 2012 from a publicly available website that was operated by Merco to advertise its commercial kitchen equipment, including Modular Holding Cabinets.

127. The Merco website and linked brochure, manuals, and specification sheet include a landing page (EX1028: 5-6), a webpage about Merco's Modular Holding Cabinets (EX1028: 8), a webpage with links to product specification sheets, including for Merco's Modular Holding Cabinets (EX1028: 10), a Merco brochure including its Modular Holding Cabinets (EX1028: 12-19), an Operators Manual for Merco's Modular Holding Cabinets (EX1028: 21-44), a Parts and Service Manual for Merco's Modular Holding Cabinets (EX1028: 45-57), and a specification sheet for Merco's Modular Holding Cabinets (EX1028: 59-60).

128. Merco's Operators Manual includes the following guide table prescribing the upper and lower temperature setpoints for holding different types of food:

Product Code	Product Description	Entry Temp (°F)	Upper Temp (°F)	Lower Temp (°F)	Recommended Hold Time (mins)	Recommended Cook Time (mins)
Eggs	Eggs	160	160	180	60	10
Bacn	Bacon	175	200	200	20	5
Hsh1	Hash Browns	180	200	200	15	5
Hsh2	Hash Browns (cover removed)	180	200	200	20	5
Bsct	Biscuits	170	200	200	60	10
Saus	Sausage Patties	180	200	200	240	15
Ham	Ham Steak	160	200	200	120	10
Dogs	Hot Dogs	180	200	200	240	15
Ch Br	Chicken Breasts	170	200	200	240	15
Burg	Hamburger Patties	175	200	200	240	15
Fish	Breaded Fish Fillets	180	190	190	45	10
Ck Pt	Breaded Chicken Patties	180	200	200	45	10
Mt Lf	Meat Loaf	180	220	220	120	10
Mt Bl	Meatballs	180	220	220	120	10
Past	Pasta	180	200	200	240	15
Veg	Vegetables	150	200	200	120	10
Frut	Fruit Compote	175	200	200	240	15
Chil	Chili	175	200	200	240	15
Spin	Spinach Dip	180	200	200	240	15
Mozz	Mozzatella Sticks	165	200	200	15	5
Popp	Poppers	175	200	200	15	5
PD22	n/a	n/a	200	200	240	15
PD23	n/a	n/a	200	200	240	15
PD24	n/a	n/a	200	200	240	15
PD25	n/a	n/a	200	200	240	15
PD26	n/a	n/a	200	200	240	15
PD27	n/a	n/a	200	200	240	15
PD28	n/a	n/a	200	200	240	15
PD29	n/a	n/a	200	200	240	15
PD30	n/a	n/a	200	200	240	15
PD31	n/a	n/a	200	200	240	15
PD32	n/a	n/a	200	200	240	15

EX1028: 39.

15. Stanger (EX1042)

129. U.S. Patent Publication No. 2014/0010937 ("Stanger") teaches food holding units that uses hot air blown into its food holding compartments for heating and/or maintaining the heat of food products. EX1042.

130. Of particular relevance, the embodiment of Stanger depicted in its Figure 14 is a multizone heating cabinet in a 2x4 configuration (two compartments tall and four food holding locations across). Specifically, the Figure 14 embodiment is disclosed as having two heating zones per compartment, with each heating zone being sized to hold a pair of side-by-side pans. EX1042: ¶[0055] ("FIG [14] is a front right side perspective view of yet another embodiment of the food holding cabinet according to the present disclosure with eight trays…. Each blower system provides heated airflow to two trays via an upper air plenum which is divided down the center (not shown). FIG. 14 includes two control bays with four micro blowers.").

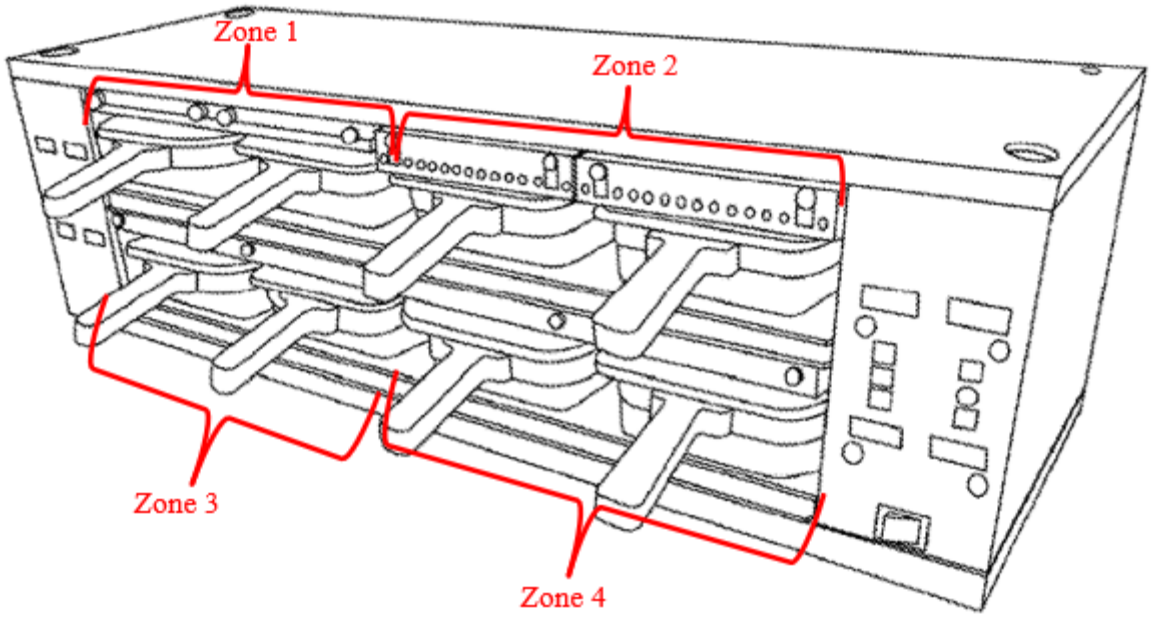


FIG. 14

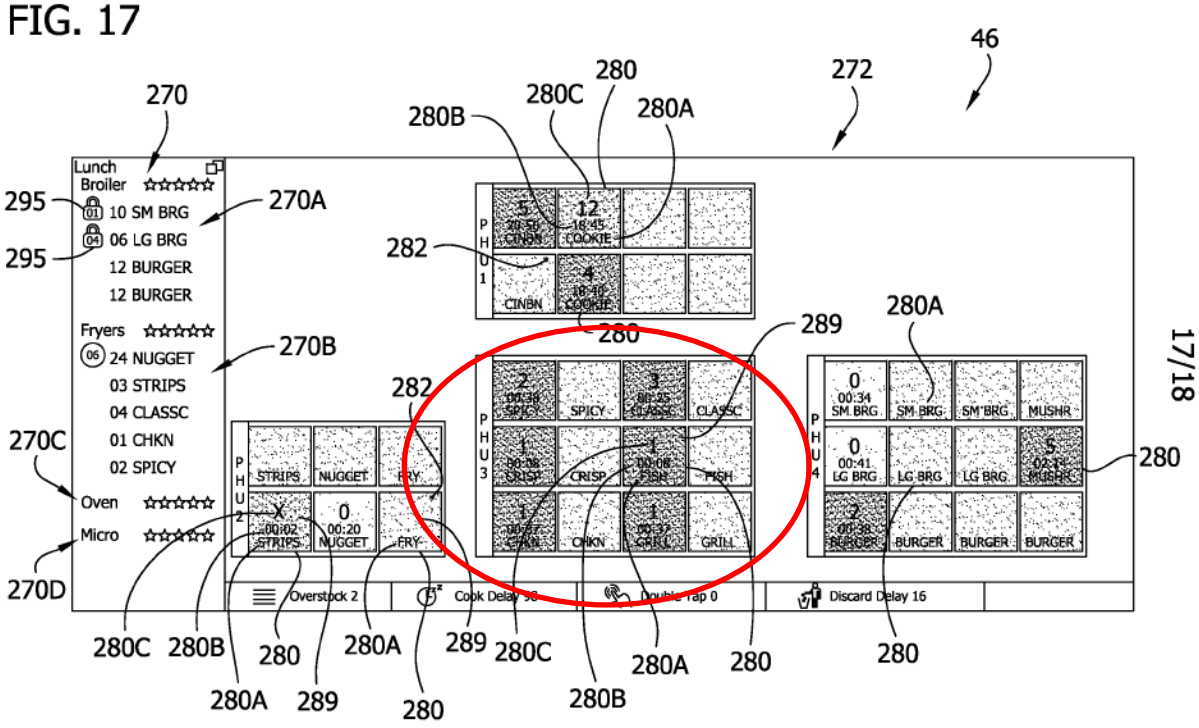
EX1042: Fig. 14 (annotated).

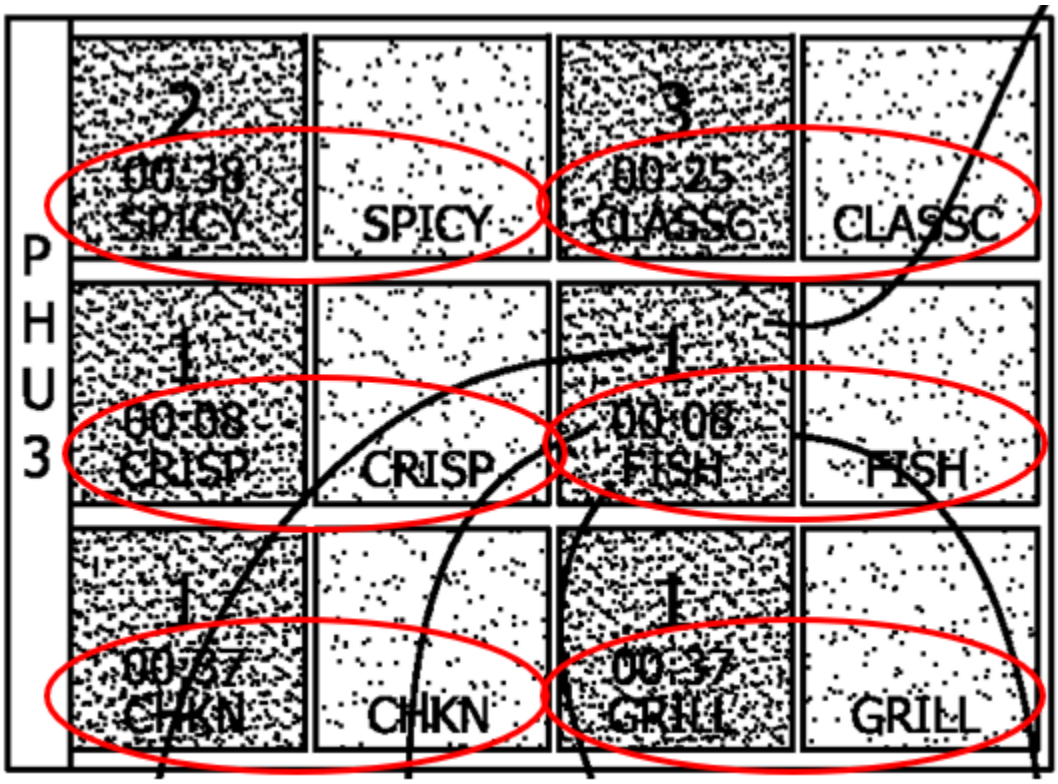
16. Loy (EX1043)

131. International Application WO 2015/031500 A1 ("Loy") teaches inventory management control systems for monitoring food inventory being held in food holding cabinets, such as those at issue here. EX1043: (57) Abstract.

132. Amongst a variety of food holding cabinets arrangements Loy teaches, one of the arrangements depicted in Figure 17 consist of food pans within a four-pan-wide food holding unit in which a pair of adjacent pans of the same food type are arranged horizontally next to another pair of adjacent pans of a different food type (food types of the pan pairs including SPICY, CLASSC, CRISP, FISH, CHKN, and GRILL). EX1043: Fig. 17.

FIG. 17





EX1043: Fig. 17 (enlarged, annotated).

133. Specifically, Loy teaches holding multiple pans (e.g., pairs of adjacent pans) of each food type as a method of maintaining a first-in-first-out system for high-volume food items in quick service restaurant settings, with displays directing the restaurant employees to serve out of the pan with food that has been held longer and will expire first. EX1043: ¶¶[0001], [0027], [0029].

IV. GROUND 1: CLAIMS 1-6, 8-12, and 16-20 WOULD HAVE BEEN OBVIOUS OVER THE IRHS DOCUMENTS

A. Combination of the IRHS Documents

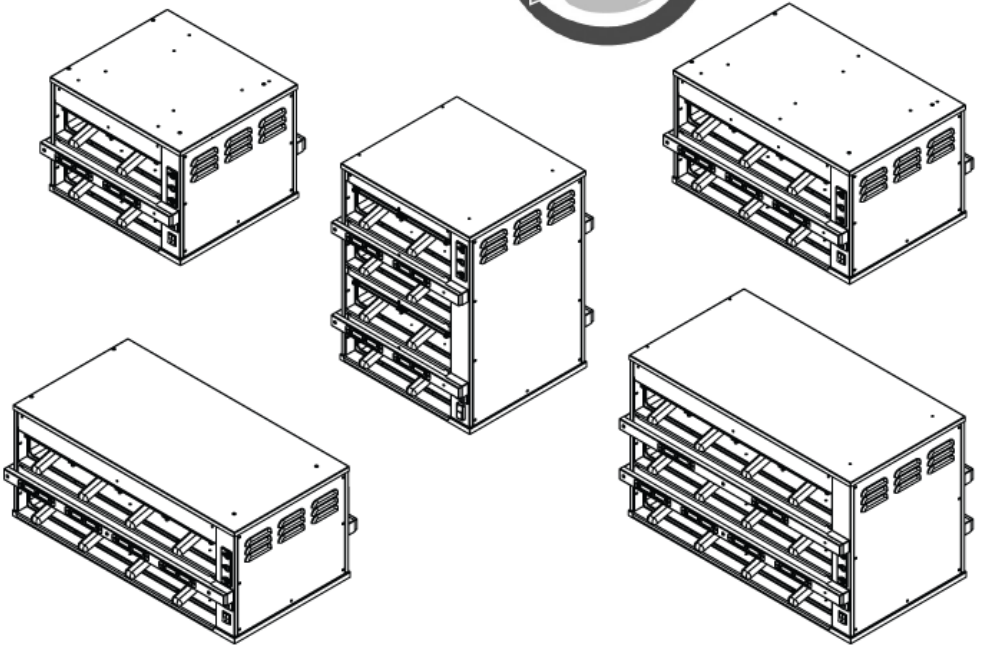
134. While I understand that for the purposes of this IPR proceeding, each of the IRHS Documents must be treated as a separate prior art reference, it would have been obvious to the POSA to combine the teachings and disclosures of the IRHS Documents as it would have been apparent that each of the IRHS Documents was describing the same family of IRHS Holding Units. EX1005: 6-10; EX1006: 1-2; EX1007: 55-57; EX1008: 1, 5-9.

135. As described in Paragraphs 41-68 above, the IRHS Documents (the IRHS Manual (EX1005), IRHS Specifications (EX1006), the Duke Website (EX1007), and the IRHS Service Manual (EX1008)) each describe the same family of food holding units manufactured by Duke referred to as the Infrared Heatsink (IRHS) Holding Units.

Your Solutions Partner

OPERATORS MANUAL

INFRARED HEATSINK ™ HOLDING UNIT



MODELS

IRHS22
IRHS23
IRHS24
IRHS34
IRHS42

IMPORTANT INFORMATION, READ BEFORE USE.
PLEASE SAVE THESE INSTRUCTIONS.

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Duke Manufacturing Company
2305 N. Broadway
St. Louis, MO 63102
Phone: 314-231-1130
Toll Free: 1-800-735-3853
Fax: 314-231-5074
www.dukemfg.com

P/N 229945D
02/18/14

EX1005: 1.

Your Solutions Partner

Specifications

F.O.B Sedalia, Missouri 65302



IRHS - 23

OPTIONS:

- ☐ Metal trivet for fried/dry product
- ☐ Kitchen Minder master unit
- ☐ Kitchen Minder slave unit
- ☐ Single side control

AGENCY LISTING:

DUKE MANUFACTURING CO.
2305 N. Broadway
St. Louis, MO 63102

800.735.3853 Toll Free
314.231.5074 Fax
www.dukemfg.com

Approval Stamp(s):

PRODUCT INFORMATION:

PROJECT: _____
ITEM: _____
QUANTITY: _____

MODEL:

Product Holding Unit - Infra Red Heat Sink

IRHS-22	2 down, 2 across
IRHS-23	2 down, 3 across
IRHS-24	2 down, 4 across
IRHS-34	3 down, 4 across

BODY:

- Stainless steel exterior
- Annodized aluminum HeatSink™ with fully radiused curved corners that are easily cleaned
- Only removable part for cleaining is aluminum cover for broiled product
- Modular and scaleable design

HEATING:

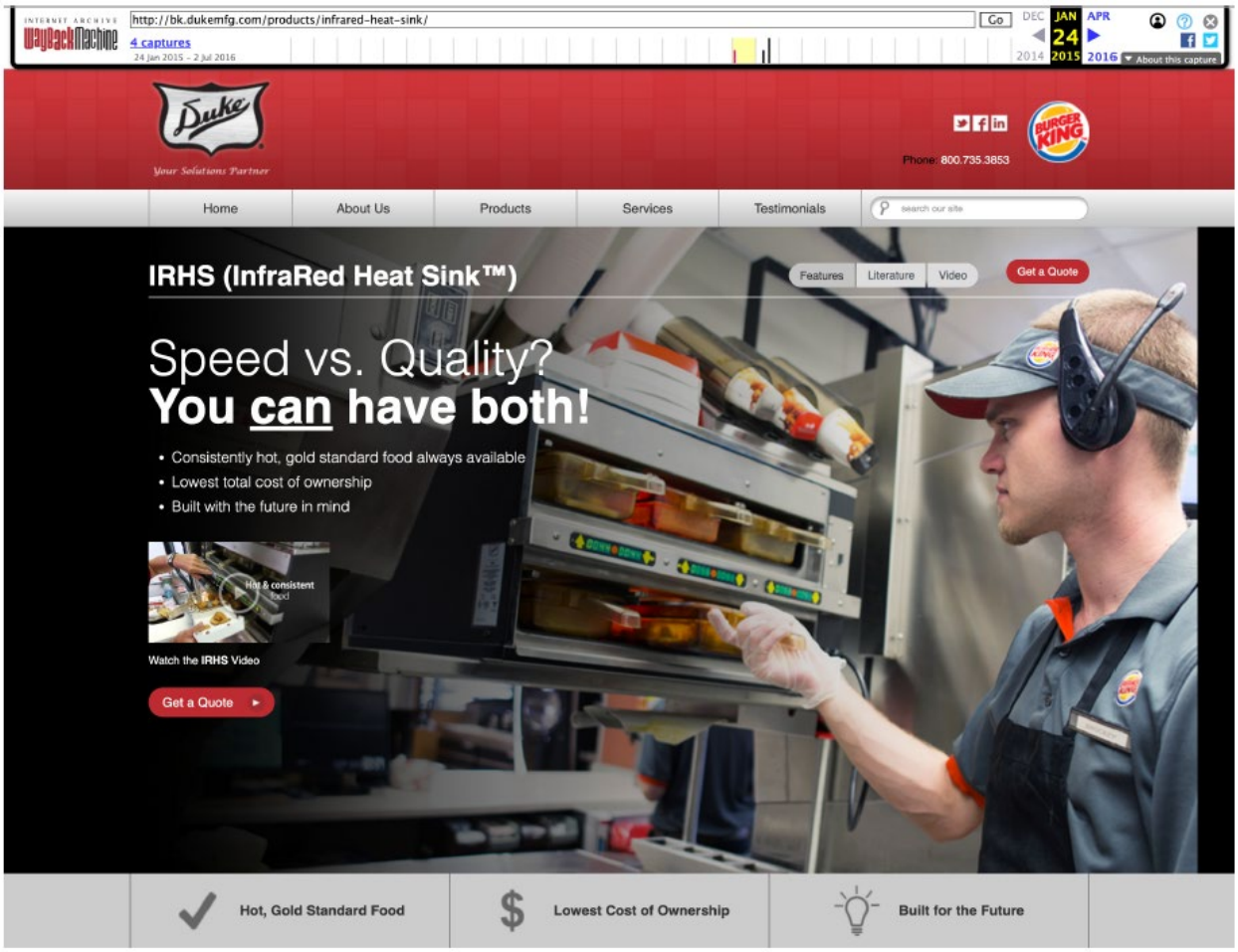
- Dual technology heating to reduce temperature variance from top to bottom
- Individually controlled IR emitters pulse on and off for controlling optimum amount of energy being applied to the food
- Zoned bottom heat to provide additional holding environment customization
- IR Turbo Boost for instant shot of IR energy

CONTROLS

- Automatic pan linking to ensure FIFO
- Custom heat settings for food product
- Each compartment individually controlled
- Alphanumeric displays to indicate product description, temp and hold time remaining
- Web based programming via USB
- Day part switch for global recipe changes (B, L, D)
- Firmwave updates via USB

SHORT FORM SPECIFICATIONS:

Duke Product Holding Units - Upper IR emitters provide optimum environment for holding of all fried foods resulting in extended hold time, moist protein and crispy breading. Bottom zoned heat element provides gentle heat to minimize temperature distribution from top to bottom of pan. Alphanumeric control with independent well flexibility. Programmable via website & USB with daypart switch to facilitate global recipe changes.


http://bk.dukemfg.com/products/infrared-heat-sink/
4 captures
Duke
Your Solutions Partner
Phone: 800.735.3853
Home
About Us
Products
Services
Testimonials
IRHS (InfraRed Heat Sink™)
Features
Literature
Video
Get a Quote
Speed vs. Quality?
You can have both!
• Consistently hot, gold standard food always available
• Lowest total cost of ownership
• Built with the future in mind
Watch the IRHS Video
Get a Quote
Hot, Gold Standard Food
Lowest Cost of Ownership
Built for the Future

EX1007: 8.

IRHS InfaRed HeatSink® Product Holding Units

- Consistently hot, gold standard food is always available
- Lowest cost of ownership solution
- Built with the future in mind



1. Metal HeatSink cover to eliminate plastic lids. Cover only required for broiled foods.
2. No more plastic faceplates! Stainless steel faceplate protects internal components.
3. Rolled edges and completley sealed construction prevent grease seepage to internal components.
4. Ensure quick and accurate fixes with more advanced diagnostics and a more robust Duke timer bar.

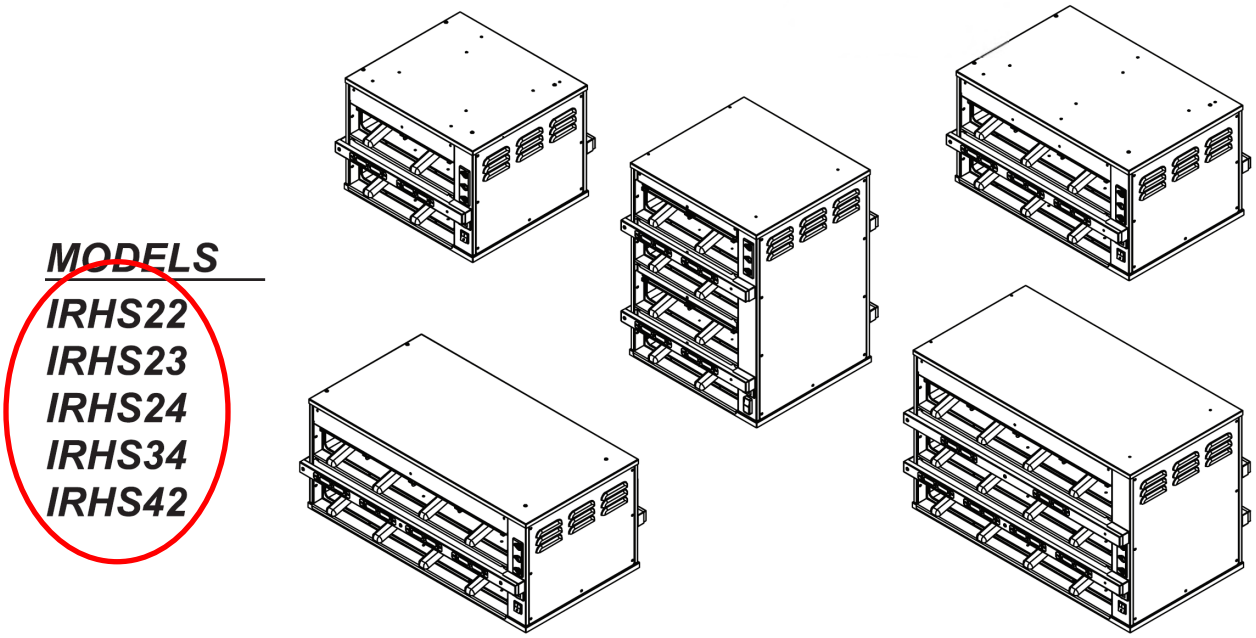
By combining the technologies of InfraRed and HeatSink, we are able to hold food with superior flavor and temperature consistency. Previous generations of the Duke holding units contained only HeatSink, heating from below and wrapping around the sides of each pan. By adding the top-down InfraRed heat, we have been able to deliver a consistently hot pan of product, from top to bottom. This also allows unlimited menu flexibility as each food product has tailored settings to control the thermal path of the food, leading to optimal quality, consistency and extended hold.

EX1007: 51.



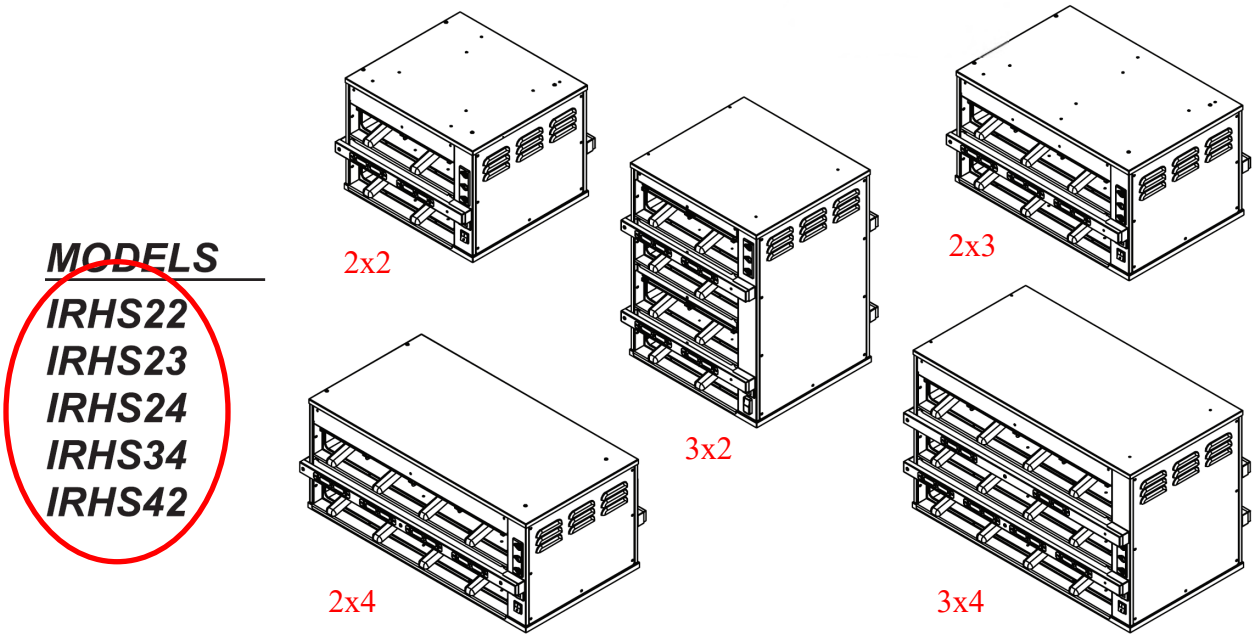
EX1008: 1.

136. Beyond being directed to the same family of food holding units, the IRHS Documents more specifically describe the same models of IRHS Holding Units: IRHS22, IRHS23, IRHS24, IRHS34, and IRHS42. EX1005: 1, 6-10; EX1006: 1, 2; EX1007: 54-57; EX1008: 1, 5-9.



EX1005: 1 (annotated).

137. The numerical suffixes of the model numbers indicate the configuration of the pan holding locations/bays. For example, IRHS**22** has four pan holding locations arranged in a 2x2 grid; IRHS**23** has six pan holding locations arranged in a 3x2 grid; IRHS**24** has eight pan holding locations arranged in a 2x4 grid; IRHS**34** has twelve pan holding locations arranged in a 3x4 grid; and IRHS**42** has eight pan holding locations arranged in a 4x2 grid. EX1005: 6-10; EX1006: 1; EX1007: 54-57; EX1008: 1.



EX1005: 1 (annotated).

MODEL:

Product Holding Unit - Infra Red Heat Sink

IRHS-22	2 down, 2 across
IRHS-23	2 down, 3 across
IRHS-24	2 down, 4 across
IRHS-34	3 down, 4 across
IRHS-42	4 down, 2 across

EX1006: 1 (annotated).

Part #'s	Controls	Stand-Alone/ Master/Satellite	Electrical Requirements			
			Voltage	Hz	Amps	NEMA
IRHS24-**XXX**4T1	Single	Stand-Alone	208 / 230 / 240	50/60	12	6-15P (208V/240V)
IRHS24-**XXX**4T2R	Double	Stand-Alone	208 / 230 / 240	50/60	12	6-15P (208V/240V)
IRHS24-**XXX**4T1S	Single	Satellite	208 / 230 / 240	50/60	12	6-15P (208V/240V)
IRHS24-**XXX**4T1M	Single	Master	208 / 230 / 240	50/60	12	6-15P (208V/240V)
IRHS24-**XXX**4T2S	Double	Satellite	208 / 230 / 240	50/60	12	6-15P (208V/240V)
IRHS24-**XXX**4T2M	Double	Master	208 / 230 / 240	50/60	12	6-15P (208V/240V)

Notes
1. Replace "XXX" in the part # with the respective power supply
2. 230V Unit Electrical Requirements: IEC 60309 PIN & SLEEVE PLUG, 16 AMP

WARRANTY:
3 year parts and 1 year labor for timer bar IRHS
3 year parts and 2 year labor for VISORenabled IRHS – no timer bar unit

EX1007: 56 (annotated).

138. The IRHS Documents were all published by Duke, which manufactured the IRHS products, and feature Duke's trademarks. EX1005: 1; EX1006: 1; EX1007: 54, 57; EX1008: 1.

139. The IRHS Documents all refer to and describe the same product line (IRHS Holding Units), using many of the same images, specifications, and descriptions. For instance, in addition to using the same model numbers and name ("InfraRed HeatSink"), the IRHS Documents further list essentially the same dimensions for each model of IRHS Holding Unit. EX1005: 6-10; EX1006: 1-2; EX1007: 55-57; EX1008: 5-9.

140. A POSA that was interested in learning about the IRHS products would have recognized that information on the products would have been available via its product literature. The POSA likewise would have understood the types of product literature that would typically be available for such products, namely: marketing materials in the form of web site and catalog product descriptions, specification sheets, user/operator manuals, and service manuals.

141. It would have been obvious for the POSA to combine the teachings of the IRHS Documents because the IRHS Documents describe the same IRHS products. Understanding the IRHS Documents describe the same product line, the POSA would readily combine the teachings of the IRHS Documents to form a full comprehension and complete understanding of the IRHS products as having all the

capabilities and features the IRHS Documents collectively describe Duke's IRHS products to have. The POSA would have done this to meet customer demands, increase holding capacity for diverse foods, and provide customized/improved holding environments for each food. EX1007: 17 ("[Duke] recognize[s] your Pain Points: fried food holding quality, waste, menu proliferation, labor and training, speed of service (organization, specialty board, fry cook times), kitchen image, merchandising. We work to minimize the pain through a flexible approach to manufacturing that emphasizes customization, responsiveness and speed to market"); EX1019: 1:35-49 ("different foods may require different storage temperatures and may have different shelf lives. ... As the number of offered food products increases, so does the complexity of a system capable of maintaining all the different types of food products. Accordingly, there exists a need for a holding cabinet and control system structured and arranged to maintain multiple categories of food products and to convey information regarding food products stored in the holding cabinet").

142. Because the POSA would have viewed the IRHS Documents together as describing capabilities and features of Duke's IRHS products, the POSA would have readily applied or supplemented any capability or feature of the IRHS products taught by one IRHS Document into the IRHS products taught by another IRHS Document. For example, if one IRHS Document is silent, ambiguous, or

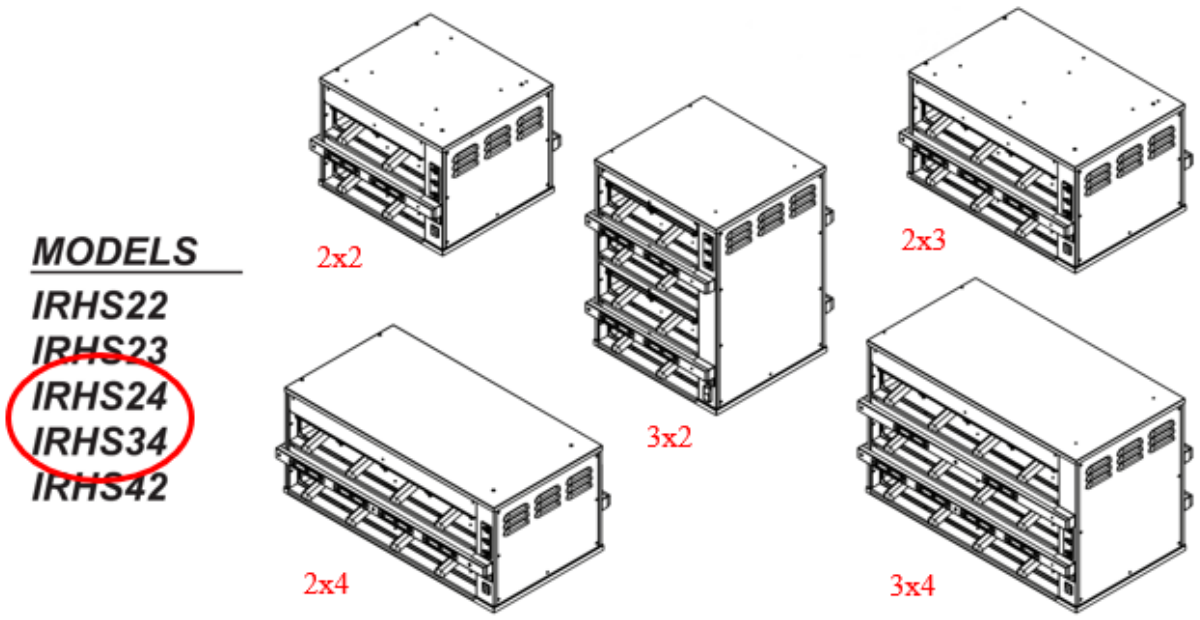
lacks details as to a feature or capability of the IRHS products, the POSA would look to another IRHS Document to supplement his or her understanding of the IRHS products.

143. Further, because the IRHS Documents would have been recognized as describing the same/related IRHS products, the POSA would have expected that the teachings of the IRHS Documents could have been readily combined.

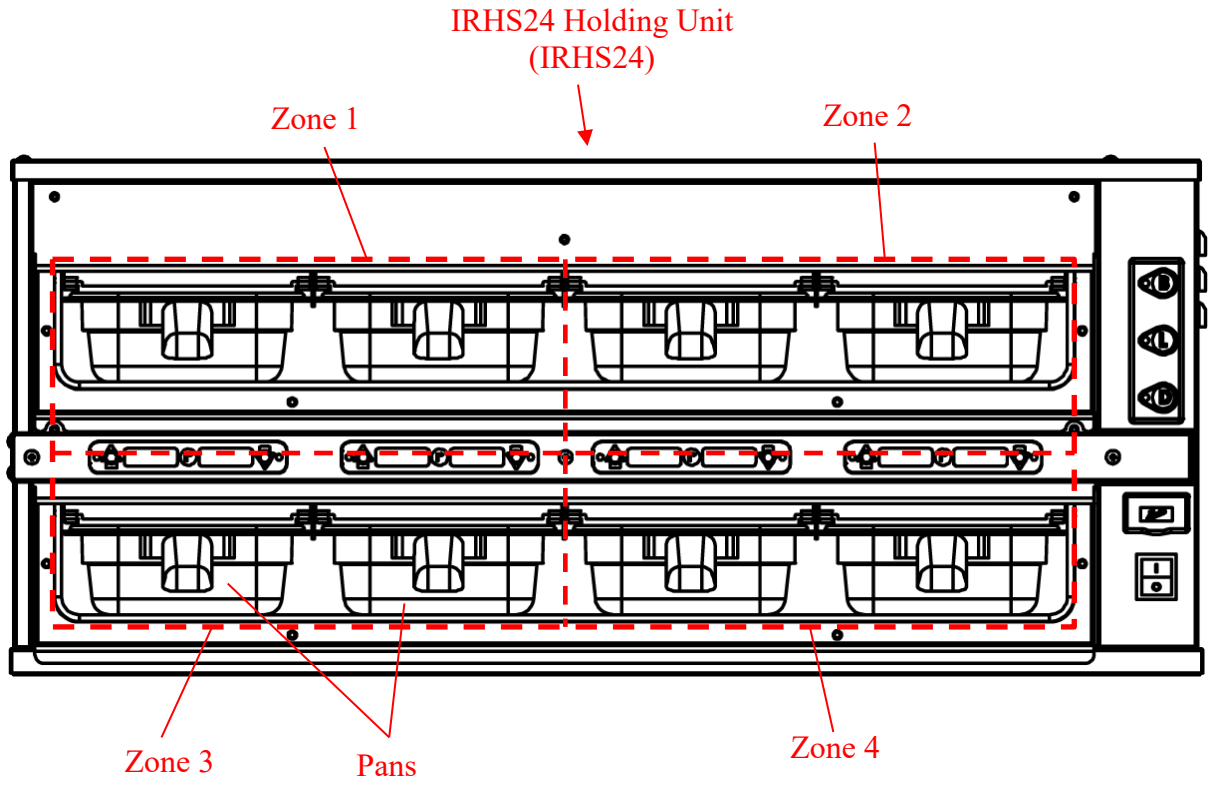
B. Independent Claim 1

1.P: a method of maintaining different temperatures within a multi-zone food holding bin, the multi-zone food holding bin comprising

144. The IRHS Documents disclose a multi-zone food holding bin in which different temperatures can be maintained. Two examples of models of the disclosed a multi-zone food holding bin include the 2x4 IRHS Holding Unit, model number IRHS24 (the "IRHS24 Holding Unit" or "IRHS24") and the 3x4 IRHS Holding Unit, model number IRHS34, (the "IRHS34 Holding Unit" or "IRHS34"), each of which has multiple zones that can be maintained at different temperatures for receiving and heating a plurality of food pans. EX1005: 4, 6, 9; EX1006: 1; EX1007: 51, 56; EX1008: 1.



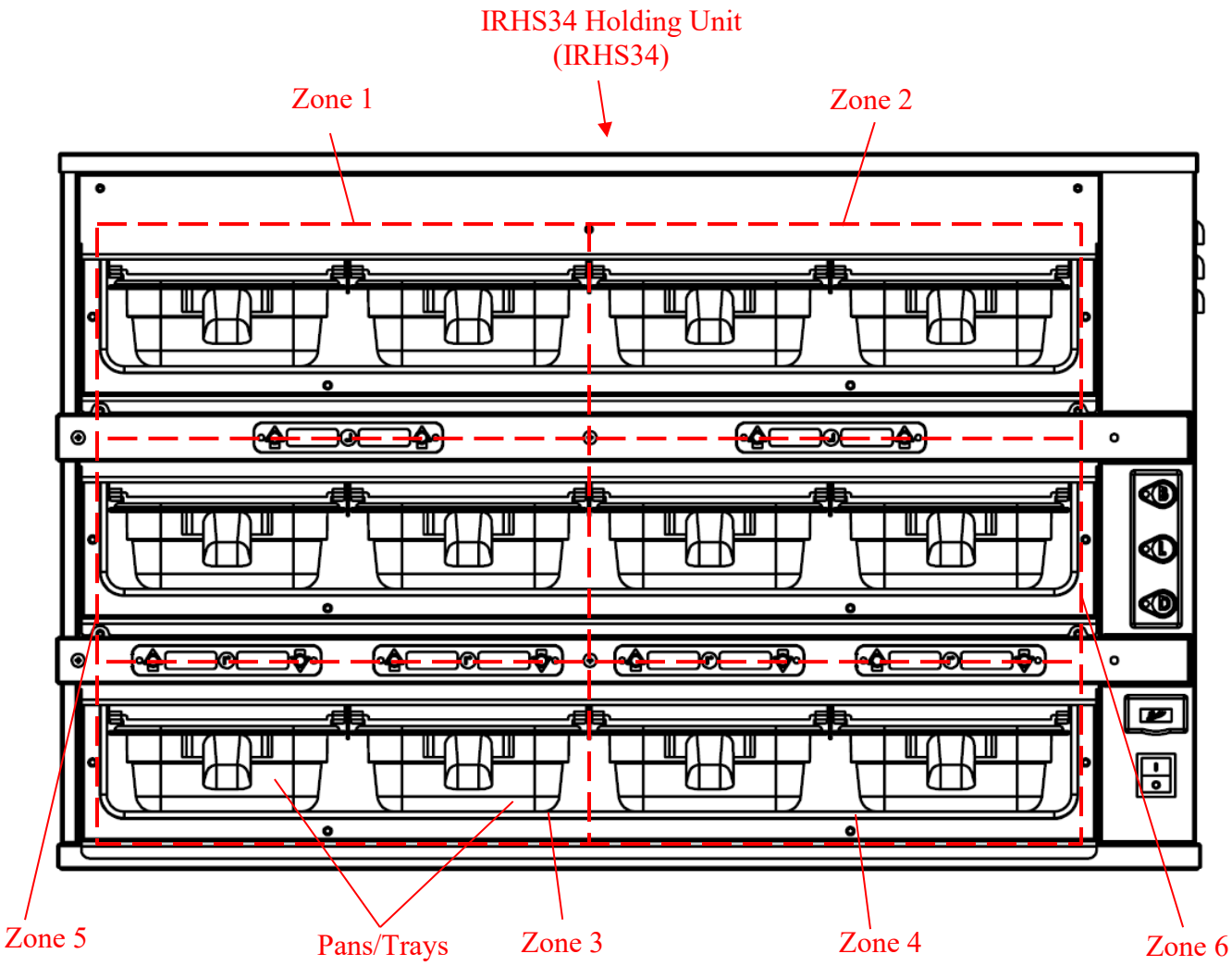
EX1005: 1 (annotated).



EX1005: 8 (annotated).



EX1007: 56.



EX1005: 9 (annotated).



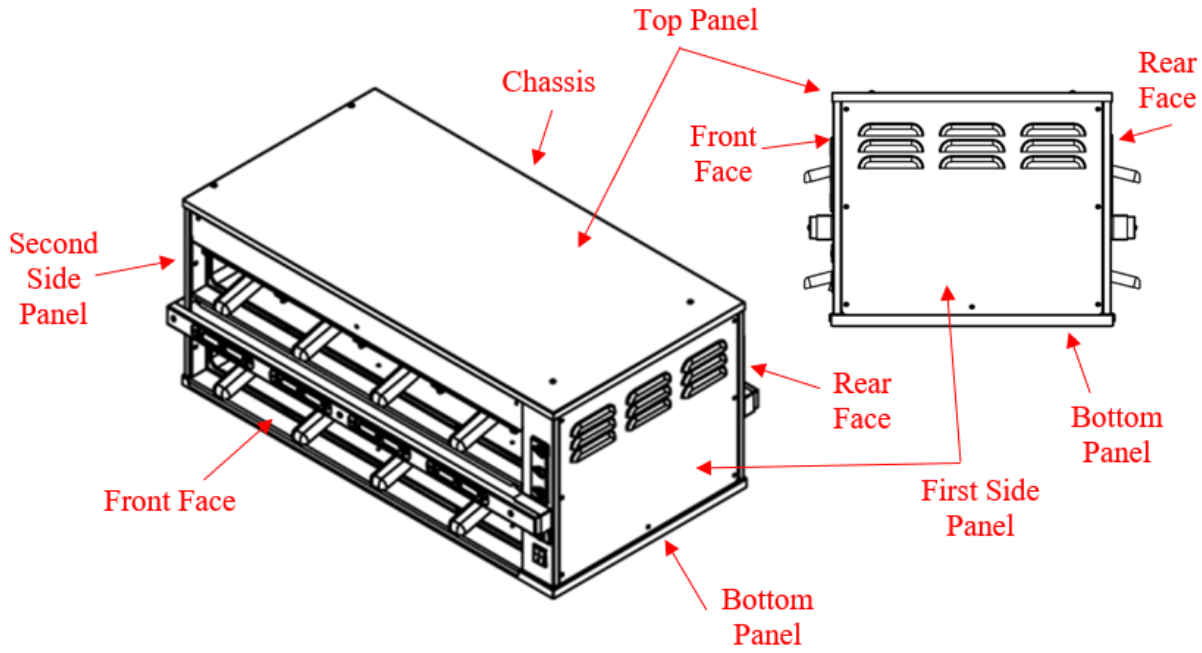
EX1007: 31.

145. Certain of the dependent claims of the ’264 Patent recite different bay configurations for multi-zone food holding bins. EX1001: claims 2 (necessitating a 2x4 bay configuration) and 3 (necessitating a 3x4 bay configuration). Accordingly, the invalidity of claim 1 will be demonstrated by either the IRHS24 or the IRHS34 Holding Units, invalidity of independent claims 2 and 5-20 will be demonstrated using the IRHS24 Holding Unit, and invalidity of independent claims 3 and 4 will be demonstrated using the IRHS34 Holding Unit. Notably, as used herein, “IRHS,” “IRHS24,” and “IRHS34” refer to IRHS Documents’ disclosure not a commercial IRHS product itself.

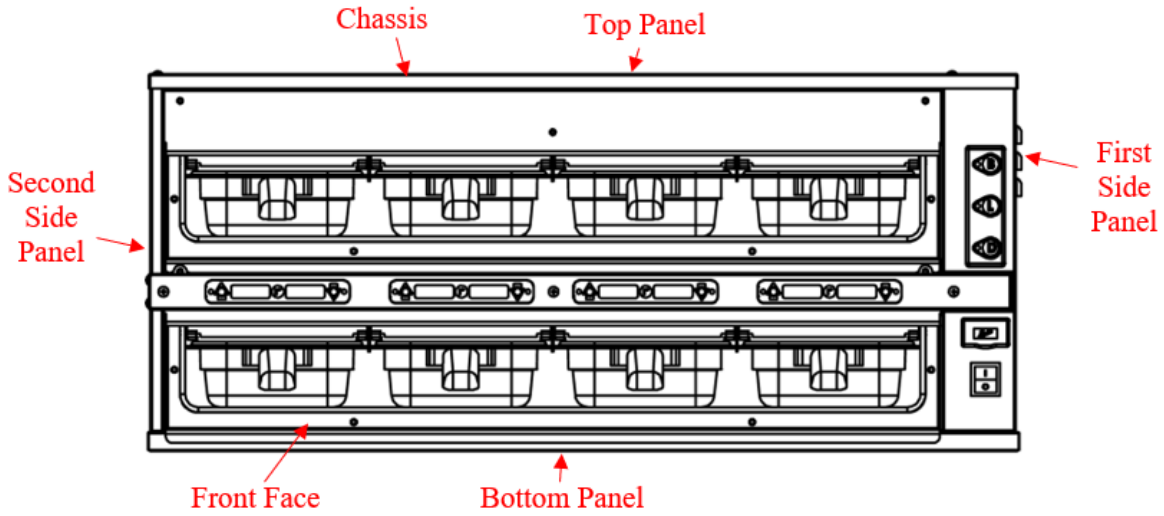
1.a.1: a chassis having a top panel, a first side panel, a second side panel, a bottom panel, and a front face

146. As disclosed in the images and figures of the IRHS Documents, the IRHS24 and IRHS34 Holding Units have a chassis. EX1006: 1 ("[b]ody" has a "[s]tainless steel exterior").

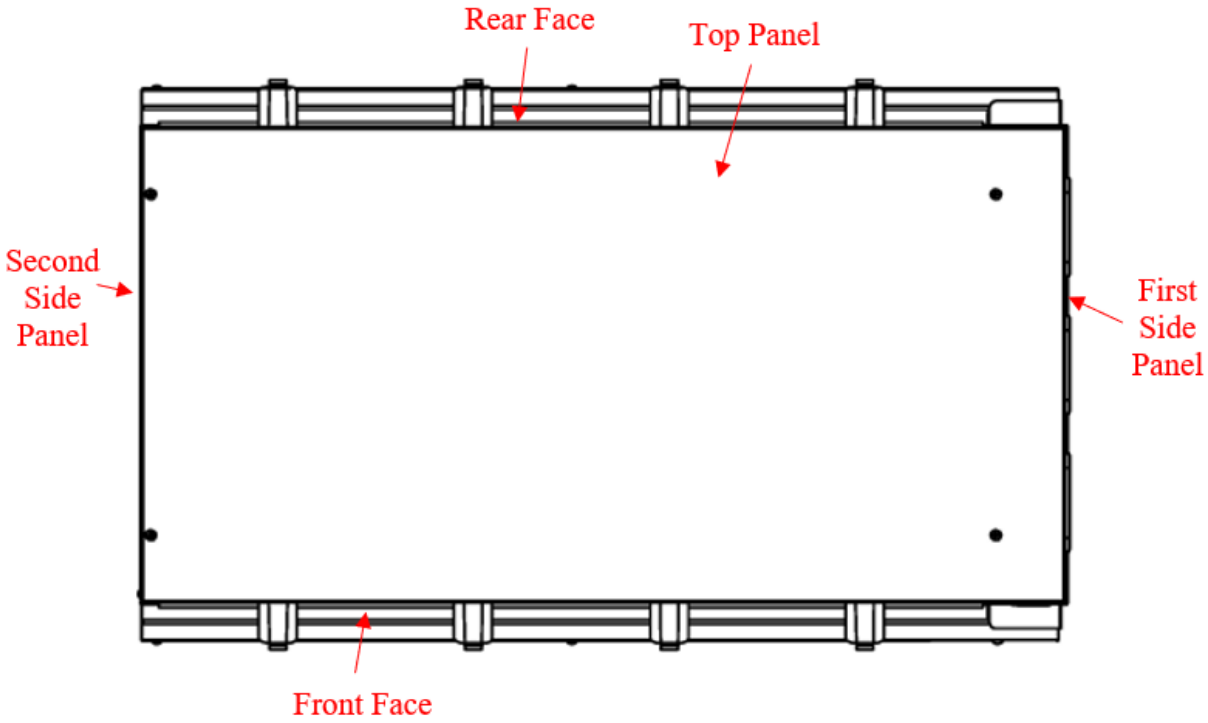
147. Each chassis has a top structure (*i.e.*, a top panel), side structures (*i.e.*, a first side panel and a second side panel), and a bottom structure (*i.e.*, a bottom panel) that surrounds the food holding volume. EX1007: 51 ("[s]tainless steel faceplate protects internal components"). Each chassis defines a front side (*i.e.*, a front face) and a rear side (*i.e.*, an opposing rear face) opposite the front face.



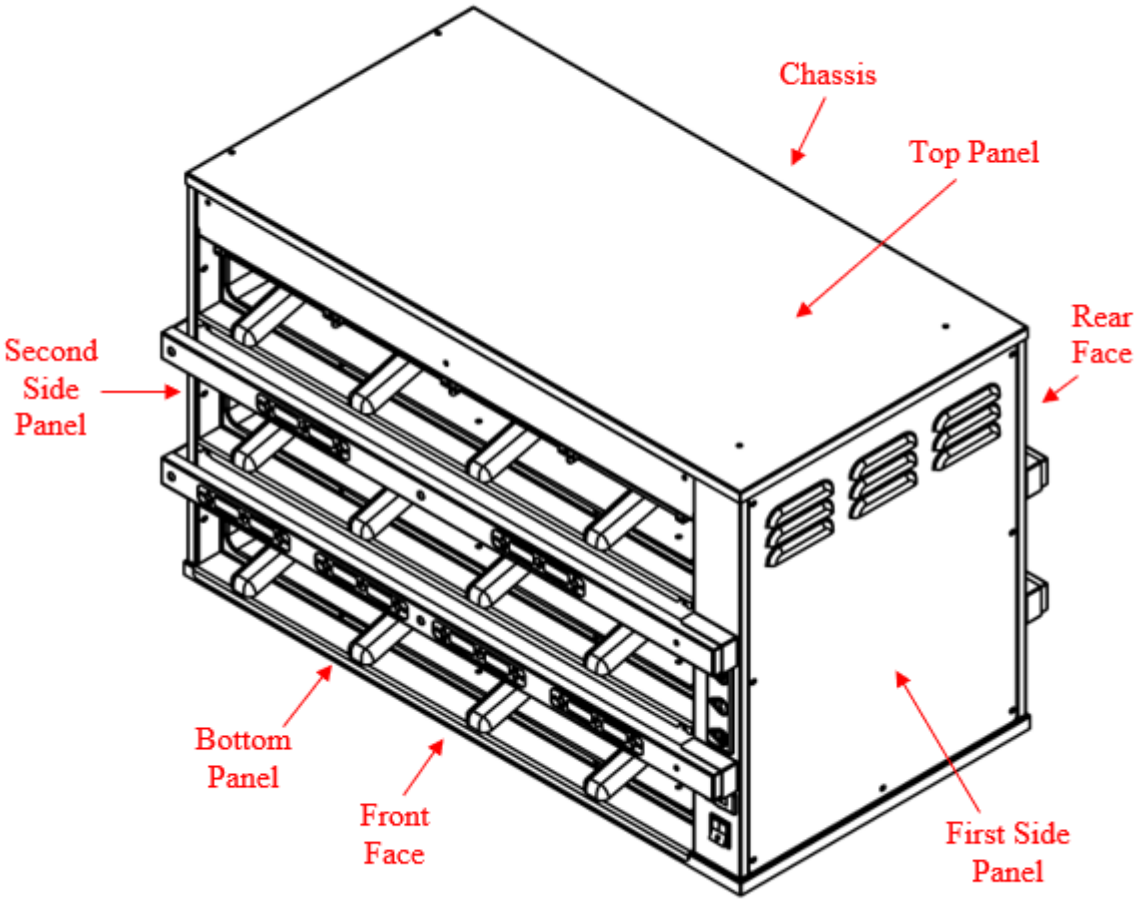
EX1005: 8 (annotated).

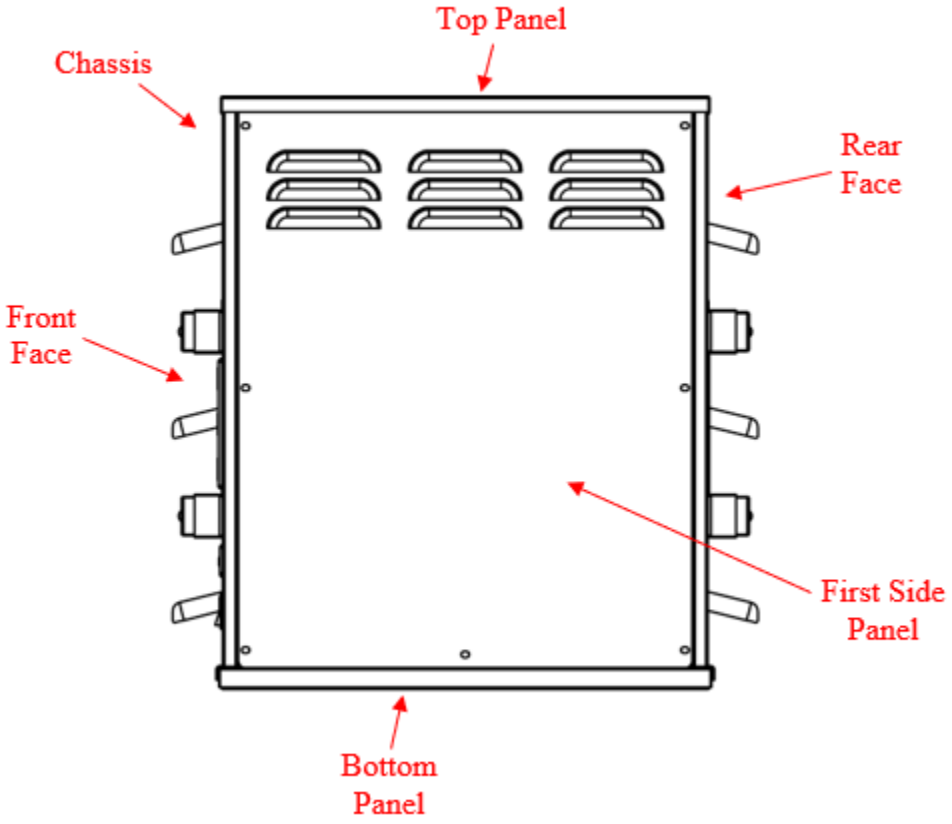


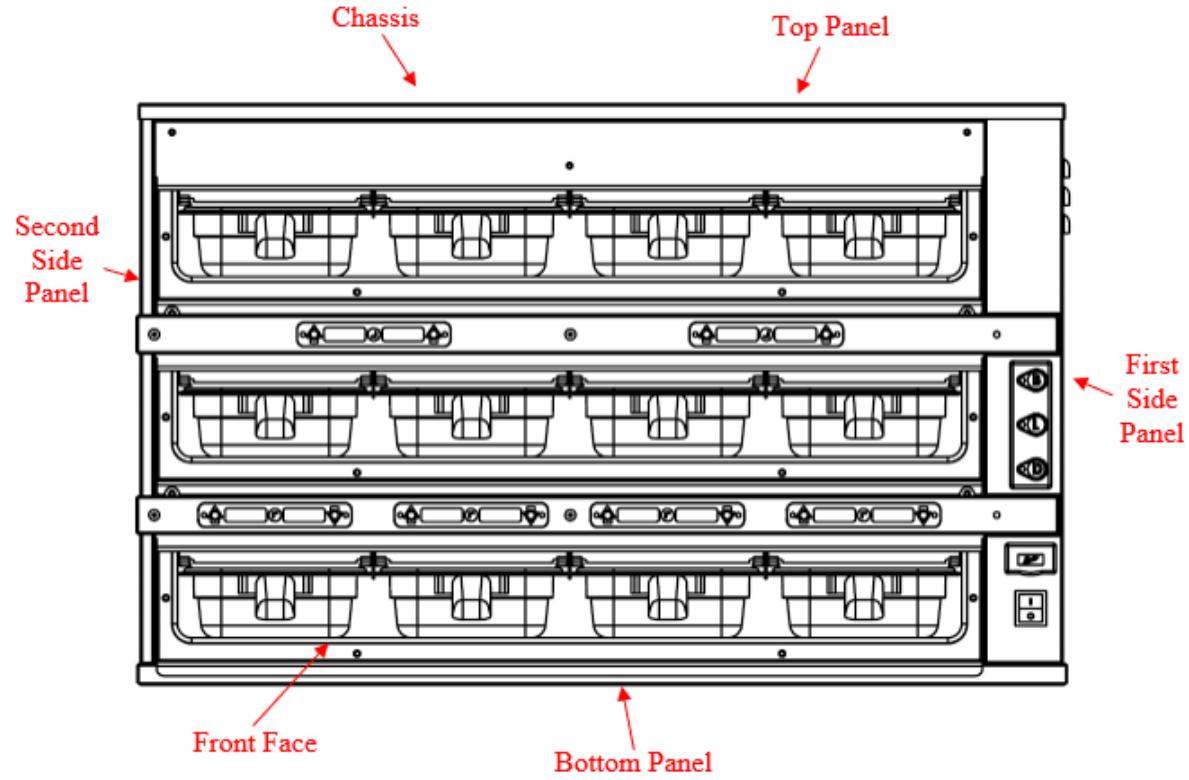
EX1005: 8 (annotated).

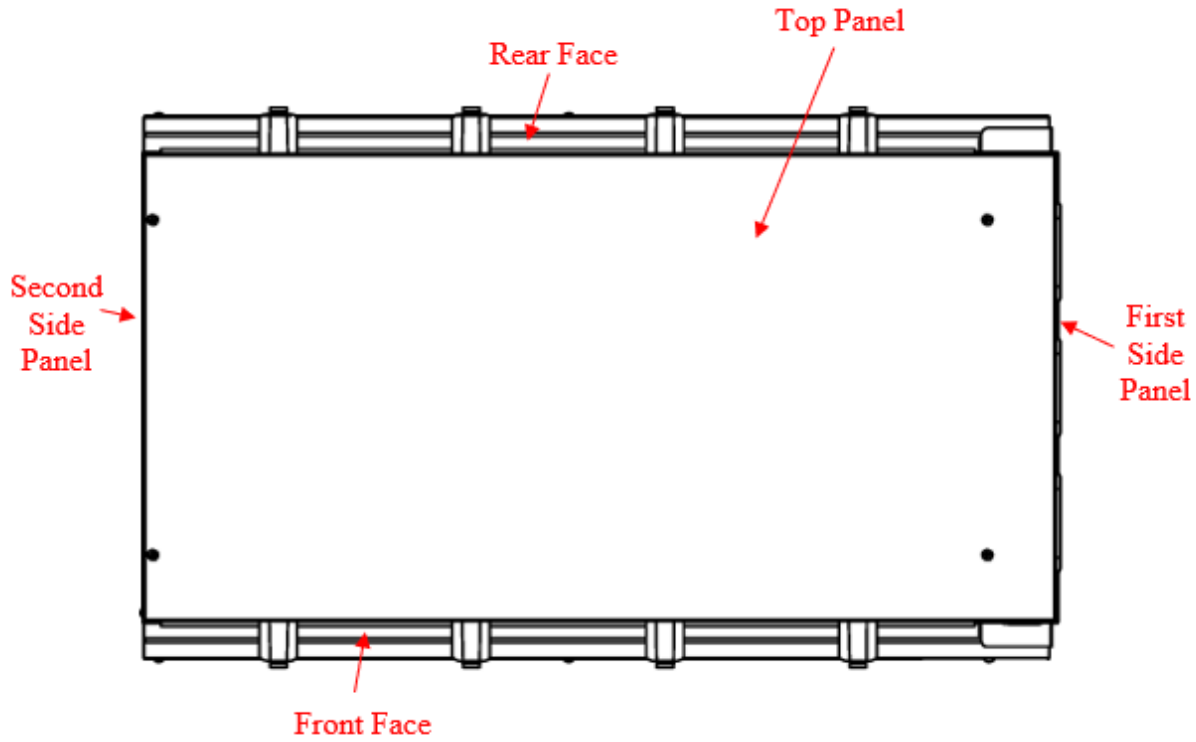


EX1005: 8 (annotated).


Chassis
Top Panel
Rear Face
Second Side Panel
Bottom Panel
Front Face
First Side Panel


Top Panel
Chassis
Rear
Face
Front
Face
First Side
Panel
Bottom
Panel


Chassis
Top Panel
Second Side Panel
First Side Panel
Front Face
Bottom Panel

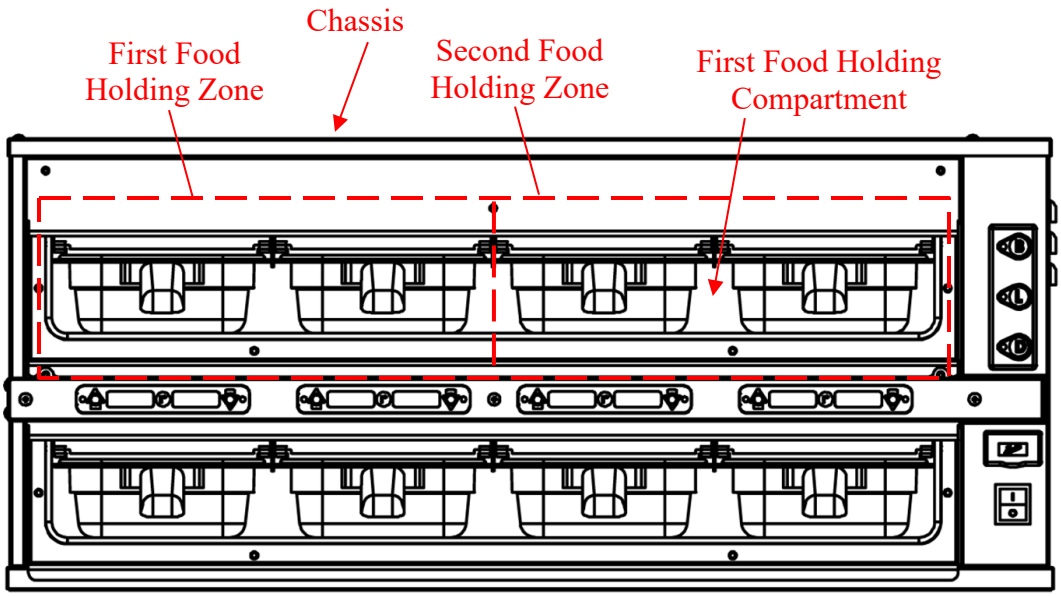

Top Panel
Rear Face
Second Side Panel
First Side Panel
Front Face

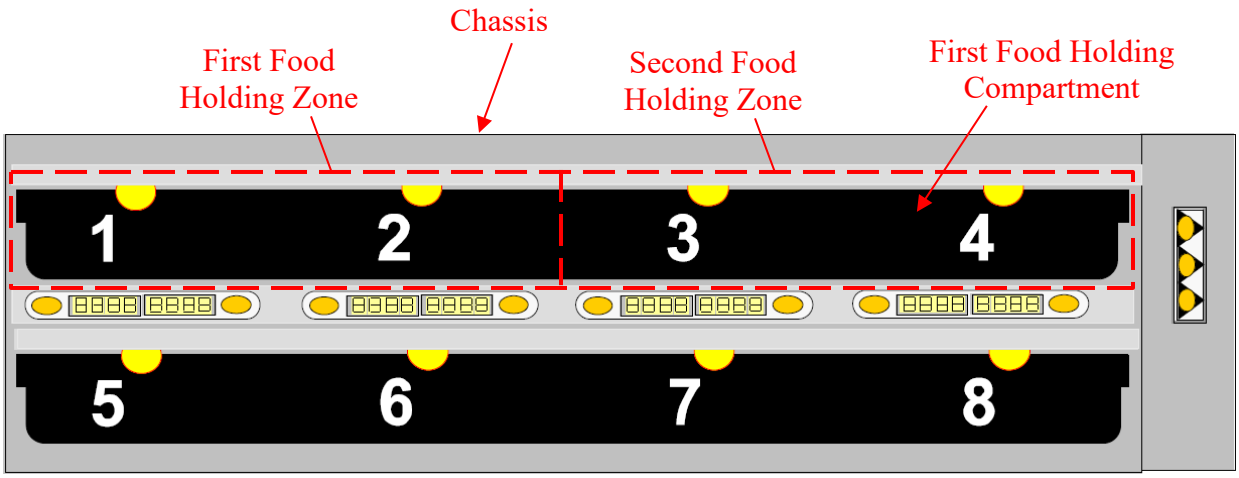
EX1005: 9 (annotated).

1.a.2: the multi-zone food holding bin having a first food holding compartment within the chassis and comprising a first food holding zone and a second food holding zone

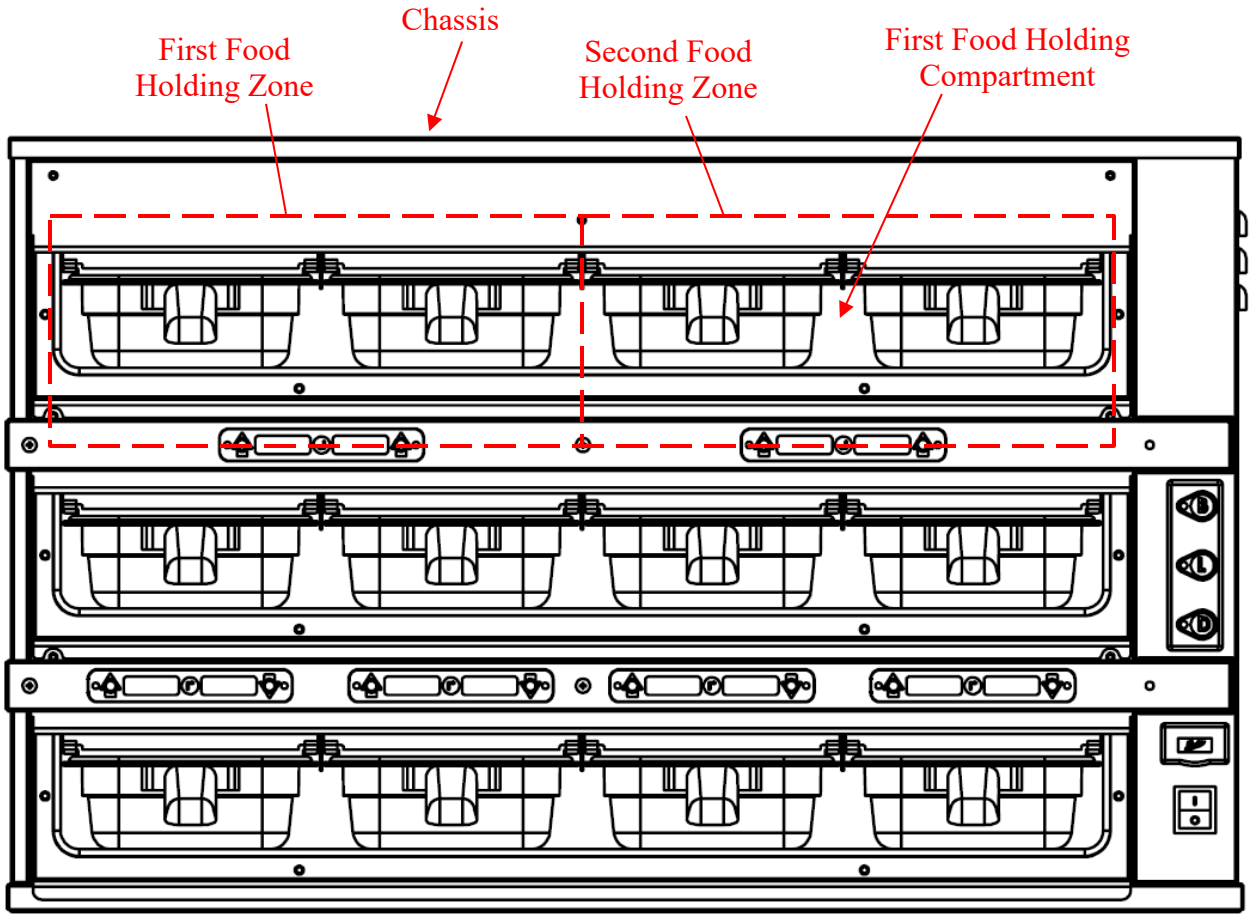
148. As disclosed in the images and figures of the IRHS Documents, the IRHS24 and IRHS34 Holding Units each have a first food holding compartment within the chassis.

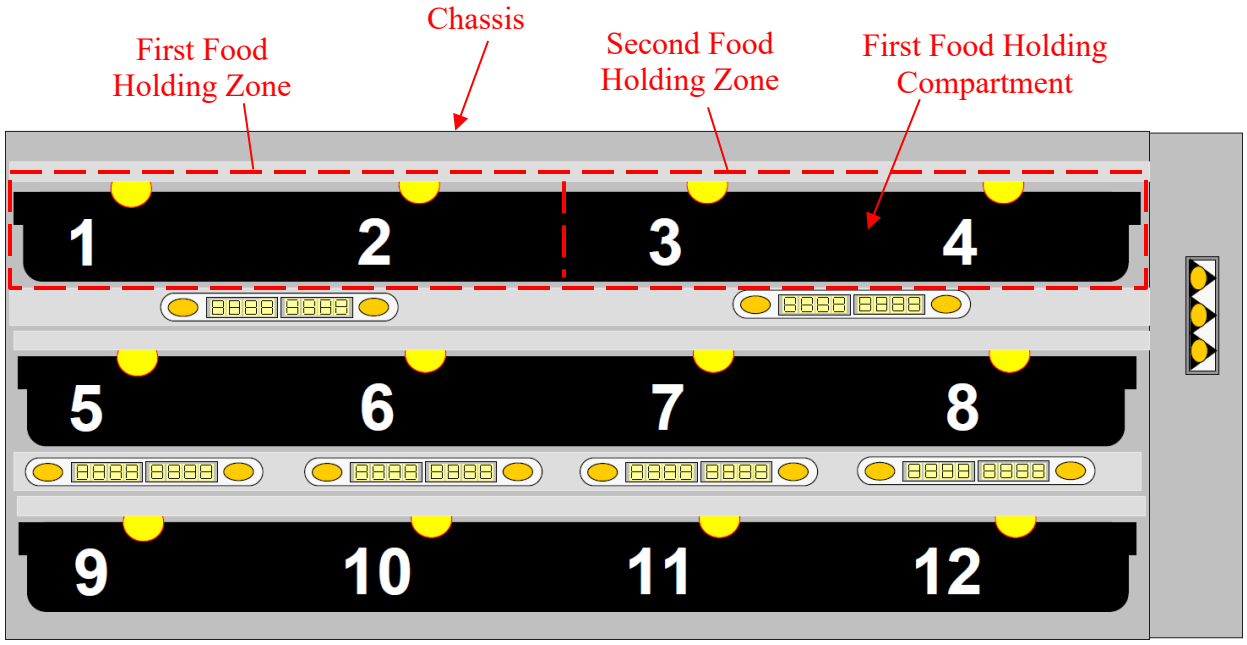
149. Specifically, the chassis of the IRHS24 Holding Unit has a shelf extending between the first and second side panels. Likewise, the IRHS34 Holding Unit has a top shelf—and a bottom shelf—extending between the first and second side panels. With respect to the claims of the ’264 Patent the first food holding compartment is the food holding compartment located above the shelf of the IRHS24 Holding Unit or the top shelf of the IRHS34 Holding Unit. The first food holding compartments for both the IRHS24 and IRHS34 Holding Units further include a first food holding zone and a second food holding zone.





EX1005: 8, 25 (annotated).


First Food
Holding Zone
Chassis
Second Food
Holding Zone
First Food Holding
Compartment

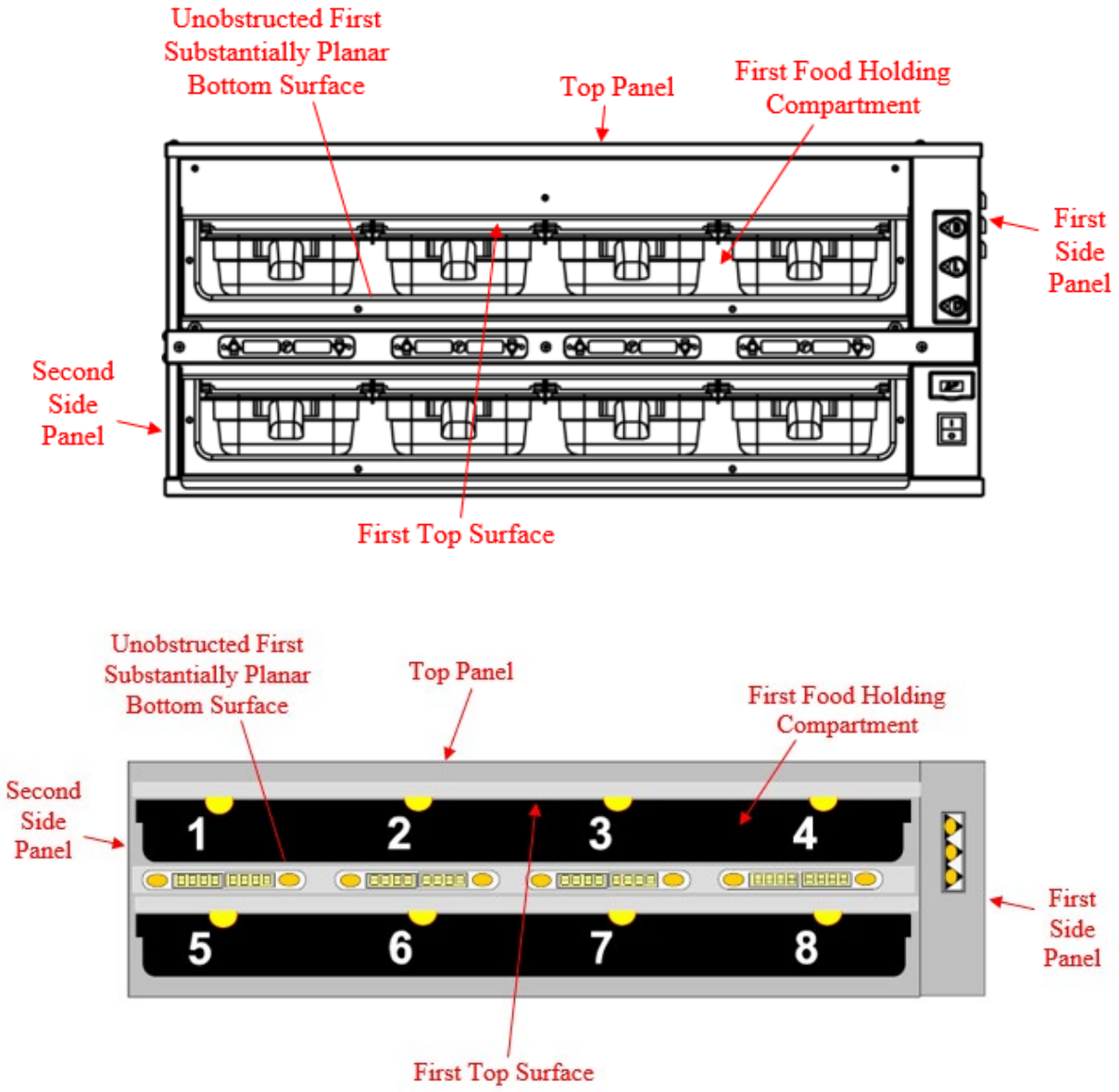


EX1005: 9, 26 (annotated).

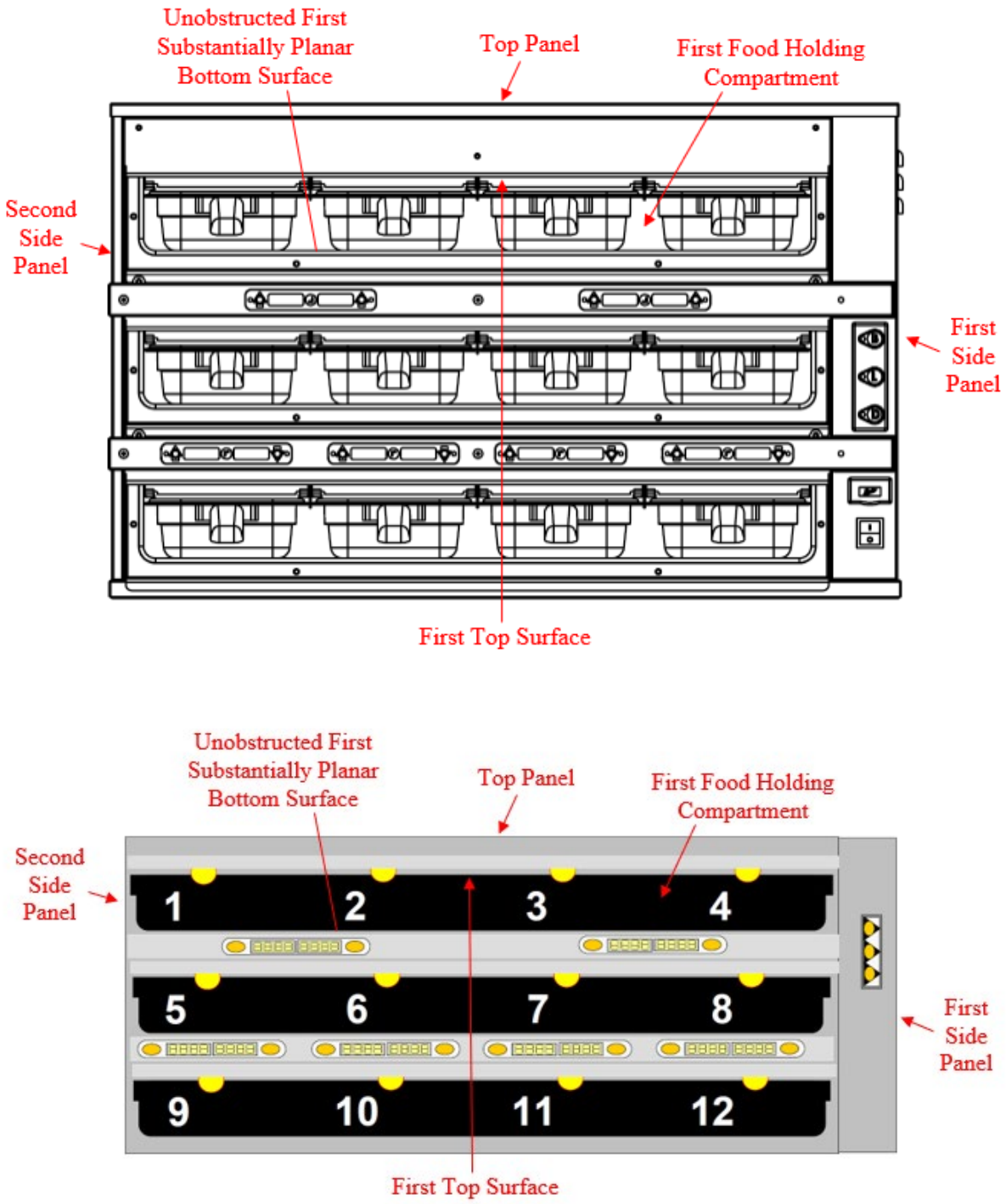
1.a.3: the first food holding compartment being defined by the first side panel, the second side panel, the top panel that provides a first top surface, and a first substantially planar bottom surface of a thermally conductive material being substantially unobstructed between the first side panel and the second side panel and

150. As addressed above, the first food holding compartment is the food holding compartment defined by the first side panel, the second side panel, the top panel, and the shelf/top shelf of the IRHS24/IRHS34 Holding Unit.

151. The top panel provides a first top surface on the underside of the top panel and the shelf/top shelf provides a first substantially planar bottom surface. The first bottom surface is substantially unobstructed between the first and second side panels. The only objects on this surface are the food pans, when present.



EX1005: 8, 25 (annotated).

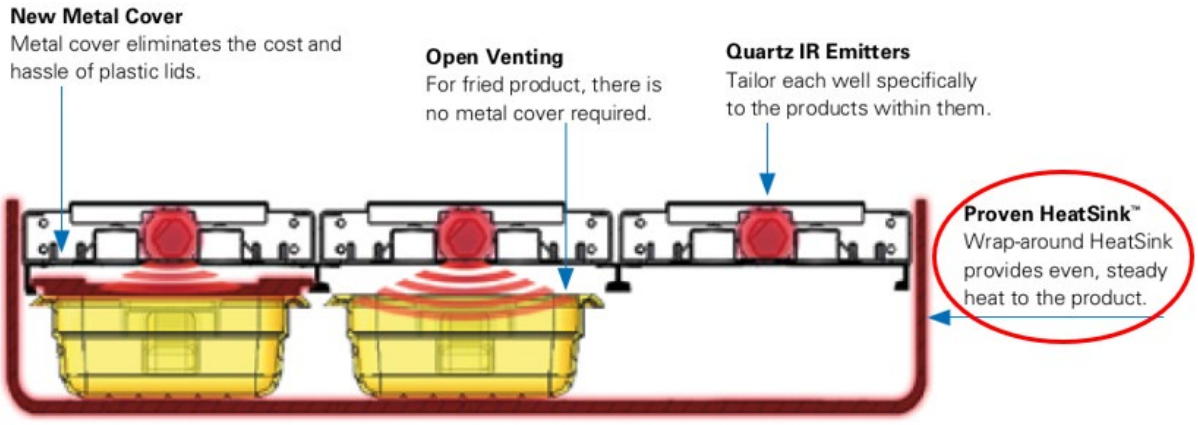


EX1005: 9, 26 (annotated).

152. The IRHS Documents suggest the substantially planar surface forming the top surface of the shelves —which is identified as being part of the Heatsink—

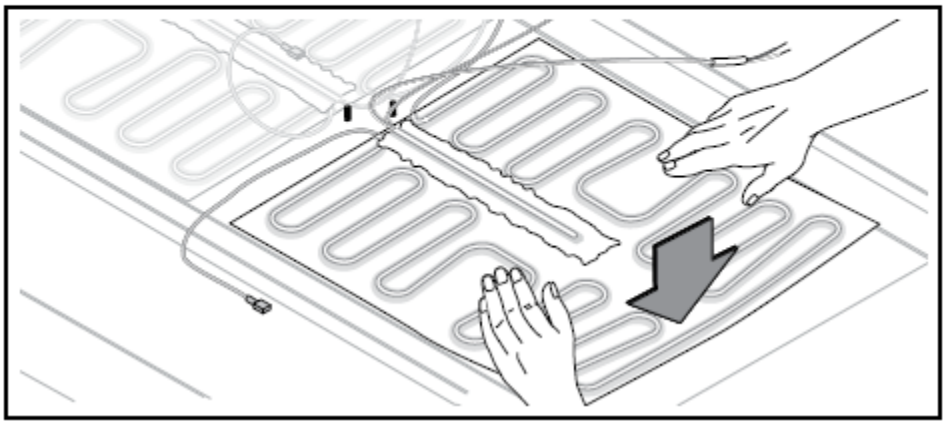
is composed of anodized aluminum. EX1006: 1 ("[a]nodized aluminum HeatSink"). Anodized aluminum is recognized to be a thermally conductive material and thus meets the claim limitation requiring the planar surface to comprise a thermally conductive material.

153. Specifically, the POSA would recognize that because the substantially planar surface forming the top surface of the shelf/top shelf of the IRHS24/IRHS34 Holding Unit is intended to act as a HeatSink, it would necessarily comprise a thermally conductive material so as to allow the HeatSink to provide heat to the pans in the first food holding compartment from underneath the pans. EX1007: 51 ("[p]revious generations of the Duke holding units contained only HeatSink, heating from below"); EX1005: 16 ("each food product has a tailored HeatSink temperature and InfraRed pulse rate").



EX1007: 53 (annotated).

14. Peel the adhesive tape cover off the replacement Heat Element and press in place on the heat sink, ensuring all air bubbles are smoothed out.

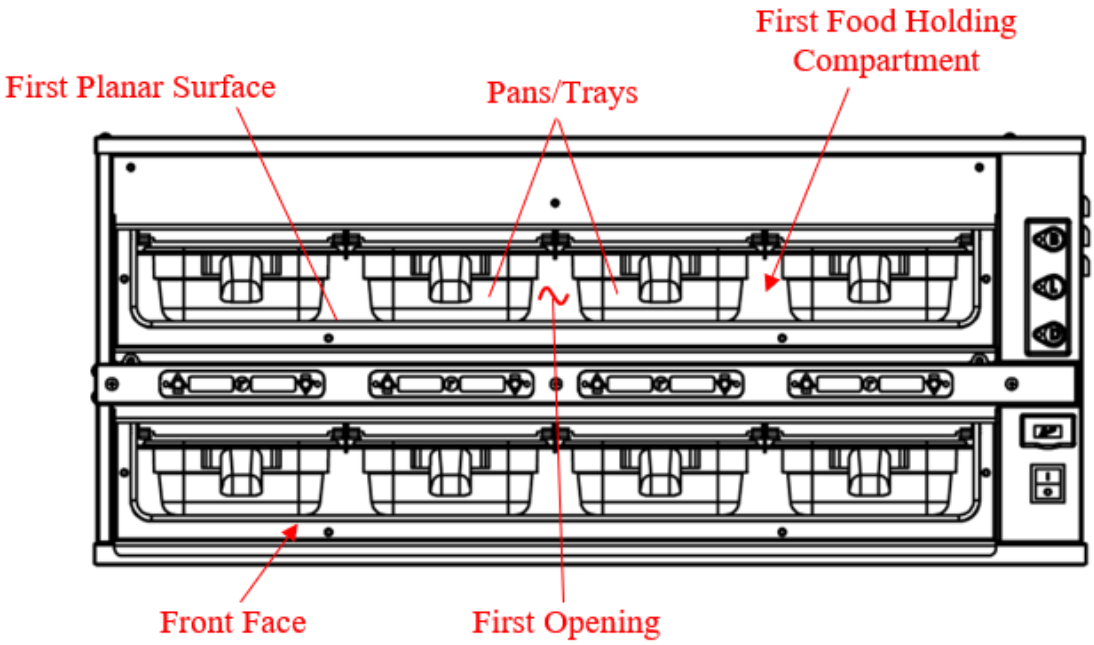


EX1008: 23.

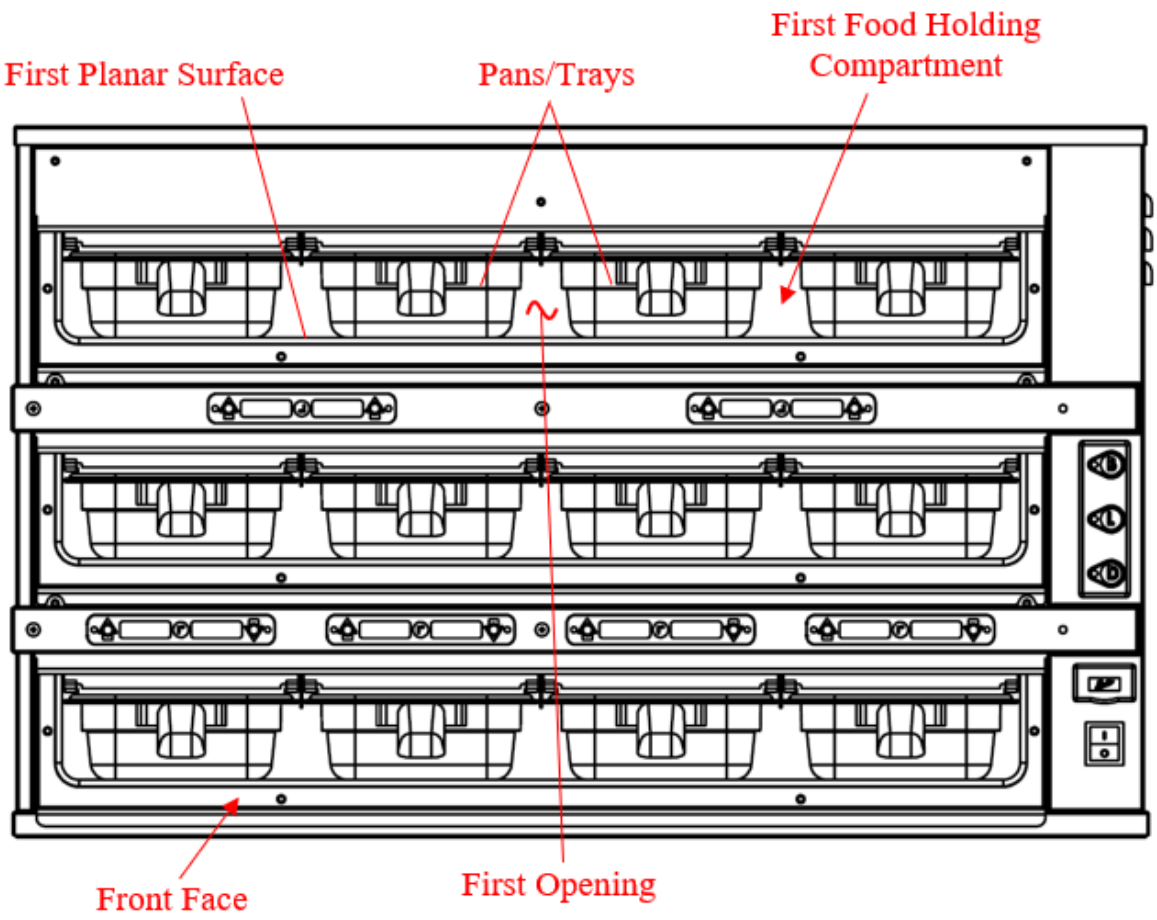
1.a.4: a first opening through the front face configured to allow a tray for food items to be passed through the first opening into the first food holding compartment and onto the first substantially planar surface and

154. The POSA would recognize that the IRHS Documents disclose the first food holding compartment of the IRHS24 and IRHS34 Holding Units as having "a first opening" and that this "first opening" is "configured to allow a tray for food items to be passed through the first opening into the first food holding compartment and onto the first substantially planar surface."

155. The first opening is larger than the food pans and allows the food pans, and thus food contained therein, to pass therethrough to be placed into and removed from the first food holding compartment.

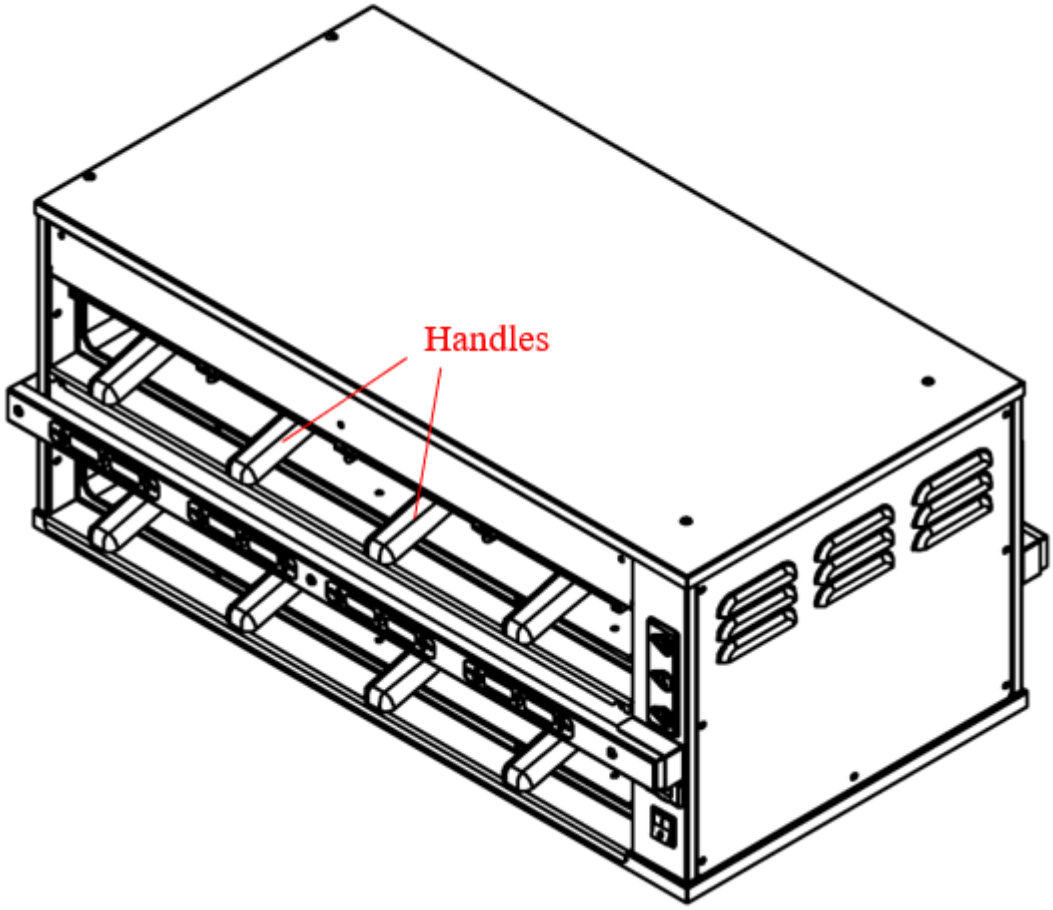


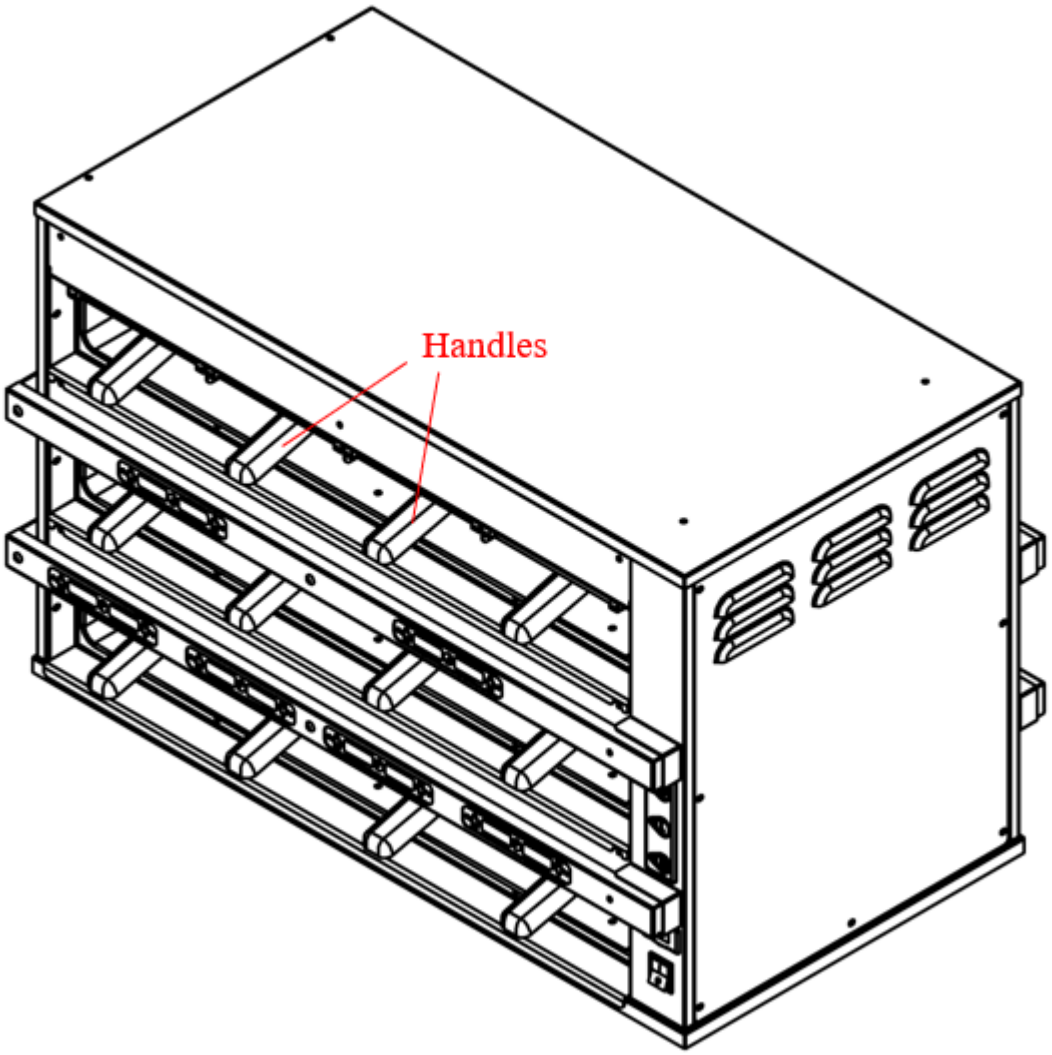
EX1005: 8 (annotated).



EX1005: 9 (annotated).

156. As shown below, handles of the food pans project out of the first opening to allow the operator to insert and remove pans through the first opening of the first food holding compartment. EX1007: 52 (upper image).


Handles



EX1005: 8,9 (annotated).



EX1007: 58 (annotated).



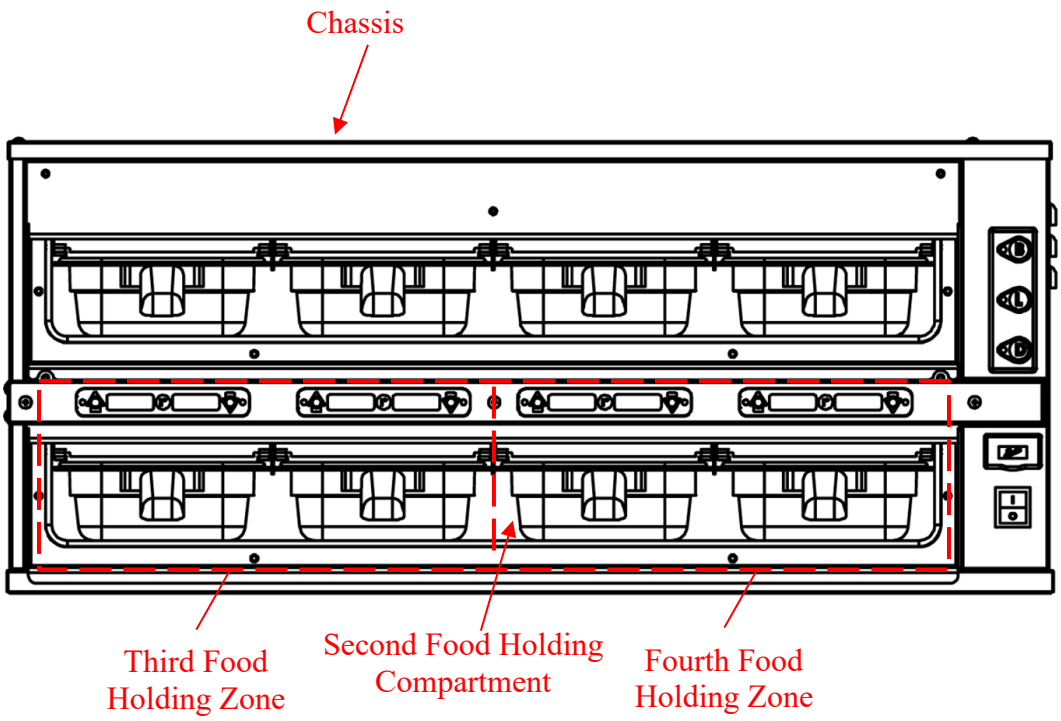
EX1007: 52.

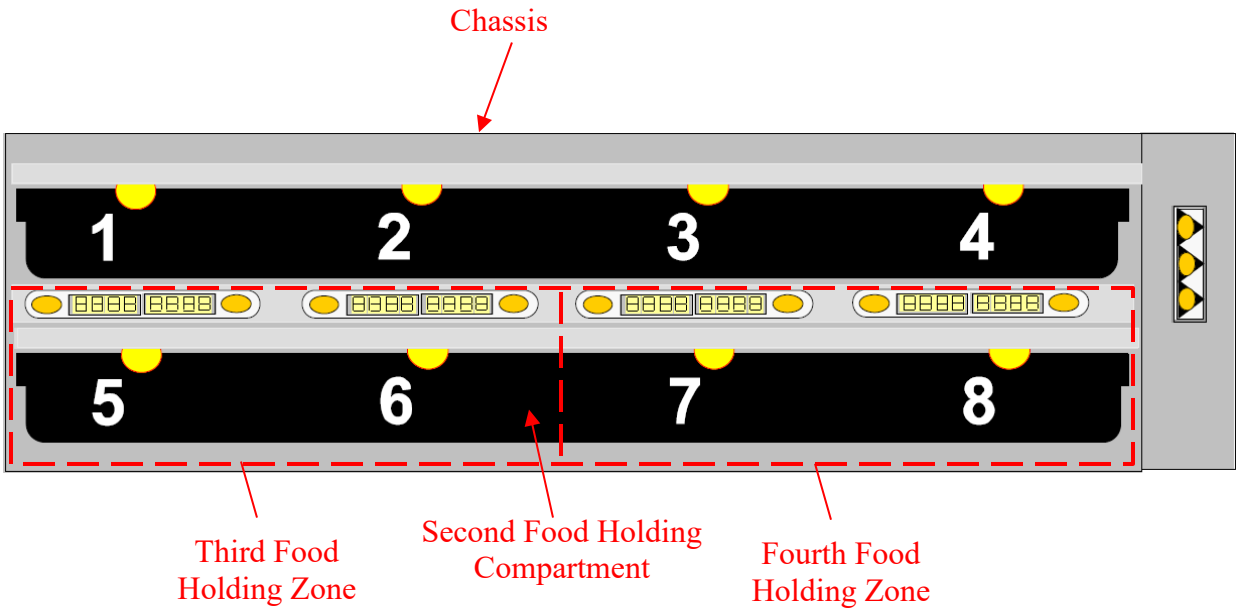
1.a.5: a second food holding compartment within the chassis and comprising a third food holding zone and a fourth food holding zone

157. As disclosed in the images and figures of the IRHS Documents, the IRHS24 and IRHS34 Holding Units each have a second food holding compartment within the chassis.

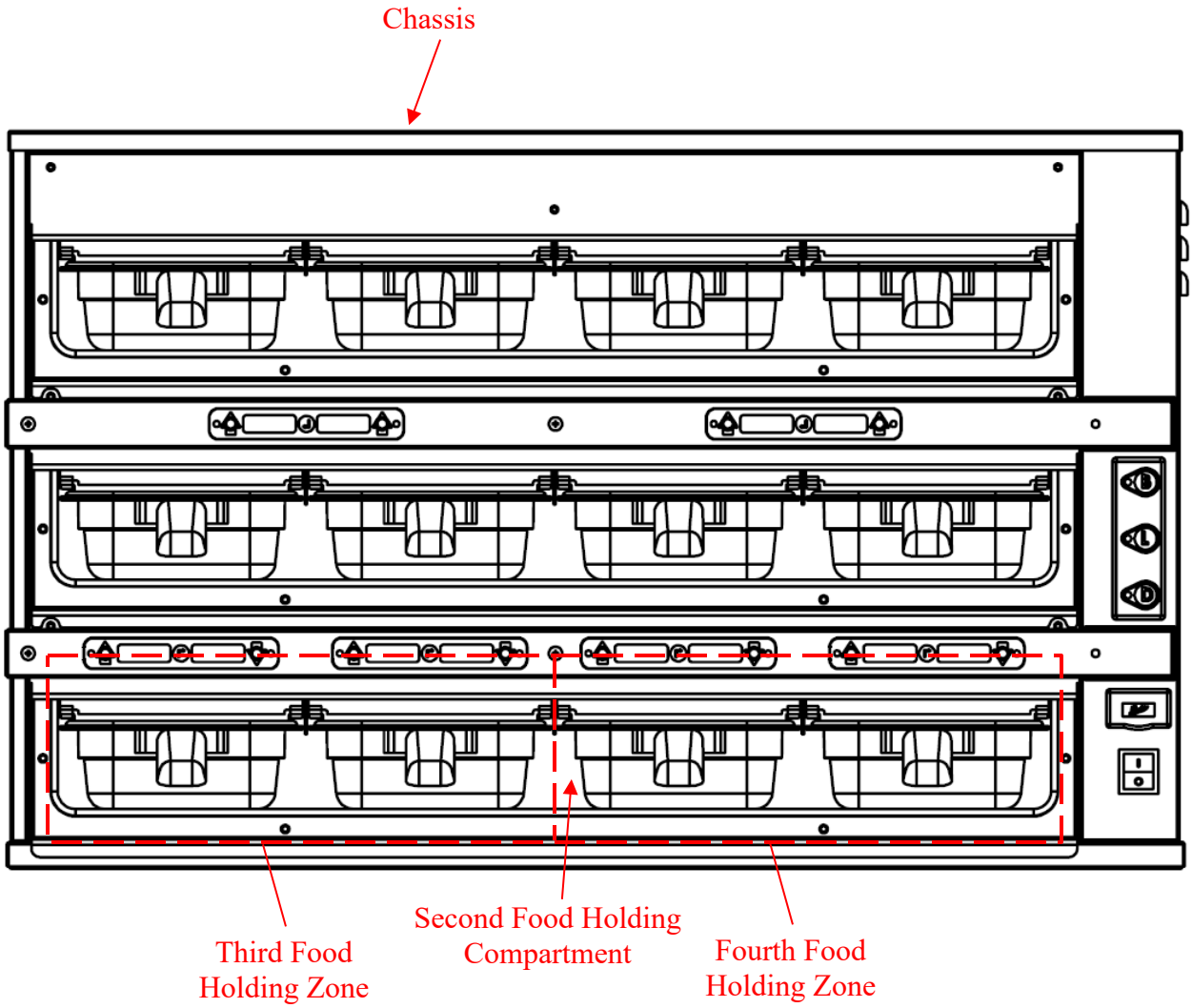
158. Specifically, the chassis of the IRHS24 Holding Unit has a shelf extending between the first and second side panels. Likewise, the IRHS34 Holding Unit has a bottom shelf—and a top shelf—extending between the first and second side panels. With respect to the claims of the '264 Patent the second food holding compartment is the food holding compartment located below the shelf of the IRHS24 Holding Unit or the bottom shelf of the IRHS34 Holding Unit. The second food

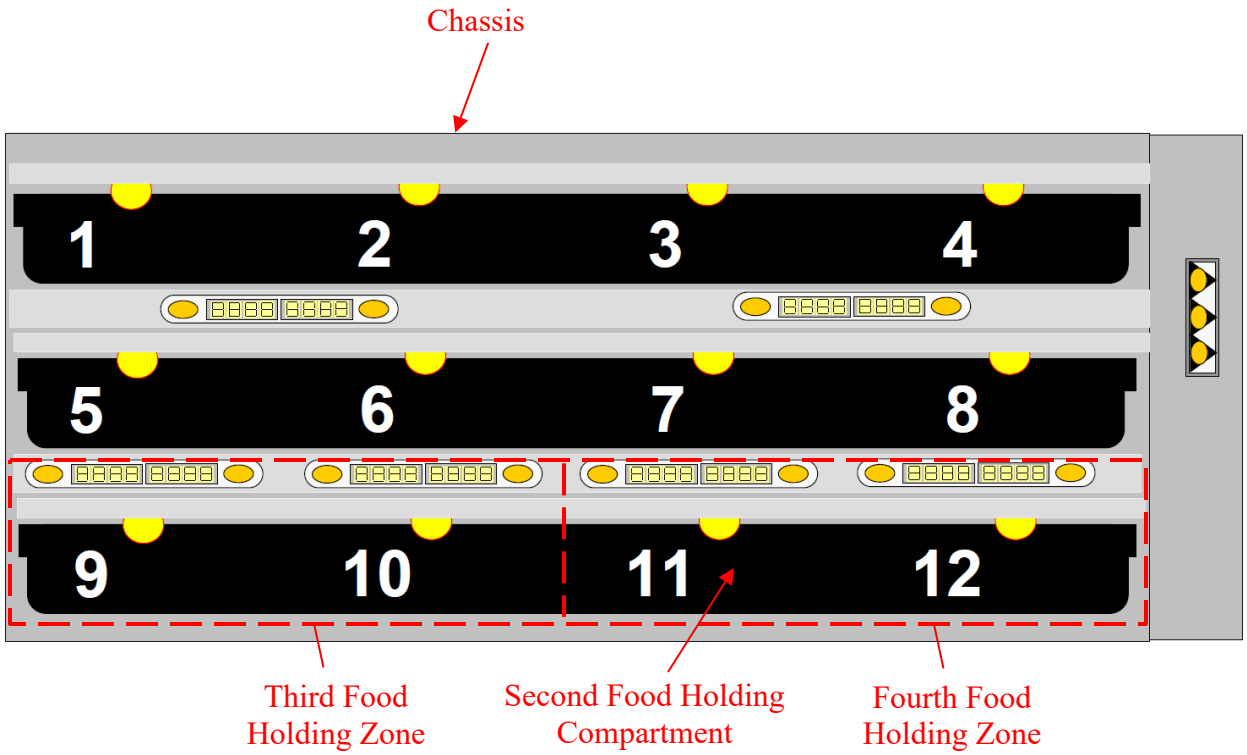
holding compartments for both the IRHS24 and IRHS34 Holding Units further include a third food holding zone and a fourth food holding zone.





EX1005: 8, 25 (annotated).


Chassis
Third Food Holding Zone
Second Food Holding Compartment
Fourth Food Holding Zone



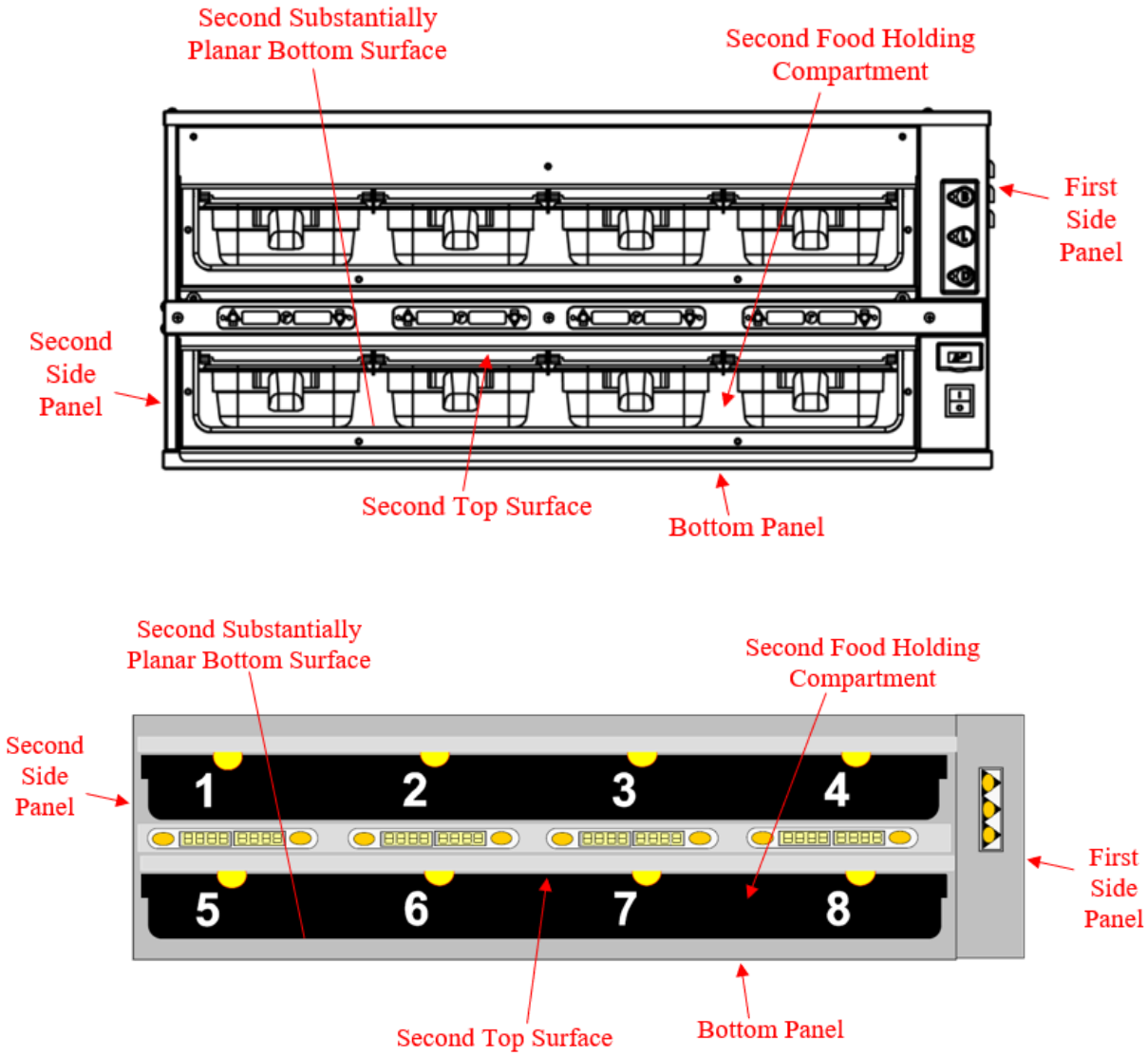
EX1005: 9, 26 (annotated).

1.a.6: the second food holding compartment being defined by the first side panel, the second side panel, the bottom panel that provides a second substantially planar bottom surface of a thermally conductive material, and a second top surface

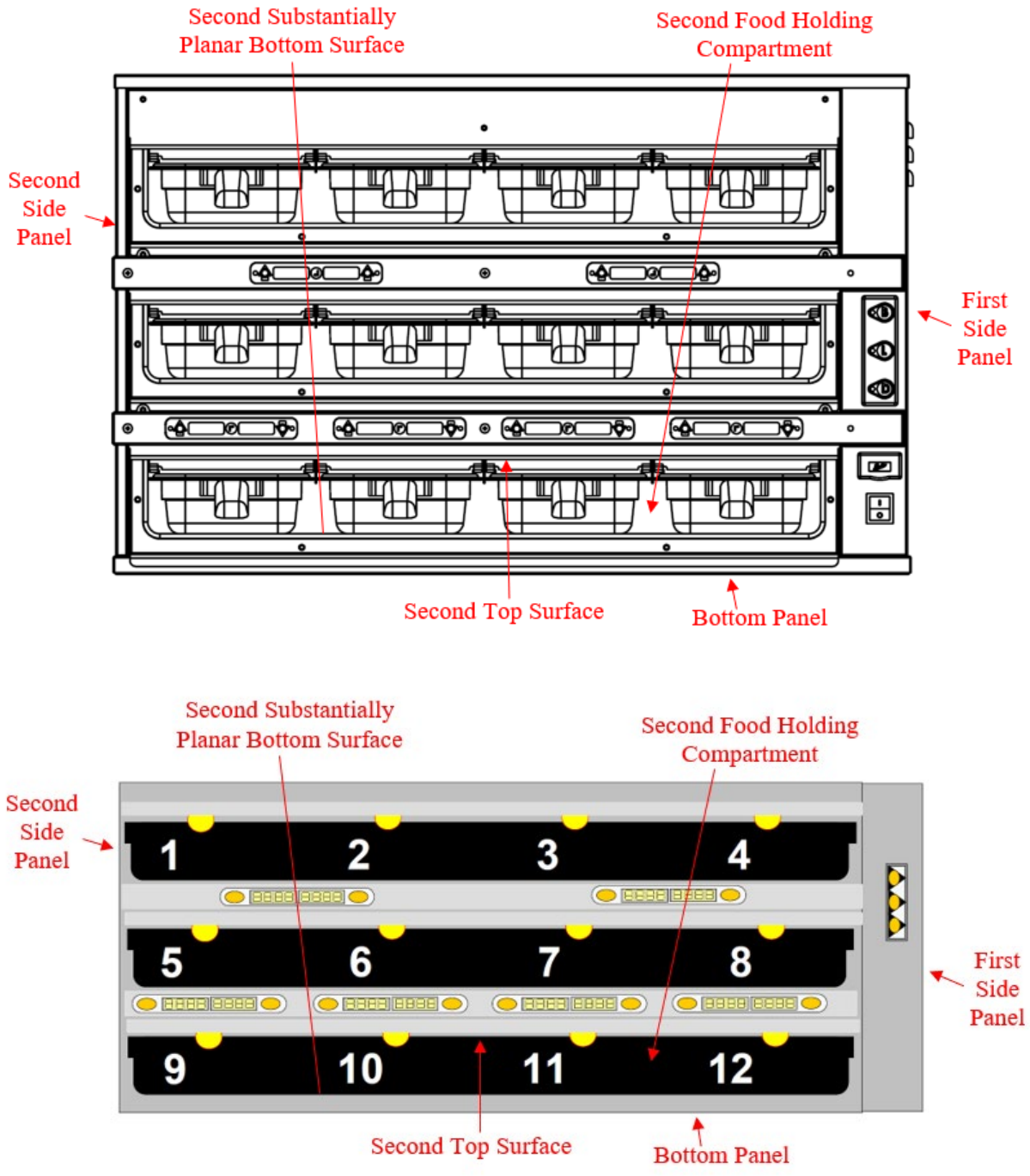
159. As addressed above, the first food holding compartment is the food holding compartment defined by the first side panel, the second side panel, the bottom panel, and the shelf/bottom shelf of the IRHS24/IRHS34 Holding Unit.

160. The underside of the shelf/bottom shelf of the IRHS24/IRHS34 Holding Unit provides a second top surface. Likewise, the bottom panel of the IRHS24/IRHS34 Holding Unit provides a second substantially planar bottom surface on the top side of the bottom panel. The second substantially planar bottom

surface is substantially unobstructed between the first and second side panels. The only objects on this surface are the food pans, when present.



EX1005: 8, 25 (annotated).

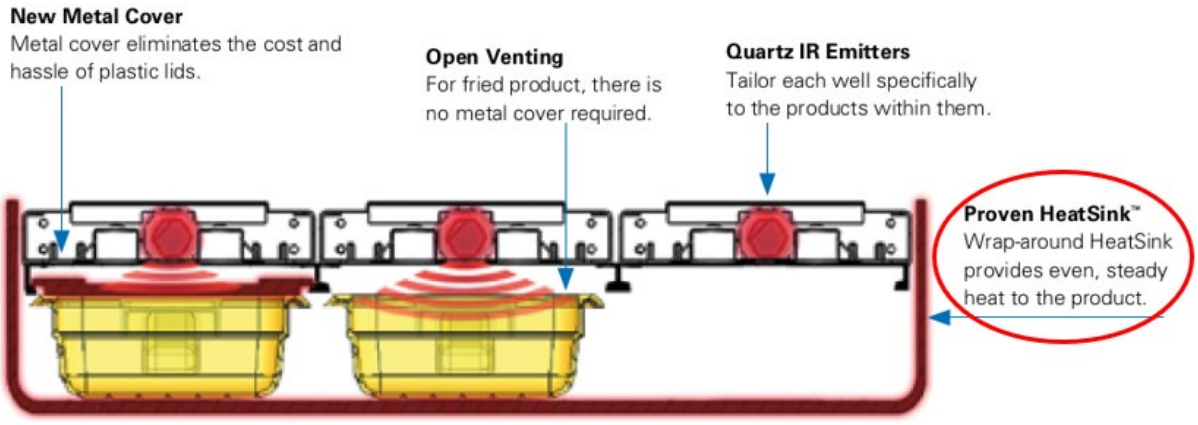


EX1005: 9, 26 (annotated).

161. The IRHS Documents suggest the second substantially planar bottom surface—which is identified as being part of the Heatsink—is composed of

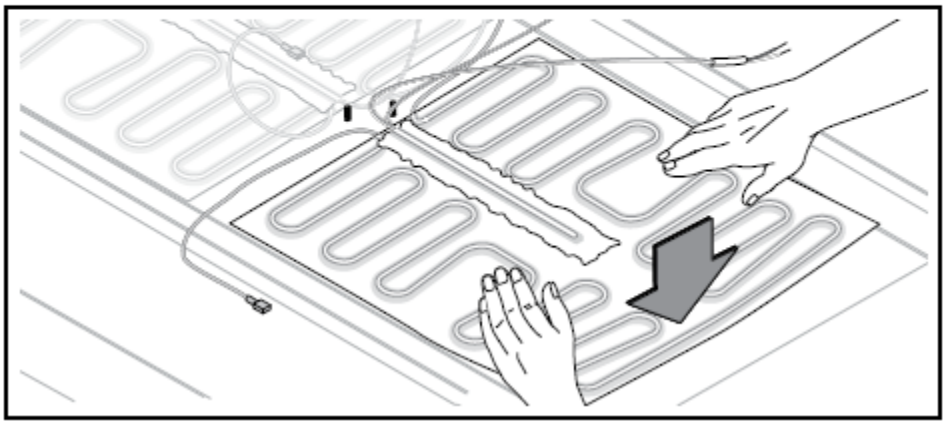
anodized aluminum. EX1006: 1 ("[a]nodized aluminum HeatSink"). Anodized aluminum is recognized to be a thermally conductive material and thus meets the claim limitation requiring the planar surface to comprise a thermally conductive material.

162. Specifically, the POSA would recognize that because the second substantially planar bottom surface of the IRHS24/IRHS34 Holding Unit is intended to act as a HeatSink, it would necessarily comprise a thermally conductive material so as to allow the HeatSink to provide heat to the pans in the first food holding compartment from underneath the pans. EX1007: 51 ("[p]revious generations of the Duke holding units contained only HeatSink, heating from below"); EX1005: 16 ("each food product has a tailored HeatSink temperature and InfraRed pulse rate").



EX1007: 53 (annotated).

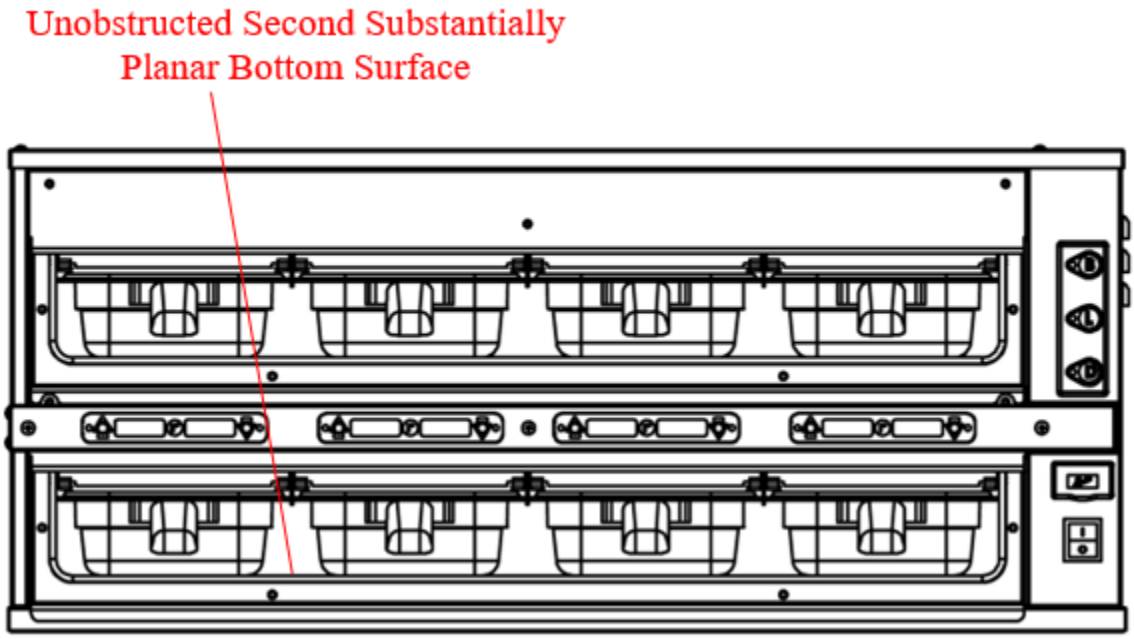
14. Peel the adhesive tape cover off the replacement Heat Element and press in place on the heat sink, ensuring all air bubbles are smoothed out.

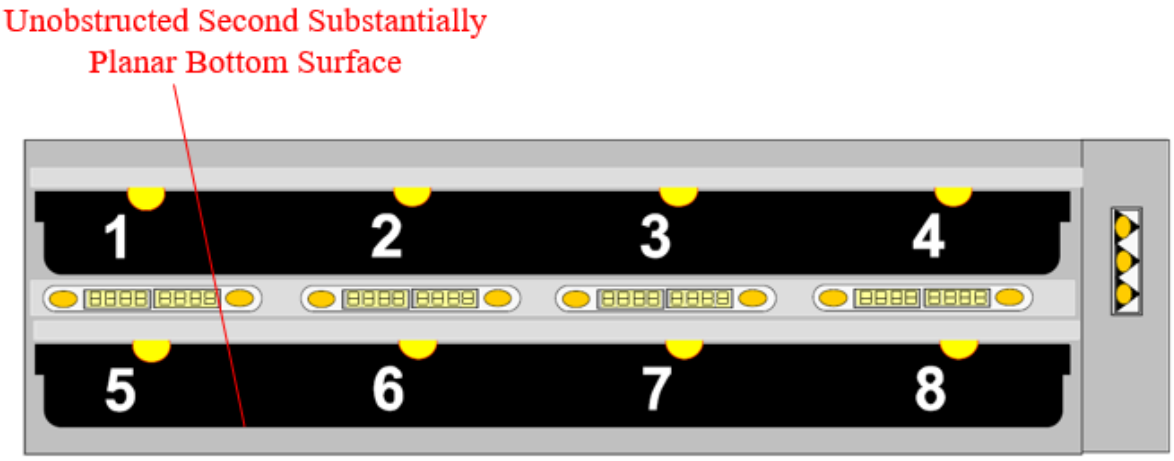


EX1008: 23.

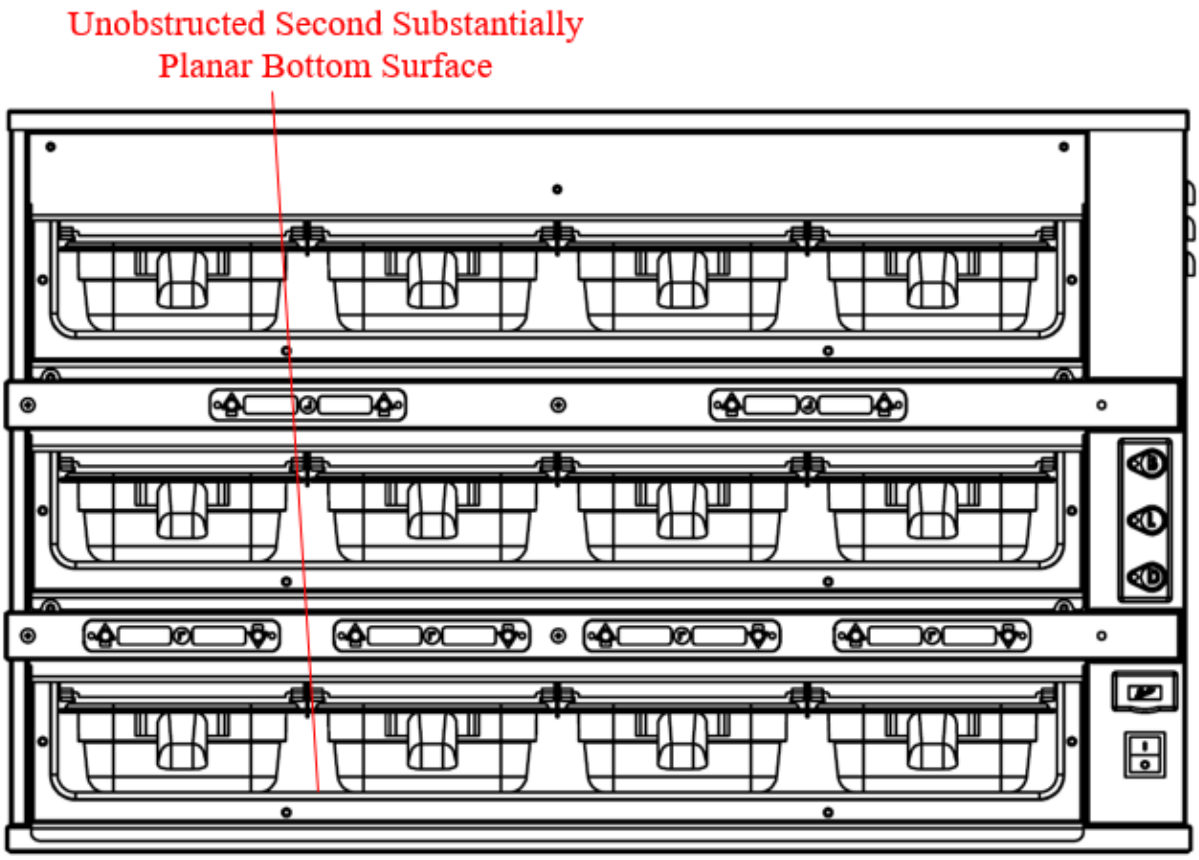
1.a.7: the second substantially planar bottom surface being substantially unobstructed between the first side panel and the second side panel and

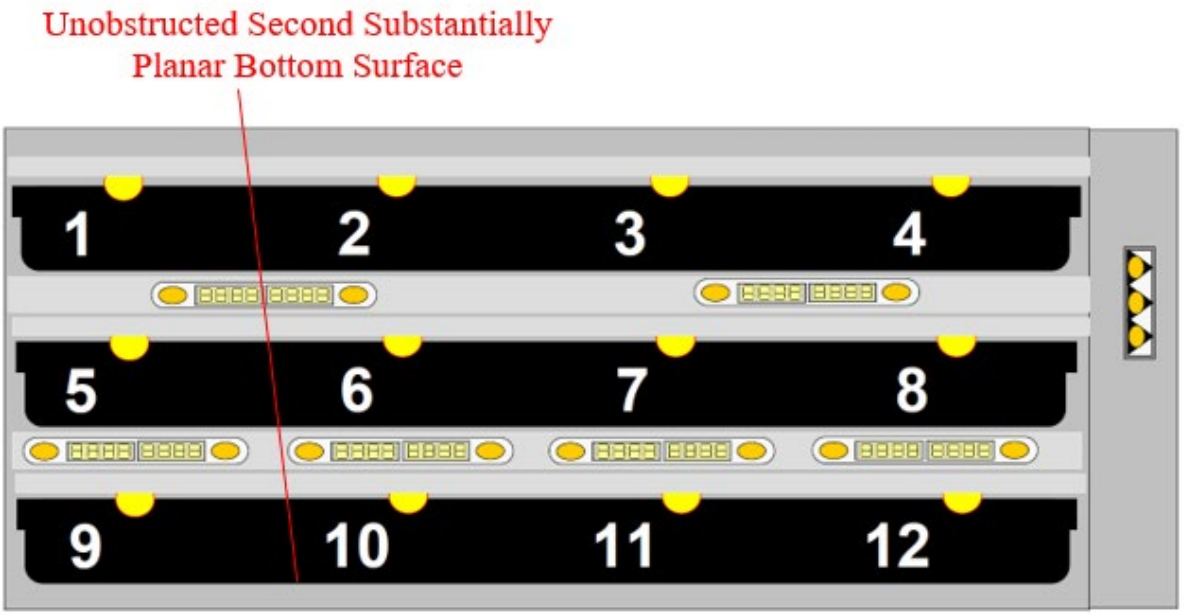
163. The second substantially planar bottom surface is substantially unobstructed between the first and second side panels. The only objects on this surface are the food pans, when present.





EX1005: 8, 25 (annotated).



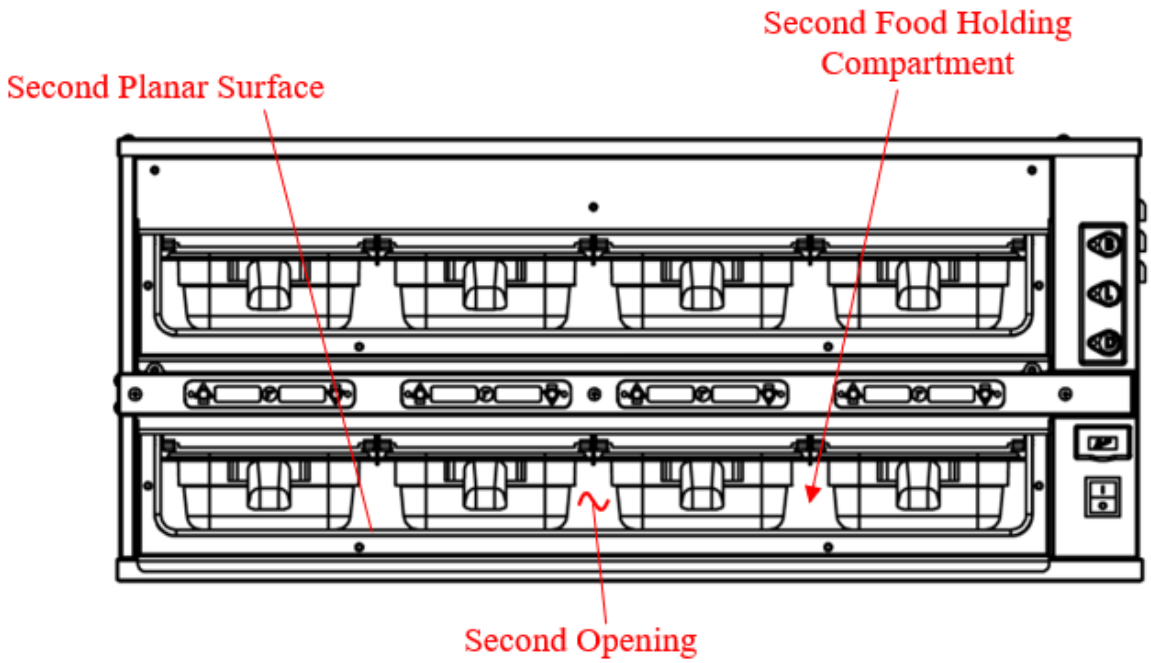


EX1005: 9, 26 (annotated).

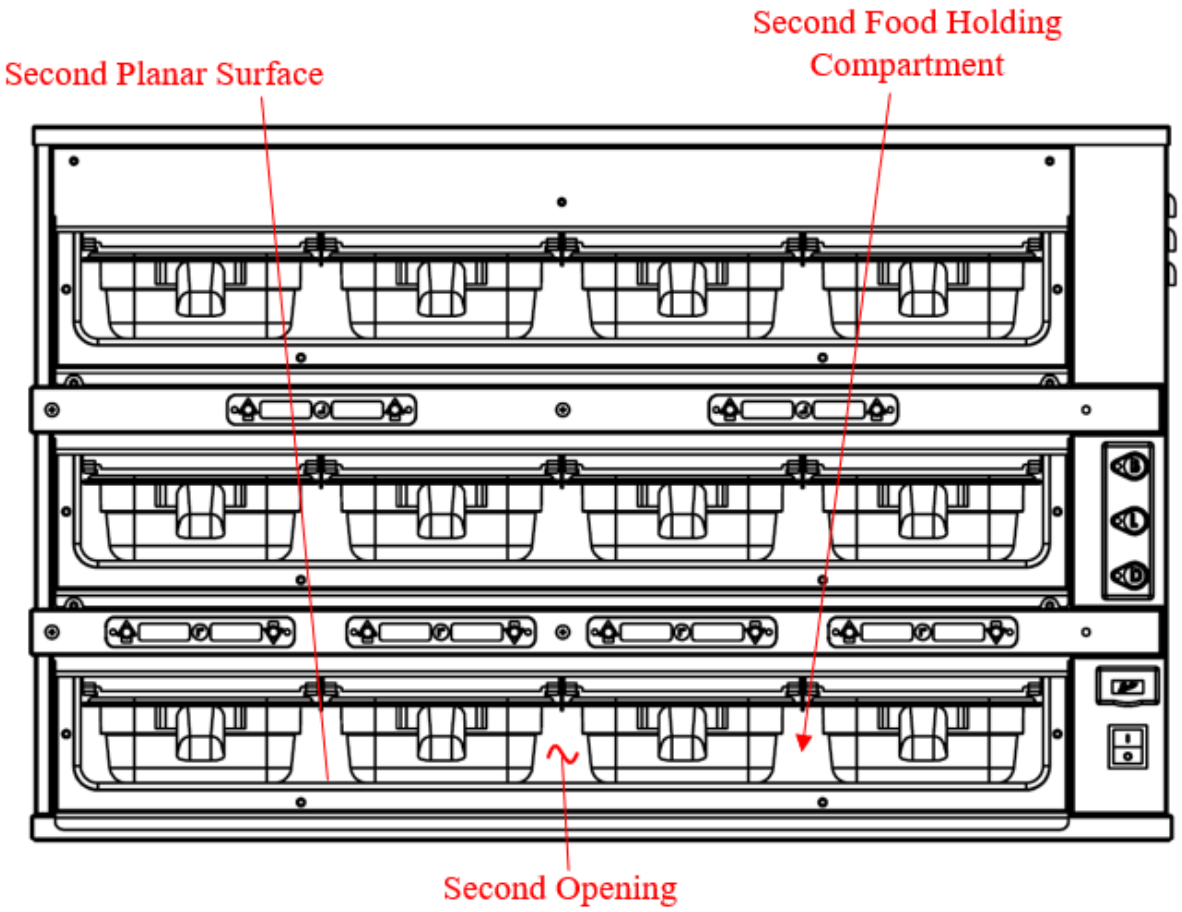
1.a.8: a second opening into the second food holding compartment and onto the second substantially planar surface

164. The POSA would recognize that the IRHS Documents disclose the IRHS24 and IRHS34 Holding Units as having a second opening into the second food holding compartment and onto the second planar surface.

165. The second opening is larger than the food pans and allows the food pans, and thus food contained therein, to pass through the second opening, into the second food holding compartment, and onto the second substantially planar surface.



EX1005: 8 (annotated).



EX1005: 9 (annotated).

1.b: the method comprising: operating the first food holding zone to a first temperature setpoint by independently operating a first heating element in the first food holding zone and thermally coupled to the first top surface and independently operating a second heating element in the first food holding zone and thermally coupled to the first substantially planar surface

166. The IRHS Documents disclose that the IRHS Holding Units are intended for holding a diverse menu of food products benefitting from different holding conditions. For example, IRHS Documents identify more than 16 different types of food products including fried and broiled types spanning breakfast (eggs,

French toast sticks, sausage patties) and lunch/dinner menus (e.g., burger patty, tendercrisp (fried chicken), fish, tendergrill (broiled chicken), rib patty, turkey burger, stuffed burger patty). The food types include products of different proteins (e.g., beef, chicken, fish, pork, turkey), fat contents, surface textures/coatings, and recipes. EX1007: 9, 12.

Menu Item	Hold Time Increase with New IRHS (%)	Hold Time Increase with New IRHS (min)
EXPEDITE - FRIED		
Chicken Strips	200%	40 min
Nuggets	100%	30 min
MAIN BOARD - FRIED		
Chick'n Crisp	100%	30 min
OCS	500%	30 min
Tendercrisp	150%	45 min
Fish	50%	15 min
MAIN BOARD - BROILED		
Whopper Jr.	78%	45 min
Tendergrill	25%	30 min
1.7 burger	100%	45 min
Whopper	100%	45 min
Turkey Burger	100%	45 min
Stuffed Burger	100%	45 min
Rib Patty	100%	45 min
BKFST		
Eggs	100%	45 min
Sausage Patty	50%	30 min
French Toast Sticks	33%	15 min

EX1007: 9.

167. The POSA would recognize that the IRHS provides various customized holding environments (e.g., temperatures, lids, no lids, etc.) to accommodate the differences in these food types. For example, the holding temperature for a burger patty needs to be high enough to maintain a food-safe temperature in the patty (without excessive drying) with a lid to retain moisture. In contrast, the protein of fish dries out and overcooks at higher holding temperatures, while the moisture released by the protein would cause the fried breading of the fish to become soggy. And broiled chicken requires a higher temperature to remain food safe with a lid to prevent the chicken from drying out. Fried chicken requires a temperature balance that keeps the protein moist while avoiding the creation of a steamy environment that would cause the breading to become soggy. Turkey burger patties dry out more readily than beef, and do not retain heat as well as beef. The relatively larger amounts of fat in beef ribs requires a relatively higher holding temperature to keep the fat rendered after cooking, but not so hot as to caramelize or burn any BBQ sauce on the ribs. Stuffed burger patties need a holding temperature that keeps cheese stuffing melted, while still avoiding drying out the food or causing other filling foods (such as peppers) to release excess moisture.

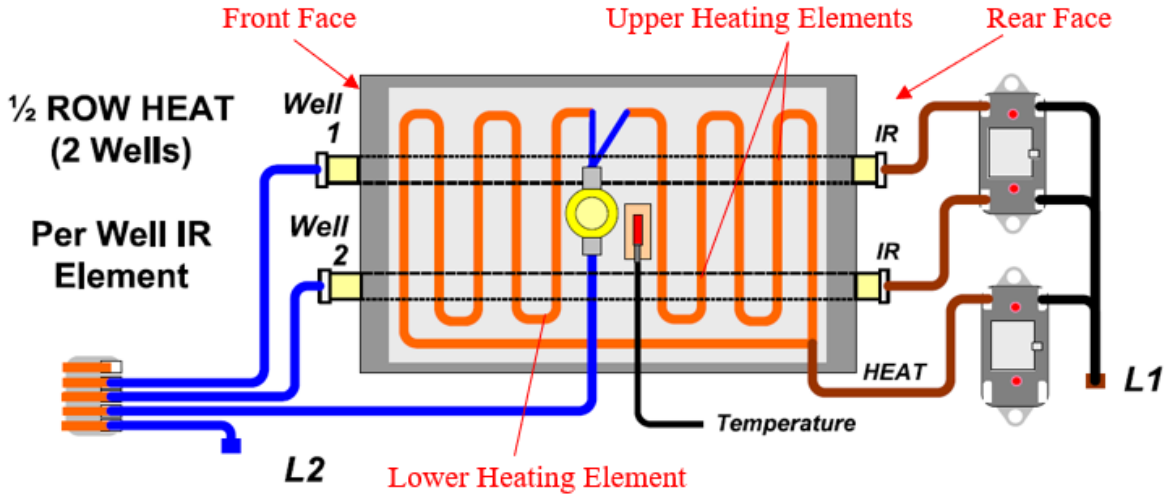
168. To this end, the IRHS Documents describe the IRHS as solving the "menu proliferation" pain point and providing "[u]nlimited flexibility for future

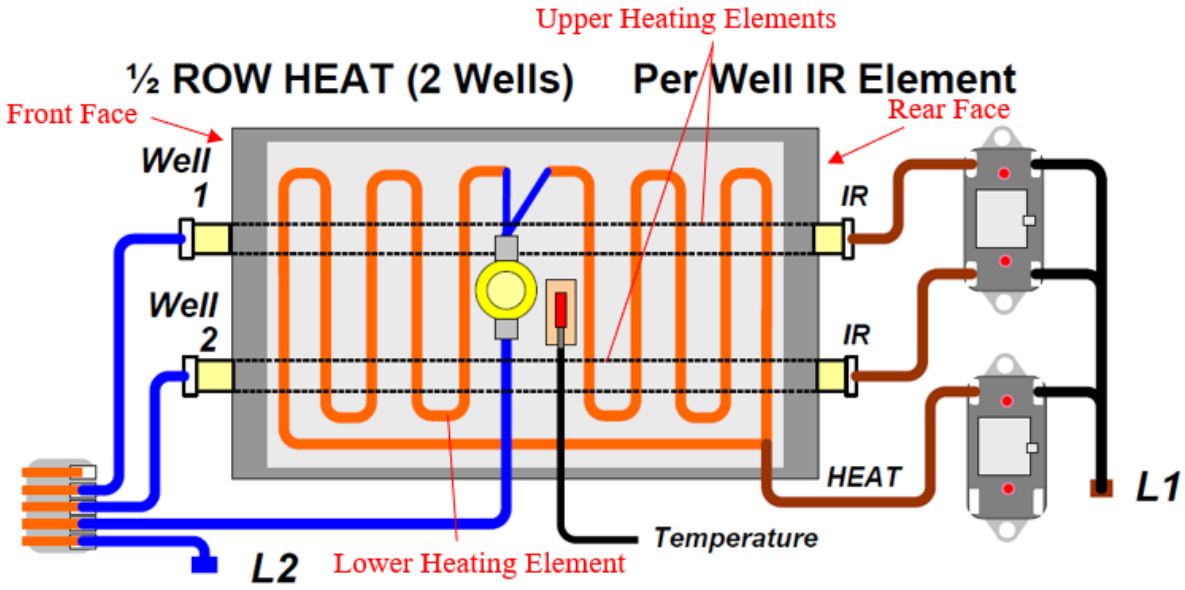
menu and operational changes." EX1007: 31, 33, 53. The IRHS Documents describe the IRHS as being designed to hold diverse food products simultaneously and in different precise/customized holding environments for "freedom in product placement" and "optimal quality, consistency and extended hold." EX1007: 51 ("each food product has tailored settings to control the thermal path of the food, leading to optimal quality, consistency and extended hold"), 53 ("Total well independence allows freedom in product placement in the IRHS," "Tailor each well specifically to the products within them," and "Unlimited flexibility for future menu and operational changes"); EX1005: 16 ("This new technology allows you to precisely control the environment in each pan, allowing customized settings for each food product").



EX1007: 12.

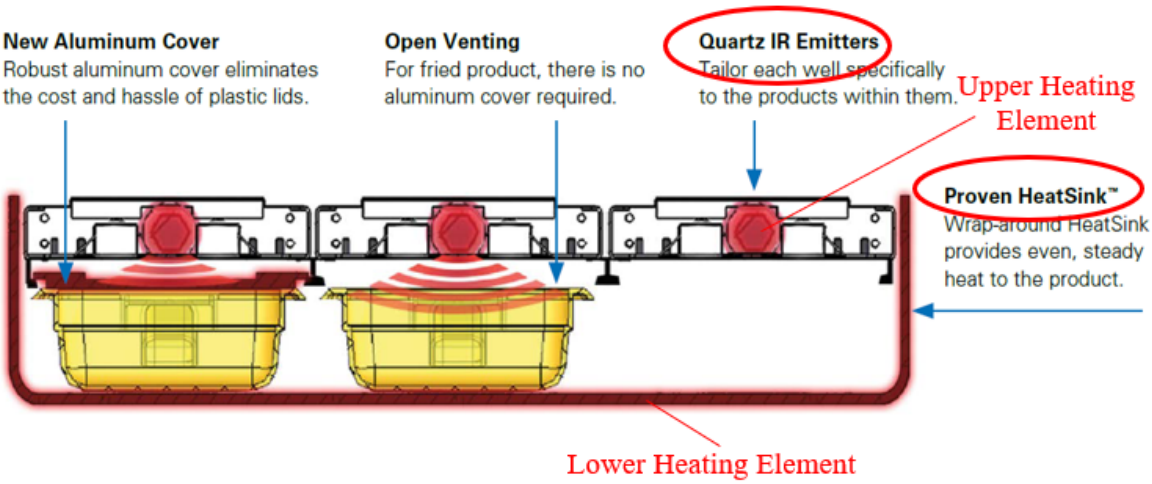
169. To provide such functionality, the IRHS24 Holding Unit has four heating zones and the IRHS34 Holding Unit has six heating zones. Each heating zone corresponds to one of the food holding zones. The schematic images below show the upper and lower heating elements for one heating zone in the IRHS24 (upper schematic image)/IRHS34 (lower schematic image) Holding Unit. EX1005: 21 (elements 16 and 17), 25; EX1007: 53.



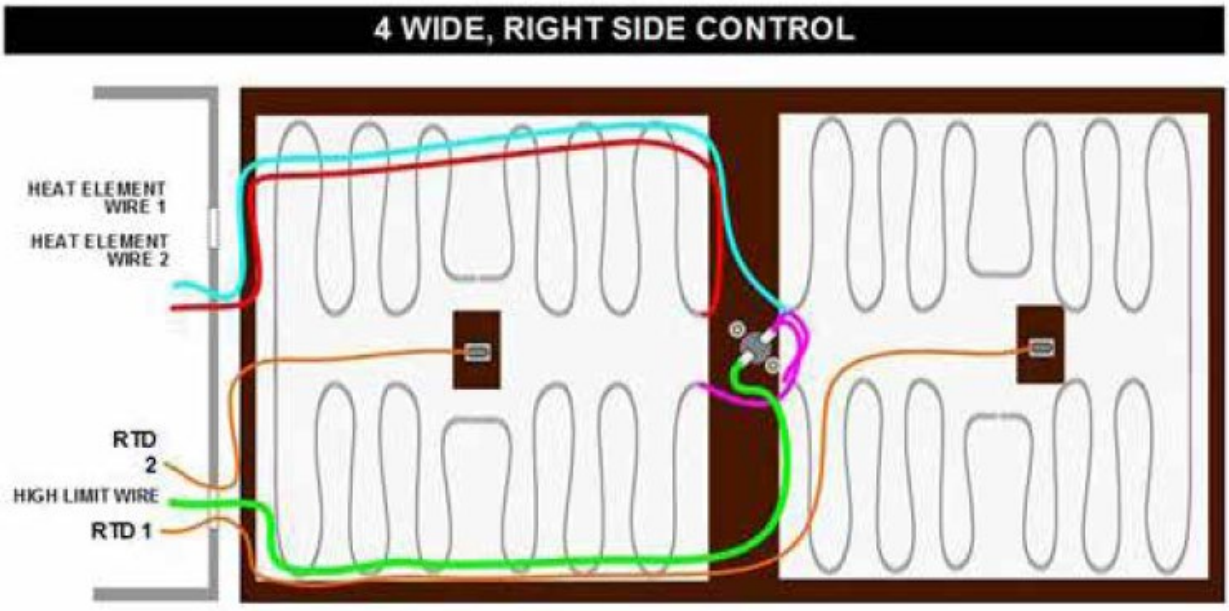


EX1005: 25 (IRHS24), 26 (IRHS34) (annotated).

170. The IRHS24/IRHS34 Holding Unit has two IR upper heating elements for each heating/holding zone (one for each pan location (bay)), and a single lower heating element for the two pan locations/bays in the heating/holding zone. EX1006: 1 ("Upper IR emitters" and "Bottom zoned heat element"); EX1007: 53.

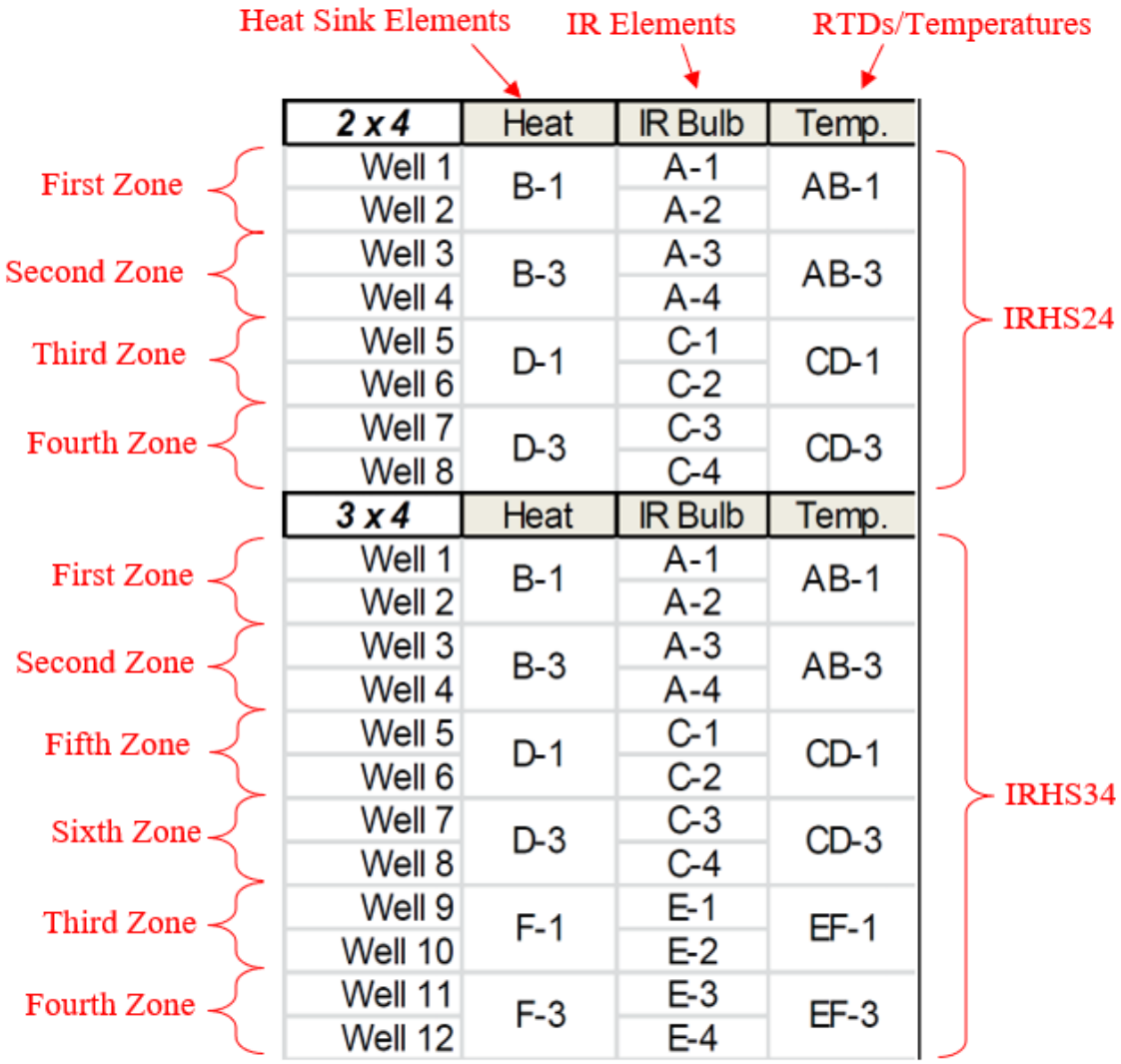


EX1007: 53 (annotated).



EX1008: 58.

171. The chart below informs the POSA on the layout of the IRHS24 and the IRHS34 Holding Units' upper and lower heating elements.



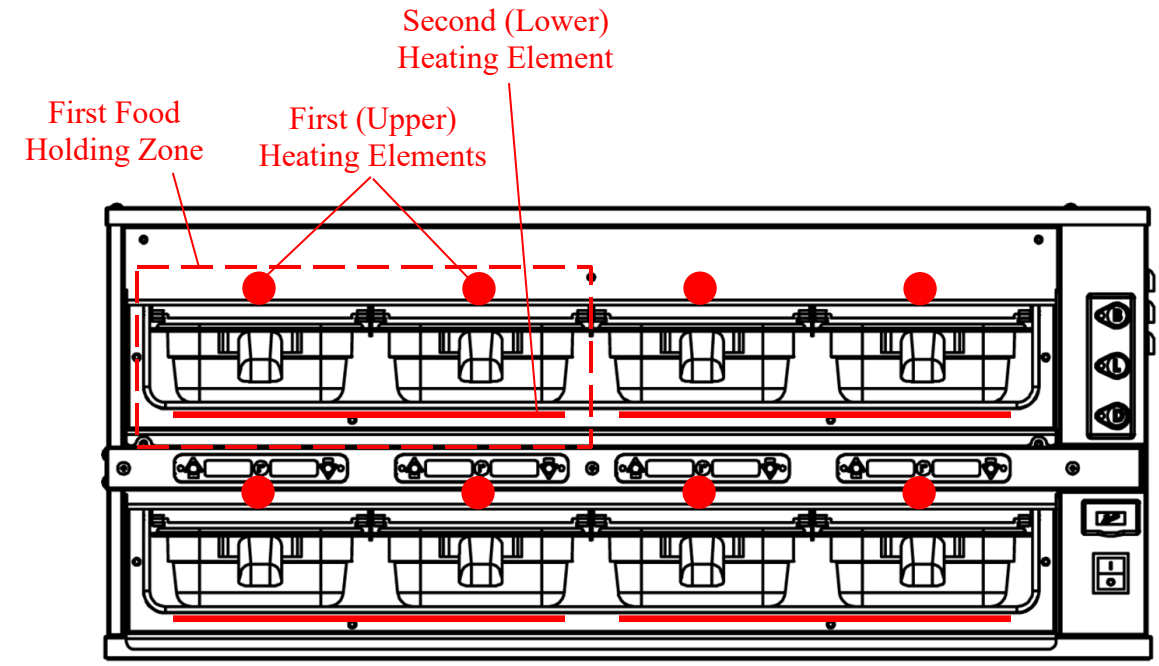
EX1008: 64 (annotated).

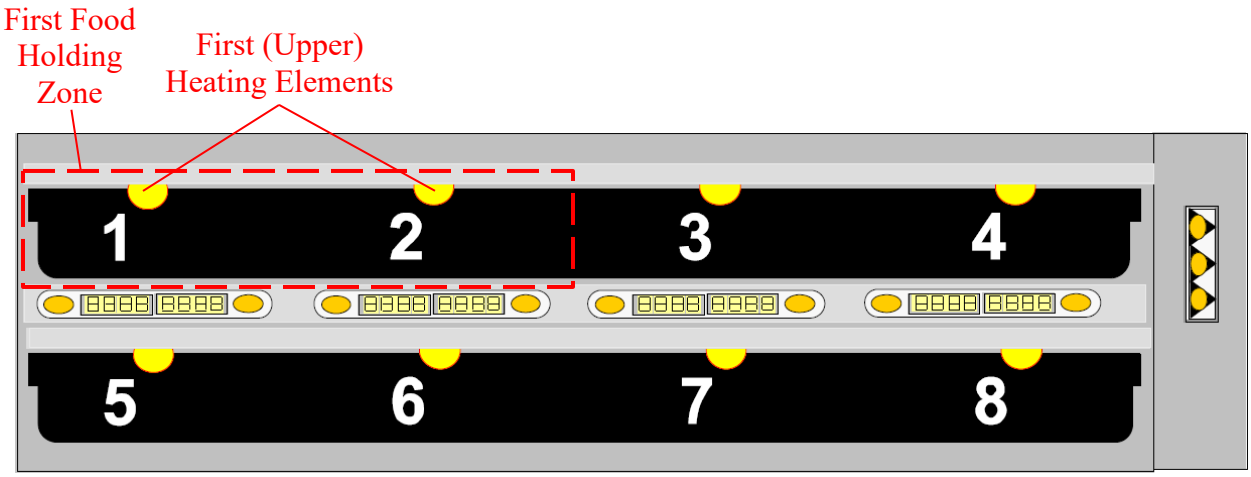
172. Specifically, the chart discloses that the IRHS24 Holding Unit has four lower heating elements; one for each heating/holding zone (comprised of two pan/well holding locations), and eight upper heating elements (IR Bulbs), two for each heating/holding zone (one for each pan/well location). For example, the first zone has a lower heating element indicated by "B-1" for pan locations "Well 1" and "Well 2", the second zone has another lower heating element indicated by "B-

3” for pan locations “Well 3” and “Well 4”, and so on. Likewise, the first zone has an upper heating element (IR Bulb) as indicated by “A-1” and “A-2” for each pan location “Well 1” and “Well 2”, the second zone has additional upper heating elements (IR Bulbs) as indicated by “A-3” and “A-4” for each pan location “Well 3” and “Well 4”, and so on.

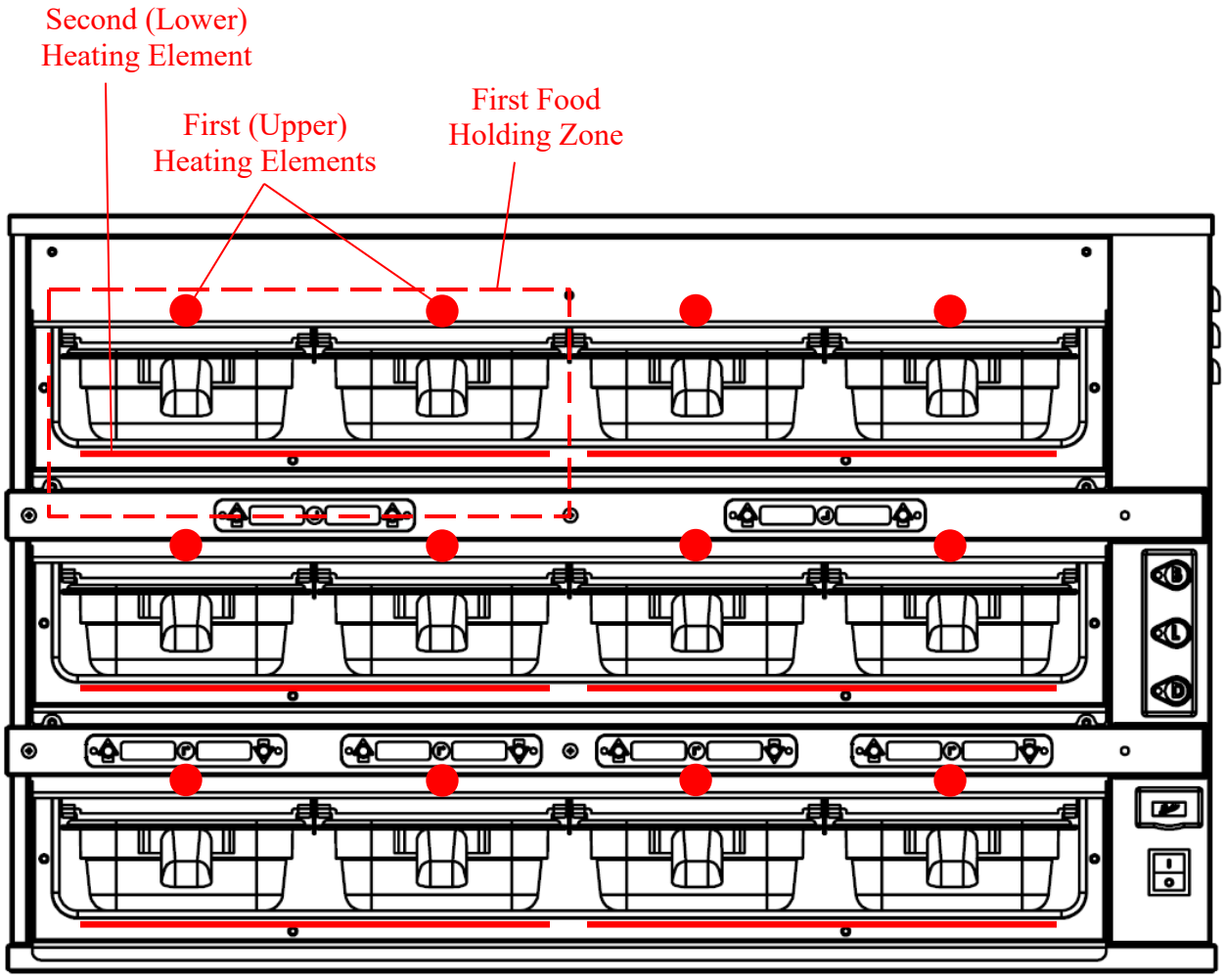
173. Likewise, the chart discloses that the IRHS34 Holding Unit has six lower heating elements, one for each heating/holding zone (comprised of two pan/well holding locations), and twelve upper heating elements (IR Bulbs), two for each heating/holding zone (one for each pan/well location). For example, the first zone has a lower heating element indicated by “B-1” for pan locations “Well 1” and “Well 2”, the second zone has another lower heating element indicated by “B-3” for pan locations “Well 3” and “Well 4”, and so on. Likewise, the first zone has an upper heating element (IR Bulb) as indicated by “A-1” and “A-2” for each pan location “Well 1” and “Well 2”, the second zone has additional upper heating elements (IR Bulbs) as indicated by “A-3” and “A-4” for each pan location “Well 3” and “Well 4”, and so on.

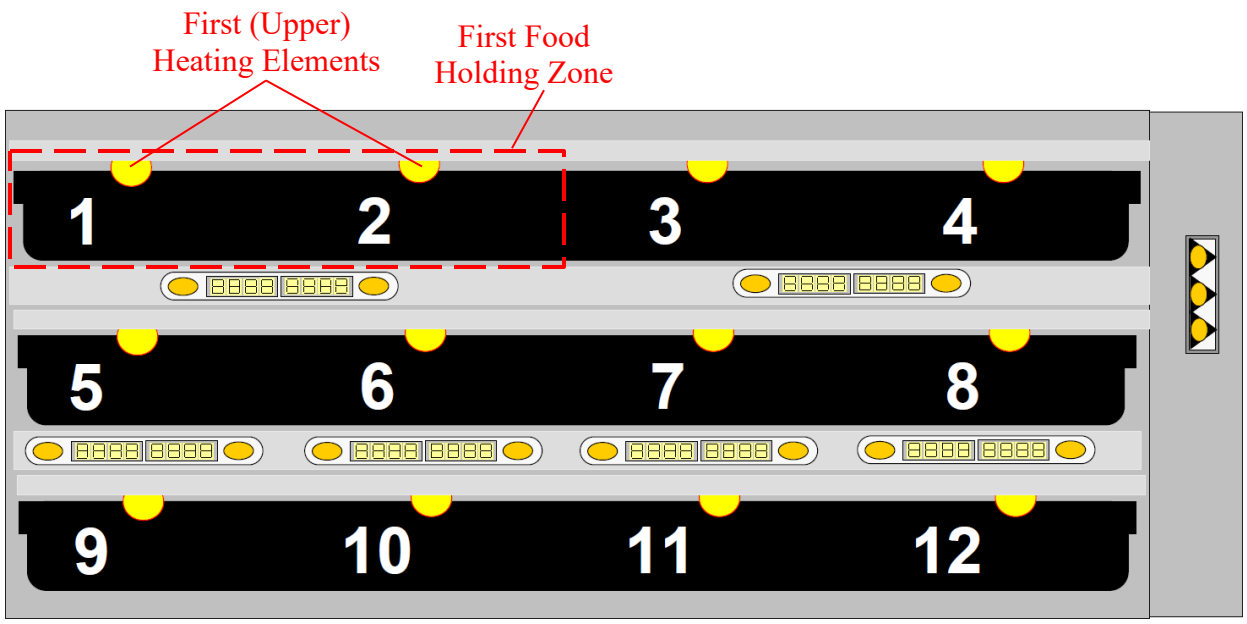
174. As disclosed, the IRHS24 and IRHS34 Holding Units each have a first heating element (IR bulb) and a second heating element (electrical heating element) in the first food holding zone for heating the first food holding zone.





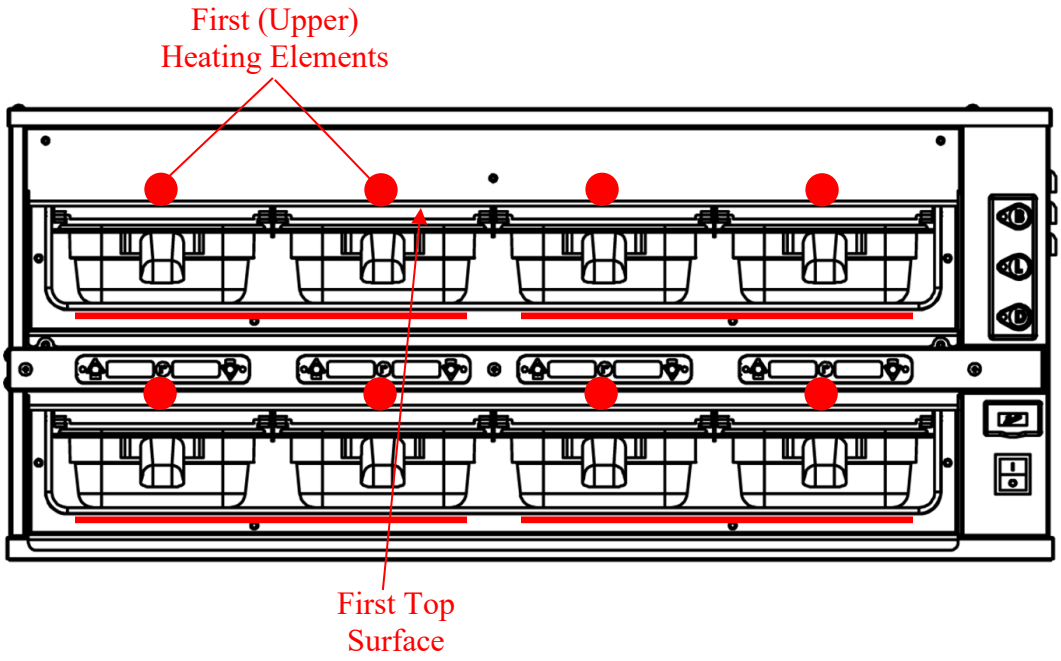
EX1005: 8, 25 (annotated).

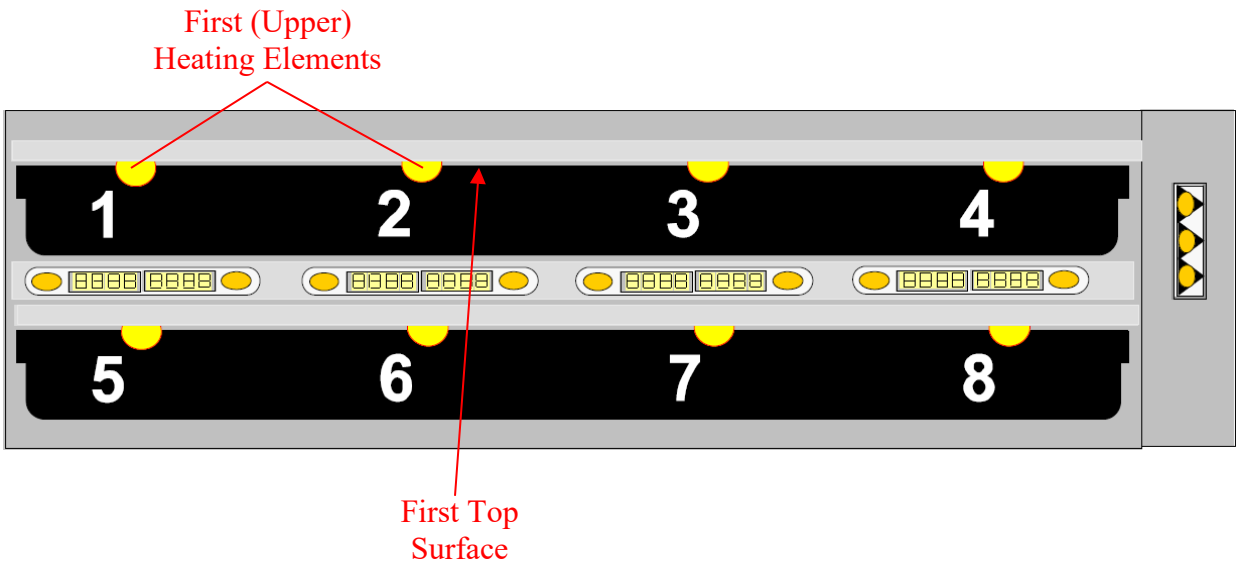

Second (Lower)
Heating Element
First (Upper)
Heating Elements
First Food
Holding Zone



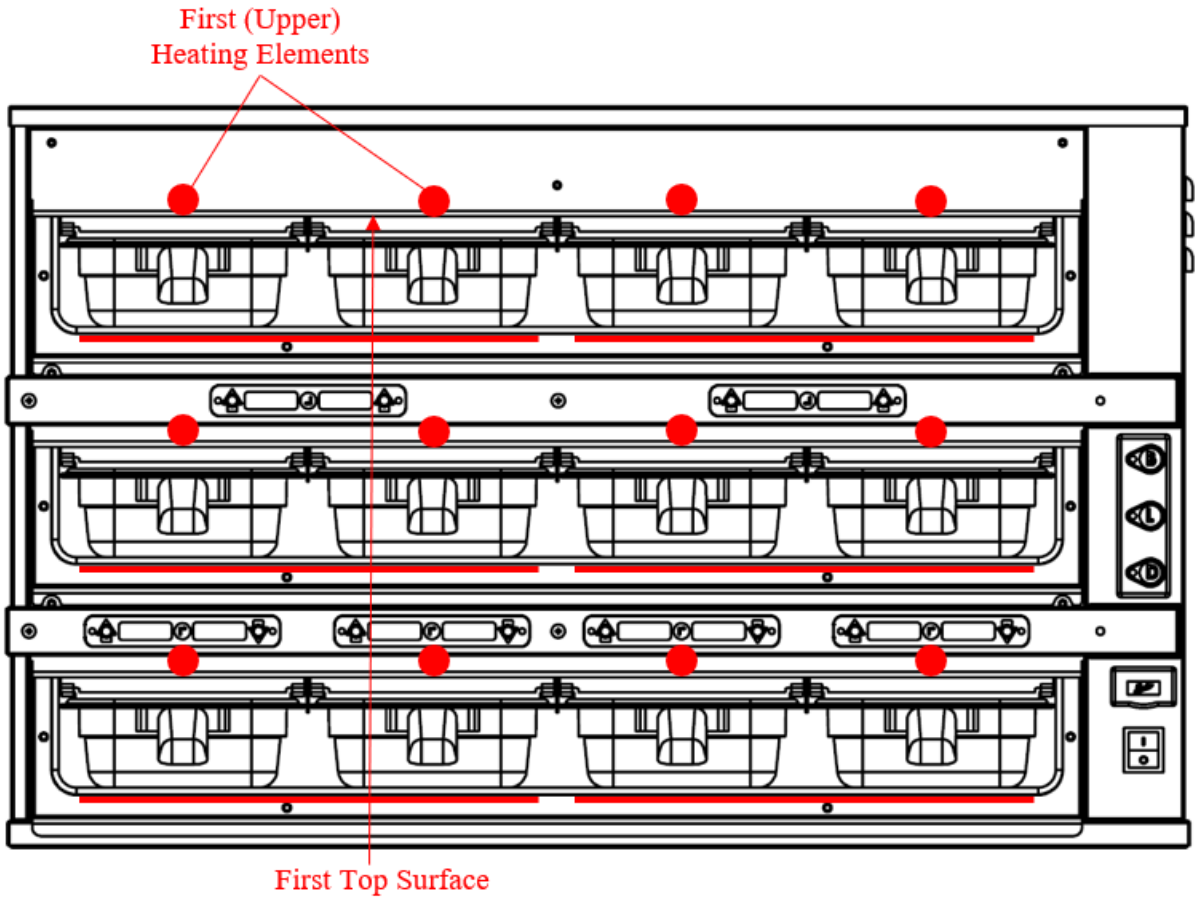
EX1005: 9, 26 (annotated).

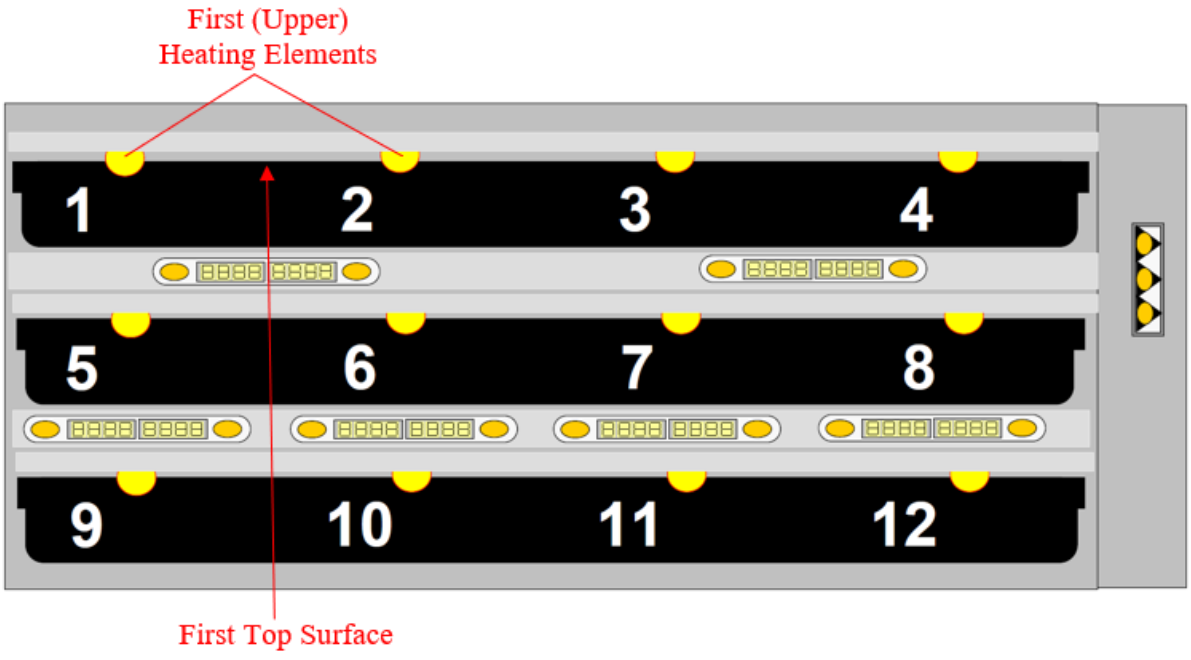
175. Further, the first heating element is thermally coupled to the first top surface as required by the claim limitation. Specifically, the first top surface of the IRHS24/IRHS34 Holding Unit is formed by a sheet metal plate disposed directly below the first (upper) compartment's upper IR heating elements. The IR heating elements (e.g., first heating element) heat the sheet metal plate, and, thus, are thermally coupled to the sheet metal plate and its first top surface.



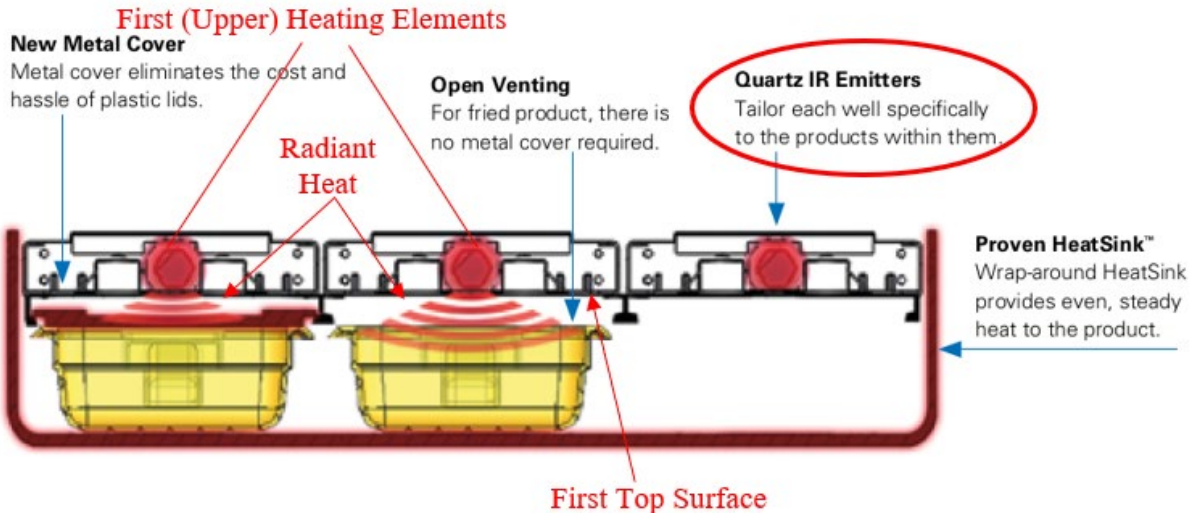


EX1005: 8, 25 (annotated).

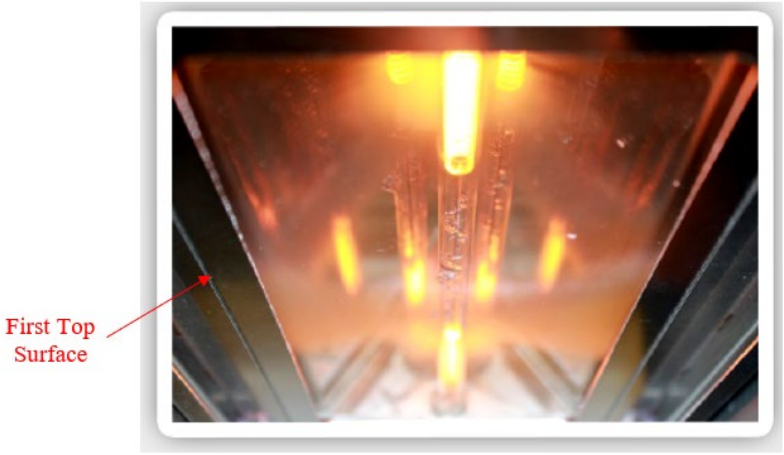

First (Upper)
Heating Elements
First Top Surface


First (Upper)
Heating Elements
1
2
3
4
5
6
7
8
9
10
11
12
First Top Surface

EX1005: 9, 26 (annotated).

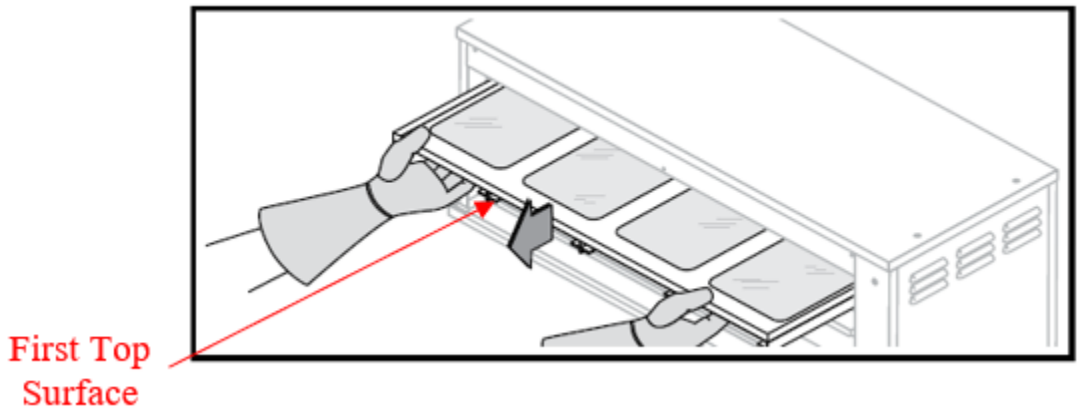


EX1007: 53 (annotated).



EX1007: 11 (annotated).

NOTE: Make sure the glass has cooled off sufficiently to avoid burns to bare skin. Use gloves if necessary.

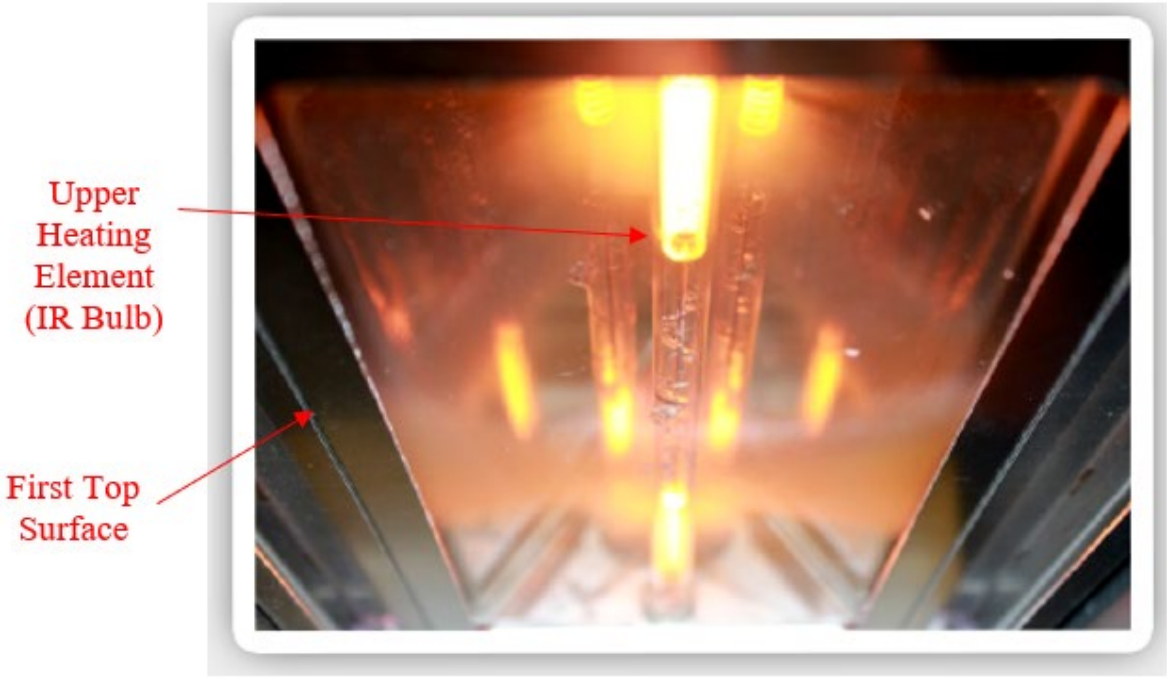


EX1008: 25 (annotated).

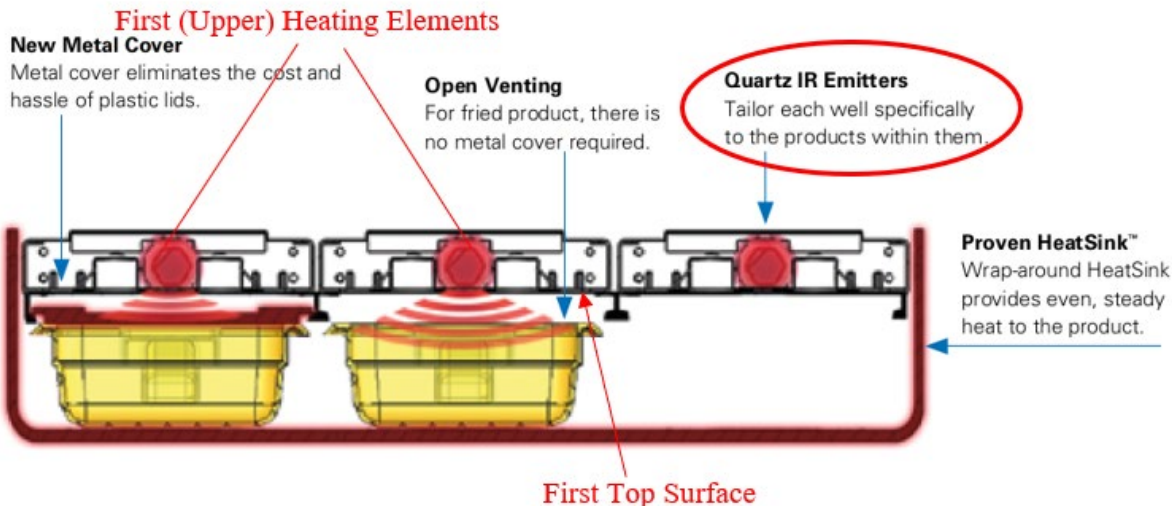
176. The IR heating elements heat the sheet metal plate (e.g., first top surface) in various ways. For example, the portions of the sheet metal plate in direct line of sight with the upper IR heating elements receive direct IR heat energy (radiation) from the IR heating elements, heating the sheet metal plate. Moreover, the IR heating elements heat the glass panes, which conduct heat and/or radiate heat to the sheet metal plate of the IR glass support frame. Further, portions of the sheet metal plate are heated from the IR elements indirectly via heat transfer through other structures of the shelf (*e.g.*, reflectors) or otherwise. For example, heat from the IR heating elements transmitted below the sheet metal plate (*e.g.*, at the cover, food, and/or pan) would naturally rise via convection and heat the sheet metal plate, providing a path of thermal communication from the IR elements to the lower thermally conductive sheet metal plate.

177. Moreover, as shown in the images below, the upper IR heating elements (e.g., first heating element) heat and are connected to structure (e.g.,

sockets, hoods, reflectors) in the IRHS24/IRHS34 Holding Unit that is thermally coupled to the sheet metal plate and the first top surface. This further thermally couples the upper IR heating elements (e.g., first heating element) to the first top surface.



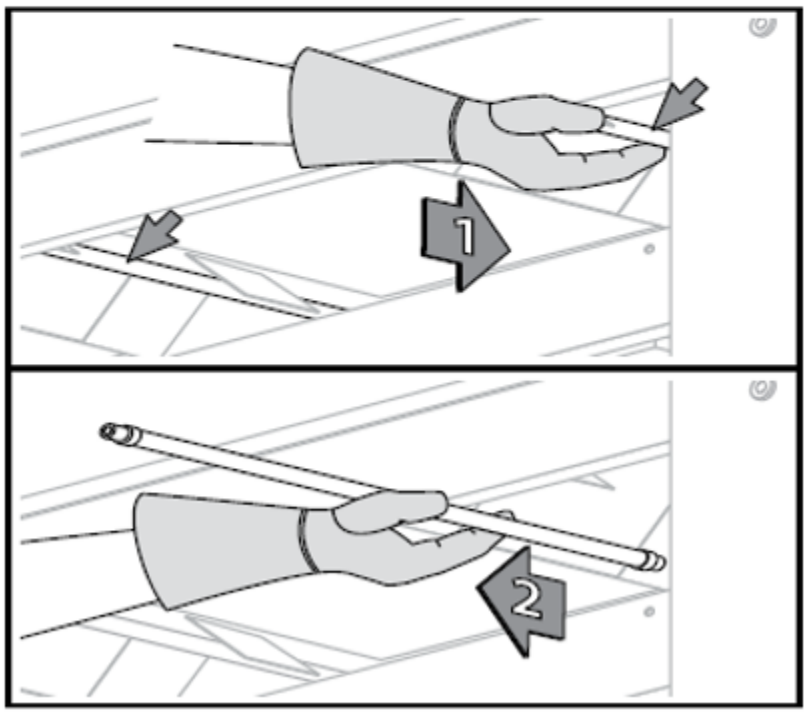
EX1007: 11 (annotated).



EX1007: 53 (annotated).

6. The Emitter Sockets are spring-loaded. Push the Emitter towards the rear socket until the Emitter is free from the front socket and carefully remove.

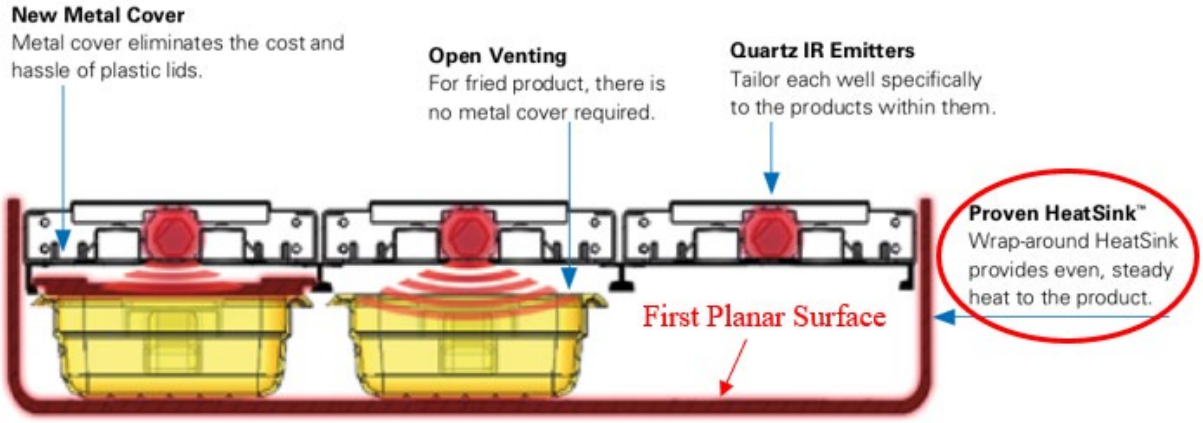
NOTE: DO NOT TOUCH THE EMITTER WITH BARE HANDS! The oil on human skin will shorten the life of the Emitters. If the Emitter is to be reused, use clean gloves, a clean cloth, or a clean paper towel to handle.



EX1008: 27 (annotated).

178. Likewise, the second heating element in the first food holding zone and thermally coupled to the first substantially planar surface as required by the claim limitation.

179. The first planar surface of the IRHS24/IRHS34 Holding Unit is formed by the HeatSink associated with the first (upper) food holding compartment, which provides heat to the pans from underneath the pans. EX1007: 51 ("[p]revious generations of the Duke holding units contained only HeatSink, heating from below"). The lower heating elements (e.g., second heating element) are also part of the HeatSink associated with the first (upper) food holding compartment. The lower heating elements heat the plate of the HeatSink forming the first planar surface, and, thus, the lower heating elements (e.g., second heating element) are thermally coupled to the first planar surface.



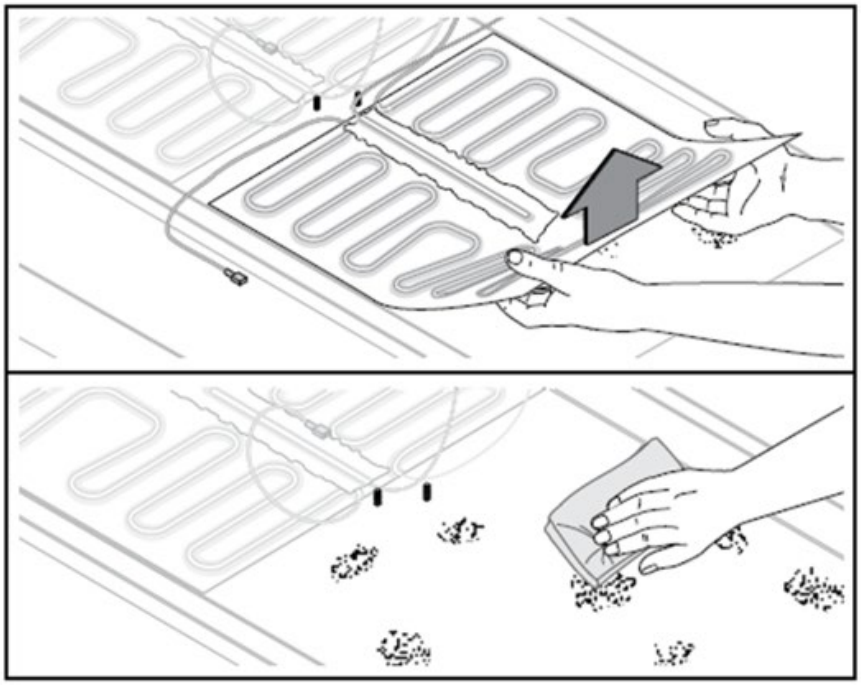
EX1007: 53 (annotated).

HEAT ELEMENTS

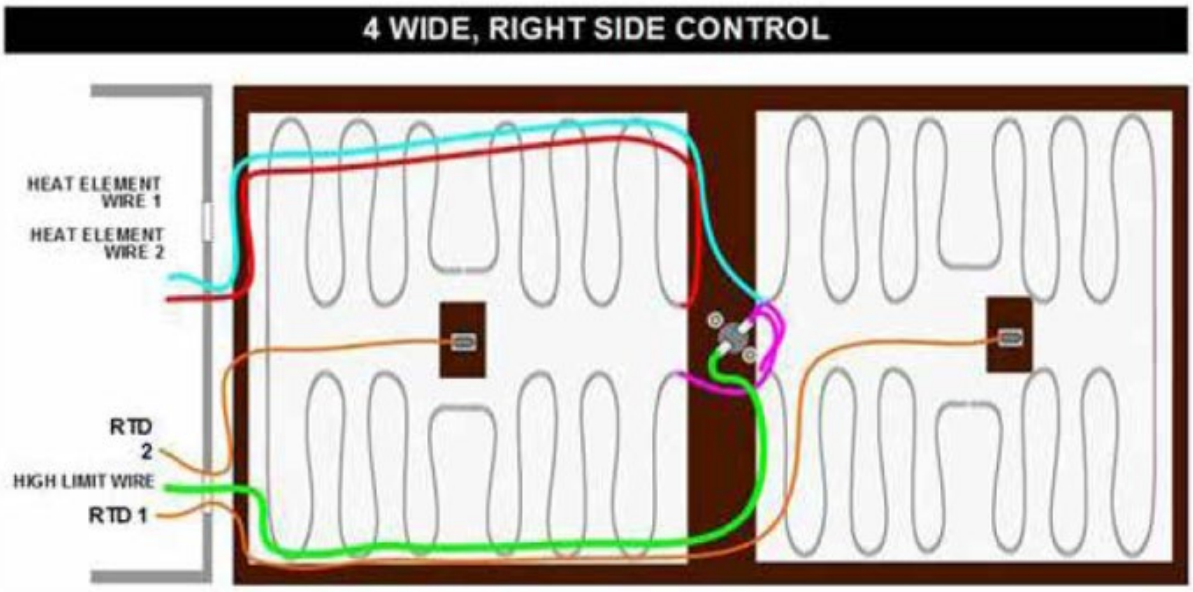
The Heat Elements provide the heating required to keep the heating wells at proper operating temperatures. The quantity varies depending on model and are affixed to the bottom of each Heat Sink.

EX1008: 21.

13. Remove the affected Heat Element by peeling off from the heat sink. Ensure any excess tape and/ or adhesive is removed.



EX1008: 22.



EX1008: 58.

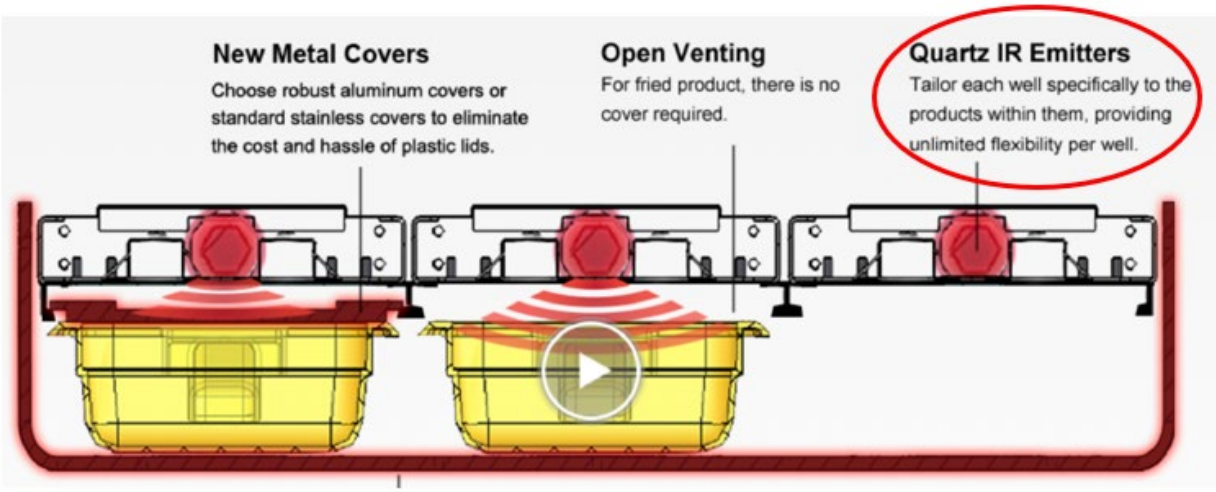
180. The POSA would recognize that because the lower heating elements (e.g., second heating element) are affixed to the plate of the HeatSink (i.e. the first planar surface) and heats the plate via conduction, the lower heating elements are thermally coupled to the first substantially planar surface. EX1007: 51, 53; EX1016: Fig. 2, ¶[0039] ("[a]n electrical resistance heating element generally designated 39 having a bottom component 41 contacting the bottom of the heat sink"); EX1017: Fig. 3, 4:51-53 ("[e]ach heat sink 46 is fitted with a heater which may take the form of a flexible heating element 76 of the electrical resistance type. It extends almost the full length of the heat sink 44, covering the flat bottom surface 54 of the bottom wall 50 [of the heat sink]").

181. The IRHS Documents describes that each of the food holding zone's (e.g., first food holding zone's) upper heating elements and lower heating element are independently operable from each other and from the heating elements of the other food holding zones to provide precise/customized control. EX1005: 16 ("[t]his new technology allows you to precisely control the environment in each pan, allowing customized settings for each food product" and "each food product has a tailored HeatSink temperature and InfraRed pulse rate"), 25; EX1006: 1 ("[z]oned bottom heat" and "individually controlled IR emitters" for top heat); EX1007: 53 ("Precise holding for each product in an optimized environment

tailored to that product" and "Total well independence allows freedom in product placement in the IRHS").

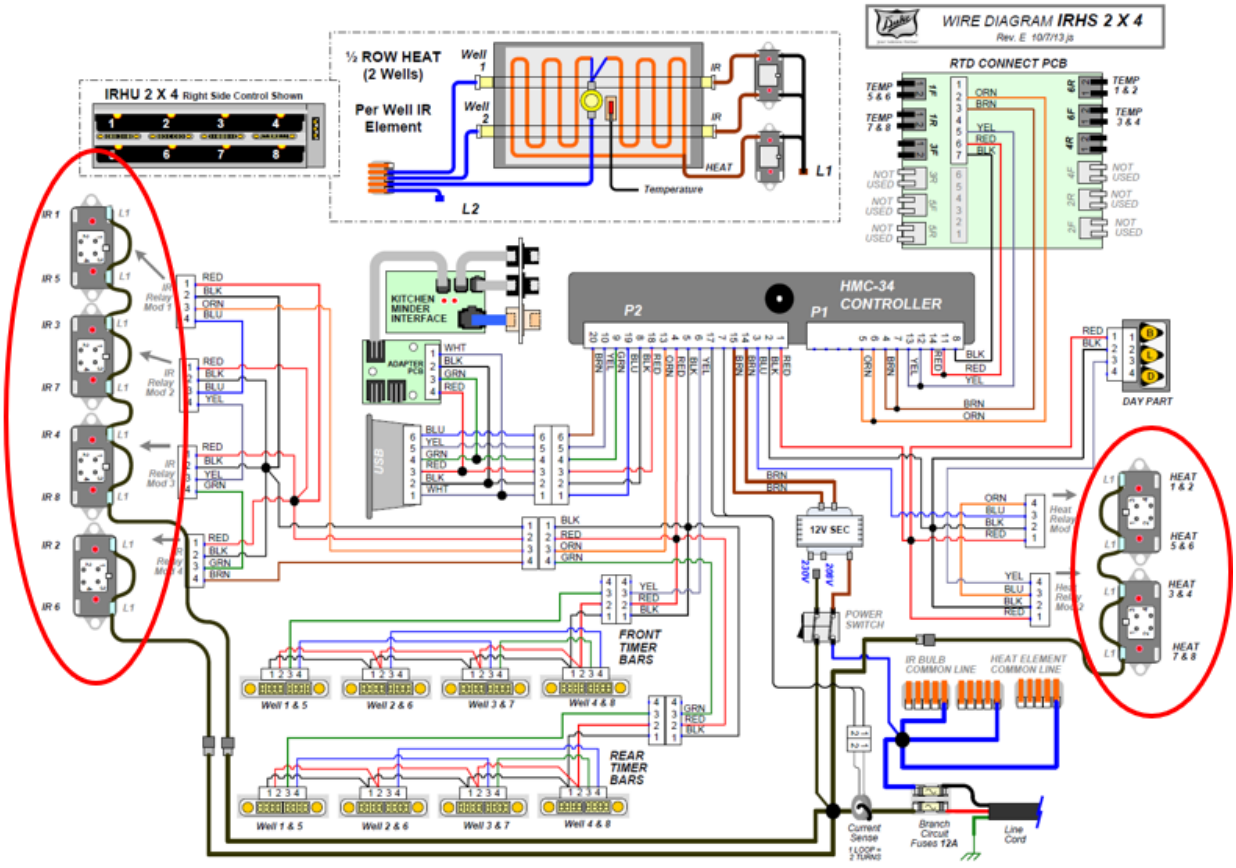
182. The IRHS Documents further explain the holding unit has "[z]oned bottom heat" and "individually controlled IR emitters" for top heat. EX1006: 1; EX1007: 53 ("dual holding technologies, InfraRed and HeatSink"); EX1007: 10 ("Quartz IR Emitters" that "[t]ailor each well specifically to the products within them, providing unlimited flexibility per well"), 53 ("IR is pulsed only when needed, leading to drastic energy savings"); EX1005: 15 ("fault with a specified IR Bulb circuit [means] [t]he affected pan location is not available for timing product").

183. The IRHS Documents teach that the IR bulbs operate independently of the lower heating element. For example, there is an "IR Turbo Boost" function to generate an "instant shot of IR energy." EX1006: 1; EX1007: 22 ("Utilize 'Turbo Boost" for a quick shot of heat to the product"), 53 ("IR is pulsed only when needed, leading to drastic energy savings").

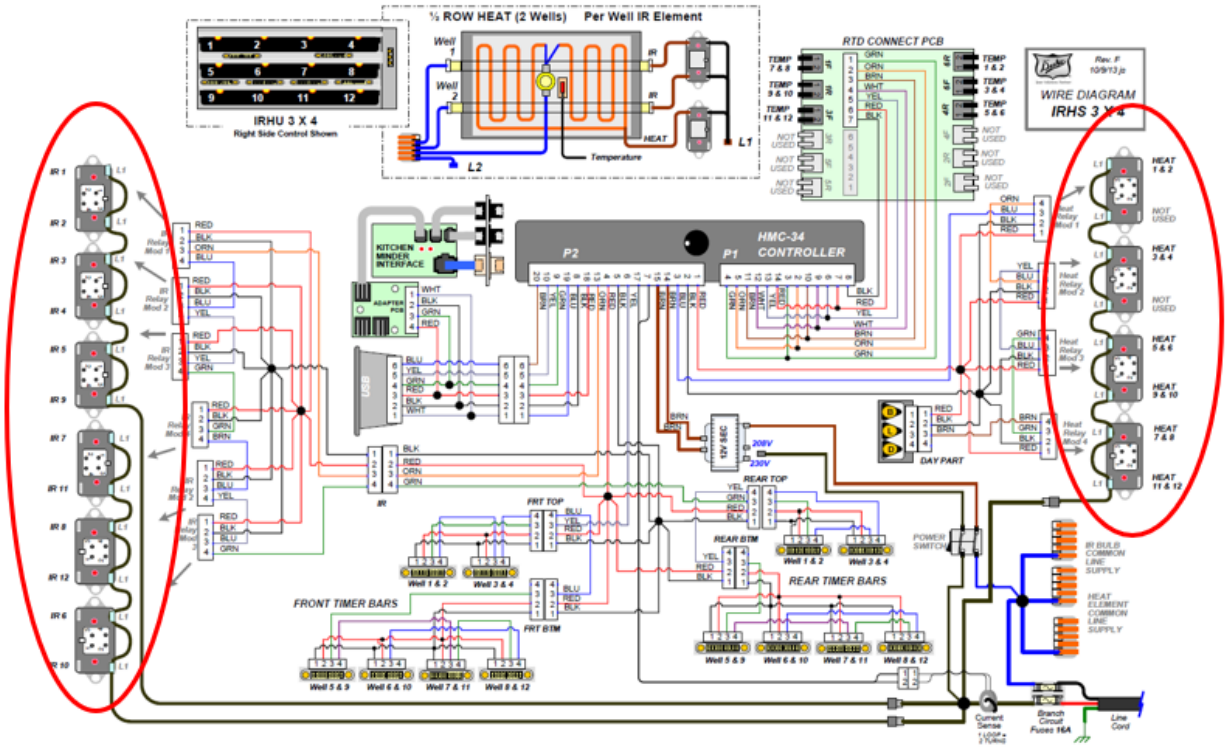


EX1007: 10 (annotated).

184. Moreover, the wiring diagrams below show independent control for every heating element in the IRHS24/IRHS34 Holding Unit:



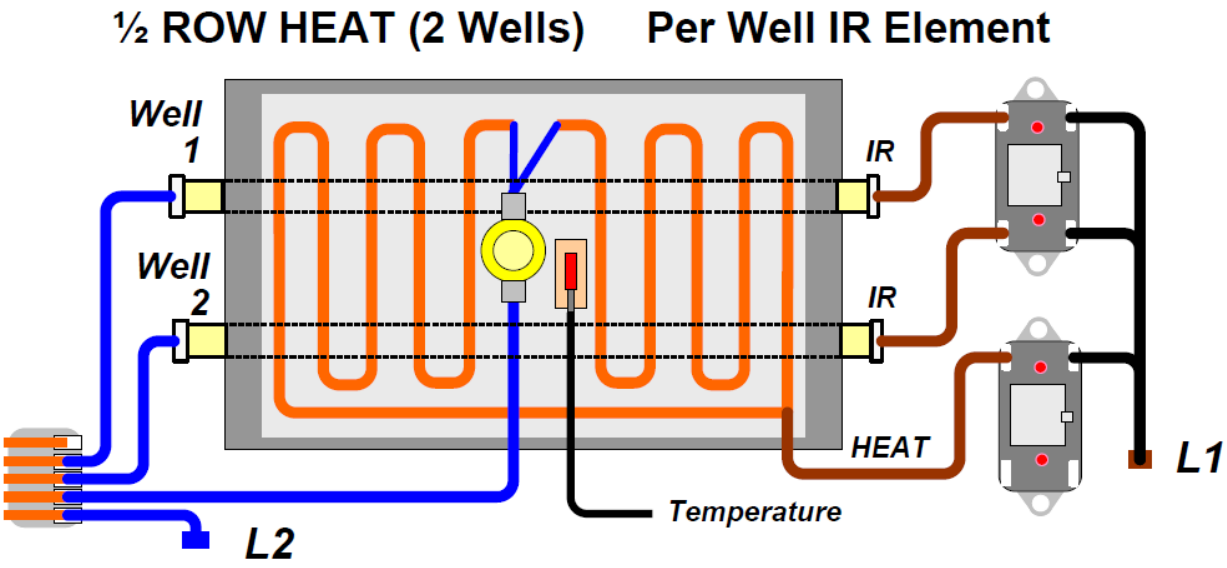
EX1005: 25 (annotated).

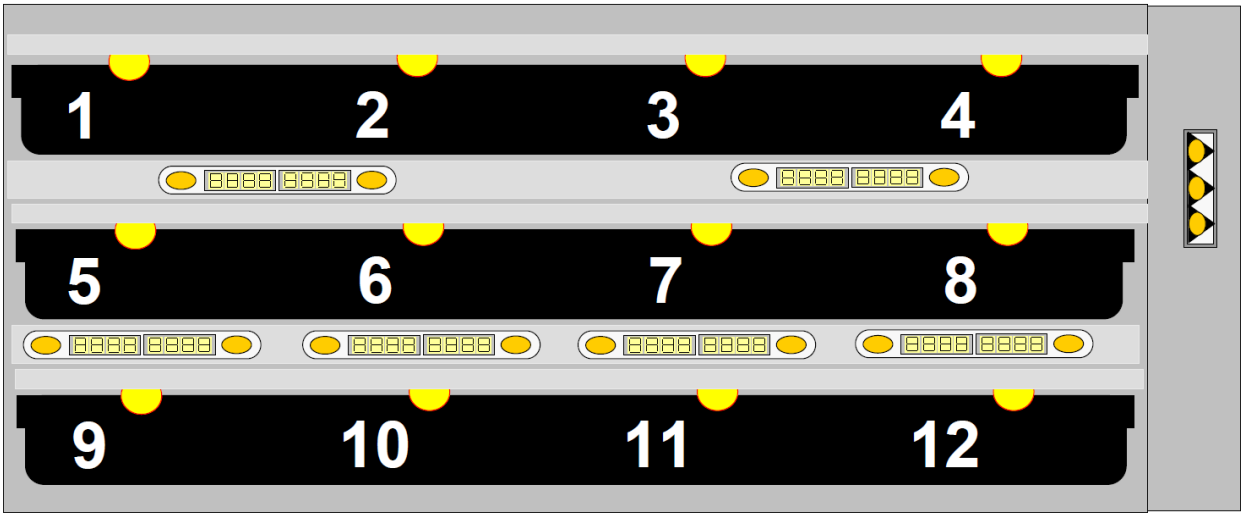


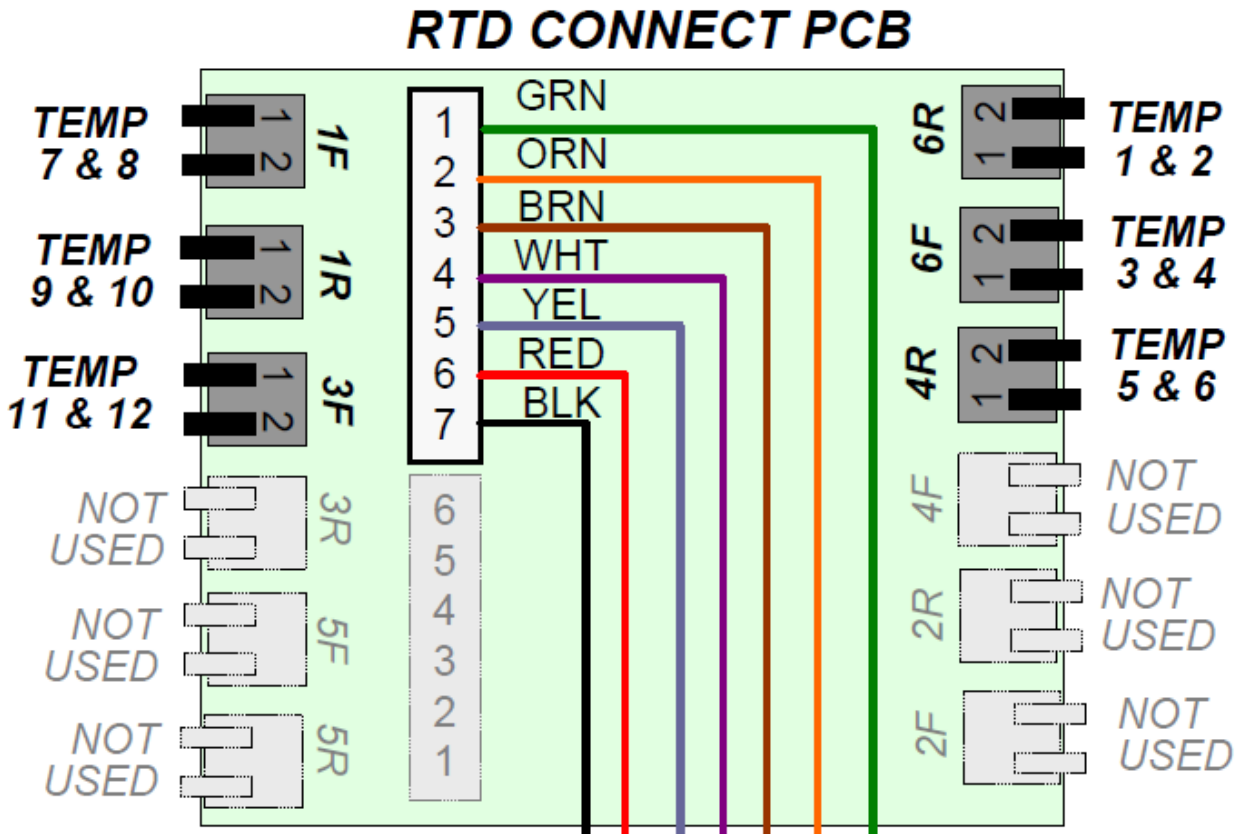
EX1005: 26 (annotated).

185. These diagrams for the IRHS24 and IRHS34 Holding Units each include a schematic (enlarged below) labeled “1/2 Row Heat (2 Wells)” and a schematic (enlarged below) labeled “ Connect PCB.” EX1005: 25, 26.

EX1005: 25.


½ ROW HEAT (2 Wells)
Per Well IR Element
Well 1
Well 2
IR
IR
HEAT
L1
L2
Temperature

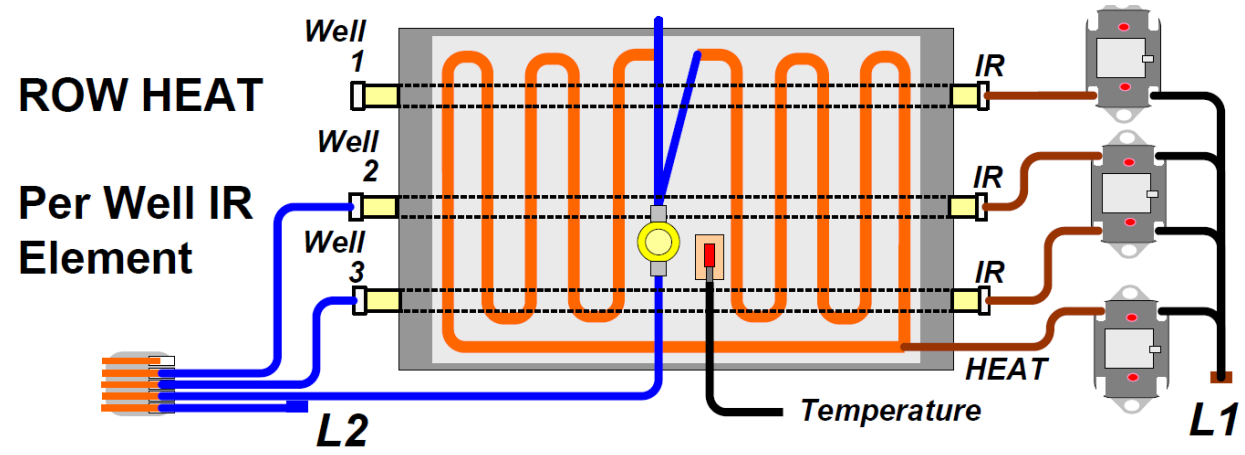

1
2
3
4
5
6
7
8
9
10
11
12

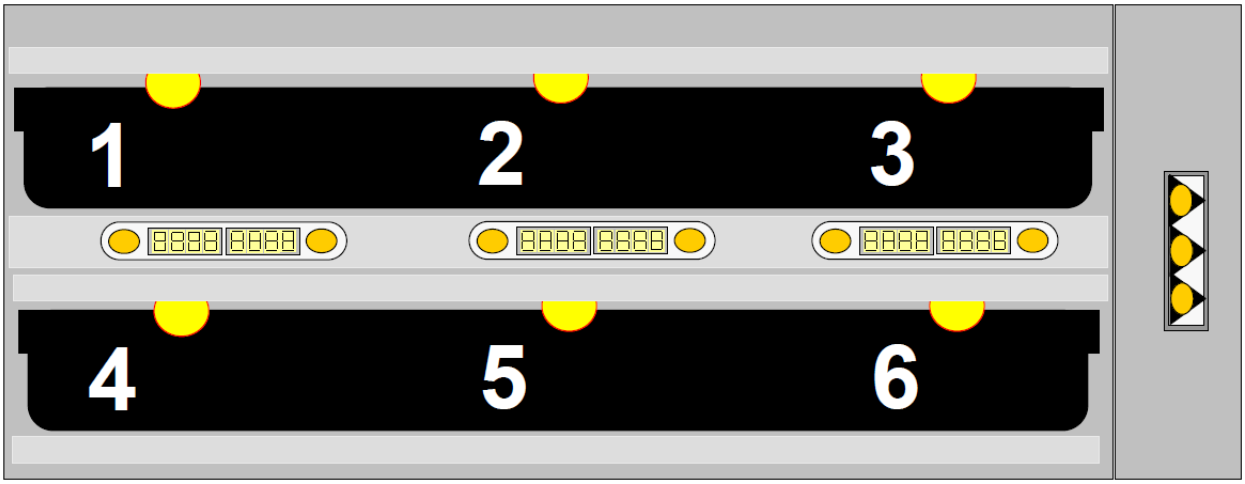


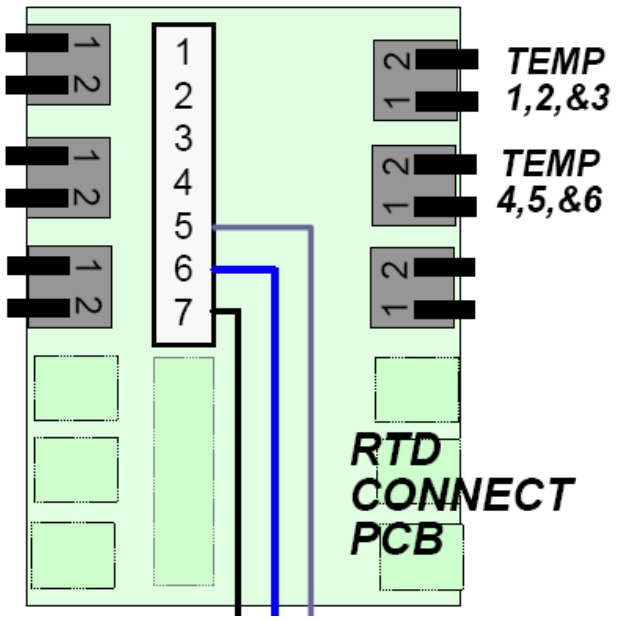
EX1005: 26.

186. The diagrams for the other sizes of IRHS Holding Units include similar schematics. EX1005: 23-27. For example, the corresponding schematic for the 2x3 IRHS Holding Unit is shown below. In contrast to the schematics for the 2x4 and 3x4 IRHS Holding Units, this schematic for the 2x3 IRHS Holding Unit is labeled "Row Heat" indicating the schematic illustrates the arrangement of heating elements (IR bulbs and electrical resistance heating element) for an entire row of the 2x3 IRHS Holding Unit. As explained above, the "3" in the "2x3" configuration means each row in the IRHS23 Holding Unit has three pan holding locations/wells. That this schematic illustrates the arrangement of heating

elements for an entire row of the 2x3 IRHS Holding Unit is confirmed by the schematic having three pan holding locations, labeled “Well 1,” “Well 2,” and “Well 3.” EX1005: 24. This is further confirmed by the schematic of the RTD Connect PCB indicating a single RTD temperature sensor for the zone of wells 1, 2, and 3, and a single RTD temperature sensor for the zone of wells 4, 5, and 6.







EX1005: 24.

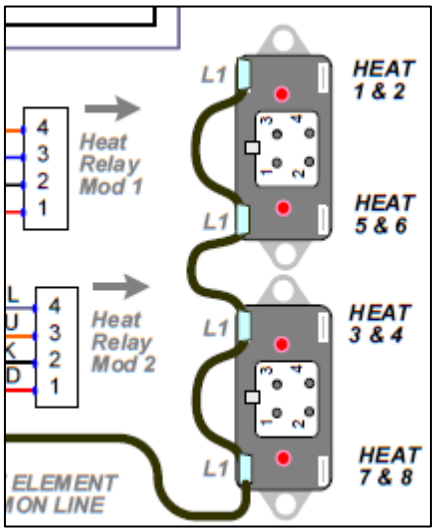
187. From the schematics for the 2x4 and 3x4 IRHS Holding Units being labeled "***1/2 Row*** Heat (2 Wells)" and the schematic for the 2x3 IRHS Holding Unit being labeled "***Row*** Heat," the POSA would understand that each row of the 2x4 and 3x4 IRHS Holding Unit has zoned bottom heating, *e.g.*, a first electrical resistance heating element for pan holding locations/wells 1 and 2 and a second electrical resistance heating element for pan holding locations/wells 3 and 4. Because the 2x4 IRHS Holding Unit has two rows total (*e.g.*, an upper row containing pan holding locations/wells 1-4 and a lower row containing pan holding locations/wells 5-8), the POSA would understand that the 2x4 IRHS Holding Unit has a total of four (4) lower heating elements (*e.g.*, a first lower heating element for pan holding locations/wells 1 and 2, a second lower heating element for pan

holding locations/wells 3 and 4, a third lower heating element for pan holding locations/wells 5 and 6, and a fourth lower heating element for pan holding locations/wells 7 and 8).

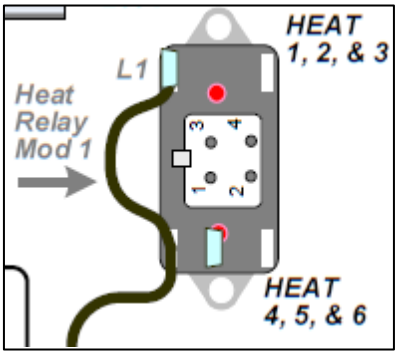
188. Likewise, because the 3x4 IRHS Holding Unit has three rows total (*e.g.*, an upper row containing pan holding locations/wells 1-4, a middle row containing pan holding locations/wells 5-8, and a lower row containing pan holding locations/wells 9-12), the POSA would understand that the 3x4 IRHS Holding Unit has a total of six (6) lower heating elements (*e.g.*, a first lower heating element for pan holding locations/wells 1 and 2, a second lower heating element for pan holding locations/wells 3 and 4, a third lower heating element for pan holding locations/wells 5 and 6, a fourth lower heating element for pan holding locations/wells 7 and 8, a fifth lower heating element for pan holding locations/wells 9 and 10, and a sixth lower heating element for pan holding locations/wells 11 and 12).

189. My understanding of zoned bottom heat is further confirmed by labeling of the heating elements connected to each output of the dual output relays in the wiring diagrams. As shown below (left), each output of the dual output relays for the 2x4 IRHS Holding Unit is labeled as heating two pan holding locations/wells, e.g., "HEAT 1 & 2," which is half of a row. EX1005: 25. The labeling for the 3x4 IRHS Holding Unit is similar. EX1005: 26. In comparison,

each output of the dual output relays for the 2x3 IRHS Holding Unit is labeled as heating three pan holding locations/wells, e.g., "HEAT 1, 2, & 3," as shown below (right), which is a full row. EX1005: 24.



2x4 IRHS Holding Unit

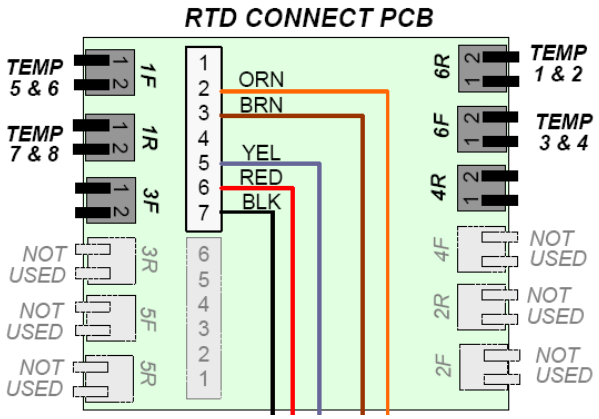


2x3 IRHS Holding Unit

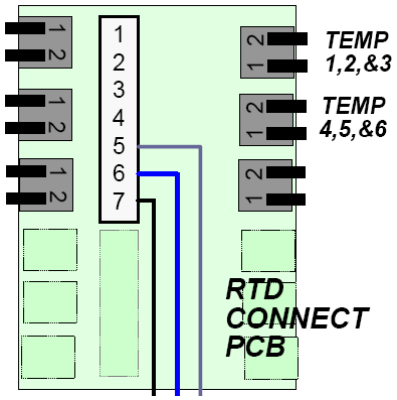
EX1005: 24 and 25.

190. My understanding of the zoned bottom heat is further confirmed by labeling of the RTD temperature sensor inputs for the RTD Connect PCBs in the wiring diagrams. As shown below (left), each RTD temperature sensor input for the 2x4 IRHS Holding Unit is labeled as sensing temperature for two pan holding locations/wells, e.g., "TEMP 1 & 2," which is half of a row. EX1005: 25. This is consistent with the "1/2 ROW HEAT" schematic showing one temperature sensor for wells 1 and 2. Again, the labeling of the 3x4 IRHS Holding Unit is similar in this aspect. EX1005: 26. In comparison, each RTD temperature sensor input for the 2x3 IRHS Holding Unit is labeled as sensing temperature for three pan holding

locations/wells, e.g., "TEMP 1, 2, & 3," as shown below (right), which is a full row. EX1005: 24. This is consistent with the "ROW HEAT" schematic showing one temperature sensor for wells 1, 2, and 3.



2x4 IRHS Holding Unit



2x3 IRHS Holding Unit

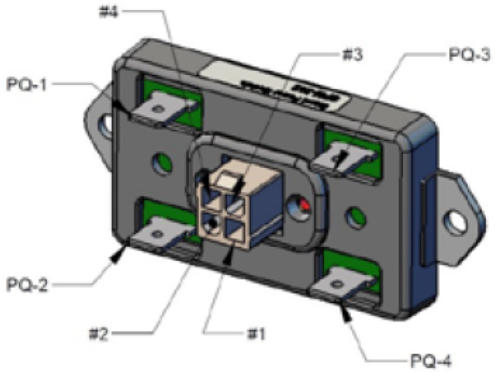
EX1005: 24 and 25.

191. The POSA would understand from the wiring diagram that the controller is able to independently operate each heating element. The controller in the wiring diagram is communicatively connected to relays.

192. As known to the POSA, a relay is an electrically operated switch that is opened/closed by a low-voltage signal (such as from a controller) to control a higher-powered circuit. In the wiring diagram, the relays selectively connect the heating elements to the higher-powered current carrying line L1 for powering the heating elements (*e.g.*, turning the heating elements on). When the relays are closed, the heating elements are connected to and receive current from the higher-powered current carrying line L1 (*e.g.*, heating elements are on and generating

heat). When the relays are opened, the heating elements are disconnected from the higher-powered current carrying line L1 (*e.g.*, heating elements are off).

193. Specifically, the relays in the wiring diagram are dual output relays, meaning that each relay has two available outputs for connecting to two different heating elements.

<table>
<tr>
<td>Relay, Smart Power Module</td>
<td>
• Max. Load Current: 20 Arms. Heat sinking required.
• Operating Voltage: 24-250 Vrms
• Input : 5V TTL


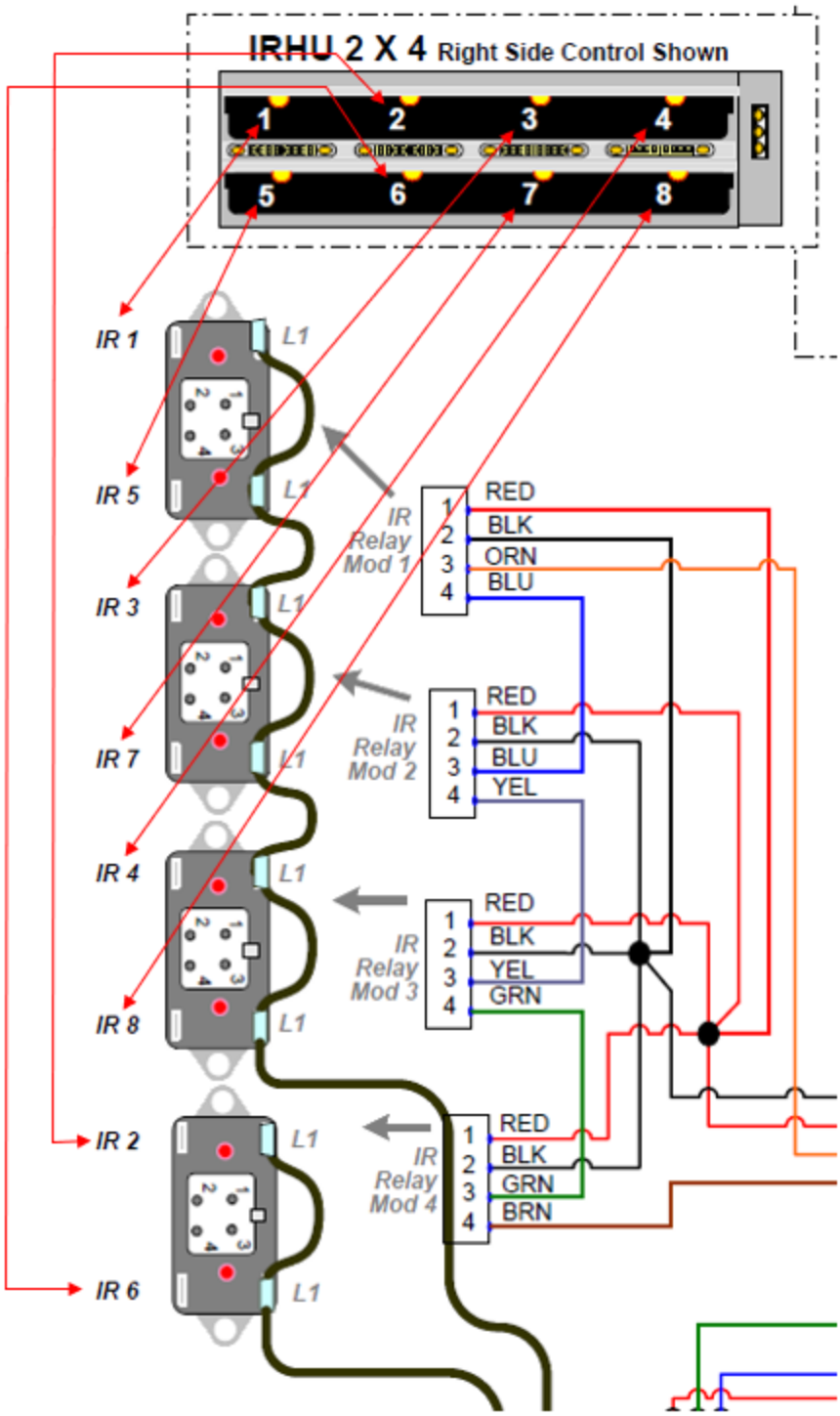
<table>
<tr><th colspan="2">Connector PIN Data</th></tr>
<tr><td>PQ-1</td><td>LOAD1-1</td></tr>
<tr><td>PQ-2</td><td>LOAD1-2</td></tr>
<tr><td>PQ-3</td><td>LOAD2-1</td></tr>
<tr><td>PQ-4</td><td>LOAD2-2</td></tr>
<tr><td>#1</td><td>+5V DC</td></tr>
<tr><td>#2</td><td>GND</td></tr>
<tr><td>#3</td><td>1-wire network IN</td></tr>
<tr><td>#4</td><td>1-wire network OUT</td></tr>
</table>
</td>
</tr>
</table>

EX1008: 45

194. This means each relay can connect one of its heating elements to the higher-powered current carrying line L1 independent of whether or not its other heating element is connected to the higher-powered current carrying line L1.

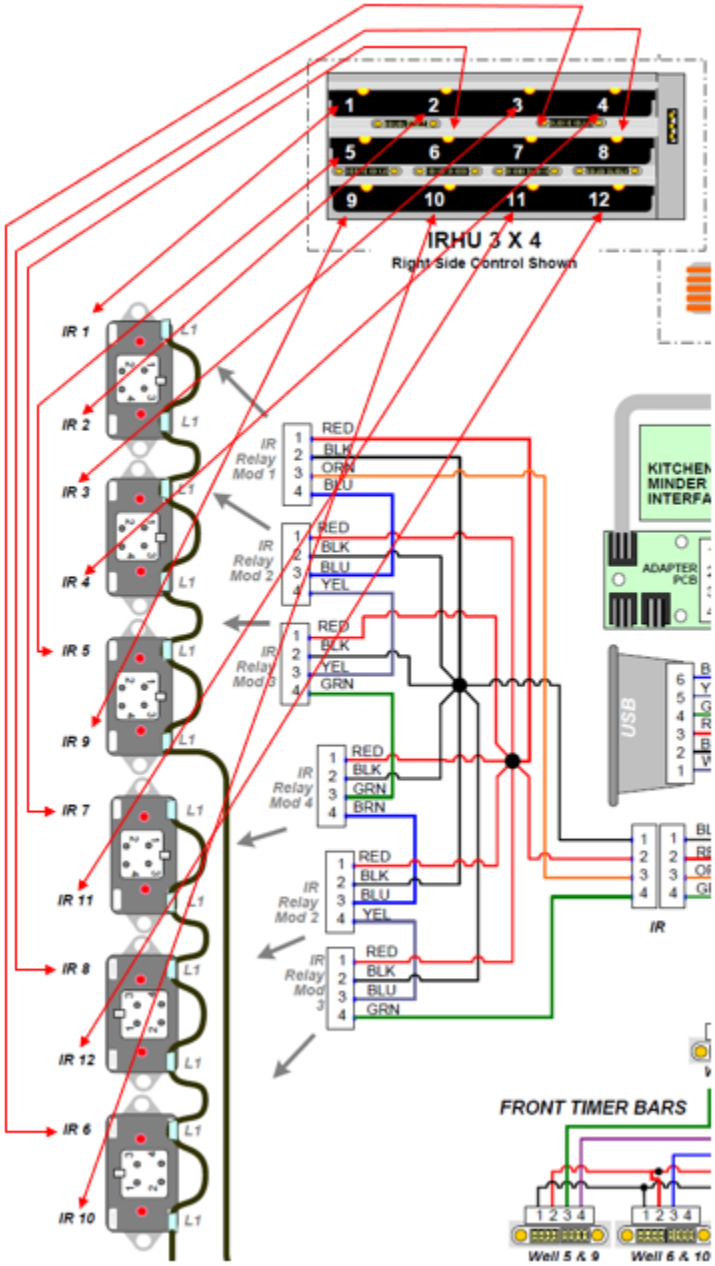
195. Thus as indicated by the wiring diagram of the 2x4 IRHS Holding Unit, a first IR relay labeled “IR Relay Mod 1” selectively connects the upper IR

heating element (labeled “IR 1”) for the first pan holding location/well to the higher-powered current carrying line L1 and selectively connects the upper IR heating element (labeled “IR 5”) for the fifth pan holding location/well to the higher-powered current carrying line L1. A second IR relay labeled “IR Relay Mod 2” selectively connects the upper IR heating element (labeled “IR 3”) for the third pan holding location/well to the higher-powered current carrying line L1 and selectively connects the upper IR heating element (labeled “IR 7”) for the seventh pan holding location/well to the higher-powered current carrying line L1. A third IR relay labeled “IR Relay Mod 3” selectively connects the upper IR heating element (labeled “IR 4”) for the fourth pan holding location/well to the higher-powered current carrying line L1 and selectively connects the upper IR heating element (labeled “IR 8”) for the eighth pan holding location/well to the higher-powered current carrying line L1. Lastly, a fourth IR relay labeled “IR Relay Mod 4” selectively connects the upper IR heating element (labeled “IR 2”) for the second pan holding location/well to the higher-powered current carrying line L1 and selectively connects the upper IR heating element (labeled “IR 6”) for the sixth pan holding location/well to the higher-powered current carrying line L1.



EX1005: 25 (enlarged, annotated).

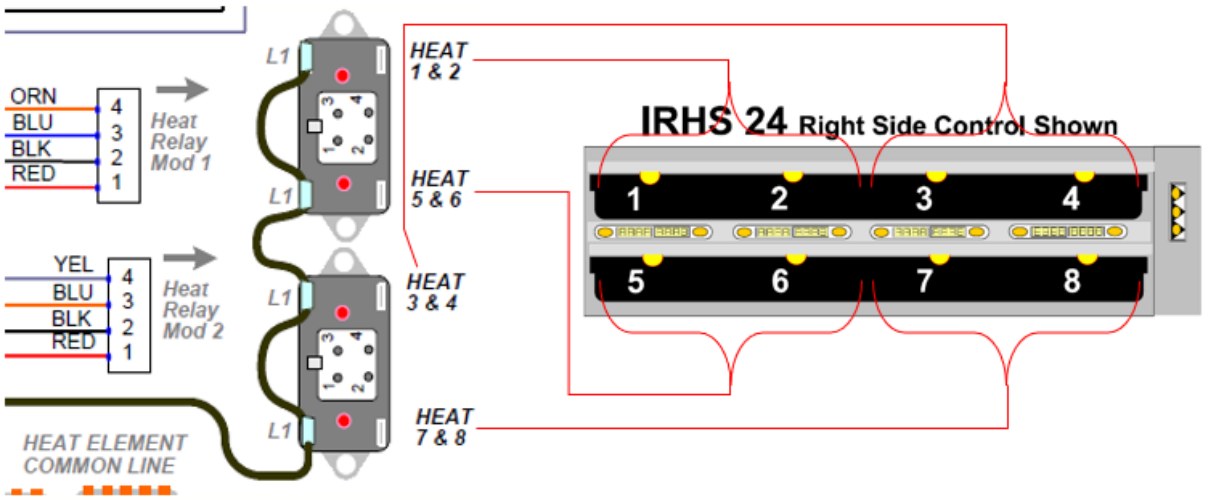
196. The 3x4 IRHS Holding Unit is similar, as shown below:



EX1005: 26 (enlarged, annotated).

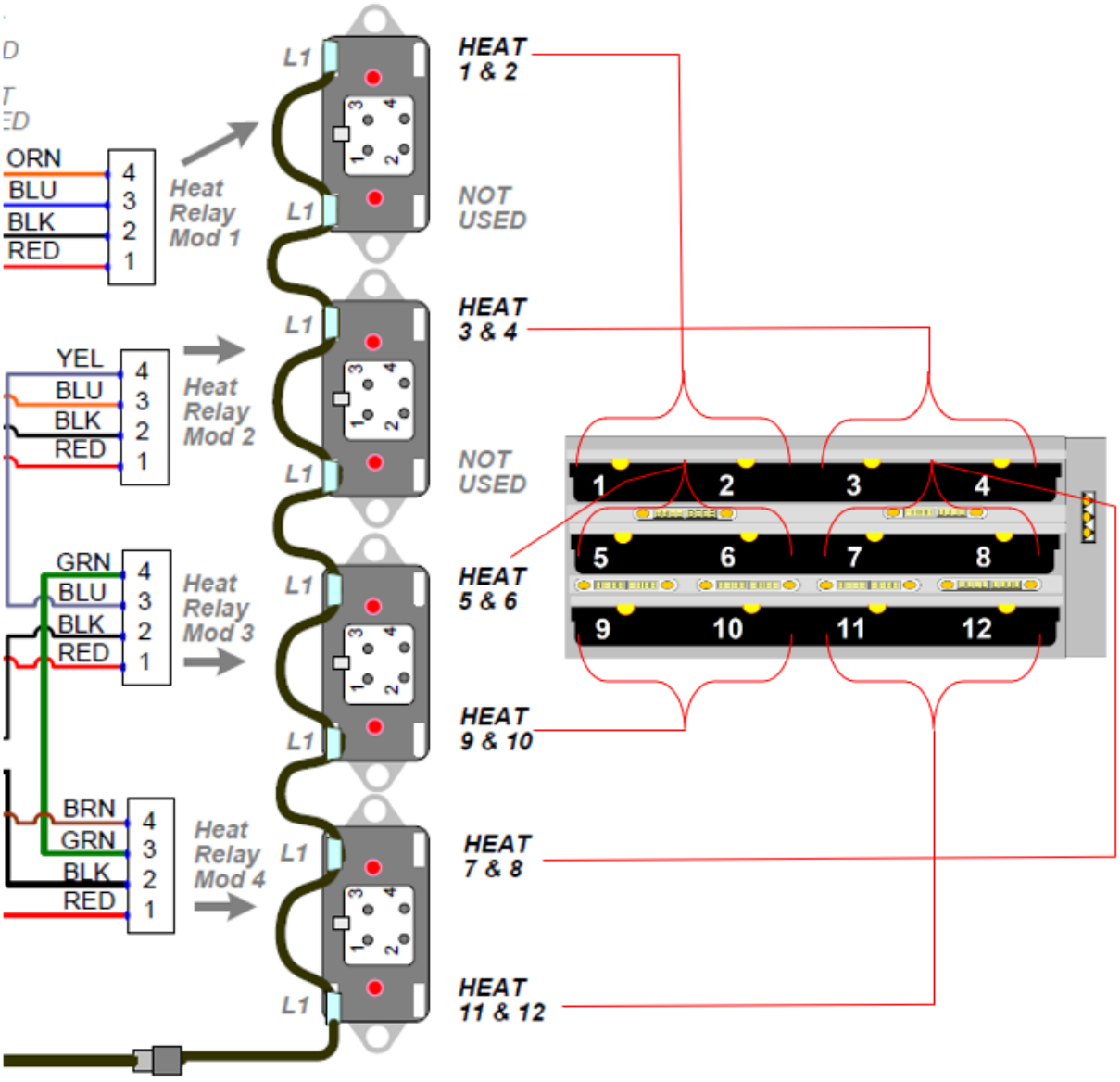
197. Similarly, a first heat relay labeled "Heat Relay Mod 1" selectively connects the first zoned lower heating element (labeled "HEAT 1 & 2") for the first and second pan holding locations/wells to the higher-powered current carrying line L1 and selectively connects the third zoned lower heating element (labeled

"HEAT 5 & 6") for the fifth and sixth pan holding locations/wells to the higher-powered current carrying line L1. A second heat relay labeled "Heat Relay Mod 2" selectively connects the second zoned lower heating element (labeled "HEAT 3 & 4") for the third and fourth pan holding locations/wells to the higher-powered current carrying line L1 and selectively connects the fourth zoned lower heating element (labeled "HEAT 7 & 8") for the seventh and eighth pan holding locations/wells to the higher-powered current carrying line L1.



EX1005: 25 (enlarged, annotated).

198. The 3x4 IRHS Holding Unit is similar, as shown below:



EX1005: 26 (enlarged, annotated).

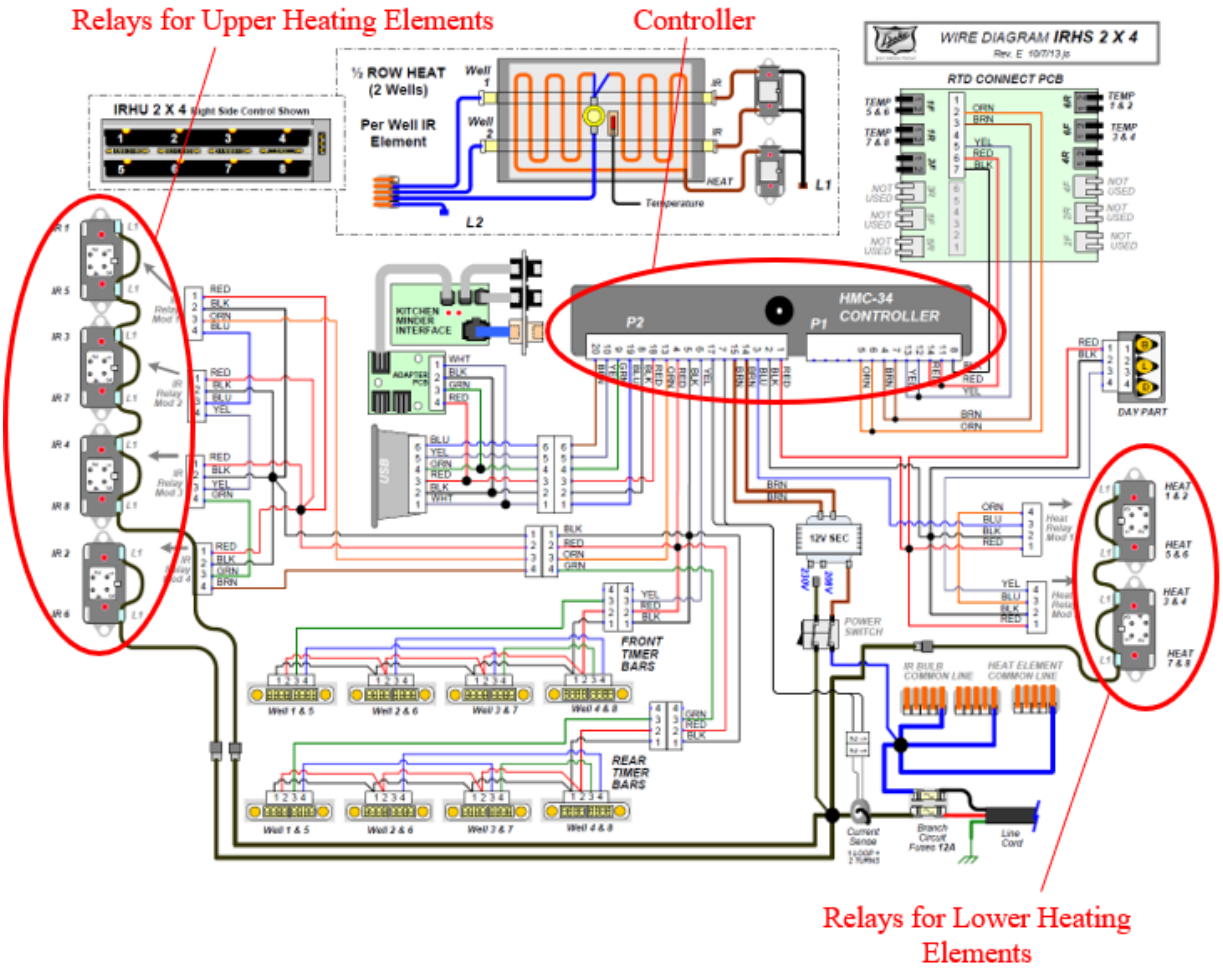
199. Because each heating element (*e.g.*, the eight upper IR heating elements and the four zoned lower heating elements) is connected to one output of one of the relays, this means that the heating elements are all independently controllable relative to one another.

200. Accordingly, the POSA would have understood that the upper IR heating elements and the zoned lower heating elements operate independently of one another. This understanding is confirmed by other statements in the IRHS Documents. EX1005: 16 ("[t]his new technology allows you to precisely control the environment in each pan, allowing customized settings for each food product" and "each food product has a tailored HeatSink temperature and InfraRed pulse rate"), 25; EX1006: 1 ("[z]oned bottom heat" and "individually controlled IR emitters" for top heat, "[e]ach compartment individually controlled," "[a]lphanumeric control with independent well flexibility"); EX1007: 53 ("Precise holding for each product in an optimized environment tailored to that product" and "Total well independence allows freedom in product placement in the IRHS"). EX1005: 25.

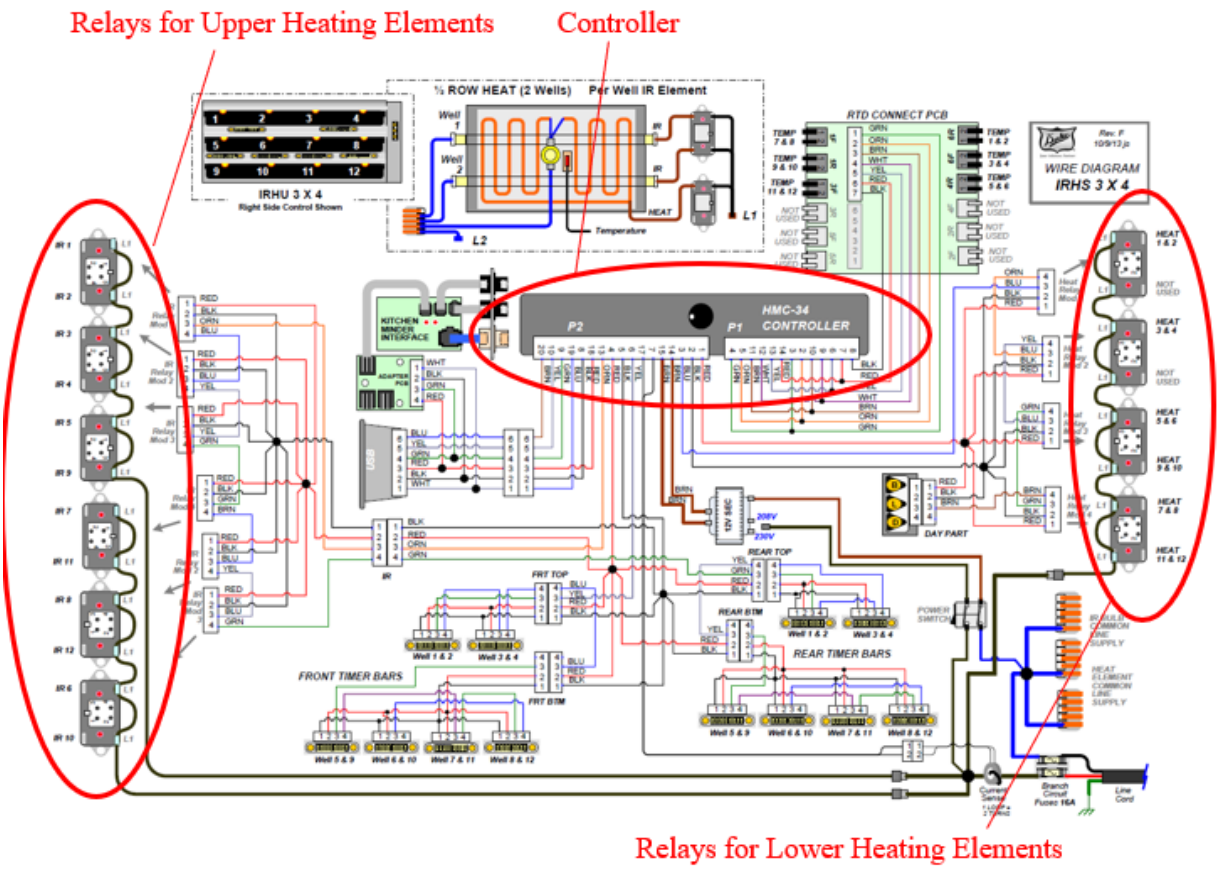
201. Thus, the POSA would understand that each and every heating element (e.g., the eight upper IR heating elements and the four zoned lower heating elements of the IRHS24 Holding Unit and the twelve upper IR heating elements and the six zoned lower heating elements of the IRHS34 Holding Unit) is independently controllable relative to one another.

202. The IRHS24 and IRHS34 Holding Units each include a controller that operates the heating elements of the different food holding zones independently to a temperature setpoint for the associated food holding zone. EX1005: 16 ("[t]his new

technology allows you to precisely control the environment in each pan, allowing customized settings for each food product"); EX1006: 1 ("[a]lphanumeric control with independent well flexibility," "[z]oned bottom heat" and "individually controlled IR emitters" for top heat); EX1007: 53 ("[t]otal well independence allows freedom in product placement in the IRHS" and "[t]ailor each well specifically to the products within them"). As shown in the wiring diagrams, the controller is connected to each heating element, enabling the controller to independently operate each heating element.



EX1005: 25 (annotated).



EX1005: 26 (annotated).

CONTROLLER

The Controller is used to control the Relays and RTD Sensors. It is located inside the control compartment.

EX1008: 30.

203. For each food holding zone (e.g., first food holding zone), a vertical temperature profile (including temperatures from top to bottom of each food holding

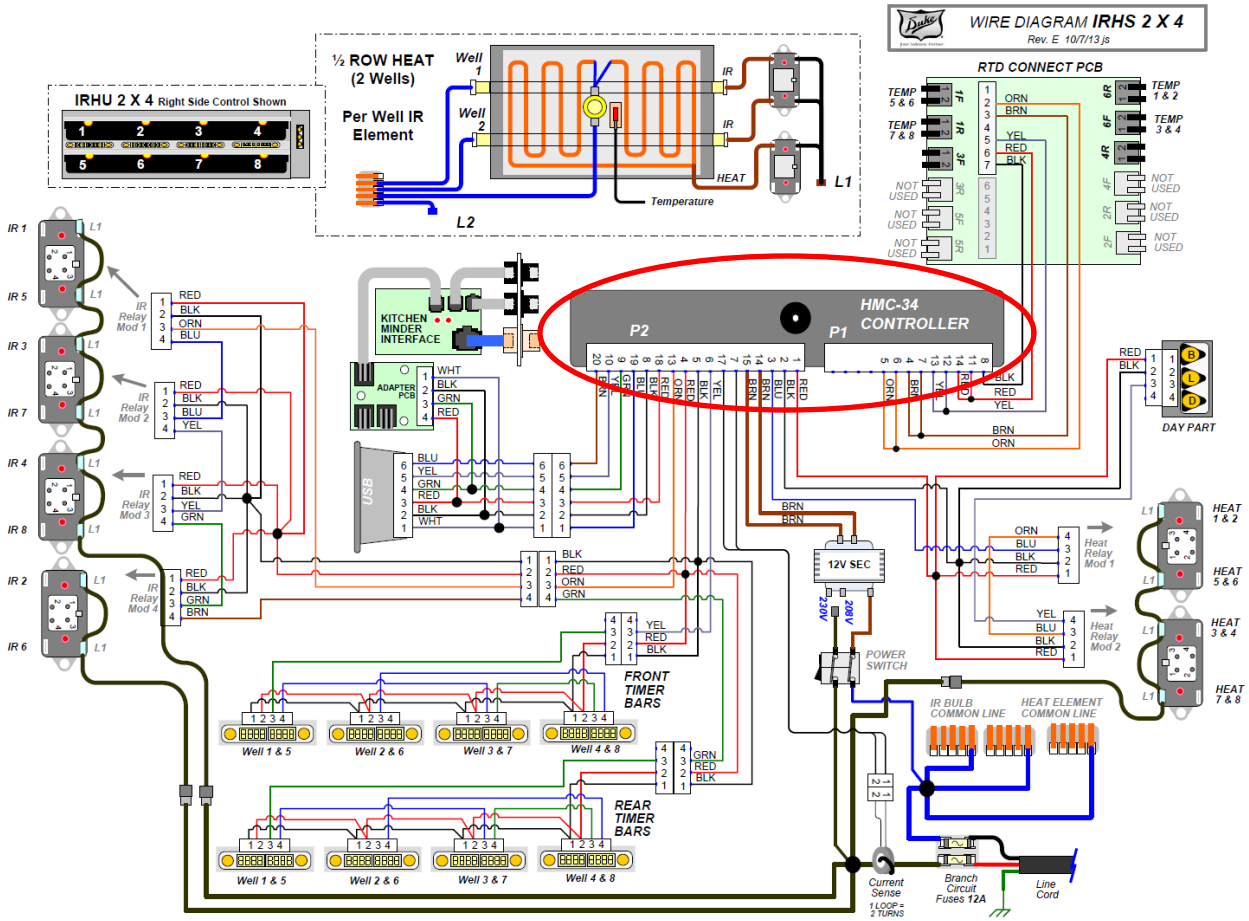
zone) is controllable by the controller based on independent control of the upper and lower heating elements.

204. The controller operates the heating elements of each food holding zone based on the specific food product type(s) assigned to the pan locations in the food holding zones. EX1006: 1 ("[c]ustom heat settings for food product"); EX1005: 16 ("[t]his new technology allows you to precisely control the environment in each pan, allowing customized settings for each food product" and "each food product has a tailored HeatSink temperature and InfraRed pulse rate"), 25 ("1/2 Row Heat (2 Wells)"); EX1007: 51 ("each food product has tailored settings to control the thermal path of the food, leading to optimal quality, consistency and extended hold"). Based on the food product types assigned to the pan locations in the different zones, the controller controls each of the food holding zones to a temperature setpoint, where the temperature setpoint corresponds to the food product held in the respective zone.

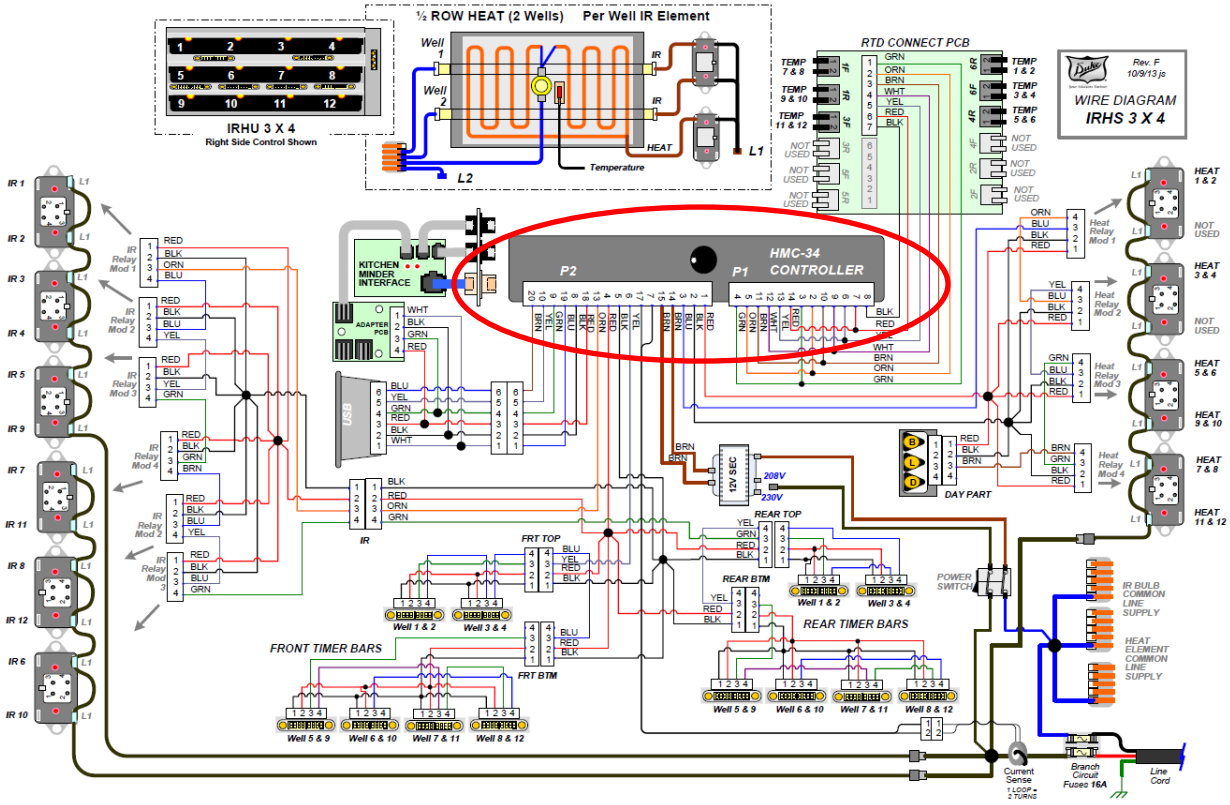
205. Each food holding zone (heating zone) of the IRHS24 and IRHS34 Holding Units has a temperature setpoint. EX1006: 1 ("[c]ustom heat settings for food product," "[e]ach compartment individually controlled"); EX1005: 16 ("[t]his new technology allows you to precisely control the environment in each pan, allowing customized settings for each food product" and "each food product has a tailored HeatSink temperature and InfraRed pulse rate"); EX1007: 10 ("Quartz IR Emitters" that "[t]ailor each well specifically to the products within them, providing

unlimited flexibility per well"), 53 ("[p]recise holding for each product in an optimized environment tailored to that product" and "Total well independence allows freedom in product placement in the IRHS").

206. Specifically, the controller of the IRHS24/IRHS34 Holding Unit operates the upper and lower heating elements of each food holding/heating zone to control a food holding temperature. EX1006: 1 ("[d]ual technology heating to reduce temperature variance from top to bottom"); EX1007: 51 ("deliver a consistently hot pan of product, from top to bottom"). EX1005: 16 ("[t]his new technology allows you to precisely control the environment in each pan, allowing customized settings for each food product"), 25; EX1006: 1 ("[z]oned bottom heat" and "individually controlled IR emitters" for top heat); EX1007: 51 ("each food product has tailored settings to control the thermal path of the food, leading to optimal quality, consistency and extended hold"), 53 ("Precise holding for each product in an optimized environment tailored to that product").



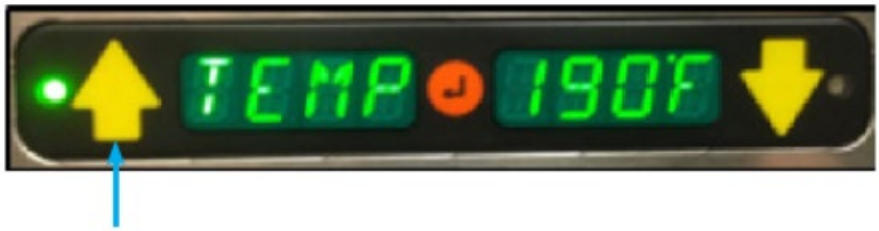
EX1005: 25 (annotated).



EX1005: 26 (annotated).

207. Specifically, the bottom heat is zoned "to provide additional holding environment customization." EX1006: 1; EX1005: 25 ("1/2 Row Heat (2 Wells)"). For example, the IRHS24 and IRHS34 Holding Units each have a temperature setpoint that is achieved/maintained based on heat sink temperature sensor feedback and a heat sink temperature setting for the type of food. EX1005: 16 ("each food product has a tailored HeatSink temperature"), 25 ("1/2 Row Heat (2 Wells)"); EX1006: 1 ("[z]oned bottom heat"); EX1007: 53 ("Precise holding for each product in an optimized environment tailored to that product"). This forms a closed-loop temperature control system in which the controller maintains the temperature

setpoint for each zone by operating the upper and lower heating elements independently.



This indicates the Heat Sink Temperature for BURG.

EX1005: 17.

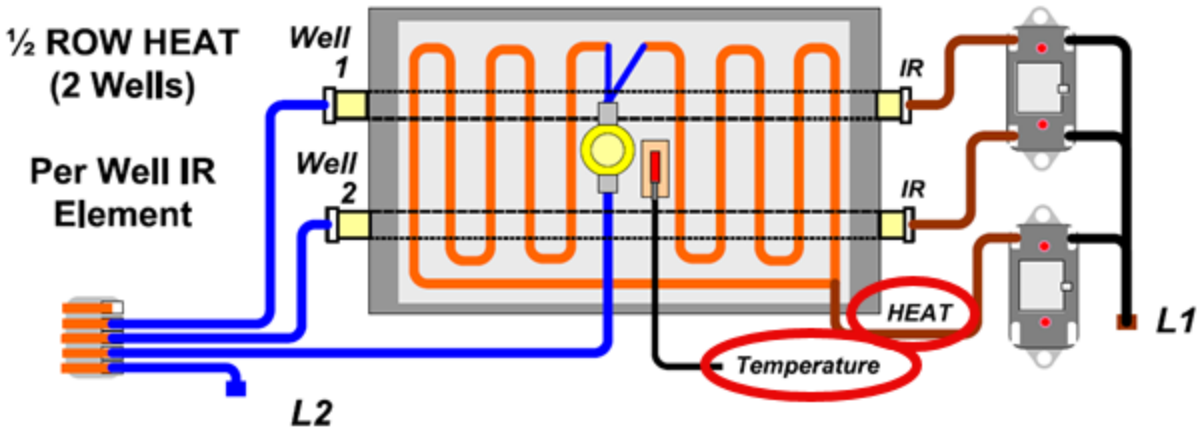
SENS – SENSOR FAULT

- May indicate the unit has been programmed improperly (i.e. loading a 2x4 product configuration file into a 2x2 unit). An attempt to properly reprogram the unit should be made.
- May indicate a fault with a heat sink temperature sensor. The affected pan location is not available for timing product and a qualified service technician should be contacted to identify the cause of the fault

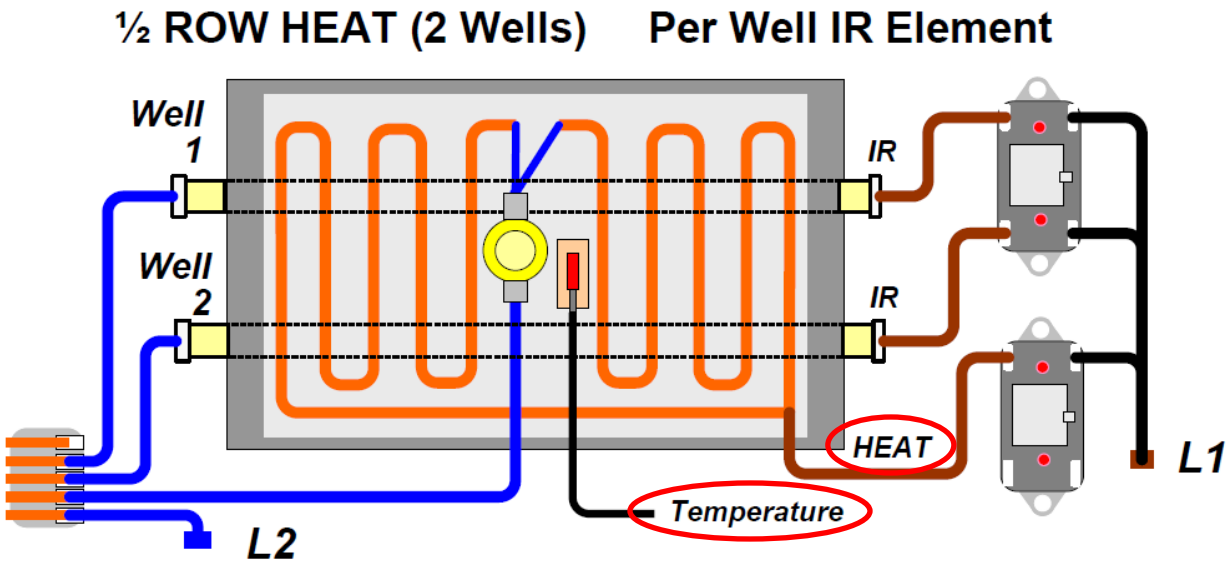
TEMPERATURE CHECK PROCEDURE

1. A digital temperature meter that has been calibrated must be used to get an accurate temperature reading. Use a thermocouple surface temperature probe to measure temperatures.
2. **No pans should be in wells during the pre-heat and temperature check.** Pre-heat the warmer for 30 minutes before taking any temperature readings. Do not take readings unless the cavity has been empty for 30 minutes. This will allow the temperature to stabilize and will prevent false readings.
3. The warmer cavity should be cleaned and empty before the temperature is checked. Avoid any air drafts that might flow through the cavity.
4. Locate the surface temperature probe on the bottom of the first cavity as shown for the cabinet size.
5. All temperature controls exhibit a swing in temperature as the control cycles on and off while regulating to the set point. The correct calibration temperature is the average of several readings taken over a period of 20 minutes after the warmer has been pre-heated. The average temperature should be ± 5°F from the set point.

EX1005: 15 (annotated).



EX1005: 25 (annotated).



208. Likewise, the controller individually controls the IR emitters to "pulse on and off for controlling optimum amount of energy being applied to the food." EX1006: 1; EX1007: 10 ("Quartz IR Emitters" that "[t]ailor each well specifically to the products within them, providing unlimited flexibility per well"). Accordingly, the controller individually controls the heat sink elements via a heat

sink temperature setting and feedback loop and the overhead IR elements by pulsing each IR element independently.

209. Still further, the IRHS Documents teach to customize temperature settings (including tailored heatsink temperature setpoint and IR pulse rate) by food type and teach holding zones having different food types. EX1006: 1 ("[c]ustom heat settings for food product"); EX1005: 16 ("[t]his new technology allows you to precisely control the environment in each pan, allowing customized settings for each food product" and "each food product has a tailored HeatSink temperature and InfraRed pulse rate"); EX1007: 51 ("each food product has tailored settings to control the thermal path of the food, leading to optimal quality, consistency and extended hold"), 53 ("[p]recise holding for each product in an optimized environment tailored to that product"). The temperature settings for each pan location (bays)/heating zone are independent of the other food product types being held in the other pan locations (bays)/zones. EX1005: 25 ("1/2 ROW HEAT (2 Wells)"); EX1006: 1 ("independent well flexibility"); EX1007: 53 ("[t]otal well independence allows freedom in product placement in the IRHS" and "[t]ailor each well specifically to the products within them").



EX1007: 12.

210. Given the diverse menu, the food location flexibility, and the teachings to tailor temperature per food product, it would have been obvious to hold different food products in different zones (e.g., including a first type of food product, such as burger patties, in the first holding zone), and therefore different temperature setpoints in different zones. EX1007: 12; EX1005: 16 ("[t]his new technology allows you to precisely control the environment in each pan, allowing customized settings for each food product"); EX1006: 1 ("independent well flexibility"); EX1007: 9 (chart with different food types), 53 ("[t]otal well independence allows freedom in product placement in the IRHS" and "[t]ailor each well specifically to the products within them").

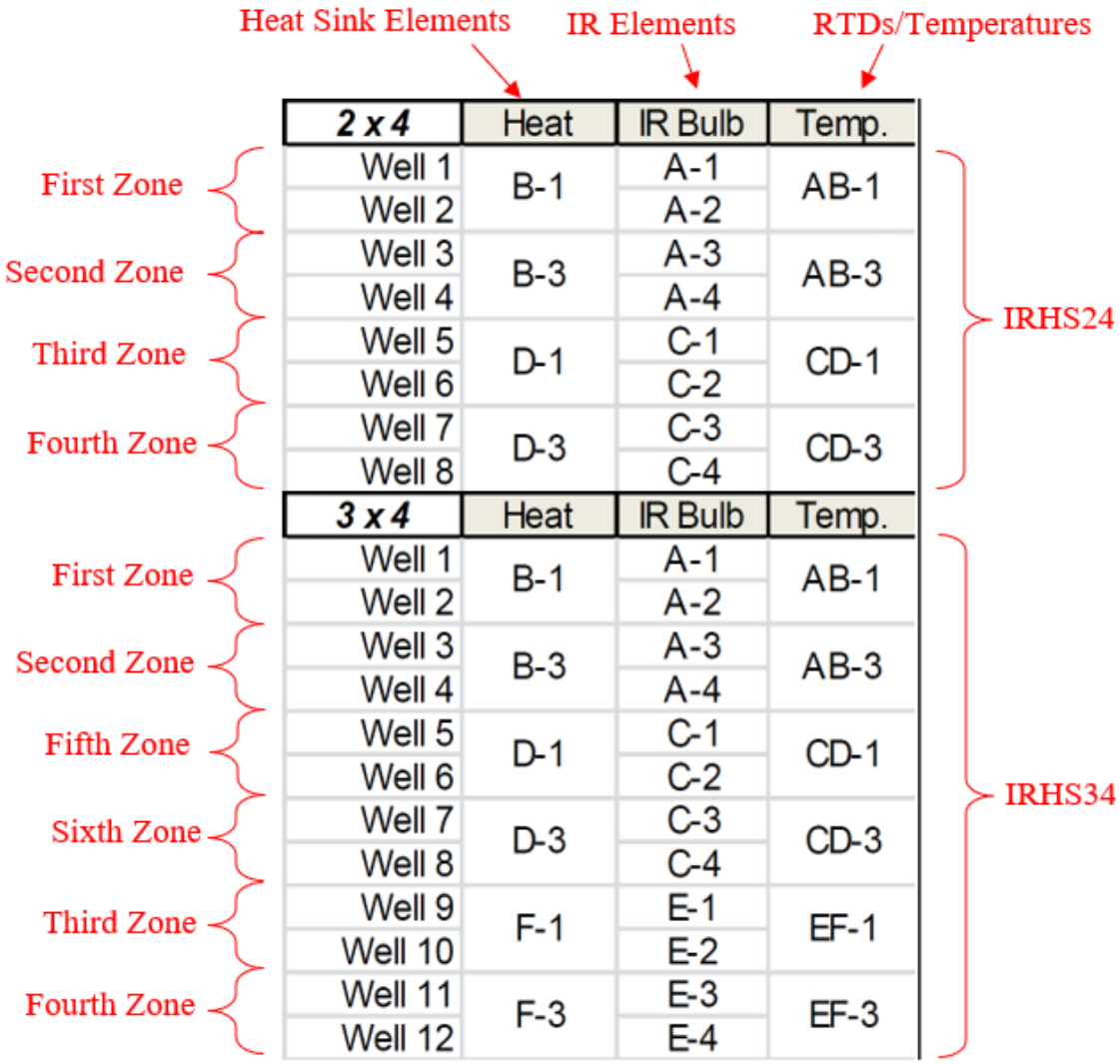
211. It would have been obvious use of the disclosed IRHS Holding Units for the controller to operate each food holding zone (e.g., first food holding zone) to a temperature setpoint (e.g., the first temperature setpoint, such as the heatsink

temperature setpoint)—based on the tailored food type temperature settings assigned to the respective zone—by independently operating the upper heating elements (e.g., first heating elements) and independently operating the lower heating element (e.g., second heating element) associated with the respective zone. Likewise, the POSA would have had a reasonable expectation of success in operating the disclosed IRHS Holding Units as such as demonstrated by the IRHS Documents and enabled by disclosed configuration/controls of IRHS. EX1005: 16 ("each food product has a tailored HeatSink temperature and InfraRed pulse rate"); EX1008: 16 ("RTD Sensors monitor the temperature of the heating wells"), 21 ("Heat Elements provide the heating required to keep the heating wells at proper operating temperatures").

1.c: operating the second food holding zone to a second temperature setpoint by independently operating a third heating element in the second food holding zone and thermally coupled to the first top surface and independently operating a fourth heating element in the second food holding zone and thermally coupled to the first substantially planar surface

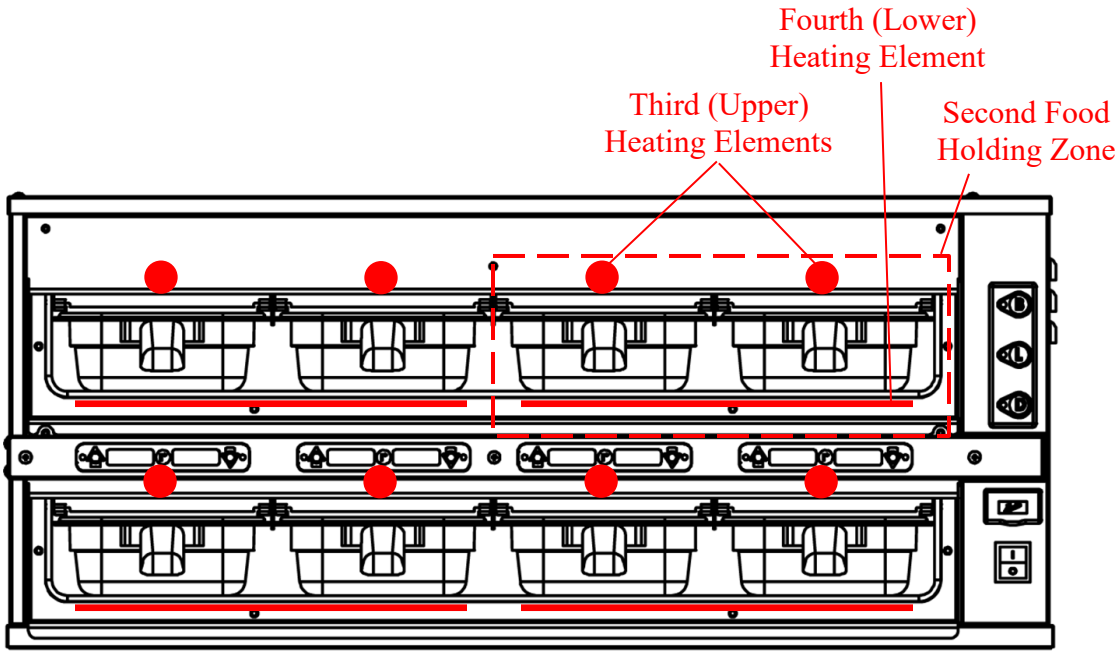
212. As explained in Paragraphs 148-149 (claim limitation 1.a.2), the IRHS24 and IRHS34 Holding Units each have a second food holding zone.

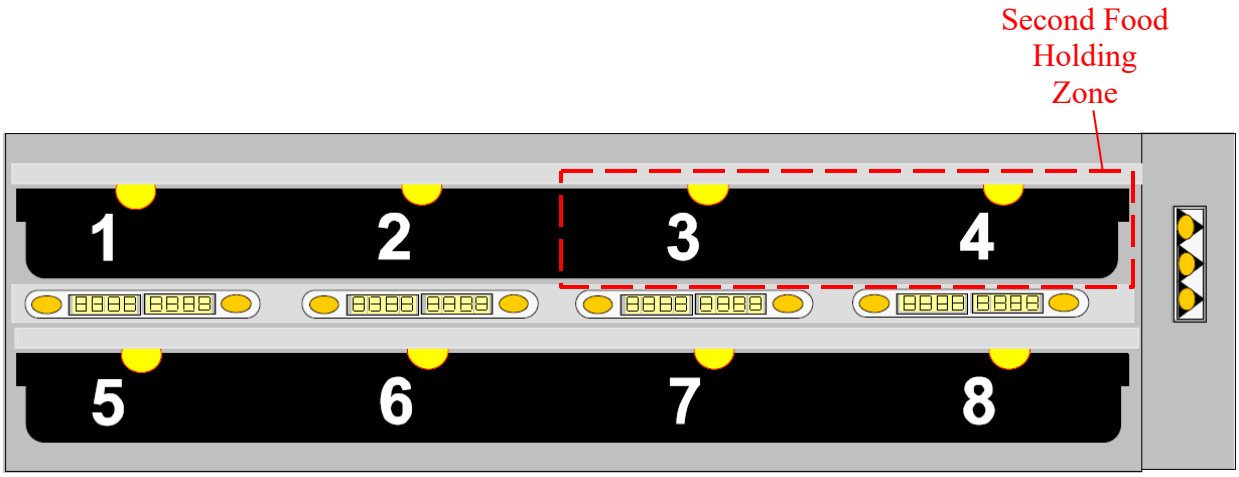
213. As discussed in Paragraphs 166-211 (claim limitation 1.b), The IRHS24/IRHS34 Holding Unit has two IR upper heating elements for each heating/holding zone (one for each pan location (bay)), and a single lower heating element for the two pan locations/bays in the heating/holding zone. EX1006: 1 ("Upper IR emitters" and "Bottom zoned heat element"); EX1007: 53.



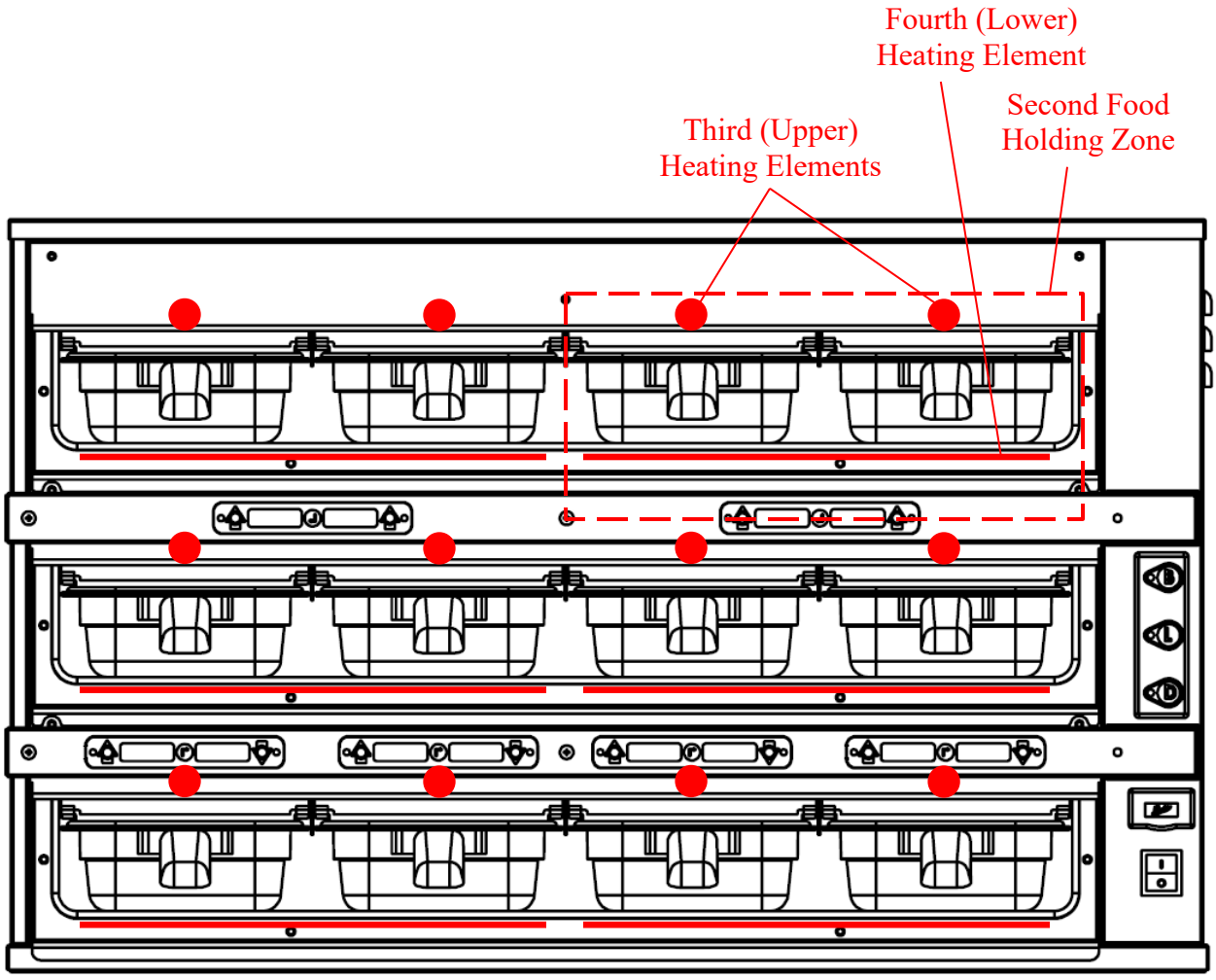
EX1008: 64 (annotated).

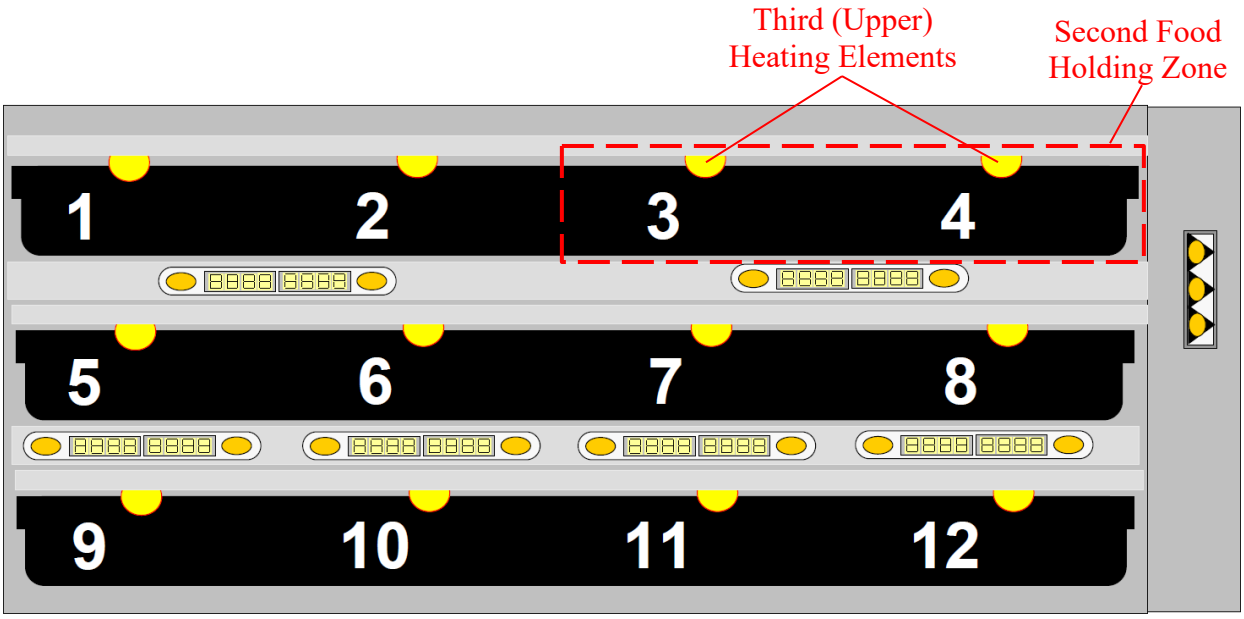
214. Accordingly, in the context of the claims of the '264 Patent, the IRHS24 and IRHS34 Holding Units each have a third heating element in the form of IR bulbs and a fourth heating element in the form of an electrical heating element in the second food holding zone for heating the second food holding zone.





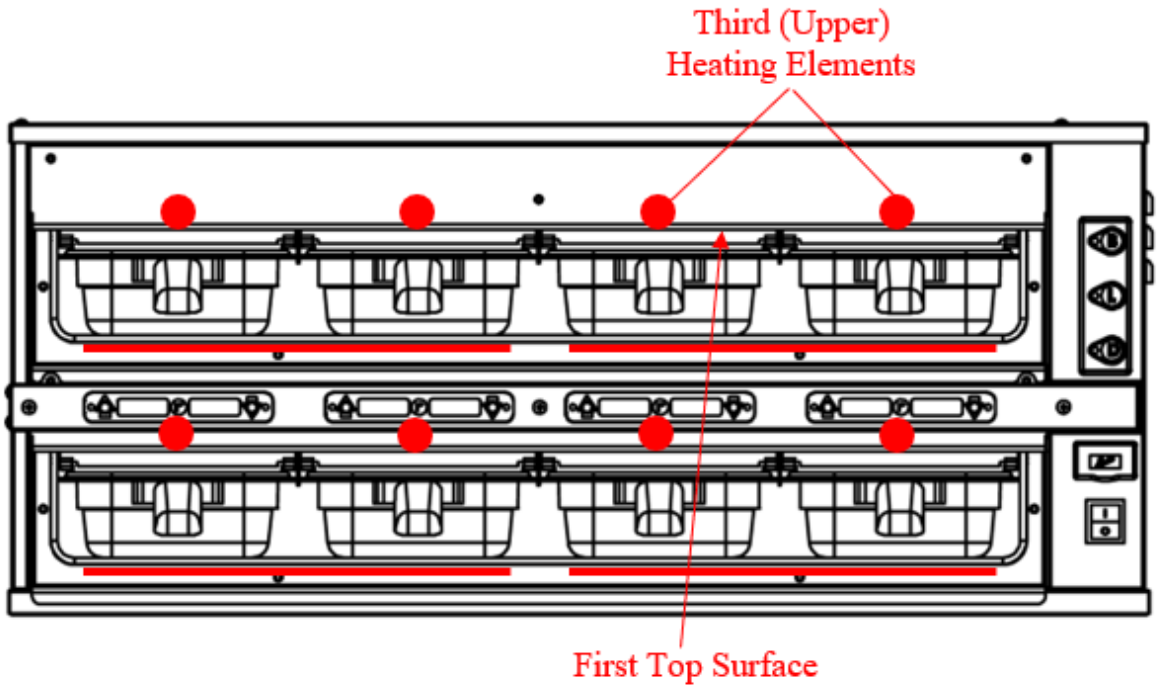
EX1005: 8, 25 (annotated).

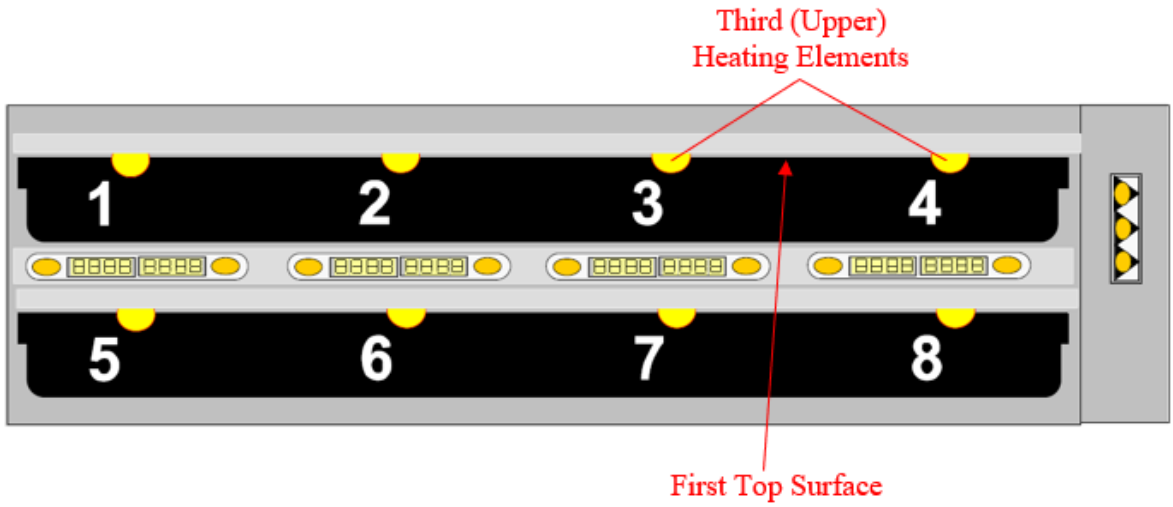

Fourth (Lower)
Heating Element
Second Food
Holding Zone
Third (Upper)
Heating Elements



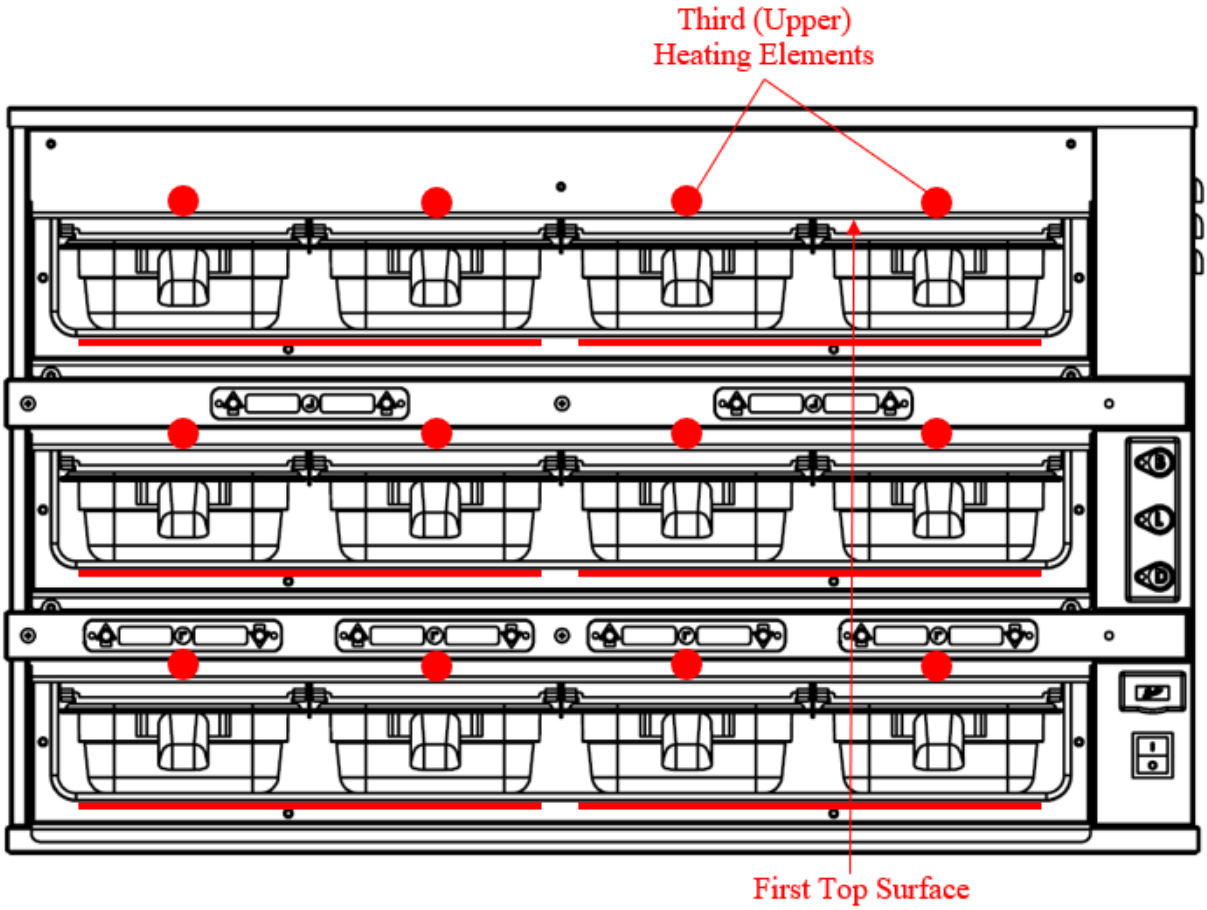
EX1005: 9, 26 (annotated)

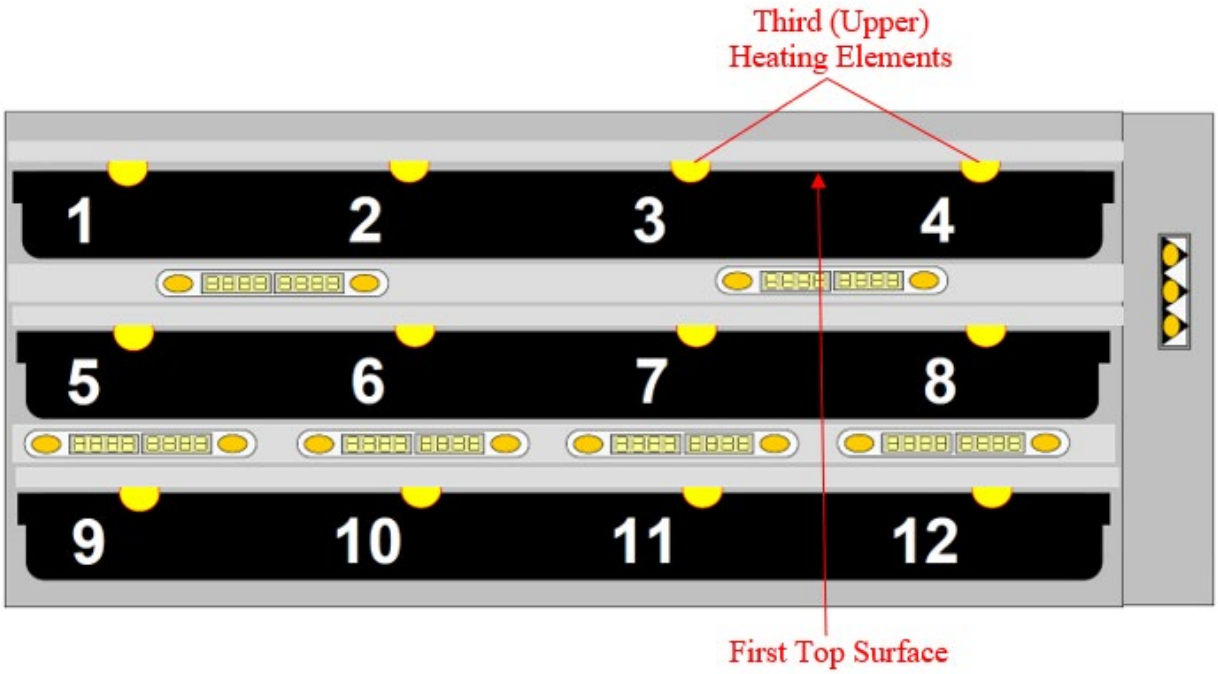
215. Further, the third heating element is thermally coupled to the first top surface as required by the claim limitation. As discussed in Paragraphs 176-177 above, the first top surface of the IRHS24/IRHS34 Holding Unit is formed by the sheet metal plate disposed directly below the first (upper) compartment's upper IR heating elements. These IR heating elements (e.g., third heating element) heat the sheet metal plate, and, thus, are thermally coupled to the sheet metal plate and the first top surface.



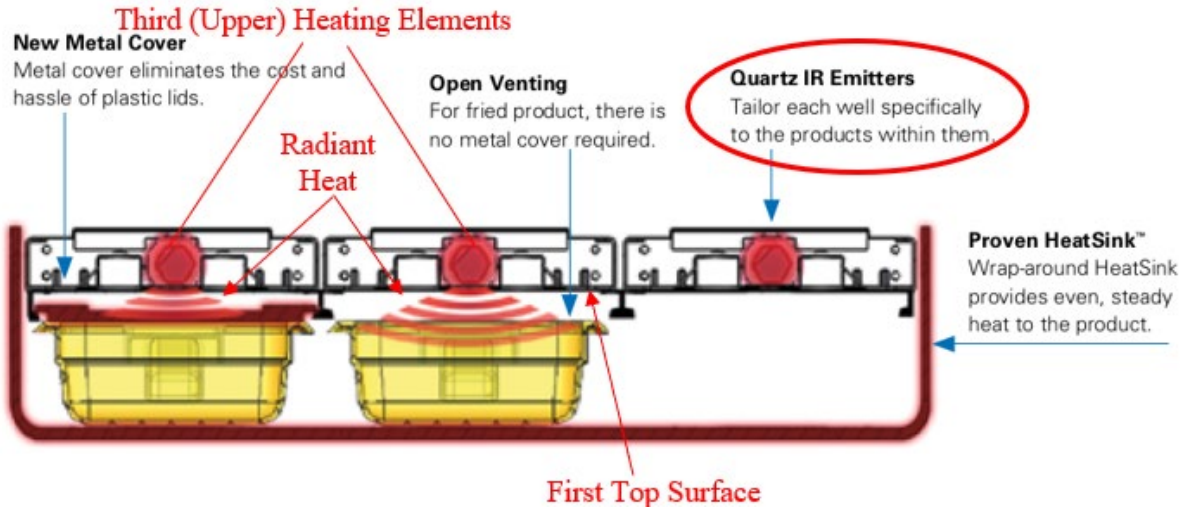


EX1005: 8, 25 (annotated).

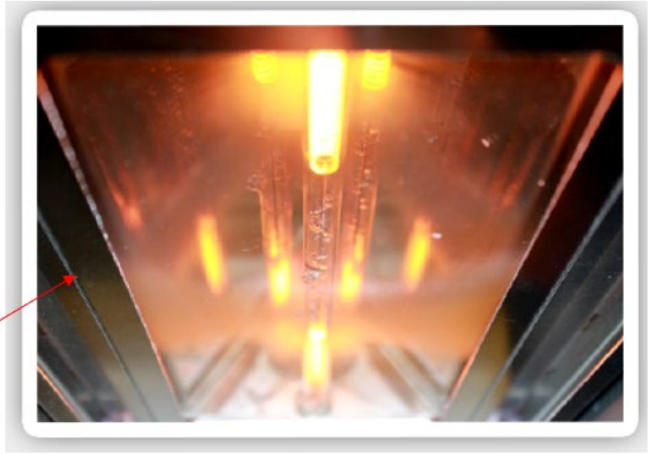

Third (Upper)
Heating Elements
First Top Surface



EX1005: 9, 26 (annotated)

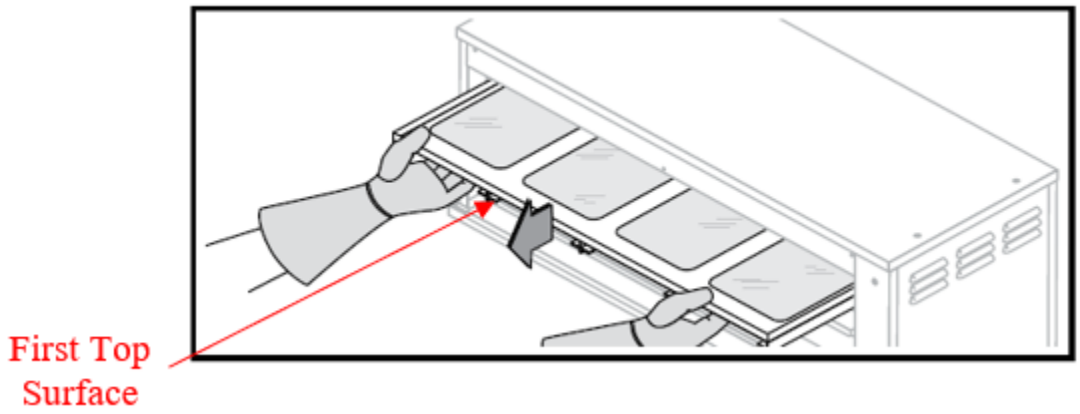


EX1007: 53 (annotated).



EX1007: 11 (annotated).

NOTE: Make sure the glass has cooled off sufficiently to avoid burns to bare skin. Use gloves if necessary.

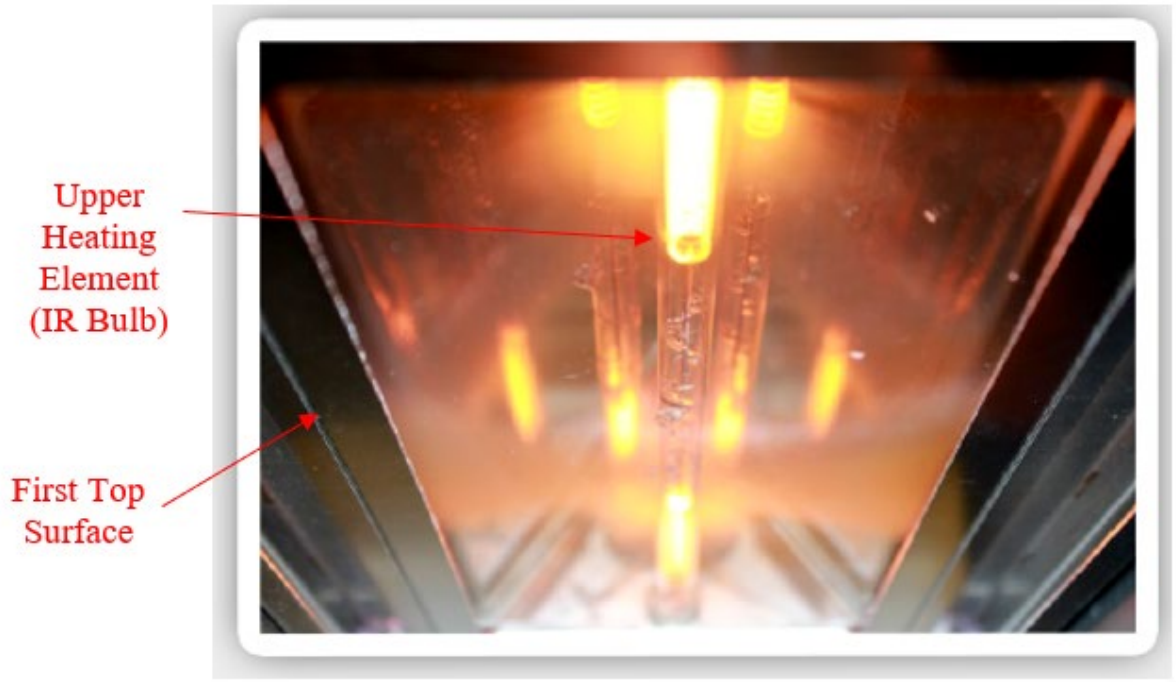


EX1008: 25 (annotated).

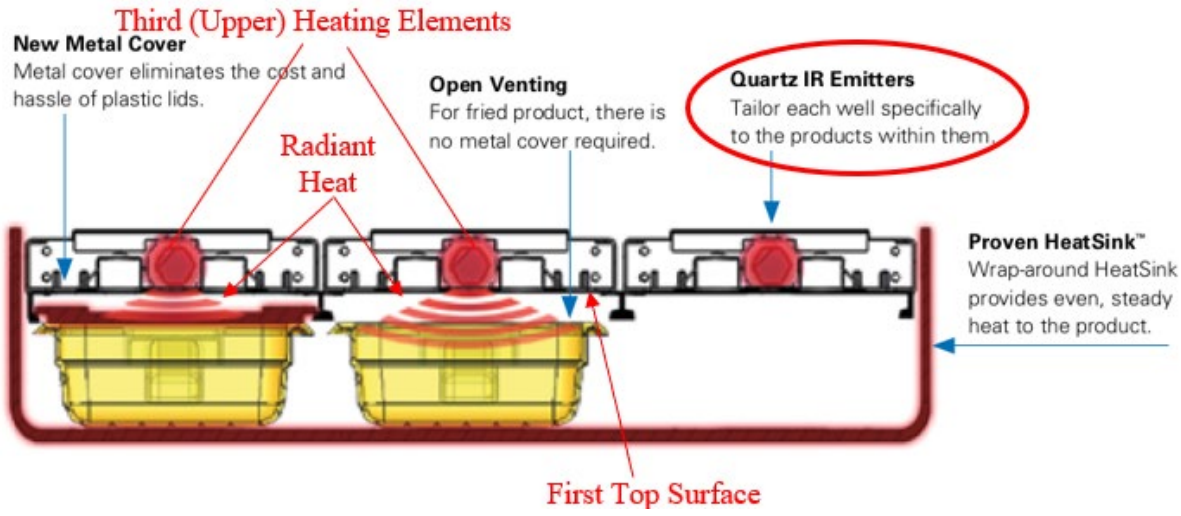
216. The IR heating elements heat the sheet metal plate (*e.g.*, first top surface) in various ways. For example, the portions of the sheet metal plate in direct line of sight with the upper IR heating elements receive direct IR heat energy (radiation) from the IR heating elements, heating the sheet metal plate. Moreover,

the IR heating elements heat the glass panes, which conduct heat and/or radiate heat to the sheet metal plate of the IR glass support frame. Further, portions of the sheet metal plate are heated from the IR elements indirectly via heat transfer through other structures of the shelf (*e.g.*, reflectors) or otherwise. For example, heat from the IR heating elements transmitted below the sheet metal plate (*e.g.*, at the cover, food, and/or pan) would naturally rise via convection and heat the sheet metal plate, providing a path of thermal communication from the IR elements to the sheet metal plate and its thermally conductive first top surface.

217. Moreover, as shown in the images below, the upper IR heating elements (e.g., third heating element) heat and are connected to structure (e.g., sockets, hoods, reflectors) in the IRHS24/IRHS34 Holding Unit that is thermally coupled to the sheet metal plate and the first top surface. This further thermally couples the upper IR heating elements (e.g., third heating element) to the first top surface.



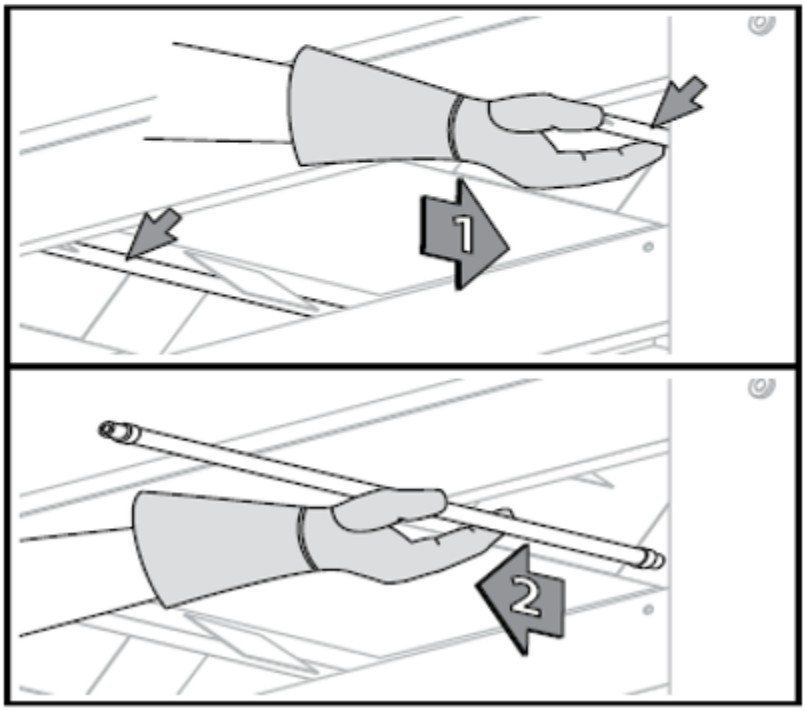
EX1007: 11 (annotated).



EX1007: 53 (annotated).

6. The Emitter Sockets are spring-loaded. Push the Emitter towards the rear socket until the Emitter is free from the front socket and carefully remove.

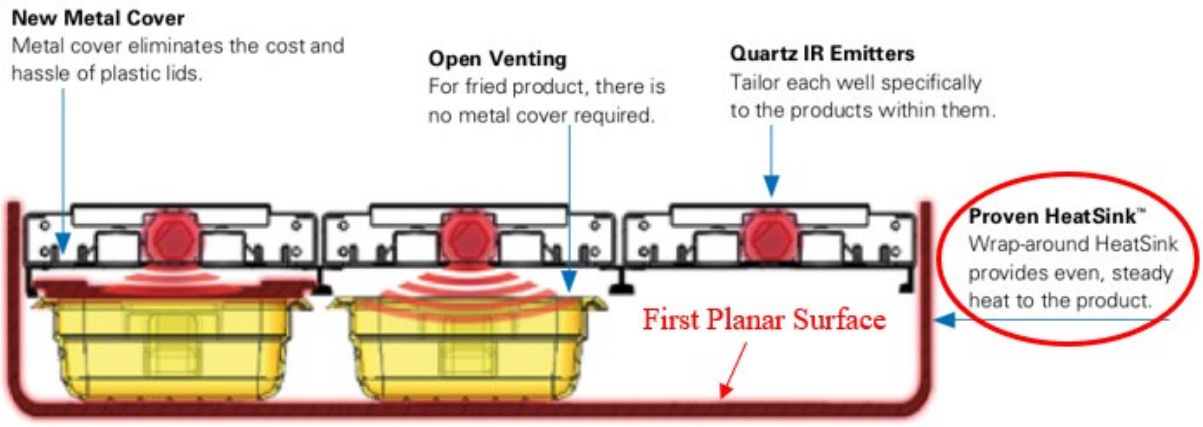
NOTE: DO NOT TOUCH THE EMITTER WITH BARE HANDS! The oil on human skin will shorten the life of the Emitters. If the Emitter is to be reused, use clean gloves, a clean cloth, or a clean paper towel to handle.



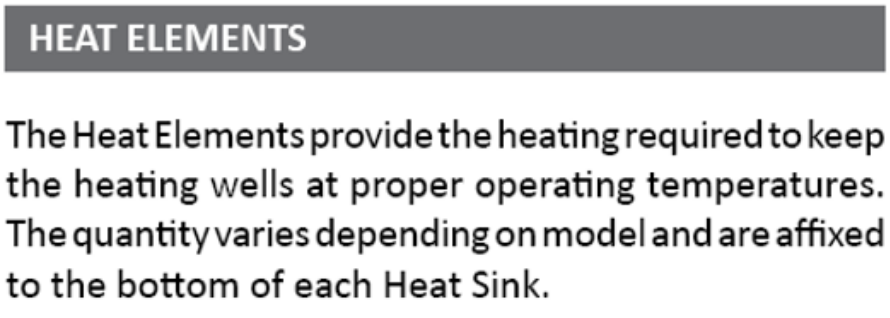
EX1008: 27 (annotated).

218. Likewise, the fourth heating element is thermally coupled to the first substantially planar surface as required by the claim limitation. The first planar surface of the IRHS24/IRHS34 Holding Unit is formed by the HeatSink associated with the first (upper) food holding compartment, which provides heat to the pans from underneath the pans. EX1007: 51 ("[p]revious generations of the Duke

holding units contained only HeatSink, heating from below"). The lower heating elements (e.g., fourth heating element) are also part of the HeatSink associated with the first (upper) food holding compartment. The lower heating elements heat the plate of the HeatSink forming the first planar surface, and, thus, the lower heating elements (e.g., fourth heating element) are thermally coupled to the first planar surface.

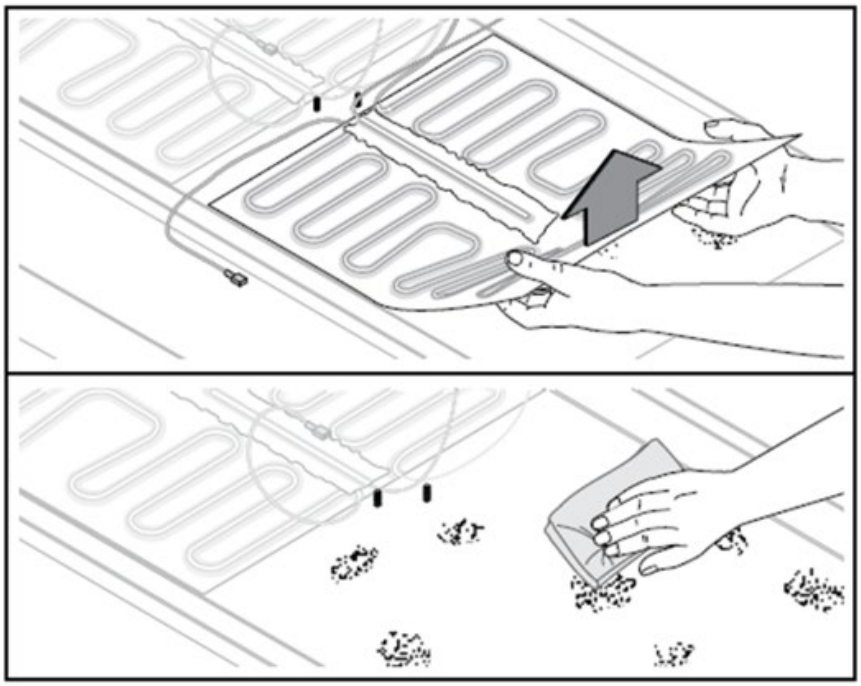


EX1007: 53 (annotated).

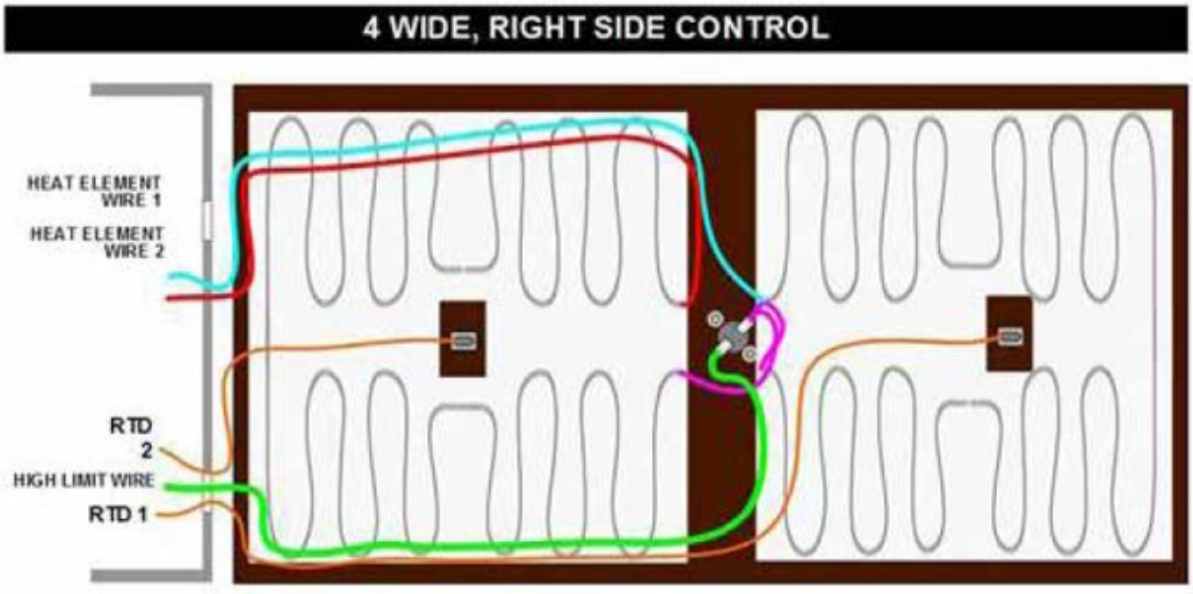


EX1008: 21.

13. Remove the affected Heat Element by peeling off from the heat sink. Ensure any excess tape and/ or adhesive is removed.



EX1008: 22.



EX1008: 58.

219. The POSA would recognize that because the lower heating elements (e.g., fourth heating element) are affixed to the plate of the HeatSink (i.e. the first planar surface) and heats the plate via conduction, the lower heating elements are thermally coupled to the first substantially planar surface. EX1007: 51, 53; EX1016: Fig. 2, ¶[0039] ("[a]n electrical resistance heating element generally designated 39 having a bottom component 41 contacting the bottom of the heat sink"); EX1017: Fig. 3, 4:51-53 ("[e]ach heat sink 46 is fitted with a heater which may take the form of a flexible heating element 76 of the electrical resistance type. It extends almost the full length of the heat sink 44, covering the flat bottom surface 54 of the bottom wall 50 [of the heat sink]").

220. Given the diverse menu, the food location flexibility, and the teachings to tailor temperature settings per food product, it would have been obvious to hold different food products in different zones (e.g., including a second type of food product, such as broiled chicken (tendergrill), in the second holding zone), and therefore different temperature setpoints in different zones. EX1007: 12; EX1005: 16 ("[t]his new technology allows you to precisely control the environment in each pan, allowing customized settings for each food product"); EX1006: 1 ("independent well flexibility"); EX1007: 9 (chart with different food types), 53 ("[t]otal well independence allows freedom in product placement in the IRHS" and "[t]ailor each well specifically to the products within them").

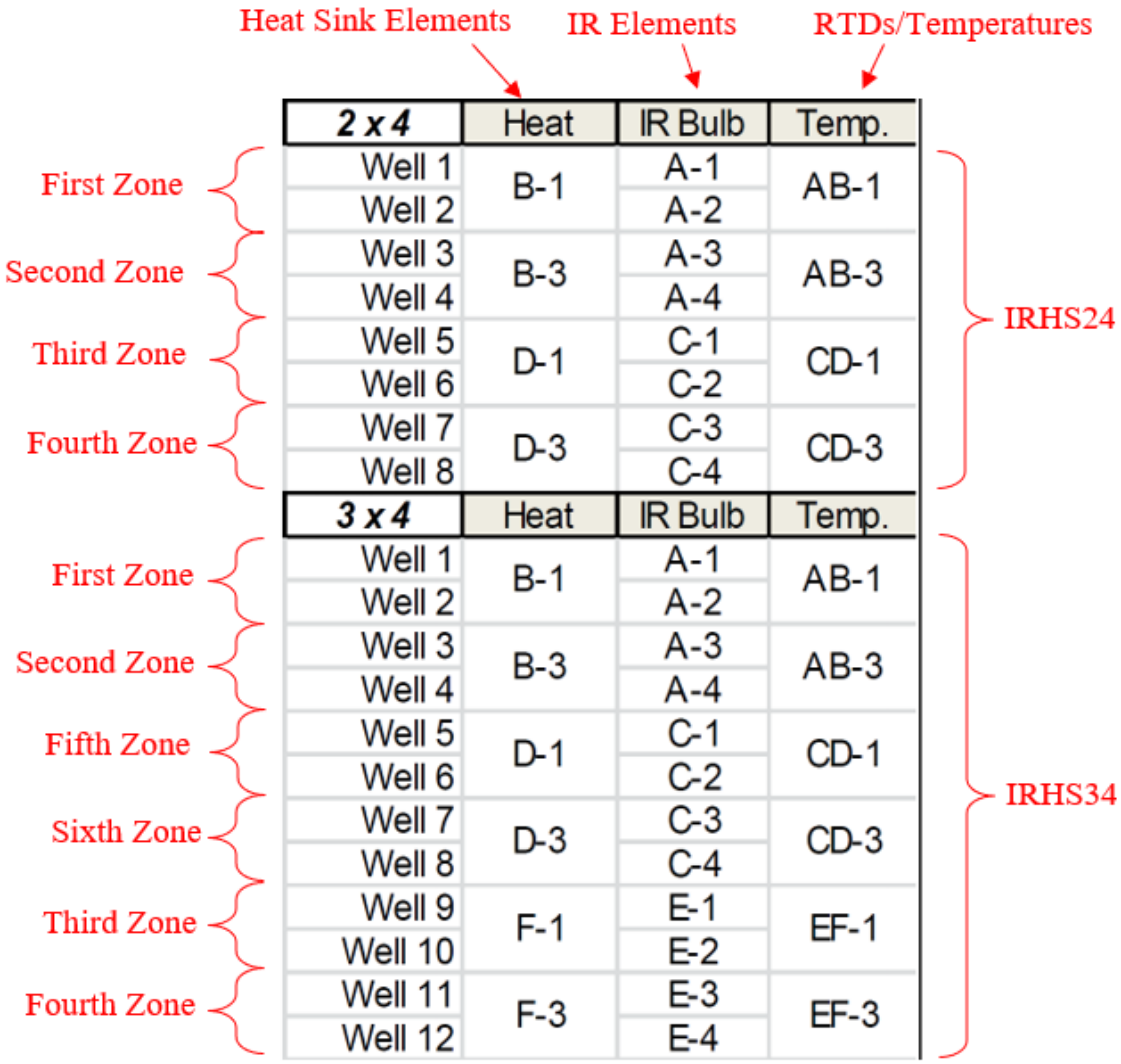
221. For these reasons and others explained in Paragraphs 166-211 above (claim element 1.b), it would have been obvious for the IRHS controller to operate each food holding zone (e.g., second food holding zone) to a temperature setpoint (e.g., the second temperature setpoint, such as the heatsink temperature setpoint)—based on the tailored food type temperature settings assigned to the respective zone—by independently operating the upper heating elements (e.g., third heating elements) and independently operating the lower heating element (e.g., fourth heating element) associated with the respective zone, with reasonable expectation of success (demonstrated by the IRHS Documents and enabled by configuration/controls of IRHS). EX1005: 16 ("each food product has a tailored HeatSink temperature and InfraRed pulse rate"); EX1008: 16 ("RTD Sensors monitor the temperature of the heating wells"), 21 ("Heat Elements provide the heating required to keep the heating wells at proper operating temperatures").

1.d: operating the third food holding zone to a third temperature setpoint by independently operating a fifth heating element in the third food holding zone and thermally coupled to the second top surface and independently operating a sixth heating element in the third food holding zone and thermally coupled to the second substantially planar surface

222. As explained in Paragraphs 157-158 (claim limitation 1.a.5), the IRHS24 and IRHS34 Holding Units each have a third food holding zone.

223. As discussed in Paragraphs 166-211 (claim limitation 1.b), The IRHS24/IRHS34 Holding Unit has two IR upper heating elements for each

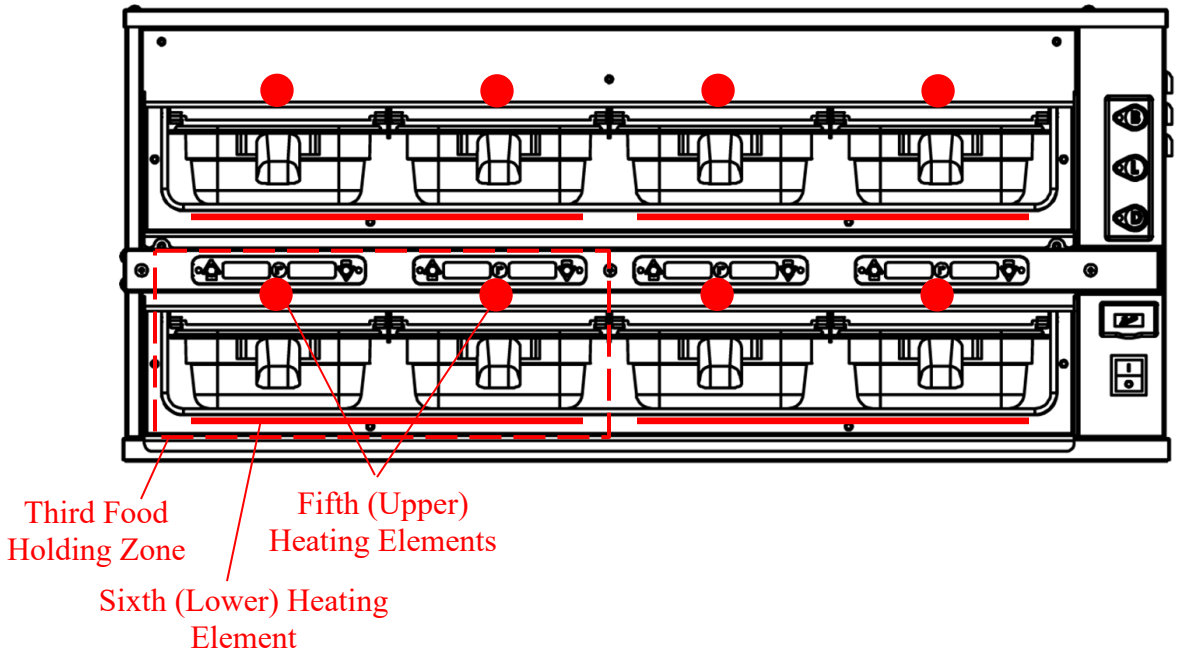
heating/holding zone (one for each pan location (bay)), and a single lower heating element for the two pan locations/bays in the heating/holding zone. EX1006: 1 ("Upper IR emitters" and "Bottom zoned heat element"); EX1007: 53.

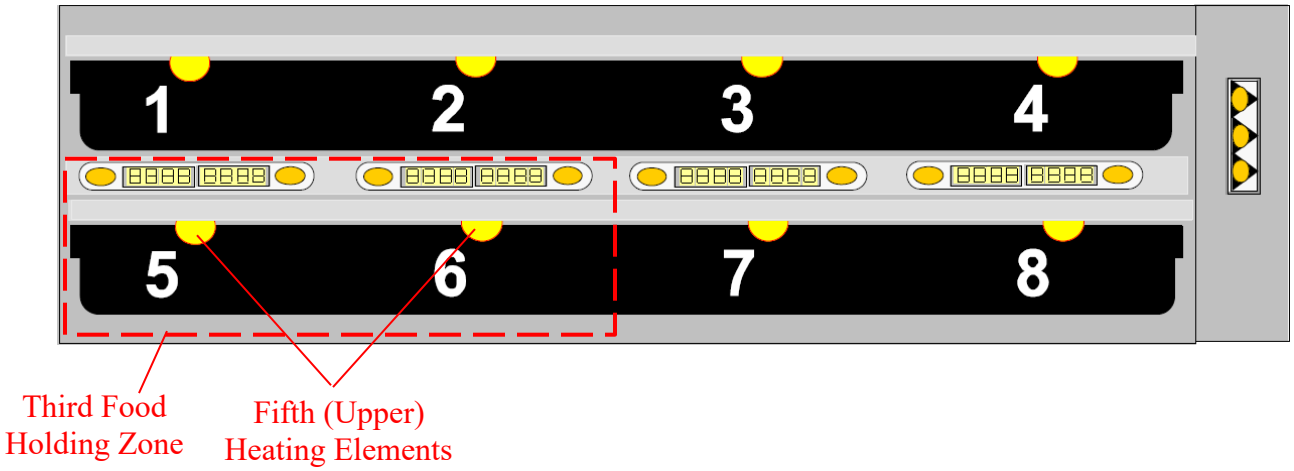


EX1008: 64 (annotated).

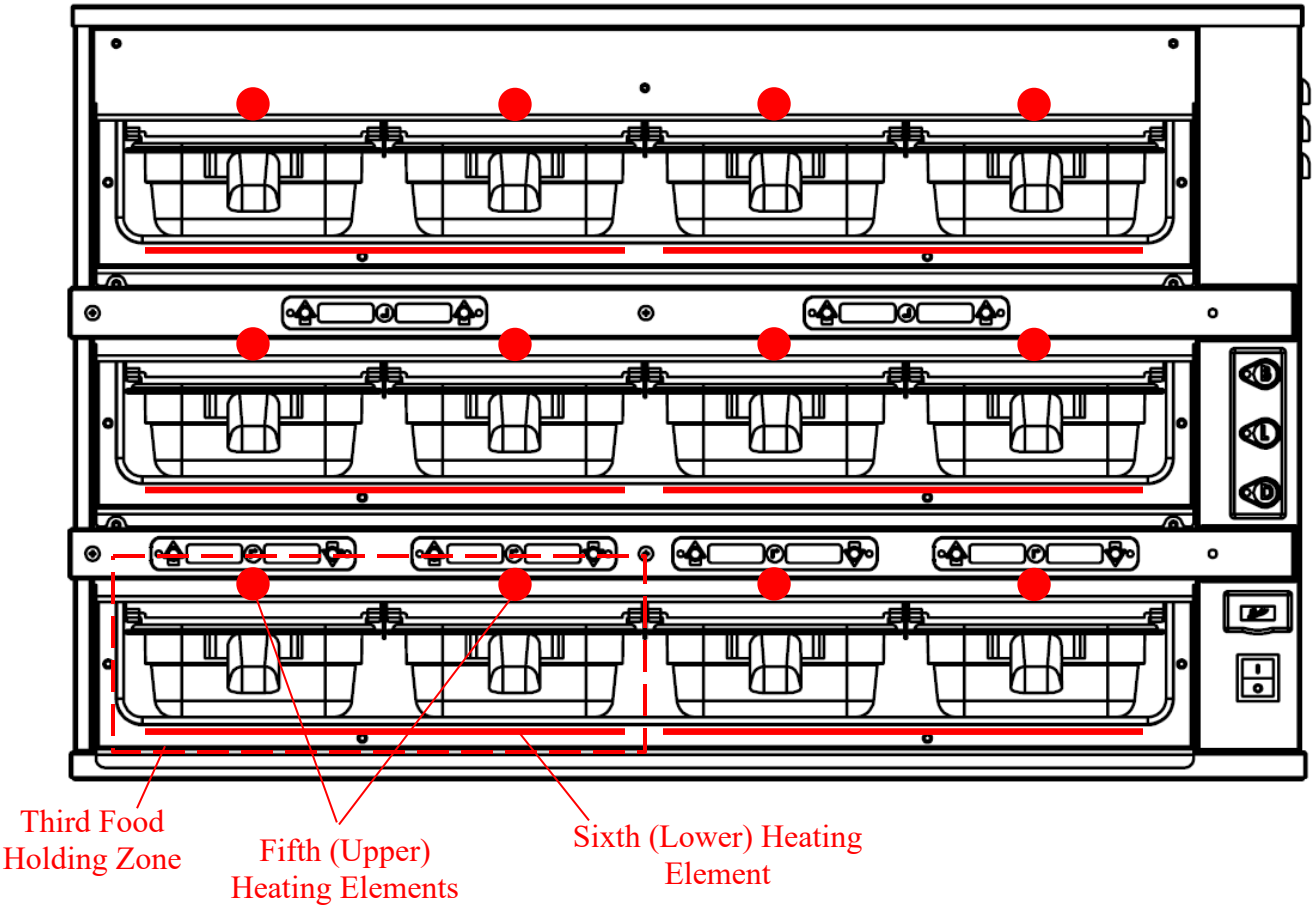
224. Accordingly, in the context of the claims of the '264 Patent, the IRHS24 and IRHS34 Holding Units each have a fifth heating element in the form of IR bulbs

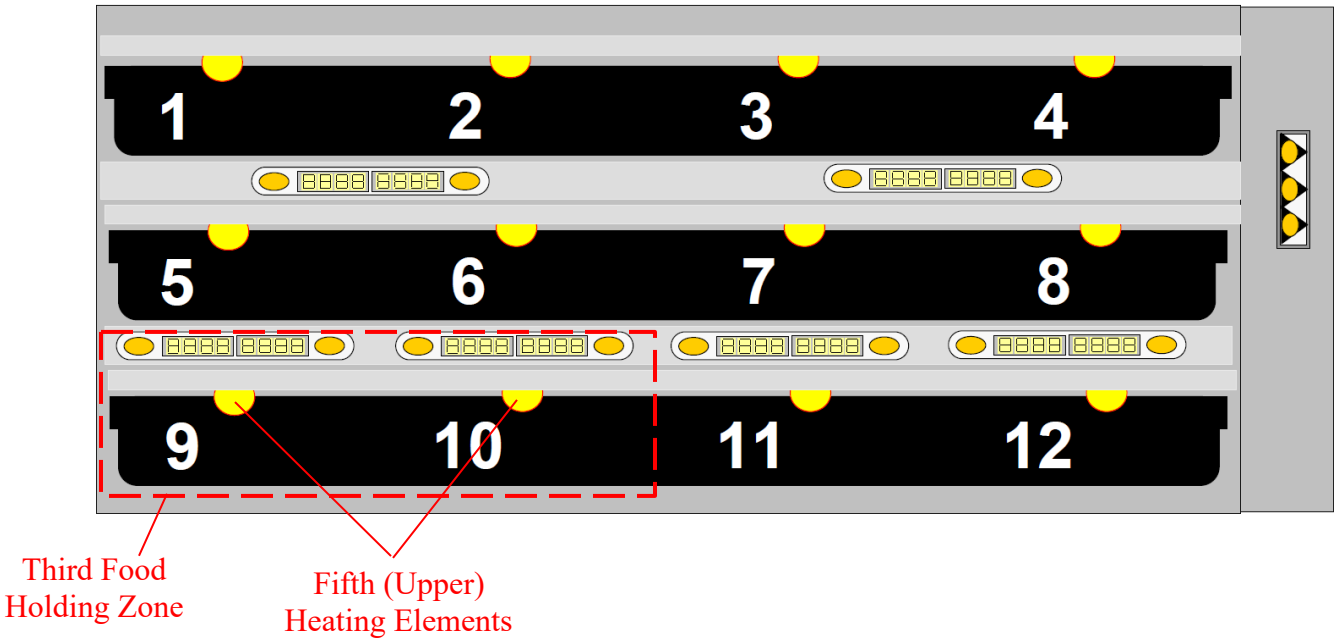
and a sixth heating element in the form of an electrical heating element in the third food holding zone for heating the second food holding zone.





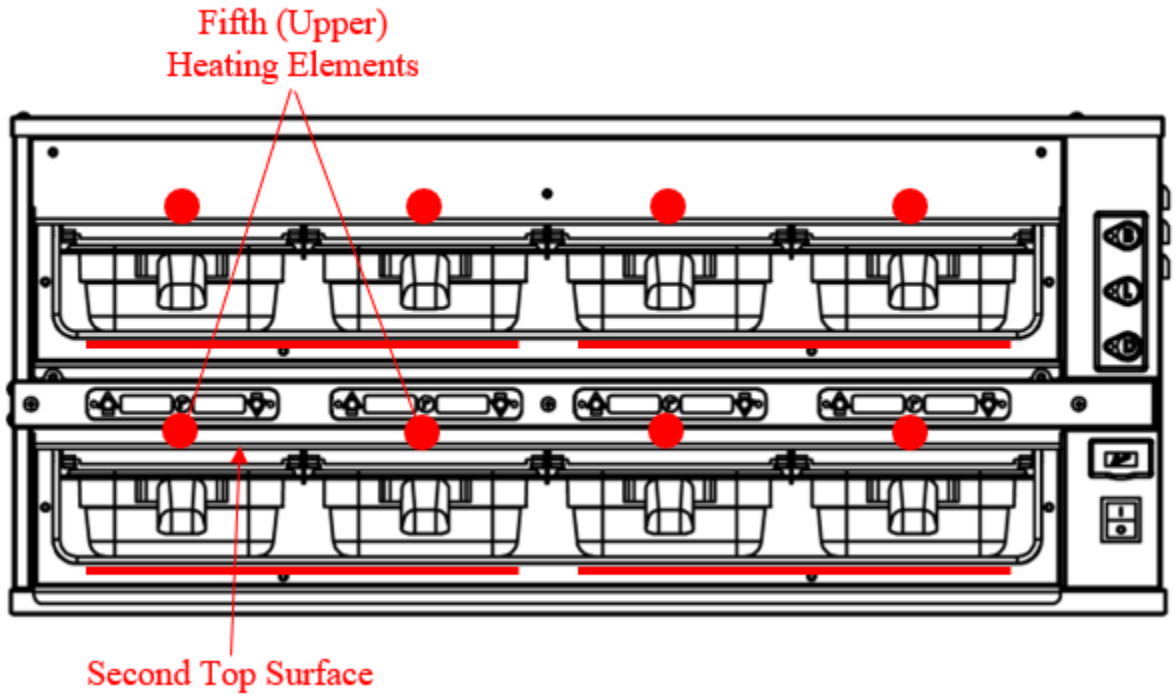
EX1005: 8, 25 (annotated).

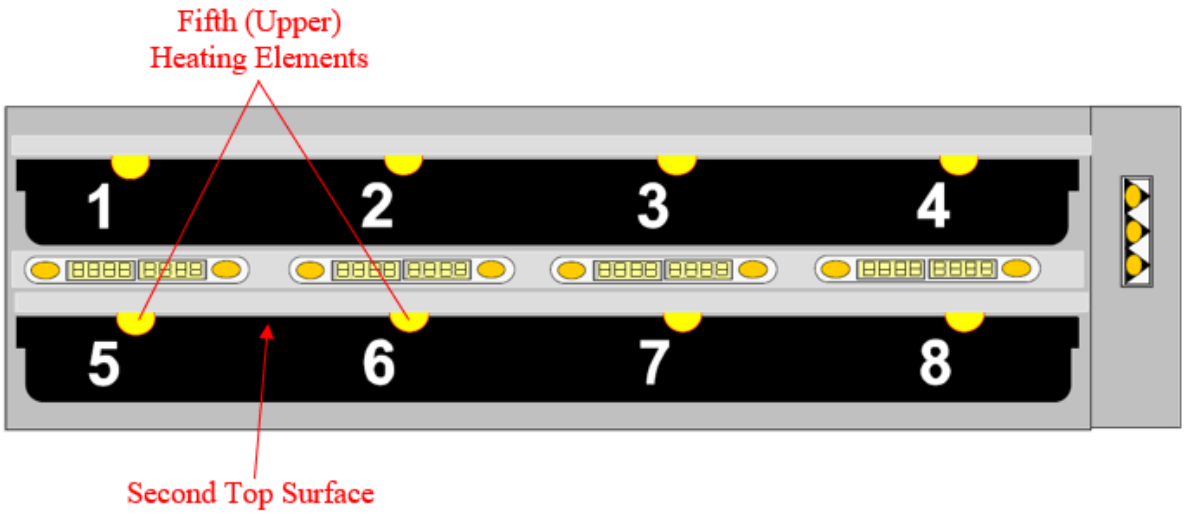




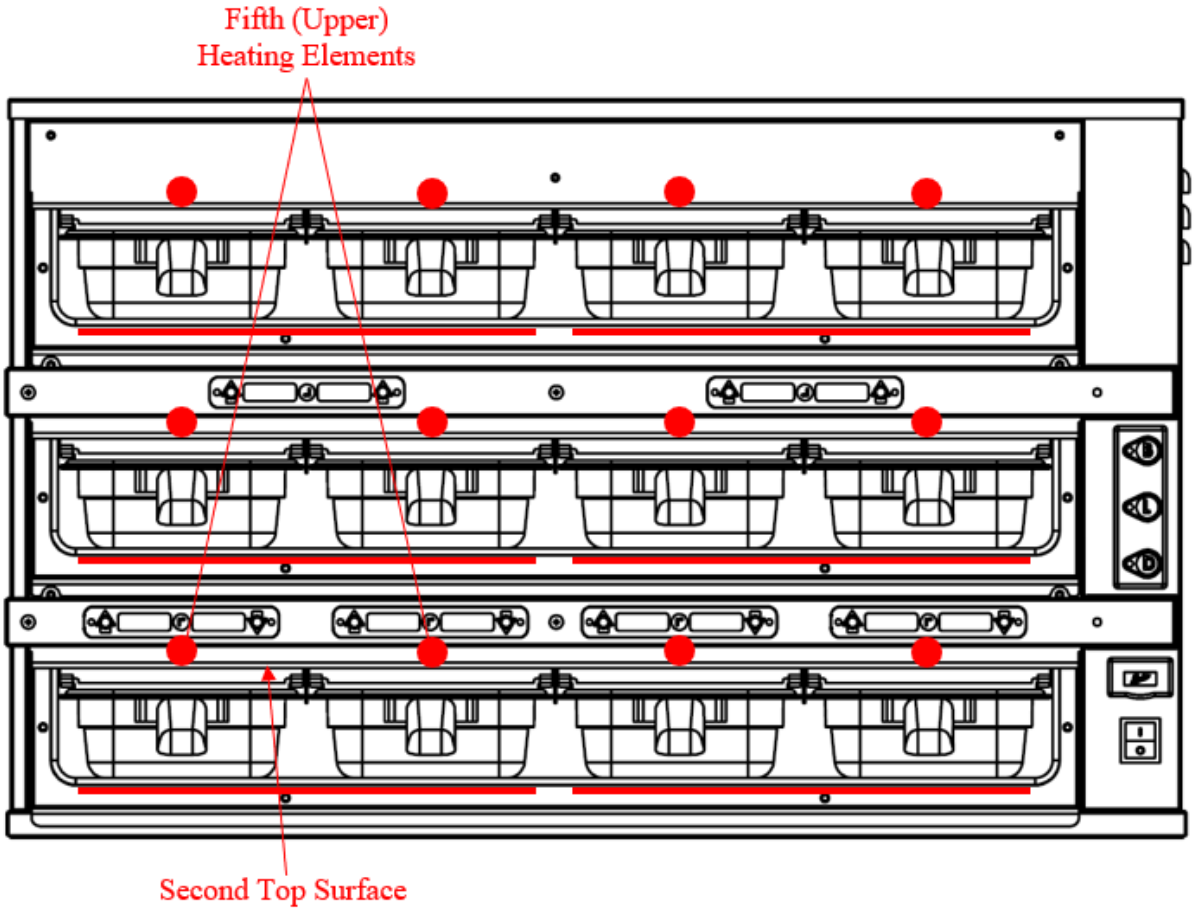
EX1005: 9, 26 (annotated)

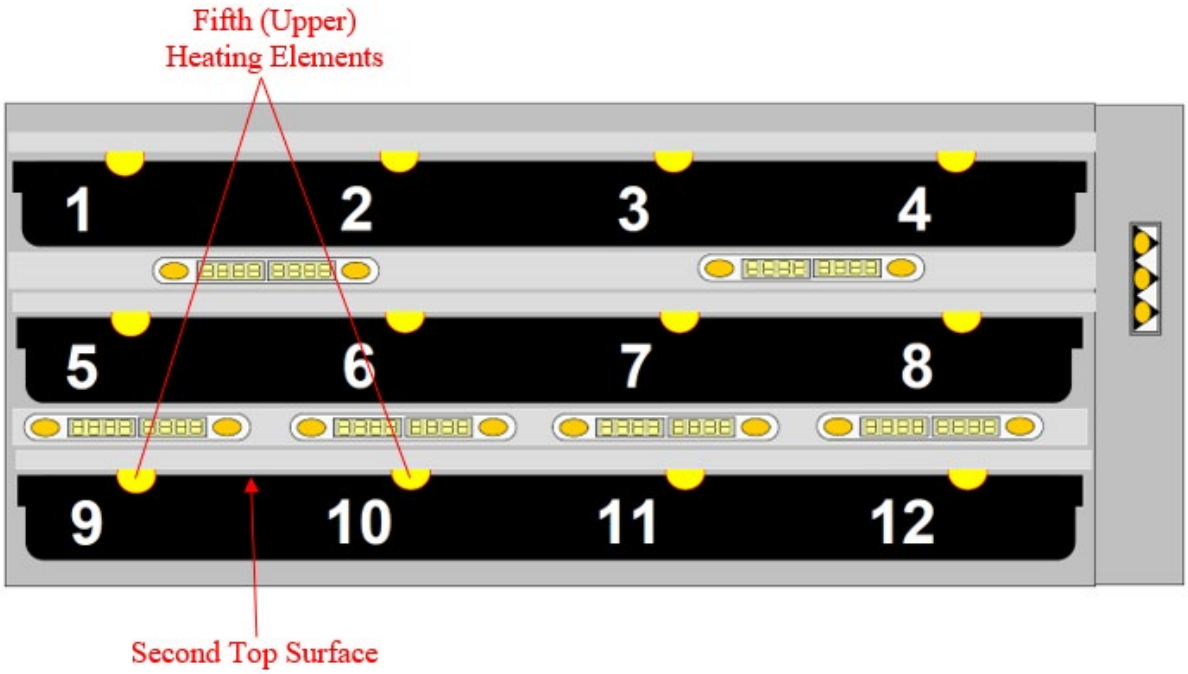
225. Further, the fifth heating element is thermally coupled to the second top surface as required by the claim limitation. The second top surface of the IRHS24/IRHS34 Holding Unit is formed by a sheet metal plate disposed directly below the second (bottom) compartment's upper IR heating elements. These IR heating elements (e.g., fifth heating element) heat the sheet metal plate, and, thus, are thermally coupled to the sheet metal plate and its second top surface.



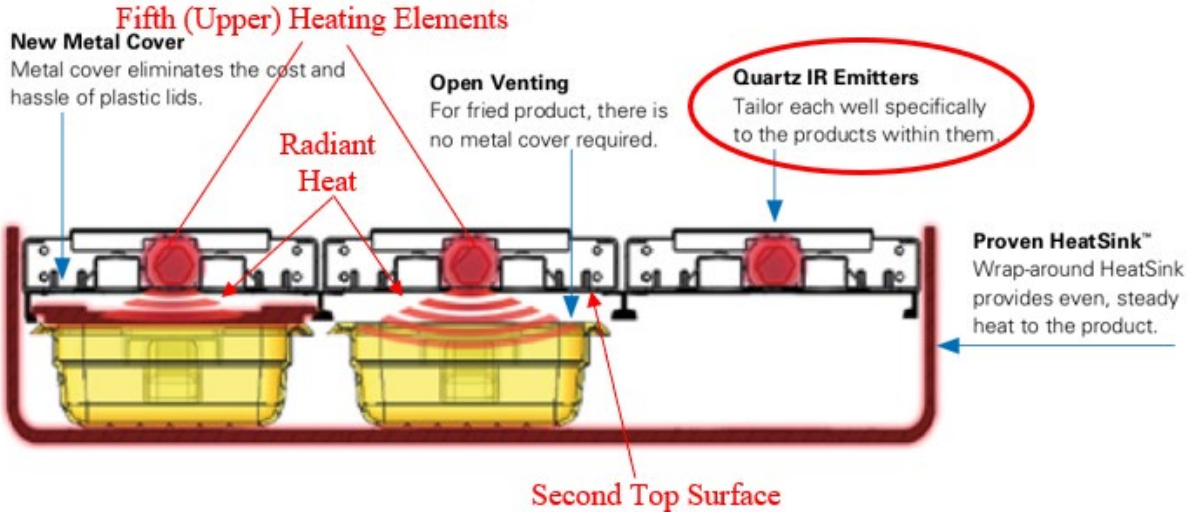


EX1005: 8, 25 (annotated).

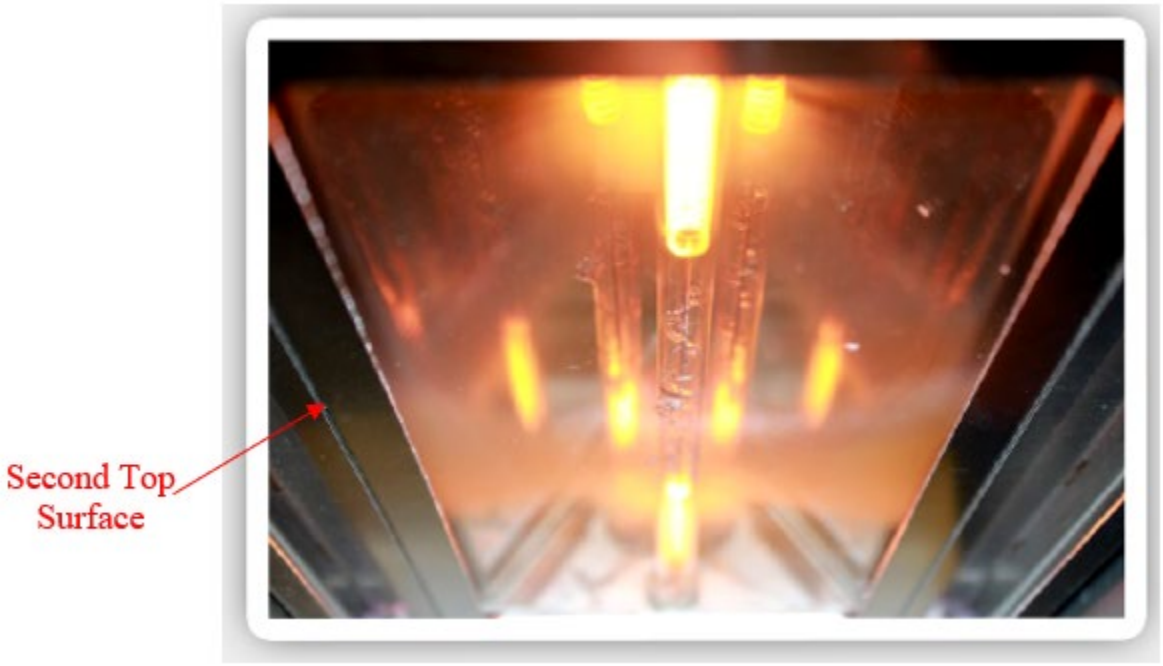




EX1005: 9, 26 (annotated)

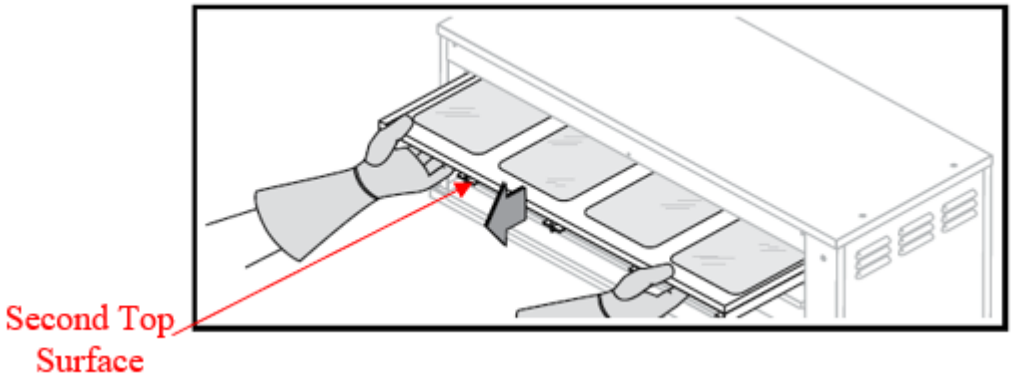


EX1007: 53 (annotated).



EX1007: 11 (annotated).

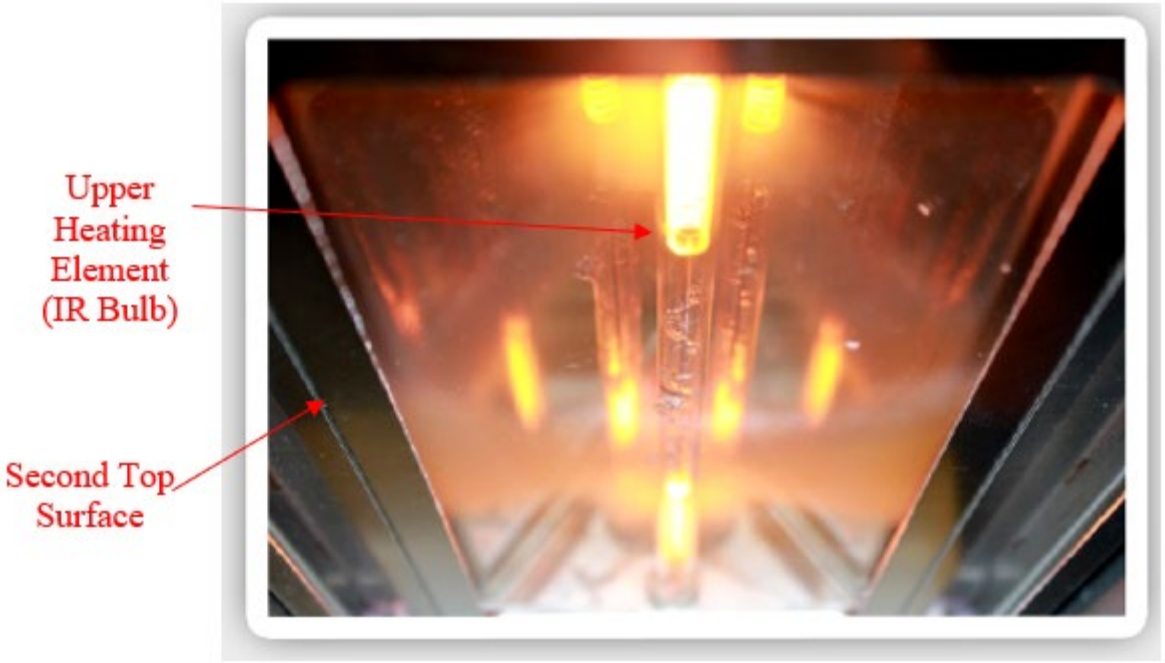
NOTE: Make sure the glass has cooled off sufficiently to avoid burns to bare skin. Use gloves if necessary.



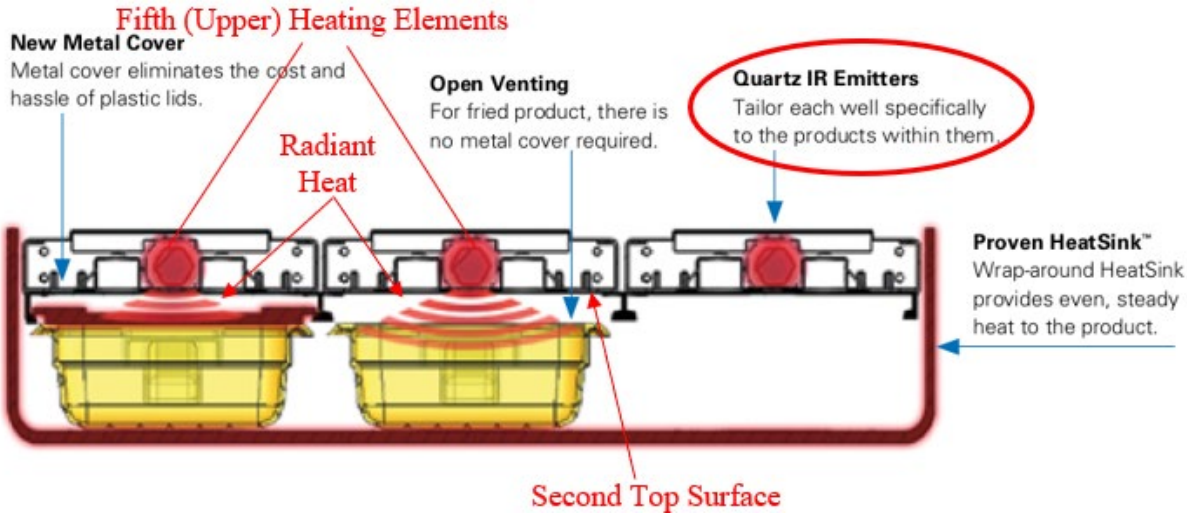
EX1008: 25 (annotated).

226. The IR heating elements heat the sheet metal plate (e.g., second top surface) in various ways. For example, the portions of the sheet metal plate in direct line of sight with the upper IR heating elements receive direct IR heat energy (radiation) from the IR heating elements, heating the sheet metal plate. Moreover, the IR heating elements heat the glass panes, which conduct heat and/or radiate heat to the sheet metal plate of the IR glass support frame. Further, portions of the sheet metal plate are heated from the IR elements indirectly via heat transfer through other structures of the shelf (*e.g.*, reflectors) or otherwise. For example, heat from the IR heating elements transmitted below the sheet metal plate (*e.g.*, at the cover, food, and/or pan) would naturally rise via convection and heat the sheet metal plate, providing a path of thermal communication from the IR elements to the sheet metal plate and its thermally conductive second top surface.

227. Moreover, as shown in the images below, the upper IR heating elements (*e.g.*, fifth heating element) heat and are connected to structure (*e.g.*, sockets, hoods, reflectors) in the IRHS24/IRHS34 Holding Unit that is thermally coupled to the sheet metal plate and the second top surface. This further thermally couples the upper IR heating elements (e.g., fifth heating element) to the second top surface.



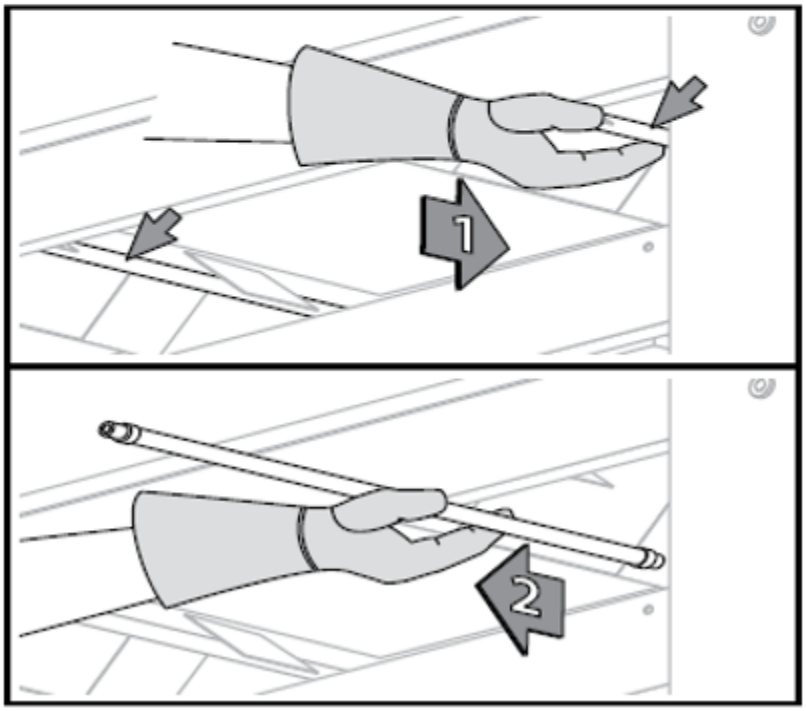
EX1007: 11 (annotated).



EX1007: 53 (annotated).

6. The Emitter Sockets are spring-loaded. Push the Emitter towards the rear socket until the Emitter is free from the front socket and carefully remove.

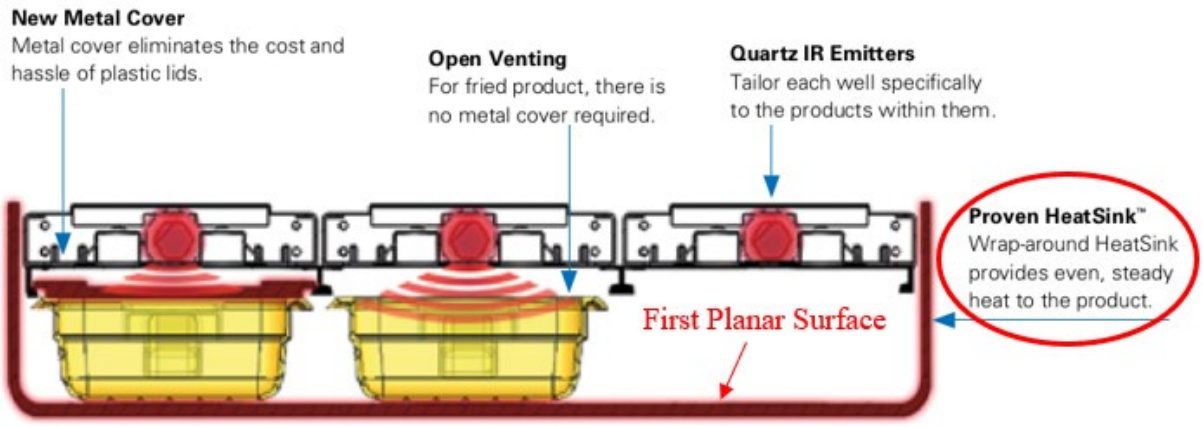
NOTE: DO NOT TOUCH THE EMITTER WITH BARE HANDS! The oil on human skin will shorten the life of the Emitters. If the Emitter is to be reused, use clean gloves, a clean cloth, or a clean paper towel to handle.



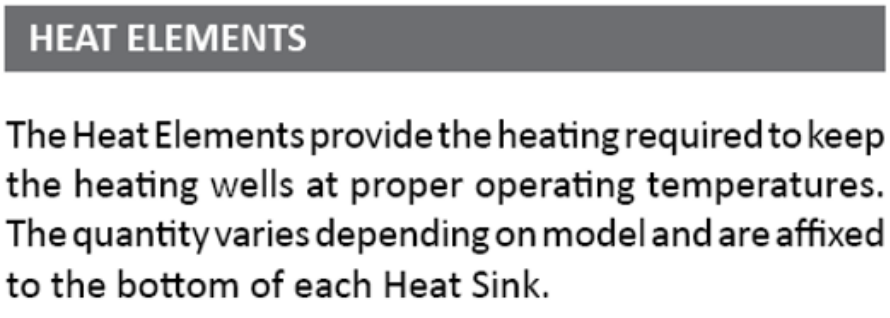
EX1008: 27 (annotated).

228. Likewise, the sixth heating element is thermally coupled to the second substantially planar surface as required by the claim limitation. The second planar surface of the IRHS24/IRHS34 Holding Unit is formed by the HeatSink associated with the second (bottom) food holding compartment, which provides heat to the pans from underneath the pans. EX1007: 51 ("[p]revious generations of the Duke

holding units contained only HeatSink, heating from below"). The lower heating elements (e.g., sixth heating element) are also part of the HeatSink associated with the second (lower) food holding compartment. The lower heating elements heat the plate of the HeatSink forming the second planar surface, and, thus, the lower heating elements (*e.g.*, sixth heating element) are thermally coupled to the second planar surface.

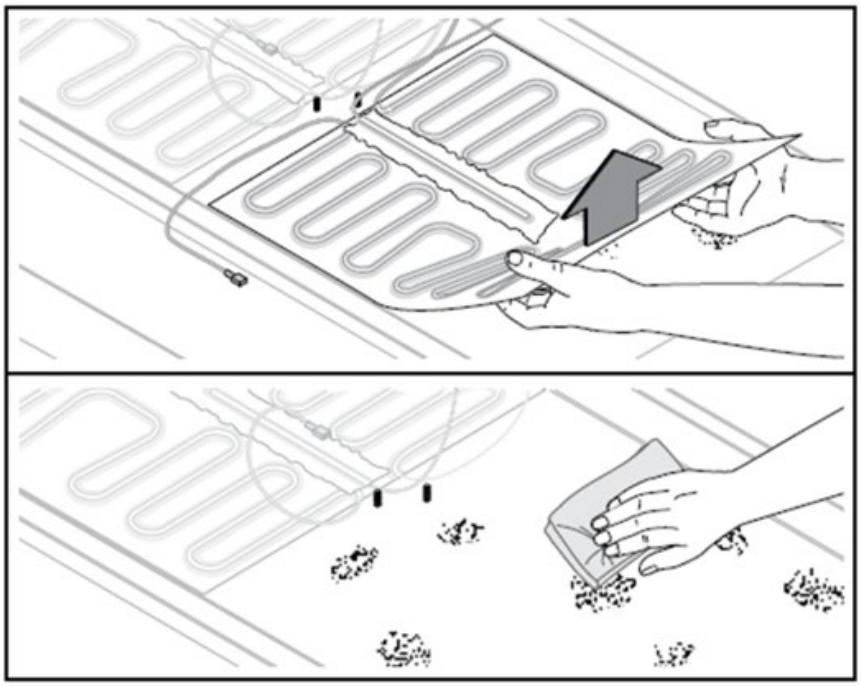


EX1007: 53 (annotated).

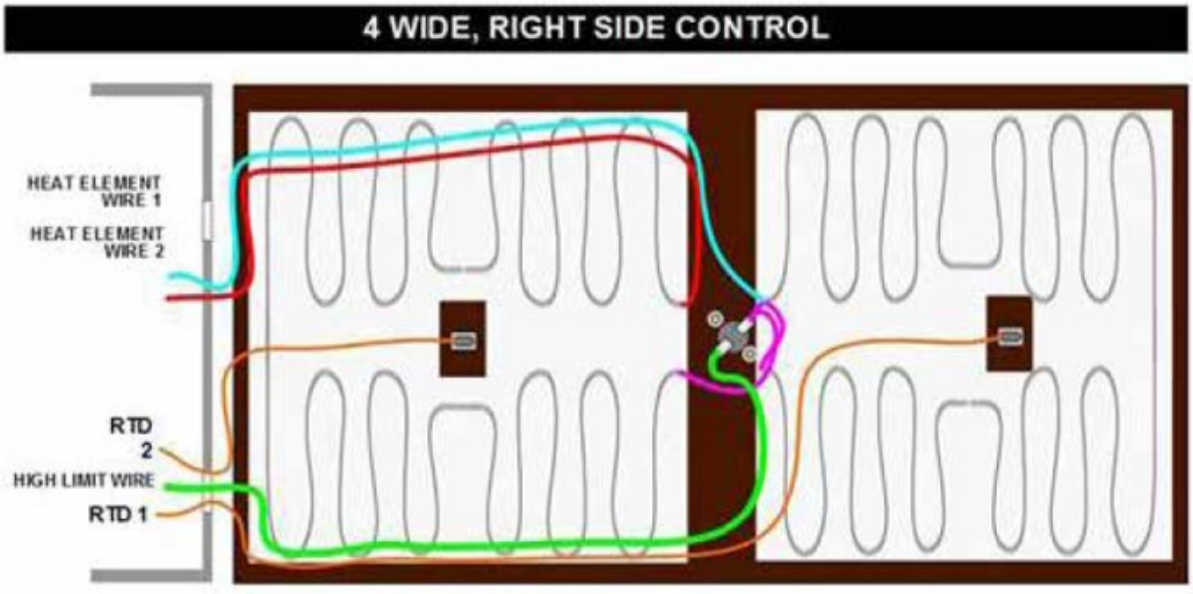


EX1008: 21.

13. Remove the affected Heat Element by peeling off from the heat sink. Ensure any excess tape and/ or adhesive is removed.



EX1008: 22.



EX1008: 58.

229. The POSA would recognize that because the lower heating elements (*e.g.*, sixth heating element) are affixed to the plate of the HeatSink (i.e. the second planar surface) and heats the plate via conduction, the lower heating elements are thermally coupled to the second substantially planar surface. EX1007: 51, 53; EX1016: Fig. 2, ¶[0039] ("[a]n electrical resistance heating element generally designated 39 having a bottom component 41 contacting the bottom of the heat sink"); EX1017: Fig. 3, 4:51-53 ("[e]ach heat sink 46 is fitted with a heater which may take the form of a flexible heating element 76 of the electrical resistance type. It extends almost the full length of the heat sink 44, covering the flat bottom surface 54 of the bottom wall 50 [of the heat sink]").

230. Given the diverse menu, the food location flexibility, and the teachings to tailor temperature settings per food product, it would have been obvious to hold different food products in different zones (e.g., including a third type of food product, such as fish, in the third holding zone), and therefore different temperature setpoints in different zones. EX1007: 12; EX1005: 16 ("[t]his new technology allows you to precisely control the environment in each pan, allowing customized settings for each food product"); EX1006: 1 ("independent well flexibility"); EX1007: 9 (chart with different food types), 53 ("[t]otal well independence allows freedom in product placement in the IRHS" and "[t]ailor each well specifically to the products within them").

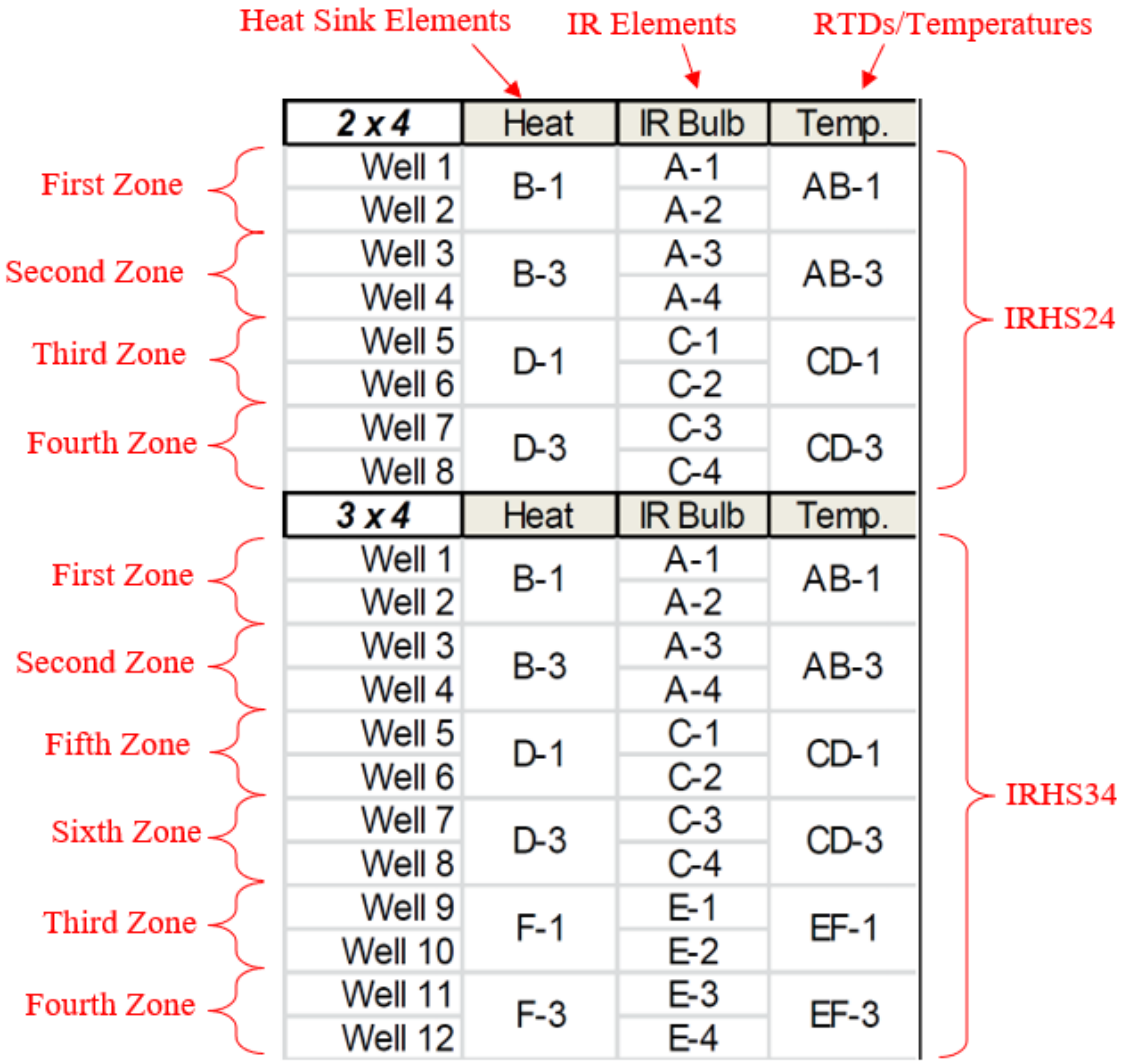
231. For these reasons and others explained in Paragraphs 166-211 above (claim limitation 1.b), it would have been obvious for the IRHS controller to operate each food holding zone (*e.g.*, third food holding zone) to a temperature setpoint (*e.g.*, the third temperature setpoint, such as the heatsink temperature setpoint)—based on the tailored food type temperature settings assigned to the respective zone—by independently operating the upper heating elements (e.g., fifth heating elements) and independently operating the lower heating element (e.g., sixth heating element) associated with the respective zone, with reasonable expectation of success (demonstrated by the IRHS Documents and enabled by configuration/controls of IRHS). EX1005: 16 ("each food product has a tailored HeatSink temperature and InfraRed pulse rate"); EX1008: 16 ("RTD Sensors monitor the temperature of the heating wells"), 21 ("Heat Elements provide the heating required to keep the heating wells at proper operating temperatures").

1.e: operating the fourth food holding zone to a fourth temperature setpoint by independently operating a seventh heating element in the fourth food holding zone and thermally coupled to the second top surface and independently operating an eighth heating element in the fourth food holding zone and thermally coupled to the second substantially planar surface

232. As explained in Paragraphs 148-149 (claim limitation 1.a.2), the IRHS24 and IRHS34 Holding Units each have a fourth food holding zone.

233. As discussed in Paragraphs 166-211 (claim limitation 1.b), The IRHS24/IRHS34 Holding Unit has two IR upper heating elements for each

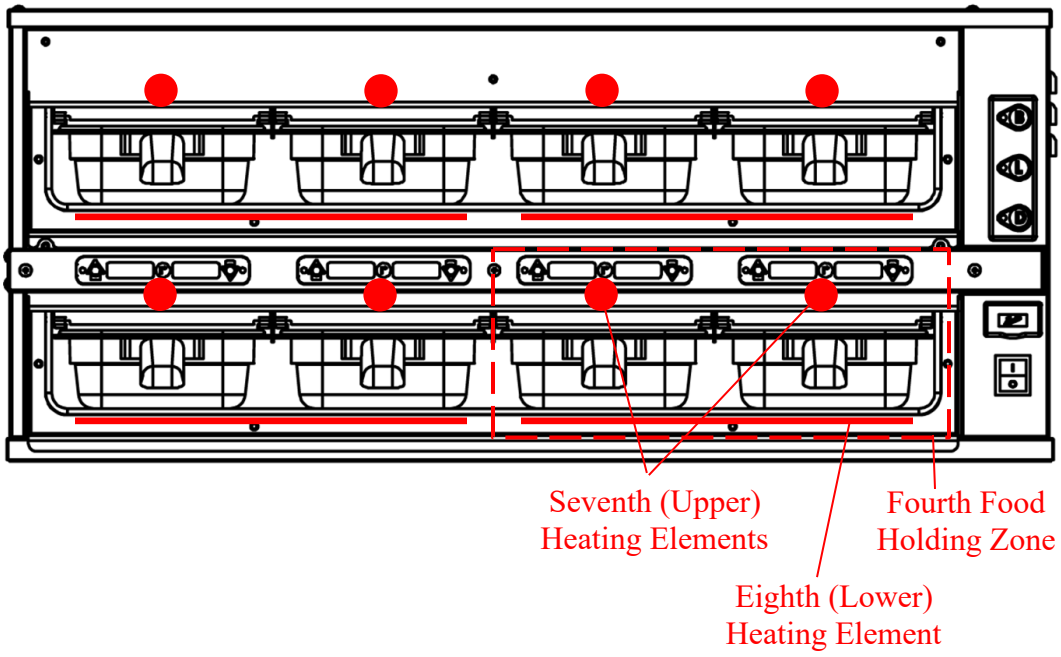
heating/holding zone (one for each pan location (bay)), and a single lower heating element for the two pan locations/bays in the heating/holding zone. EX1006: 1 ("Upper IR emitters" and "Bottom zoned heat element"); EX1007: 53.

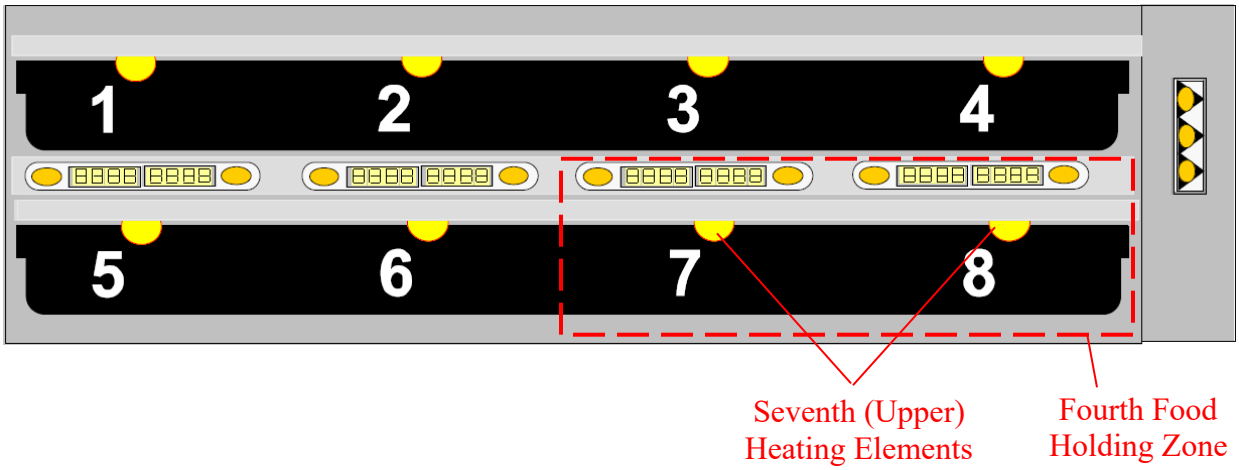


EX1008: 64 (annotated).

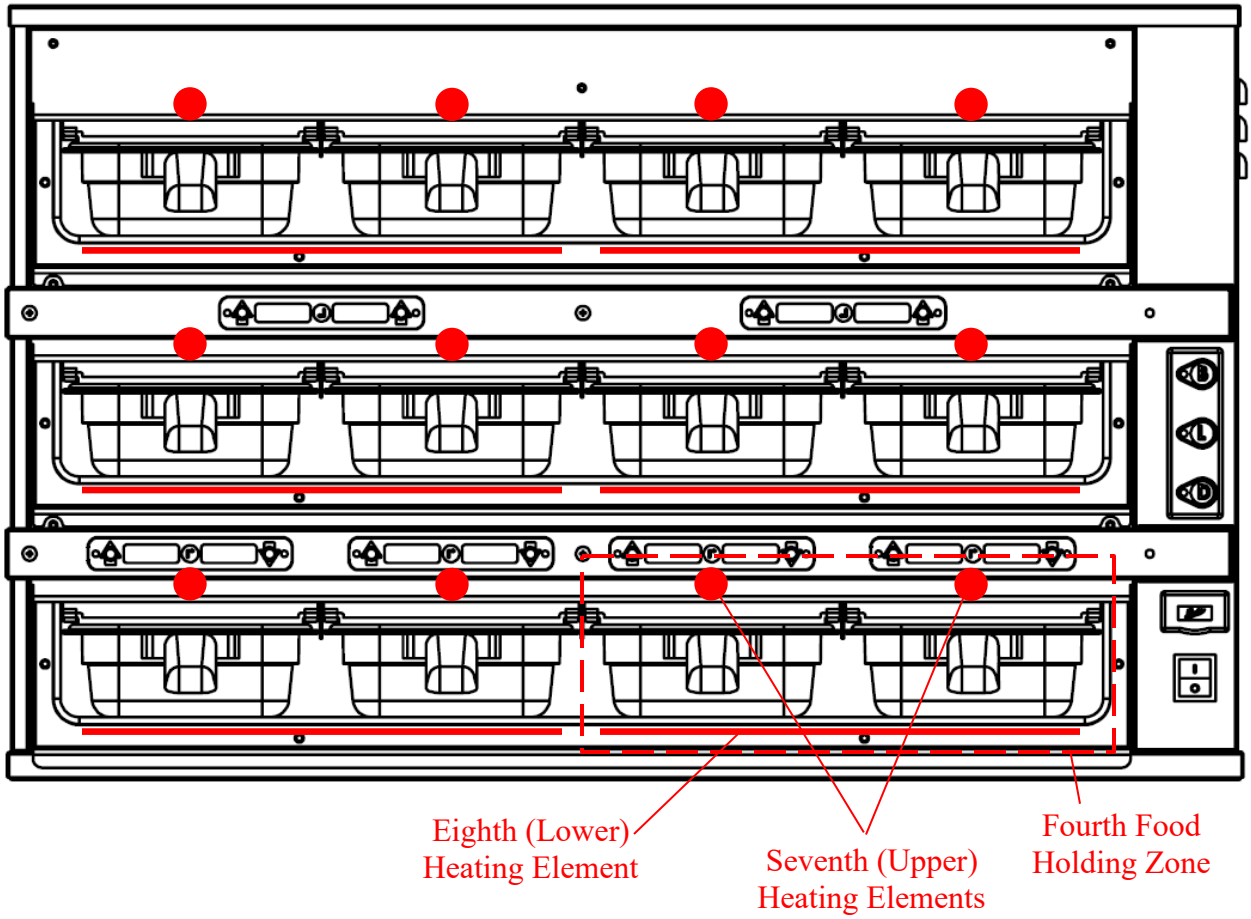
234. Accordingly, in the context of the claims of the '264 Patent, the IRHS24 and IRHS34 Holding Units each have a seventh heating element in the form of IR

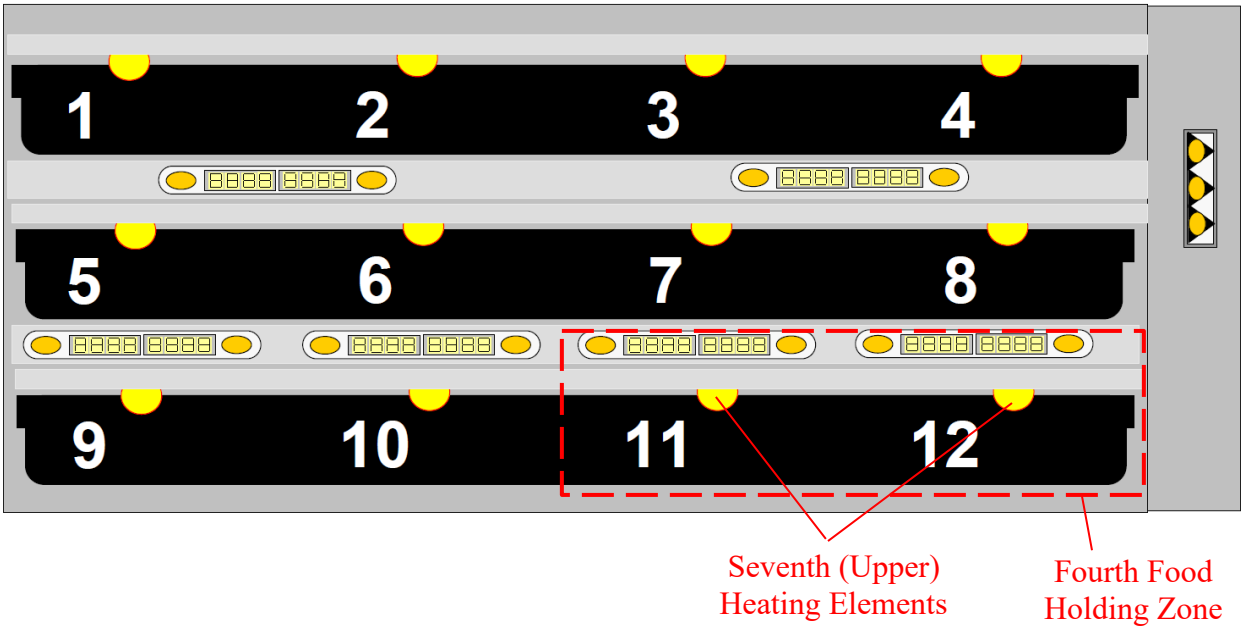
bulbs and an eighth heating element in the form of an electrical heating element in the fourth food holding zone for heating the fourth food holding zone.





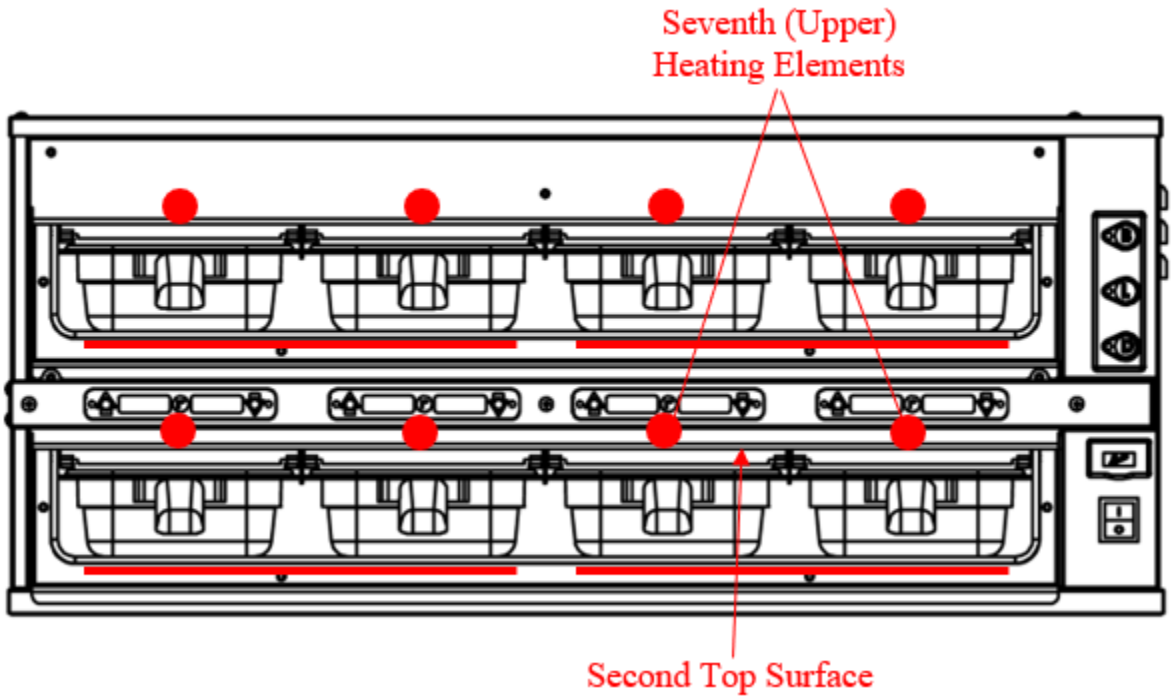
EX1005: 8, 25 (annotated).

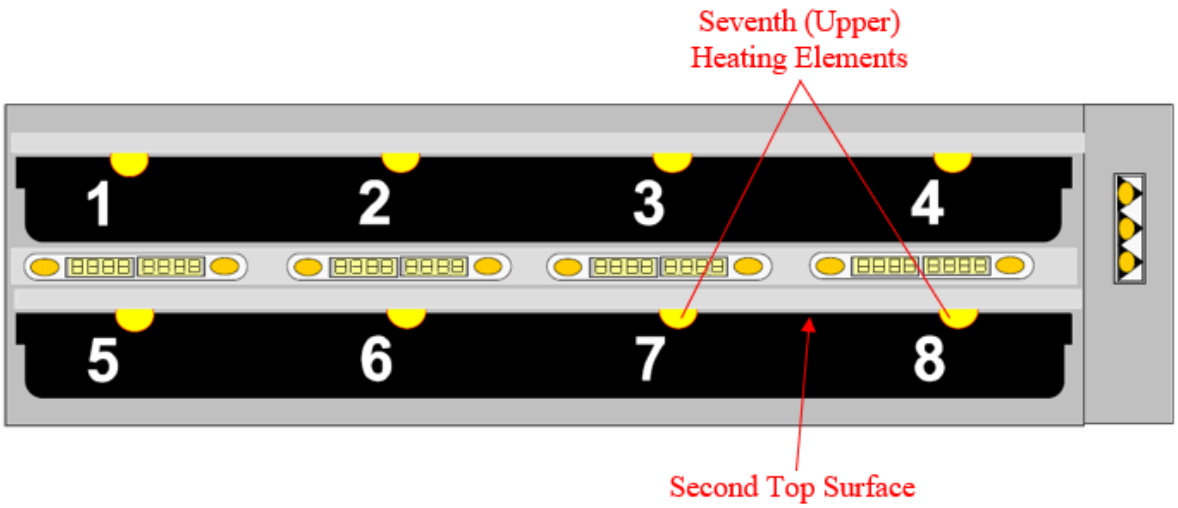




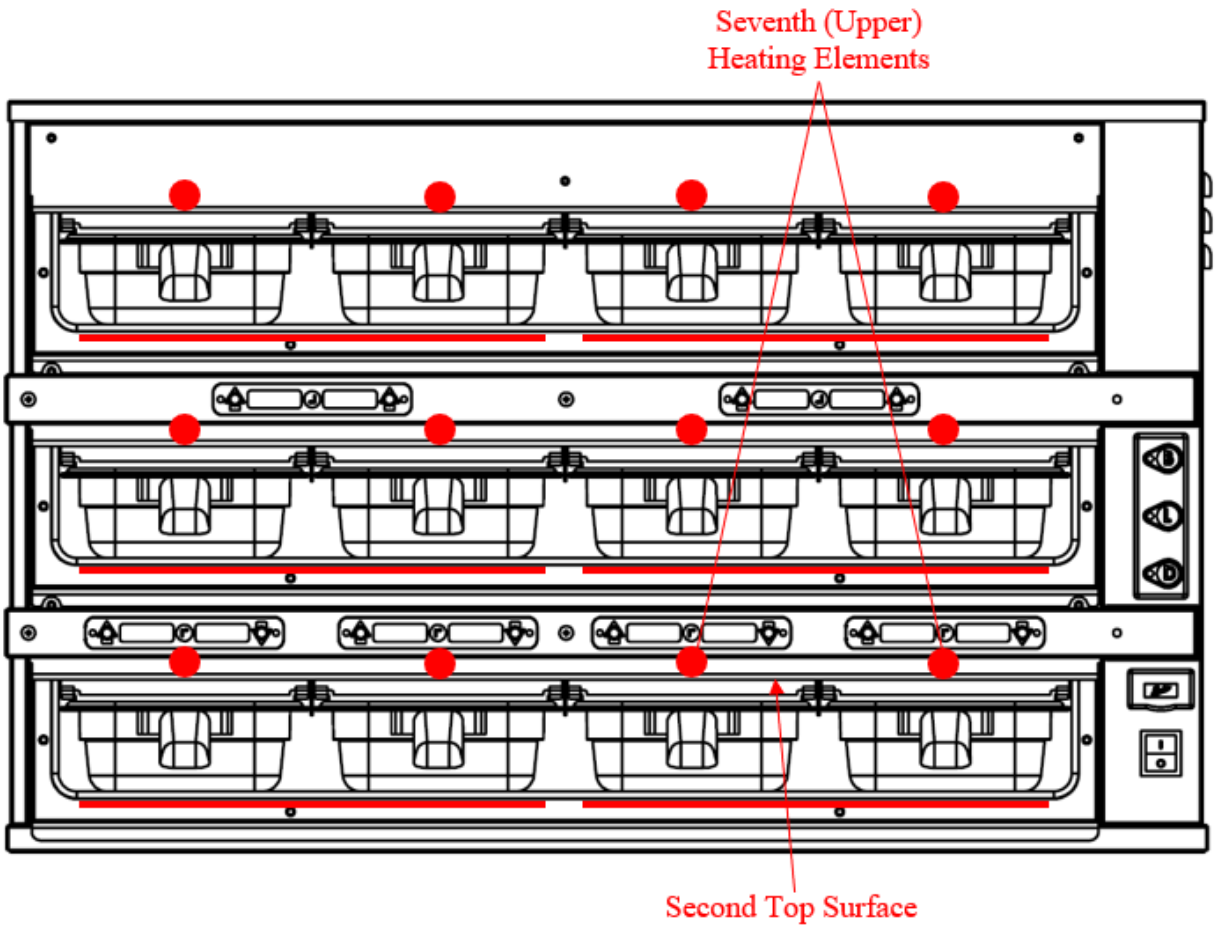
EX1005: 9, 26 (annotated)

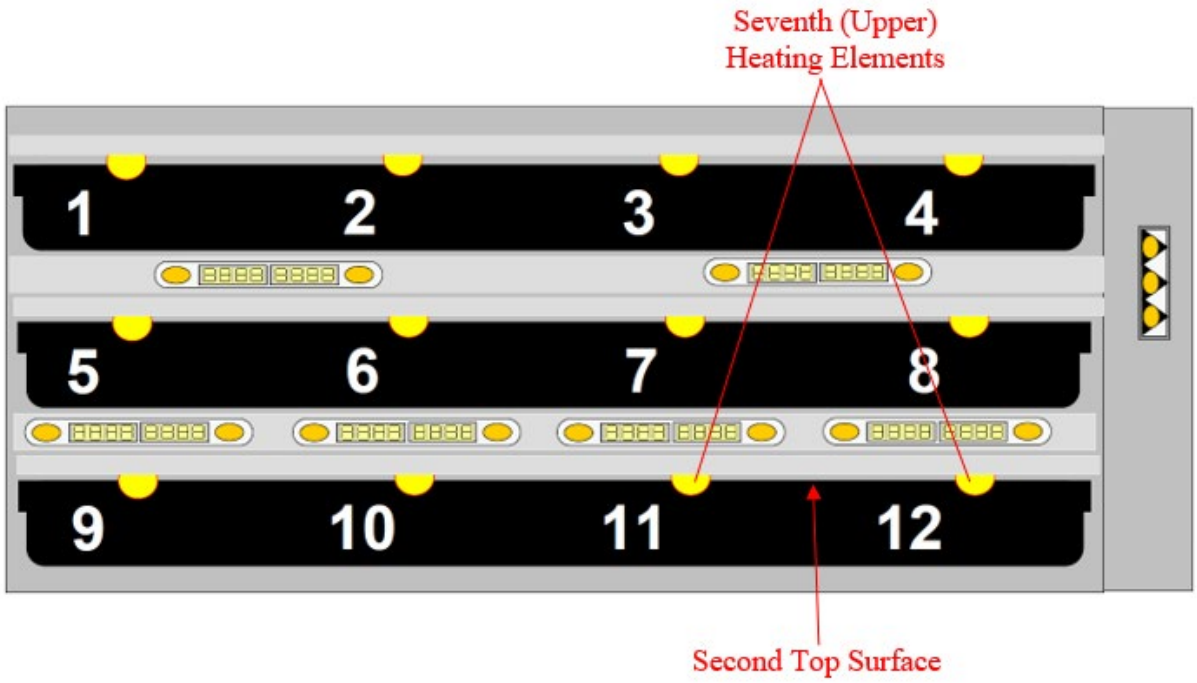
235. Further, the seventh heating element is thermally coupled to the second top surface as required by the claim limitation. The second top surface of the IRHS24/IRHS34 Holding Unit is formed by the sheet metal plate disposed directly below the second (bottom) compartment's upper IR heating elements. These IR heating elements (e.g., seventh heating element) heat the sheet metal plate, and, thus, are thermally coupled to the sheet metal plate and the second top surface.



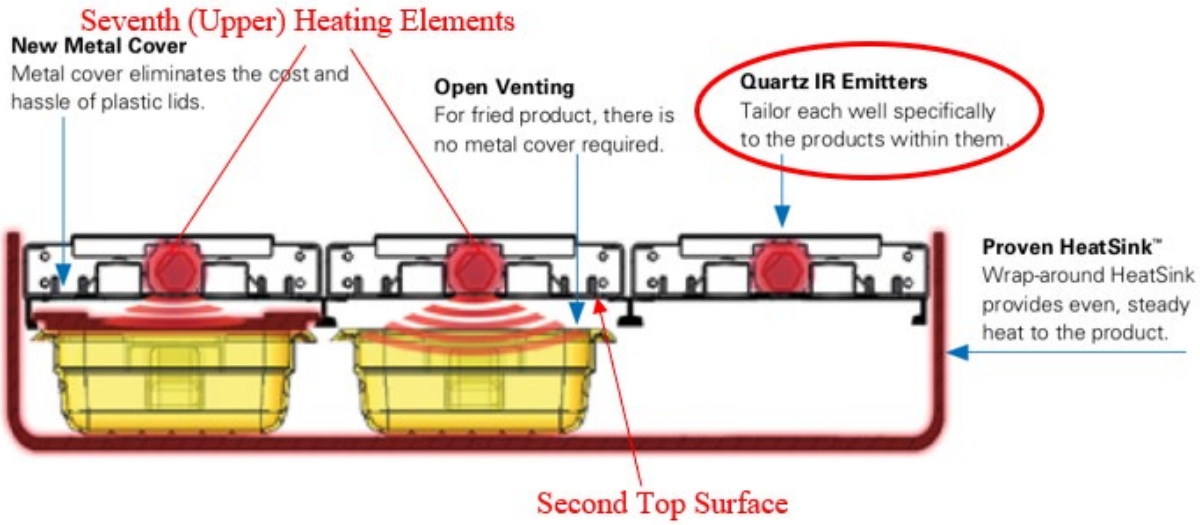


EX1005: 8, 25 (annotated).

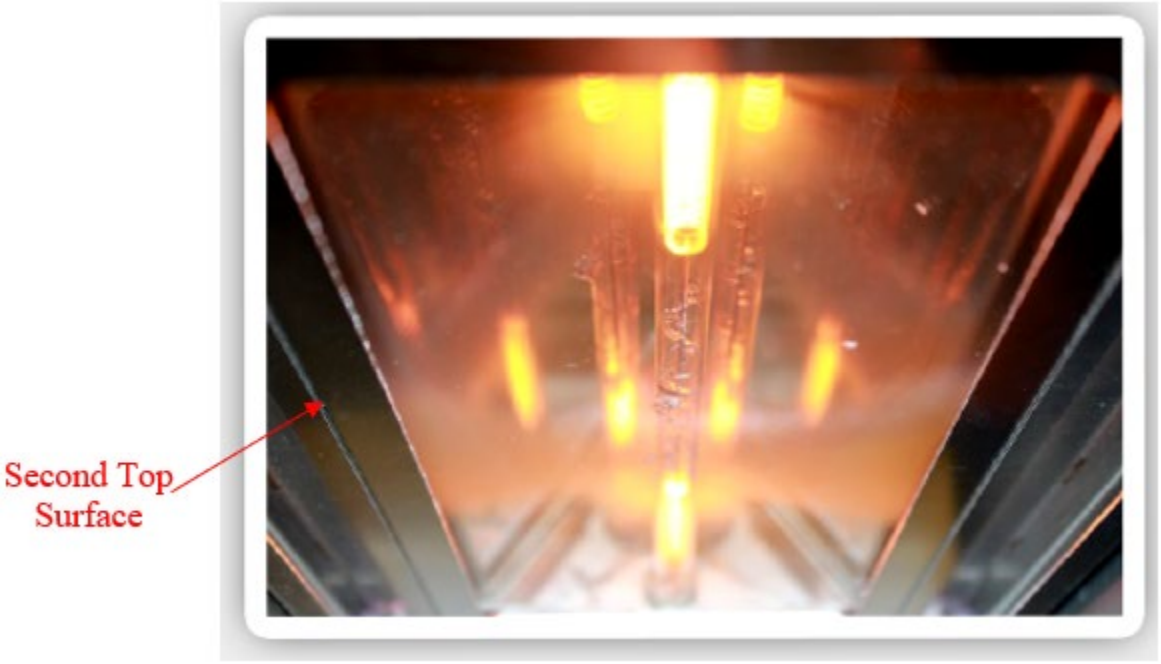




EX1005: 9, 26 (annotated)

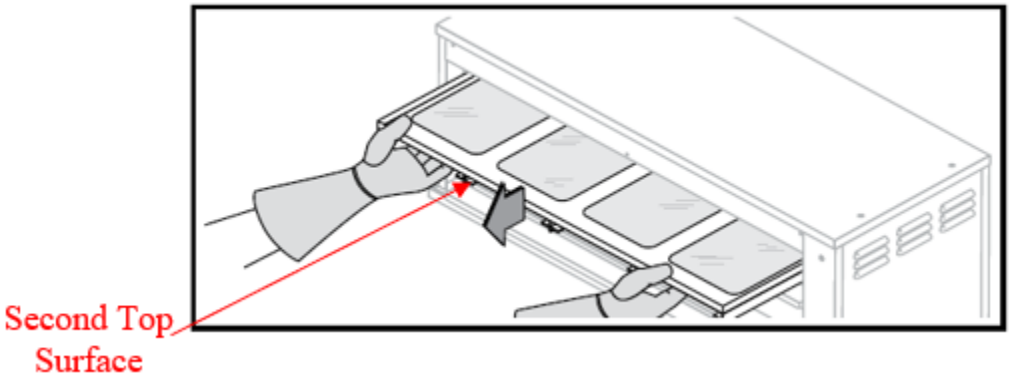


EX1007: 53 (annotated).



EX1007: 11 (annotated).

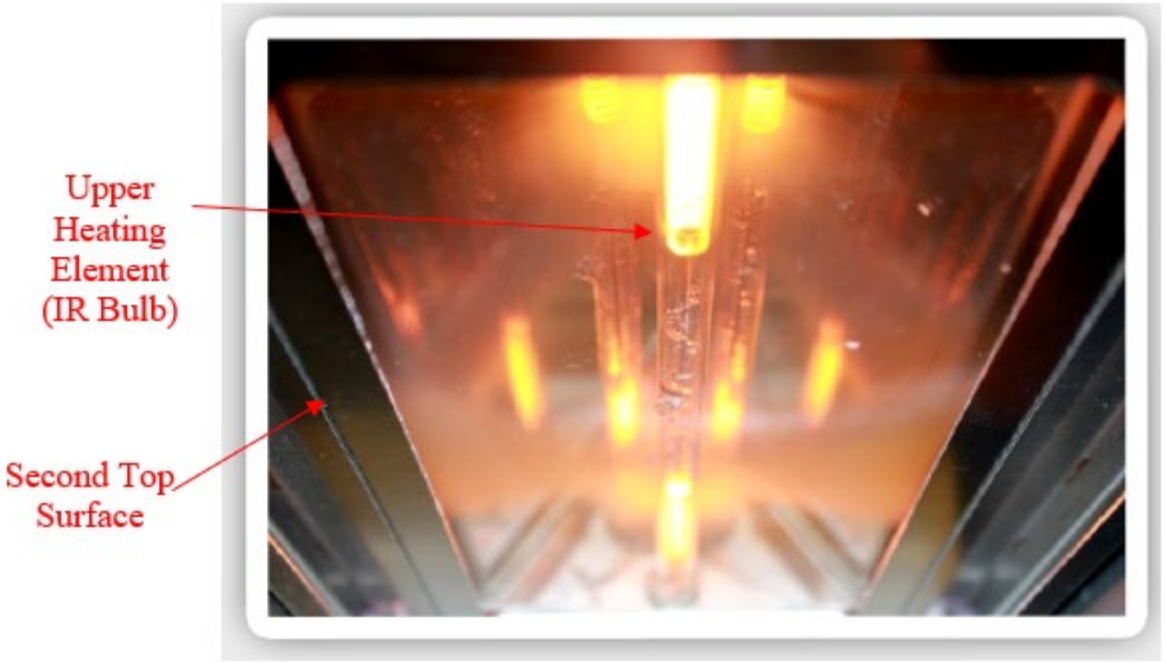
NOTE: Make sure the glass has cooled off sufficiently to avoid burns to bare skin. Use gloves if necessary.



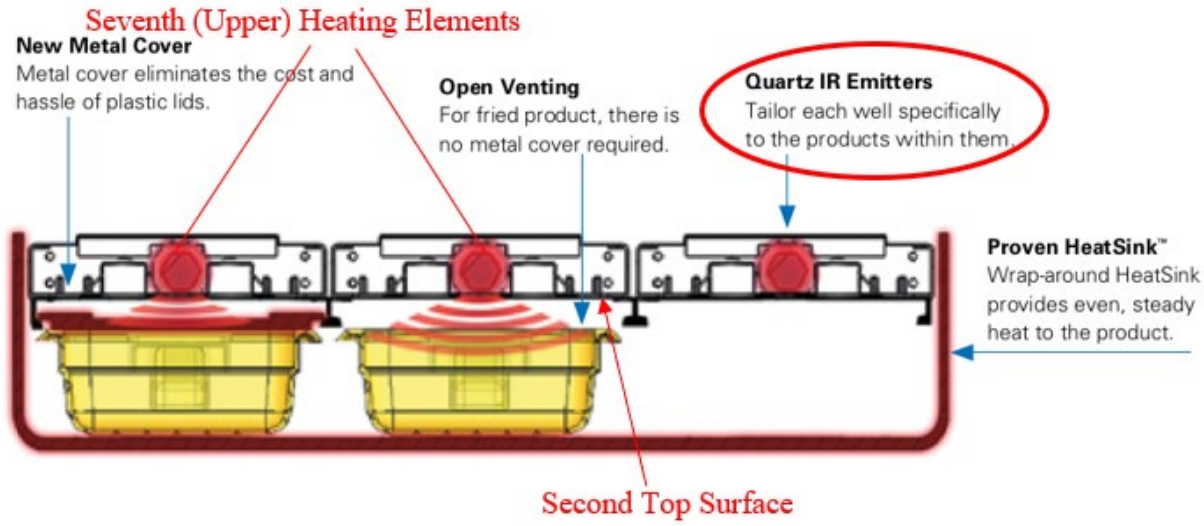
EX1008: 25 (annotated).

236. The IR heating elements heat the sheet metal plate (e.g., second top surface) in various ways. For example, the portions of the sheet metal plate in direct line of sight with the upper IR heating elements receive direct IR heat energy (radiation) from the IR heating elements, heating the sheet metal plate. Moreover, the IR heating elements heat the glass panes, which conduct heat and/or radiate heat to the sheet metal plate of the IR glass support frame. Further, portions of the sheet metal plate are heated from the IR elements indirectly via heat transfer through other structures of the shelf (*e.g.*, reflectors) or otherwise. For example, heat from the IR heating elements transmitted below the sheet metal plate (*e.g.*, at the cover, food, and/or pan) would naturally rise via convection and heat the sheet metal plate, providing a path of thermal communication from the IR elements to the sheet metal plate and its thermally conductive second top surface.

237. Moreover, as shown in the images below, the upper IR heating elements (e.g., seventh heating element) heat and are connected to structure (e.g., sockets, hoods, reflectors) in the IRHS24/IRHS34 Holding Unit that is thermally coupled to the sheet metal plate and the second top surface. This further thermally couples the upper IR heating elements (e.g., seventh heating element) to the second top surface.



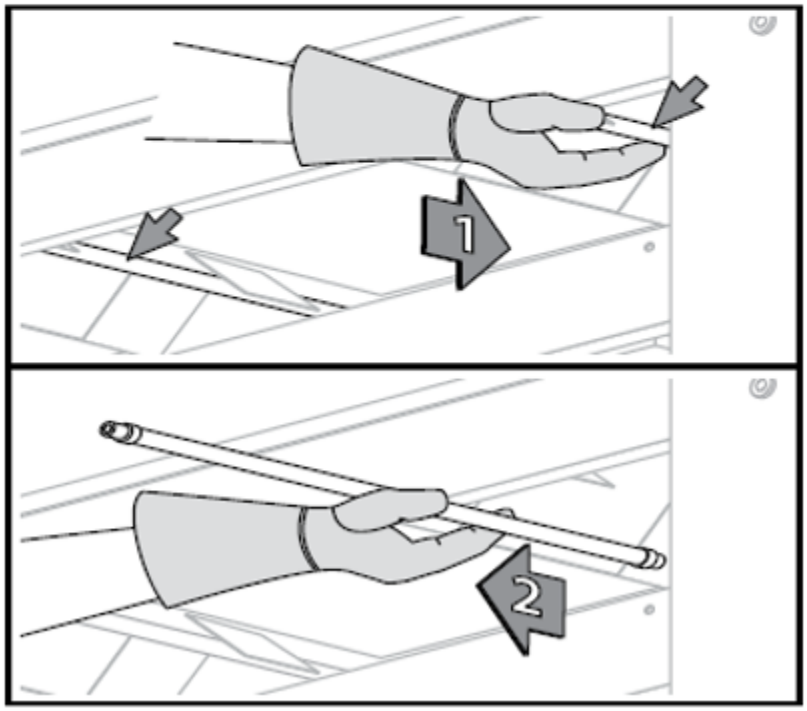
EX1007: 11 (annotated).



EX1007: 53 (annotated).

6. The Emitter Sockets are spring-loaded. Push the Emitter towards the rear socket until the Emitter is free from the front socket and carefully remove.

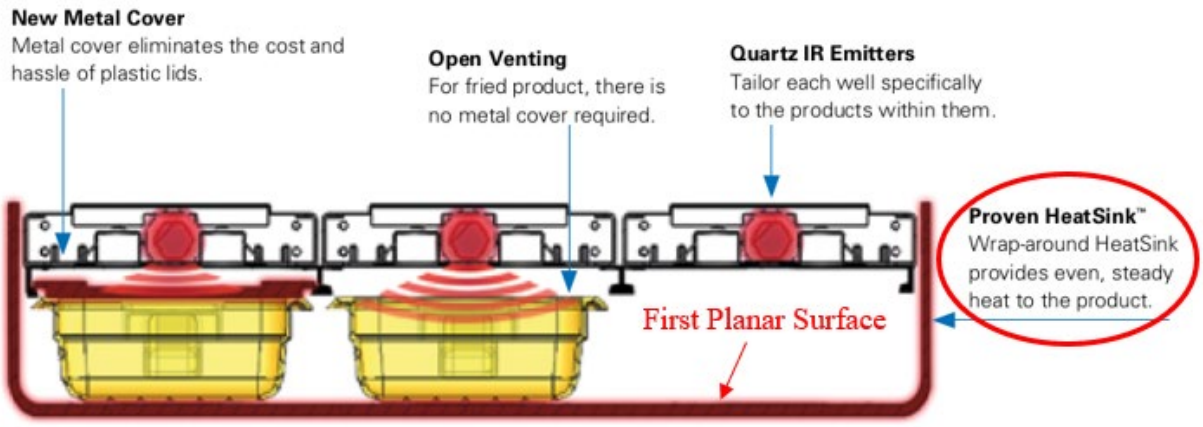
NOTE: DO NOT TOUCH THE EMITTER WITH BARE HANDS! The oil on human skin will shorten the life of the Emitters. If the Emitter is to be reused, use clean gloves, a clean cloth, or a clean paper towel to handle.



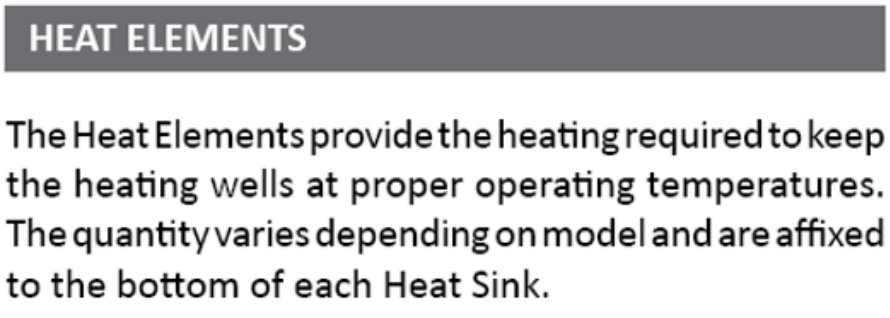
EX1008: 27 (annotated).

238. Likewise, the eighth heating element is thermally coupled to the second substantially planar surface as required by the claim limitation. The second planar surface of the IRHS24/IRHS34 Holding Unit is formed by the HeatSink associated with the second (bottom) food holding compartment, which provides heat to the pans from underneath the pans. EX1007: 51 ("[p]revious generations of

the Duke holding units contained only HeatSink, heating from below"). The lower heating elements (e.g., eighth heating element) are also part of the HeatSink associated with the second (lower) food holding compartment. The lower heating elements heat the plate of the HeatSink forming the second planar surface, and, thus, the lower heating elements (e.g., eighth heating element) are thermally coupled to the second planar surface.

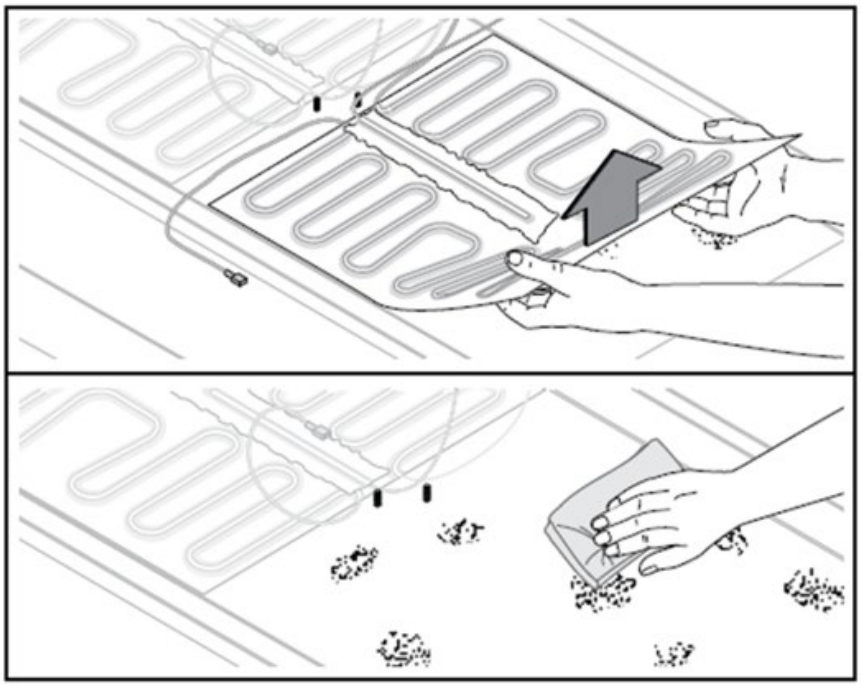


EX1007: 53 (annotated).

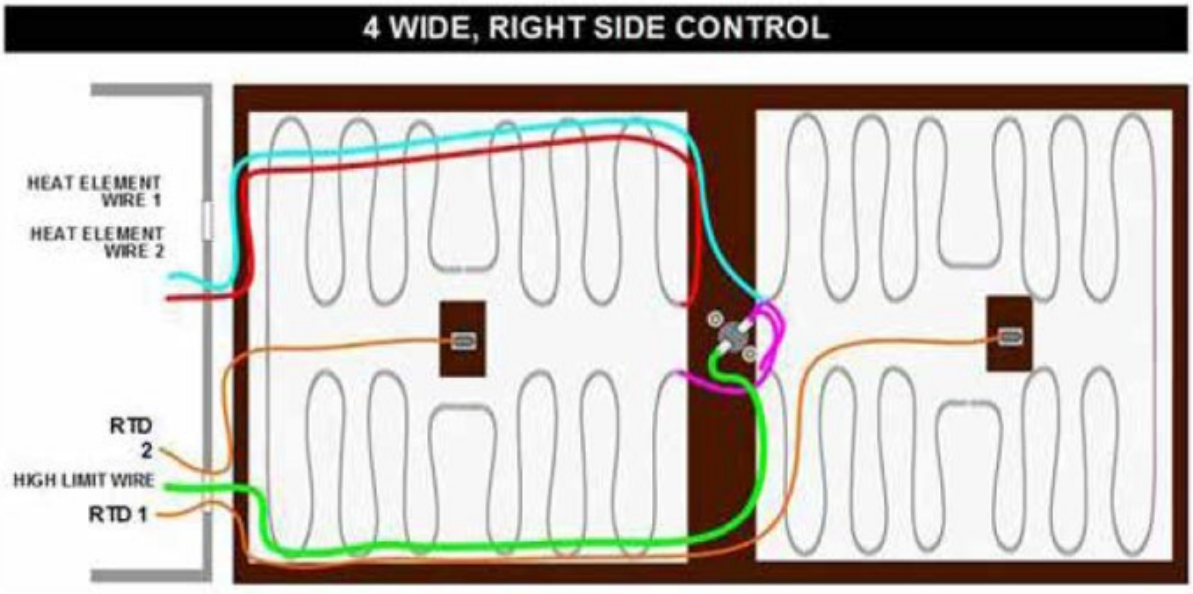


EX1008: 21.

13. Remove the affected Heat Element by peeling off from the heat sink. Ensure any excess tape and/ or adhesive is removed.



EX1008: 22.



EX1008: 58.

239. The POSA would recognize that because the lower heating elements (e.g., eighth heating element) are affixed to the plate of the HeatSink (i.e. the second planar surface) and heats the plate via conduction, the lower heating elements are thermally coupled to the second substantially planar surface. EX1007: 51, 53; EX1016: Fig. 2, ¶[0039] ("[a]n electrical resistance heating element generally designated 39 having a bottom component 41 contacting the bottom of the heat sink"); EX1017: Fig. 3, 4:51-53 ("[e]ach heat sink 46 is fitted with a heater which may take the form of a flexible heating element 76 of the electrical resistance type. It extends almost the full length of the heat sink 44, covering the flat bottom surface 54 of the bottom wall 50 [of the heat sink]").

240. Given the diverse menu, the food location flexibility, and the teachings to tailor temperature settings per food product, it would have been obvious to hold different food products in different zones (e.g., including a fourth type of food product, such as rib patties, in the fourth holding zone), and therefore different temperature setpoints in different zones. EX1007: 12; EX1005: 16 ("[t]his new technology allows you to precisely control the environment in each pan, allowing customized settings for each food product"); EX1006: 1 ("independent well flexibility"); EX1007: 9 (chart with different food types), 53 ("[t]otal well independence allows freedom in product placement in the IRHS" and "[t]ailor each well specifically to the products within them").

241. For these reasons and others explained in Paragraphs 166-211 above (claim limitation 1.b), it would have been obvious for the IRHS controller to operate each food holding zone (*e.g.*, fourth food holding zone) to a temperature setpoint (e.g., the fourth temperature setpoint, such as the heatsink temperature setpoint)—based on the tailored food type temperature settings assigned to the respective zone—by independently operating the upper heating elements (e.g., seventh heating elements) and independently operating the lower heating element (e.g., eighth heating element) associated with the respective zone, with reasonable expectation of success (demonstrated by the IRHS Documents and enabled by configuration/controls of IRHS). EX1005: 16 ("each food product has a tailored HeatSink temperature and InfraRed pulse rate"); EX1008: 16 ("RTD Sensors monitor the temperature of the heating wells"), 21 ("Heat Elements provide the heating required to keep the heating wells at proper operating temperatures").

1.f: wherein the first temperature, second temperature, third temperature, and fourth temperature are independent from each other

242. The POSA would recognize that the IRHS Documents disclose that the first food holding zone as being configured to maintain a first temperature, the second food holding zone as being configured to maintain a second temperature, the third food holding zone as being configured to maintain a third temperature, the fourth food holding zone as being configured to maintain a fourth temperature

wherein the first temperature, the second temperature, the third temperature, and the fourth temperature are independent from each other.

243. The POSA would recognize that commercial restaurants (*e.g.*, Burger King) for which the IRHS was designed and marketed would desire to hold multiple food types are different from each other at least in protein type, cooking method type, ingredients, fat content, and/or surface coating (e.g. breading/sauce/none) such that each of the food holding zones—and potentially even each food holding location—may have different types of food products with different optimal food holding temperatures and settings.



EX1007: 12.

244. As explained in Paragraphs 166-211 (claim limitation 1.b), the controller of the IRHS24 and IRHS34 Holding Units independently controls the heating elements from one another. Based on the food product types assigned to the pan locations in the different zones, the controller controls each of the food holding zones to a temperature setpoint, where the temperature setpoint

corresponds to the food product held in the respective zone. Thus, the temperatures (e.g., first temperature, second temperature, third temperature, and fourth temperature) of the food holding zones (e.g., first food holding zone, second food holding zone, third food holding zone, fourth food holding zone) are independent from one another based on the different food type temperature settings (e.g., burger patty, broiled chicken (tendergrill), fish, rib patties) of each zone.

245. Notably, while Claim 1 recites the first, second, third, and fourth temperature setpoints and that they are independent; Claim 1 does not require that the operator choose different temperatures for each of the first, second, third, and fourth temperature setpoints. Regardless, it would have been obvious to select different temperature setpoints for each zone depending on the respective food items in the zone.

246. It would have been obvious to the POSA per the IRHS Documents to heat the food holding zones to different temperatures to accommodate customized heat settings for different types of food received in each holding zone and to increase holding capacity for different types of cooked food to meet customer demands. EX1028: 30 ("[i]t is critically important that each of these 'heat zones' be set to the appropriate temperature for each type of food product"), 14 (example temperatures), 39 (providing example temperatures); EX1019: 1:17-45 (explaining "'fast food' restaurants compete to deliver food products as quickly as possible while preserving

quality of the taste, consistency, and appearance of the food" and outlining "challenges" of "maintain[ing] a large volume of different food products" each "requir[ing] different storage temperatures"); EX1010: ¶[0024] ("establish two or more heat zones of differing temperatures within the warming volume, to allow food products that require different warming temperatures to be simultaneously disposed within the cart"). There would have been a reasonable expectation of success because of the IRHS Documents' teachings and the known suitability of heated multi-zone food cabinet shelves. EX1019: 4:36-59; EX1020: ¶¶[0021]-[0023]; EX1012: ¶¶[0069], [0072], [0096].

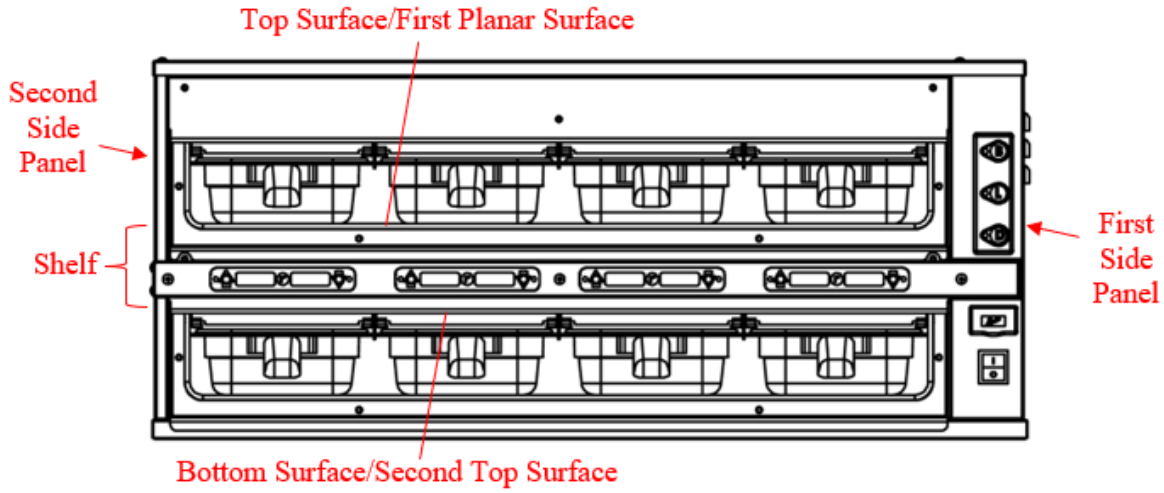
247. Accordingly, each limitation of Claim 1 is disclosed or rendered obvious within the IRHS Documents. Accordingly, the POSA would have found it obvious to combine the teachings and disclosures of the IRHS Documents to arrive at the method of maintaining different temperatures within a multi-zone food holding bin as claimed in Claim 1.

C. Claim 2: the method of claim 1, wherein the multi-zone food holding bin further comprises a shelf disposed between the first side panel and the second side panel, wherein a top surface of the shelf provides the first substantially planar bottom surface and a bottom surface of the shelf provides the second top surface

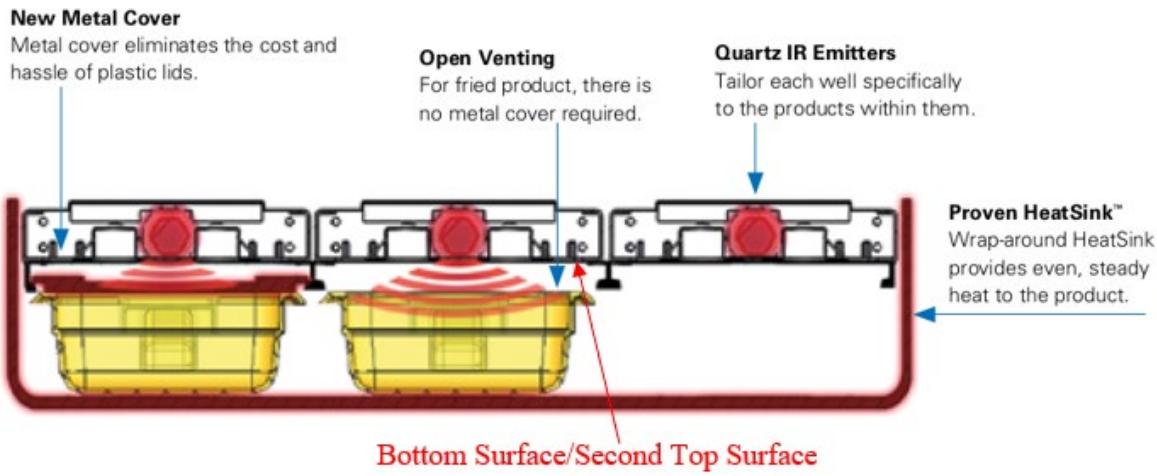
248. As discussed above, the POSA would have found it obvious to combine the teachings and disclosures of the IRHS Documents to arrive at the claimed method of maintaining different temperatures within a multi-zone food

holding bin of Claim 1. The POSA would additionally recognize that the IRHS Documents disclose the additional limitation added in Claim 2 further requiring the recited multi-zone food holding bin to "further comprise[] a shelf disposed between the first side panel and the second side panel, wherein a top surface of the shelf provides the first substantially planar bottom surface and a bottom surface of the shelf provides the second top surface."

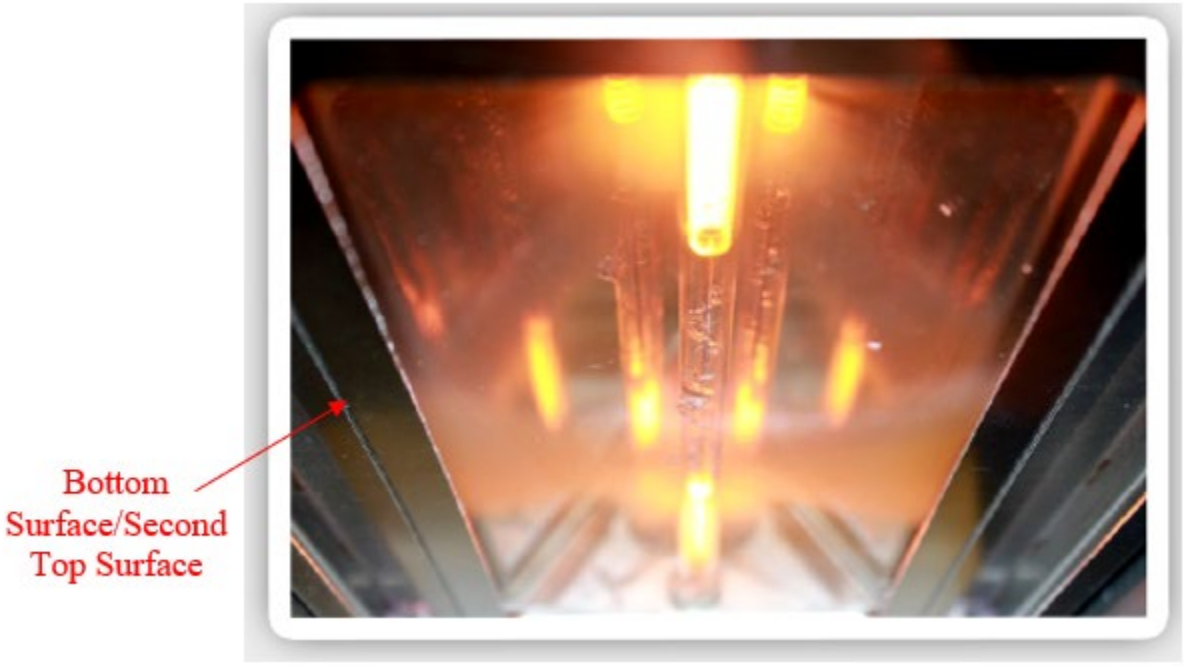
249. As disclosed in the IRHS documents, the IRHS24 Holding Unit has a shelf disposed between the first side panel and the second side panel. The shelf has a top surface that provides (e.g., is) the first substantially planar bottom surface. The shelf also has a bottom surface that provides (e.g., is) the second top surface:



EX1005: 8 (annotated).



EX1007: 53 (annotated).



EX1007: 11 (annotated).

250. Accordingly, the POSA would have found it obvious to combine the teachings and disclosures of the IRHS Documents to arrive at the method of

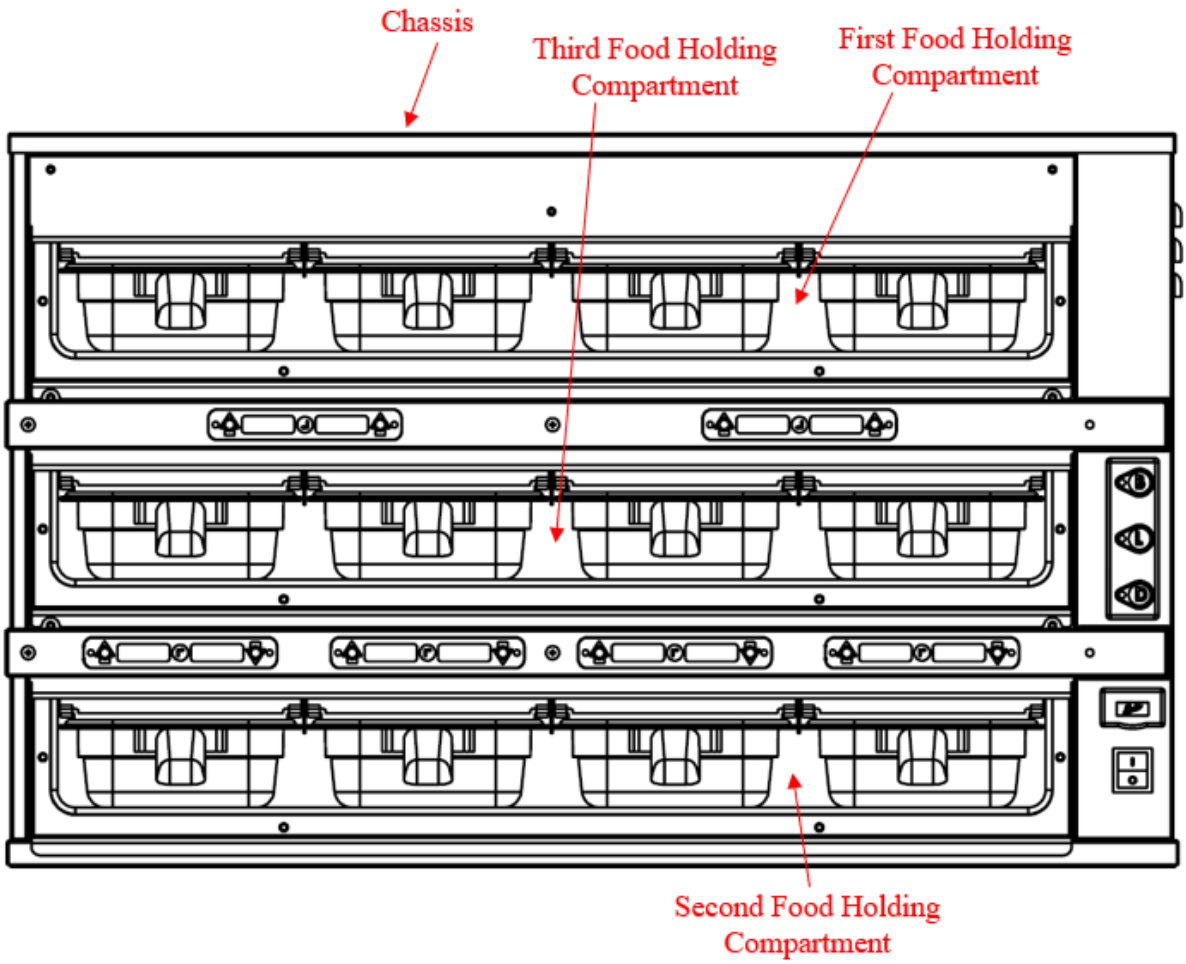
maintaining different temperatures within a multi-zone food holding bin as claimed in Claim 2.

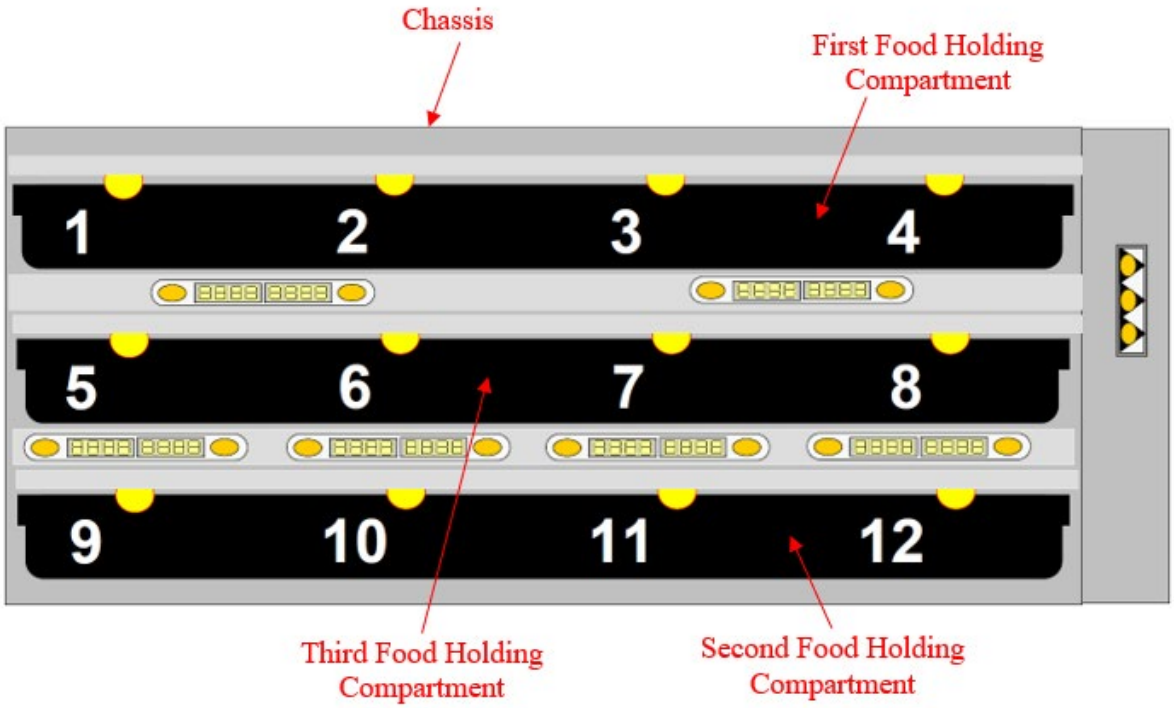
D. Claim 3

3.a.1: the method of claim 1, wherein the multi-zone food holding bin further comprises a third food holding compartment within the chassis between the first food holding compartment and the second food holding compartment

251. As discussed above, the POSA would have found it obvious to combine the teachings and disclosures of the IRHS Documents to arrive at the claimed method of maintaining different temperatures within a multi-zone food holding bin of Claim 1. The POSA would additionally recognize that the IRHS Documents disclose the additional limitation further requiring the recited multi-zone food holding bin to "further comprise[] a third food holding compartment within the chassis between the first food holding compartment and the second food holding compartment."

252. The IRHS34 Holding Units has a third (middle) food holding compartment within the chassis. The third food holding compartment is between the first food holding compartment and the second food holding compartment.

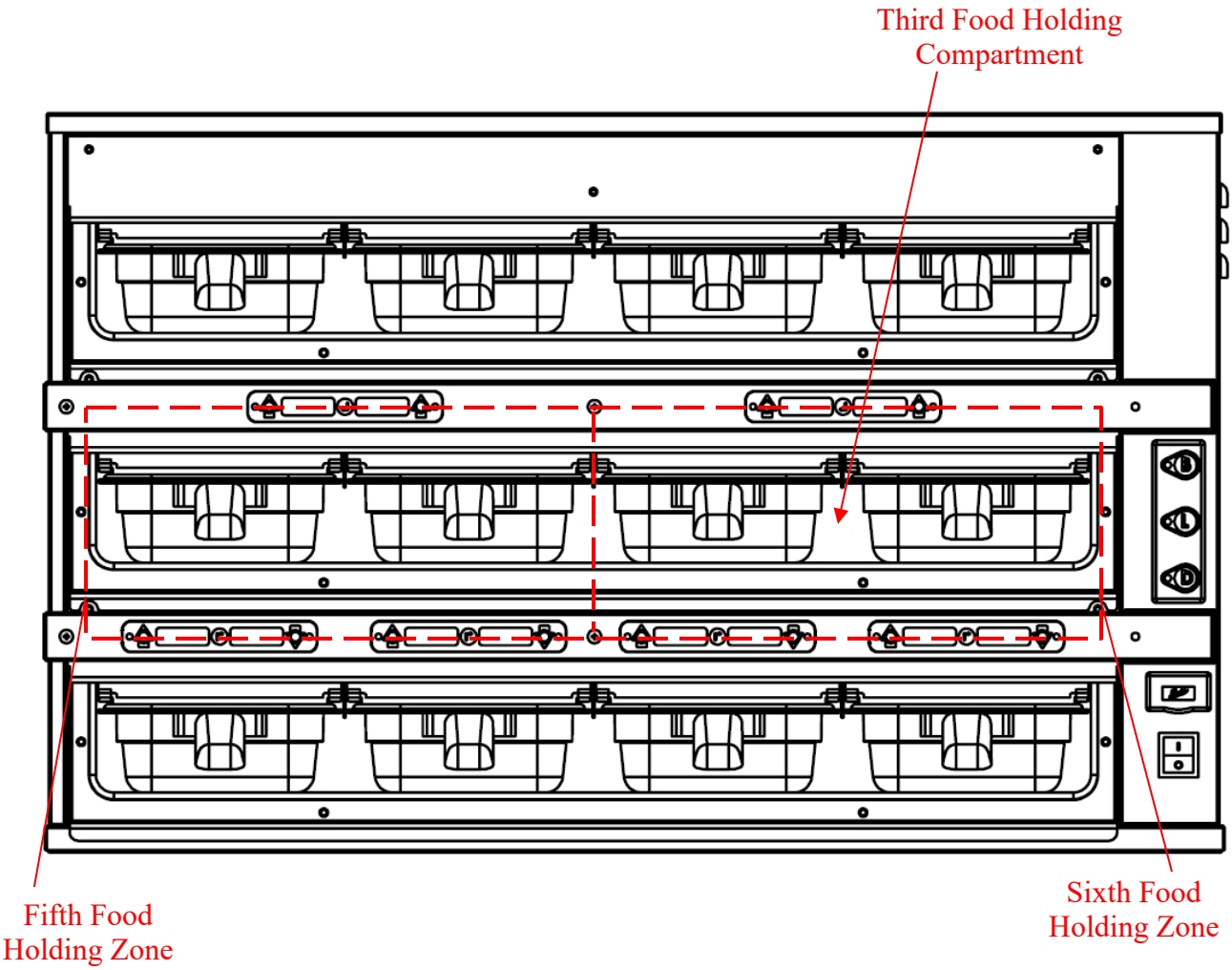

Chassis
Third Food Holding Compartment
First Food Holding Compartment
Second Food Holding Compartment

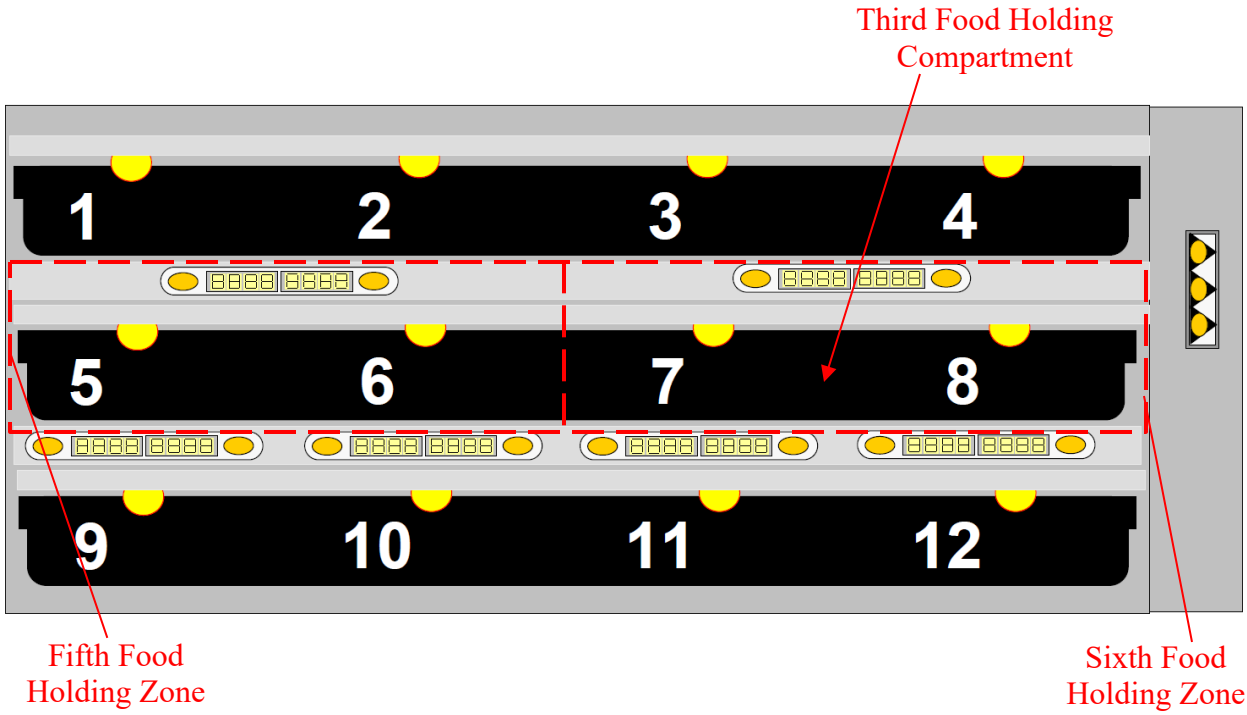


EX1005: 9, 26 (annotated)

3.a.2: the third food holding compartment comprising a fifth food holding zone and a sixth food holding zone

253. The third food holding compartment of the IRHS34 Holding Units includes a fifth food holding zone and a sixth food holding zone:


Third Food Holding Compartment
Fifth Food Holding Zone
Sixth Food Holding Zone



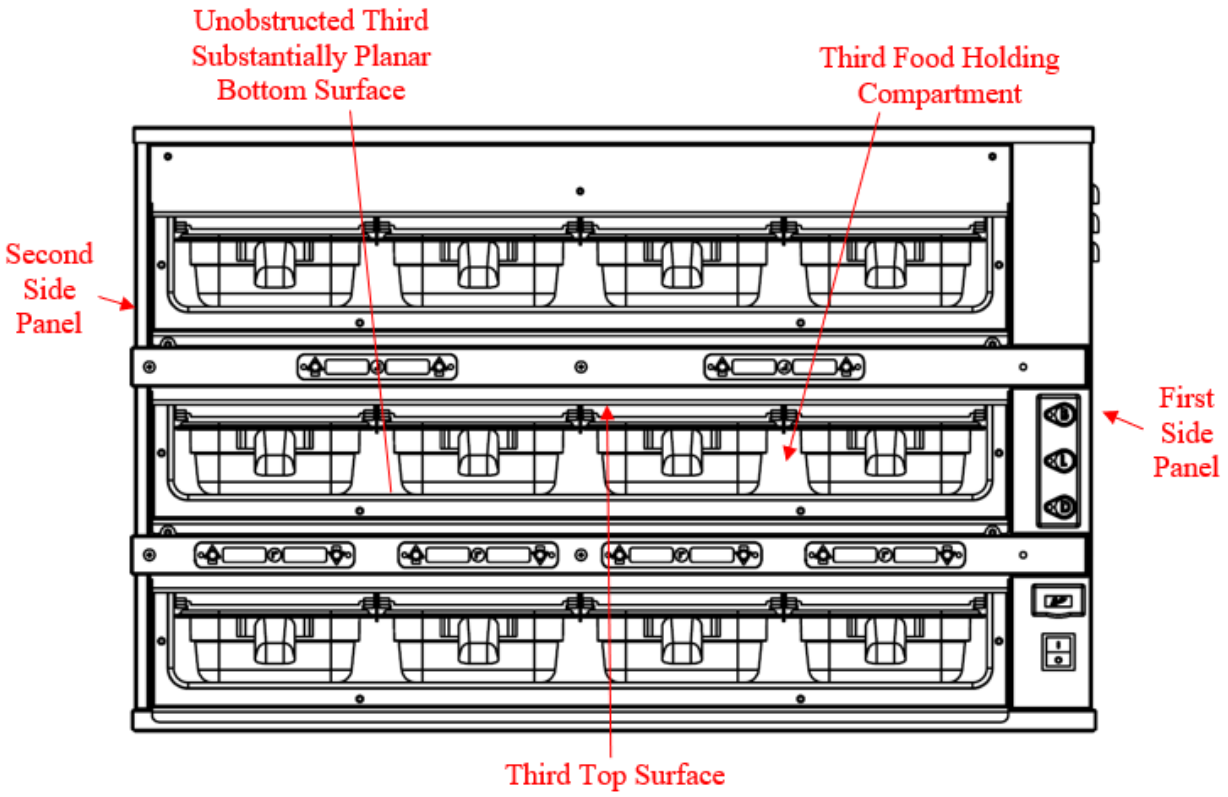
EX1005: 9, 26 (annotated).

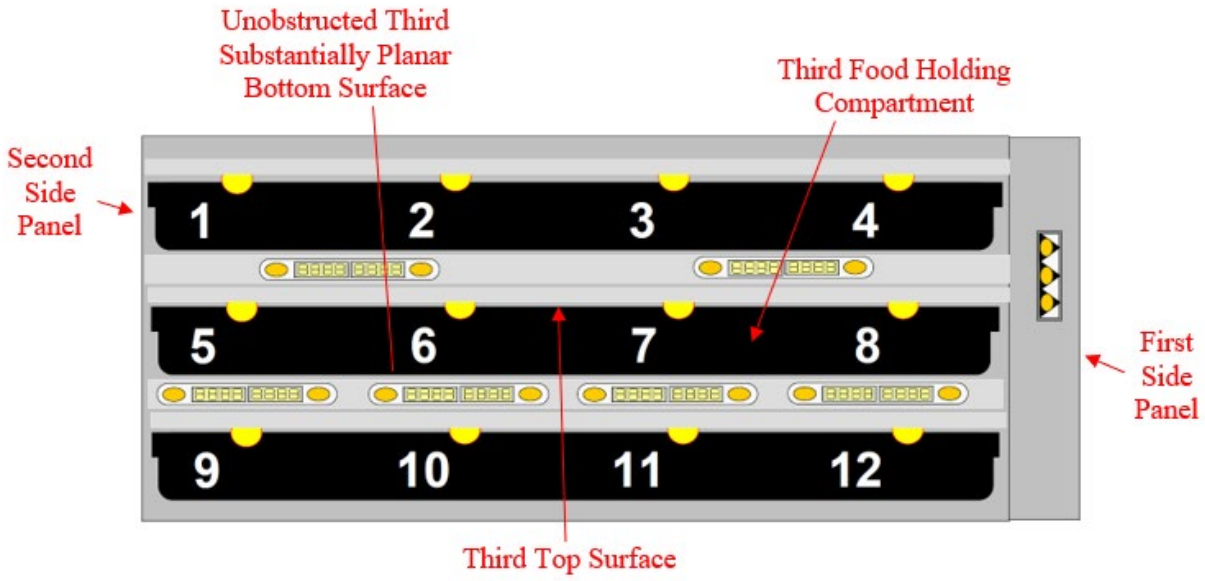
3.a.3: the third food holding compartment being defined by the first side panel, the second side panel, a third top surface, and a third substantially planar bottom surface of a thermally conductive material being substantially unobstructed between the first side panel and the second side panel

254. The third food holding compartment of the IRHS34 Holding Unit is defined by the first side panel, the second side panel, a third top surface, and a third substantially planar bottom surface. The third bottom surface is substantially unobstructed between the first and second side panels. The only objects on this surface are the food pans, when present.

255. The underside of the top shelf provides a third top surface and the bottom shelf provides a third substantially planar bottom surface in the context of

the claim limitation. The third bottom surface is substantially unobstructed between the first and second side panels. The only objects on this surface are the food pans, when present.



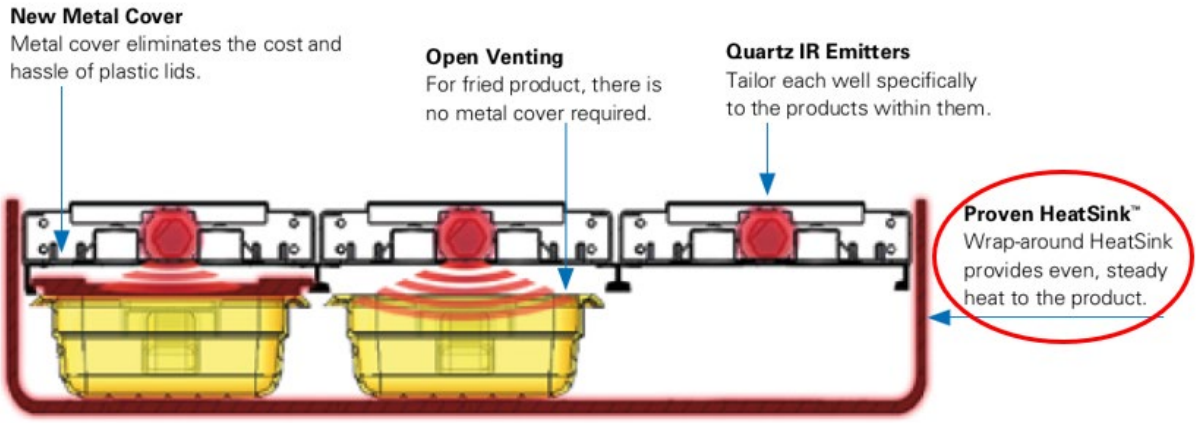


EX1005: 9, 26 (annotated).

256. The IRHS Documents suggest the substantially planar surface forming the top surface of the shelves (e.g., the third substantially planar bottom surface)—which is identified as being part of the Heatsink—is composed of anodized aluminum. EX1006: 1 ("[a]nodized aluminum HeatSink"). Anodized aluminum is recognized to be a thermally conductive material and thus meets the claim limitation requiring the planar surface to comprise a thermally conductive material.

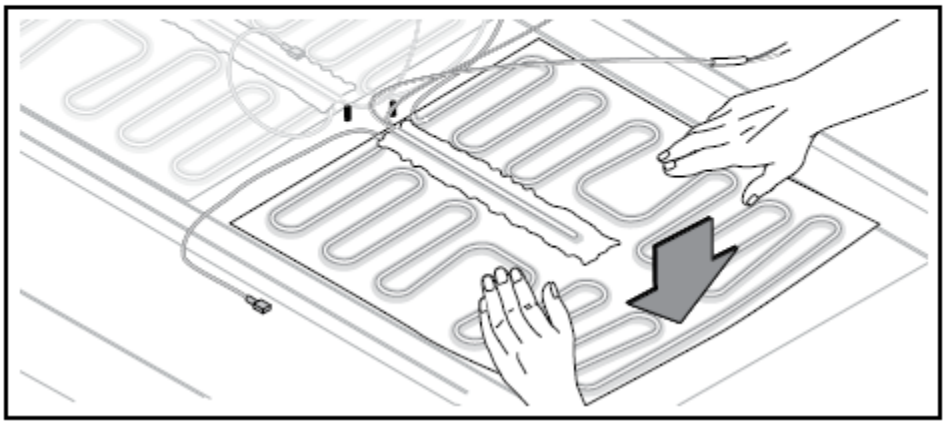
257. Specifically, the POSA would recognize that because the substantially planar surface forming the top surface of the bottom shelf of the IRHS34 Holding Unit is intended to act as a HeatSink, it would necessarily comprise a thermally conductive material so as to allow the HeatSink to provide heat to the pans in the first food holding compartment from underneath the pans. EX1007: 51

("[p]revious generations of the Duke holding units contained only HeatSink, heating from below"); EX1005: 16 ("each food product has a tailored HeatSink temperature and InfraRed pulse rate").



EX1007: 53 (annotated).

14. Peel the adhesive tape cover off the replacement Heat Element and press in place on the heat sink, ensuring all air bubbles are smoothed out.

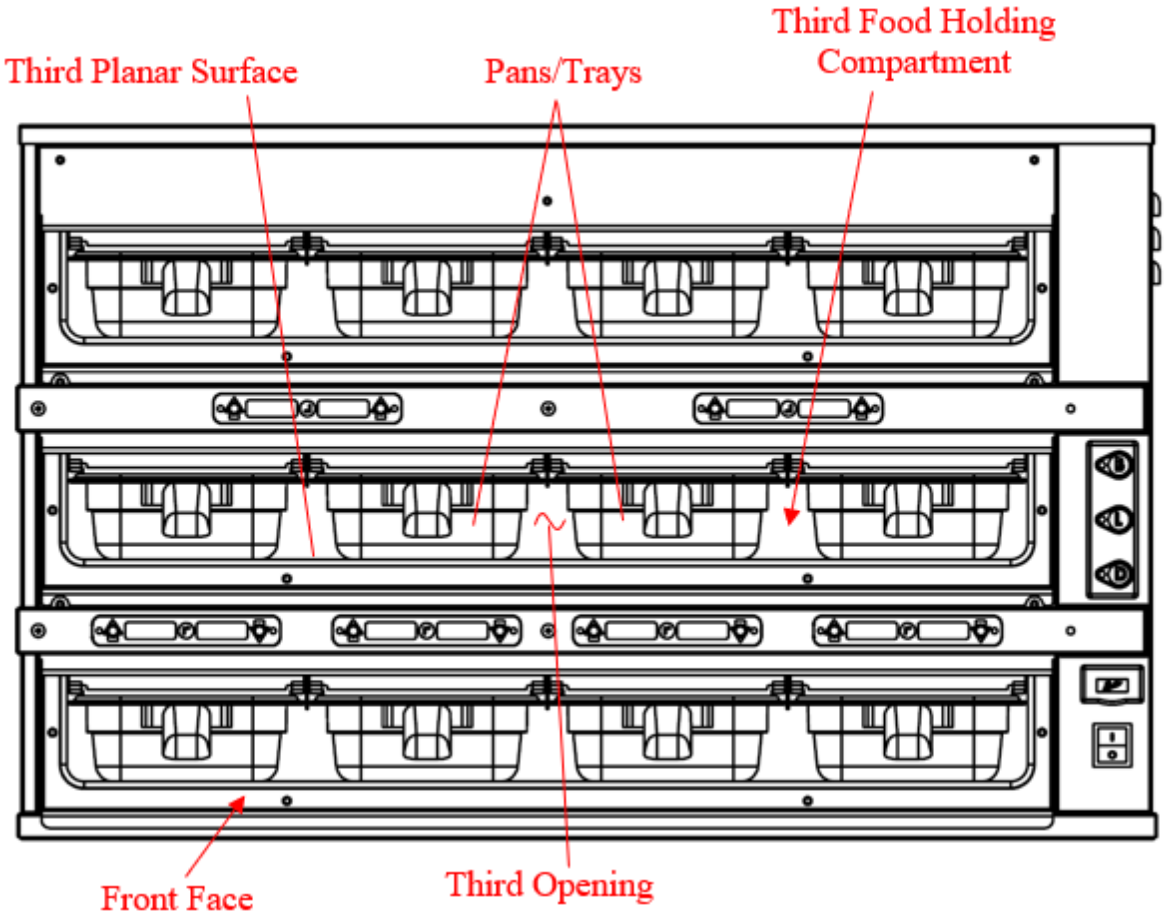


EX1008: 23.

3.a.4: a third opening through the front face configured to allow a tray for food items to be passed through the third opening into the third food holding compartment and onto the third substantially planar surface

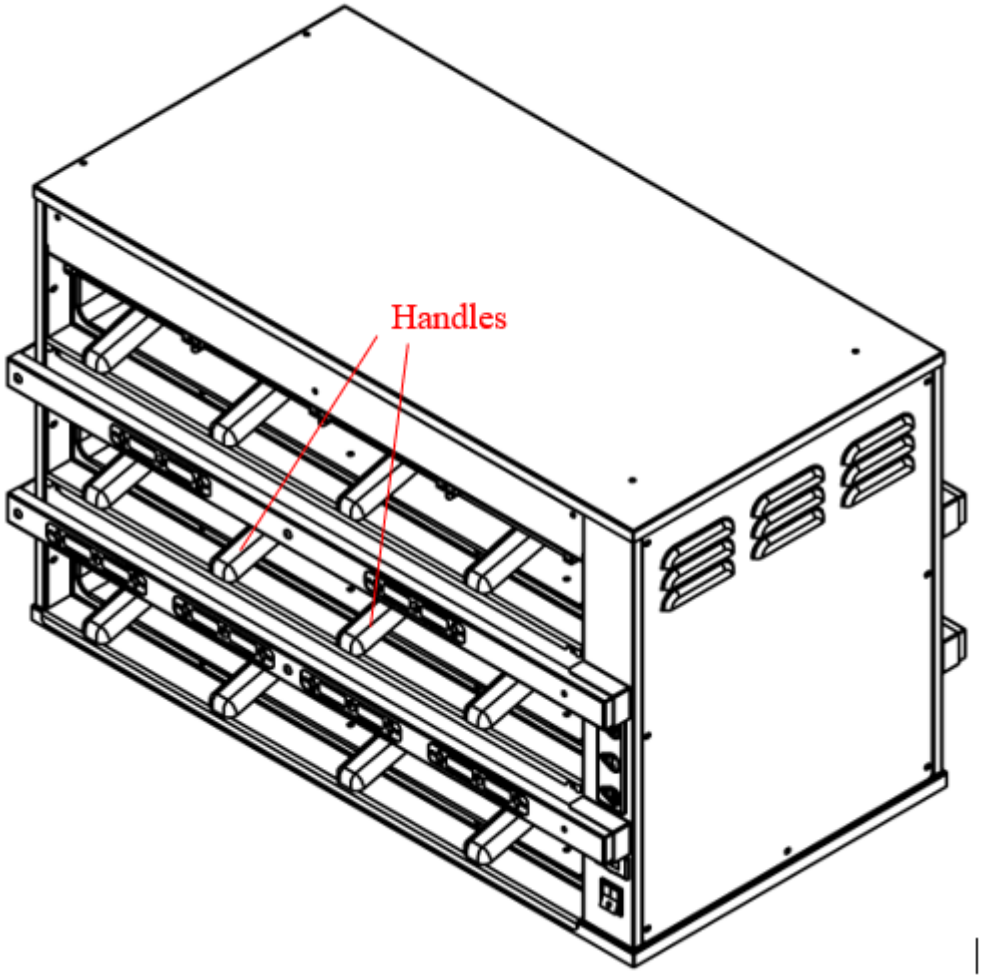
258. The POSA would recognize that the IRHS Documents disclose the third food holding compartment of the IRHS34 Holding Units as having "a third opening" and that this "third opening" is "configured to allow a tray for food items to be passed through the third opening into the third food holding compartment and onto the third substantially planar surface."

259. The third opening is larger than the food pans and allows the food pans, and thus food contained therein, to pass through the third opening, into the third food holding compartment, and onto the third substantially planar surface.



EX1005: 9 (annotated).

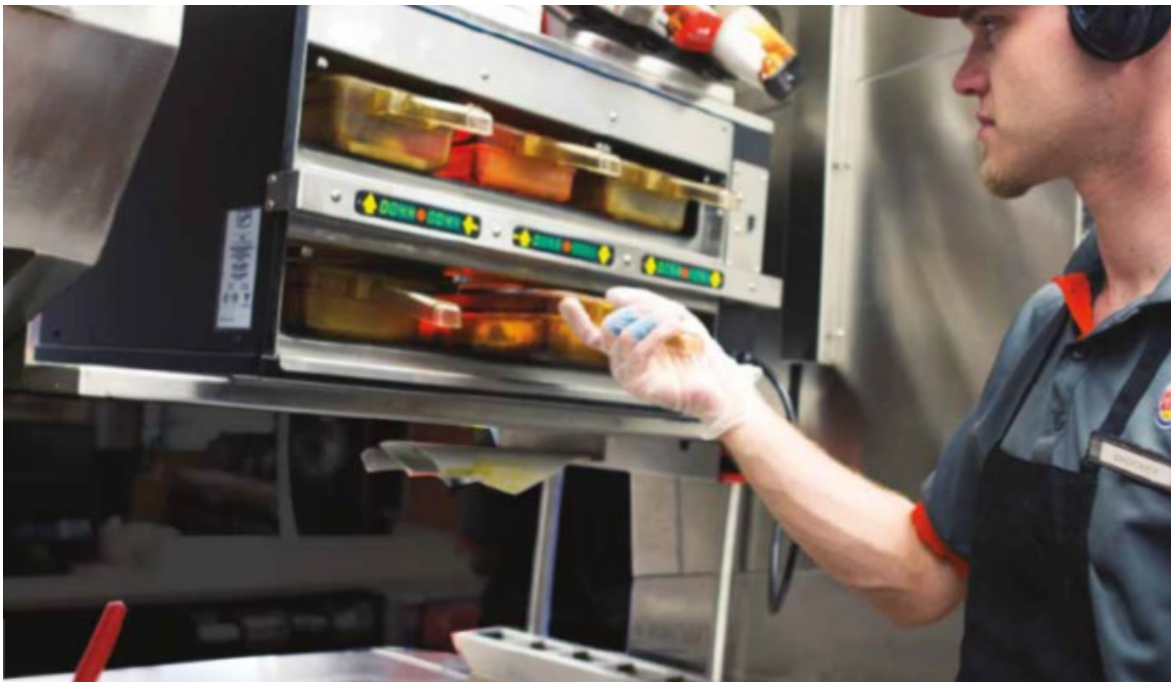
260. As shown below, handles of the food pans project out of the third opening in the front face of the chassis, to allow the operator to insert and remove pans through the first opening. EX1007: 52 (upper image).



EX1005: 9 (annotated).



EX1007: 58 (annotated).

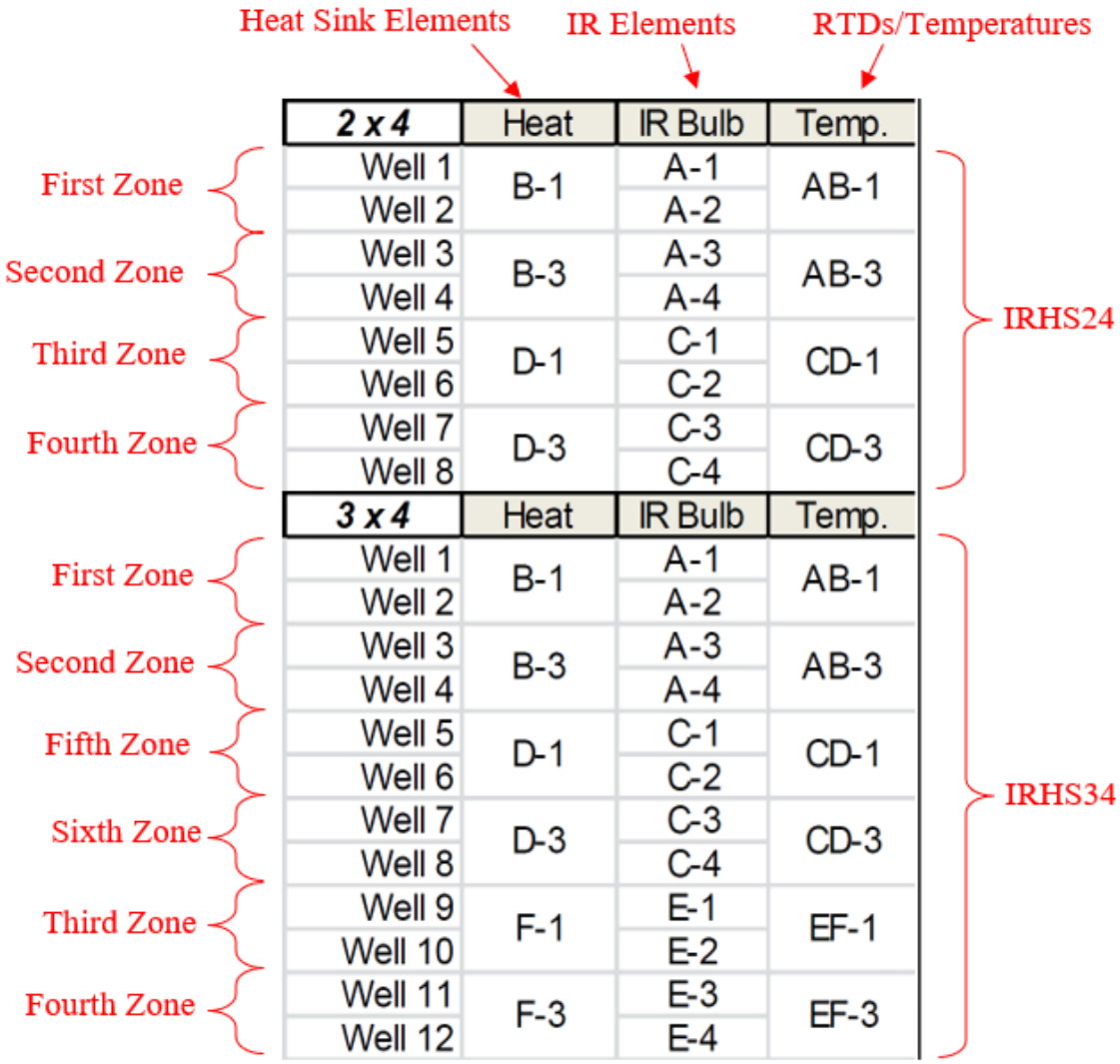


EX1007: 52.

3.b: the method further comprising: operating the fifth food holding zone to a fifth temperature setpoint by independently operating a ninth heating element in the fifth food holding zone and thermally coupled to the third top surface and independently operating a tenth heating element in the fifth food holding zone and thermally coupled to the third substantially planar surface

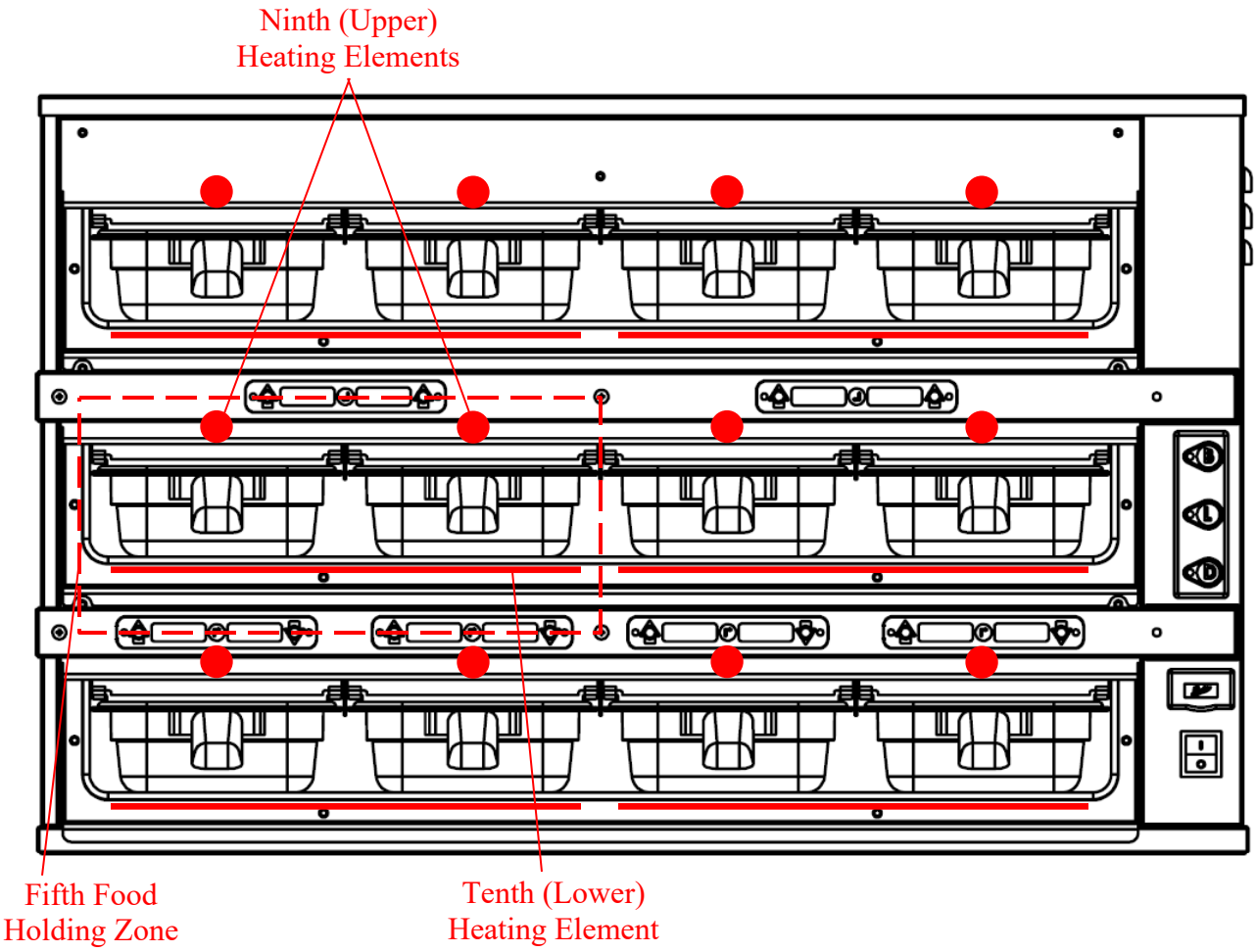
261. As explained in Paragraph 253 (claim limitation 3.a.2), the IRHS34 Holding Units have a fifth food holding zone.

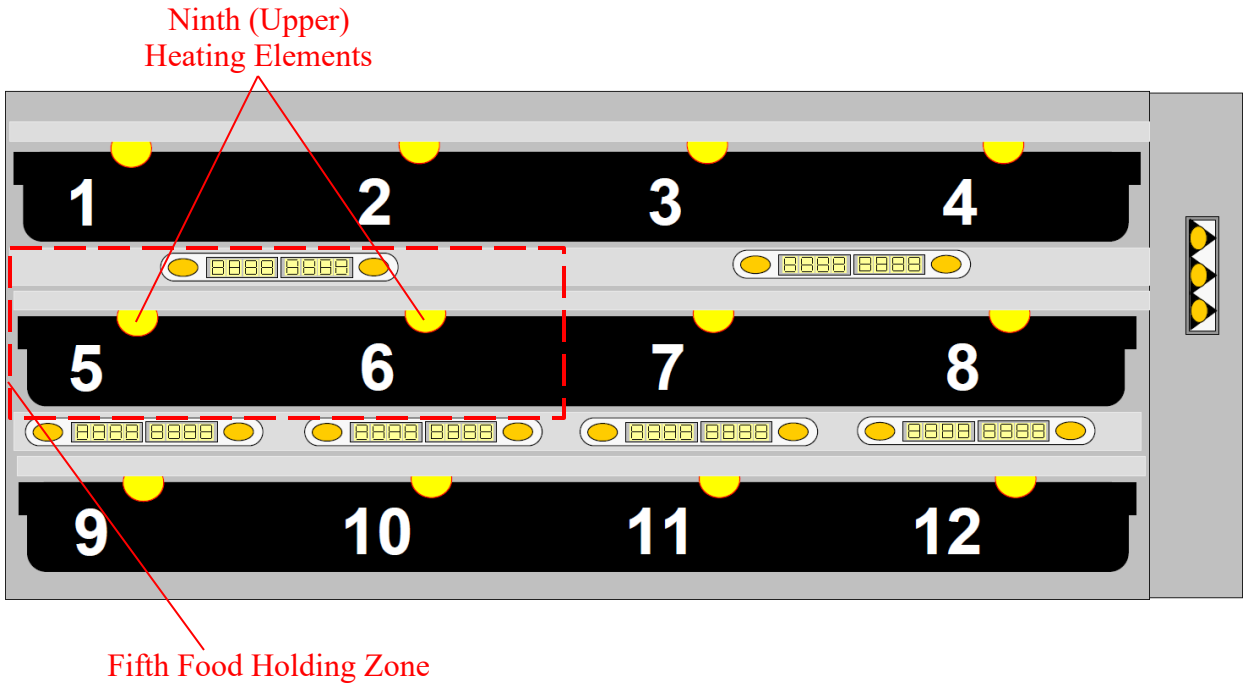
262. As discussed in Paragraphs 166-211 (claim limitation 1.b), the IRHS34 Holding Unit has two IR upper heating elements for each heating/holding zone (one for each pan location (bay)), and a single lower heating element for the two pan locations/bays in the heating/holding zone. EX1006: 1 ("Upper IR emitters" and "Bottom zoned heat element"); EX1007: 53.



EX1008: 64 (annotated).

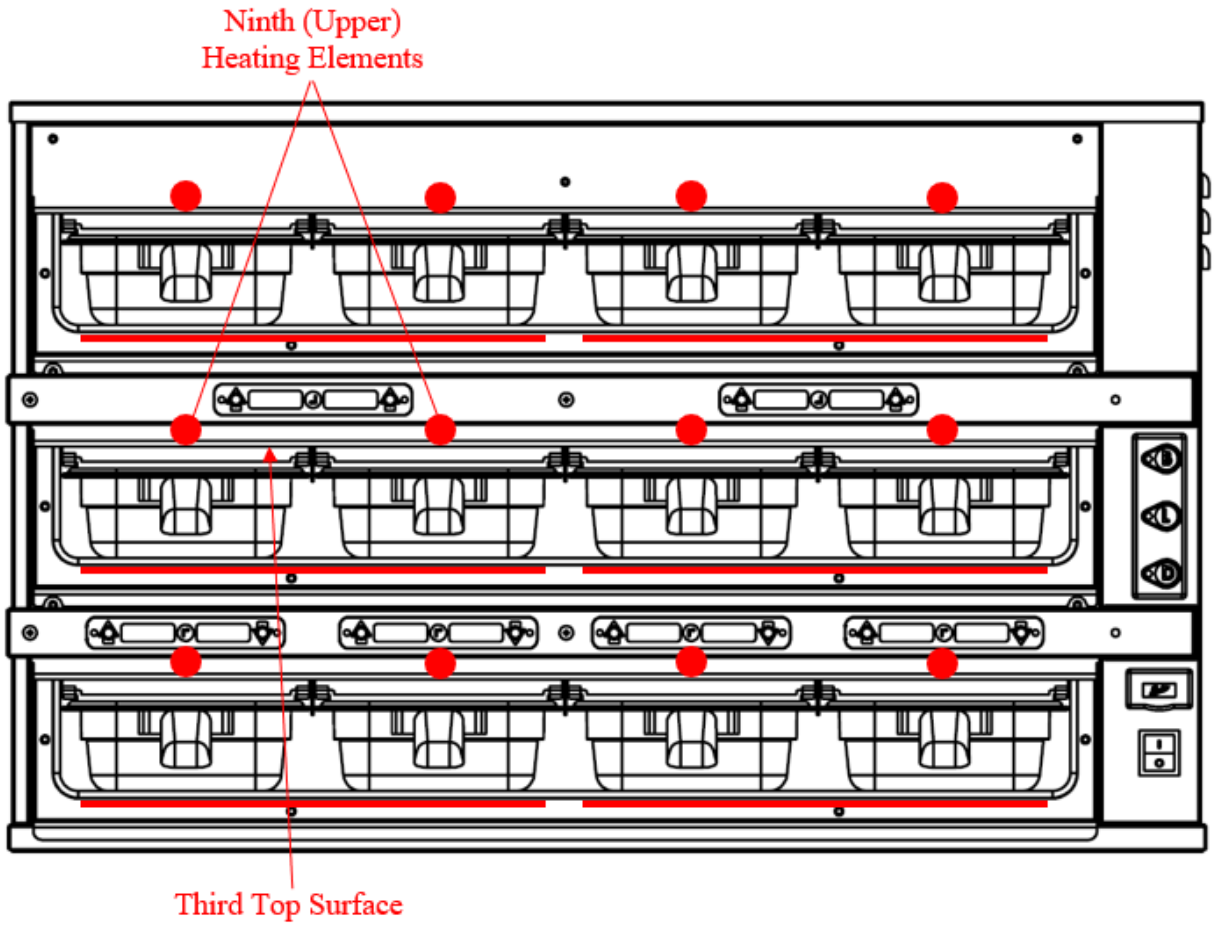
263. Accordingly, in the context of the claims of the '264 Patent, the IRHS34 Holding Units each have a ninth heating element in the form of IR bulbs and a tenth heating element in the form of an electrical heating element in the fifth food holding zone for heating the fifth food holding zone.

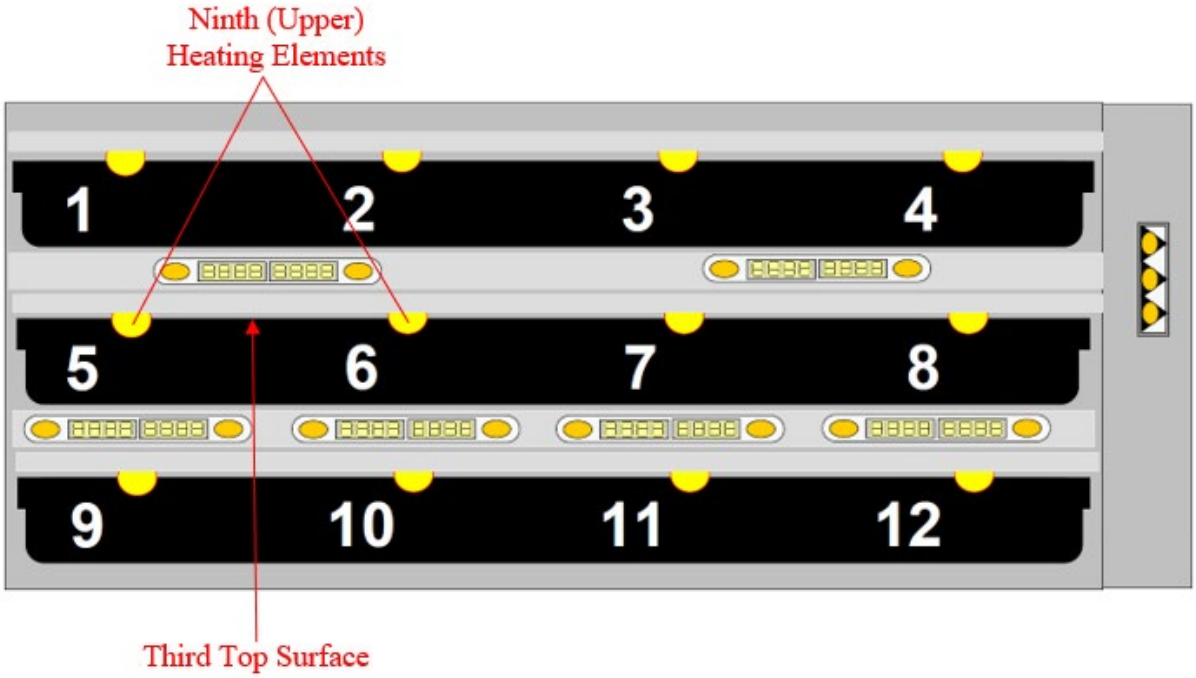

Ninth (Upper)
Heating Elements
Fifth Food
Holding Zone
Tenth (Lower)
Heating Element



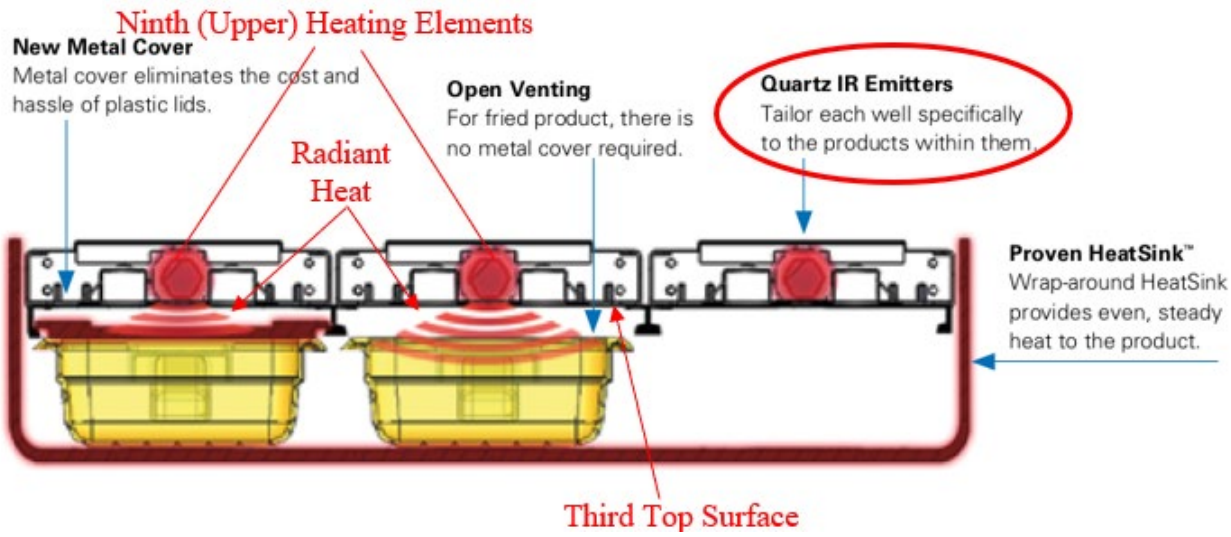
EX1005: 9, 26 (annotated)

264. Further, the ninth heating element is thermally coupled to the third top surface as required by the claim limitation. The third top surface of the IRHS34 Holding Unit is formed by the sheet metal plate disposed directly below the third (middle) compartment's upper IR heating elements. These IR heating elements (e.g., ninth heating element) heat the sheet metal plate, and, thus, are thermally coupled to the sheet metal plate and the third top surface.

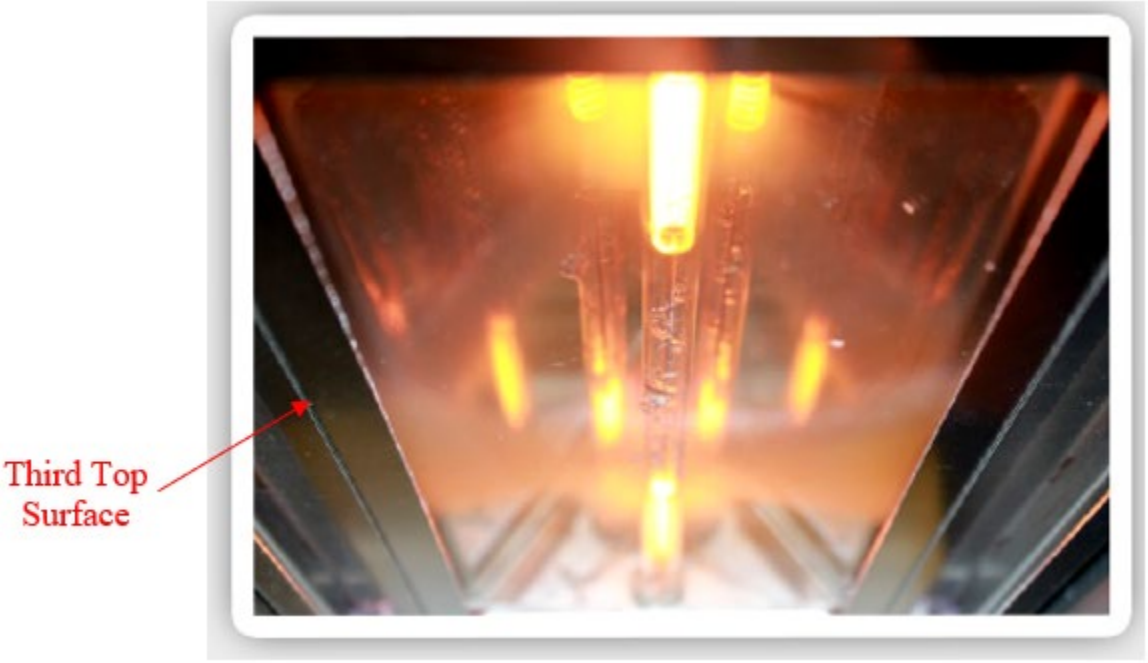

Ninth (Upper)
Heating Elements
Third Top Surface


Ninth (Upper)
Heating Elements
1
2
3
4
5
6
7
8
9
10
11
12
Third Top Surface

EX1005: 9, 26 (annotated)

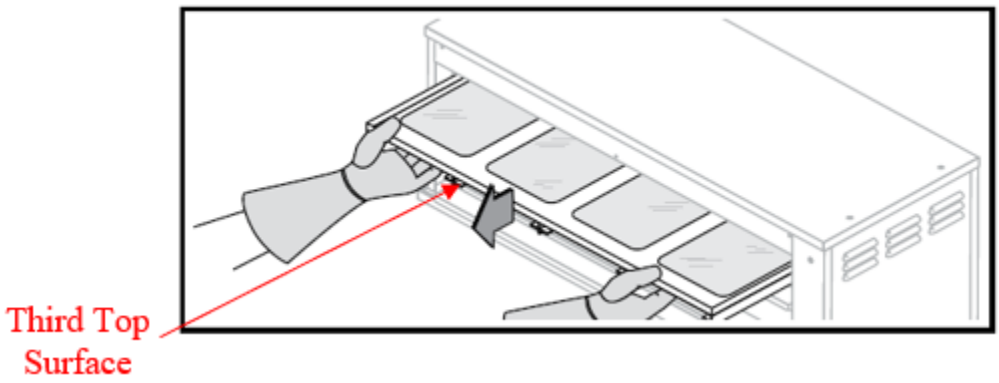


EX1007: 53 (annotated).



EX1007: 11 (annotated).

NOTE: Make sure the glass has cooled off sufficiently to avoid burns to bare skin. Use gloves if necessary.

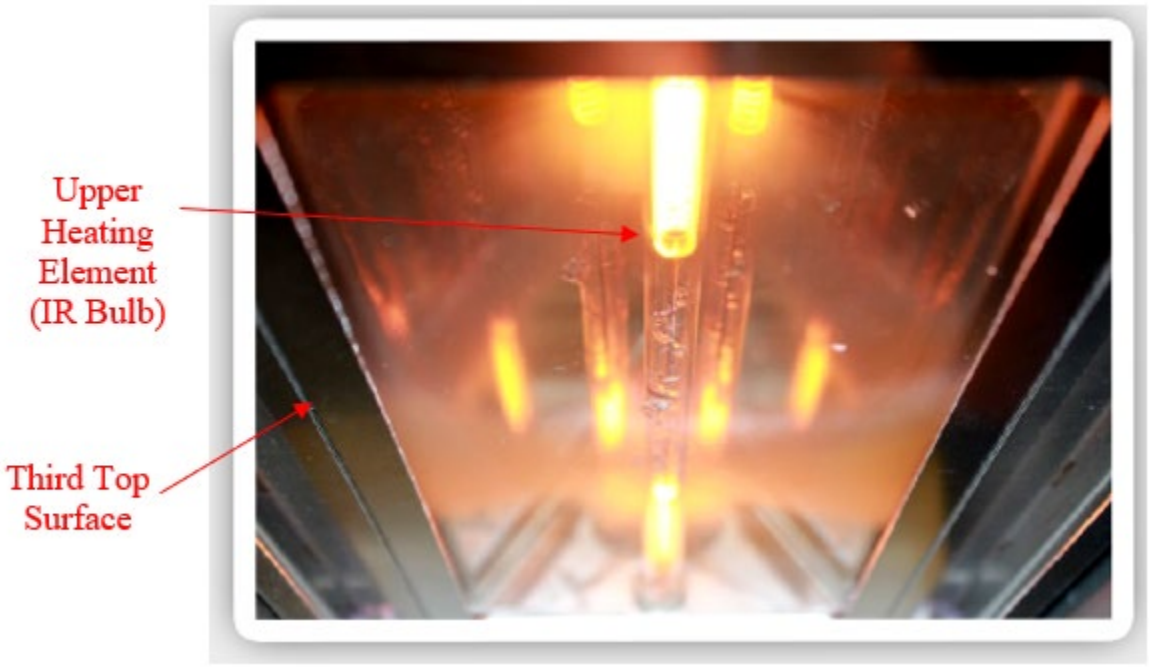


EX1008: 25 (annotated).

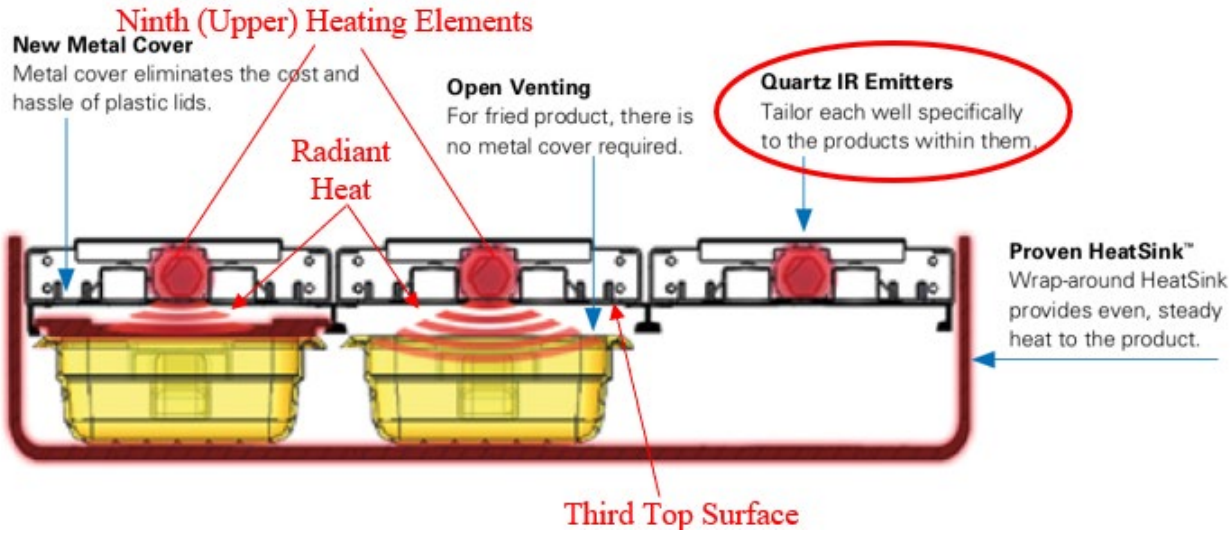
265. The IR heating elements heat the sheet metal plate (e.g., third top surface) in various ways. For example, the portions of the sheet metal plate in direct line of sight with the upper IR heating elements receive direct IR heat energy (radiation) from the IR heating elements, heating the sheet metal plate. Moreover, the IR heating elements heat the glass panes, which conduct heat and/or radiate heat to the sheet metal plate of the IR glass support frame. Further, portions of the sheet metal plate are heated from the IR elements indirectly via heat transfer through other structures of the shelf (*e.g.*, reflectors) or otherwise. For example, heat from the IR heating elements transmitted below the sheet metal plate (*e.g.*, at the cover, food, and/or pan) would naturally rise via convection and heat the sheet

metal plate, providing a path of thermal communication from the IR elements to the sheet metal plate and its thermally conductive second top surface.

266. Moreover, as shown in the images below, the upper IR heating elements (e.g., ninth heating element) heat and are connected to structure (e.g., sockets, hoods, reflectors) in the IRHS34 Holding Unit that is thermally coupled to the sheet metal plate and the third top surface. This further thermally couples the upper IR heating elements (e.g., ninth heating element) to the third top surface.



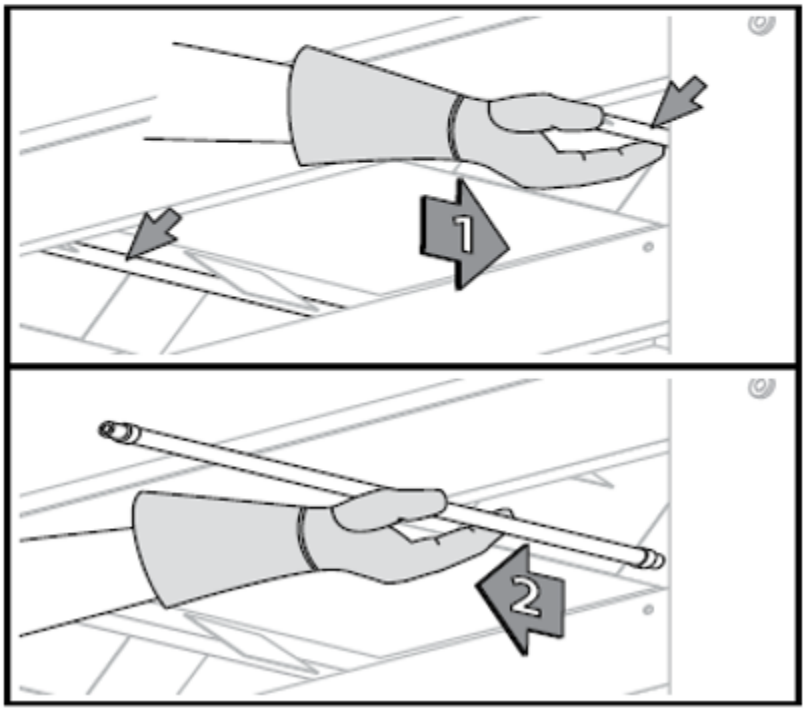
EX1007: 11 (annotated).



EX1007: 53 (annotated).

6. The Emitter Sockets are spring-loaded. Push the Emitter towards the rear socket until the Emitter is free from the front socket and carefully remove.

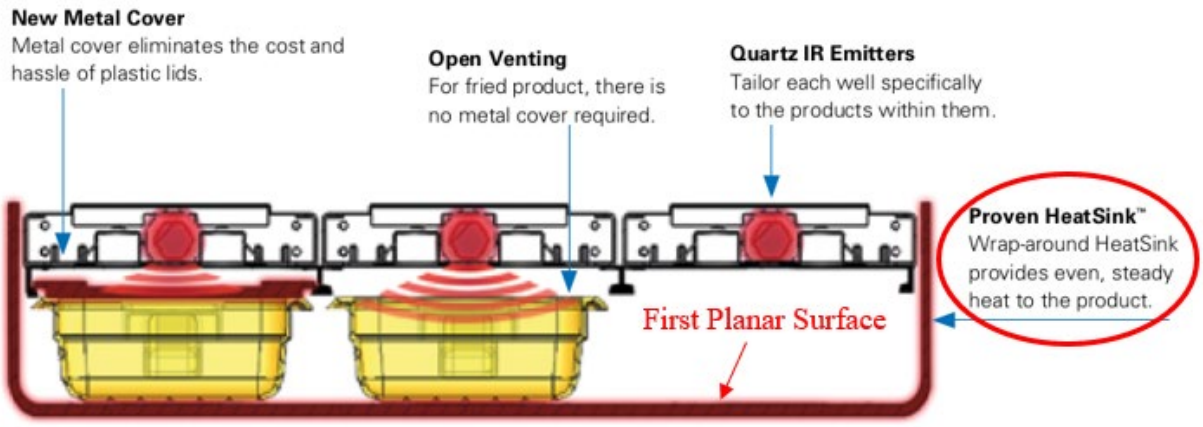
NOTE: DO NOT TOUCH THE EMITTER WITH BARE HANDS! The oil on human skin will shorten the life of the Emitters. If the Emitter is to be reused, use clean gloves, a clean cloth, or a clean paper towel to handle.



EX1008: 27 (annotated).

267. Likewise, the tenth heating element is thermally coupled to the third substantially planar surface as required by the claim limitation. The third planar surface of the IRHS34 Holding Unit is formed by the HeatSink associated with the third (middle) food holding compartment, which provides heat to the pans from underneath the pans. EX1007: 51 ("[p]revious generations of the Duke holding

units contained only HeatSink, heating from below"). The lower heating elements (e.g., tenth heating element) are also part of the HeatSink associated with the third (middle) food holding compartment. The lower heating elements heat the plate of the HeatSink forming the third planar surface, and, thus, the lower heating elements (e.g., tenth heating element) are thermally coupled to the third planar surface.



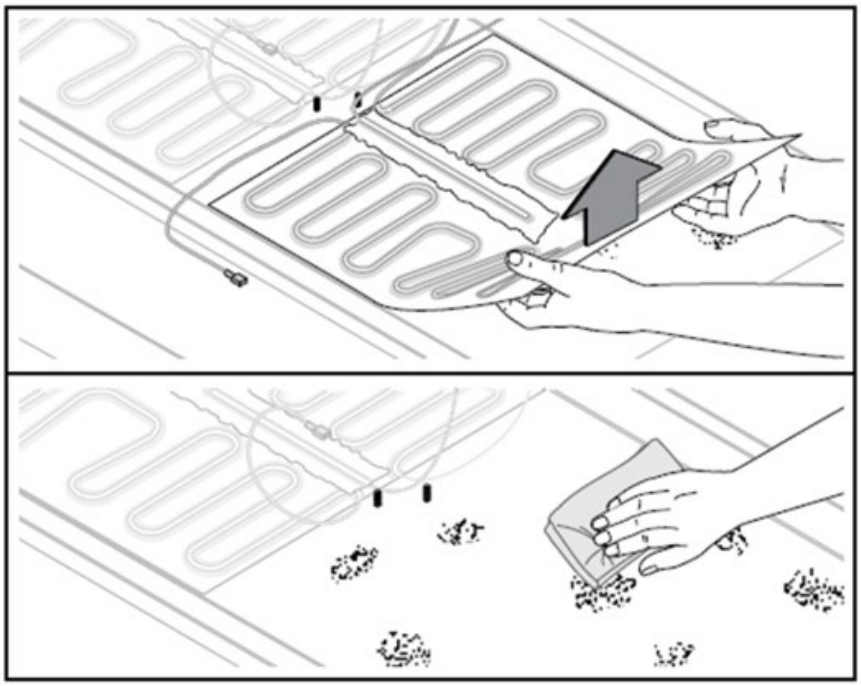
EX1007: 53 (annotated).

HEAT ELEMENTS

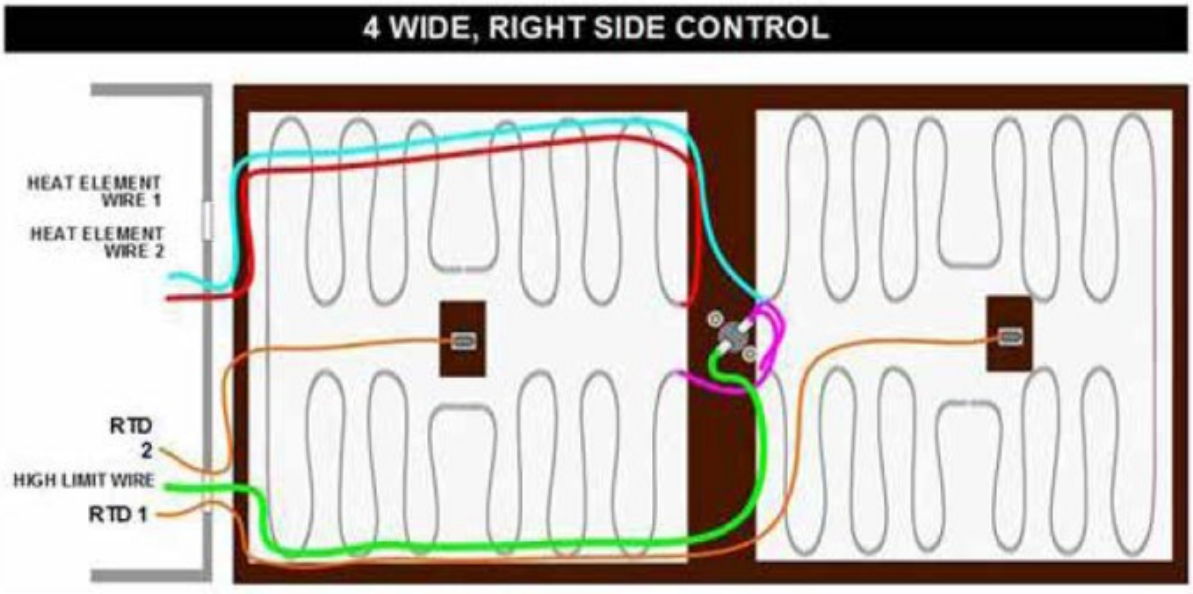
The Heat Elements provide the heating required to keep the heating wells at proper operating temperatures. The quantity varies depending on model and are affixed to the bottom of each Heat Sink.

EX1008: 21.

13. Remove the affected Heat Element by peeling off from the heat sink. Ensure any excess tape and/ or adhesive is removed.



EX1008: 22.



EX1008: 58.

268. The POSA would recognize that because the lower heating elements (e.g., tenth heating element) are affixed to the plate of the HeatSink (i.e. the third planar surface) and heats the plate via conduction, the lower heating elements are thermally coupled to the third substantially planar surface. EX1007: 51, 53; EX1016: Fig. 2, ¶[0039] ("[a]n electrical resistance heating element generally designated 39 having a bottom component 41 contacting the bottom of the heat sink"); EX1017: Fig. 3, 4:51-53 ("[e]ach heat sink 46 is fitted with a heater which may take the form of a flexible heating element 76 of the electrical resistance type. It extends almost the full length of the heat sink 44, covering the flat bottom surface 54 of the bottom wall 50 [of the heat sink]").

269. Given the diverse menu, the food location flexibility, and the teachings to tailor temperature settings per food product, it would have been obvious to hold different food products in different zones (e.g., including a fifth type of food product, such as turkey burger patties, in the fifth holding zone), and therefore different temperature setpoints in different zones. EX1007: 12; EX1005: 16 ("[t]his new technology allows you to precisely control the environment in each pan, allowing customized settings for each food product"); EX1006: 1 ("independent well flexibility"); EX1007: 9 (chart with different food types), 53 ("[t]otal well independence allows freedom in product placement in the IRHS" and "[t]ailor each well specifically to the products within them").

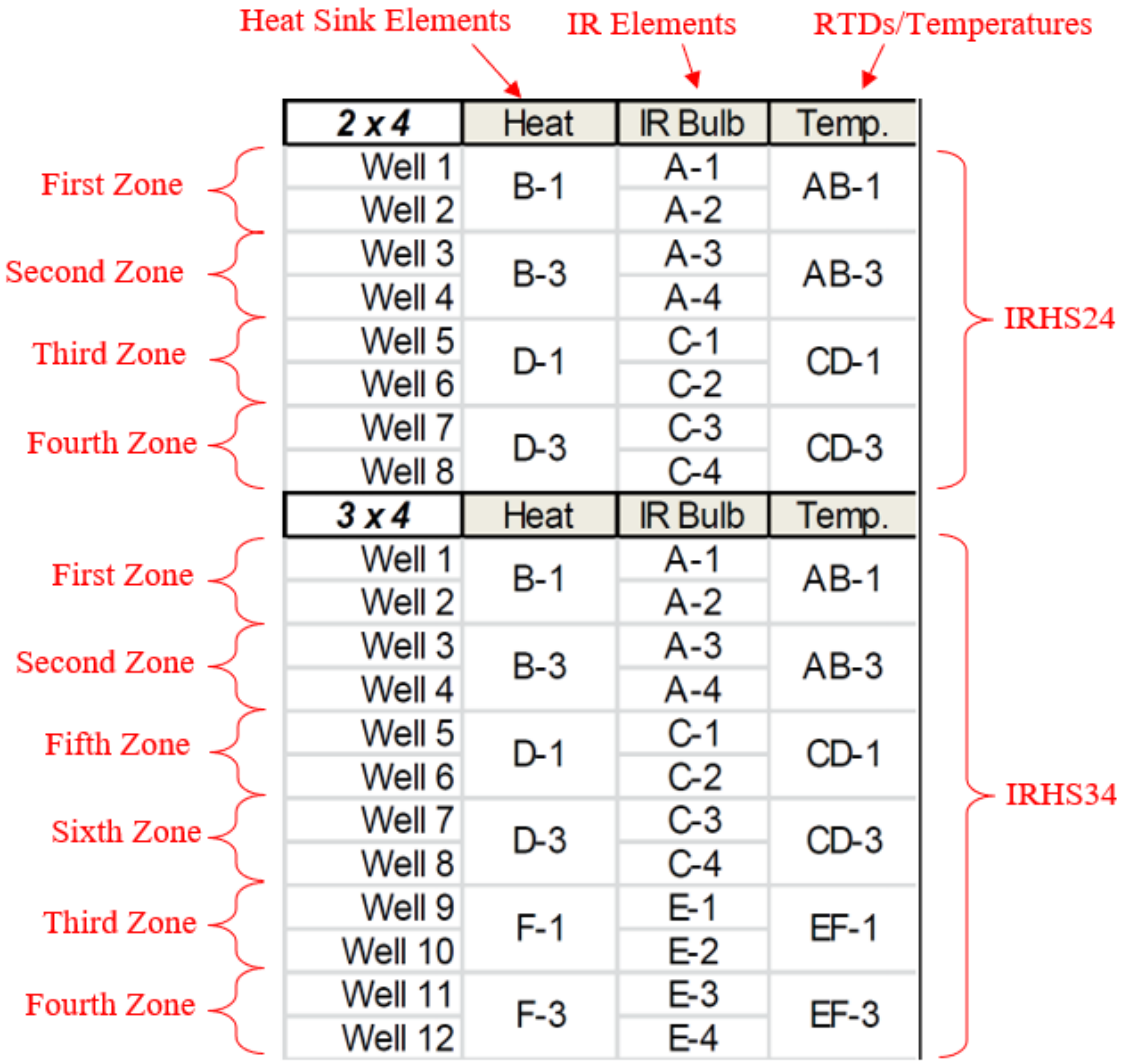
270. For these reasons and others explained in Paragraphs 166-211 above (claim limitation 1.b), it would have been obvious for the IRHS controller to operate each food holding zone (*e.g.*, fifth food holding zone) to a temperature setpoint (e.g., the fifth temperature setpoint, such as the heatsink temperature setpoint)—based on the tailored food type temperature settings assigned to the respective zone—by independently operating the upper heating elements (e.g., ninth heating elements) and independently operating the lower heating element (e.g., tenth heating element) associated with the respective zone, with reasonable expectation of success (demonstrated by the IRHS Documents and enabled by configuration/controls of IRHS). EX1005: 16 ("each food product has a tailored HeatSink temperature and InfraRed pulse rate"); EX1008: 16 ("RTD Sensors monitor the temperature of the heating wells"), 21 ("Heat Elements provide the heating required to keep the heating wells at proper operating temperatures").

3.c: operating the sixth food holding zone to a sixth temperature setpoint by independently operating an eleventh heating element in the sixth food holding zone and thermally coupled to the third top surface and independently operating a twelfth heating element in the sixth food holding zone and thermally coupled to the third substantially planar surface

271. As explained in Paragraph 253 (claim limitation 3.a.2), the IRHS34 Holding Units have a sixth food holding zone.

272. As discussed in Paragraphs 166-211 (claim limitation 1.b), the IRHS34 Holding Unit has two IR upper heating elements for each heating/holding

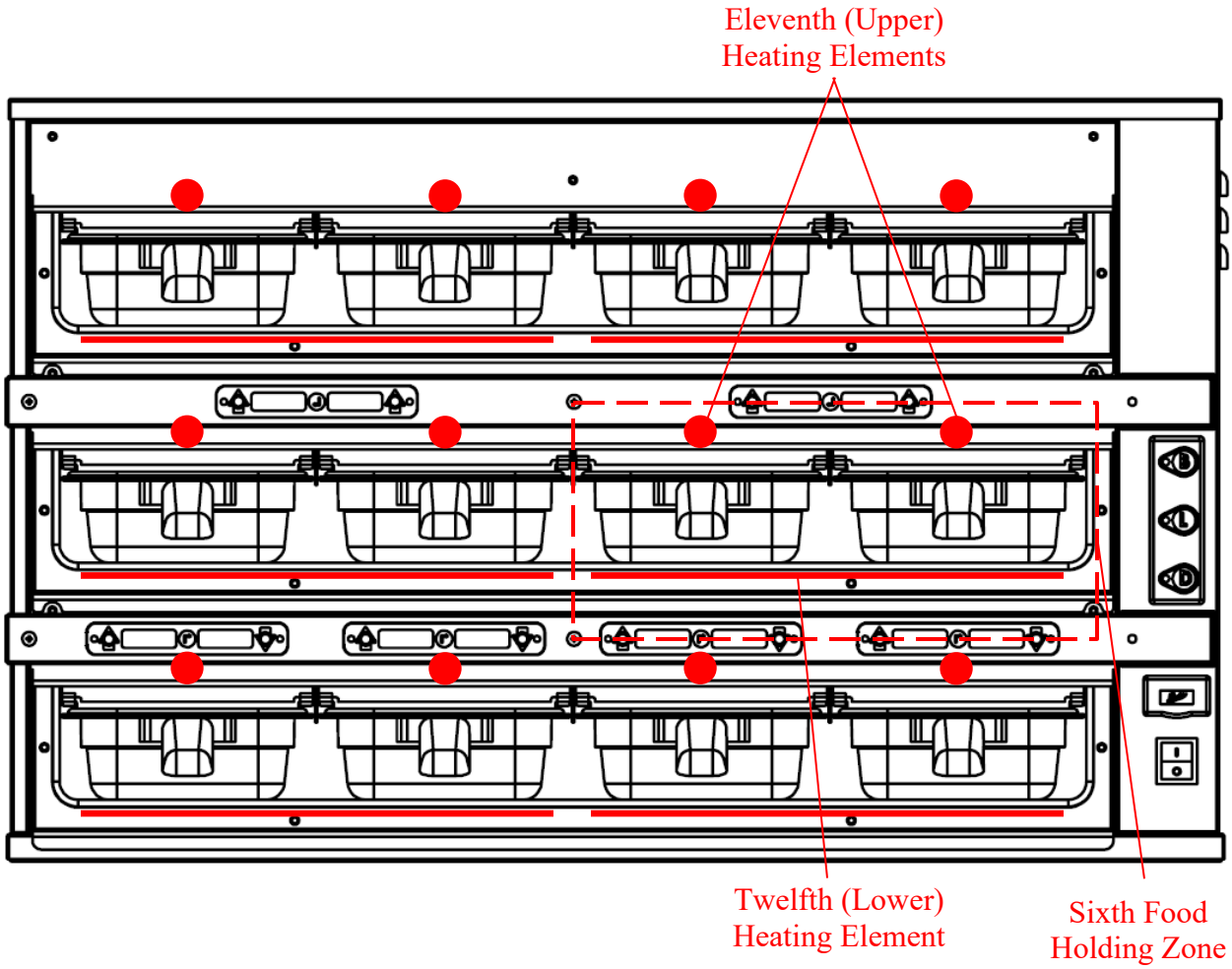
zone (one for each pan location (bay)), and a single lower heating element for the two pan locations/bays in the heating/holding zone. EX1006: 1 ("Upper IR emitters" and "Bottom zoned heat element"); EX1007: 53.

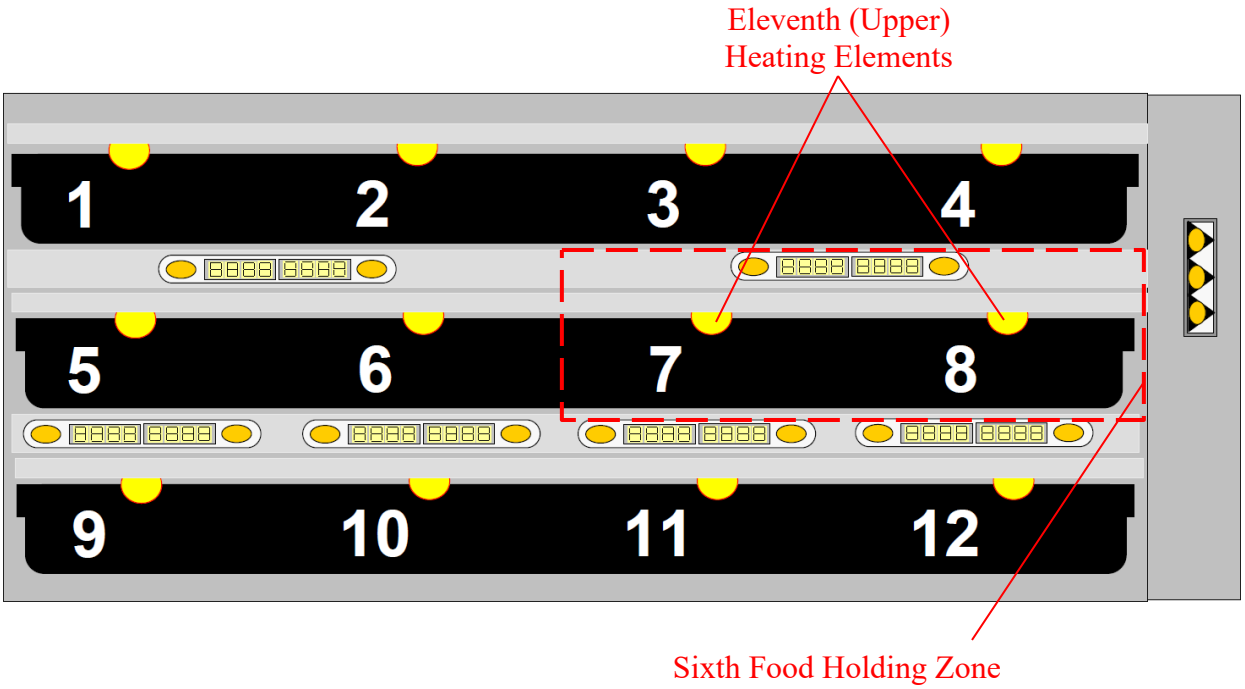


EX1008: 64 (annotated).

273. Accordingly, in the context of the claims of the '264 Patent, the IRHS34 Holding Units each have an eleventh heating element in the form of IR bulbs and a

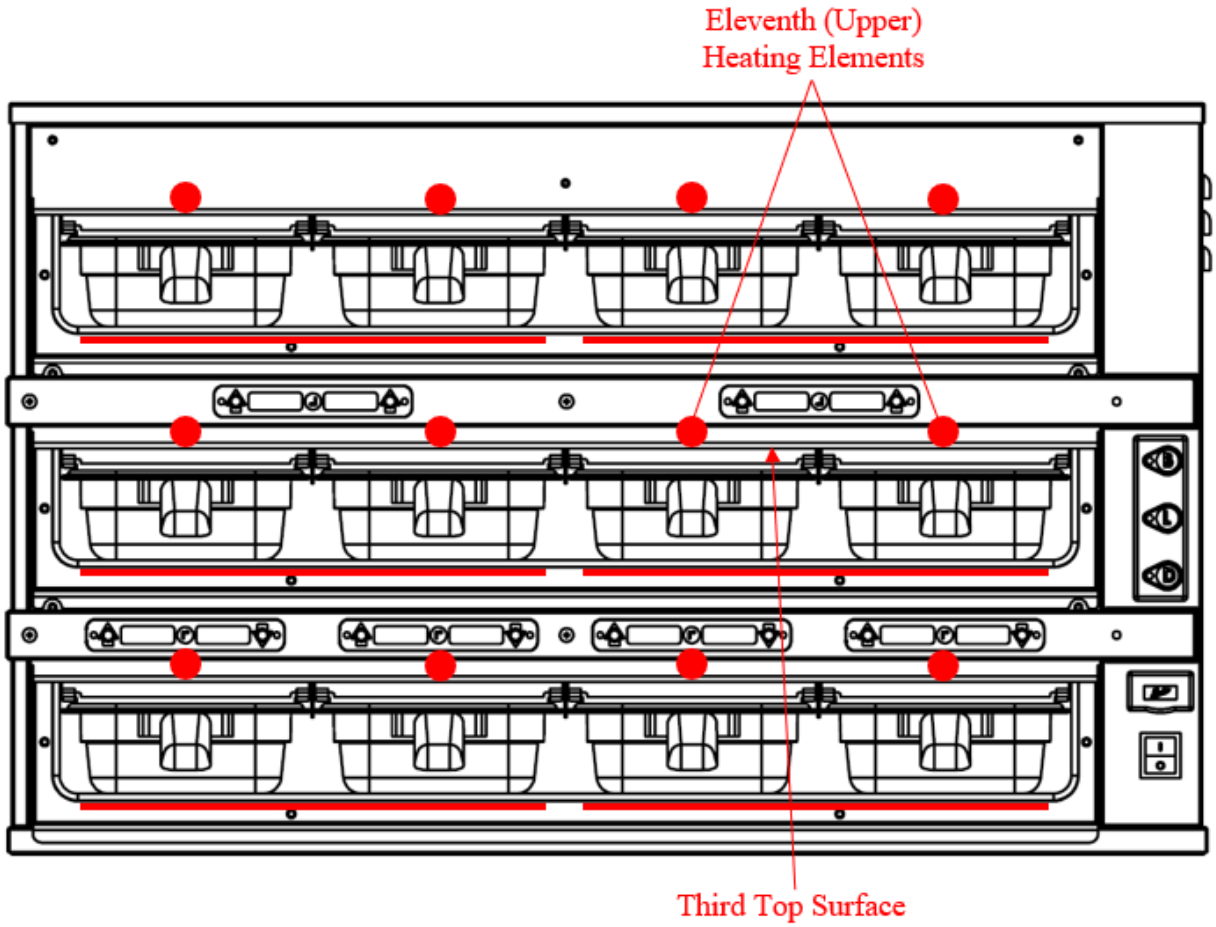
twelfth heating element in the form of an electrical heating element in the sixth food holding zone for heating the sixth food holding zone.

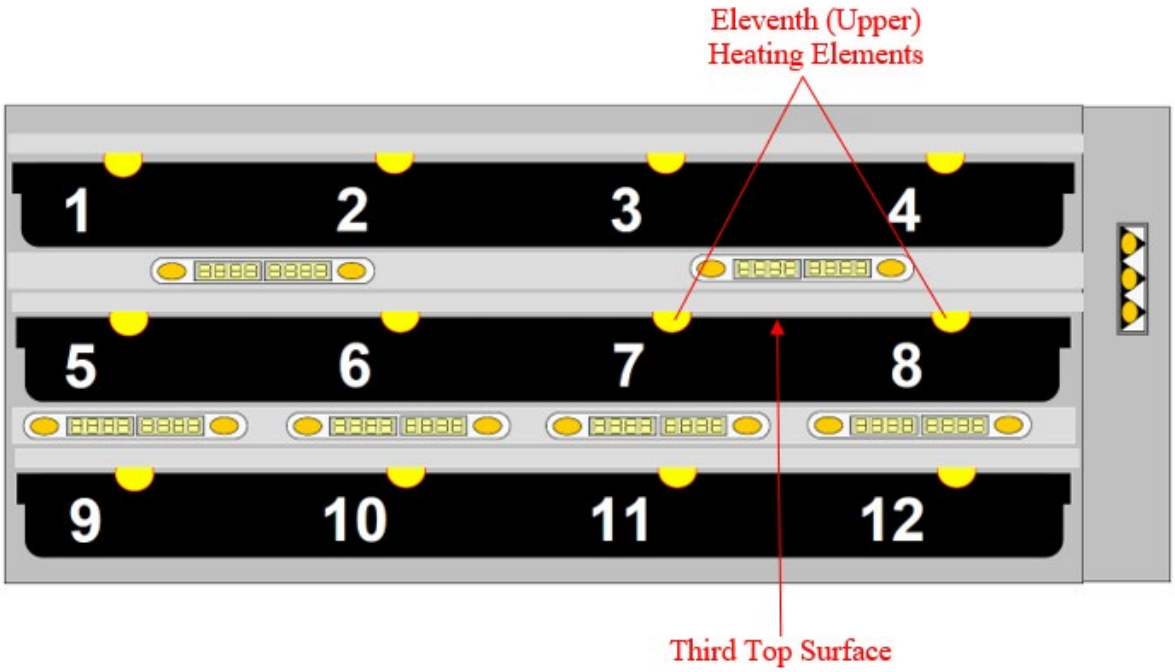




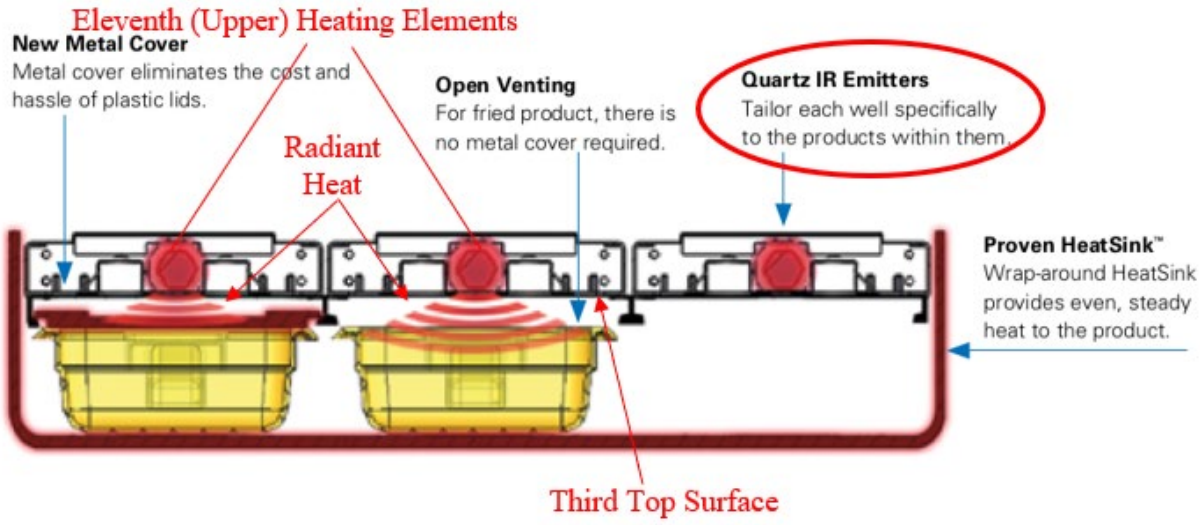
EX1005: 9, 26 (annotated)

274. Further, the eleventh heating element is thermally coupled to the third top surface as required by the claim limitation. The third top surface of the IRHS34 Holding Unit is formed by the sheet metal plate disposed directly below the third (middle) compartment's upper IR heating elements. These IR heating elements (e.g., eleventh heating element) heat the sheet metal plate, and, thus, are thermally coupled to the sheet metal plate and the third top surface.

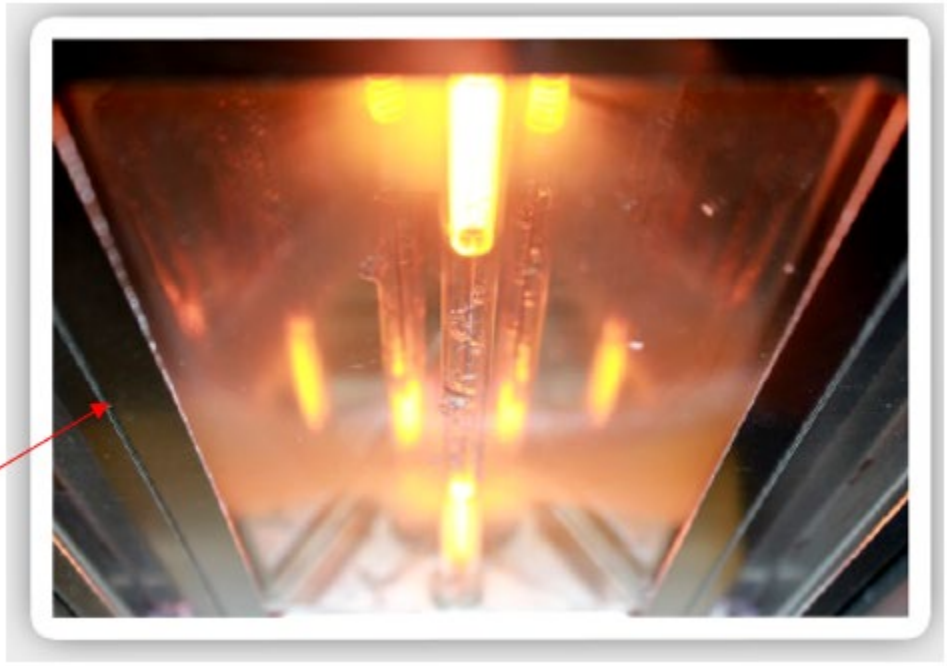

Eleventh (Upper)
Heating Elements
Third Top Surface



EX1005: 9, 26 (annotated)

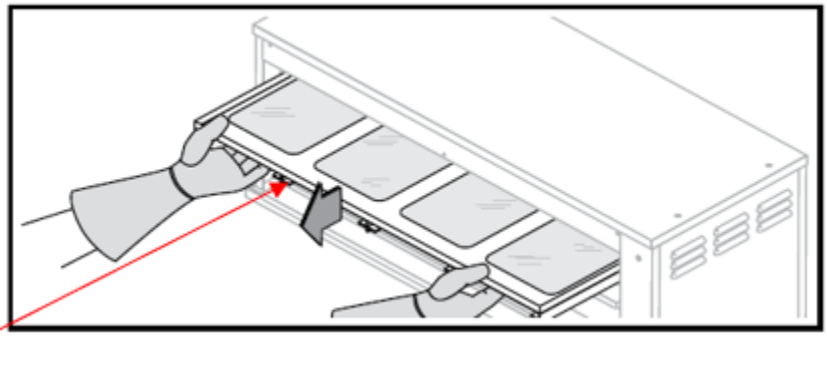


EX1007: 53 (annotated).



EX1007: 11 (annotated).

NOTE: Make sure the glass has cooled off sufficiently to avoid burns to bare skin. Use gloves if necessary.

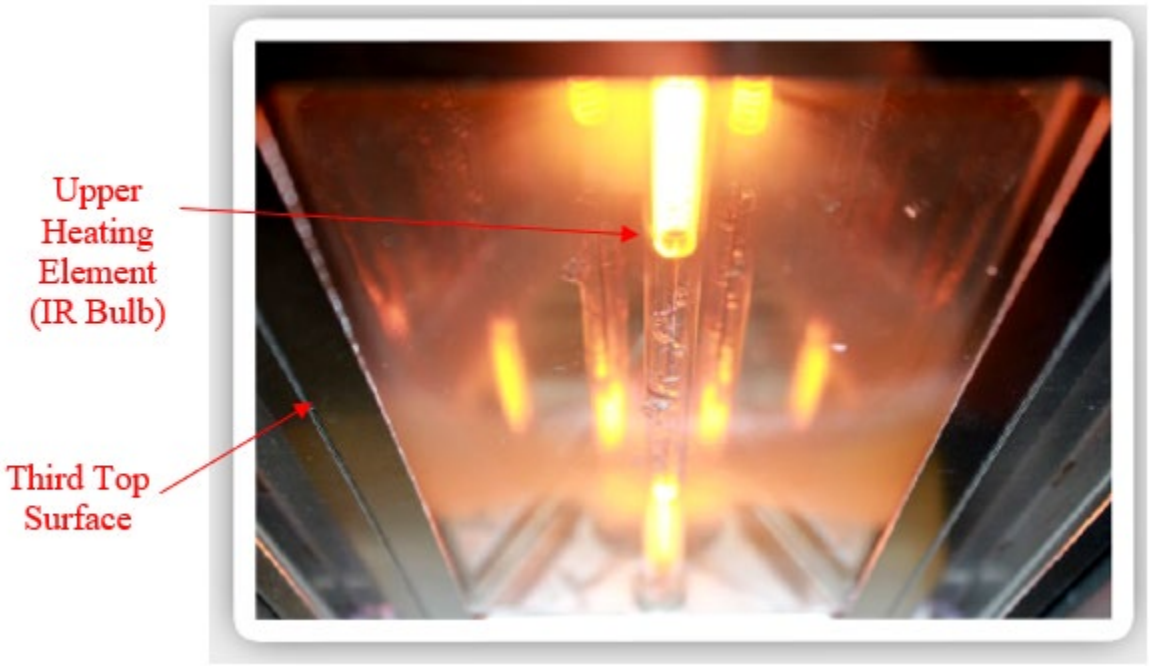


EX1008: 25 (annotated).

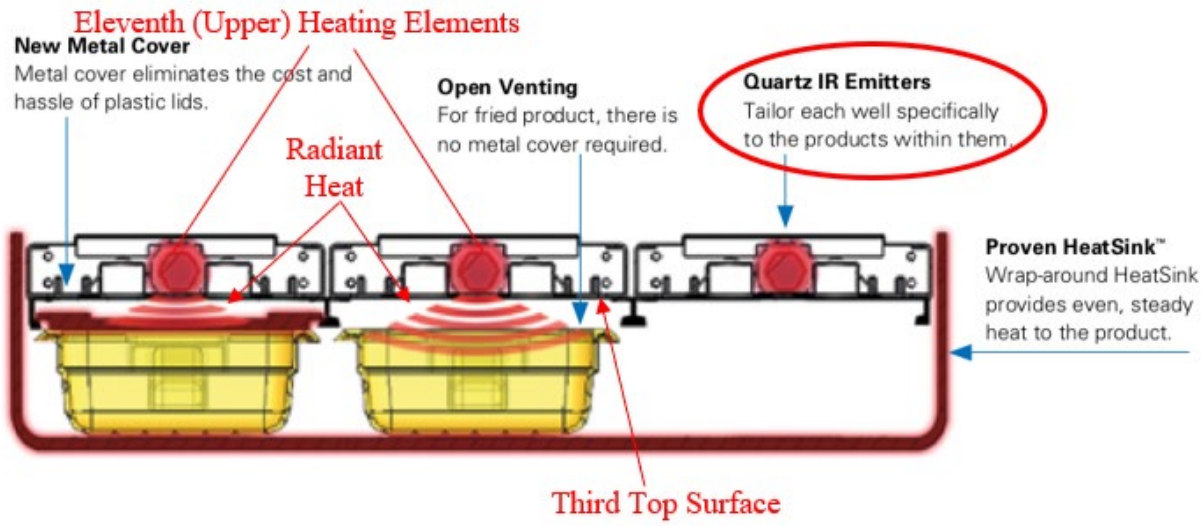
275. The IR heating elements heat the sheet metal plate (e.g., third top surface) in various ways. For example, the portions of the sheet metal plate in

direct line of sight with the upper IR heating elements receive direct IR heat energy (radiation) from the IR heating elements, heating the sheet metal plate. Moreover, the IR heating elements heat the glass panes, which conduct heat and/or radiate heat to the sheet metal plate of the IR glass support frame. Further, portions of the sheet metal plate are heated from the IR elements indirectly via heat transfer through other structures of the shelf (*e.g.*, reflectors) or otherwise. For example, heat from the IR heating elements transmitted below the sheet metal plate (*e.g.*, at the cover, food, and/or pan) would naturally rise via convection and heat the sheet metal plate, providing a path of thermal communication from the IR elements to the sheet metal plate and its thermally conductive second top surface.

276. Moreover, as shown in the images below, the upper IR heating elements (e.g., eleventh heating element) heat and are connected to structure (e.g., sockets, hoods, reflectors) in the IRHS34 Holding Unit that is thermally coupled to the sheet metal plate and the third top surface. This further thermally couples the upper IR heating elements (e.g., eleventh heating element) to the third top surface.



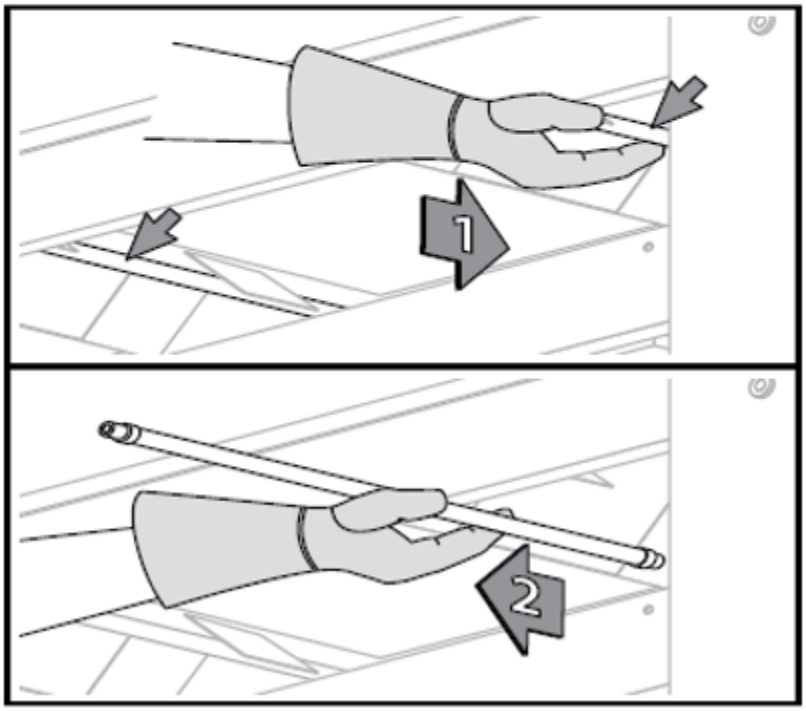
EX1007: 11 (annotated).



EX1007: 53 (annotated).

6. The Emitter Sockets are spring-loaded. Push the Emitter towards the rear socket until the Emitter is free from the front socket and carefully remove.

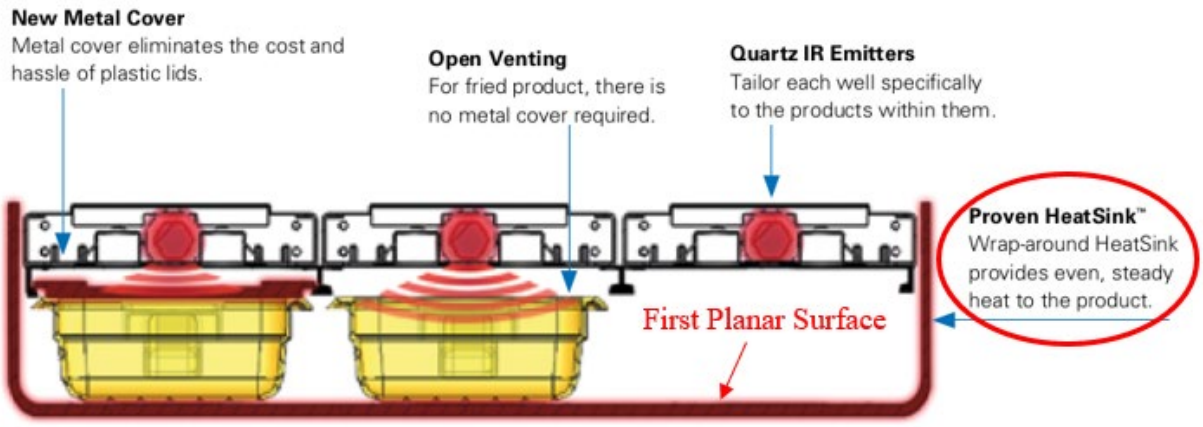
NOTE: DO NOT TOUCH THE EMITTER WITH BARE HANDS! The oil on human skin will shorten the life of the Emitters. If the Emitter is to be reused, use clean gloves, a clean cloth, or a clean paper towel to handle.



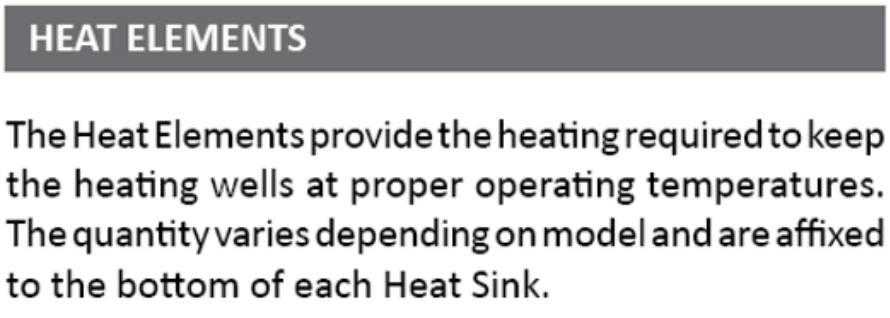
EX1008: 27 (annotated).

277. Likewise, the twelfth heating element is thermally coupled to the third substantially planar surface as required by the claim limitation. The third planar surface of the IRHS34 Holding Unit is formed by the HeatSink associated with the third (middle) food holding compartment, which provides heat to the pans from underneath the pans. EX1007: 51 ("[p]revious generations of the Duke holding

units contained only HeatSink, heating from below"). The lower heating elements (e.g., twelfth heating element) are also part of the HeatSink associated with the third (middle) food holding compartment. The lower heating elements heat the plate of the HeatSink forming the third planar surface, and, thus, the lower heating elements (e.g., twelfth heating element) are thermally coupled to the third planar surface.

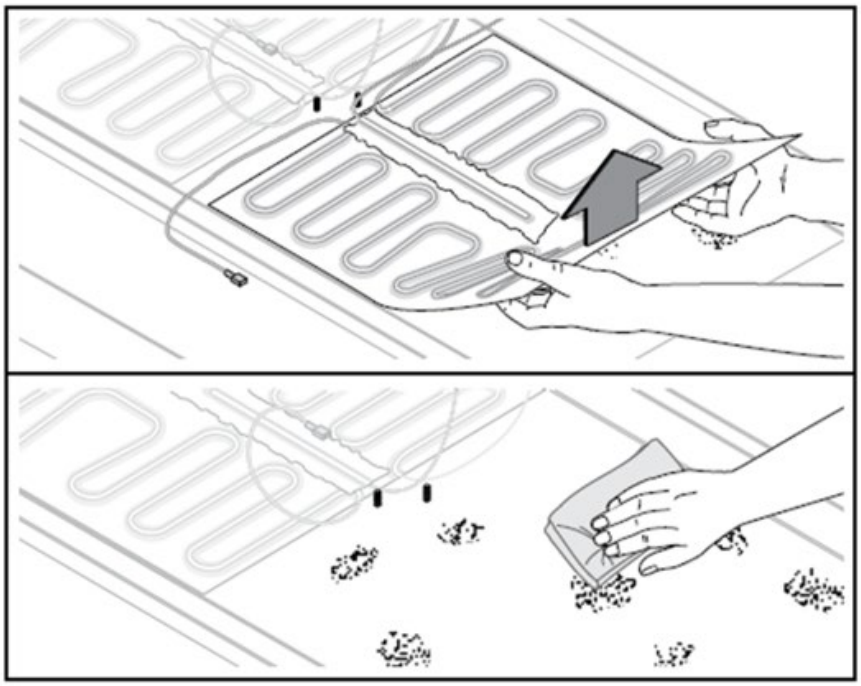


EX1007: 53 (annotated).

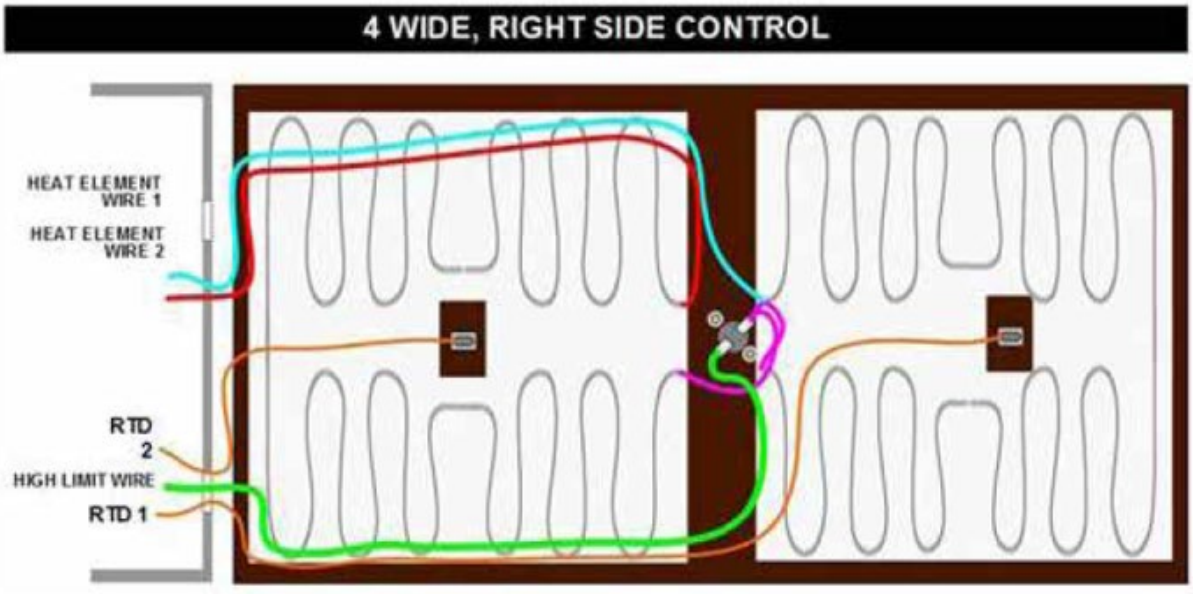


EX1008: 21.

13. Remove the affected Heat Element by peeling off from the heat sink. Ensure any excess tape and/ or adhesive is removed.



EX1008: 22.



EX1008: 58.

278. The POSA would recognize that because the lower heating elements (e.g., twelfth heating element) are affixed to the plate of the HeatSink (i.e. the third planar surface) and heats the plate via conduction, the lower heating elements are thermally coupled to the third substantially planar surface. EX1007: 51, 53; EX1016: Fig. 2, ¶[0039] ("[a]n electrical resistance heating element generally designated 39 having a bottom component 41 contacting the bottom of the heat sink"); EX1017: Fig. 3, 4:51-53 ("[e]ach heat sink 46 is fitted with a heater which may take the form of a flexible heating element 76 of the electrical resistance type. It extends almost the full length of the heat sink 44, covering the flat bottom surface 54 of the bottom wall 50 [of the heat sink]").

279. Given the diverse menu, the food location flexibility, and the teachings to tailor temperature settings per food product, it would have been obvious to hold different food products in different zones (e.g., including a fifth type of food product, such as turkey burger patties, in the fifth holding zone), and therefore different temperature setpoints in different zones. EX1007: 12; EX1005: 16 ("[t]his new technology allows you to precisely control the environment in each pan, allowing customized settings for each food product"); EX1006: 1 ("independent well flexibility"); EX1007: 9 (chart with different food types), 53 ("[t]otal well independence allows freedom in product placement in the IRHS" and "[t]ailor each well specifically to the products within them").

280. For these reasons and others explained in Paragraphs 166-211 above (claim limitation 1.b), it would have been obvious for the IRHS controller to operate each food holding zone (*e.g.*, sixth food holding zone) to a temperature setpoint (e.g., the sixth temperature setpoint, such as the heatsink temperature setpoint)—based on the tailored food type temperature settings assigned to the respective zone—by independently operating the upper heating elements (e.g., eleventh heating elements) and independently operating the lower heating element (e.g., twelfth heating element) associated with the respective zone, with reasonable expectation of success (demonstrated by the IRHS Documents and enabled by configuration/controls of IRHS). EX1005: 16 ("each food product has a tailored HeatSink temperature and InfraRed pulse rate"); EX1008: 16 ("RTD Sensors monitor the temperature of the heating wells"), 21 ("Heat Elements provide the heating required to keep the heating wells at proper operating temperatures").

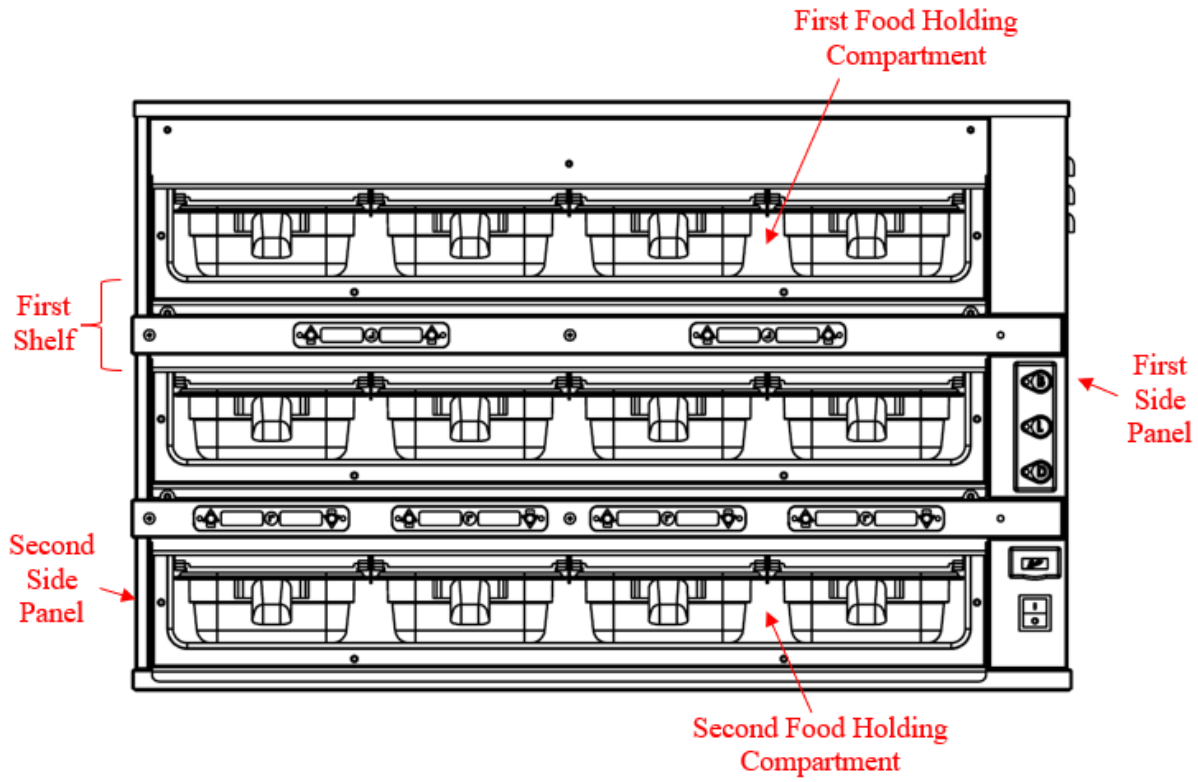
281. Accordingly, each limitation of Claim 3 is disclosed or rendered obvious within the IRHS Documents. Accordingly, the POSA would have found it obvious to combine the teachings and disclosures of the IRHS Documents to arrive at the method of maintaining different temperatures within a multi-zone food holding bin as claimed in Claim 3.

E. Claim 4

4.a.1: the method of claim 3, wherein the multi-zone food holding bin comprises a first shelf disposed between the first side panel and the second side panel and between the first compartment and the second compartment

282. As discussed above, the POSA would have found it obvious to combine the teachings and disclosures of the IRHS Documents to arrive at the claimed method of maintaining different temperatures within a multi-zone food holding bin of Claim 3.

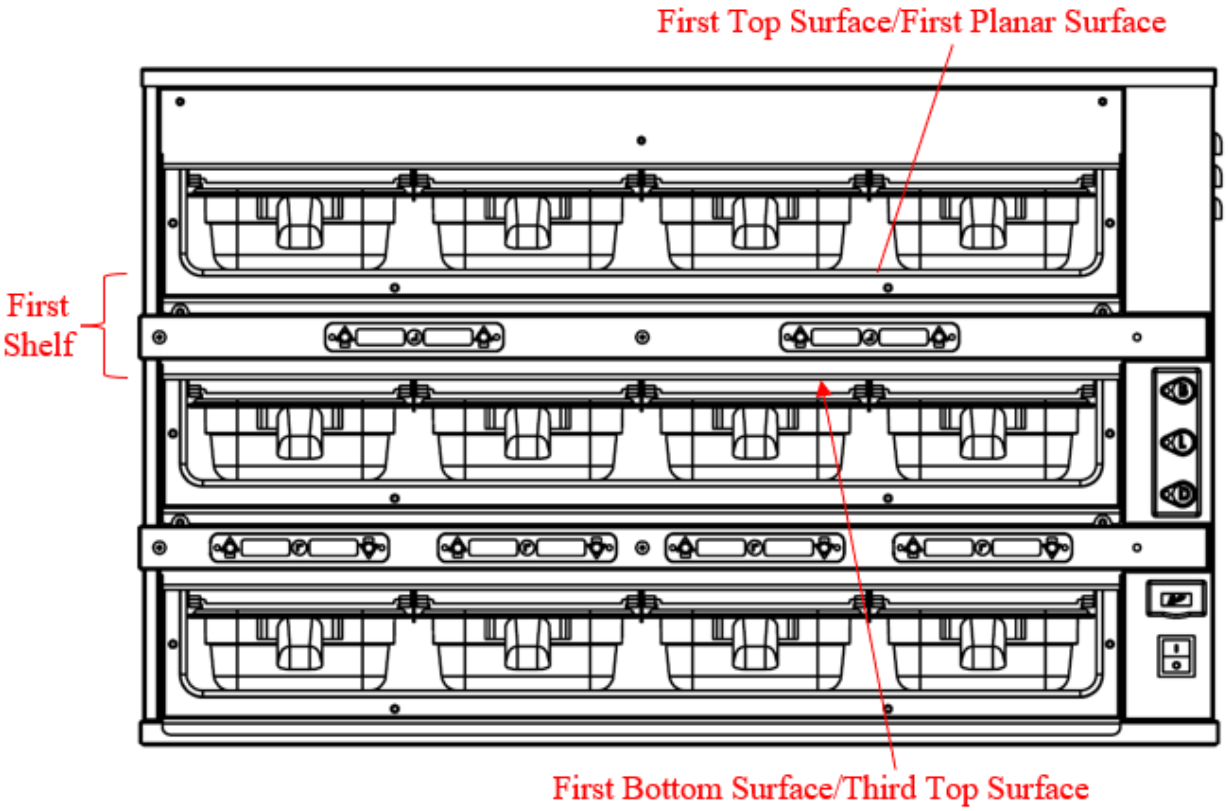
283. As disclosed in the IRHS Documents, the IRHS34 Holding Units have a first shelf disposed between the first side panel and the second side panel. The first shelf is between the first food holding compartment and the second food holding compartment.



EX1005: 9 (annotated).

4.a.2: wherein a first top surface of the first shelf provides the first substantially planar bottom surface and a first bottom surface of the first shelf provides the third top surface

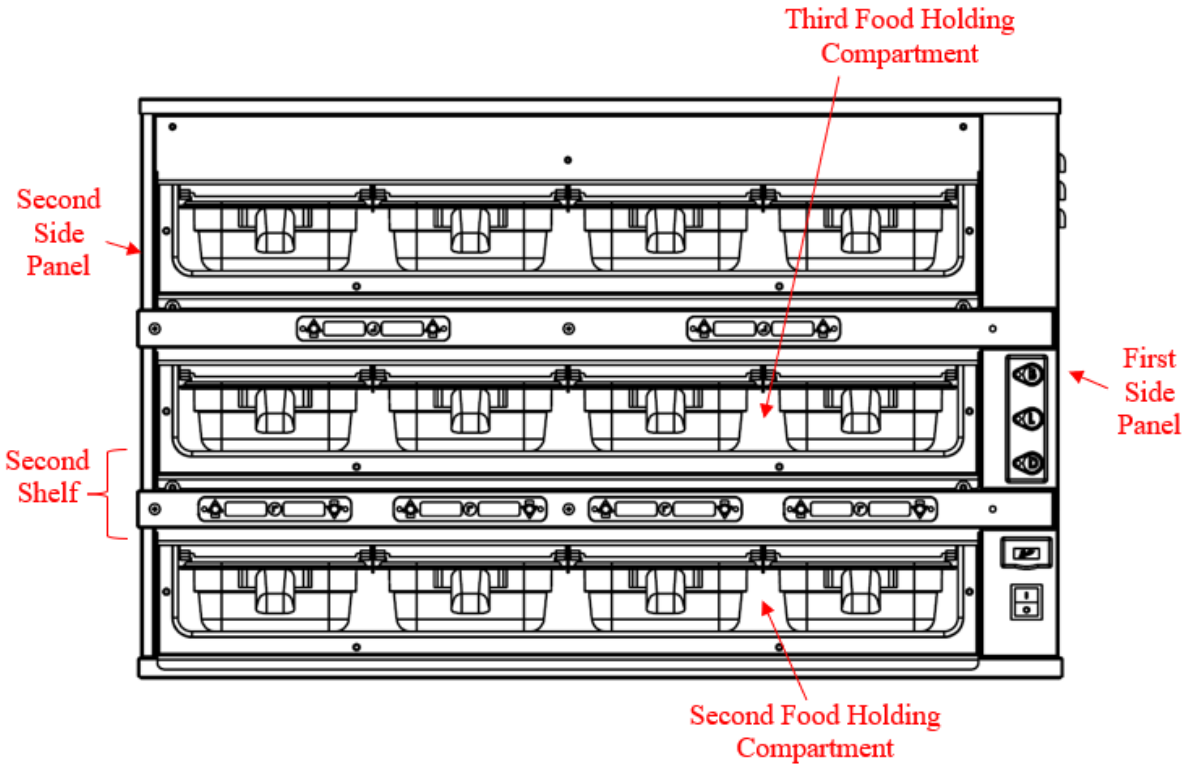
284. The first shelf of the IRHS34 Holding Unit has a top surface, which in the context of the claim limitation is a first top surface that provides the first substantially planar bottom surface of the first food holding compartment. The first shelf of the IRHS34 Holding Unit has a bottom surface, which in the context of the claim limitation is a first bottom surface that provides the third top surface.



EX1005: 9 (annotated).

4.a.3: the multi-zone food holding bin further comprises a second shelf disposed between the first side panel and the second side panel and between the third compartment and the second compartment

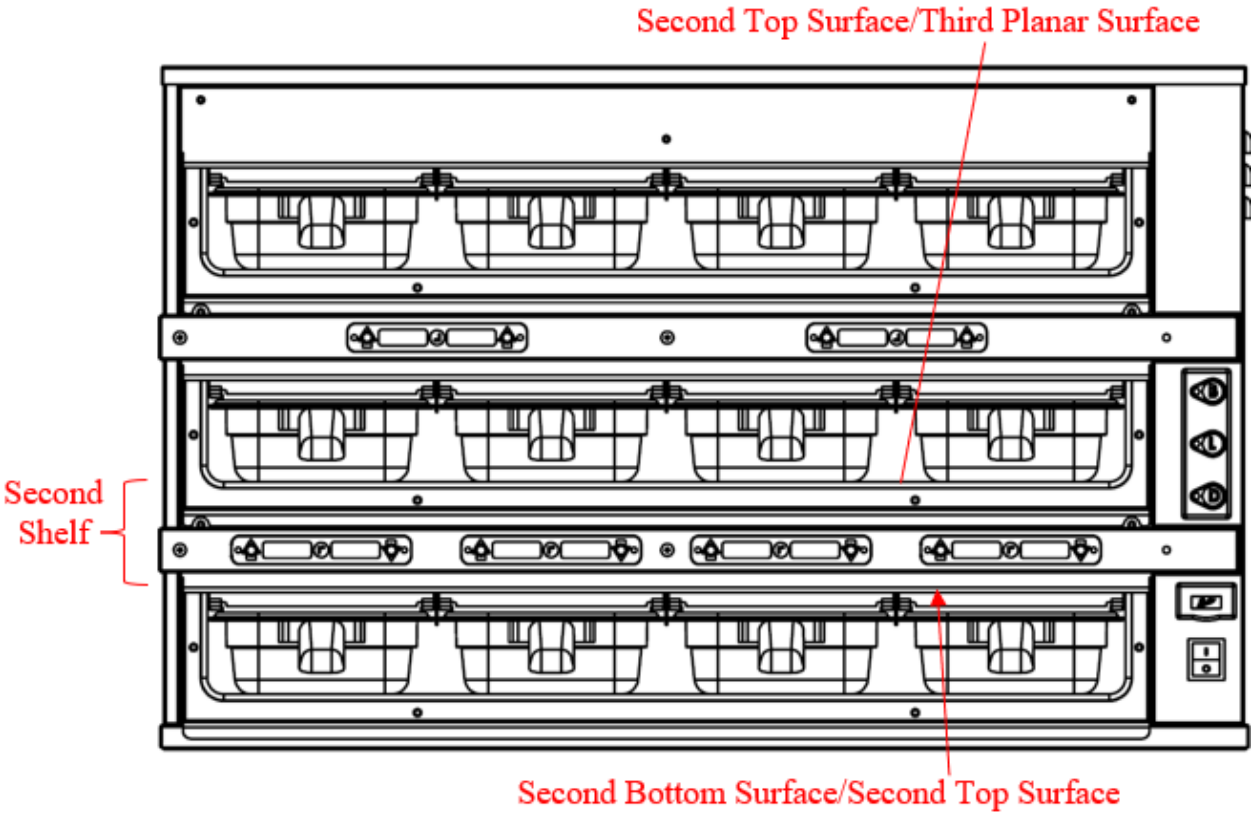
285. As disclosed in the IRHS Documents, the IRHS34 Holding Units have a second shelf disposed between the first side panel and the second side panel. The first shelf is between the third food holding compartment and the second food holding compartment.



EX1005: 9 (annotated).

4.a.4: wherein a second top surface of the second shelf provides the third substantially planar bottom surface and a second bottom surface of the second shelf provides the second top surface

286. The second shelf of the IRHS34 Holding Unit has a top surface, which in the context of the claim limitation is a second top surface that provides the third substantially planar bottom surface of the third food holding compartment. The second shelf of the IRHS34 Holding Unit has a bottom surface, which in the context of the claim limitation is a second bottom surface that provides the second top surface.



EX1005: 9 (annotated).

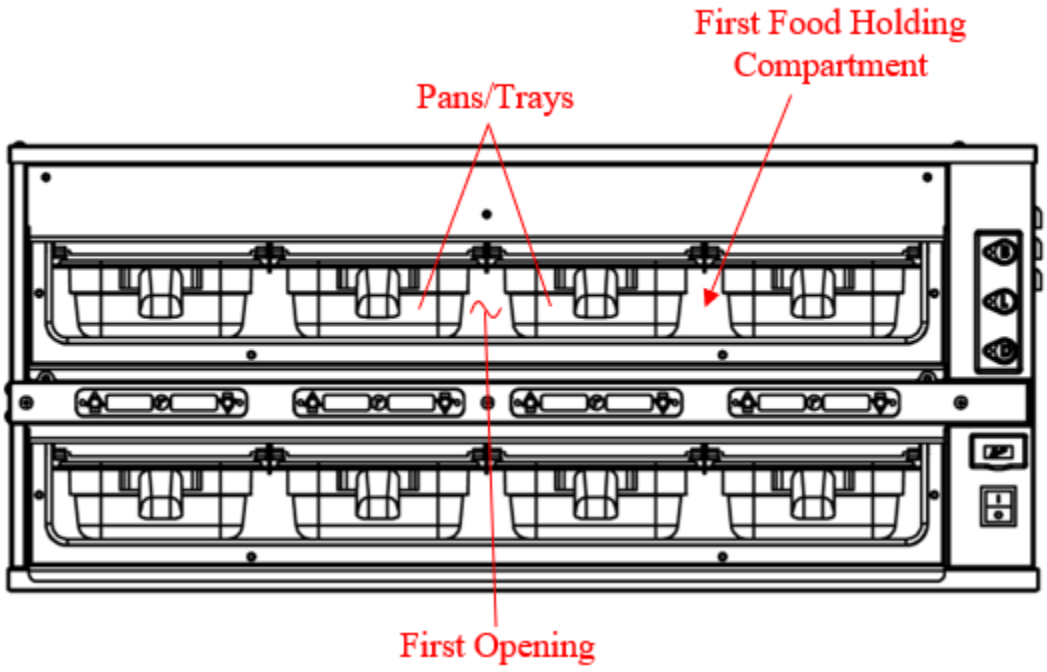
287. Accordingly, each limitation of Claim 4 is disclosed or rendered obvious within the IRHS Documents. Accordingly, the POSA would have found it obvious to combine the teachings and disclosures of the IRHS Documents to arrive at the method of maintaining different temperatures within a multi-zone food holding bin as claimed in Claim 4.

F. Claim 5

5.a: the method of claim 1, further comprising: receiving a first tray of a first food product through the first opening into the first food holding zone

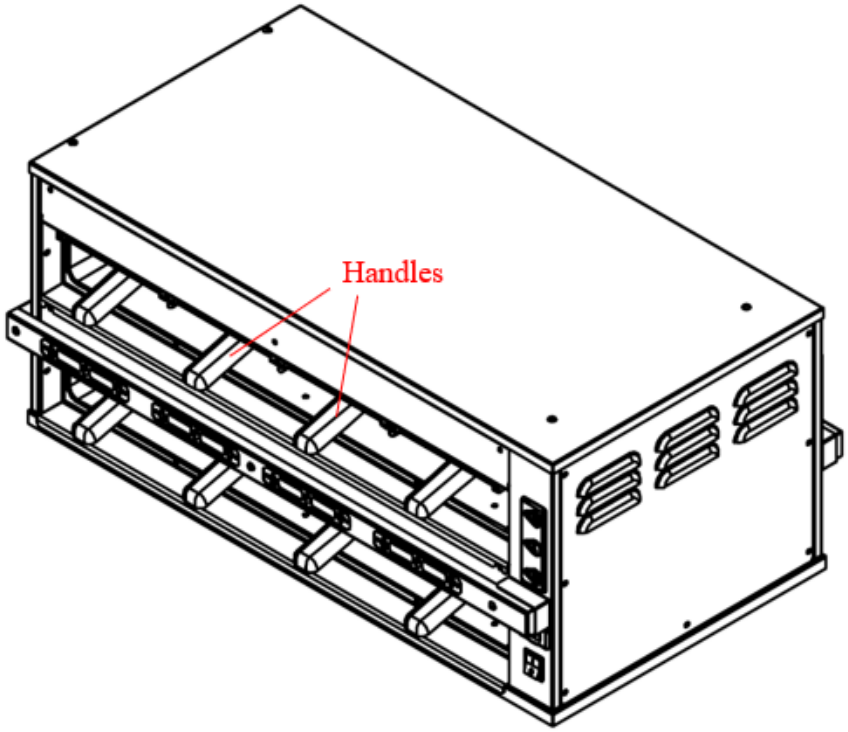
288. As discussed above, the POSA would have found it obvious to combine the teachings and disclosures of the IRHS Documents to arrive at the claimed method of maintaining different temperatures within a multi-zone food holding bin of Claim 1.

289. As explained in Paragraphs 154-156 (claim limitation 1.a.4) above, the IRHS24 Holding Unit has a first opening for food pans/trays to pass through as the pans/trays move into and out of the first food holding compartment.



EX1005: 8 (annotated).

290. As shown below, handles of the food pans project out of the openings in the front face of the chassis, to allow the operator to insert and remove pans through the them. EX1007: 52 (upper image).



EX1005: 8 (annotated).



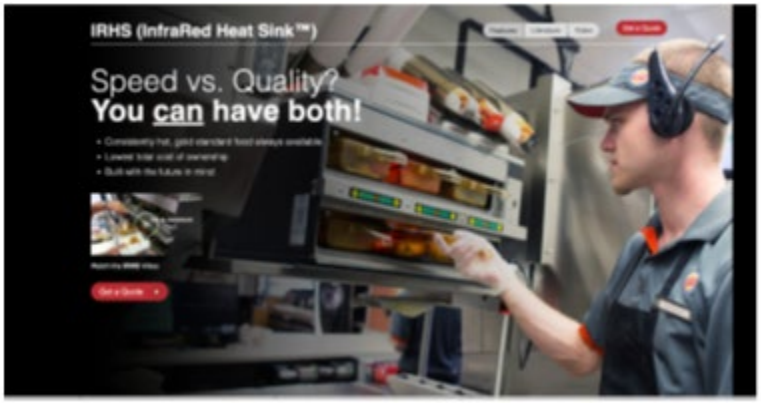
EX1007: 58 (annotated).

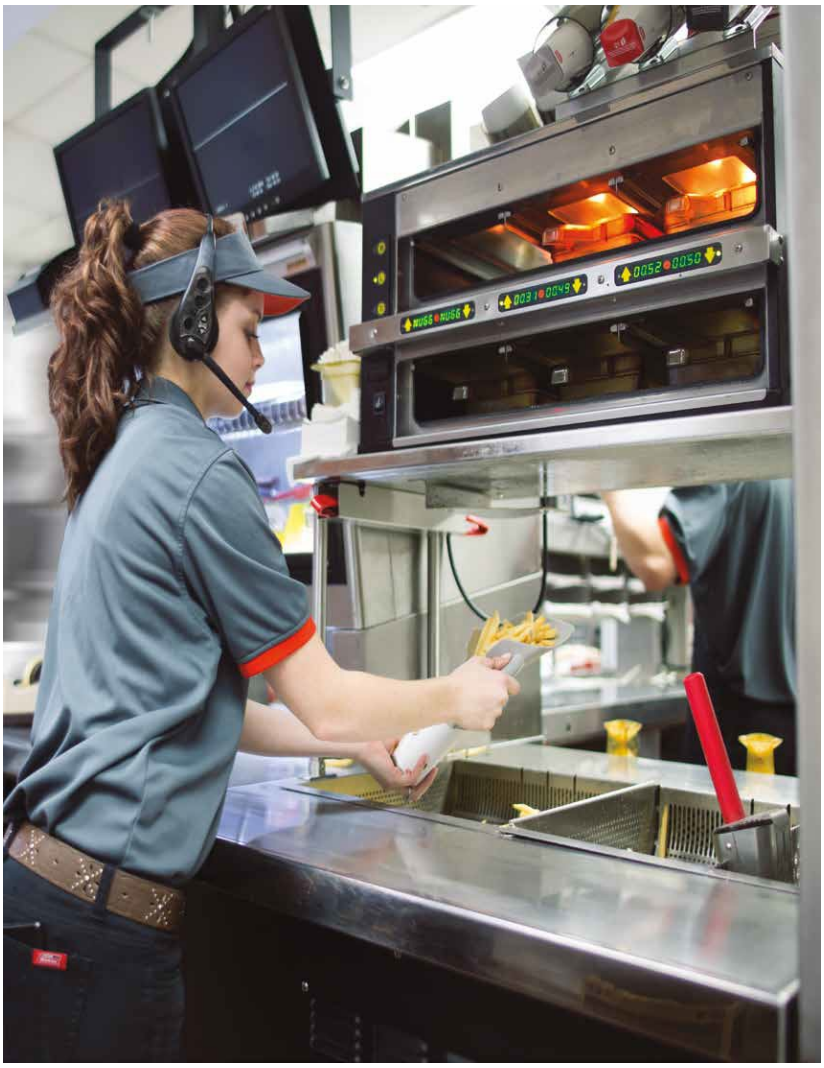


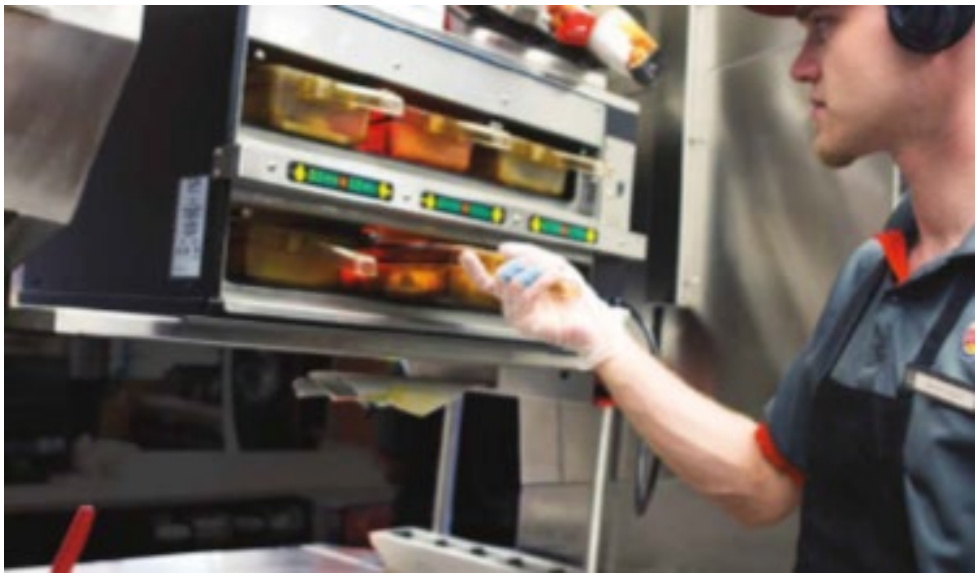
EX1007: 32.

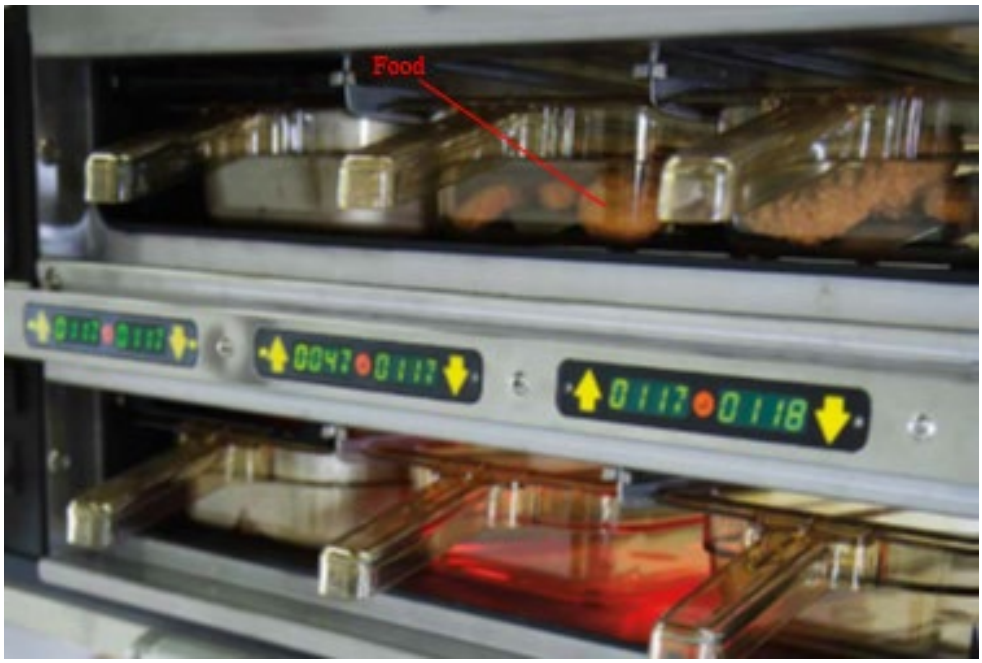
291. As shown above and below, the IRHS Documents demonstrate users moving the pans/trays of food into and out of the food holding compartments (*e.g.*, the food holding zones therein) through the openings.


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Food

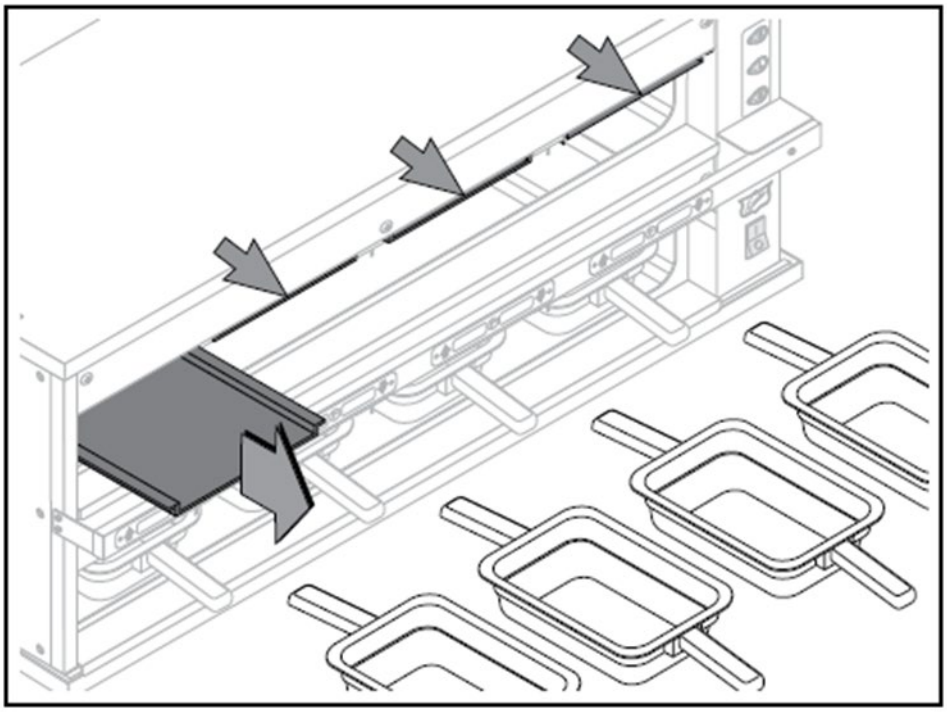

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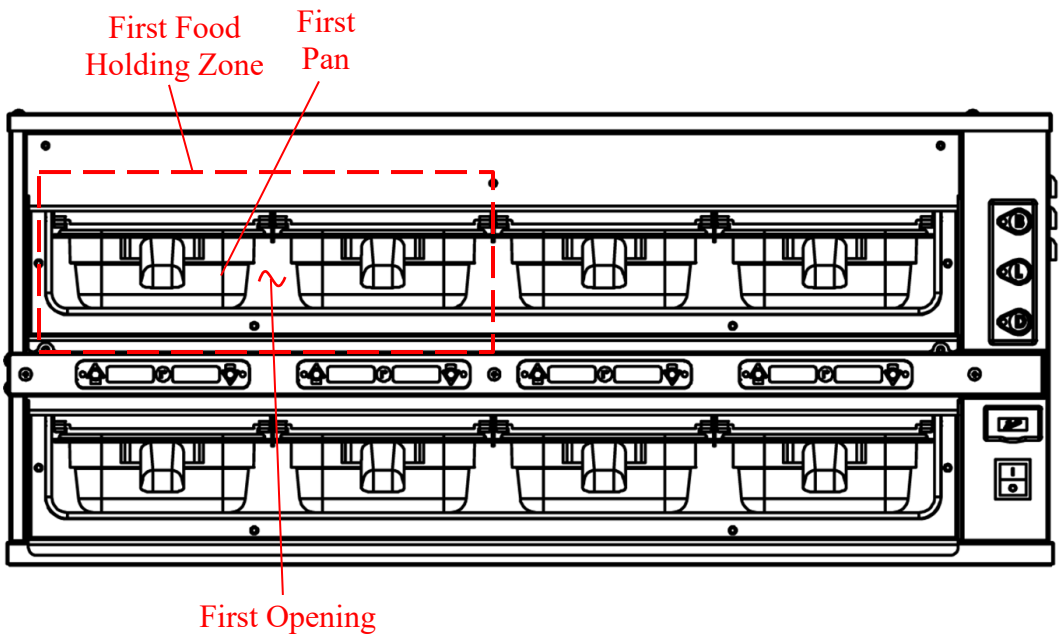


EX1007: 5, 8, 36, 52 (annotated).



EX1008: 16.

292. Because the IRHS24 Holding Unit is a pass-through unit allowing crews to work both sides, it would have been natural for users/operators to move the pans/trays of through the openings (e.g., first opening) for the food holding compartments (e.g., first food holding compartment) to access/place food therein. EX1007: 67 ("Pass through design allows crews to work both sides"). The openings are larger than the food pans and allow the food pans (and the food contained therein) to pass therethrough into the food holding zones. Specifically, the IRHS documents demonstrate the first food holding compartment having received four pans/trays, including two pans in the first food holding zone.



EX1005: 8 (annotated).

293. As explained in Paragraphs 166-211 (claim limitation 1.b), it would have been obvious to hold a diverse menu of food products benefitting from different holding conditions in separate, independently controlled food holding zones.

294. For these reasons, it would have been obvious for the IRHS24 Holding Unit to receive a first pan/tray of a first food product (e.g., regular burger patties) through the first opening into the first food holding zone of the first food holding compartment and there would have been a reasonable expectation of success because the openings (e.g., first opening) are sized and intended for such use. EX1007: 52 (upper image showing pan with food being inserted/removed from a food holding compartment, lower image showing food in the pans), 5, 8, 32, 36; EX1005: 8.



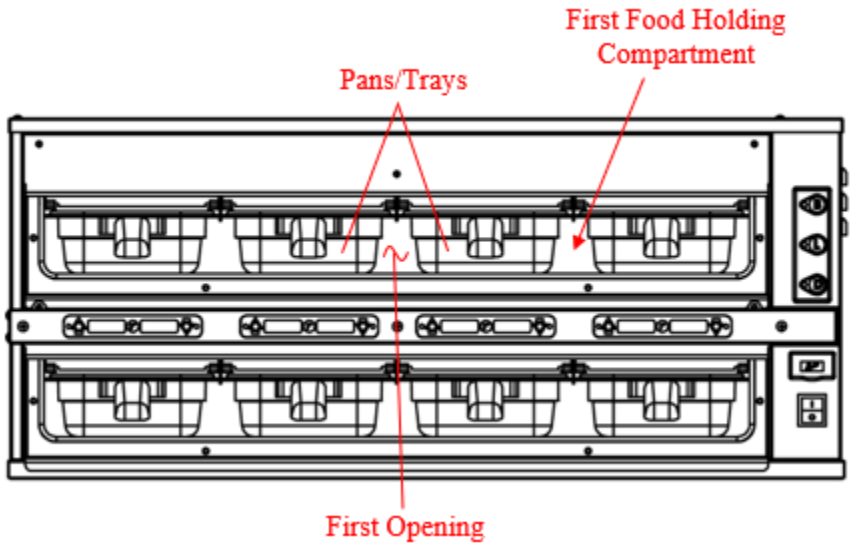
EX1007: 52 (annotated).

295. The POSA would understand this is how pans with food are received by the food holding cabinets of this type. EX1001: 1:30-36 ("Known holding bins can allow a cooked food item to be inserted from one side and taken from the opposite side whereby food preparers add food to the holding bin on one side and food servers on the opposite side take food from the holding bin. Food holding bins in which the cooked food item is inserted and removed from the same side are also known"); EX1011: ¶[0024] ("storing food in one or more pans 12"), ¶[0025] ("compartments have an open front and an open back permitting pans 12 to be inserted in and accessed from either the front or back of the housing"); EX1012: ¶[0069] ("Heating chamber 31 includes … at least one tray location TL for receiving a food tray 14"), ¶[0070] ("a food tray 14 is inserted into the food tray location"), ¶[0103] ("Load bin with product and start timer: Pull out tray, load product and reinsert tray into bin."); EX1013: ¶[0019] ("The trays containing the previously cooked food portions may be placed in the heating compartments to maintain the portions at a desired temperature"); EX1014: 4:8-11 ("the user may remove or insert pans 400 through the rear opening 29 as well as through the front opening 28"); EX1015: ¶[0018] ("trays containing the previously cooked food portions may be placed in one or more heating compartments to maintain the portions at a desired temperature"); EX1016: ¶[0039] ("Each tray is disposed [] in a heat sink …, being slidably disposed in its heat sink for being slidably withdrawn from or entered in the

heat sink either front or rear through the respective opening"), claim 12 ("at least one tray in each of said holding compartments holding pre-cooked food therein"); EX1017: 2:46-47 ("multiple trays B in which precooked food is placed and held"), 7:12-14 ("The tray B when aligned with the opening 36 for this heat sink 46 passes easily into the cavity 48 of the heat sink"); EX1018: 4:49-53 ("introduction of the receptacle 32 into the food treatment space 16 … can be made through either a front opening 78 in the frame 12 or a rear opening 80 in the frame").

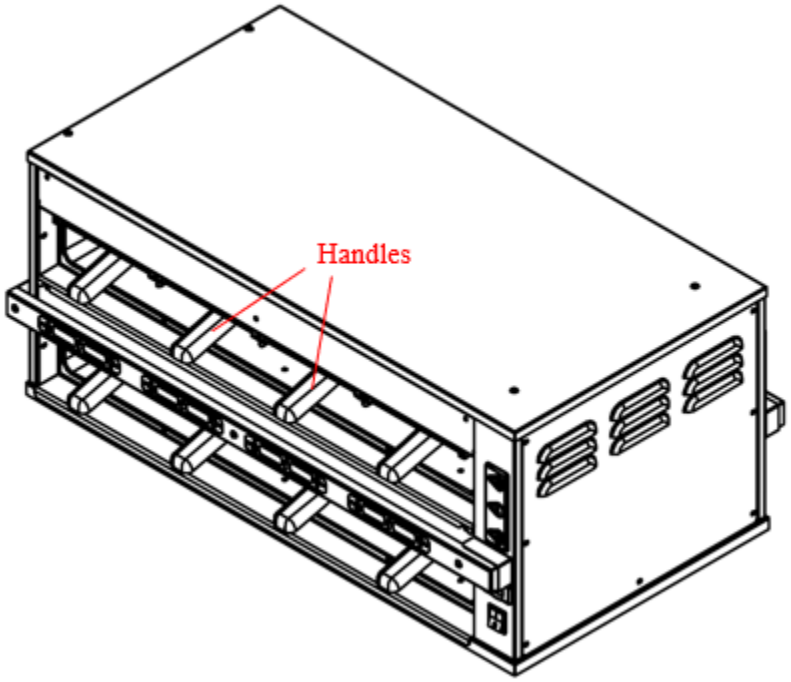
5.b: receiving a second tray of a second food product through the first opening into the second food holding zone

296. As explained in Paragraphs 154-156 (claim limitation 1.a.4), the IRHS24 Holding Unit has a first opening for food pans/trays to pass through as the pans/trays move into and out of the first food holding compartment.



EX1005: 8 (annotated).

297. As explained in Paragraphs 288-295 (claim limitation 5.a), the IRHS documents depict the handles of the food pans projecting out of the openings in the front face of the chassis to allow the operator to insert and remove pans through the openings, as well demonstrating users moving the pans/trays of food into and out of the food holding compartments (e.g., the food holding zones therein) through the openings. EX1007: 52 (upper image).

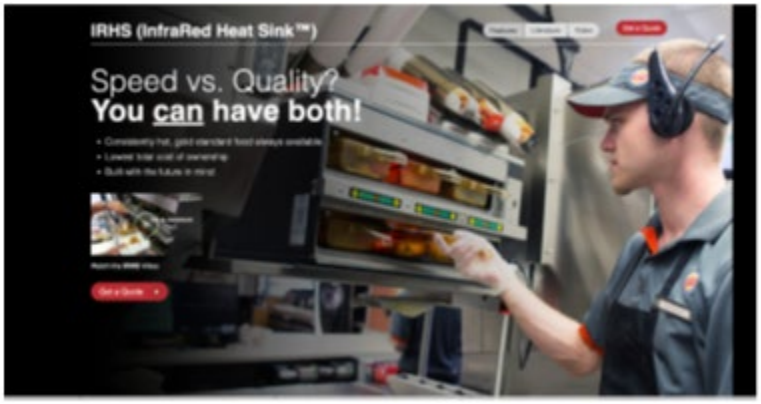


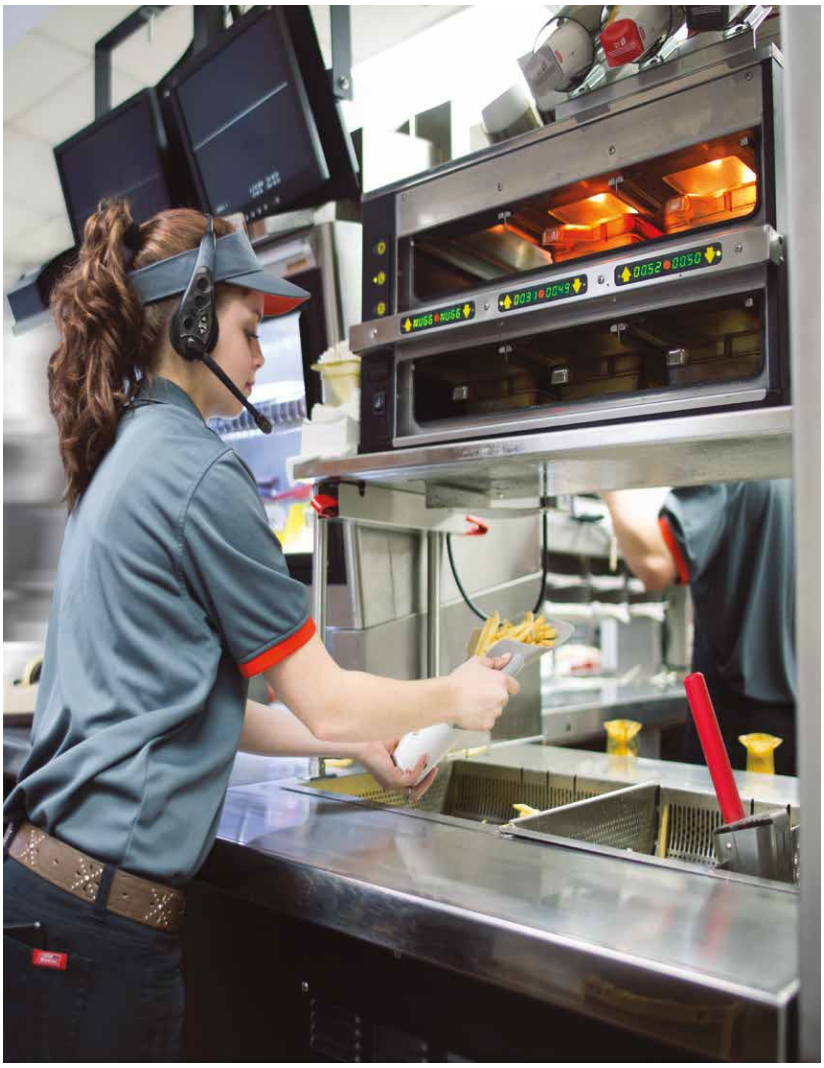


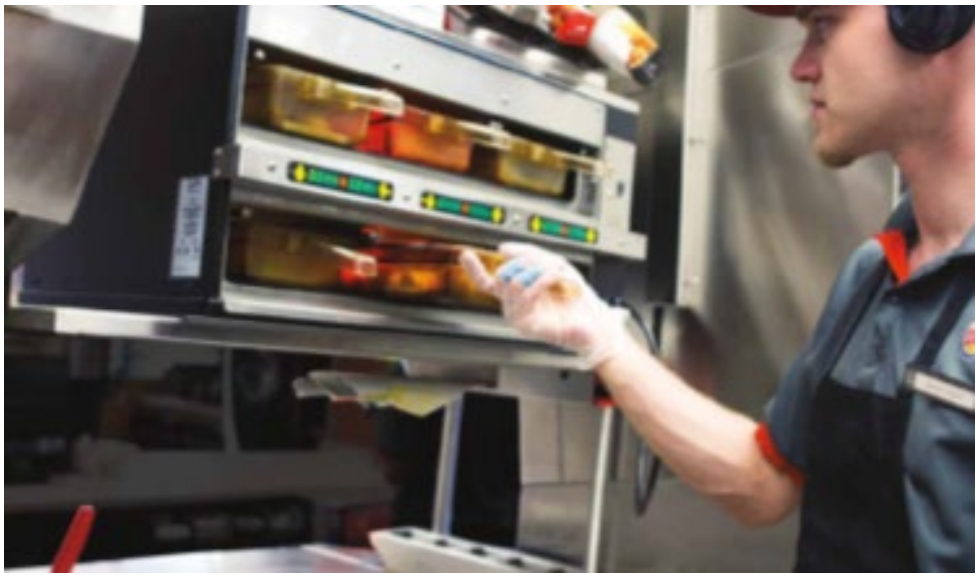
EX1007: 32.

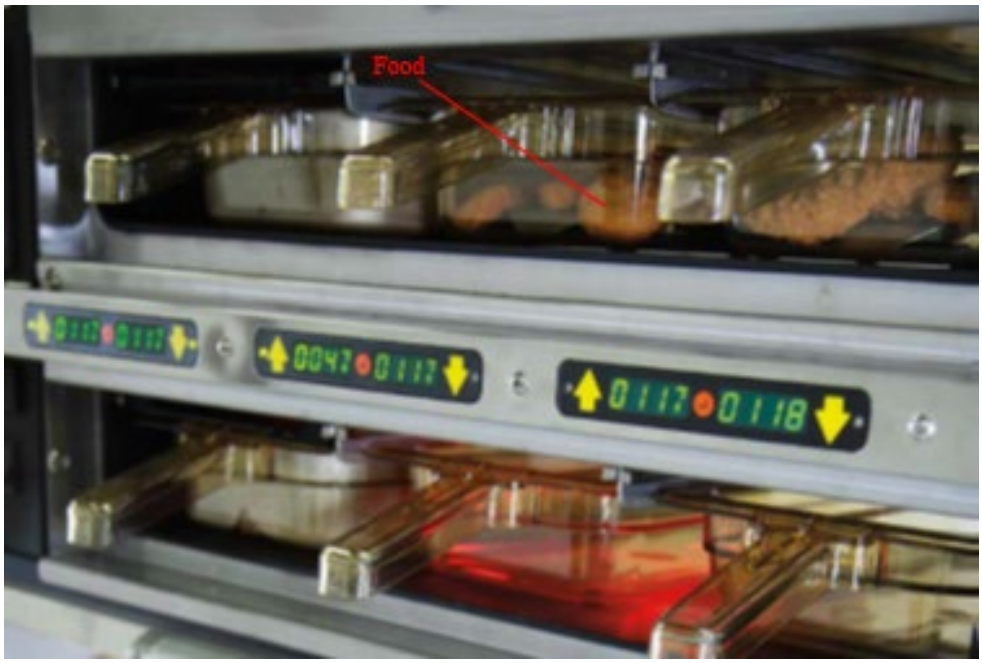
298. In operation, a user moves the pans/trays of food into and out of the food holding compartments (e.g., the food holding zones therein) through the openings.


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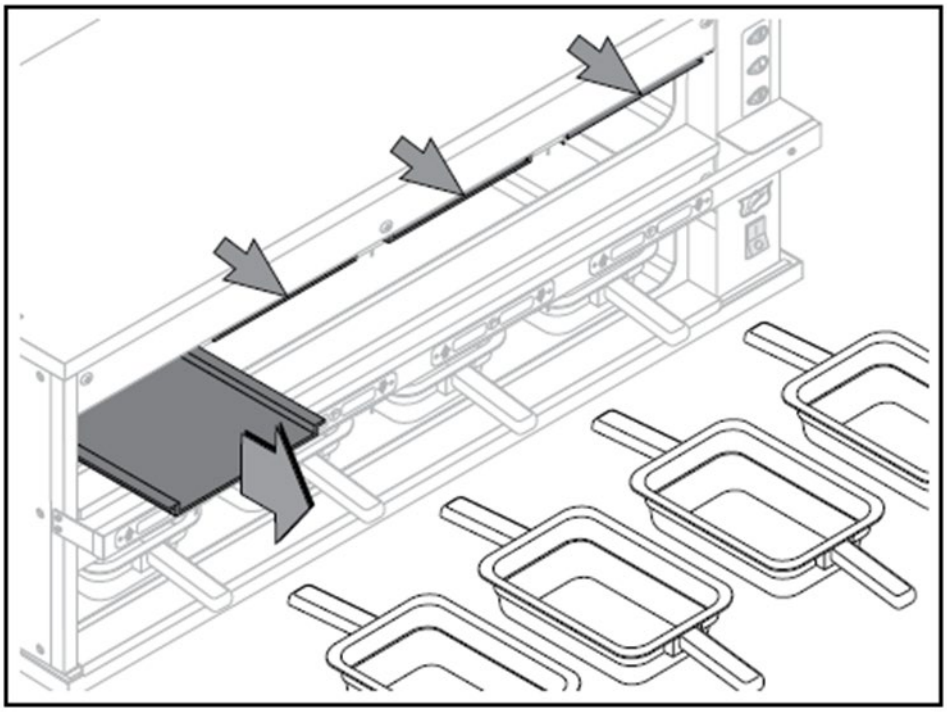

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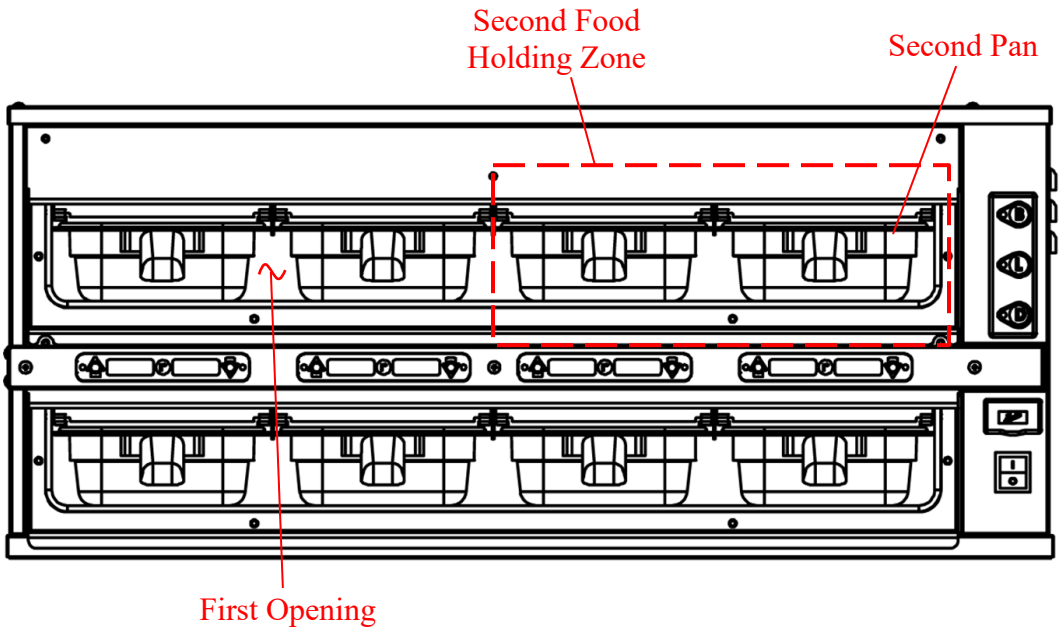


EX1007: 5, 8, 36, 52 (annotated).



EX1008: 16.

299. Because the IRHS24 Holding Unit is a pass-through unit allowing crews to work both sides, it is natural for users/operators to move the pans/trays of through the openings (e.g., first opening) for the food holding compartments (e.g., first food holding compartment) to access/place food therein. EX1007: 67 ("Pass through design allows crews to work both sides"). The openings are larger than the food pans and allow the food pans (and the food contained therein) to pass therethrough into the food holding zones. Specifically, the IRHS documents demonstrate the first food holding compartment having received four pans/trays, including two pans in the second food holding zone.



EX1005: 8 (annotated).

300. As explained in Paragraphs 204-211, it would have been obvious holding diverse menu of food products benefitting from different holding conditions in separate, independently controlled food holding zones.

301. For these reasons, it would have been obvious for the IRHS24 Holding Unit to receive a second pan/tray of a second food product (e.g., broiled chicken) through the first opening into the second food holding zone of the first food holding compartment. There would have been a reasonable expectation of success because the openings (e.g., first opening) are sized and intended for such use. EX1007: 5, 8, 32, 36, 52; EX1005: 8.



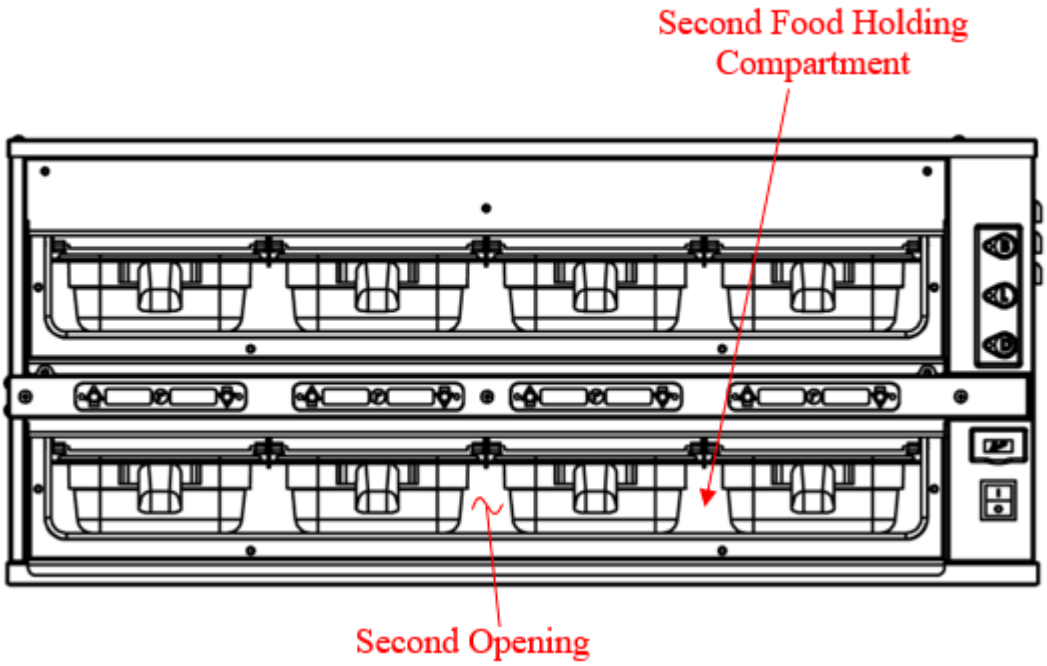
EX1007: 52 (annotated).

302. Again, the POSA would understand this is how pans with food are received by the food holding cabinets of this type. EX1001: 1:30-36 ("Known holding bins can allow a cooked food item to be inserted from one side and taken from the opposite side whereby food preparers add food to the holding bin on one side and food servers on the opposite side take food from the holding bin. Food holding bins in which the cooked food item is inserted and removed from the same side are also known"); EX1011: ¶[0024] ("storing food in one or more pans 12"), ¶[0025] ("compartments have an open front and an open back permitting pans 12 to be inserted in and accessed from either the front or back of the housing"); EX1012: ¶[0069] ("Heating chamber 31 includes … at least one tray location TL for receiving a food tray 14"), ¶[0070] ("a food tray 14 is inserted into the food tray location"), ¶[0103] ("Load bin with product and start timer: Pull out tray, load product and reinsert tray into bin."); EX1013: ¶[0019] ("The trays containing the previously cooked food portions may be placed in the heating compartments to maintain the portions at a desired temperature"); EX1014: 4:8-11 ("the user may remove or insert pans 400 through the rear opening 29 as well as through the front opening 28"); EX1015: ¶[0018] ("trays containing the previously cooked food portions may be placed in one or more heating compartments to maintain the portions at a desired temperature"); EX1016: ¶[0039] ("Each tray is disposed [] in a heat sink …, being slidably disposed in its heat sink for being slidably withdrawn from or entered in the

heat sink either front or rear through the respective opening"), claim 12 ("at least one tray in each of said holding compartments holding pre-cooked food therein"); EX1017: 2:46-47 ("multiple trays B in which precooked food is placed and held"), 7:12-14 ("The tray B when aligned with the opening 36 for this heat sink 46 passes easily into the cavity 48 of the heat sink"); EX1018: 4:49-53 ("introduction of the receptacle 32 into the food treatment space 16 … can be made through either a front opening 78 in the frame 12 or a rear opening 80 in the frame").

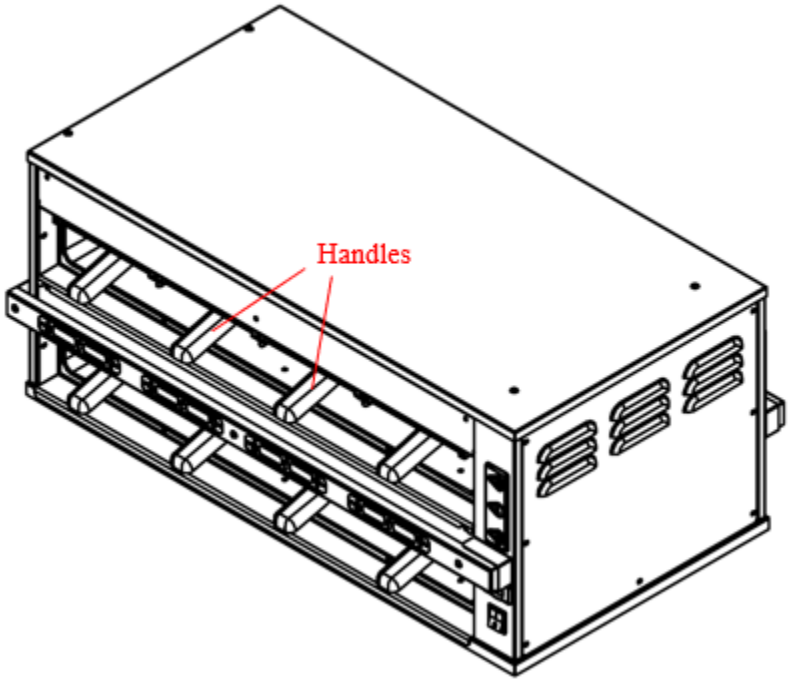
5.c: receiving a third tray of a third food product through the second opening into the third food holding zone

303. As explained in Paragraphs 164-165 (claim limitation 1.a.8), the IRHS24 Holding Unit has a second opening for food pans/trays to pass through as the pans/trays move into and out of the second food holding compartment.



EX1005: 8 (annotated).

304. As explained in Paragraphs 288-295 (claim limitation 5.a), the IRHS documents depict the handles of the food pans projecting out of the openings in the front face of the chassis to allow the operator to insert and remove pans through the openings, as well demonstrating users moving the pans/trays of food into and out of the food holding compartments (e.g., the food holding zones therein) through the openings. EX1007: 52 (upper image).

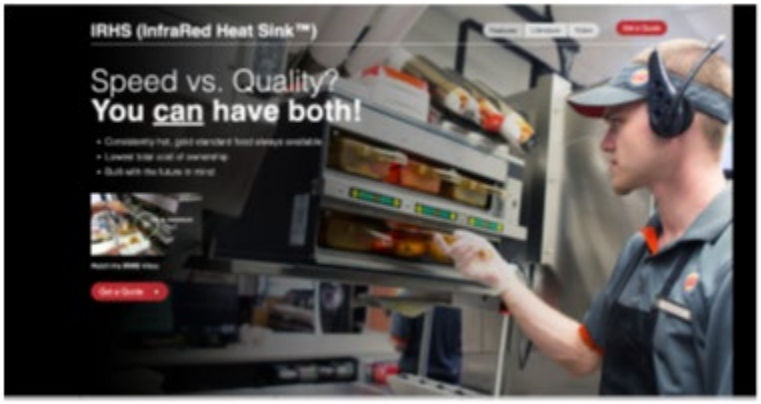


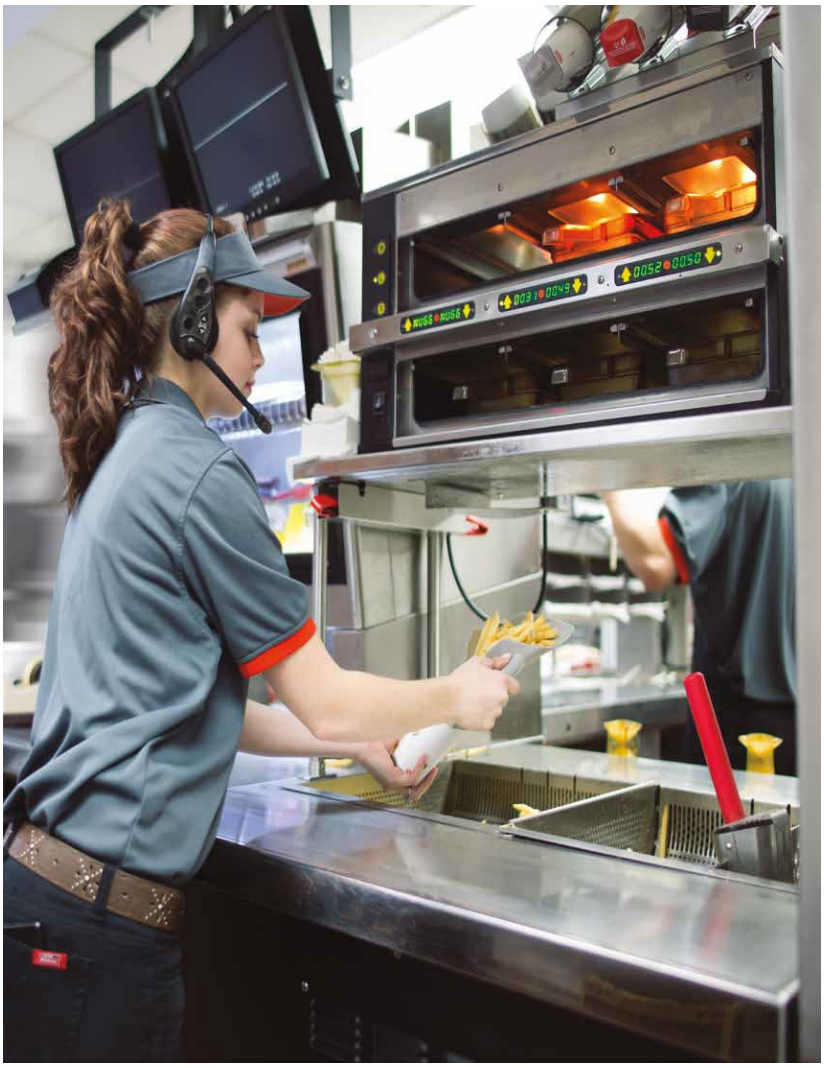


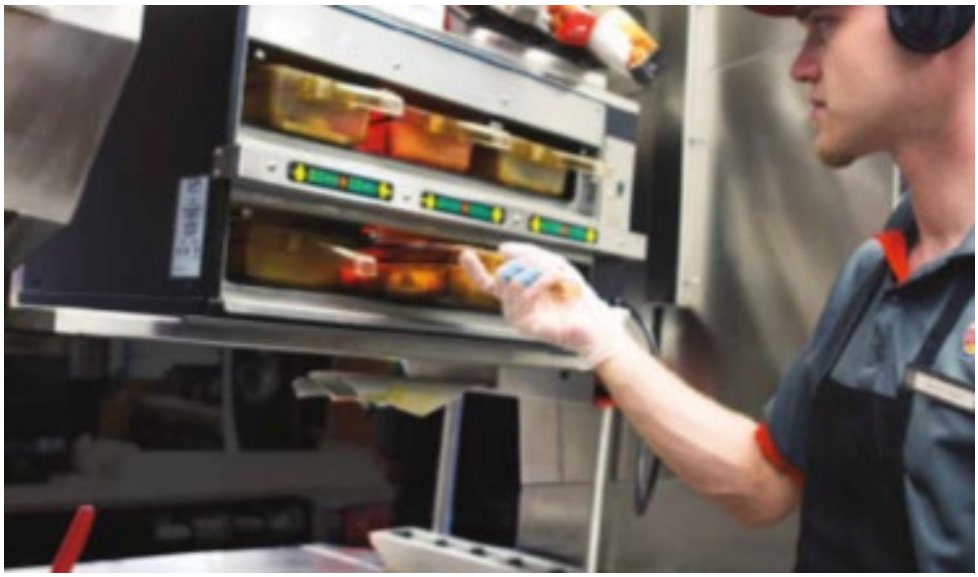
EX1007: 32.

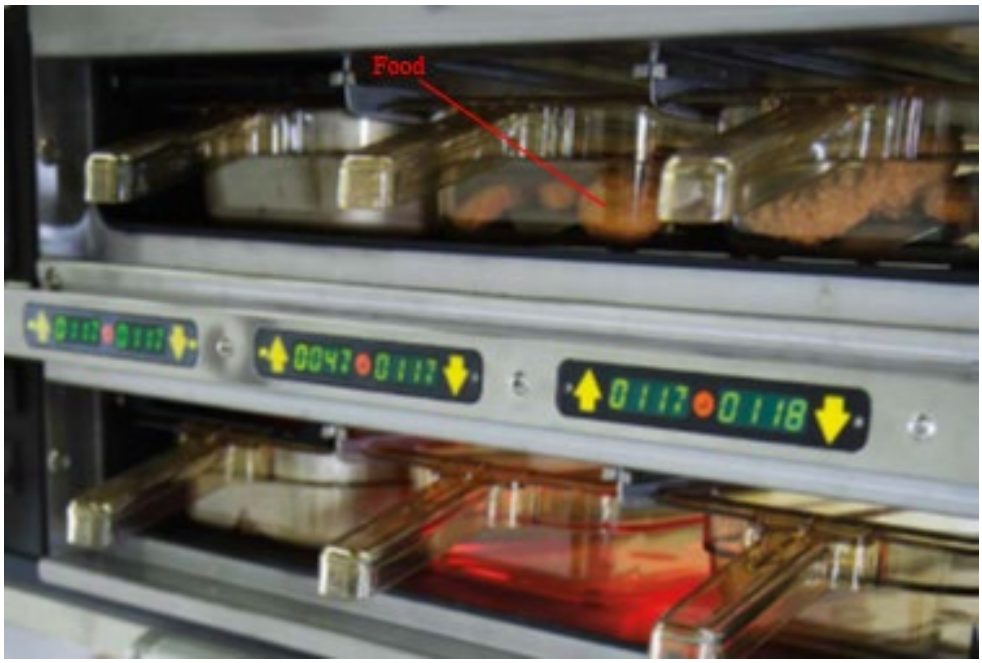
305. In operation, a user moves the pans/trays of food into and out of the food holding compartments (e.g., the food holding zones therein) through the openings.


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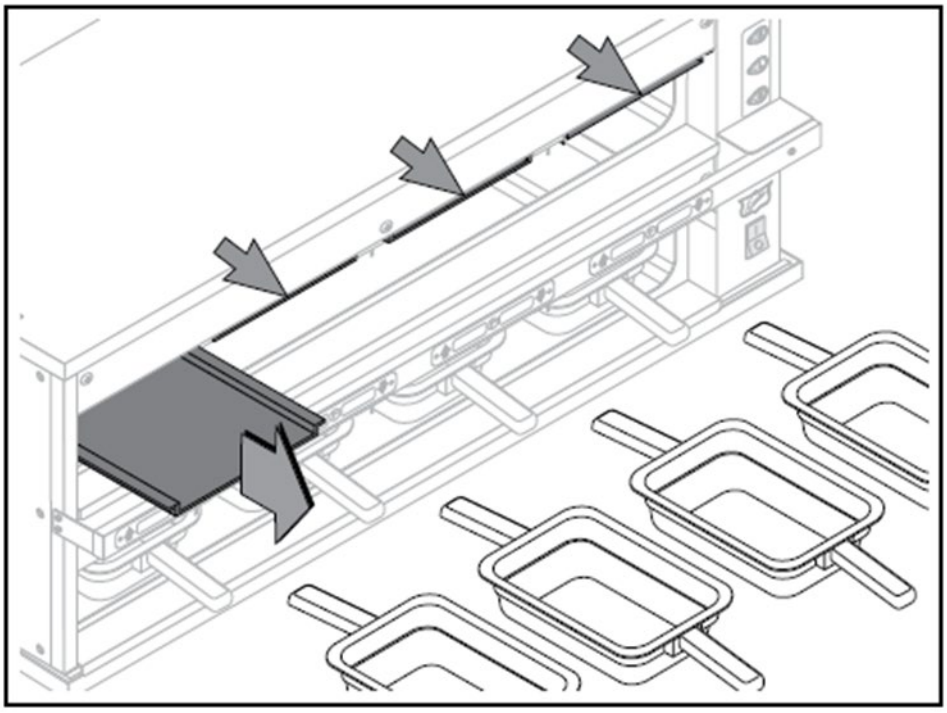

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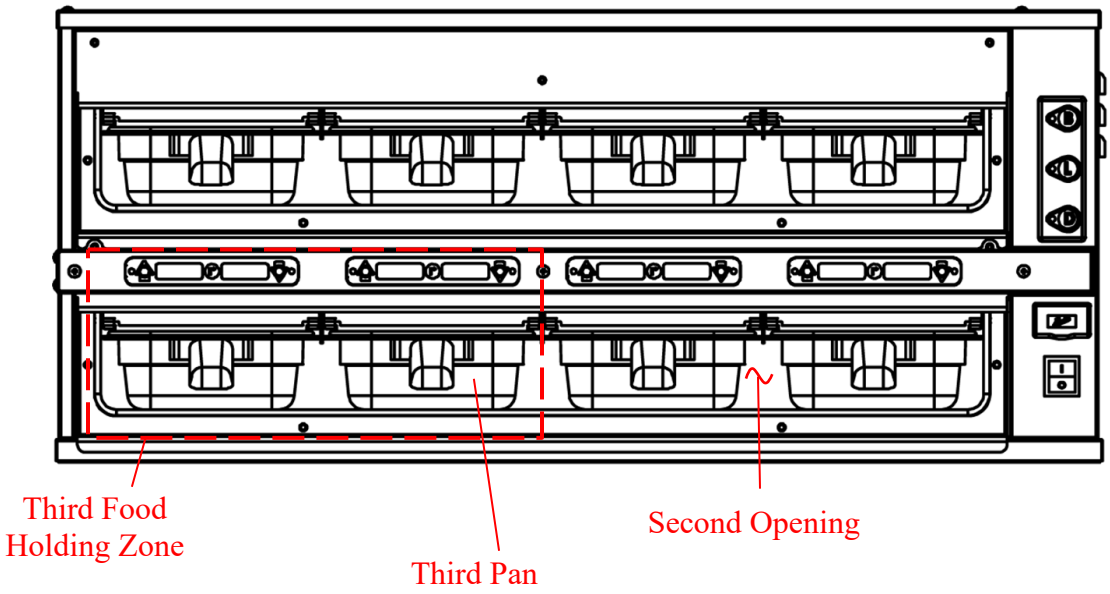


EX1007: 5, 8, 36, 52 (annotated).



EX1008: 16.

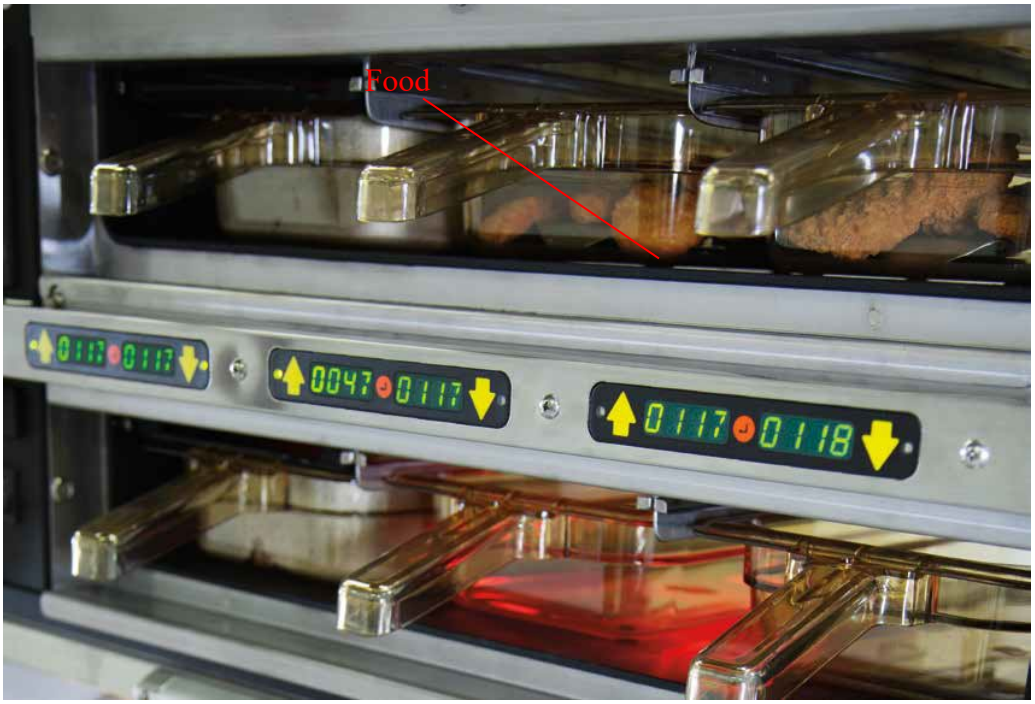
306. Because the IRHS24 Holding Unit is a pass-through unit allowing crews to work both sides, it is natural for users/operators to move the pans/trays of through the openings (e.g., second opening) for the food holding compartments (e.g., second food holding compartment) to access/place food therein. EX1007: 67 ("Pass through design allows crews to work both sides"). The openings are larger than the food pans and allow the food pans (and the food contained therein) to pass therethrough into the food holding zones. Specifically, the IRHS documents demonstrate the second food holding compartment having received four pans/trays, including two pans in the third food holding zone.



EX1005: 8 (annotated).

307. As explained in Paragraphs 204-211, it would have been obvious holding diverse menu of food products benefitting from different holding conditions in separate, independently controlled food holding zones.

308. For these reasons, it would have been obvious for the IRHS24 Holding Unit to receive a third pan/tray of a third food product (e.g., fish) through the second opening into the third food holding zone of the second food holding compartment. There would have been a reasonable expectation of success because the openings (e.g., second opening) are sized and intended for such use. EX1007: 5, 8, 32, 36, 52; EX1005: 8.



EX1007: 52 (annotated).

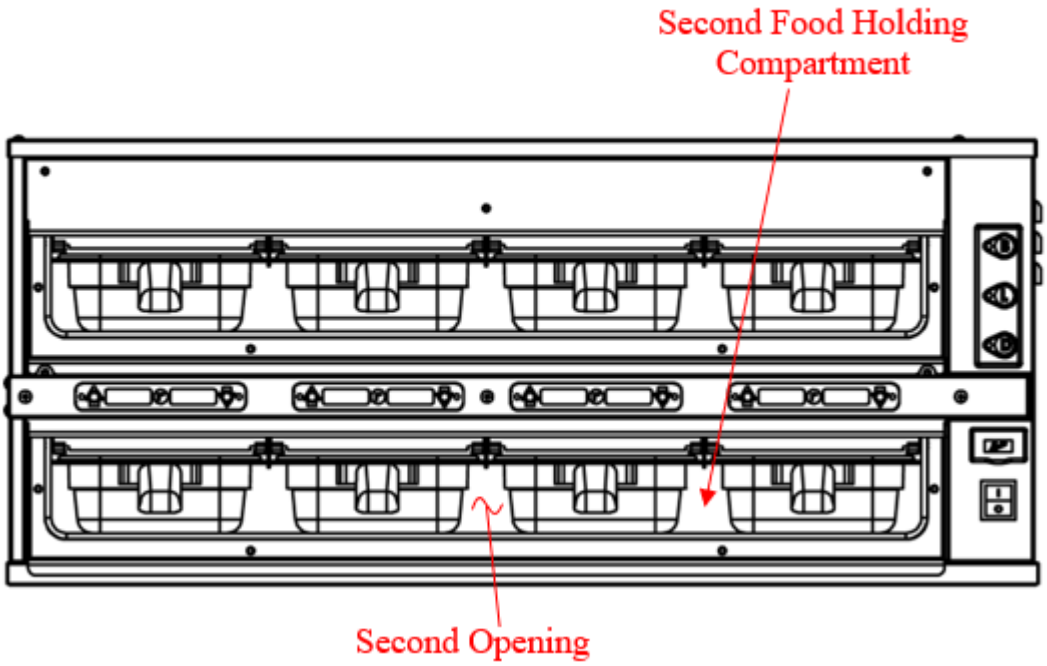
309. Again, the POSA would understand this is how pans with food are received by the food holding cabinets of this type. EX1001: 1:30-36 ("Known holding bins can allow a cooked food item to be inserted from one side and taken from the opposite side whereby food preparers add food to the holding bin on one side and food servers on the opposite side take food from the holding bin. Food

holding bins in which the cooked food item is inserted and removed from the same side are also known"); EX1011: ¶[0024] ("storing food in one or more pans 12"), ¶[0025] ("compartments have an open front and an open back permitting pans 12 to be inserted in and accessed from either the front or back of the housing"); EX1012: ¶[0069] ("Heating chamber 31 includes … at least one tray location TL for receiving a food tray 14"), ¶[0070] ("a food tray 14 is inserted into the food tray location"), ¶[0103] ("Load bin with product and start timer: Pull out tray, load product and reinsert tray into bin."); EX1013: ¶[0019] ("The trays containing the previously cooked food portions may be placed in the heating compartments to maintain the portions at a desired temperature"); EX1014: 4:8-11 ("the user may remove or insert pans 400 through the rear opening 29 as well as through the front opening 28"); EX1015: ¶[0018] ("trays containing the previously cooked food portions may be placed in one or more heating compartments to maintain the portions at a desired temperature"); EX1016: ¶[0039] ("Each tray is disposed [] in a heat sink …, being slidably disposed in its heat sink for being slidably withdrawn from or entered in the heat sink either front or rear through the respective opening"), claim 12 ("at least one tray in each of said holding compartments holding pre-cooked food therein"); EX1017: 2:46-47 ("multiple trays B in which precooked food is placed and held"), 7:12-14 ("The tray B when aligned with the opening 36 for this heat sink 46 passes easily into the cavity 48 of the heat sink"); EX1018: 4:49-53 ("introduction of the

receptacle 32 into the food treatment space 16 … can be made through either a front opening 78 in the frame 12 or a rear opening 80 in the frame").

5.d: receiving a fourth tray of a fourth food product through the second opening into the fourth food holding zone

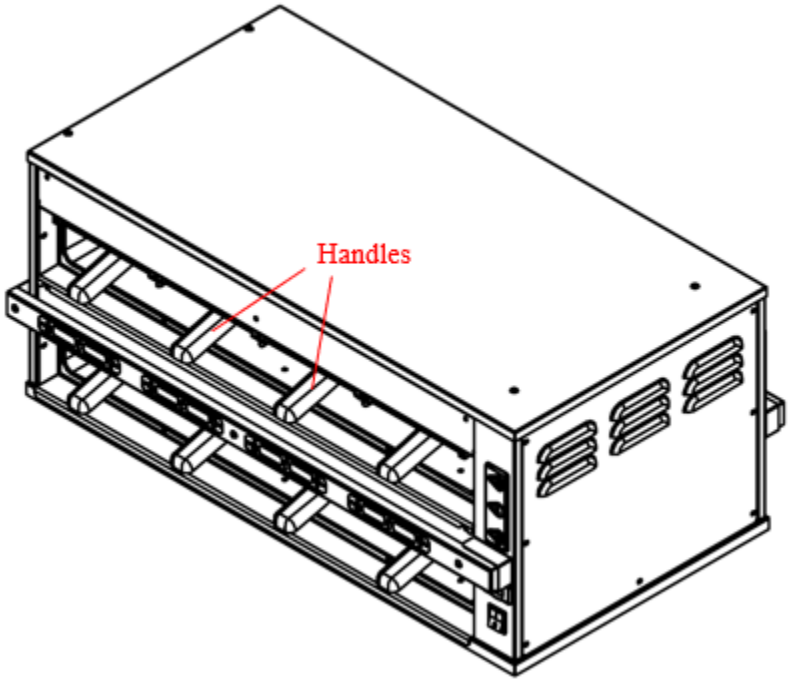
310. As explained in Paragraphs 164-165 (claim limitation 1.a.8), the IRHS24 Holding Unit has a second opening for food pans/trays to pass through as the pans/trays move into and out of the second food holding compartment.



EX1005: 8 (annotated).

311. As explained in Paragraphs 288-295 (claim limitation 5.a), the IRHS documents depict the handles of the food pans projecting out of the openings in the front face of the chassis to allow the operator to insert and remove pans through the openings, as well demonstrating users moving the pans/trays of food into and out of

the food holding compartments (e.g., the food holding zones therein) through the openings. EX1007: 52 (upper image).

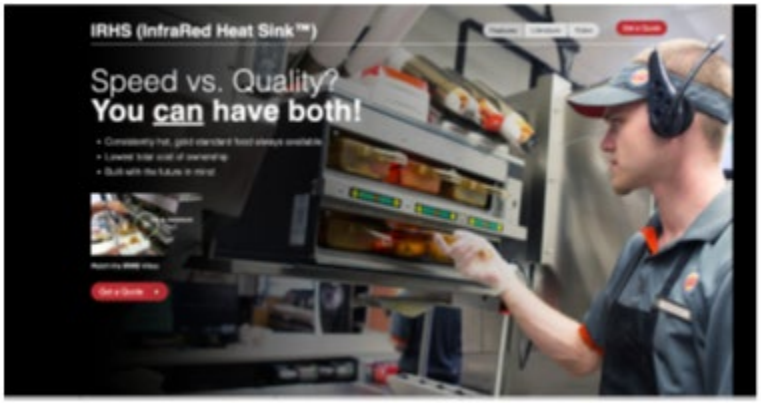


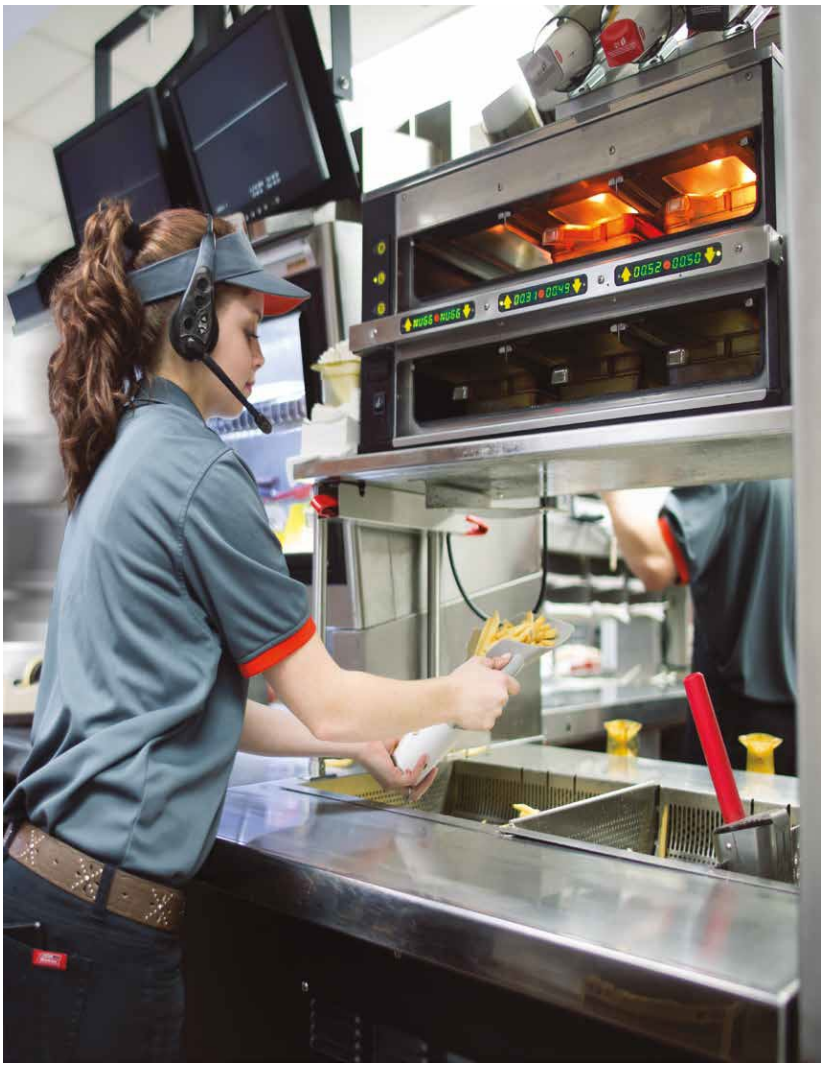


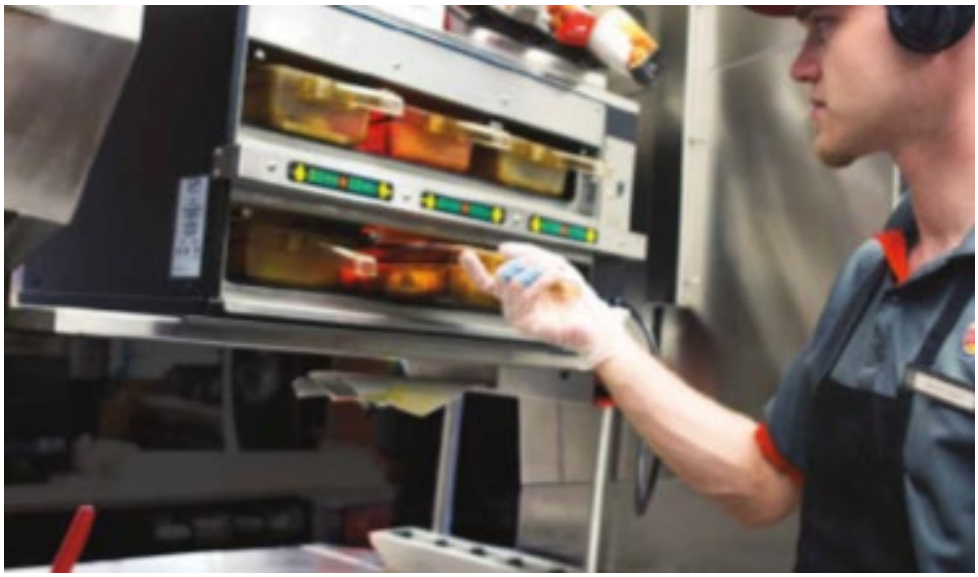
EX1007: 32.

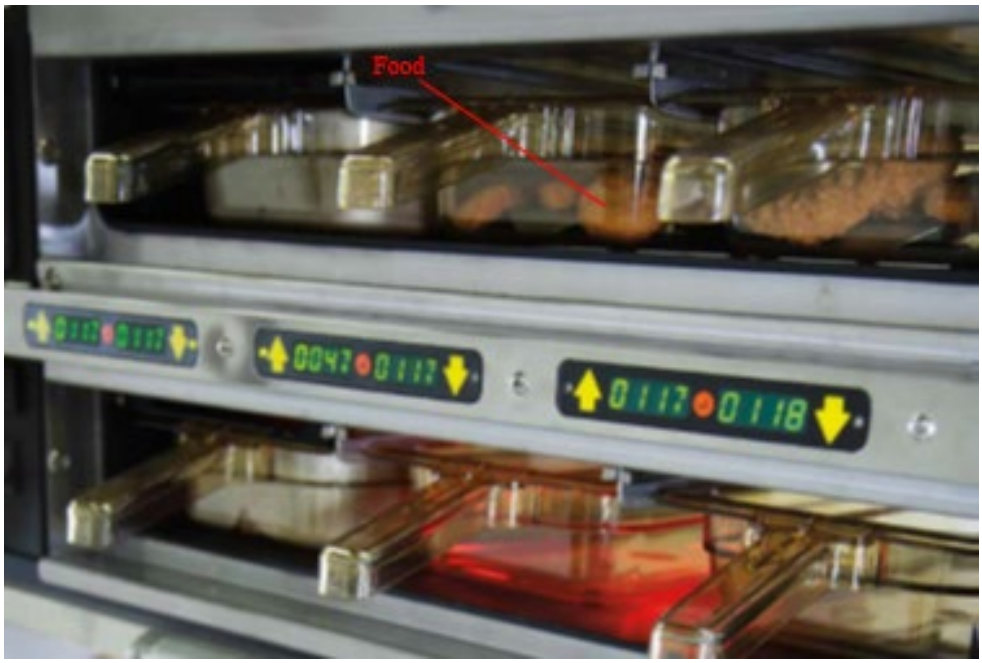
312. In operation, a user moves the pans/trays of food into and out of the food holding compartments (e.g., the food holding zones therein) through the openings.


Hot & consistent
food
Food

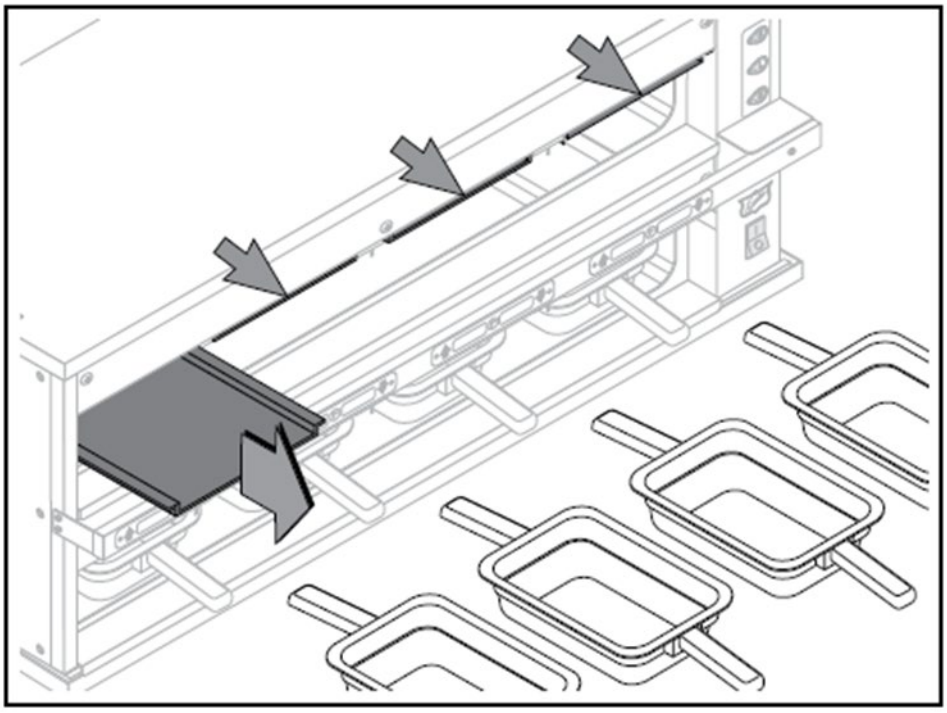

IRHS (InfraRed Heat Sink™)
Speed vs. Quality?
You can have both!





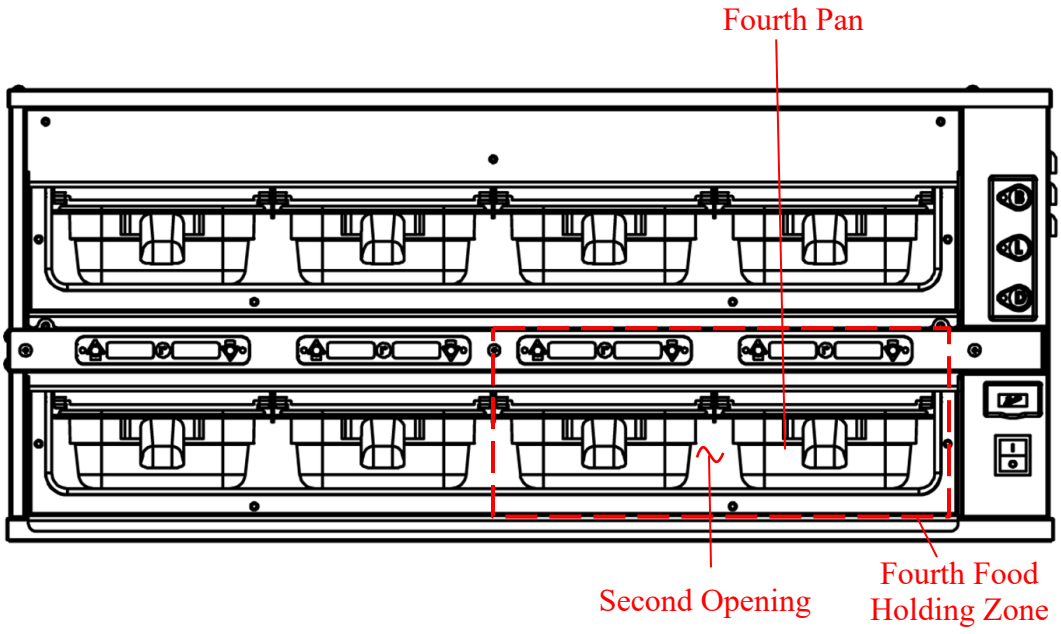


EX1007: 5, 8, 36, 52 (annotated).



EX1008: 16.

313. Because the IRHS24 Holding Unit is a pass-through unit allowing crews to work both sides, it is natural for users/operators to move the pans/trays of through the openings (e.g., second opening) for the food holding compartments (e.g., second food holding compartment) to access/place food therein. EX1007: 67 ("Pass through design allows crews to work both sides"). The openings are larger than the food pans and allow the food pans (and the food contained therein) to pass therethrough into the food holding zones. Specifically, the IRHS documents demonstrate the second food holding compartment having received four pans/trays, including two pans in the fourth food holding zone.



EX1005: 8 (annotated).

314. As explained in Paragraphs 204-211, it would have been obvious holding diverse menu of food products benefitting from different holding conditions in separate, independently controlled food holding zones.

315. For these reasons, it would have been obvious for the IRHS24 Holding Unit to receive a fourth pan/tray of a fourth food product (e.g., rib patties) through the second opening into the fourth food holding zone of the second food holding compartment. There would have been a reasonable expectation of success because the openings (e.g., second opening) are sized and intended for such use. EX1007: 5, 8, 32, 36, 52; EX1005: 8.



EX1007: 52 (annotated).

316. Again, the POSA would understand this is how pans with food are received by the food holding cabinets of this type. EX1001: 1:30-36 ("Known

holding bins can allow a cooked food item to be inserted from one side and taken from the opposite side whereby food preparers add food to the holding bin on one side and food servers on the opposite side take food from the holding bin. Food holding bins in which the cooked food item is inserted and removed from the same side are also known"); EX1011: ¶[0024] ("storing food in one or more pans 12"), ¶[0025] ("compartments have an open front and an open back permitting pans 12 to be inserted in and accessed from either the front or back of the housing"); EX1012: ¶[0069] ("Heating chamber 31 includes … at least one tray location TL for receiving a food tray 14"), ¶[0070] ("a food tray 14 is inserted into the food tray location"), ¶[0103] ("Load bin with product and start timer: Pull out tray, load product and reinsert tray into bin."); EX1013: ¶[0019] ("The trays containing the previously cooked food portions may be placed in the heating compartments to maintain the portions at a desired temperature"); EX1014: 4:8-11 ("the user may remove or insert pans 400 through the rear opening 29 as well as through the front opening 28"); EX1015: ¶[0018] ("trays containing the previously cooked food portions may be placed in one or more heating compartments to maintain the portions at a desired temperature"); EX1016: ¶[0039] ("Each tray is disposed [] in a heat sink …, being slidably disposed in its heat sink for being slidably withdrawn from or entered in the heat sink either front or rear through the respective opening"), claim 12 ("at least one tray in each of said holding compartments holding pre-cooked food therein");

EX1017: 2:46-47 (“multiple trays B in which precooked food is placed and held”), 7:12-14 (“The tray B when aligned with the opening 36 for this heat sink 46 passes easily into the cavity 48 of the heat sink”); EX1018: 4:49-53 (“introduction of the receptacle 32 into the food treatment space 16 … can be made through either a front opening 78 in the frame 12 or a rear opening 80 in the frame”).

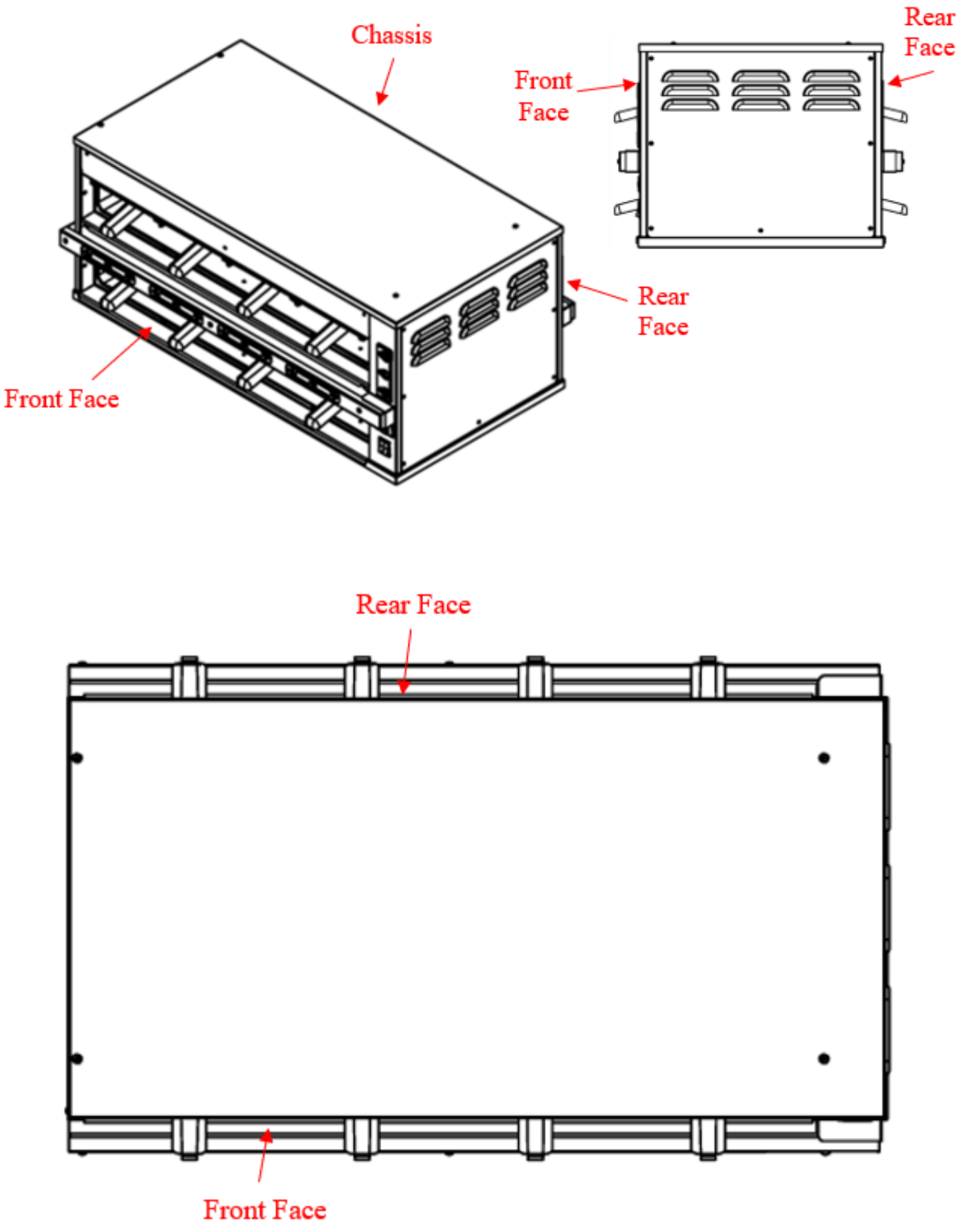
317. Accordingly, each limitation of Claim 5 is disclosed or rendered obvious within the IRHS Documents. Accordingly, the POSA would have found it obvious to combine the teachings and disclosures of the IRHS Documents to arrive at the method of maintaining different temperatures within a multi-zone food holding bin as claimed in Claim 5.

G. Claim 6

6.a: the method of claim 5 wherein the multi-zone food holding bin comprises a rear face

318. As discussed above, the POSA would have found it obvious to combine the teachings and disclosures of the IRHS Documents to arrive at the claimed method of maintaining different temperatures within a multi-zone food holding bin of Claim 5.

319. The chassis of the IRHS24 Holding Unit has a rear face.



EX1005: 8 (annotated).

6.b: the method further comprises: providing a third opening through the rear face configured to allow the first or second tray to be passed through the third opening into the first food holding compartment and onto the first substantially planar surface

320. The POSA would understand that the rear face of the chassis of the IRHS24 Holding Unit is generally a mirror image of the front face of the chassis. EX1008: 12 ("The Menu Bars … are located on the front and back faces of the unit.").

321. Although not explicitly pointed out, the IRHS Documents appear to include images of the rear face showing the rear face to mirror the front face in terms of the openings. Specifically, the front face includes controls on the front of the first side panel.



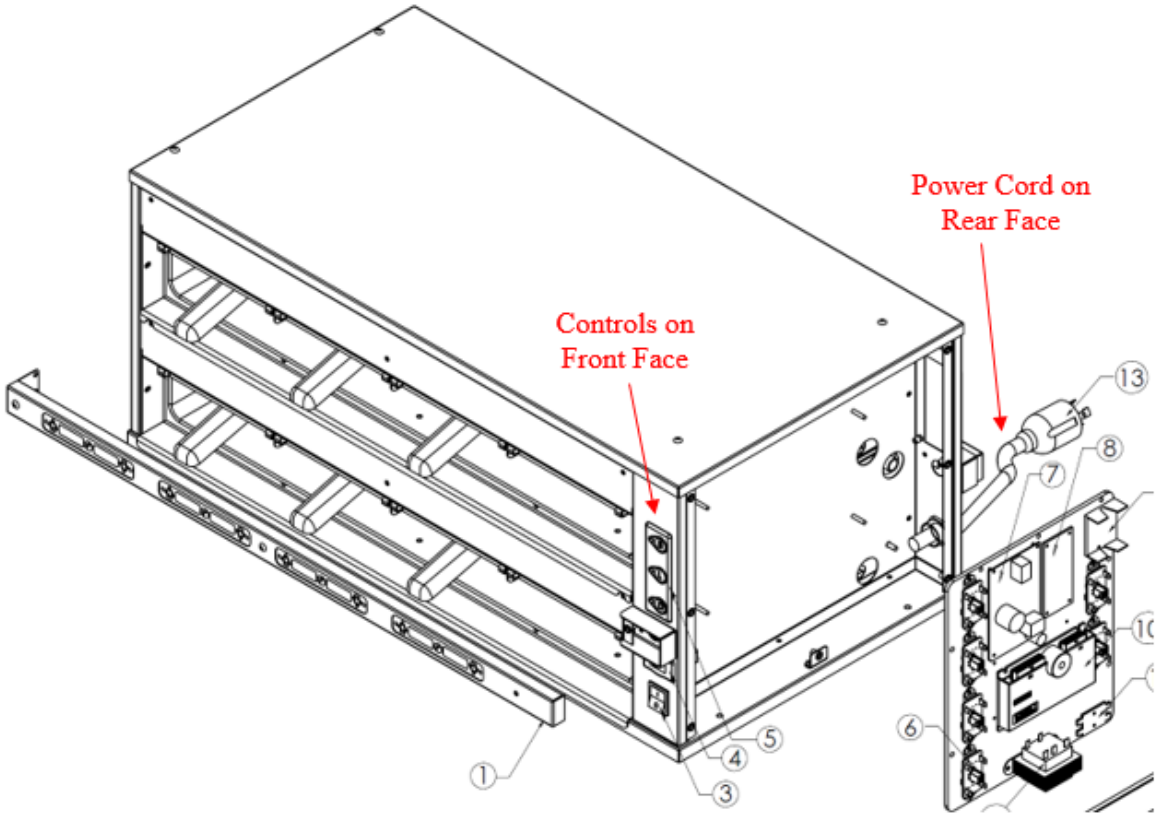
EX1007: 28, 51, 52 (annotated).

322. The IRHS Documents also includes images of an IRHS Unit without any controls on its face and a power cord extending from it. The POSA would recognize that these images are actually showing the rear face of the IRHS Unit.





EX1007: 28, 51, 52 (annotated).



EX1005: 19 (annotated).

323. Additionally, the POSA would recognize the IRHS Holding Unit to be what is known in the art as a pass-through unit having mirrored openings in the front and back sides to allowing crews to work from both sides of the IRHS Holding Unit. EX1007: 67 ("Pass through design allows crews to work both sides").

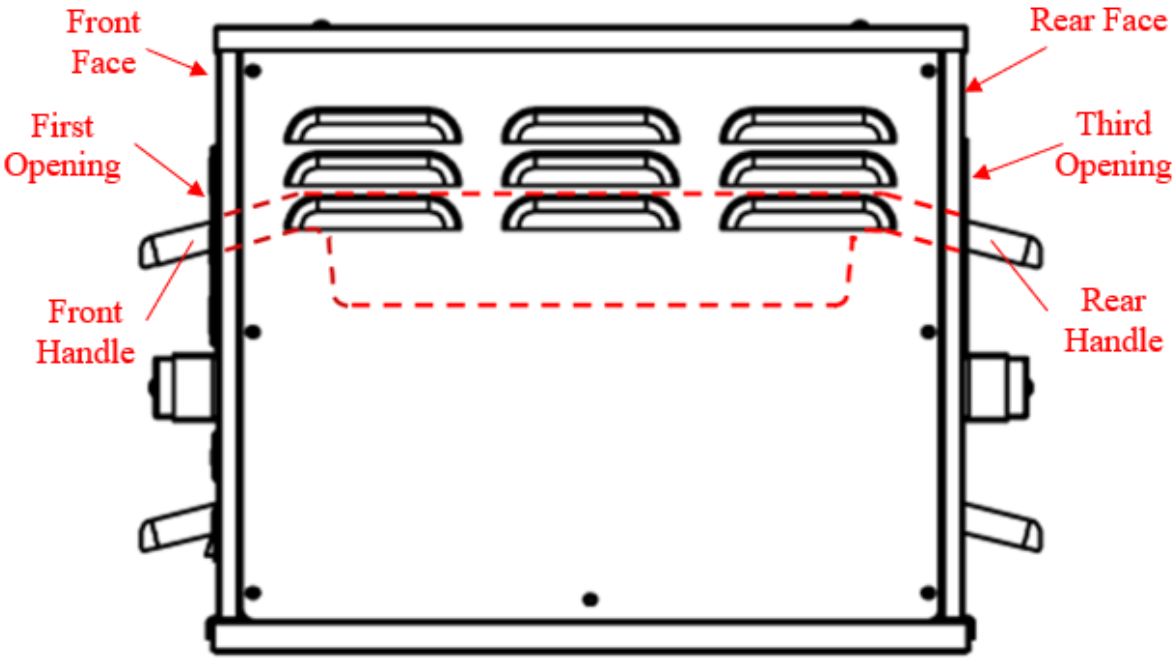
324. The food pans disclosed in the IRHS Documents confirm that the IRHS Holding Unit is a pass-through unit in that they have front and rear handles. EX1007: 58. The IRHS Documents show the front and rear handles of the food

pans in the first food holding compartment extending out the front face and the rear face, respectively, as shown below:

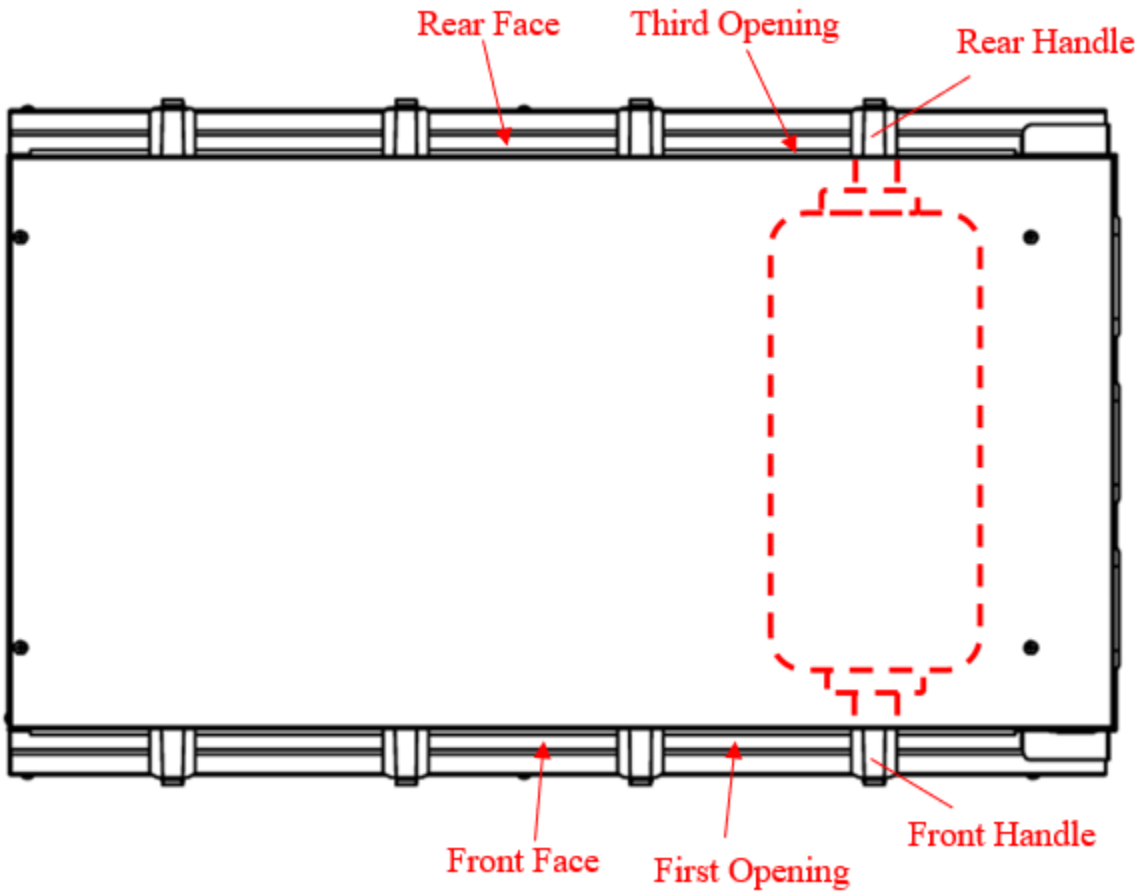


EX1007: 58 (annotated).

325. The existence of front and rear handles on the food pans further demonstrates that the IRHS Holding Unit has openings on both sides. This is further confirmed where the IRHS Documents are depicted from side or overhead views as annotated below.

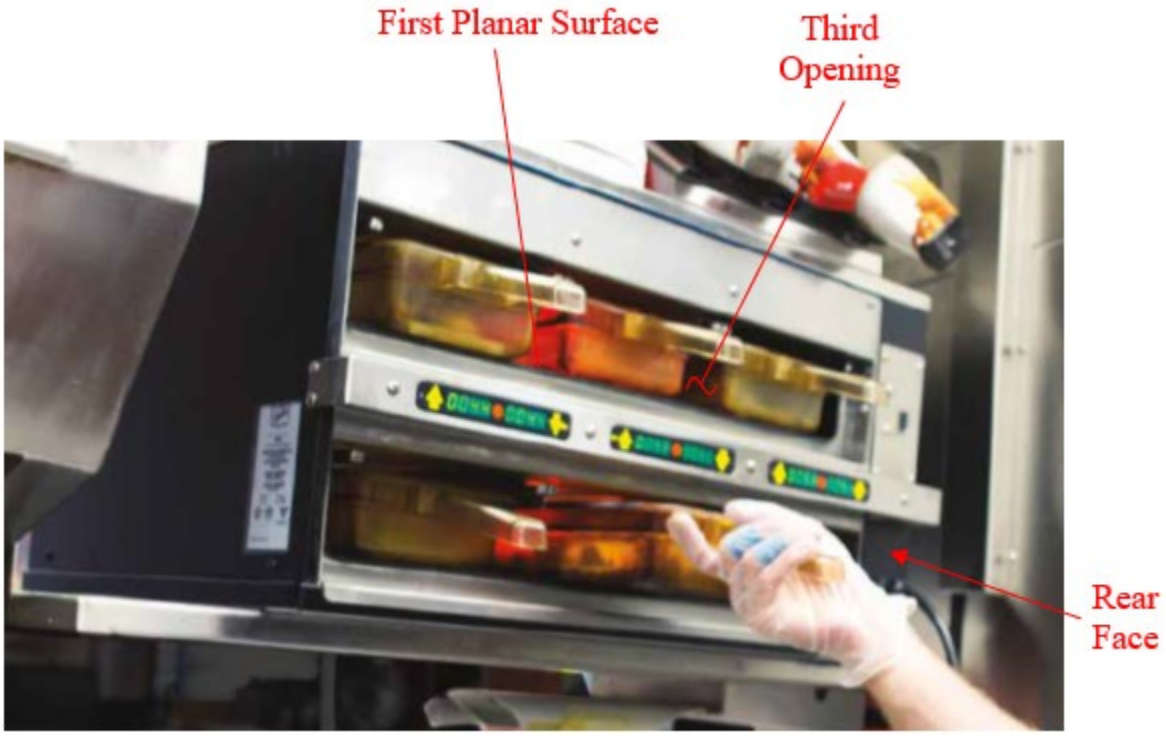


EX1005: 8 (annotated).



EX1005: 8 (annotated).

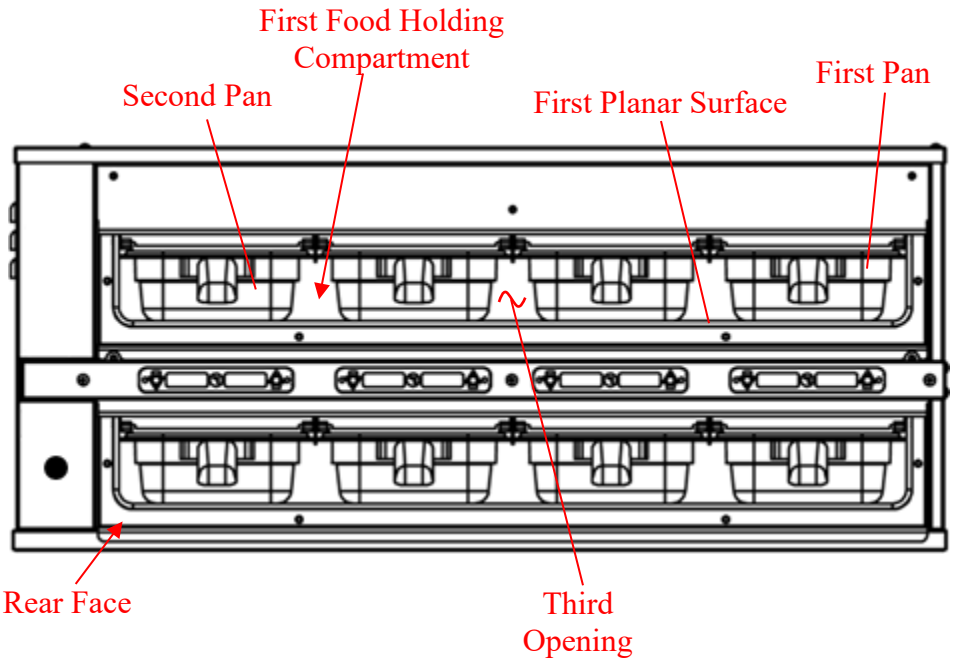
326. For the rear handles of the food pans disposed on the first planar surface to project beyond the rear face of the chassis, there must be a third opening along the rear face. The first opening enables the front handle of a pan to project out of the first opening while the third opening enables the rear handle of the same pan to project out of the third opening.



EX1007: 52 (annotated).

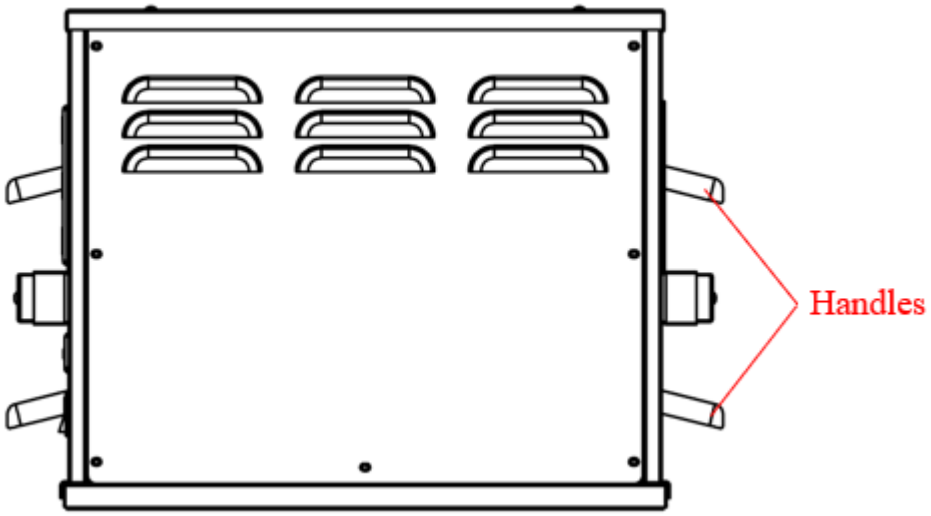
327. The POSA would understand this construction applies to the IRHS24 Holding Unit as well. EX1007: 67 ("Pass through design allows crews to work both sides"); EX1001: 1:31-35 ("Known holding bins can allow a cooked food item to be inserted from one side and taken from the opposite side"). A representative illustration of the rear face of the IRHS24 Holding Unit is shown below. As illustrated, a third opening through the rear face is larger than the food pans and allows the food pans (and the food contained therein) (e.g., first and/or second food pans) to pass through the third opening, into the first food holding

compartment, and onto the first substantially planar surface.EX1005: 8 (modified to represent the rear view of the IRHS24 Holding Unit).



EX1005: 8 (modified to represent the rear view of the IRHS24 Holding Unit).

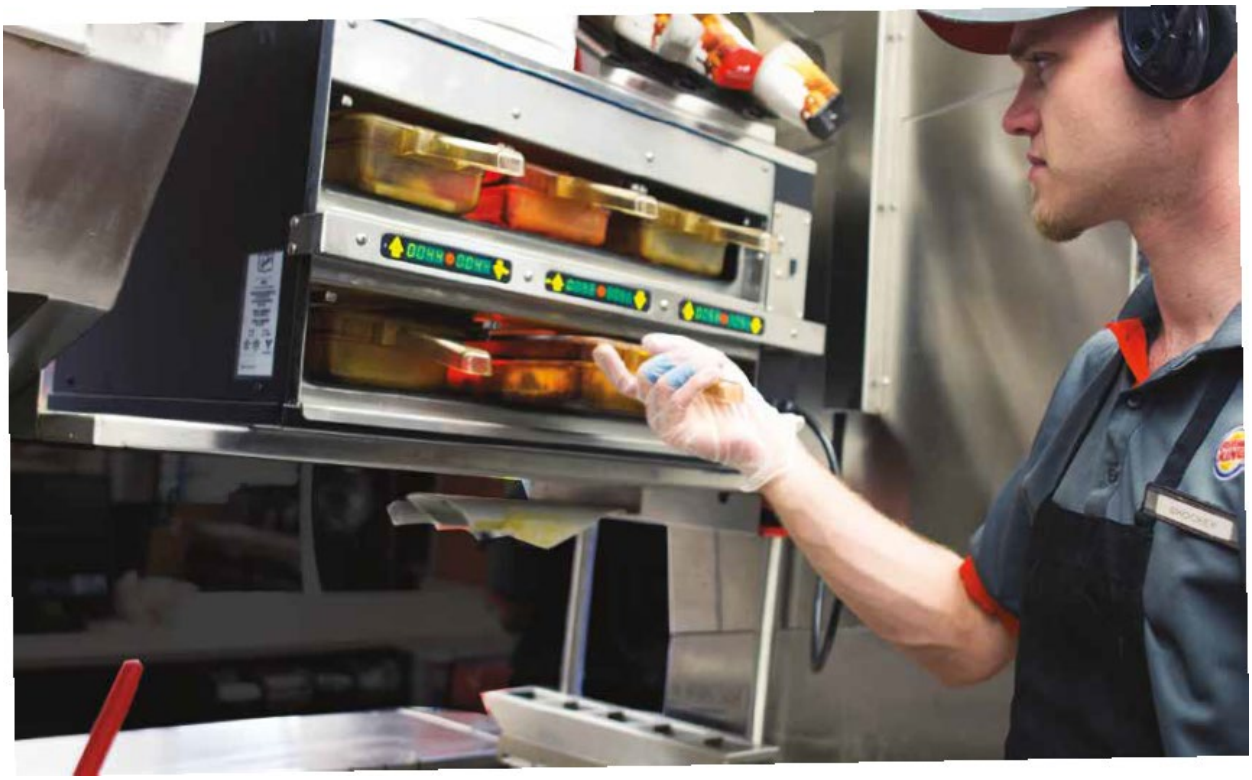
328. As shown below, handles of the food pans project out of the third opening in the rear face of the chassis, to allow the operator to insert and remove pans through the third opening. EX1007: 52 (upper image).



EX1005: 8 (annotated).



EX1007: 58 (annotated).

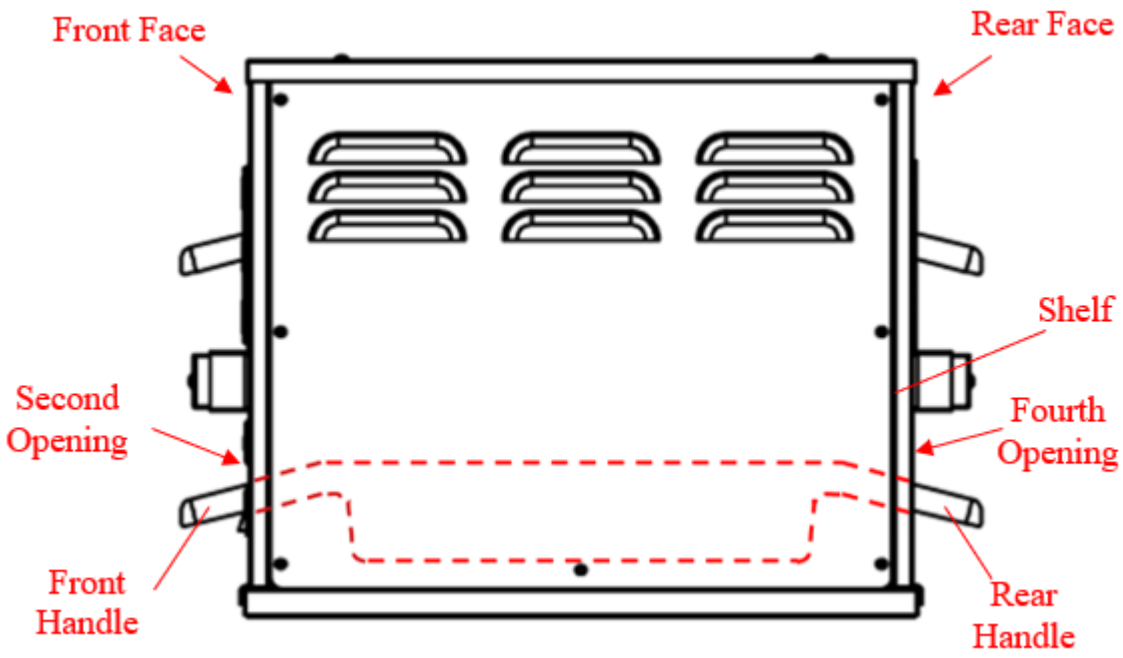


EX1007: 52.

6.c: providing a fourth opening through the rear face configured to allow the third or fourth tray to be passed through the fourth opening into the second food holding compartment and onto the second substantially planar surface

329. As explained above in Paragraphs 320-328 (claim limitation 6.b), the POSA would understand that the rear face of the IRHS24 Holding Unit is generally a mirror image of the front face.

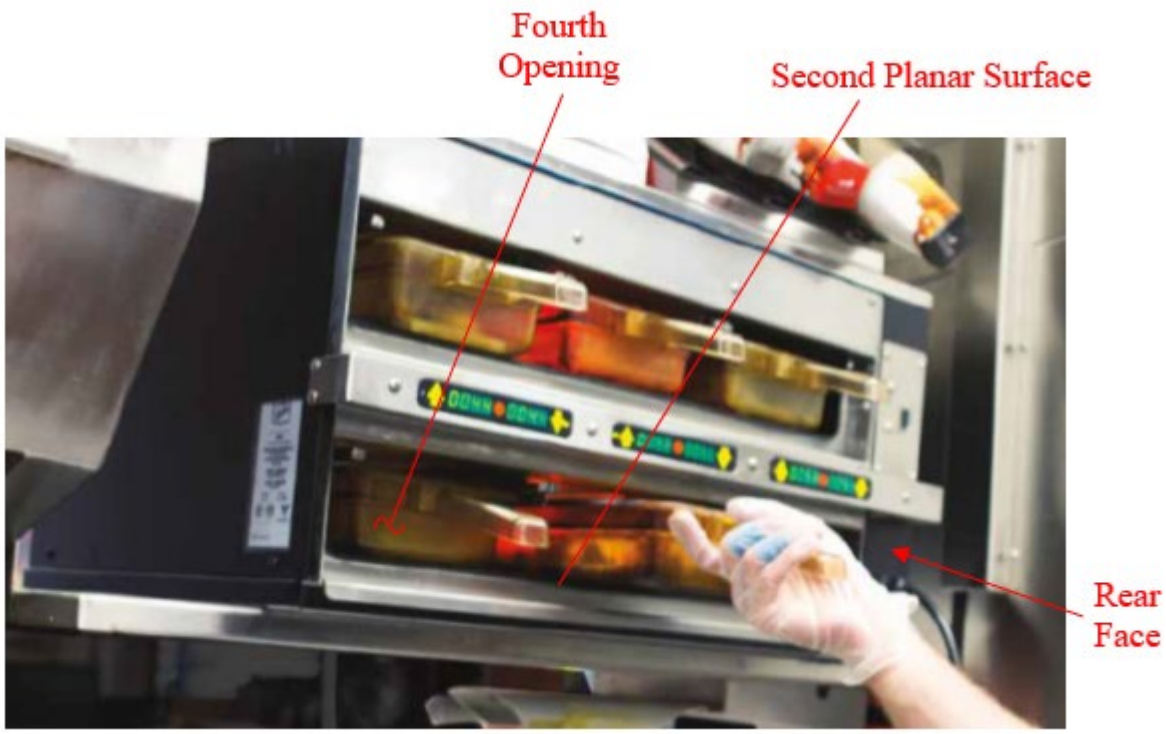
330. The IRHS Documents show the front and rear handles of the food pans in the second food holding compartment extending out the front face and the rear face, respectively, of the IRHS24 Holding Unit, as shown below:



EX1005: 8 (annotated).

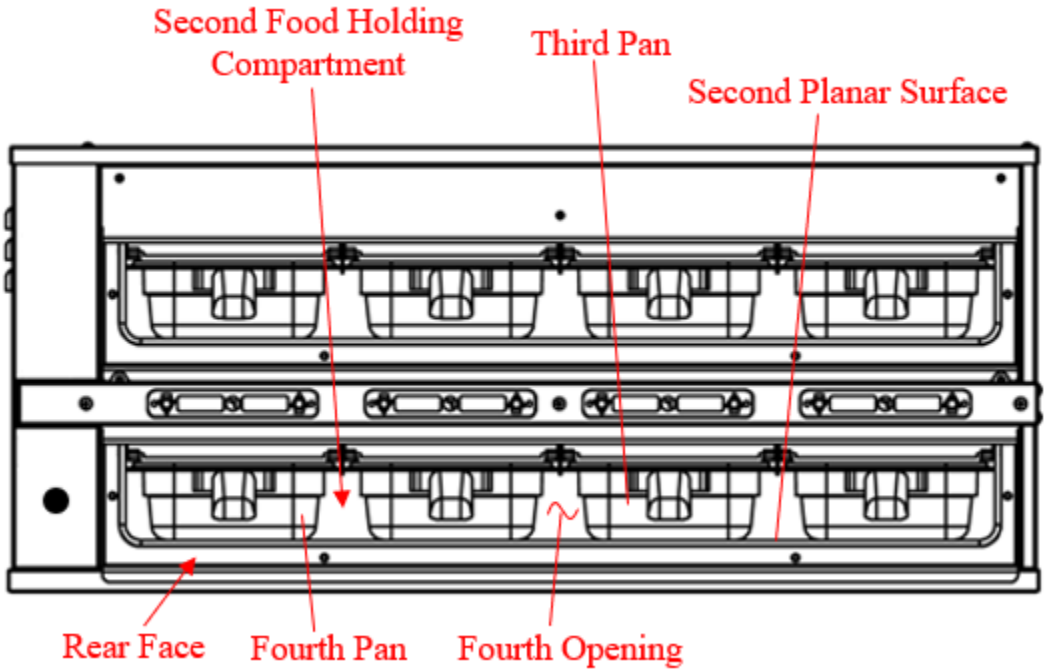
331. For the rear handles of the food pans disposed on the second planar surface to project beyond the rear face, there must be a fourth opening along the rear face. The second opening enables the front handle of a pan to project out of the second opening while the fourth opening enables the rear handle of the same pan to project out of the fourth opening.

332. As annotated below, the illustrated IRHS Holding Unit has a fourth opening through the rear face. The fourth opening is larger than the food pans and allows the food pans (and the food contained therein) to pass through the fourth opening, into the second food holding compartment, and onto the second substantially planar surface.



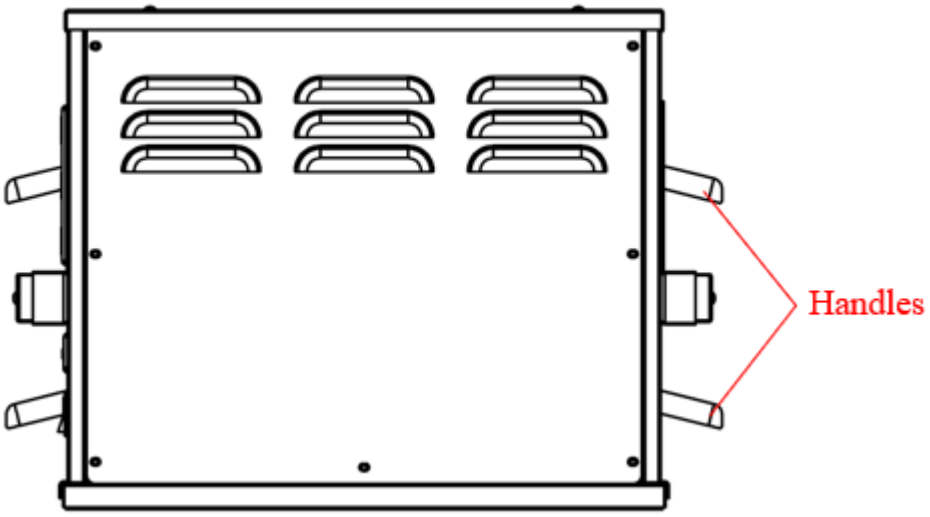
EX1007: 52 (annotated).

333. The POSA would understand this construction applies to the IRHS24 Holding Unit as well. EX1007: 67 ("Pass through design allows crews to work both sides"); EX1001: 1:31-35 ("Known holding bins can allow a cooked food item to be inserted from one side and taken from the opposite side"). A representative illustration of the rear face of the IRHS24 Holding Unit is shown below. As illustrated, a fourth opening through the rear face is larger than the food pans and allows the food pans (and the food contained therein) (e.g., third and/or fourth food pans) to pass through the fourth opening, into the second food holding compartment, and onto the second substantially planar surface.



EX1005: 8 (modified to represent the rear view of the IRHS24 Holding Unit).

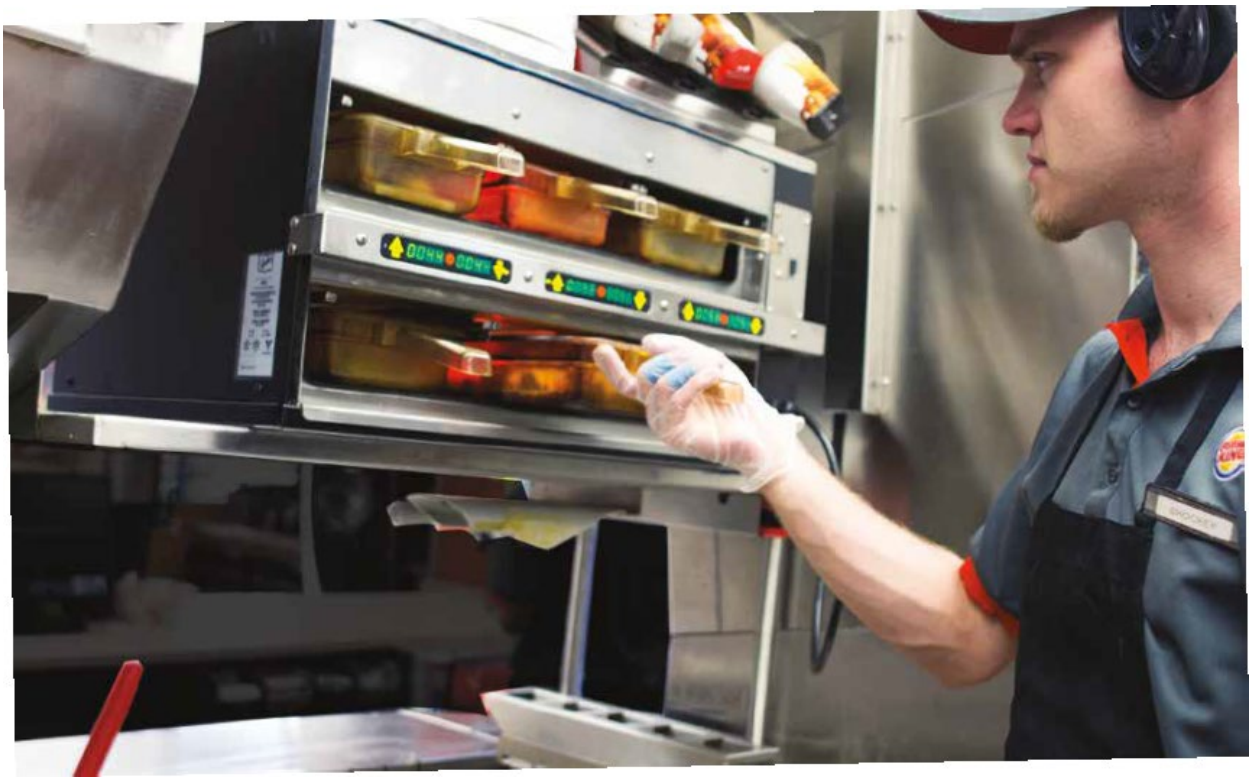
334. As shown below, handles of the food pans project out of the fourth opening in the rear face of the chassis, to allow the operator to insert and remove pans through the fourth opening. EX1007: 52 (upper image).



EX1005: 8 (annotated).



EX1007: 58 (annotated).



EX1007: 52.

335. Accordingly, each limitation of Claim 6 is disclosed or rendered obvious within the IRHS Documents. Accordingly, the POSA would have found it obvious to combine the teachings and disclosures of the IRHS Documents to arrive

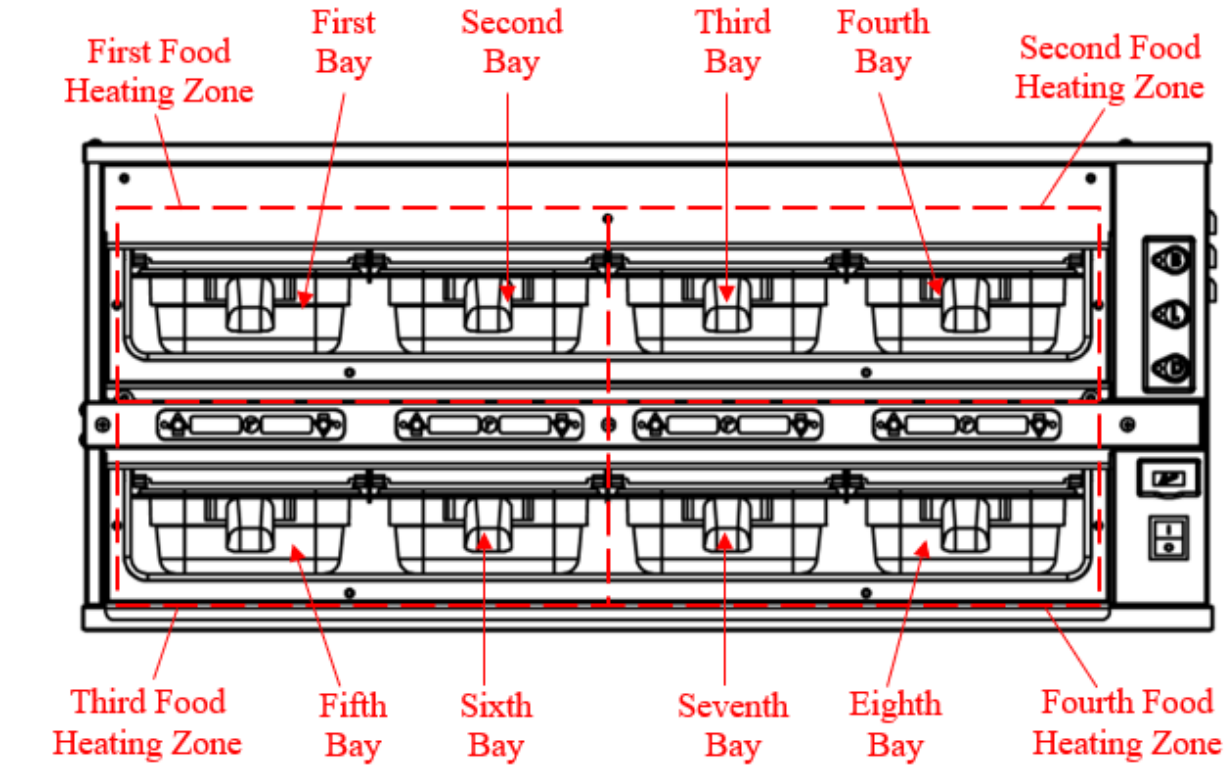
at the method of maintaining different temperatures within a multi-zone food holding bin as claimed in Claim 6.

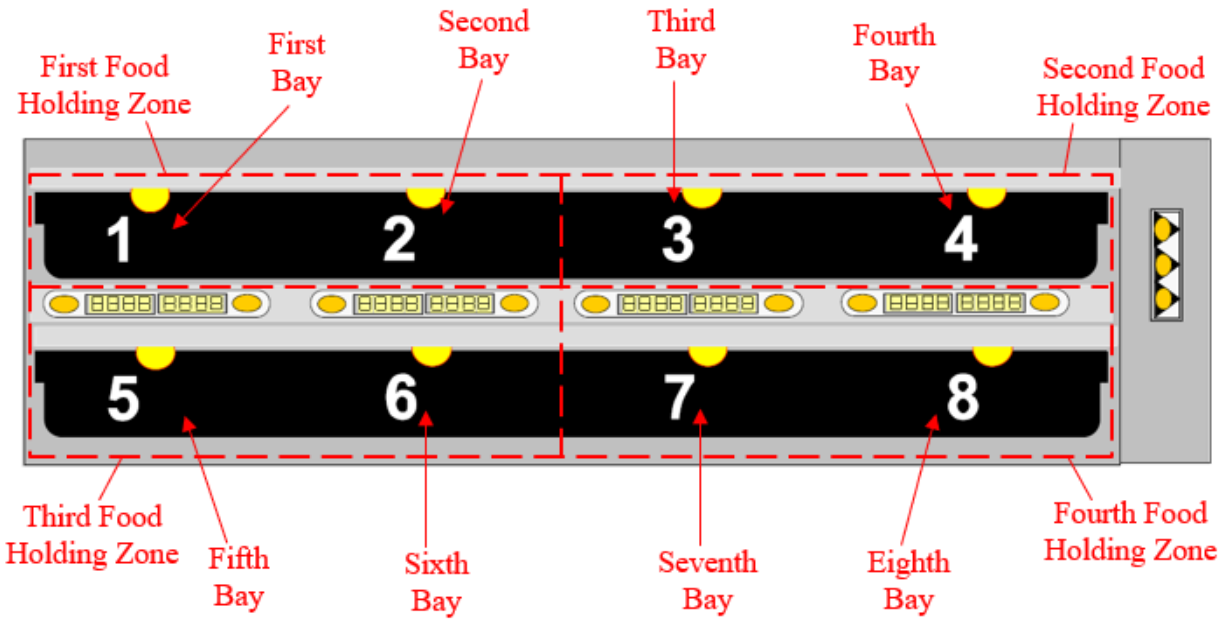
H. Claim 8

8.a: the method of claim 1, wherein the multi-zone food holding bin comprises a plurality of bays, the plurality of bays comprising a first bay and a second bay within the first food heating zone, a third bay and a fourth bay within the second food heating zone, a fifth bay and a sixth bay within the third food heating zone, and a seventh bay and an eighth bay within the fourth food heating zone

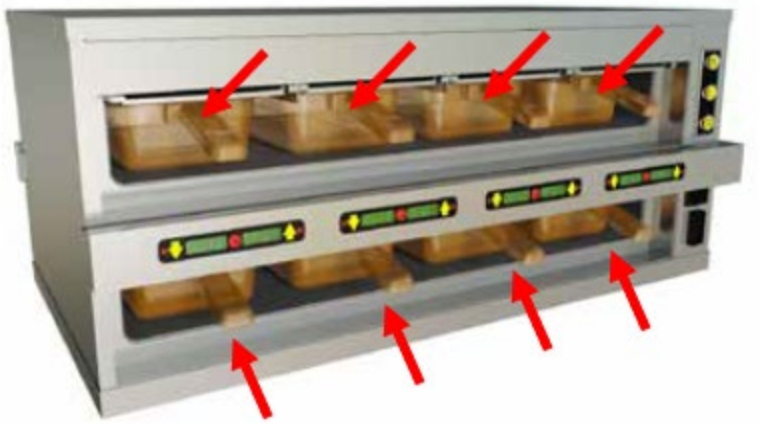
336. As discussed above, the POSA would have found it obvious to combine the teachings and disclosures of the IRHS Documents to arrive at the claimed method of maintaining different temperatures within a multi-zone food holding bin of Claim 1.

337. As disclosed by the IRHS Documents, the IRHS24 Holding Unit has eight bays. First and second bays are within the first food heating zone, third and fourth bays are within the second food heating zone, fifth and sixth bays are within the third food heating zone, and seventh and eighth bays are within the fourth food heating zone.





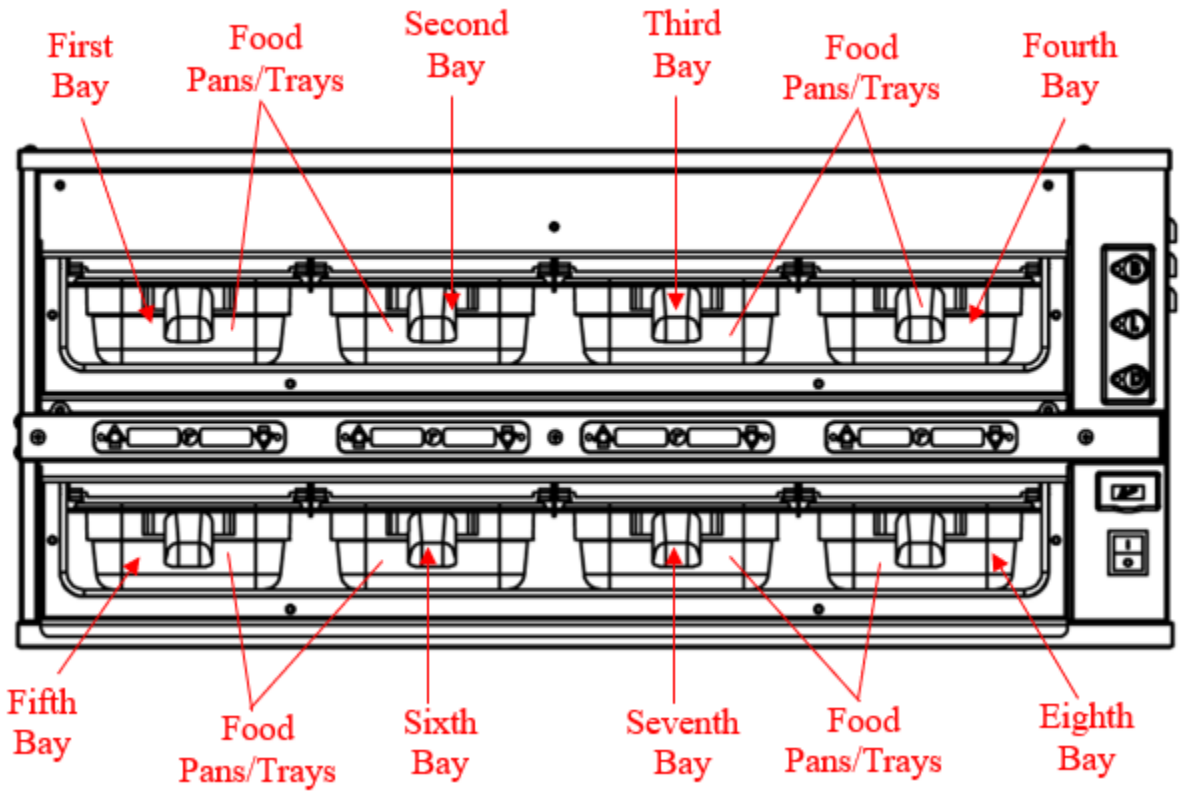
EX1005: 8, 25 (annotated).



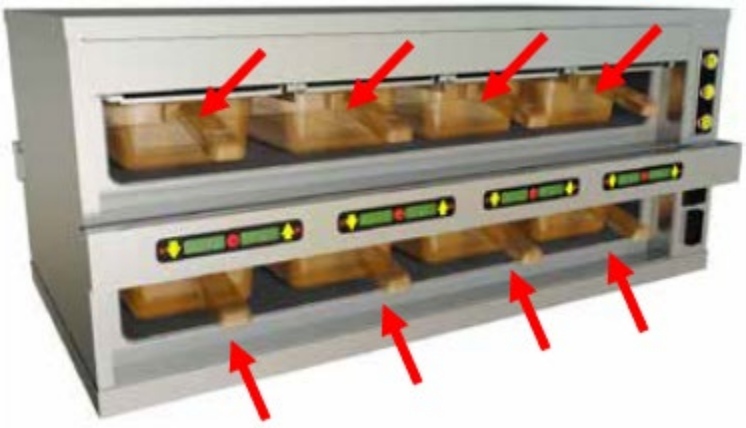
EX1007: 56.

8.b: wherein each bay of the plurality of bays is configured to receive a tray of food product

338. As disclosed by the IRHS Documents, each bay of the IRHS24 Holding Unit is configured to receive a food pan/tray.



EX1005: 8 (annotated).



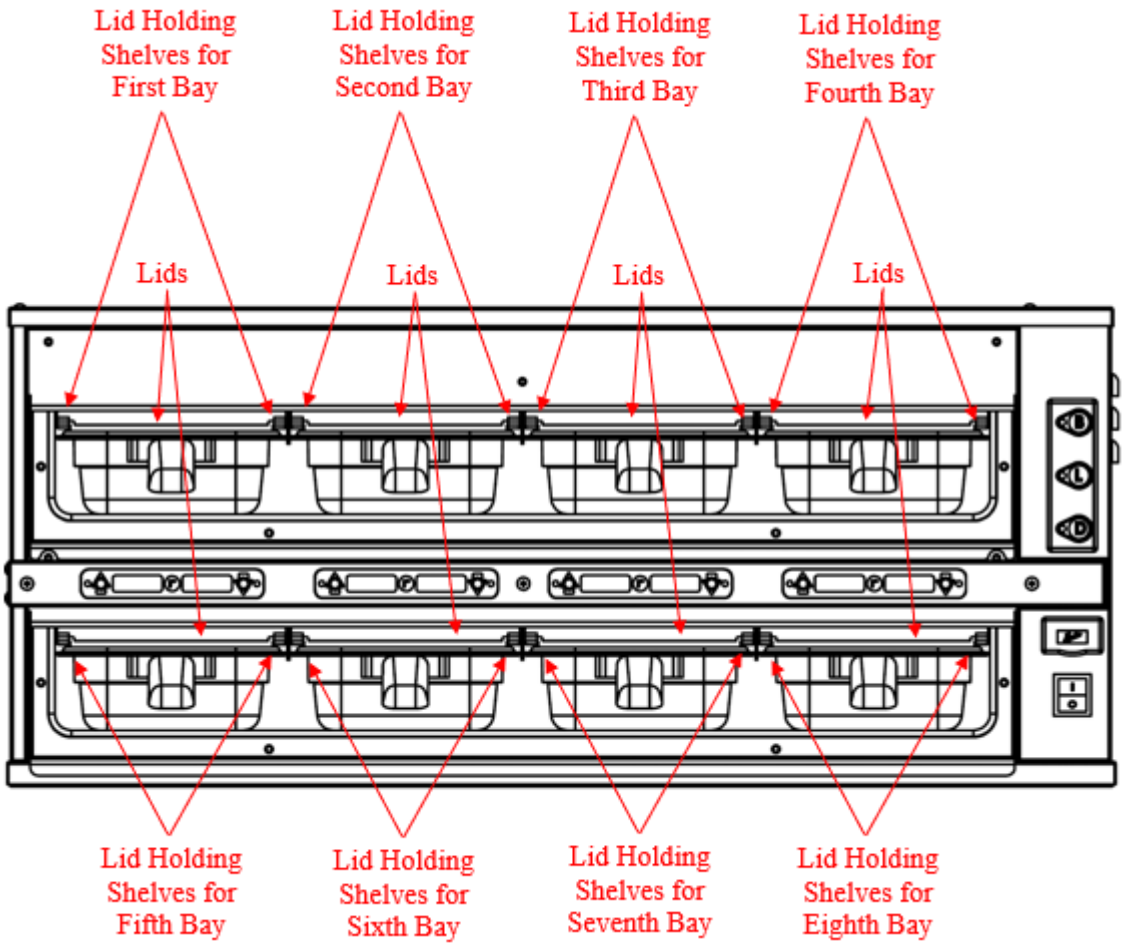
EX1007: 56 (annotated).

339. Accordingly, each limitation of Claim 8 is disclosed or rendered obvious within the IRHS Documents. Accordingly, the POSA would have found it obvious to combine the teachings and disclosures of the IRHS Documents to arrive at the method of maintaining different temperatures within a multi-zone food holding bin as claimed in Claim 8.

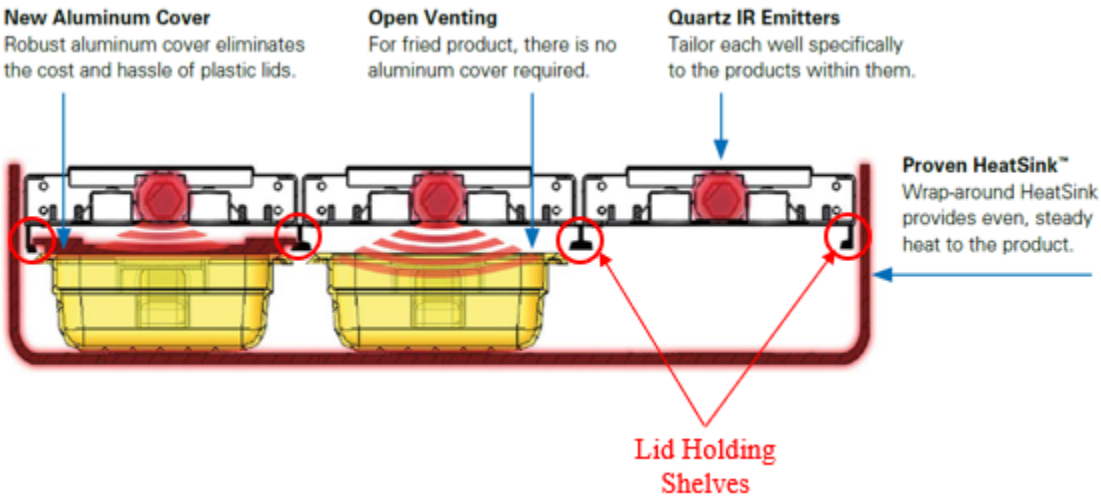
I. Claim 9: the method of claim 8, further comprising plurality of lid holding shelves, a lid holding shelf of the plurality of lid holding shelves associated with each bay of the plurality of bays, wherein each lid holding shelf is configured to receive a lid thereon

340. As discussed above, the POSA would have found it obvious to combine the teachings and disclosures of the IRHS Documents to arrive at the claimed method of maintaining different temperatures within a multi-zone food holding bin of Claim 8.

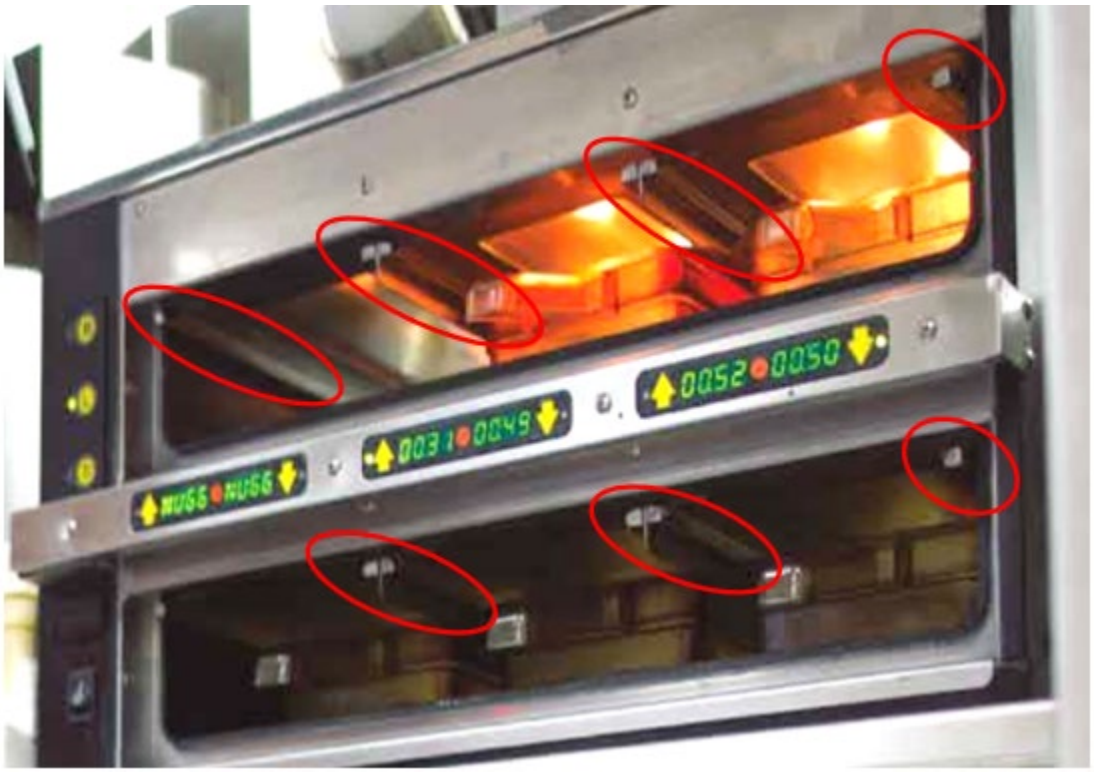
341. The IRHS24 Holding Unit includes covers or lids suspended above each pan holding location/bay. EX1005: 4 ("robust aluminum Heat Sink Cover for broiled foods"), 8, 20-21 (ref. no. 18); EX1007: 53 ("[m]etal cover eliminates the cost and hassle of plastic lids"), 56, 58 ("[c]over allows better heat transfer and greater seal assurance; critical to maintaining food quality with extended hold times"). The IRHS24 Holding Unit has lid-holding shelves for receiving and supporting the lids above each pan holding location/bay. Each bay has associated lid-holding shelves for receiving and storing the lid also associated with the respective bay.



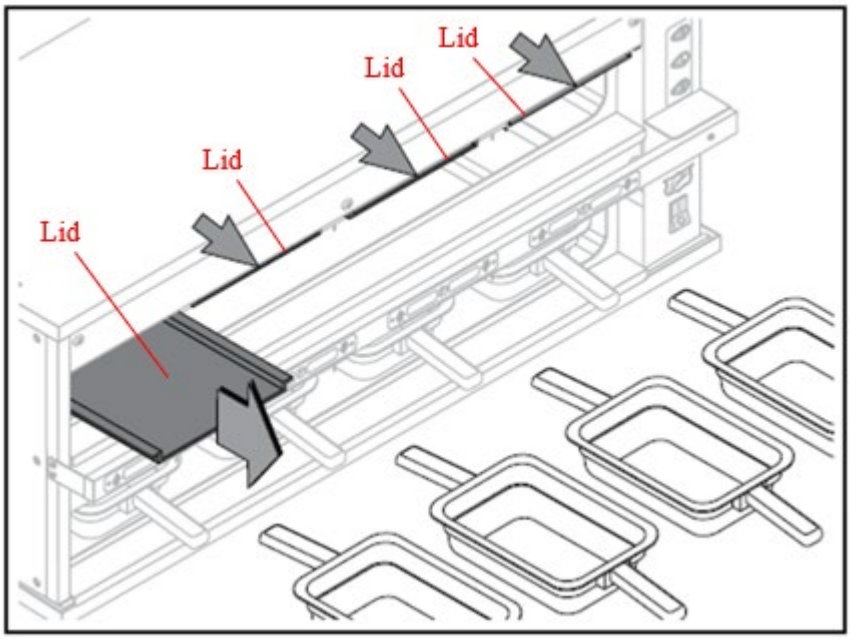
EX1005: 8 (annotated).



EX1007: 53 (annotated).



EX1007: 36 (annotated).



EX1008: 16 (annotated).

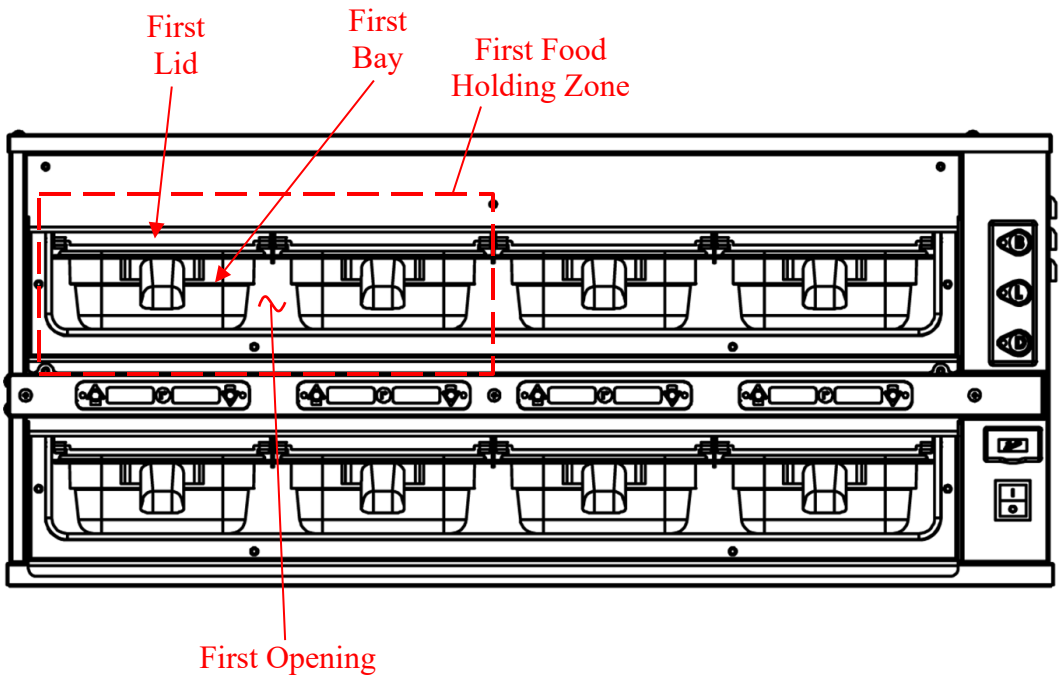
342. Accordingly, the POSA would have found it obvious to combine the teachings and disclosures of the IRHS Documents to arrive at the method of maintaining different temperatures within a multi-zone food holding bin as claimed in Claim 9.

J. Claim 10

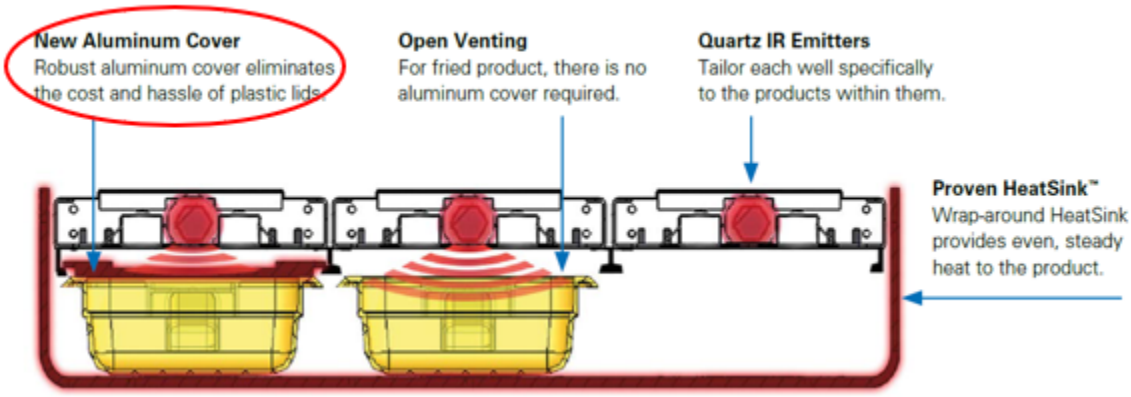
10.a: the method of claim 9, further comprising: receiving a first lid through the first opening into the first bay of the first food holding zone

343. As discussed above, the POSA would have found it obvious to combine the teachings and disclosures of the IRHS Documents to arrive at the claimed method of maintaining different temperatures within a multi-zone food holding bin of Claim 9.

344. The IRHS24 Holding Unit receives a first lid through the first opening into the first bay of the first food holding zone. EX1005: 4 ("aluminum Heat Sink Cover"), 14 ("Remove [] heat sink covers"), 16 ("Ensure proper heat sink covers are inserted into the correct location"); EX1006: 1 ("Only removable part for cleaning is aluminum cover"); EX1007: 51 ("Metal HeatSink Cover"), 53 ("Open Venting For fried product, there is no metal cover"), 58 ("Aluminum HeatSink Cover"); EX1008: 16 ("Remove any pans and covers").

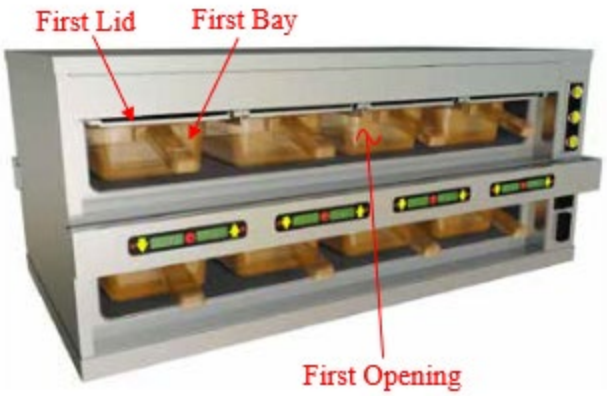


EX1005: 8 (annotated).

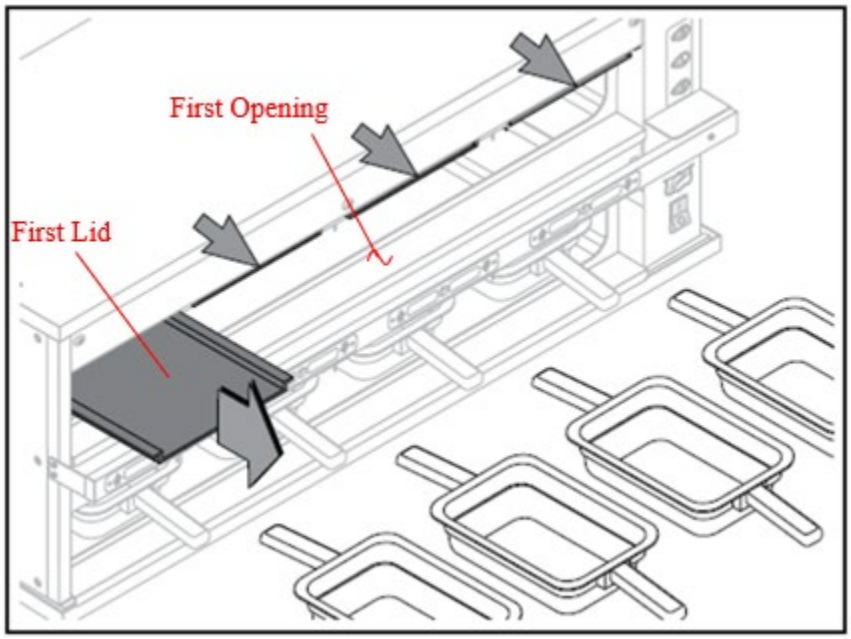


EX1007: 53 (annotated).

345. Each lid can be slid into and out of the food holding compartment through the opening.



EX1007: 56 (annotated).

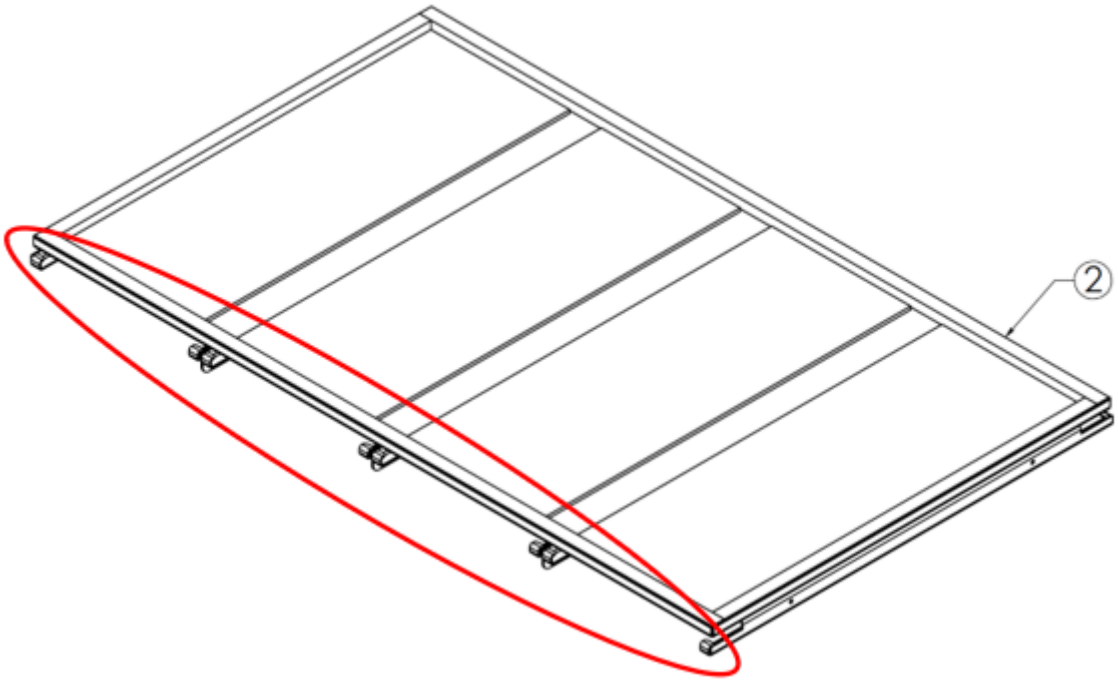


EX1008: 16 (annotated).

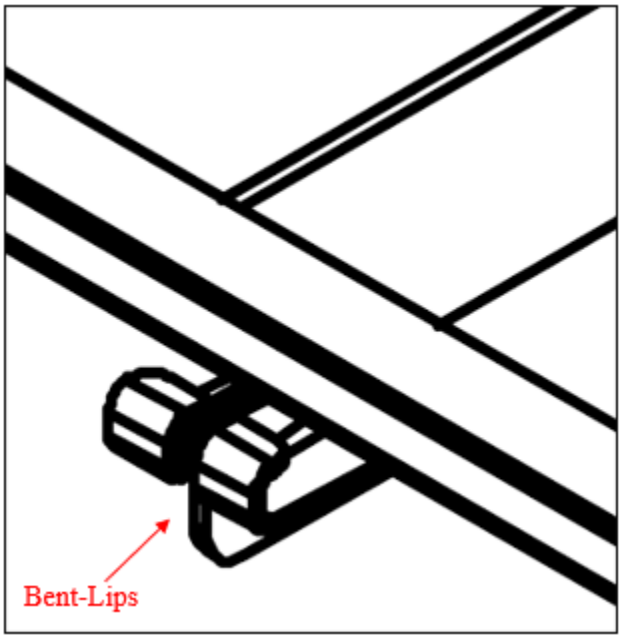
346. Although IRHS Service Manual above shows the lid being moved out of the first bay through the first opening, movement into the first bay through the first opening would be the same, just in the reverse direction.

10.b: retaining the first lid within the first bay on the lid holding shelf associated with the first bay

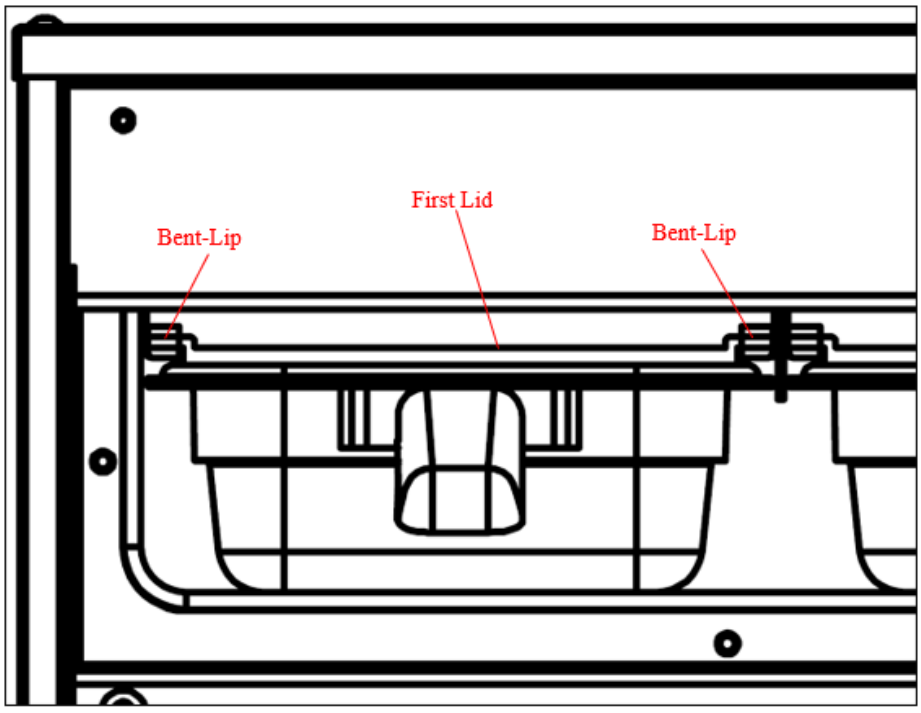
347. Each lid-holding shelf of the IRHS24 Holding Unit has bent-lips for retaining the lids. EX1005: 19; EX1011: ¶¶[0035]-[0037], Figs. 9-14. The POSA would understand that these bent-lips retain the lids and that the bent-lips of the lid-holding shelves associated with the first bay retain the first lid within the first bay on the lid-holding shelves. EX1011: ¶¶[0035]-[0037], Figs. 9-14.



EX1005: 19 (annotated).



EX1005: 19 (enlarged, annotated).



EX1005: 8 (enlarged, annotated).

348. Accordingly, each limitation of Claim 10 is disclosed or rendered obvious within the IRHS Documents. Accordingly, the POSA would have found it obvious to combine the teachings and disclosures of the IRHS Documents to arrive at the method of maintaining different temperatures within a multi-zone food holding bin as claimed in Claim 10.

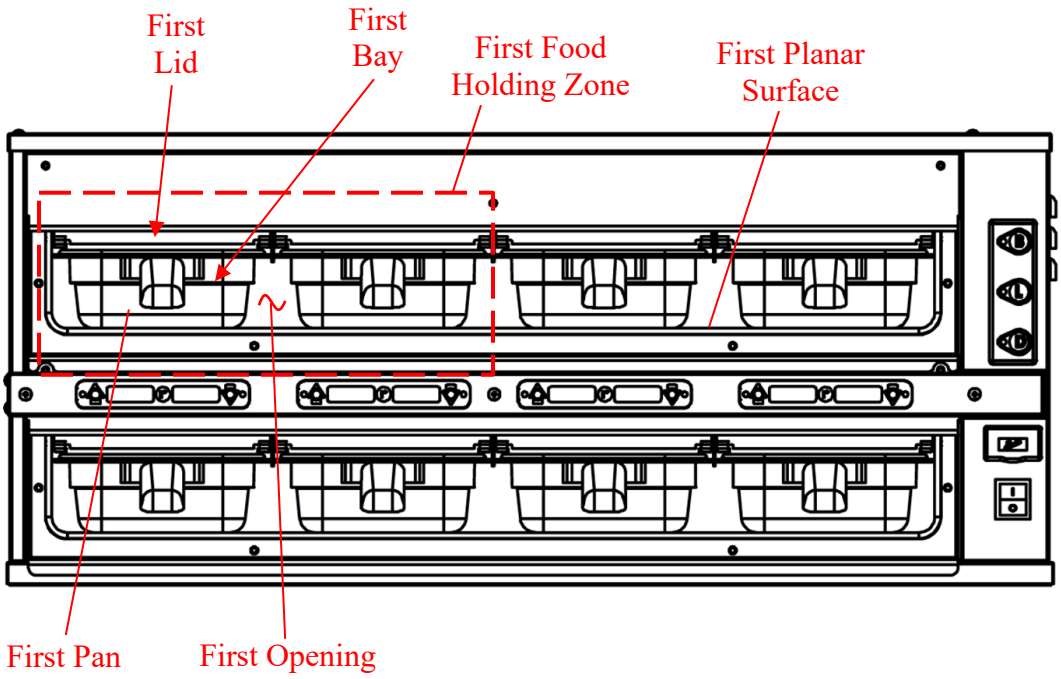
K. Claim 11

11.a: the method of claim 10, further comprising: receiving a first tray of a first food product through the first opening into the first bay of the first food holding zone onto the first substantially planar bottom surface below the first lid

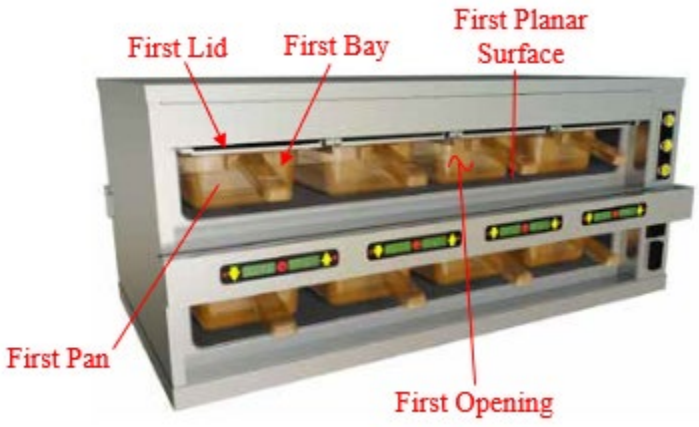
349. As discussed above, the POSA would have found it obvious to combine the teachings and disclosures of the IRHS Documents to arrive at the claimed method of maintaining different temperatures within a multi-zone food holding bin of Claim 10.

350. As explained in Paragraphs 204-211, it would have been obvious holding diverse menu of food products benefitting from different holding conditions in separate, independently controlled food holding zones. For the reasons described Paragraphs 288-295 (claim limitation 5.a), it would have been obvious for a first pan/tray of a first type of food product (e.g., regular burger patties) to be received through the first opening into the first food holding zone. The first pan/tray is received in the first bay of the first food holding zone onto the first substantially

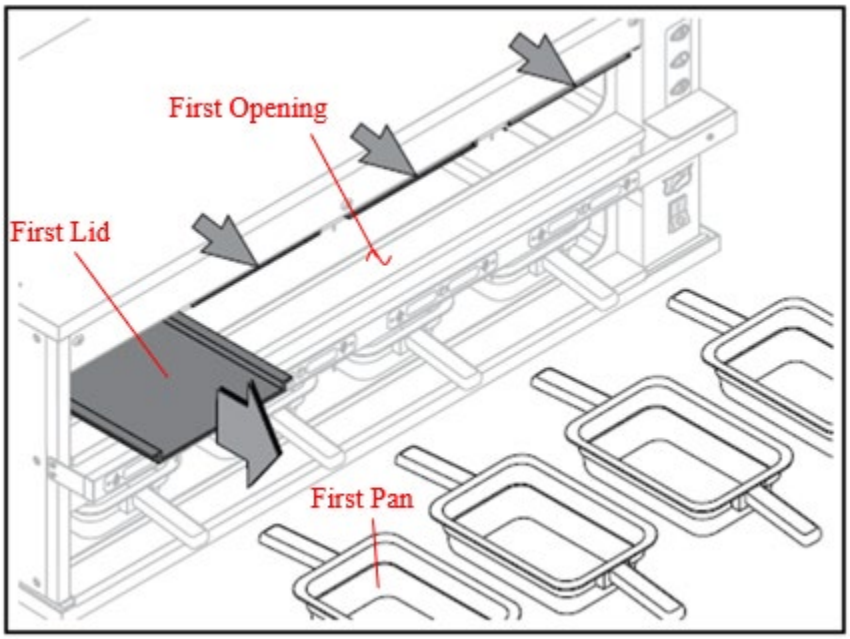
planar bottom surface. The first substantially planar bottom surface and the first pan are below the first lid.



EX1005: 8 (annotated).



EX1007: 56 (annotated).



EX1008: 16 (annotated).

351. For example, the IRHS Documents provide an example chart indicating burger patties in the first bay of the first zone.



EX1007: 12 (annotated).

11.b: receiving a second tray of a second food product through the first opening into the second bay of the first food holding zone onto the first substantially planar bottom surface

352. As explained in Paragraphs 154-156 and 288-295 (claim limitations 1.a.4 and 5.a), it would have been obvious for pans/trays of food to be received through the first opening, into the first food holding zone of the first food holding compartment and onto the first planar bottom surface. As explained in Paragraphs 204-211, it would have been obvious holding diverse menu of food products benefitting from different holding conditions in separate, independently controlled food holding zones.

353. Given the diverse menu and the food location flexibility, it would have been obvious to hold different food products in different zones/bays (e.g., including another type of food product, such as fried chicken (tendercrisp), in the second bay of the first holding zone). EX1007: 12; EX1005: 16 ("[t]his new technology allows you to precisely control the environment in each pan, allowing customized settings for each food product"); EX1006: 1 ("independent well flexibility"); EX1007: 9 (chart with different food types), 53 ("[t]otal well independence allows freedom in product placement in the IRHS" and "[t]ailor each well specifically to the products within them").

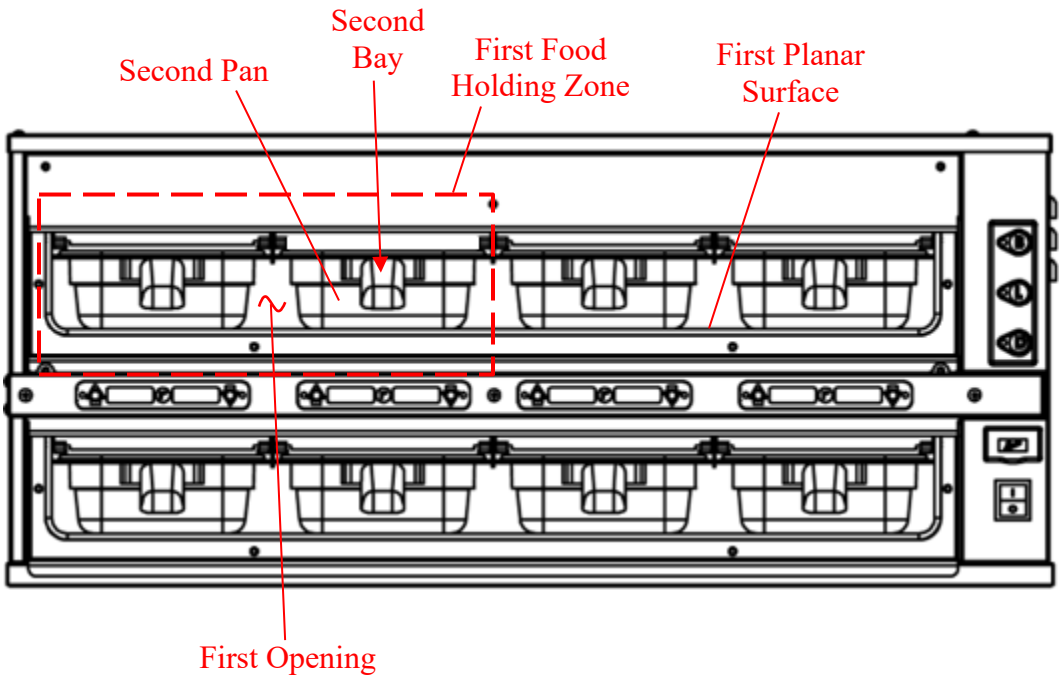
354. For example, the IRHS Documents teach the bays (e.g., first and second bays) receiving different types of food (e.g., regular burger patties in a first bay of

the first food holding zone and fried chicken (tendercrisp) in a second bay of the first food holding zone).

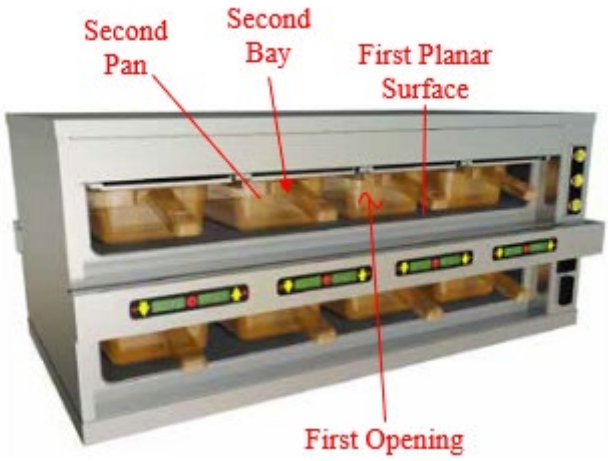


EX1007: 12 (annotated).

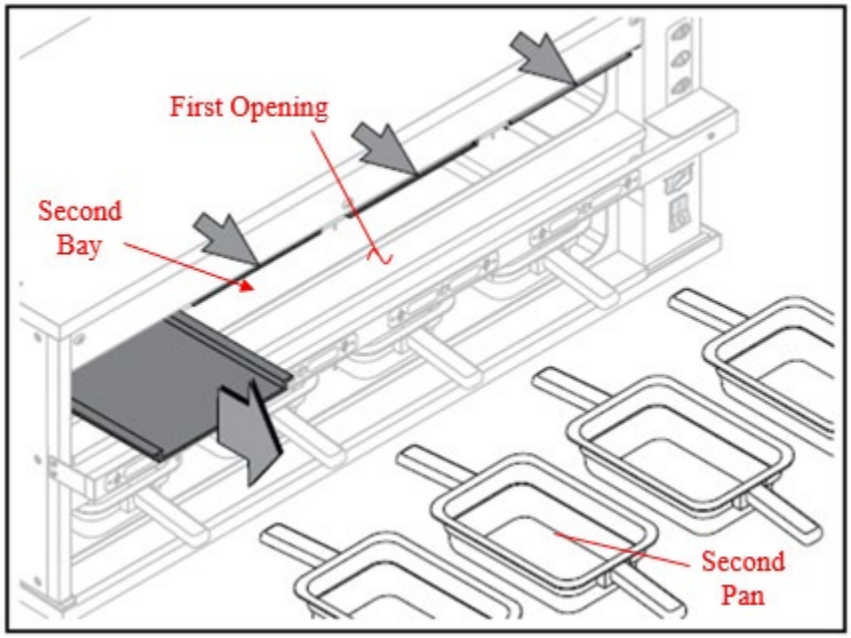
355. For these reasons, and other explained in Paragraphs 166-211 and 288-297 (claim limitation 1.b and 5.a), it would have been obvious for a second pan/tray of a second type of food product (e.g., fried chicken) to be received through the first opening into the second bay of the first food holding zone onto the first planar bottom surface.



EX1005: 8 (annotated).



EX1007: 56 (annotated).



EX1008: 16 (annotated).

11.c: maintaining, with the first lid, an increased moisture within the first tray compared to a moisture within the second tray, while operating the first bay and the second bay of the first food holding zone to the first temperature setpoint by independently operating the first heating element and the second heating element

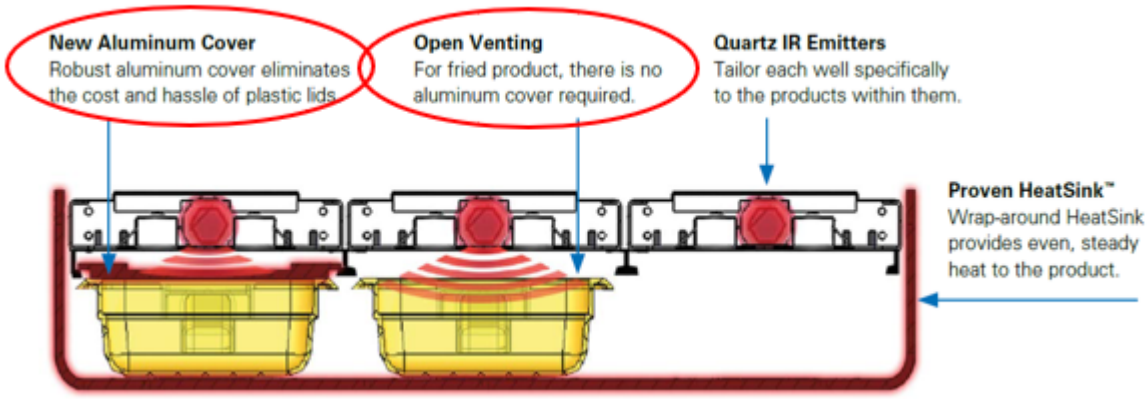
356. The first and second bays are part of the first food holding zone and are operated to the first temperature setpoint of the first food holding zone (e.g., heatsink temperature setpoint) by independently operating the first and second heating elements as explained in Paragraphs 166-211 (claim limitation 1.b).

357. The Duke Website gives an example where the food product in the first pan/tray is burgers (e.g., regular burger patties) and the food product in the second pan/tray is fried chicken ("TCRISP" refers to Burger King's fried chicken tenderscrisp). EX1007: 9, 12.



EX1007: 12 (annotated).

358. The IRHS Documents provides guidance to use lids for broiled products like burger patties and to refrain from using lids for fried products like fried chicken. EX1005: 4 ("aluminum Heat Sink Cover for broiled foods"); 16 ("Ensure proper heat sink covers are inserted into the correct location (broiled and moisture sensitive products only"); EX1007: 51 ("Cover only required for broiled foods"); 53 ("Open Venting – For fried product, there is no metal cover required.").



EX1007: 53 (annotated).

359. Applying this teaching to the example food type arrangement provided by the Duke Website, the POSA would configure the IRHS24 Holding Unit to have the first lid in the first bay to keep the burger patties moist and would remove the lid from the second bay to prevent the fried chicken from becoming soggy. This would result in the first lid maintaining an increased moisture in the first pan/tray in the first bay compared to the moisture in the uncovered second tray (where the moisture is permitted to escape the pan) in the second bay during heating. EX1010: ¶[0017] ("cover 40 additionally substantially encloses the one or more pans 100 disposed upon the shelf 21 therebelow, which maintains any moisture or water vapor within the pan 100 to prevent the warmed food disposed within the pan 100 from drying"); EX1013: ¶[0006] ("One commonly used way to protect previously cooked food items for which drying out is a concern, is to place the food items in a container, such as a tray, and to provide a cover for the container. The cover restricts evaporation of moisture from the previously cooked food items. With a reduced amount of moisture vapor being able to escape from the covered container, the previously cooked food items contained therein do not dry out as rapidly."), ¶[0044] ("food portions, such as fried foods or breads like biscuits, [] are maintained uncovered to prevent the previously cooked food portions from becoming soggy"); EX1014: 7:45-67 ("the covers 200 are readily removable and replaceable within the internal volume 27 of the housing 20, and the device 10 may be operated with some

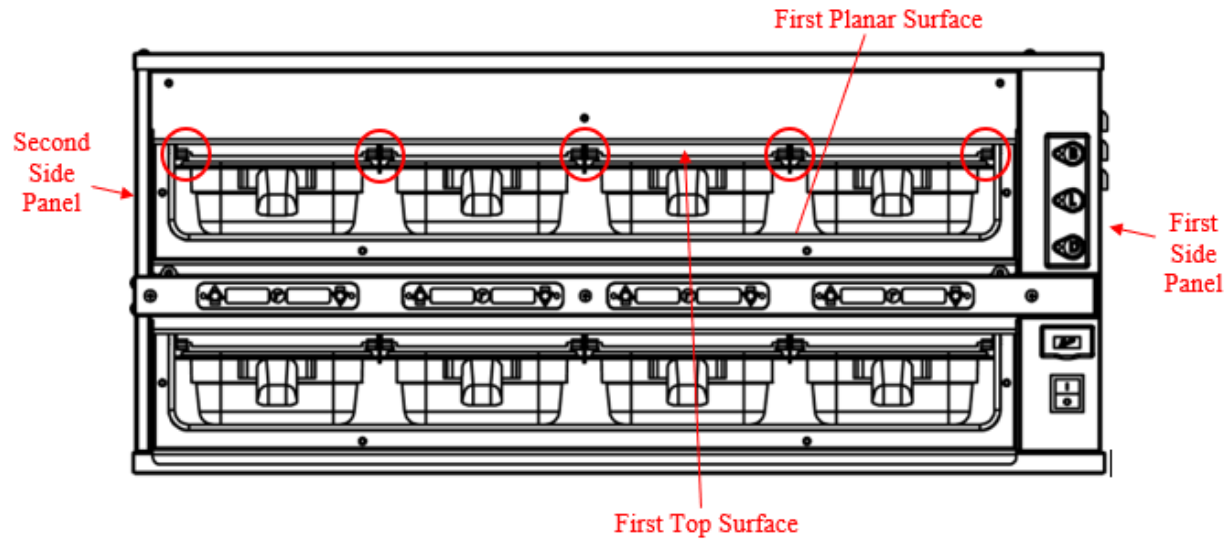
covers 200 enclosing some discrete heating zones 100 and other discrete heating zones 100 free of covers (but including pans 400). For example, when it is desired to heatingly store food products in a moist environment, the cover 200 may be installed in the discrete heating zone such to enclose (or only leave a small space above) the opening 402 into the pan 400 and to prevent moisture from the food products within the pan 400 from leaving the pan 400. … Conversely, where a relatively dry environment is desired, the cover 200 may be removed from the discrete heating zone 100 to allow any moisture within the food product disposed within the opening 402 of the pan 400 to travel away from the pan"); EX1017: 6:45-53 ("Some of these foods, such as hamburger patties, loose their taste and texture with loss of moisture. Others, such as fried chicken fillets, biscuits, and eggs become soggy if stored in an abundance of moisture. The trays B which contain foods that must remain moist are placed in heat sinks 44 having their covers 80 in the closing position (FIG. 3-left). The trays B containing foods which must remain crisp are placed in heat sinks 44 in which the covers 80 are in the venting position").

360. Accordingly, each limitation of Claim 11 is disclosed or rendered obvious within the IRHS Documents. Accordingly, the POSA would have found it obvious to combine the teachings and disclosures of the IRHS Documents to arrive at the method of maintaining different temperatures within a multi-zone food holding bin as claimed in Claim 11.

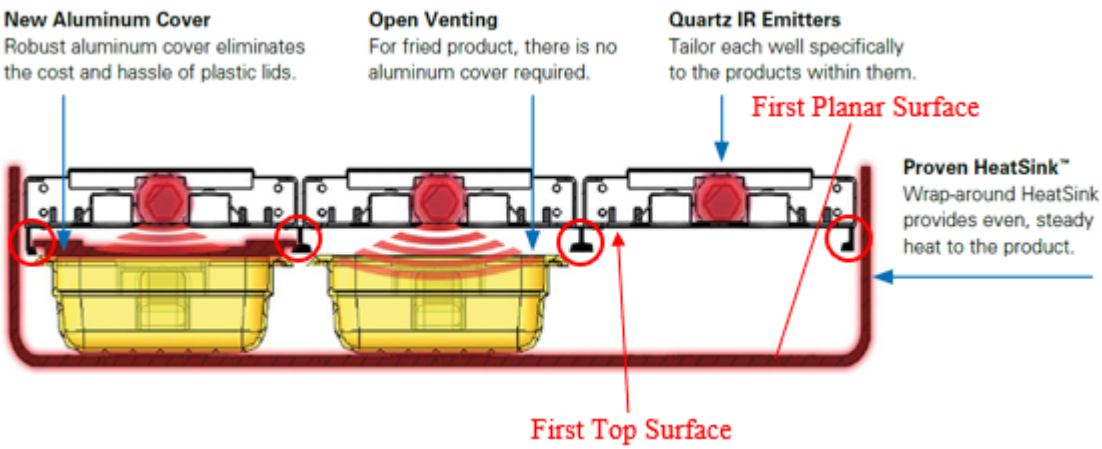
L. Claim 12: the method of claim 9, wherein at least some of the lid holding shelves of the plurality of lid holding shelves downwardly depend from the first top surface towards the first substantially planar bottom surface, leaving the first substantially planar bottom surface substantially unobstructed between the first side panel and the second side panel

361. As discussed above, the POSA would have found it obvious to combine the teachings and disclosures of the IRHS Documents to arrive at the claimed method of maintaining different temperatures within a multi-zone food holding bin of Claim 9.

362. Some of the lid-holding shelves downwardly depend from the first top surface toward the first substantially planar bottom surface, while as explained in Paragraphs 154-156 (claim limitation 1.a.4) the first planar bottom surface remains substantially unobstructed between the first and second side panels.



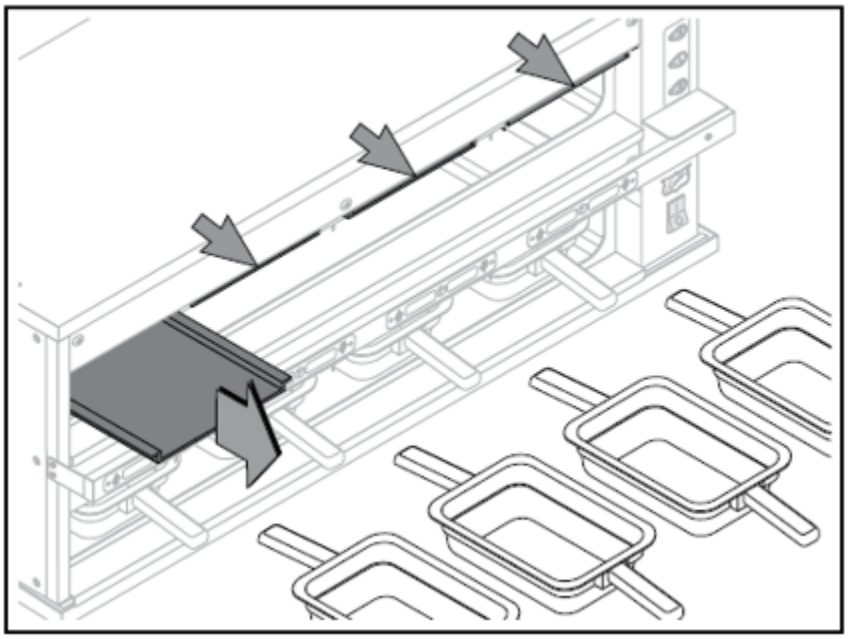
EX1005: 8 (annotated).



EX1007: 53 (annotated).



EX1007: 36 (annotated).



EX1008:16.

363. Accordingly, the POSA would have found it obvious to combine the teachings and disclosures of the IRHS Documents to arrive at the method of maintaining different temperatures within a multi-zone food holding bin as claimed in Claim 12.

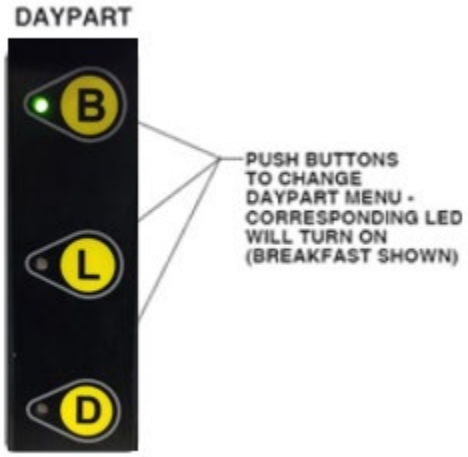
M. Claim 16: The method of claim 1, further comprising receiving a user input of the first temperature setpoint

364. As discussed above, the POSA would have found it obvious to combine the teachings and disclosures of the IRHS Documents to arrive at the claimed method of maintaining different temperatures within a multi-zone food holding bin of Claim 1.

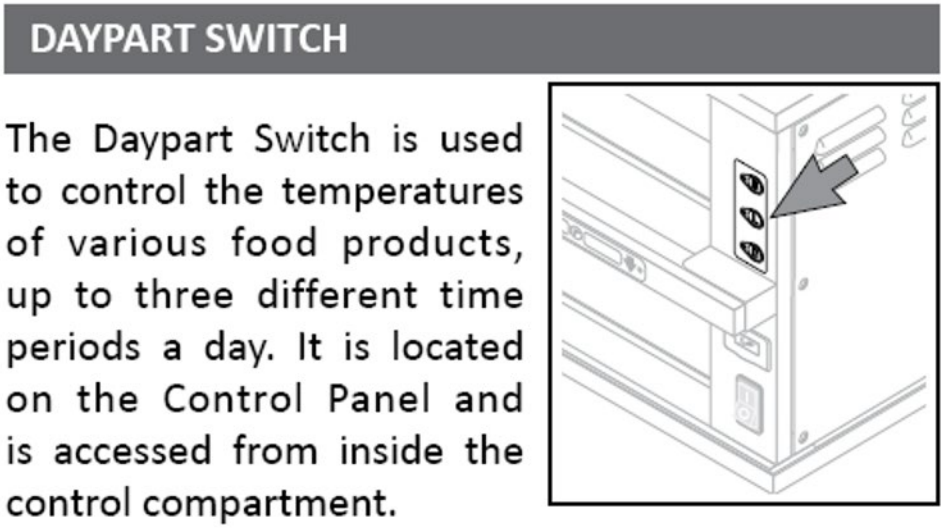
365. The IRHS24 Holding Unit is disclosed in the IRHS Documents as receiving a user inputs through a global daypart interface to change the temperature setpoints (e.g., first temperature setpoint) of each zone by selecting between "Breakfast, Lunch, and Dinner menus" to change the food type and corresponding temperature settings for each zone. EX1005: 16; EX1006: 1 ("Day part switch for global recipe changes (B, L, D)"); EX1027: ¶[0011].

366. For example, pressing the "B" daypart button for "Breakfast" changes all the food holding zones to their corresponding breakfast settings (previously set by the user). The POSA would understand that pressing a daypart button selects a pre-programmed menu/arrangement of food product types for the zones, and those food product types carry their associated temperature setpoints. EX1005: 16 ("Select the appropriate Daypart Button to switch between Breakfast, Lunch, and Dinner menus. Once to temperature, product names can be viewed on the displays," "each food product has a tailored HeatSink temperature and InfraRed pulse rate."); EX1027: ¶[0007] ("The heating recipes programmed into the control will vary depending on the type of food to be heated."), ¶[0011] ("Daypart Select actuator L is activated, indicating that the PHU is to be controlled using instructions suitable for holding a lunch menu of food. In response, food-indicators are displayed in or close by respective compartment displays A1-A4, B1-B4 to indicate the various food products to be placed and held in respective heating compartments. Daypart Select

actuator B may be actuated, indicating that the PHU is to be controlled using instructions suitable for holding a breakfast menu of food. In response, food-indicators are displayed... to indicate the various breakfast food products to be placed and held in respective heating compartments. Similarly, Daypart Select actuator D may be actuated... for holding a dinner menu of food.")

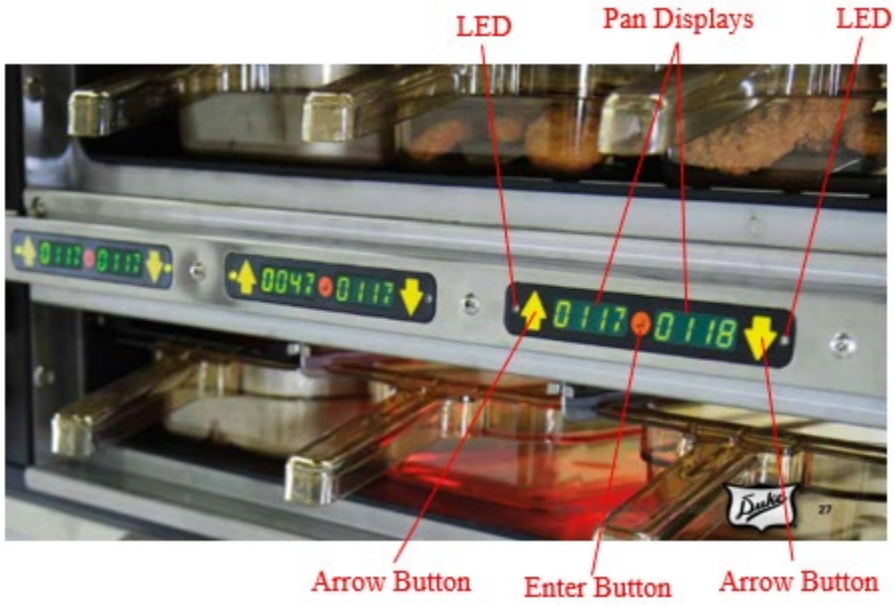


EX1005: 16.



EX1008: 29.

367. In addition, the IRHS24 Holding Unit is disclosed in the IRHS Documents as including timer bars/bezels with "arrow buttons," "enter buttons," "pan displays," and "LEDs."



EX1007: 52.

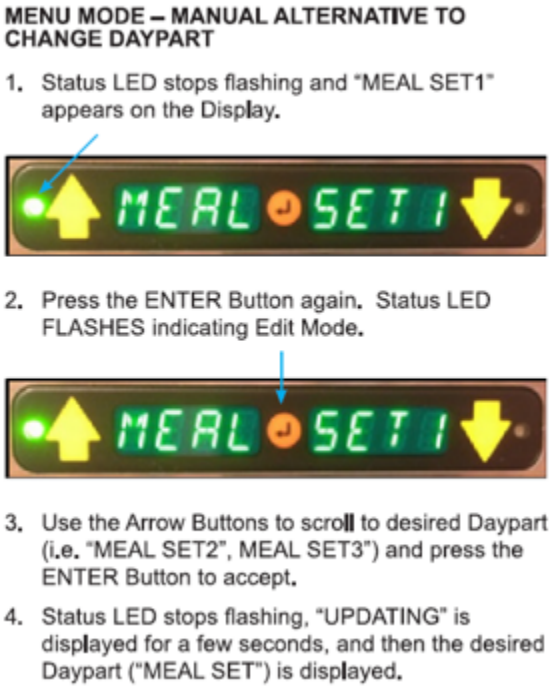
KEYPAD DISPLAYS

The Keypad Displays control and monitor the performance of each heating well. They are located inside of the Menu Bar(s) and the quantity varies (depending on model).

EX1008: 14.

368. Similar to and as an alternative to the daypart interface, these controls on the timer bars/bezels also allow the user to input or change the temperature setpoints (e.g., the first temperature setpoint) of each zone by selecting between the

different meal settings (e.g., Breakfast, Lunch, and Dinner meal settings") via the enter and arrow buttons. EX1005: 17.



EX1005: 17.

369. Thus, the IRHS24 Holding Unit receives a user input of the temperature setpoints (e.g., the first temperature setpoint) for the food holding zones when one of the daypart buttons is pressed and/or when the menu and arrow buttons are pressed to change the menu.

370. Accordingly, the POSA would have found it obvious to combine the teachings and disclosures of the IRHS Documents to arrive at the method of maintaining different temperatures within a multi-zone food holding bin as claimed in Claim 17.

N. Claim 17: The method of claim 16, wherein the user input is a user selection of a food item for the first food holding zone, wherein the user selection of the food item is associated with independent operation and control of the first heating element and the second heating element.

371. As discussed above, the POSA would have found it obvious to combine the teachings and disclosures of the IRHS Documents to arrive at the claimed method of maintaining different temperatures within a multi-zone food holding bin of Claim 16. As described above in Paragraphs 364-370 (Claim 16), the user presses the daypart buttons and/or enter/arrow buttons to set the food menu (e.g., Breakfast, Lunch, and Dinner meal settings") for the IRHS24 Holding Unit.

372. These inputs are user selections of food items for the food holding zones. The POSA would understand that a user input selecting Breakfast, Lunch, or Dinner is a user selection of a food item (the food item(s) preprogrammed programmed for the first and/or second bay for the chosen Breakfast/Lunch/Dinner menu) for the first holding zone as required by this claim limitation. EX1005: 16 ("Select the appropriate Daypart Button to switch between Breakfast, Lunch, and Dinner menus. Once to temperature, product names can be viewed on the displays."); EX1027: ¶[0011] ("Daypart Select actuator L is activated, indicating that the PHU is to be controlled using instructions suitable for holding a lunch menu of food. In response, food-indicators are displayed in or close by respective

compartment displays A1-A4, B1-B4 to indicate the various food products to be placed and held in respective heating compartments. Daypart Select actuator B may be actuated, indicating that the PHU is to be controlled using instructions suitable for holding a breakfast menu of food. In response, food-indicators are displayed... to indicate the various breakfast food products to be placed and held in respective heating compartments. Similarly, Daypart Select actuator D may be actuated... for holding a dinner menu of food.") The user input selects the menu (e.g., "Breakfast, Lunch, and Dinner meal settings") for the for the IRHS24 Holding Unit.

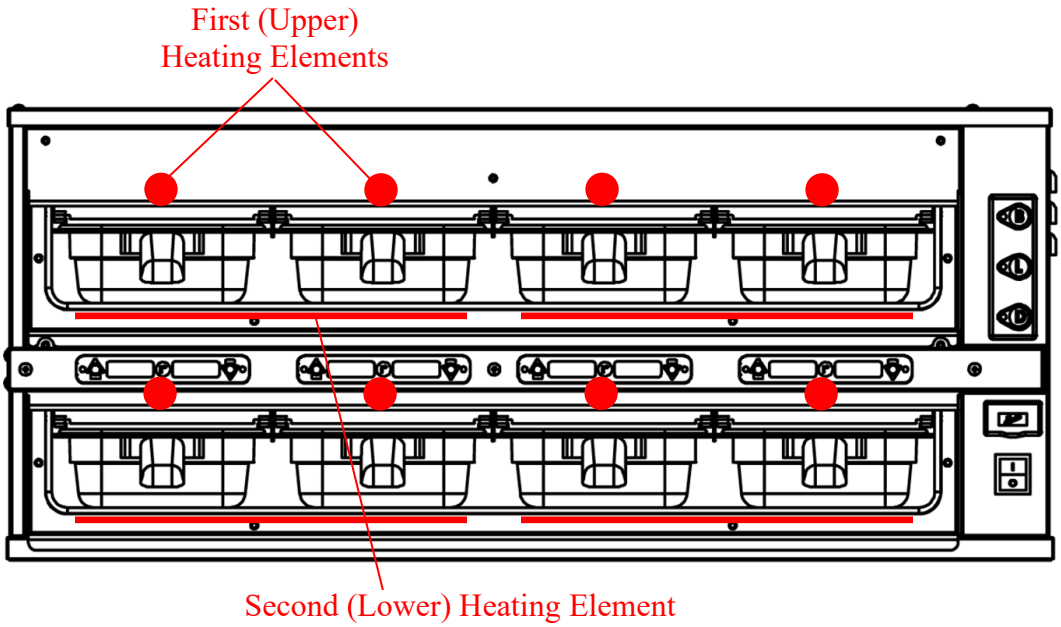
373. As explained in Paragraphs 166-211 (claim limitation 1.b), the upper heating elements (IR bulbs) and lower heating elements (electrical heating element) are independently controlled from one another. Each food product type "has a tailored HeatSink temperature and InfraRed pulse rate." EX1005: 16. When the user selects the menu, the controller independently operates and controls the upper and lower heating elements (e.g., the first and second heating elements) to achieve the selected menu's temperature setpoints for each food holding zone. *See* Paragraphs 166-211 and 364-370 (claim limitation 1.b and Claim 16). Thereby, the user selection is associated with the independent operation and control of the heating elements (e.g., first and second heating elements).

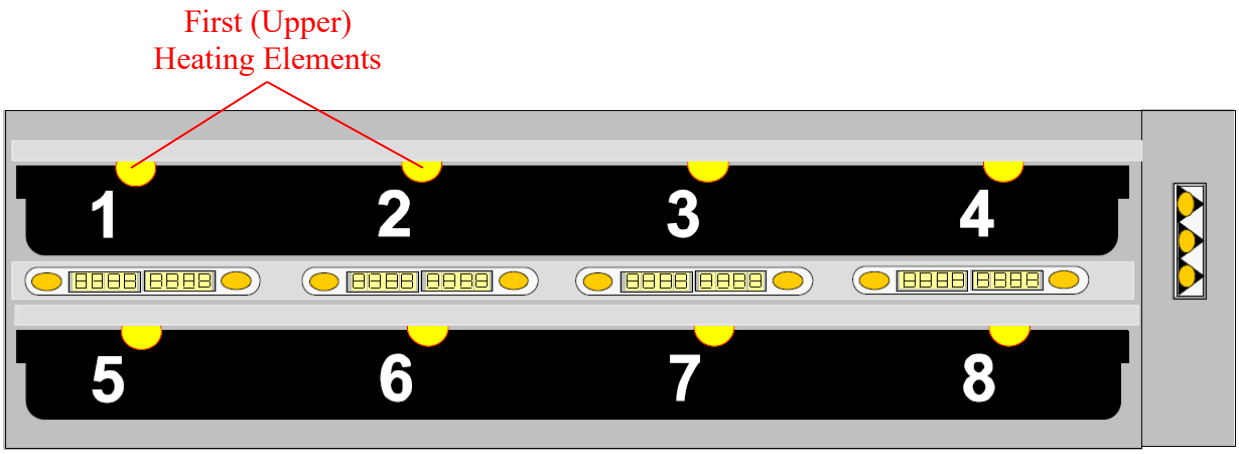
374. Accordingly, each limitation of Claim 17 is disclosed or rendered obvious within the IRHS Documents. Accordingly, the POSA would have found it obvious to combine the teachings and disclosures of the IRHS Documents to arrive at the method of maintaining different temperatures within a multi-zone food holding bin as claimed in Claim 17.

O. Claim 18: the method of claim 17, further comprising operating the first heating element to output more heat than the second heating element

375. As discussed above, the POSA would have found it obvious to combine the teachings and disclosures of the IRHS Documents to arrive at the claimed method of maintaining different temperatures within a multi-zone food holding bin of Claim 17.

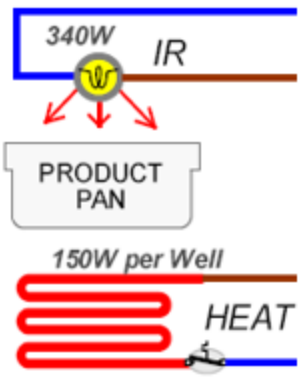
376. As explained in Paragraphs 166-211 (claim limitation 1.b), the upper (first) and lower (second) heating elements are independently controllable from one another via the controller. Thus, the controller can carry out the step of operating the IR first heating element to output more heat than the second heating element.





EX1005: 8, 25 (annotated).

377. The IRHS Documents indicate each heat sink element (e.g., second heating element) is rated to output 150 Watts per well or bay (300 Watts per element/zone) and each IR emitter (e.g., first heating element) is rated to output 340 Watts (more heat energy). EX1008: 64.



EX1008: 64.

378. Moreover, the IRHS Documents state the IR upper heating elements can perform an "IR Turbo Boost for [an] instant shot of IR energy," while the lower or "bottom zoned" heating element "provides gentle heat to minimize temperature distribution from top to bottom of pan." EX1006: 1 (emphasis added); EX1007: 22 ("Utilize 'Turbo Boost" for a quick shot of heat to the product"). The "IR Turbo Boost" for an "instant shot of IR energy" results in the upper heating elements outputting more heat energy than the "gentle" lower heating elements during the IR Turbo Boost time period.

379. Accordingly, the POSA would have found it obvious to combine the teachings and disclosures of the IRHS Documents to arrive at the method of maintaining different temperatures within a multi-zone food holding bin as claimed in Claim 18.

P. Claim 19: the method of claim 17, further comprising operating the second heating element to output more heat than the first heating element

380. As discussed above, the POSA would have found it obvious to combine the teachings and disclosures of the IRHS Documents to arrive at the claimed method of maintaining different temperatures within a multi-zone food holding bin of Claim 17.

381. As disclosed by the IRHS Documents, the first (upper) heating element is an IR emitter and the second (lower) heating element is an electrical resistance heating element applied to the bottom of the aluminum heat sink. EX1008: 22; EX1006: 1. As explained in Paragraphs 166-211 (claim limitation 1.b), the first heating element and the second heating element are controlled independently of each other. Moreover, the IR emitter (e.g., first heating element) is frequently pulsed on and off during operation. EX1007: 53 ("IR is pulsed only when needed"); EX1006: 1 ("[i]ndividually controlled IR emitters pulse on and off for controlling optimum amount of energy being applied to the food"); EX1005: 15 ("IR bulbs are either ON or OFF"); EX1008: 50 ("IR bulbs are either ON or OFF").

382. Therefore, the POSA would understand that the IR emitter (e.g., first heating element) will be off at times when the second heating element on the heat sink is operating. In this circumstance, the second heating element will be operating so that it outputs more heat than the first heating element (IR emitter).

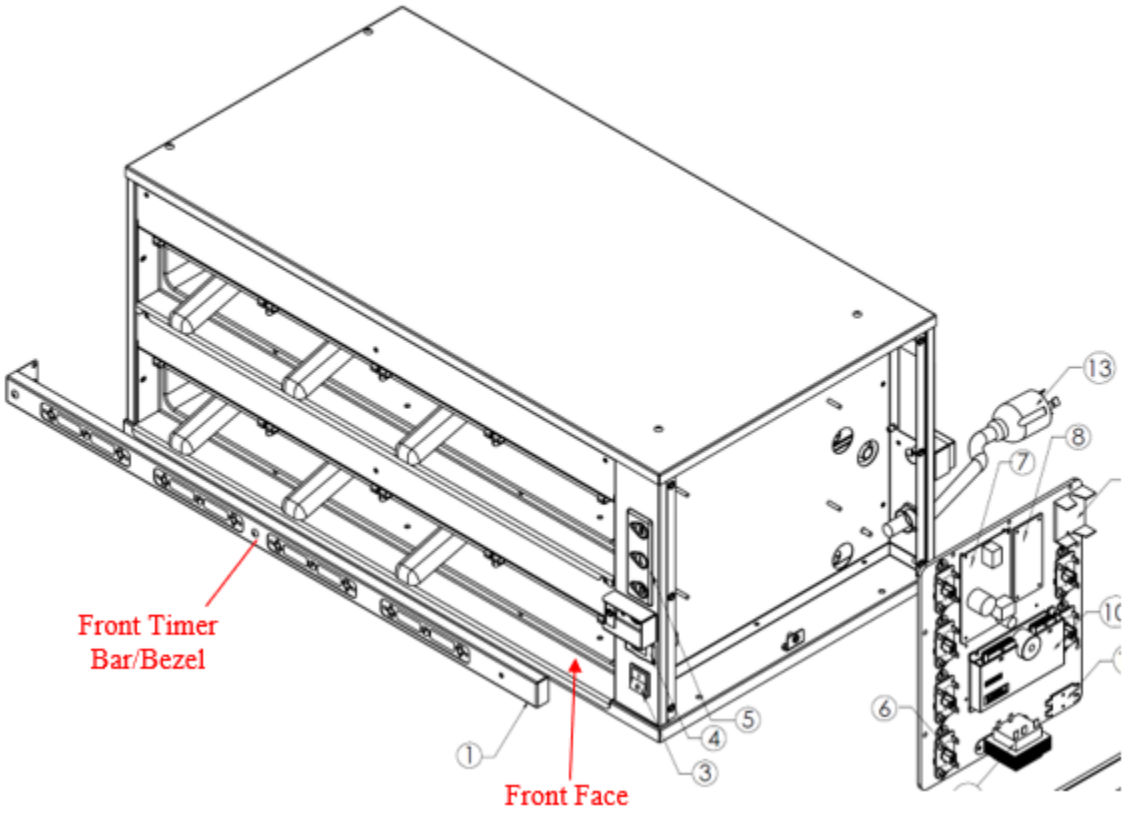
383. Accordingly, the POSA would have found it obvious to combine the teachings and disclosures of the IRHS Documents to arrive at the method of maintaining different temperatures within a multi-zone food holding bin as claimed in Claim 19.

Q. Claim 20:

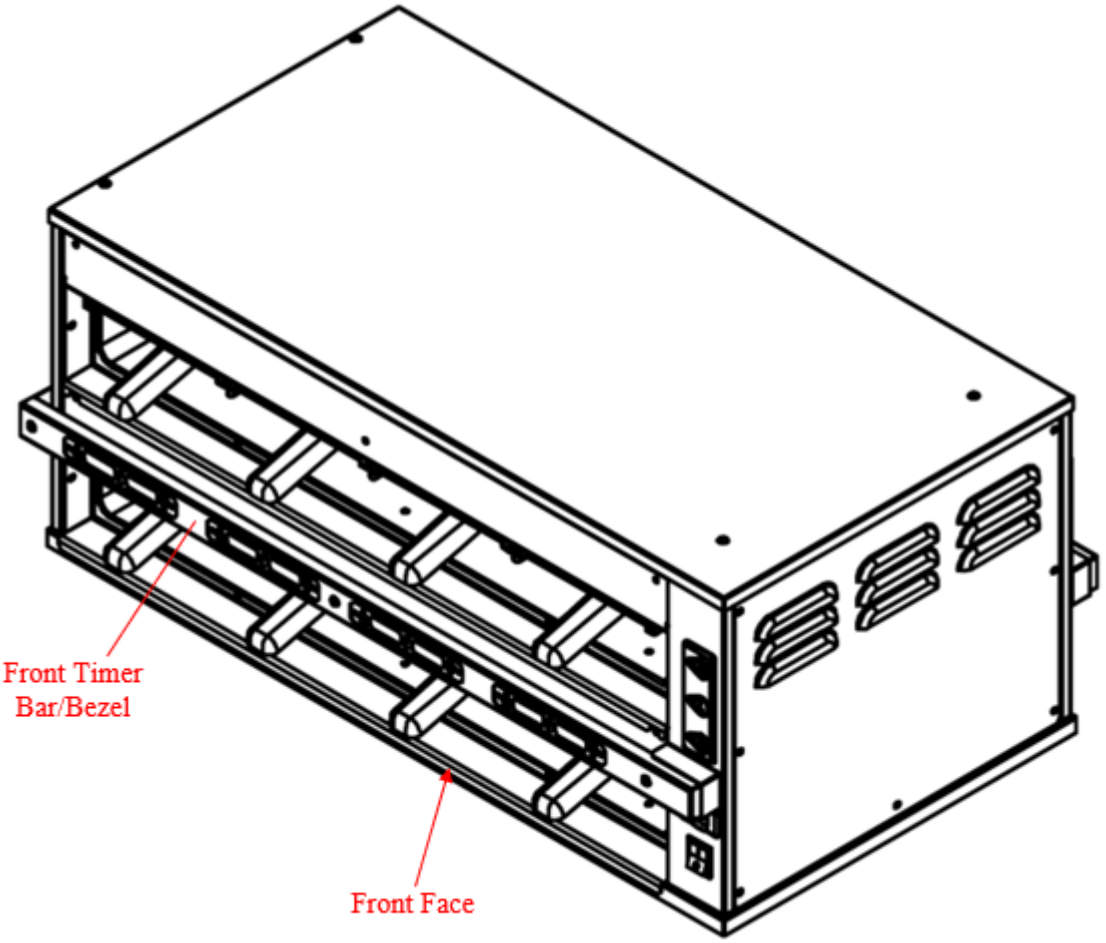
20.a: the method of claim 16, further comprising: providing a bezel set forward of the front face, the bezel comprising a user interface

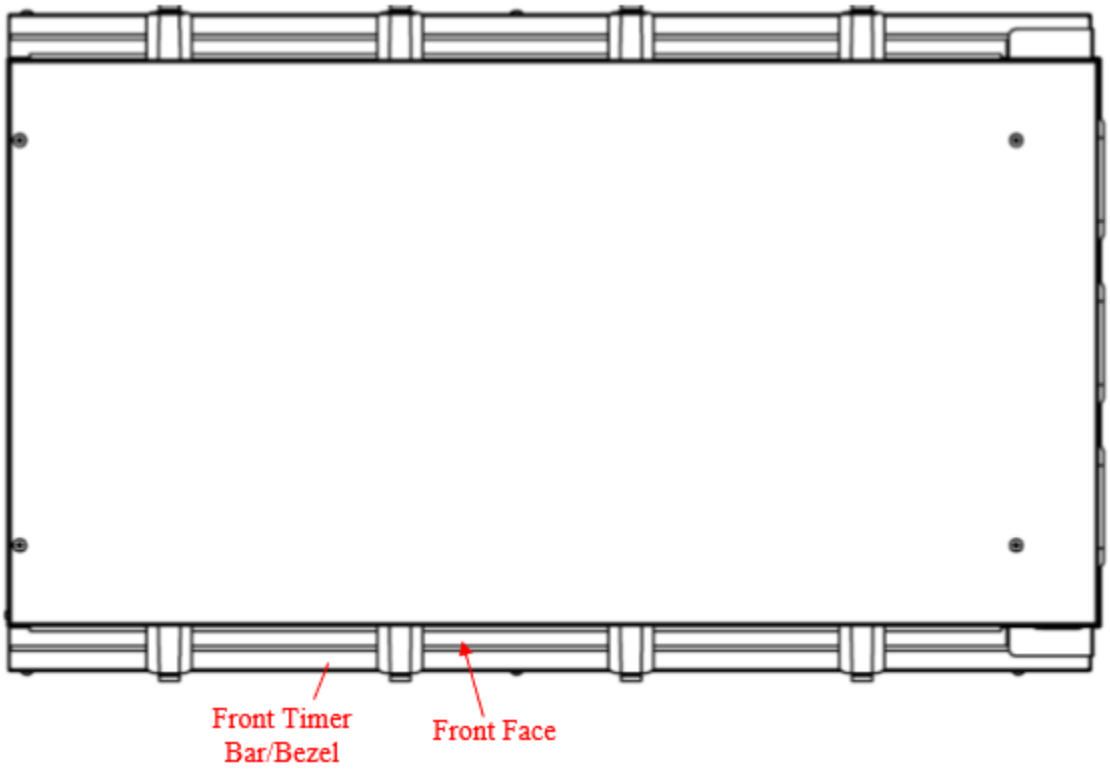
384. As discussed above, the POSA would have found it obvious to combine the teachings and disclosures of the IRHS Documents to arrive at the claimed method of maintaining different temperatures within a multi-zone food holding bin of Claim 16.

385. As disclosed by the IRHS Documents, the front timer bar/bezel of the IRHS24 Holding Unit is set forward from the front face of the chassis.



EX1005: 19 (annotated).


Front Timer
Bar/Bezel
Front Face

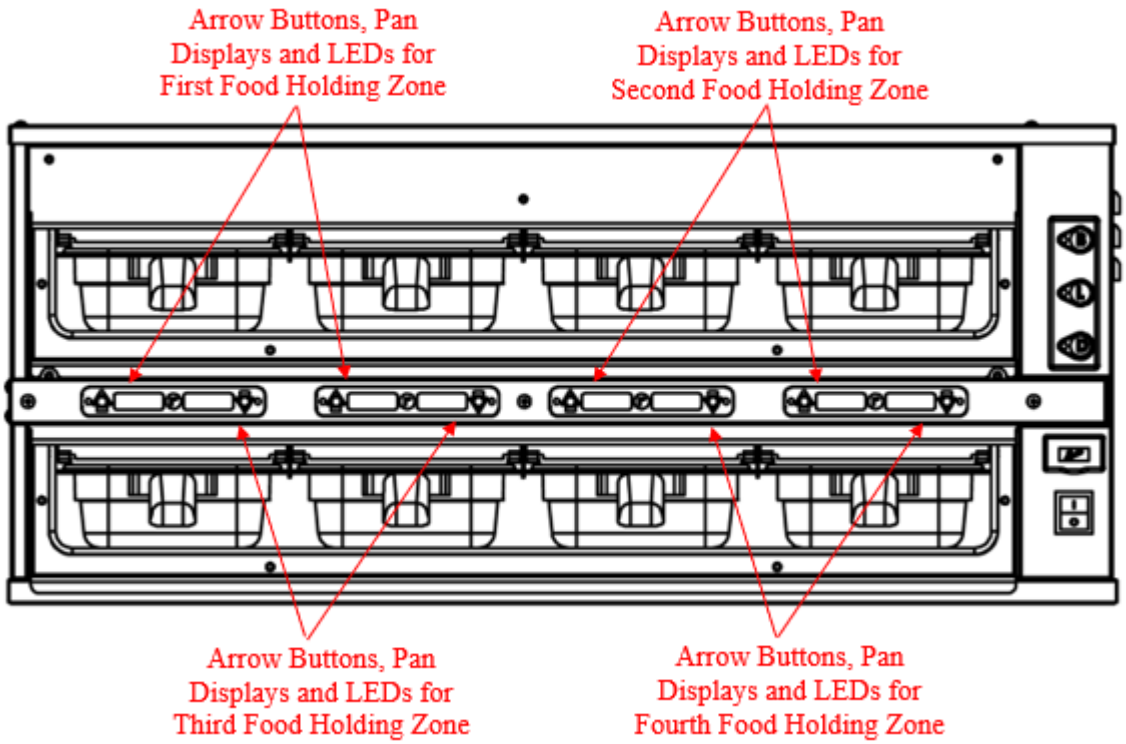


EX1005: 8 (annotated).



EX1007: 28 (annotated).

386. The front timer bar/bezel provides a user interface comprising controls (arrow buttons, enter buttons) and displays (LEDs and pan displays) for each pan holding location/bay. Each arrow button points to the pan holding location/bay to which the arrow button and associated LED and pan display correspond. EX1005: 16 ("Arrow Buttons … Indicate which pan the adjacent Status LED and Pan Display are linked to").



EX1005: 8 (annotated).



EX1005: 16.

2. Arrow Buttons
   a. Used for Starting / Stopping / Resetting Timer.
   b. Used to access MENU MODE.
   c. Indicate which pan the adjacent Status LED and Pan Display are linked to.
3. Pan Display
   a. Displays Product Name and Hold Time Remaining (alternates between the two when Timer is active).
4. Enter Button
   a. Used to access MENU MODE.

EX1005: 16 (annotated).

20.b: operating the user interface to receive the user input

387. As explained in Paragraphs 364-370 (Claim 16), the user presses the enter and arrow buttons to set the menu (e.g., Breakfast, Lunch, and Dinner meal settings) for the IRHS24 Holding Unit. As discussed in Paragraphs 384-386 with respect to claim limitation 20.a, the menu and arrow buttons are part of the user

interface of the front timer bar/bezel. Thus, the front timer bar's/bezel's user interface is operated to receive the user input.

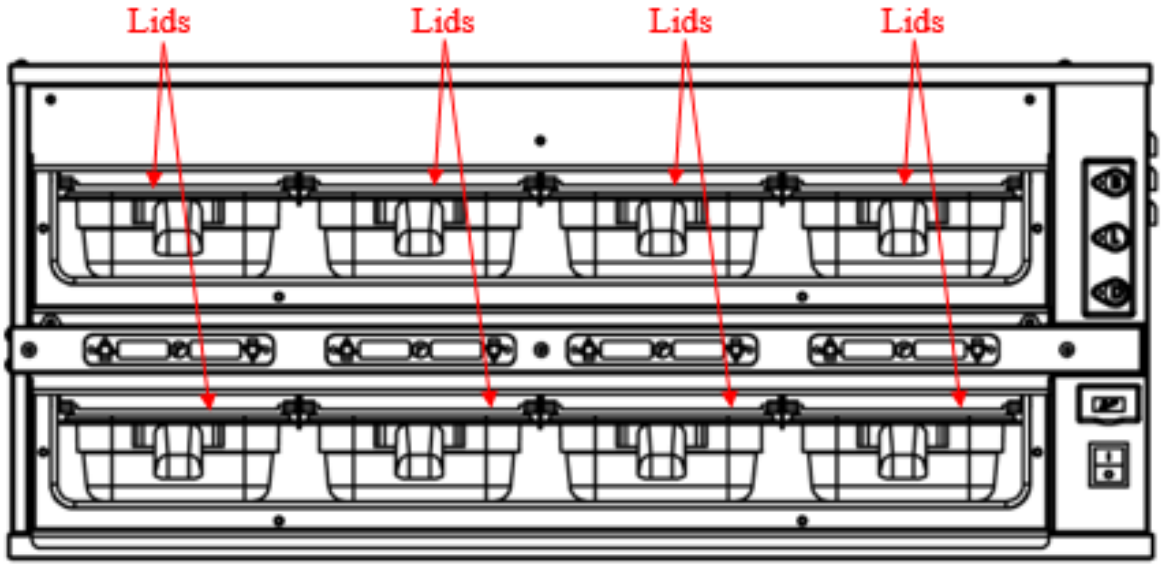
388. Accordingly, each limitation of Claim 20 is disclosed or rendered obvious within the IRHS Documents. Accordingly, the POSA would have found it obvious to combine the teachings and disclosures of the IRHS Documents to arrive at the method of maintaining different temperatures within a multi-zone food holding bin as claimed in Claim 20.

V. GROUND 2: Claims 10 and 13-15 Would Have Been Obvious Over the IRHS Documents in view of Hartfelder and/or Shei'099

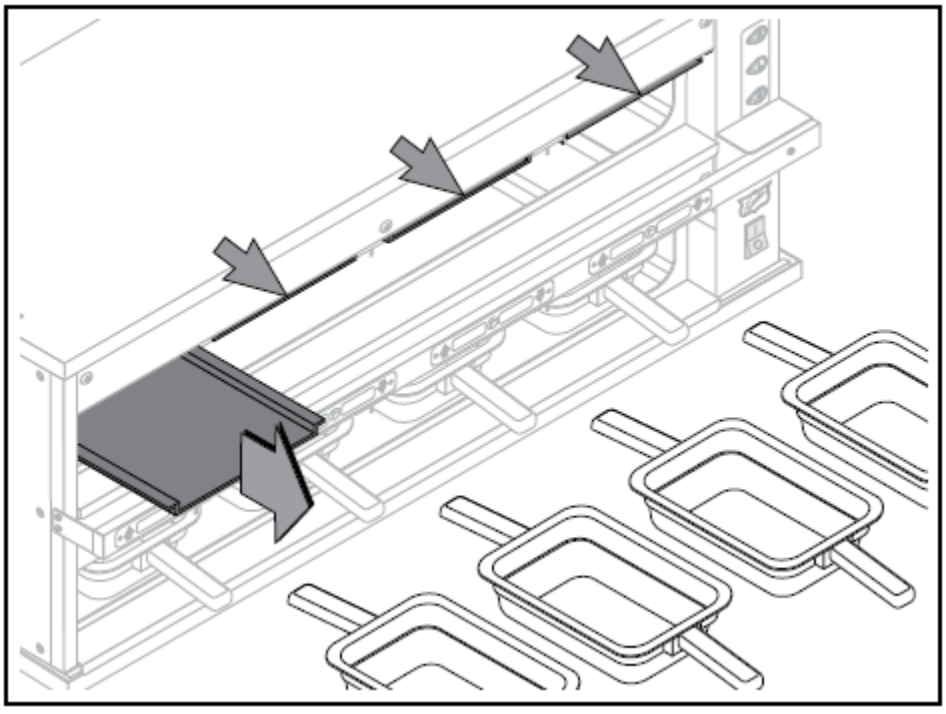
A. Modification of the IRHS Documents based on Hartfelder and/or Shei'099

389. Claims 10 and 13-15 further add limitations pertaining to the inclusion of latches that would secure the covers or lids suspended above each pan holding location in place to prevent them from being inadvertently moved, for example, while removing or inserting a food pan into its desired food holding compartment.

390. The IRHS Holding Units, including the IRHS24 Holding Unit, are disclosed as including covers or lids suspended above each pan holding location. EX1005: 4 ("robust aluminum Heat Sink Cover for broiled foods"), 8, 20-21 (ref. no. 18); EX1007: 53 ("[m]etal cover eliminates the cost and hassle of plastic lids"), 56, 58 ("[c]over allows better heat transfer and greater seal assurance; critical to maintaining food quality with extended hold times").

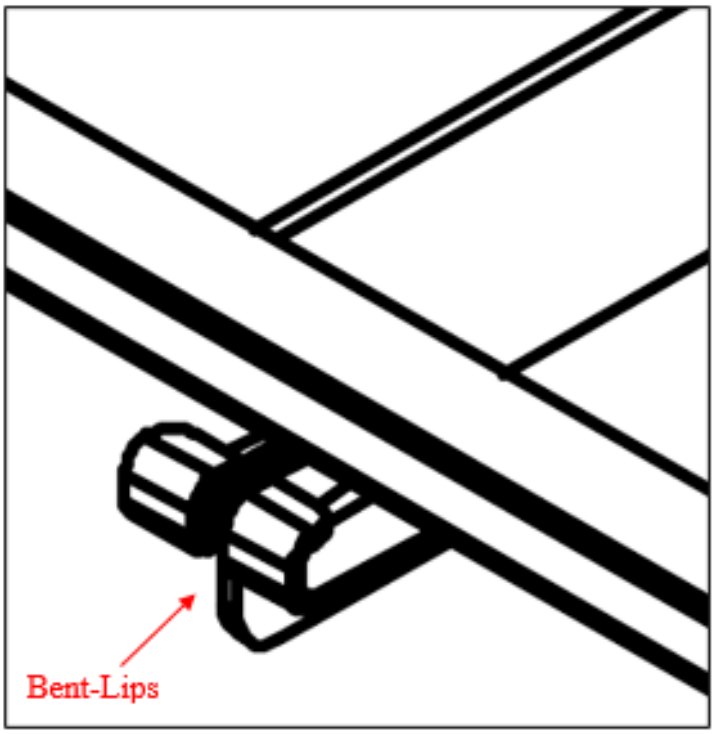


EX1005: 8 (annotated).



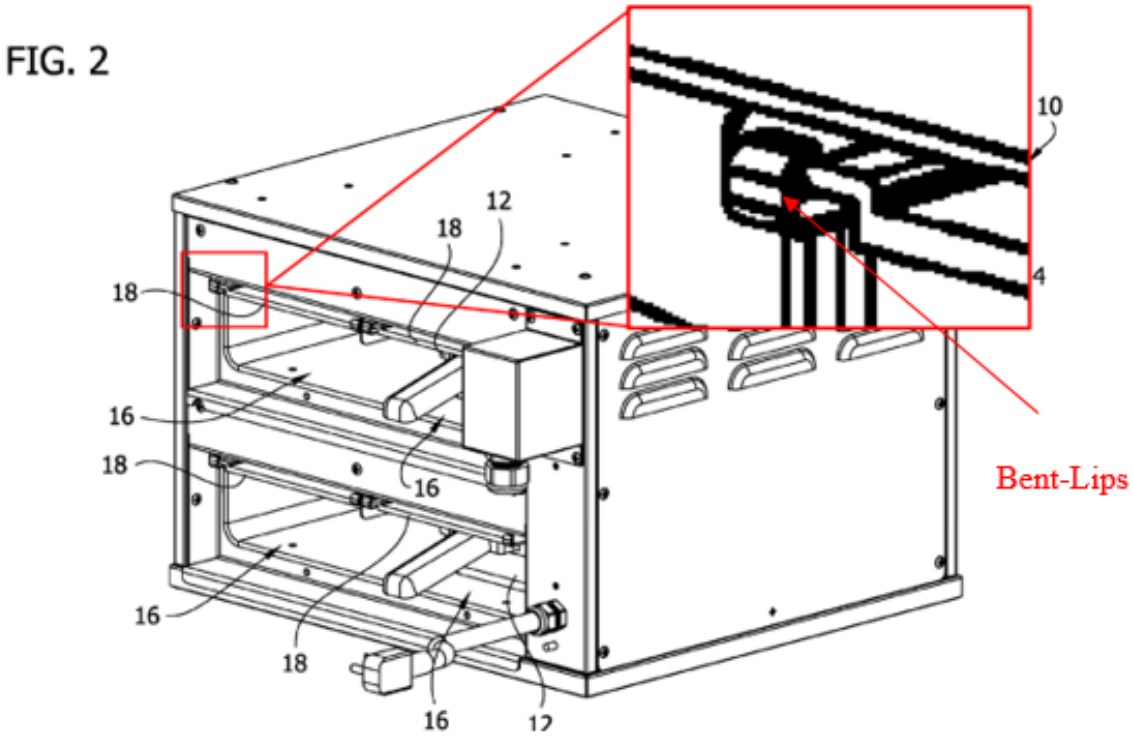
EX1008: 16.

391. Rather than using latches as claimed in Claims 10 and of the ’264 Patent, the IRHS Holding Unit are disclosed as having bent-lips on its lid support rails for retaining its lids. EX1005: 19.



EX1005: 19 (enlarged, annotated).

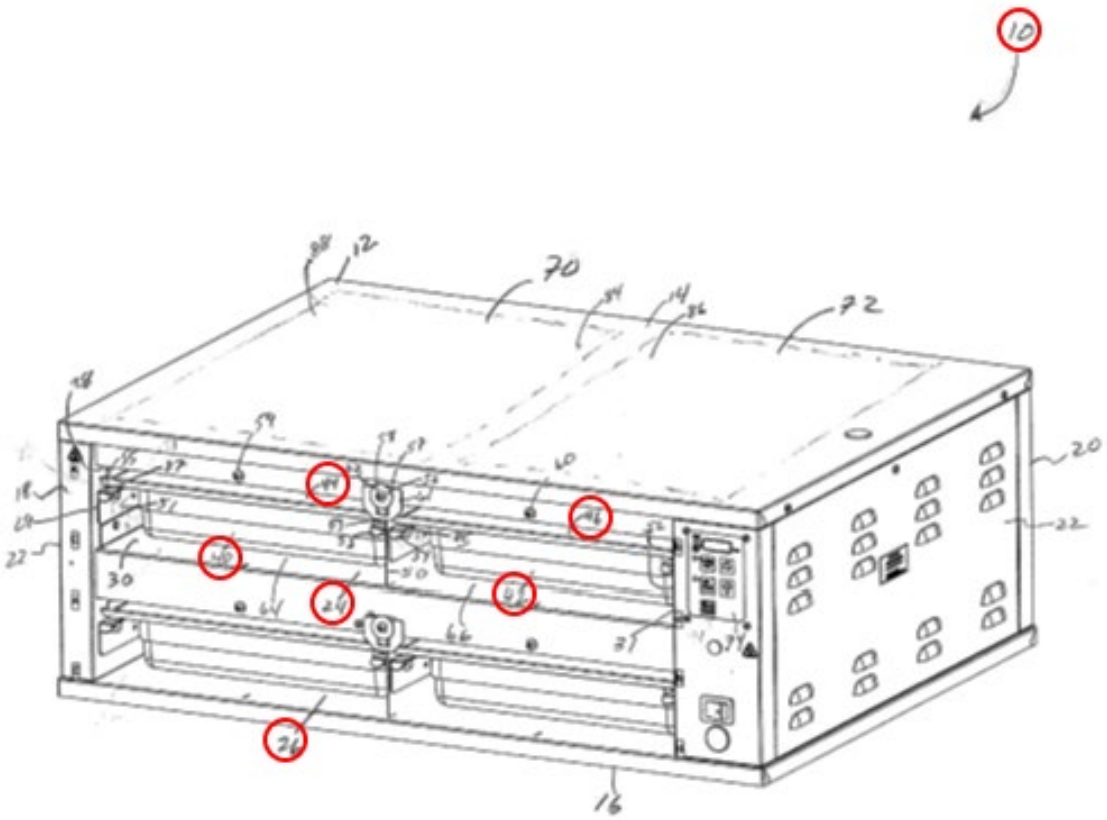
392. Notably, Shei’821 (EX1011) is a Duke patent application that a POSA would appreciate as discussing the operation of pan support rails that include bent-lips similar to those observed in the IRHS Documents. EX1011: ¶¶[0024], [0035], [0039] (“the cover supports 36A and the cover retainers 36B, including the keepers 36E, are formed as one piece of metal”), Figs. 2, 9-14.



EX1011: Fig. 2 (enlarged).

393. The POSA would have recognized that while the bent-lips of the IRHS Holding Unit was one technique to retain the lids, there were known and accepted alternatives within the art which could have been easily substituted.

394. For example, Hartfelder teaches a food warming apparatus (10) that receives trays (40) in heating compartments (24, 26) with covers or lids (44, 46). EX1013: ¶¶[0028] ("food warming apparatus 10"), ¶[0030] ("[e]ach of heating compartments 24 and 26 is sized to accommodate a plurality of trays, as exemplified in FIG. 1 by trays 40 and 42 in heating compartment 24. Each of trays 40 and 42 are covered by covers 44 and 46, respectively.").



EX1013: Fig. 1 (annotated).

395. To prevent the lids (44, 46) from moving with the trays (40, 42) when the trays are removed from the heating compartment (24, 26), the Hartfelder apparatus (10) includes stop members (61) (*i.e.*, a latch) which retain the lids. EX1013: ¶[0058] ("[a]s best shown in FIG. 9, when tray 40 is withdrawn from sub-compartment 64 of heating compartment 24, front turned-up edge 90 of cover 64, acting as an engagement edge, engages stop member 61. The engagement of

engagement edge 90 with stop member 61 arrests the movement of cover 44. As the movement of cover 44 is arrested, cover 44 is retained upon within sub-compartment 64 while tray 40 is withdrawn"), Fig. 9.

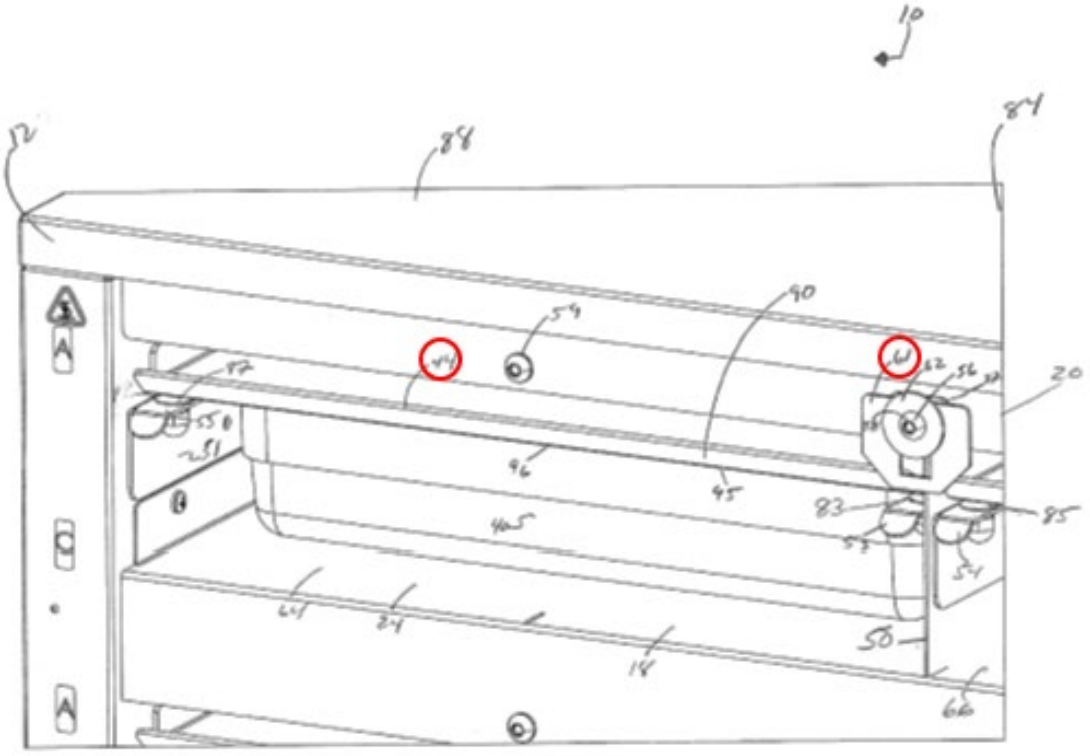


FIGURE 9

EX1013: Fig. 9 (annotated).

396. Shei'099 (EX1017) discloses similar stops (88) (*i.e.*, a latch) between pairs of covers (80) where the stops are biased by gravity to a cover-retaining position (to retain both covers) and pivotable to the left or right to selectively permit insertion/removal of either of the covers. EX1017: 6:9-32.

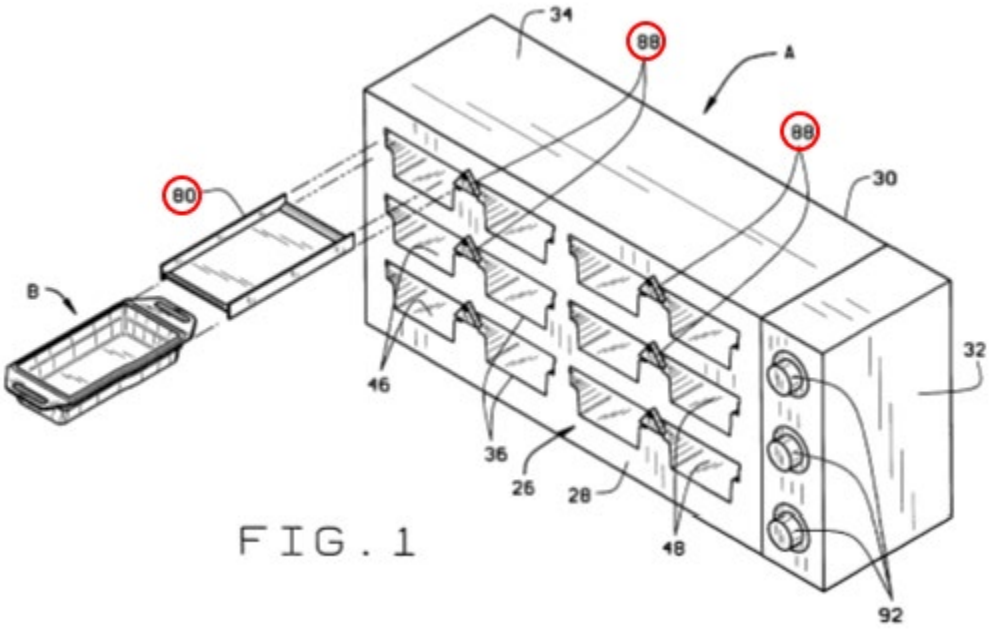


FIG. 1

EX1017: Fig. 1 (annotated).

397. It would have been obvious to modify the IRHS24 Holding Unit to include Hartfelder's stop members (61) or Shei'099's stops (88) for retaining the lids of the IRHS24 Holding Unit on the lid-holding shelves. EX1013: ¶[0058].

398. The stop members (61) or stops (88) would prevent the lids, which are in contact with the pans, from moving with the pans as the pans are inserted into and removed from the compartments. EX1013: ¶[0058] ("[a]s best shown in FIG. 9, when tray 40 is withdrawn from sub-compartment 64 of heating compartment 24, front turned-up edge 90 of cover 64, acting as an engagement edge, engages stop member 61. The engagement of engagement edge 90 with stop member 61 arrests the movement of cover 44. As the movement of cover 44 is arrested, cover

44 is retained upon within sub-compartment 64 while tray 40 is withdrawn"); EX1017: 6:19-22. This would maintain lid position for covering the pans.

399. Replacing the existing bent-lips with Hartfelder's stop members would make the IRHS Holding Unit—including the IRHS24 Holding Unit—easier to clean and easier to manufacture (*e.g.*, simpler lid shelf manufacturing, and one stop member for two lids instead of two bent-lips for each lid). EX1005: 19, 13-14; EX1017: 7:30-35 ("easily cleaned"); EX1011: ¶¶[0035]-[0037], Figs. 9-14. Hartfelder's stop members or Shei'099's stops would also be easier to access and replace.

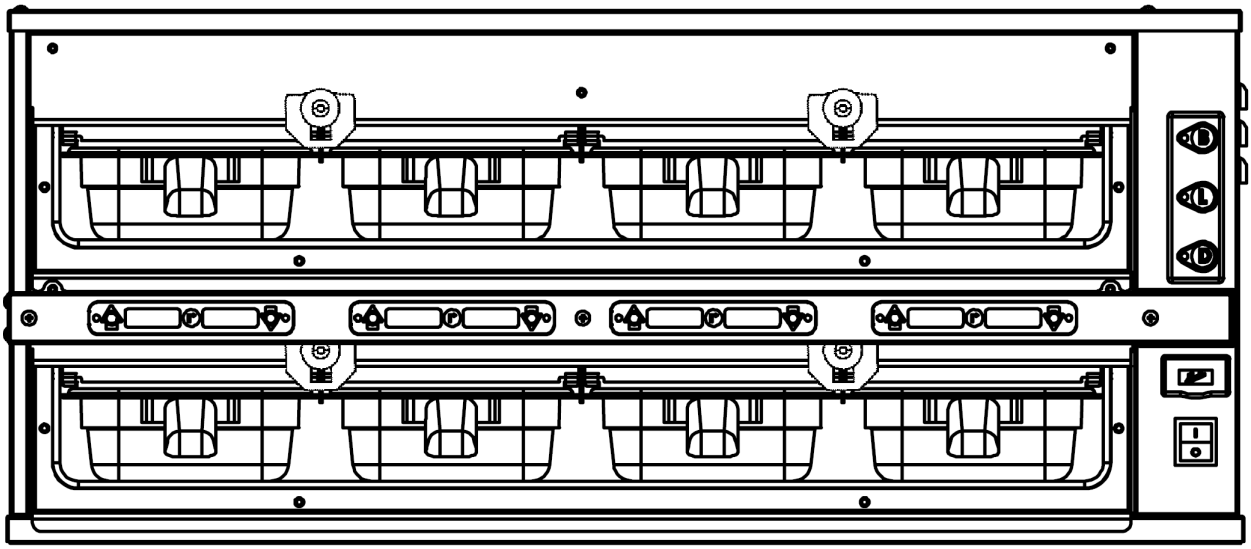
400. Alternatively, it would have been obvious that Hartfelder's stop members or Shei'099's stops could have been added to the IRHS Holding Unit—including the IRHS24 Holding Unit—to provide a backup to the existing bent-lips (prevent inadvertent escape of lids out of the unit over the bent-lips).

401. Modifying the IRHS24 Holding Unit to use Hartfelder's stop members or Shei'099's stops instead of or in addition to the bent-lips would have been nothing more than using a known technique/alternative (the stop members of Hartfelder or Shei'099 to retain lids) to improve a similar device (the IRHS Holding Unit) in the same way with predictable results (retaining lids in place while moving food pans into and out of the food holding compartments).

402. There would have been a reasonable expectation of success in making this modification given (1) the similarities between the IRHS Holding Unit and Hartfelder's and Shei'099's food warming apparatus (specifically, that the IRHS Holding Unit and Hartfelder's and Shei'099's food warming apparatus each included compartments for warming trays/pans of food with lids covering the trays/pans), and (2) the stop member of Hartfelder or stop of Shei'099 would perform the same function in the same way in the IRHS Holding Units. EX1013: ¶[0058].

403. In making this modification, the POSA would have arranged each stop member (61) or stop (88) on the face of the chassis between two lids as taught by Hartfelder and Shei'099.

404. A representative illustration of the IRHS24 Holding Unit modified to have Hartfelder's stop members (61) for the lids is shown below. A modification implementing Shei'099's stops (88) would be similar to below, except Hartfelder's stop members (61) would be replaced with Shei'099's stops (88).



EX1005: 8 (modified).

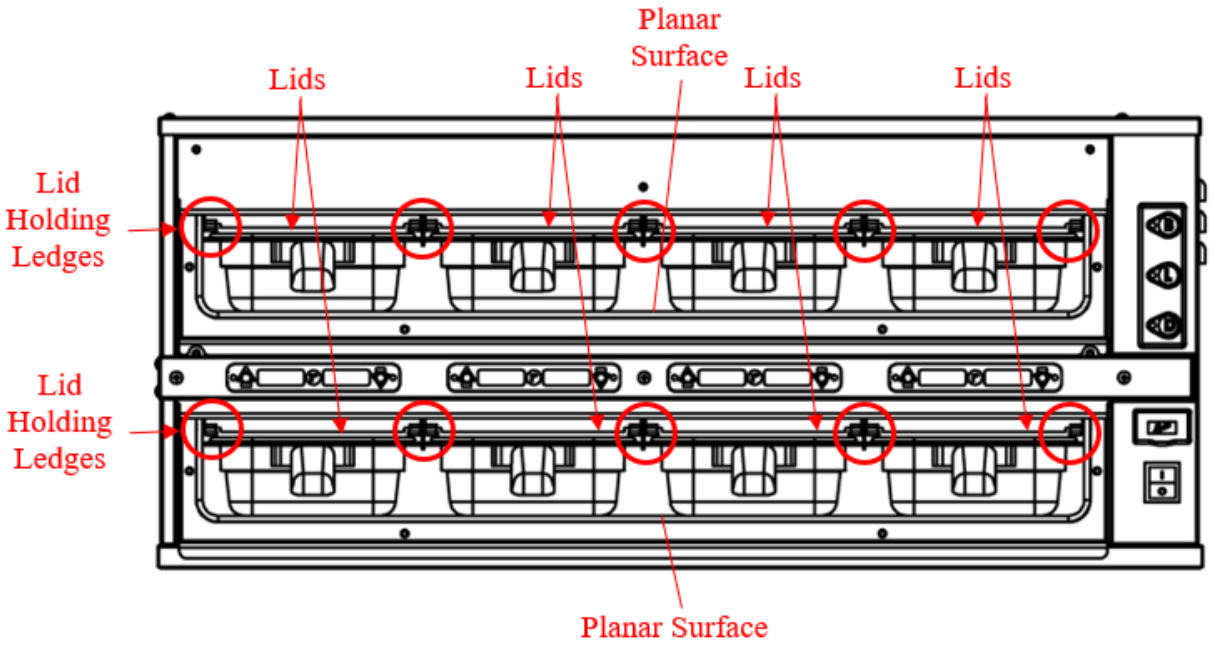
B. Claim 13

13.a: the method of claim 12, further comprising providing a latch associated with at least one of the lid holding shelves

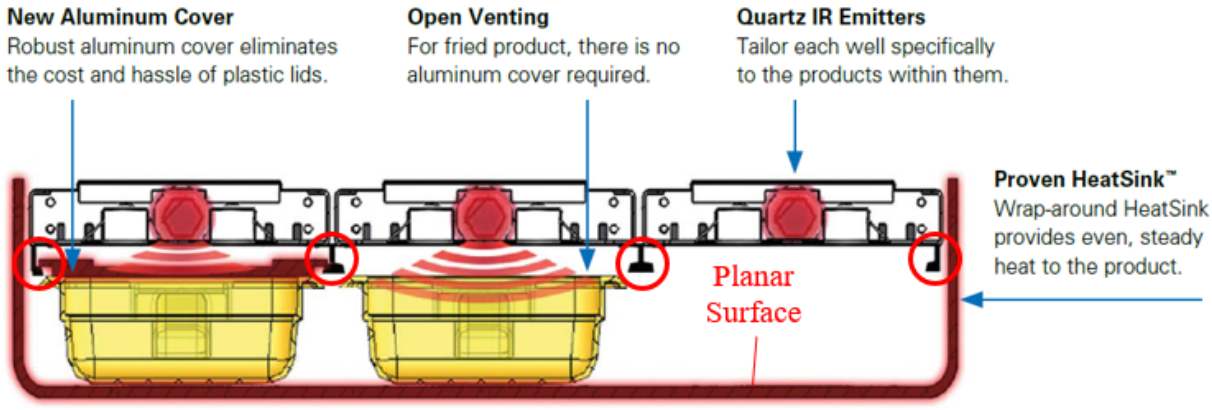
405. As discussed above, the POSA would have found it obvious to combine the teachings and disclosures of the IRHS Documents to arrive at the claimed method of maintaining different temperatures within a multi-zone food holding bin of Claim 12.

406. As disclosed in the IRHS Documents, the IRHS24 Holding Units include covers or lids suspended above each pan holding location. EX1005: 4 ("robust aluminum Heat Sink Cover for broiled foods"), 8, 20-21 (ref. no. 18); EX1007: 53 ("[m]etal cover eliminates the cost and hassle of plastic lids"), 56, 58 ("[c]over allows better heat transfer and greater seal assurance; critical to maintaining food quality with extended hold times"). The IRHS24 Holding Units

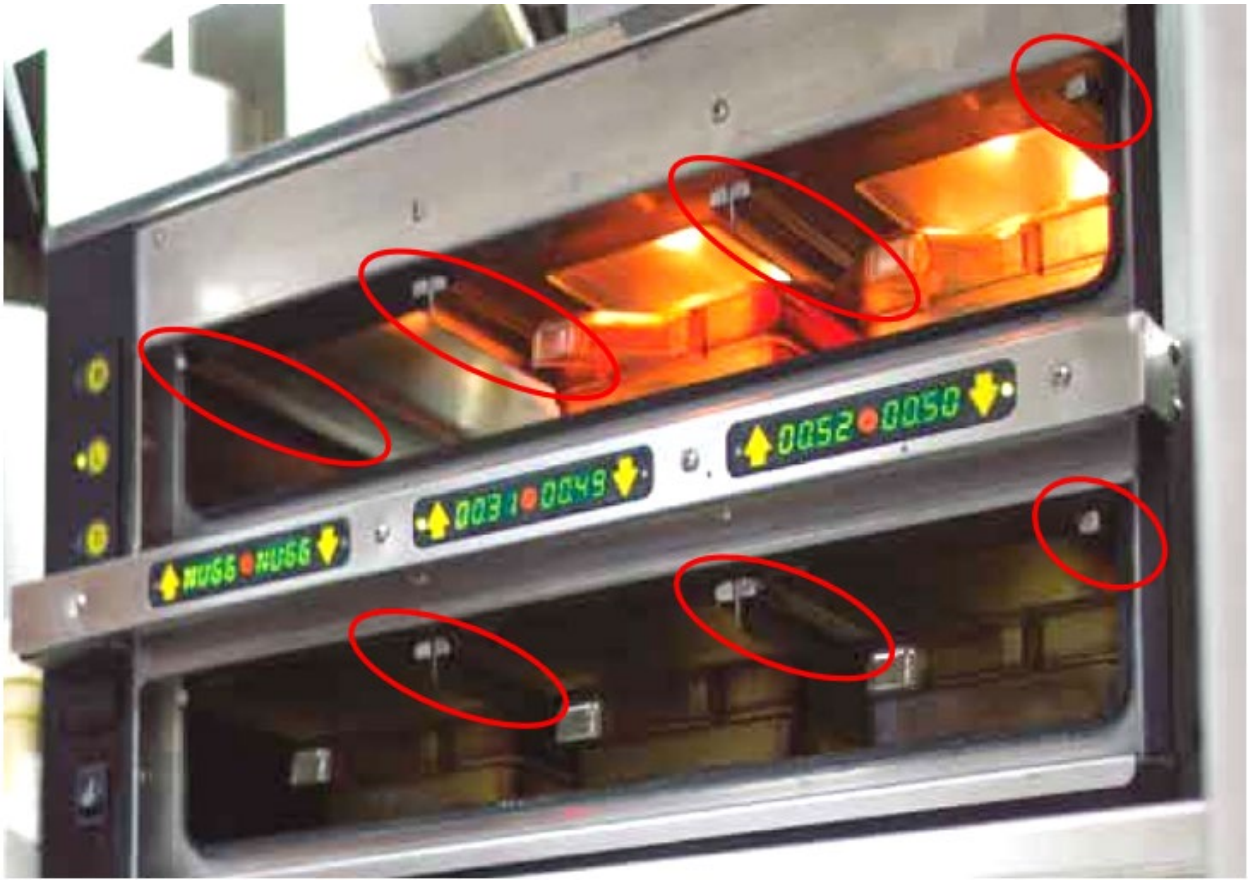
have lid-holding ledges for suspending the covers above the pan holding locations. The lid-holding ledges are elevated above the planar surfaces.



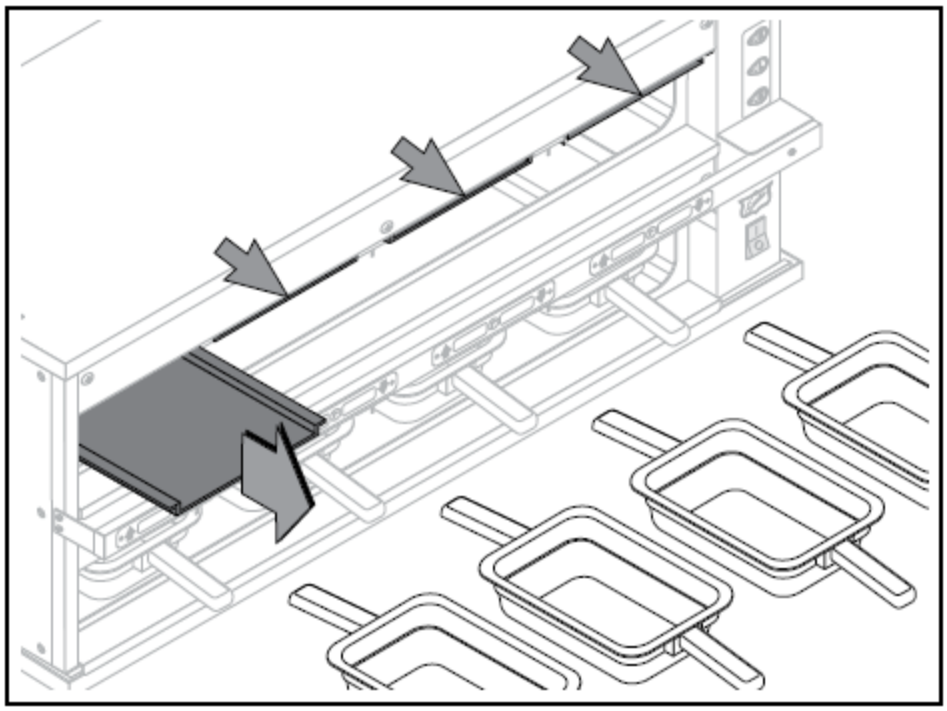
EX1005: 8 (annotated).



EX1007: 53 (annotated).



EX1007: 36 (annotated).

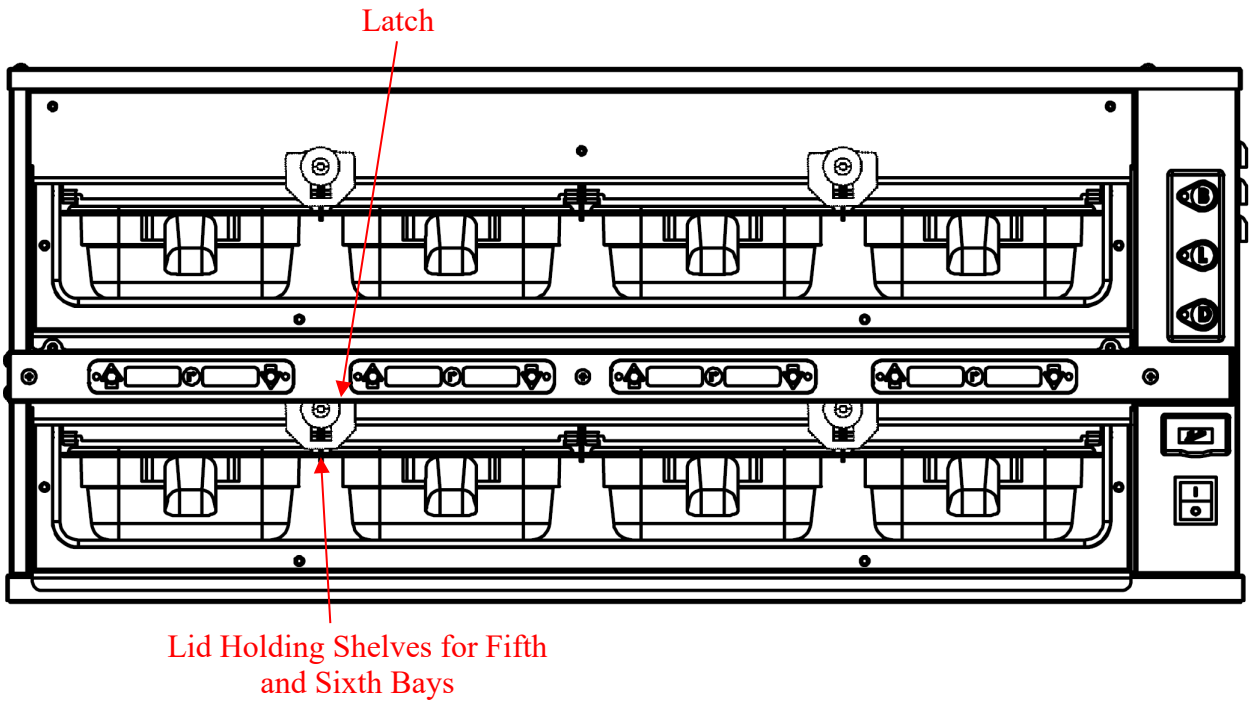


EX1008:16.

407. Hartfelder and Shei'099 disclose stop members (61) or stops (88) (*i.e.*, latches) such that it would have been obvious to modify the IRHS24 Holding Unit to have latches for the reasons explained in Paragraph 389-404 (Ground 2, Section V(A)). EX1013: ¶[0058] ("An engagement edge of a cover may engage a stop member when a tray is removed from a sub-compartment of a heating compartment. By engaging the engagement edge, a stop member may to arrest the movement of the cover caused by removal of a tray from the sub-compartment. By arresting the motion of the cover while a tray is withdrawn, the cover may be retained inside the sub-compartment"); EX1017: 6:20-21 ("The free apices of the stops 88 lie beyond

the ends of the vertical legs 82 for the covers 80 and retain the covers 80 in the upper regions of the heat sinks 46").

408. In view of the teachings of Hartfelder and/or Shei'099, the latches would be associated with the lid holding shelves, by being aligned with the lid holding shelves to retain the lids. EX1013: Figs. 1, 2, and 9; EX1017: Figs. 1 and 2, 6:9-14 ("Each triangular stop 88 serves two openings 36. It pivots at one of its apices, with the pivot axis being slightly above, but otherwise between, the two openings 36 that the stop 88 serves").



EX1005: 8 (modified, annotated).

409. It would have been obvious to position the latches here as taught by Hartfelder and/or Shei'099—positioned adjacent the openings and lids, and thus engage and retain the lids. EX1013: Figs. 1 and 9.

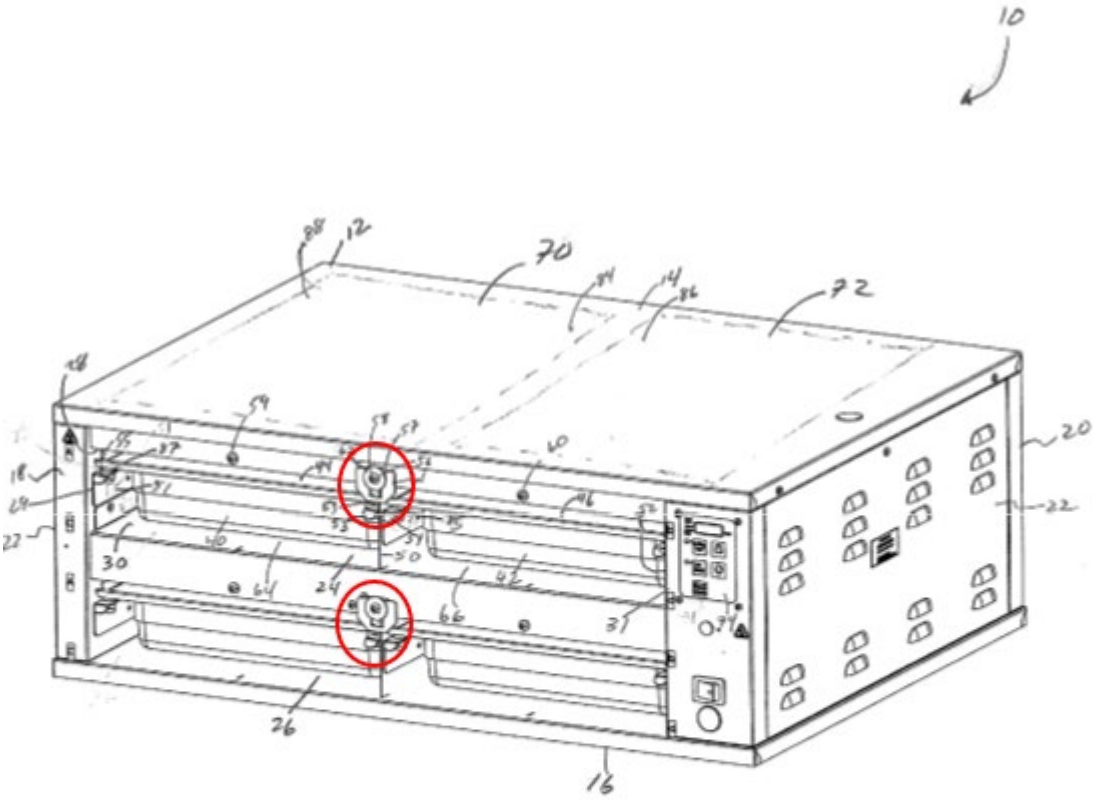


FIGURE 1

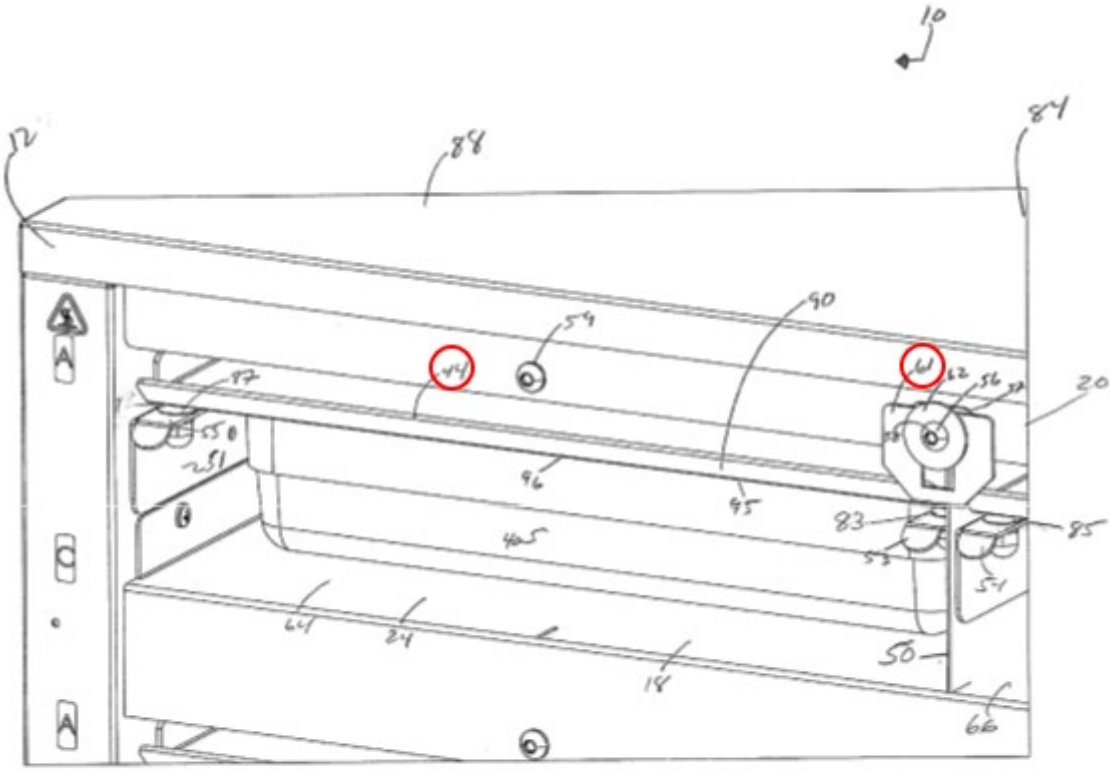


FIGURE 9

EX1013: Figs. 1 and 9 (annotated).

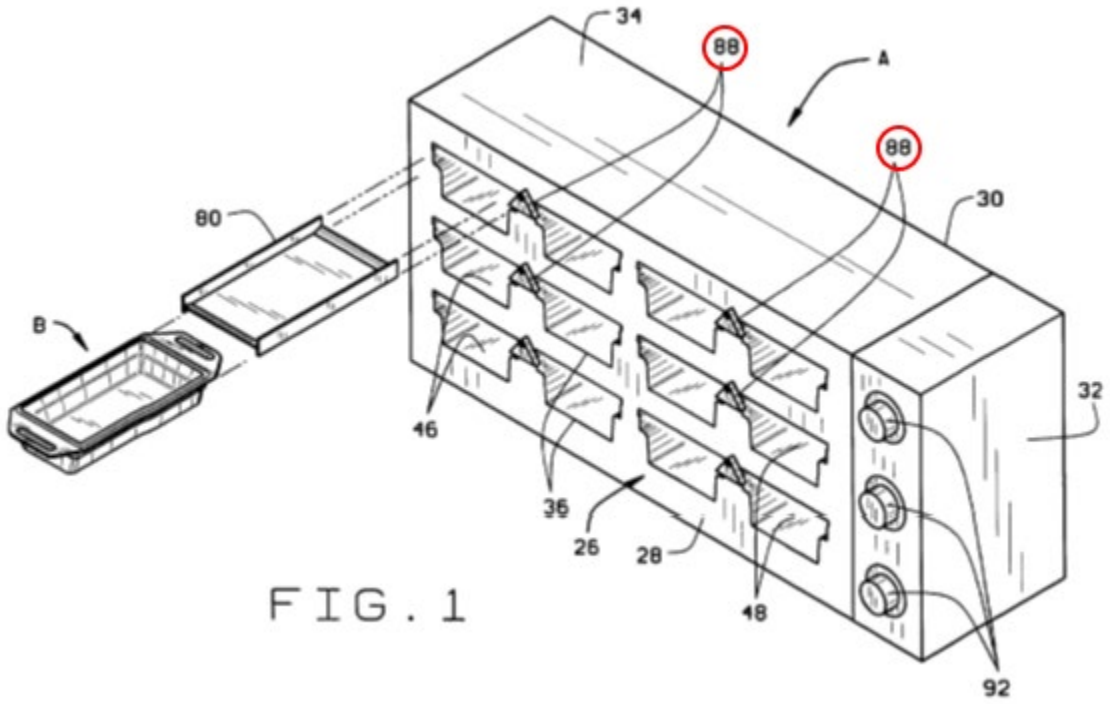


FIG. 1

EX1017: Fig. 1 (annotated).

410. For example, Hartfelder teaches this position of the stop members (61) in the presence of a control bar (76). EX1013: ¶[0039] ("controls and indicators may be arranged in on interface bar 76"), Figs. 3-5. While Hartfelder does not depict the stop members (61) within the same figures as the control bar (76), the fact that both features were addressed in the same reference suggests that such arrangements would be both compatible and desirable.

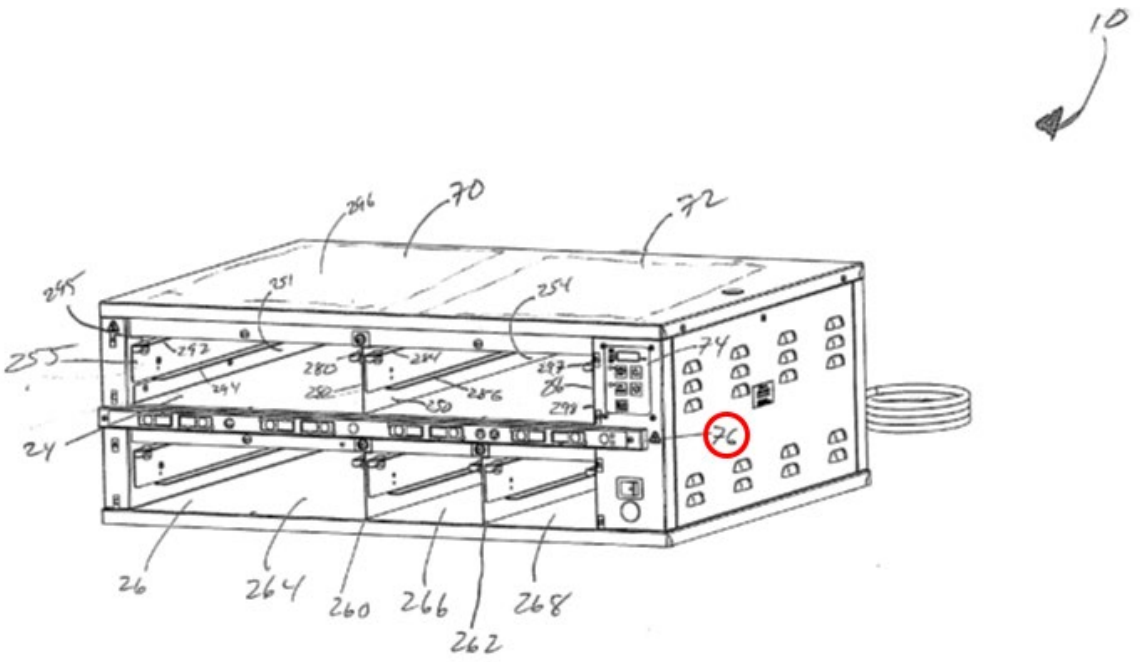


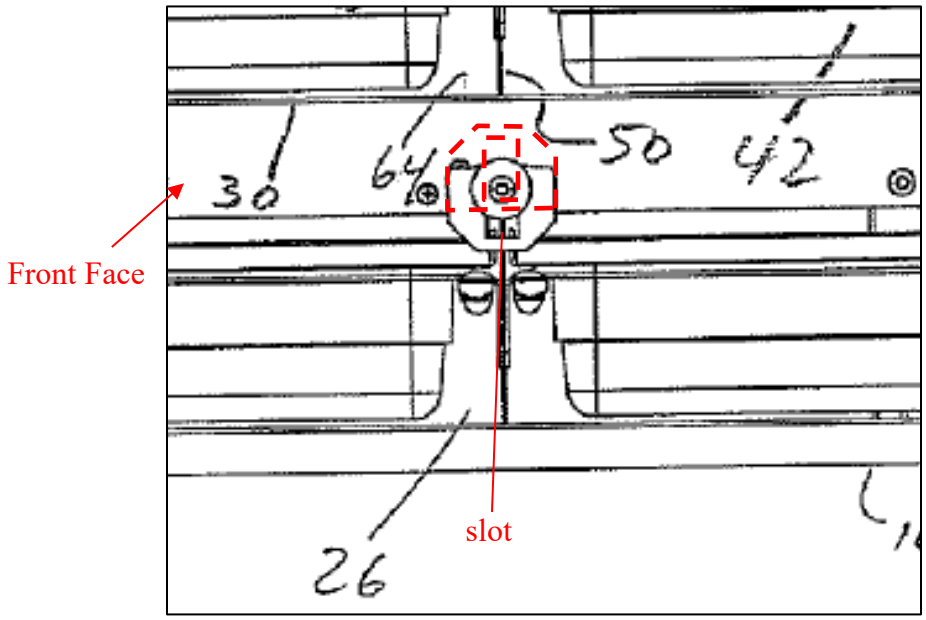
FIGURE 3

EX1013: Fig. 3 (annotated).

13.b: the latch movably secured to the front face

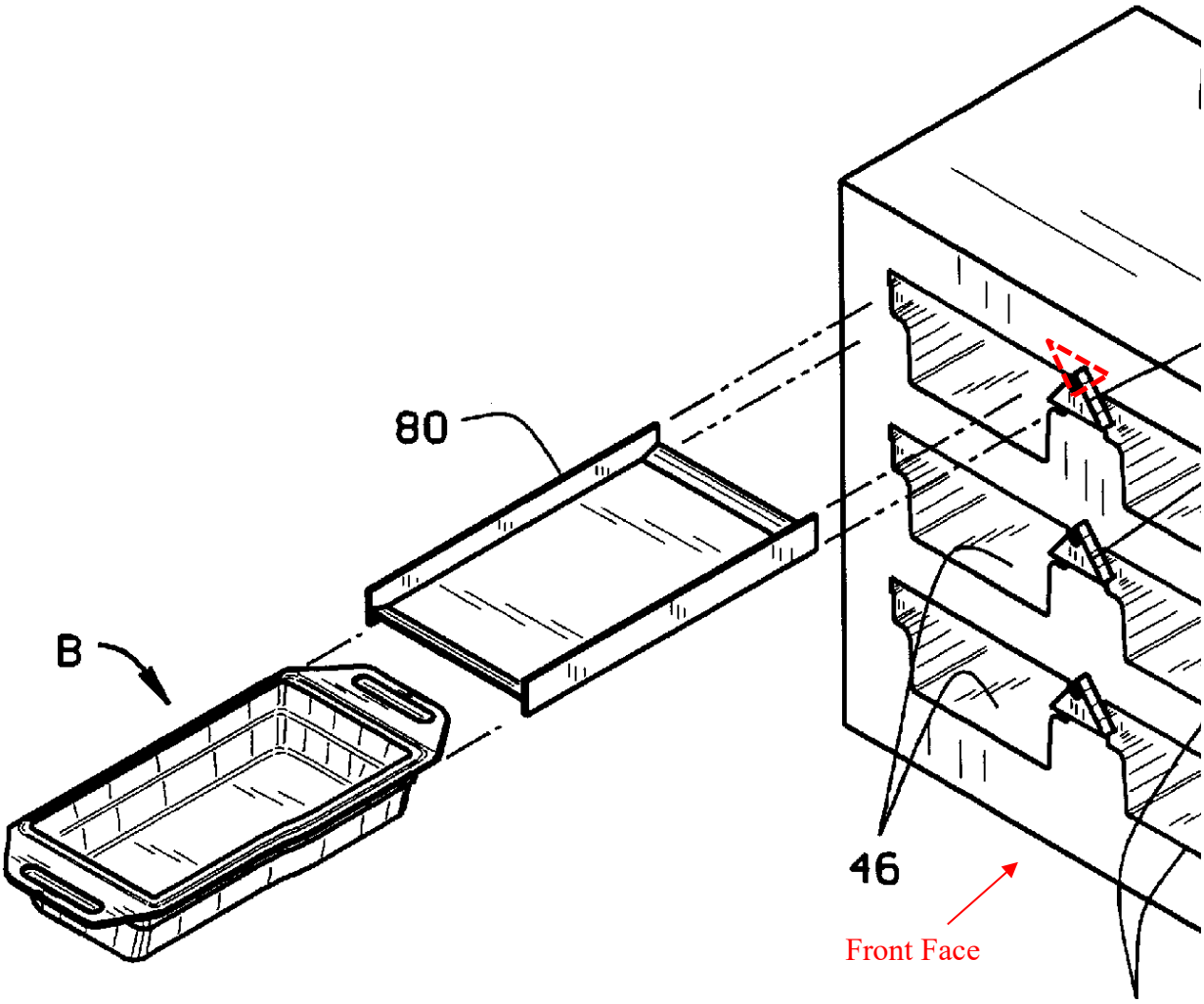
411. The POSA would understand that Hartfelder's stop members (61) are secured to a front face and moveable between locked and unlocked positions. Specifically, the stop members (61) have a vertical slot, through which the fastener (56) extends to connect the stop member to the cabinet (12). The cutout is larger than the fastener (56), thereby allowing the stop member (61) to rotate between the locked position shown in Fig. 2 (in which the stop member is positioned to engage

the lid if the lid moves out of the compartment) and an unlocked position shown by the broken lines (in which the stop member is positioned to permit the lids to be removed from the compartment). Stop members (61) of this type rotate between locked and unlocked positions. EX1017: 6:9-32, Fig. 1; EX1016: ¶[0043], Fig. 1.



EX1013: Fig. 2 (enlarged, annotated to show rotation of Hartfelder's stop member).

412. Likewise, Shei'099's stops (88) are secured to a front face and rotate between locked and unlocked positions. EX1017: 6:9-32.

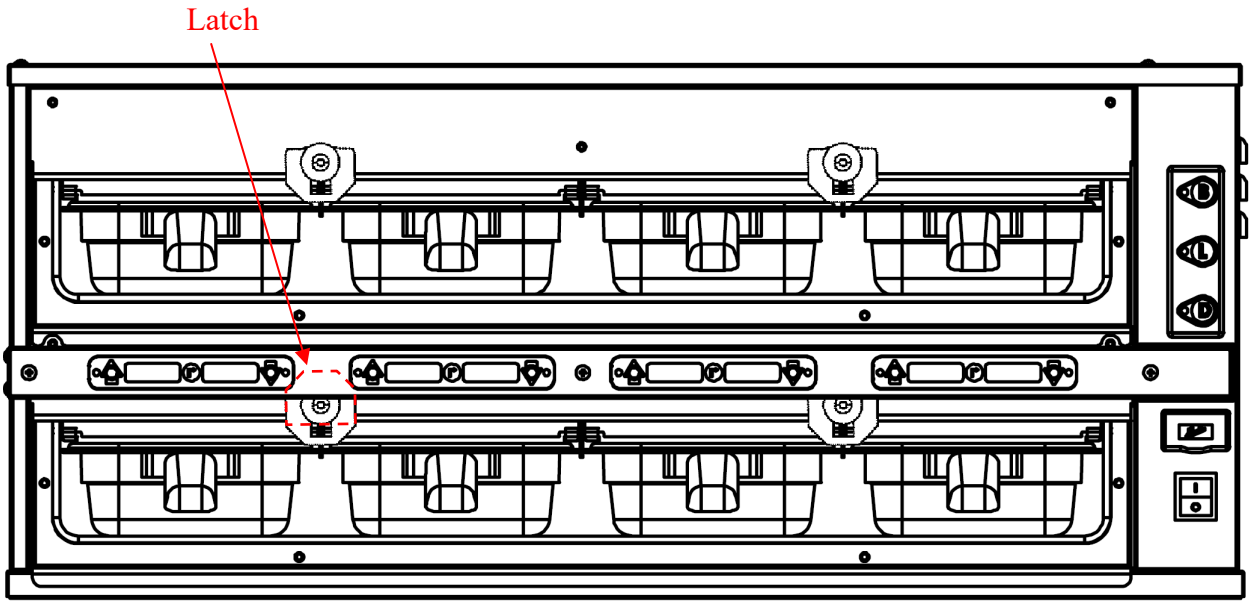


EX1017: Fig. 1 (enlarged, annotated).

413. While the above annotated images of Hartfelder and Shei'099 show the stops (latches) rotated 180-degrees from an at-rest position, the POSA understands the user/operator would pivot the stops in Hartfelder and Shei'099 as needed (e.g., 45-degrees) left or right to release the desired lid.

414. In view of the teachings of Hartfelder and/or Shei'099, the latches added to the IRHS24 Holding Unit would have been moveably mounted to the front

face of the chassis. Paragraph 389-404 (Ground 2, Section V(A)). Each latch would have been moveable (rotatable) between a locked position and unlocked position (shown in broken lines). EX1013: Fig. 2; EX1017: 6:9-32, Fig. 1; EX1016: ¶[0043], Fig. 1. In the locked position, the latch would have been positioned (via gravity in an at-rest position) to block/prevents removal of the lid. EX1013: ¶[0058] ("[a]s best shown in FIG. 9, when tray 40 is withdrawn from sub-compartment 64 of heating compartment 24, front turned-up edge 90 of cover 64, acting as an engagement edge, engages stop member 61. The engagement of engagement edge 90 with stop member 61 arrests the movement of cover 44. As the movement of cover 44 is arrested, cover 44 is retained upon within sub-compartment 64 while tray 40 is withdrawn"); EX1017: 6:19-21 ("[t]he free apices of the stops 88 lie beyond the ends of the vertical legs 82 for the covers 80 and retain the covers 80 in the upper regions of the heat sinks 46"). In the unlocked position, the latch would have been rotated (e.g., 45-degrees, 180-degrees (as annotated below)) to allow removal of the lid from the lid holding shelf. EX1013: Fig. 2; EX1017: 6:9-32 ("the stop 88 … is pivoted away from the opening 36 at that heat sink 46 so as to no longer block the opening 36. While the stop 88 is held away from the opening 36, the cover 80 is removed"), Fig. 1; EX1016: ¶[0043], Fig. 1.



EX1005: 8 (modified, annotated).

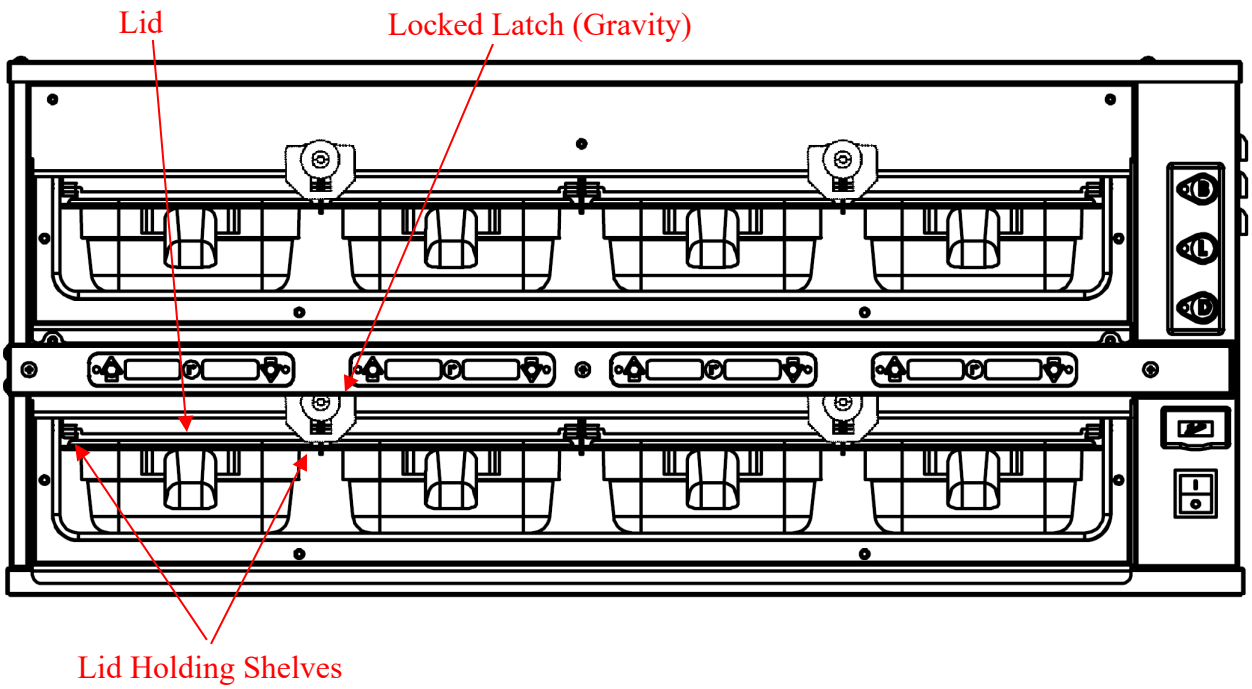
415. Accordingly, the POSA would have found it obvious to combine the teachings and disclosures of the IRHS Documents with the teachings of Hartfelder and/or Shei'099 to arrive at the food holding bin as recited in Claim 13.

C. Claim 14: The method of claim 13, further comprising biasing the latch into a position that retains a lid on the associated lid holding shelf with gravity.

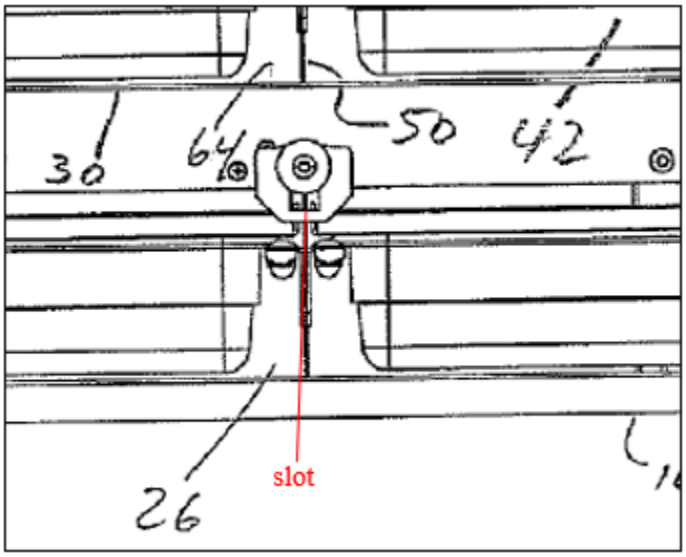
416. As discussed above, the POSA would have found it obvious to combine the teachings and disclosures of the IRHS Documents with the teachings of Hartfelder and/or Shei'099 to arrive at the claimed food holding bin of Claim 13.

417. As explained in Paragraphs 405-415 (Claim 13), the latch would have been rotatable between a locked position and unlocked position. EX1013: Fig. 2;

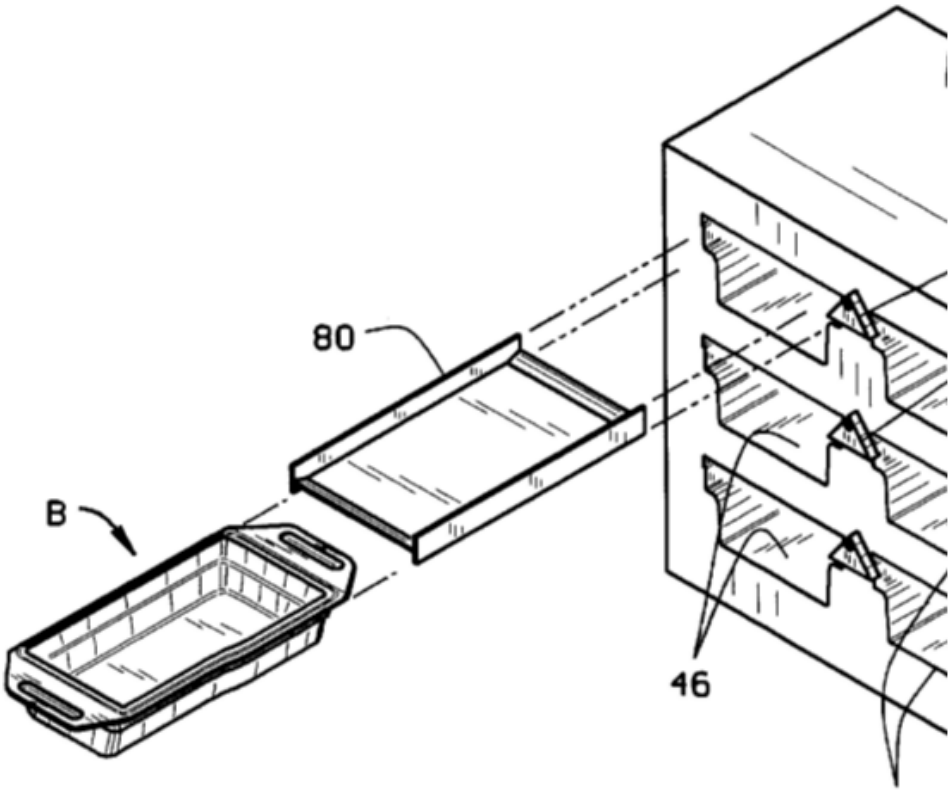
EX1017: 6:9-32, Fig. 1; EX1016: ¶[0043], Fig. 1. Gravity would bias the latch into the locked position (where the latch is positioned to retain the lid on the lid holding shelves) by pulling and/or rotating the latch until the latch's center of gravity is disposed below the fastener. EX1013: Fig. 9; EX1017: 6:9-32 ("Once the cover 80 is fully within the heat sink 44, the stop 88 is released, and it assumes its normal position, blocking the end of the opening 36 and thereby retaining the cover 80 in the heat sink 46"), Fig. 1; EX1016: ¶[0043], Fig. 1.



EX1005: 8 (modified, annotated).



EX1013: Fig. 2 (enlarged, annotated).



EX1017: Fig. 1 (enlarged).

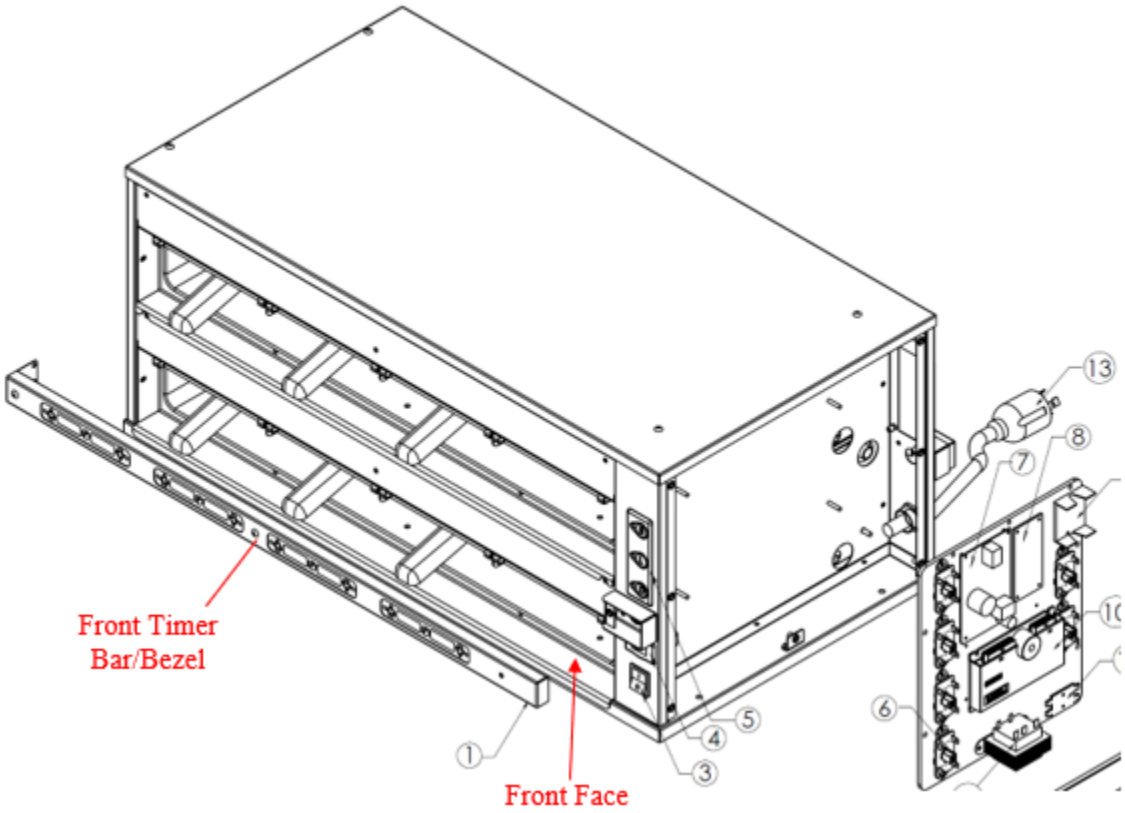
418. Accordingly, the POSA would have found it obvious to combine the teachings and disclosures of the IRHS Documents with the teachings of Hartfelder and/or Shei'099 to arrive at the method of maintaining different temperatures within a multi-zone food holding bin as claimed in Claim 13.

D. Claim 15

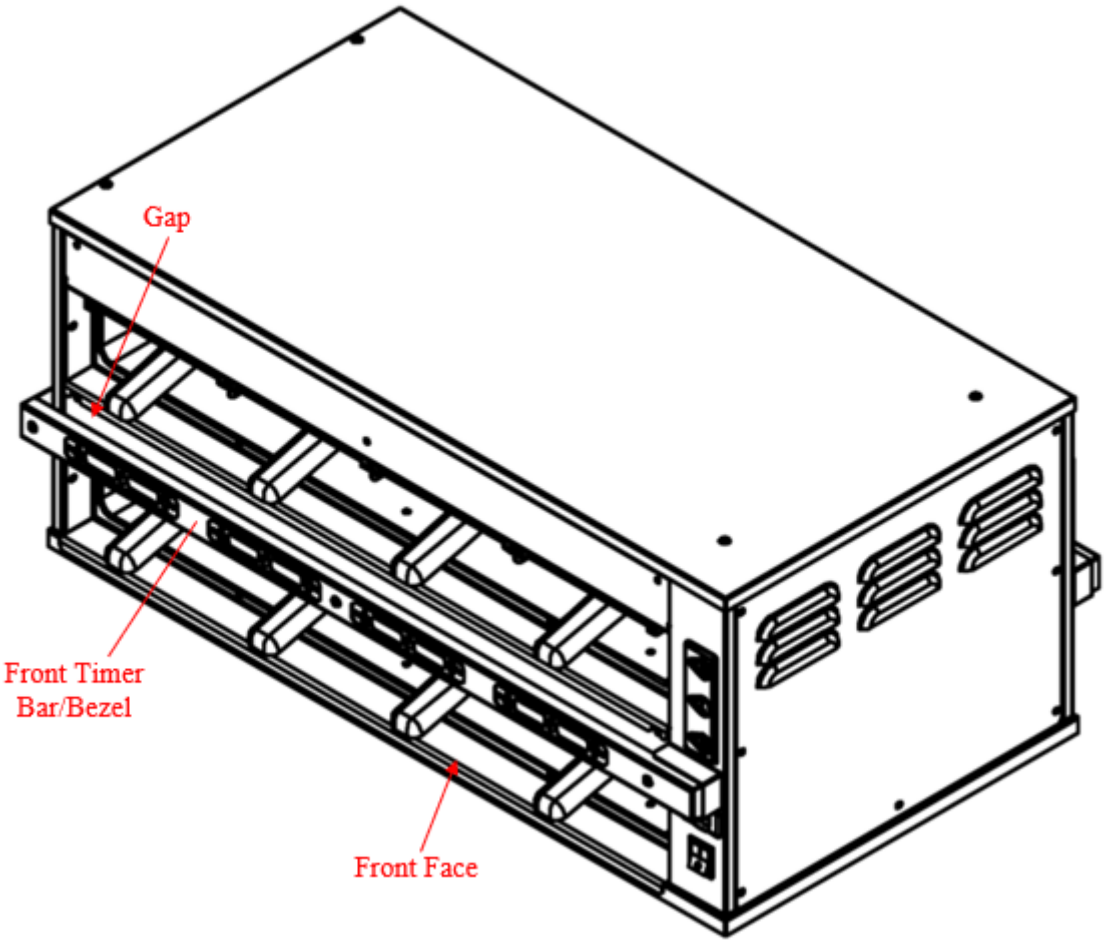
15.a: The method of claim 14, further comprising providing a bezel set forward of the front face to form a gap between the front face and the bezel,

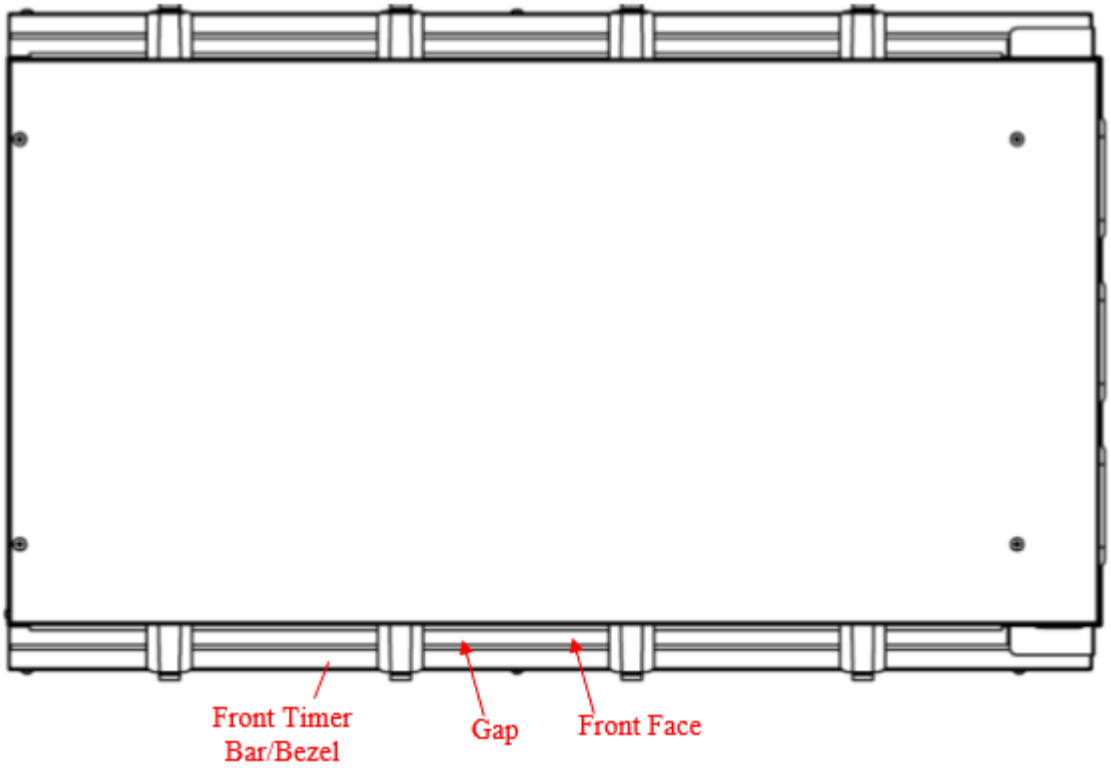
419. As discussed above, the POSA would have found it obvious to combine the teachings and disclosures of the IRHS Documents with the teachings of Hartfelder and/or Shei'099 to arrive at the claimed food holding bin of Claim 14.

420. As disclosed by the IRHS Documents, the front timer bar/bezel of the IRHS24 Holding Unit is set forward from the front face of the chassis. As shown, a gap is defined between the front timer bar/bezel and the front face of the chassis.

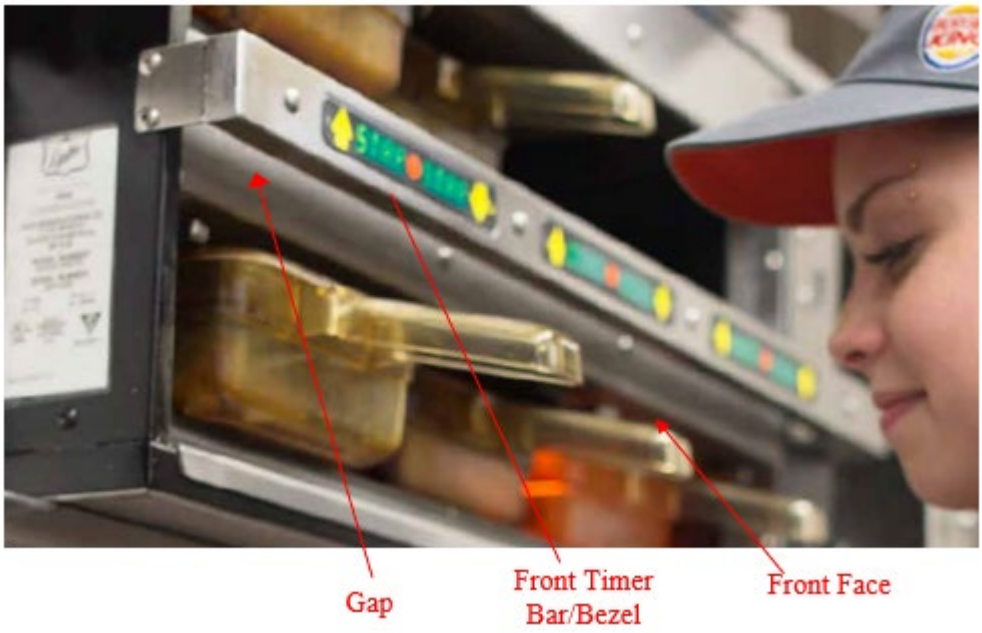


EX1005: 19 (annotated).


Gap
Front Timer
Bar/Bezel
Front Face



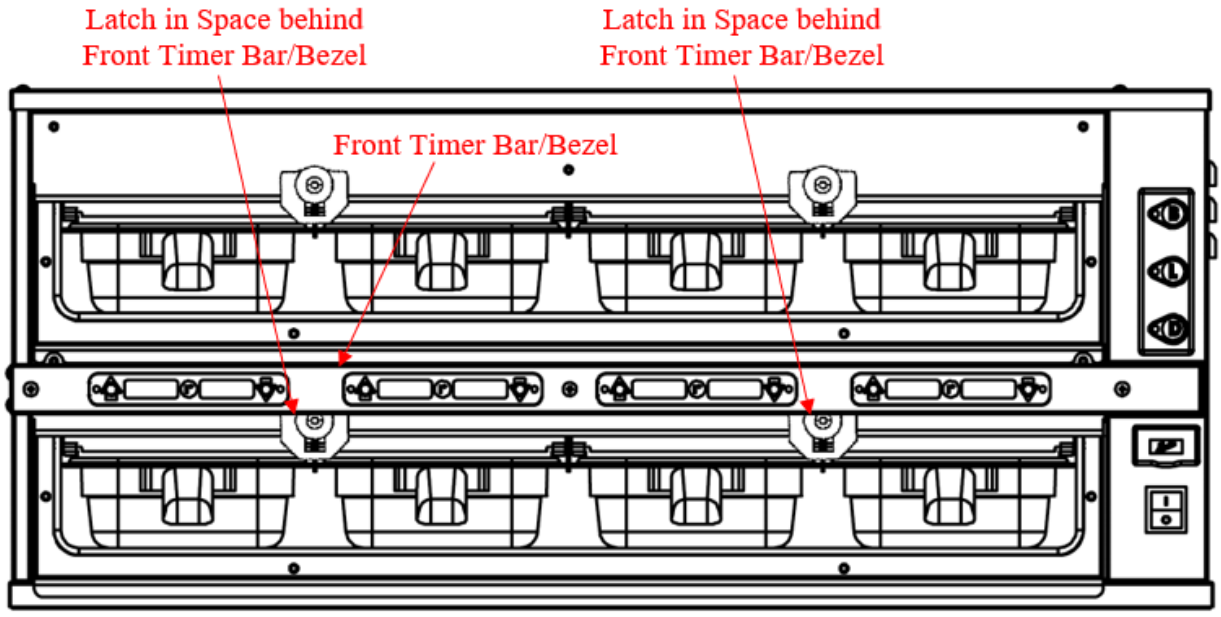
EX1005: 8 (annotated).



EX1007: 28 (annotated).

15.b: wherein the latch moves within the gap

421. Modifying the IRHS24 Holding Units in view of Hartfelder and Shei'099 as discussed in Paragraphs 389-404 (Ground 2, Section V(A)) would result in the stop members (61) or stops (88) (*i.e.*, latches) being placed in the space between the front timer bar and the front face (*e.g.*, the portion of the front face formed by the shelf) as demonstrated by the modified IRHS24 Holding Unit below:



EX1005: 8 (modified, annotated).

422. It would have been obvious to position the latches here as taught by Hartfelder and/or Shei'099—positioned adjacent the openings and lids, and thus engage and retain the lids. EX1013: Figs. 1 and 9.

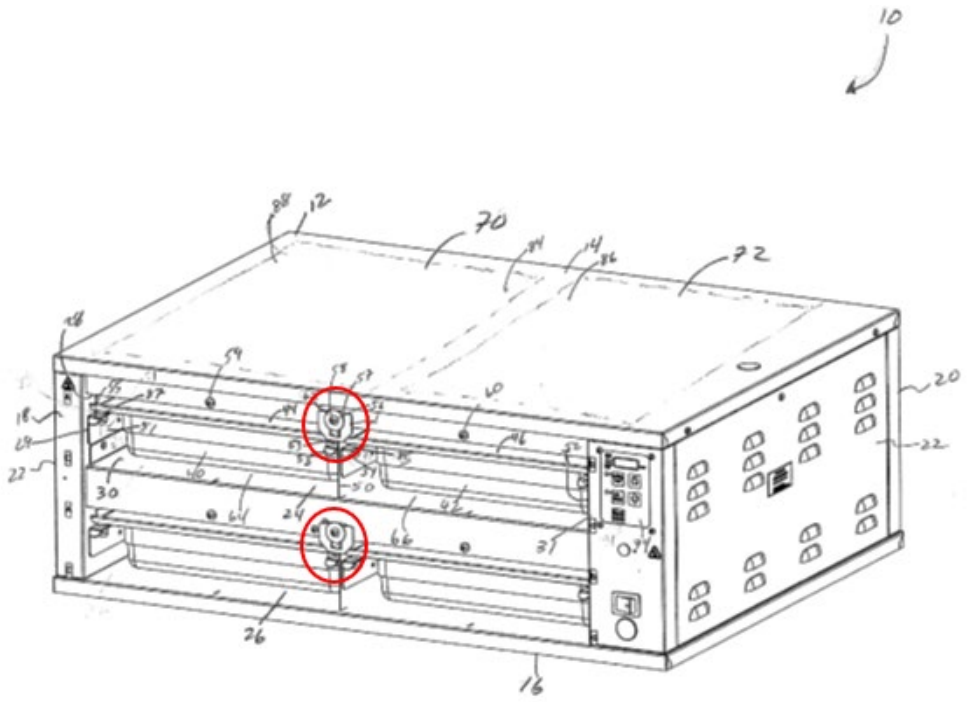


FIGURE 1

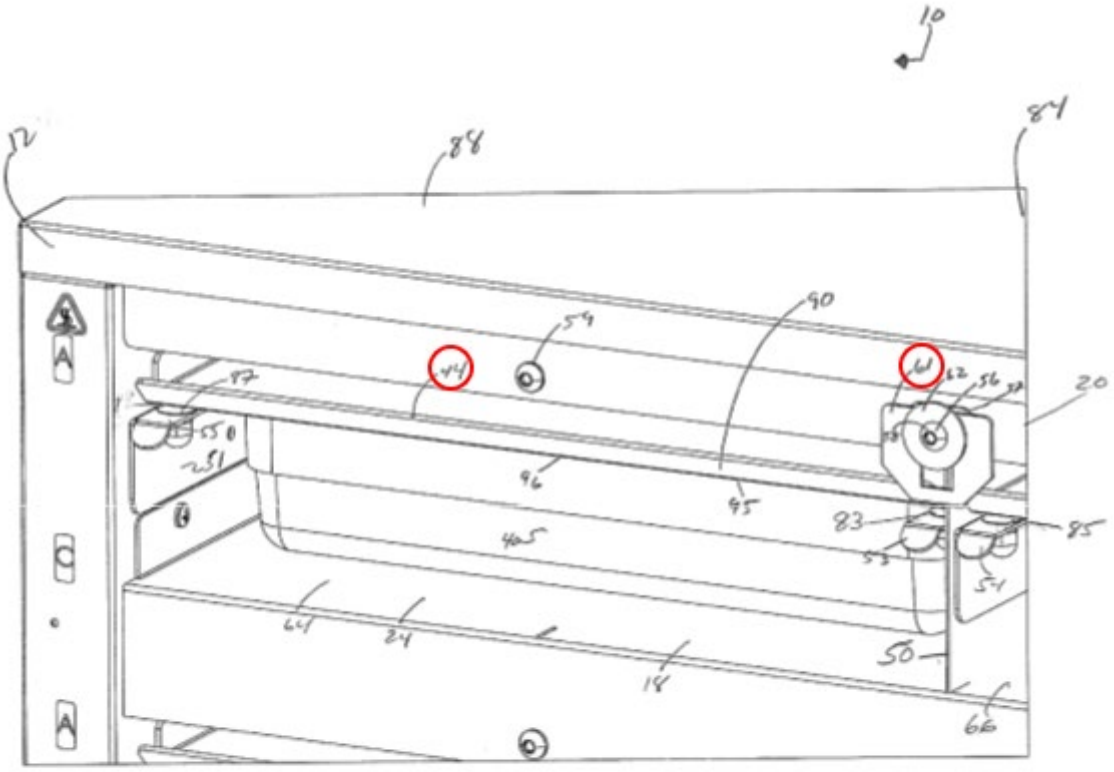


FIGURE 9

Figs. 1 and 9 (annotated).

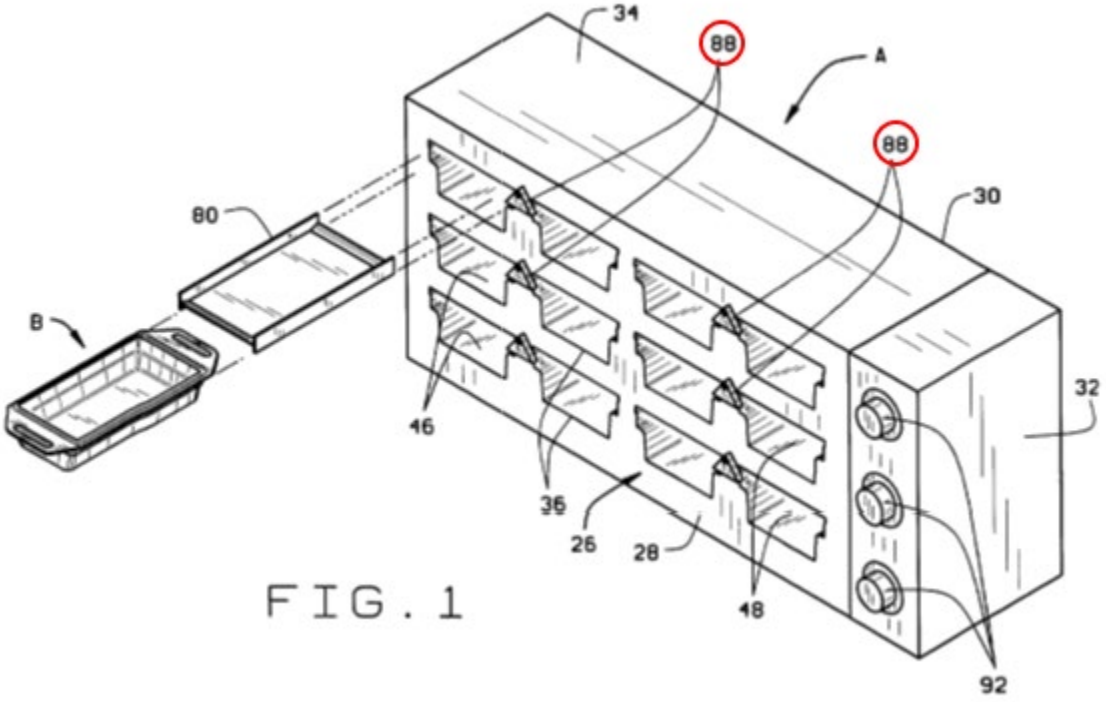


FIG. 1

EX1017: Fig. 1 (annotated).

423. For example, Hartfelder teaches this position of the stop members (61) in the presence of a control bar (76). EX1013: ¶[0039] ("controls and indicators may be arranged in on interface bar 76"), Figs. 3-5. While Hartfelder does not depict the stop members (61) within the same figures as the control bar (76), the fact that both features were addressed in the same reference suggests that such arrangements would be both compatible and desirable.

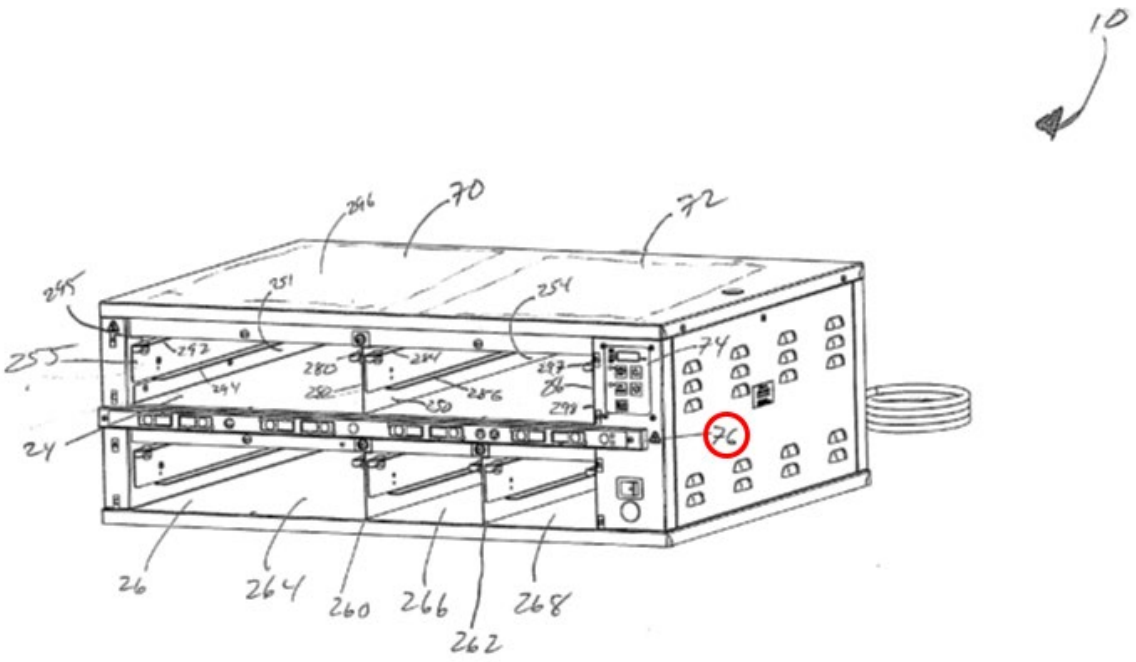
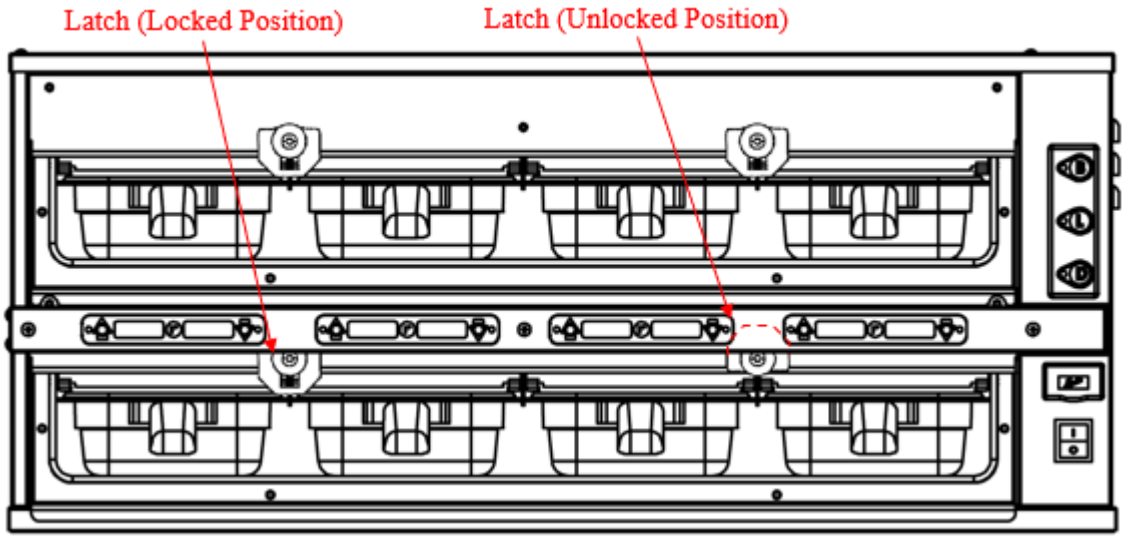


FIGURE 3

EX1013: Fig. 3 (annotated).

424. As explained in Paragraphs 405-418 above with respect to Claims 13 and 14, the latches added to the IRHS24 Holding Unit would have been moveable (rotatable) between a locked position and unlocked position (shown in broken lines). EX1013: Fig. 2; EX1017: 6:9-32, Fig. 1; EX1016: ¶[0043], Fig. 1.



EX1005: 8 (modified, annotated to show combination).

425. As the lower latches are disposed in the gap between the front timer bar and the front face, these lower latches would have moved (rotated) in the gap between their respective locked and unlocked positions.

426. Accordingly, the POSA would have found it obvious to combine the teachings and disclosures of the IRHS Documents with the teachings of Hartfelder and/or Shei'099 to arrive at the method of maintaining different temperatures within a multi-zone food holding bin as claimed in Claim 15.

E. Claim 10

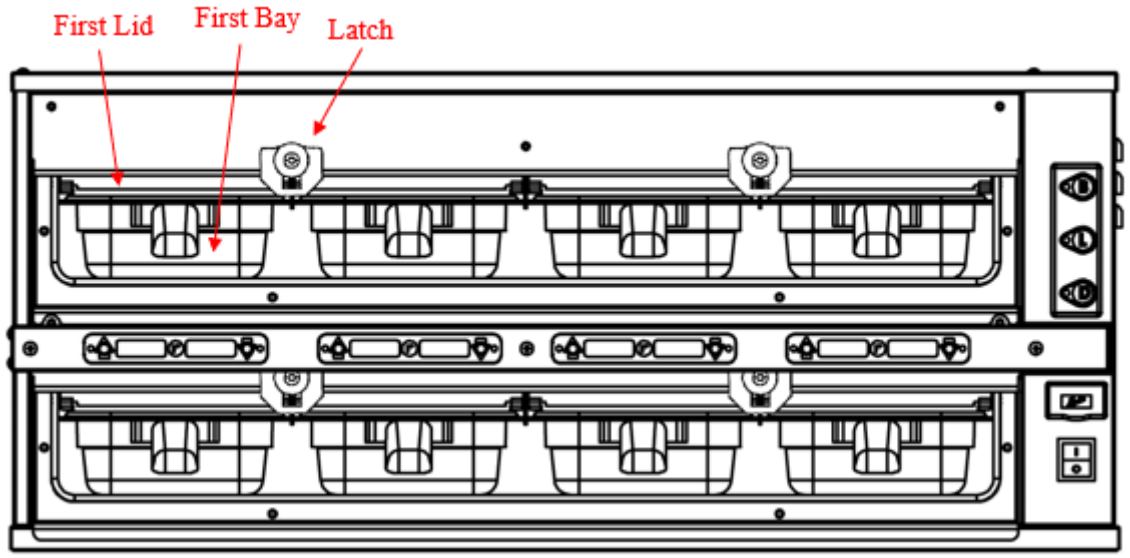
427. Claim 10 requires "retaining the first lid within the first bay on the lid holding shelf associated with the first bay," without expressly requiring a latch to secure the lid. Accordingly, as explained in Paragraphs 343-346 (Ground 1, Claim 10) with respect to Ground 1, it is my opinion that the bent-lips of the IRHS Holing

Units sufficiently discloses the claim limitations. If it is determined that the IRHS Documents do not sufficiently meet the claim limitations, the claims would have still been obvious in view of Hartfelder and Shei'099.

428. Hartfelder and Shei'099 disclose latches (stops) for retaining lids such that it would have been obvious to modify the IRHS24 Holding Unit to have latches for retaining lids for the reasons explained in Paragraphs 389-404 (Ground 2, Section V(A)). EX1013: ¶[0058] ("An engagement edge of a cover may engage a stop member when a tray is removed from a sub-compartment of a heating compartment. By engaging the engagement edge, a stop member may to arrest the movement of the cover caused by removal of a tray from the sub-compartment. By arresting the motion of the cover while a tray is withdrawn, the cover may be retained inside the sub-compartment"); EX1017: 6:20-21 ("The free apices of the stops 88 lie beyond the ends of the vertical legs 82 for the covers 80 and retain the covers 80 in the upper regions of the heat sinks 46").

429. It would have been obvious to modify IRHS24 Holding Unit according to Hartfelder and/or Shei'099 including a latch that retains the first lid within the first bay on the lid holding shelf associated with the first bay. A representative illustration of the IRHS24 Holding Unit modified to have

Hartfelder's stop members (61) for the lids is shown below.



430. Accordingly, even if it is determined that the IRHS Documents do not sufficiently disclose retaining the retaining the first lid within the first bay on the lid holding shelf associated with the first bay, the POSA would have found it obvious to modify the IRHS24 Holding Unit disclosed in the IRHS Documents in view of Hartfelder and/or Shei'099 to arrive at the food holding bin as claimed.

431. As such, Claim 10 would have been obvious for at least the reasons explained in Ground 1 above in further view of Hartfelder and/or Shei'099.

VI. GROUND 3: Claims 5 and 6 Would Have Been Obvious According to Grounds 1 or Ground 8-9 In Further View of Shei'821 Even to the Extent the IRHS Documents are Deemed Not to Adequately Disclose Claim Limitations Requiring the Movement of Trays of Food Into and Out of the Food Holding Compartments

432. Claims 5 and 6 recite limitations or steps regarding moving the trays (with food) into and out of the compartments/zones of the recited multi-zone food holding bin through the openings in its chassis.

- 5.a/b/c/d: "receiving a first[/second/third/fourth] tray of a first[/second/third/fourth] food product through the first[/second] opening into the first[/second/third/fourth] food holding zone"
- 6.b/c: "providing a third[/fourth] opening through the rear face configured to allow the first or second [/third or fourth] tray to be passed through the third[/fourth] opening into the first[/second] food holding compartment and onto the first[/second] substantially planar surface"

433. As discussed in Paragraphs 288-317 and 320-335 above with respect to Ground 1, it is my opinion that the POSA would have recognized the IRHS Documents disclose the recited openings and that it would have been understood to move the trays of food into and out of the food holding compartments of the IRHS24 Holding Unit (e.g., first and second food holding compartments) via the front and back openings (e.g., first opening, second opening, third opening, and fourth opening) as recited in Claims 5 and 6. If it is determined that the IRHS Documents do not sufficiently describe moving the trays (with food) into and out of the compartments/zones through the openings, the limitations/steps and thus the

claim method would have still been obvious in view of Shei'821 and/or Fortmann'967.

434. Shei'821 teaches a pan storage apparatus (10) with a housing (14) having upper and lower compartments for receiving pans/trays (12) of food. EX1011: ¶[0024] ("storing food in one or more pans"), ¶[0025]. Each compartment has "an open front and an open back permitting pans 12 to be inserted in and accessed from either the front or back of the housing." EX1011: ¶[0025].

FIG. 1

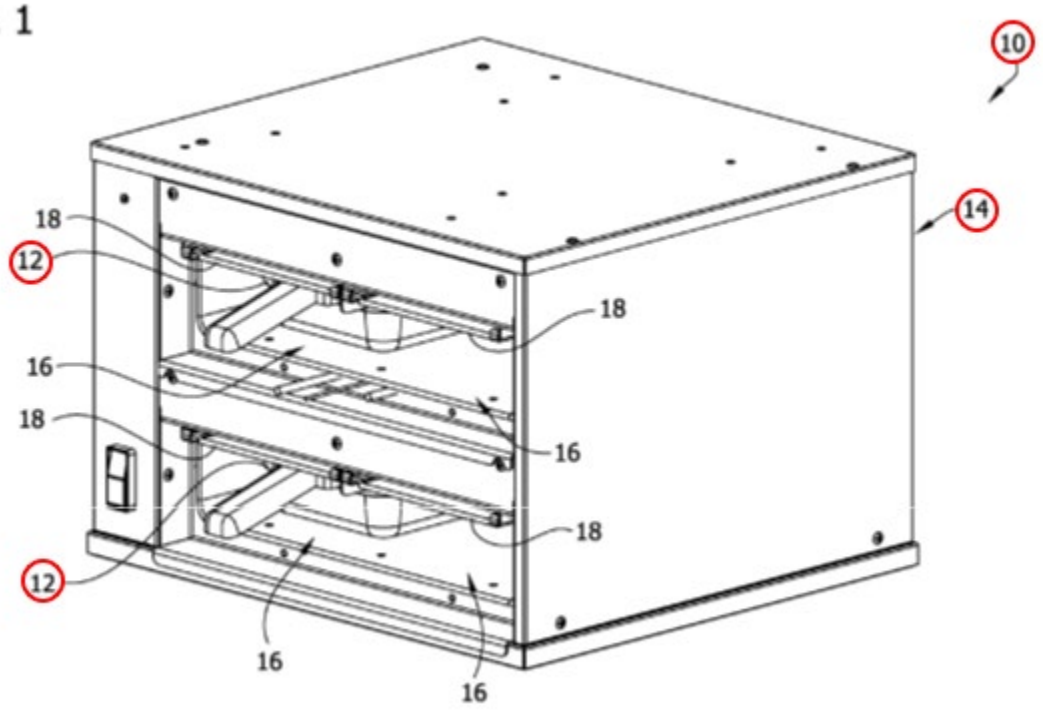
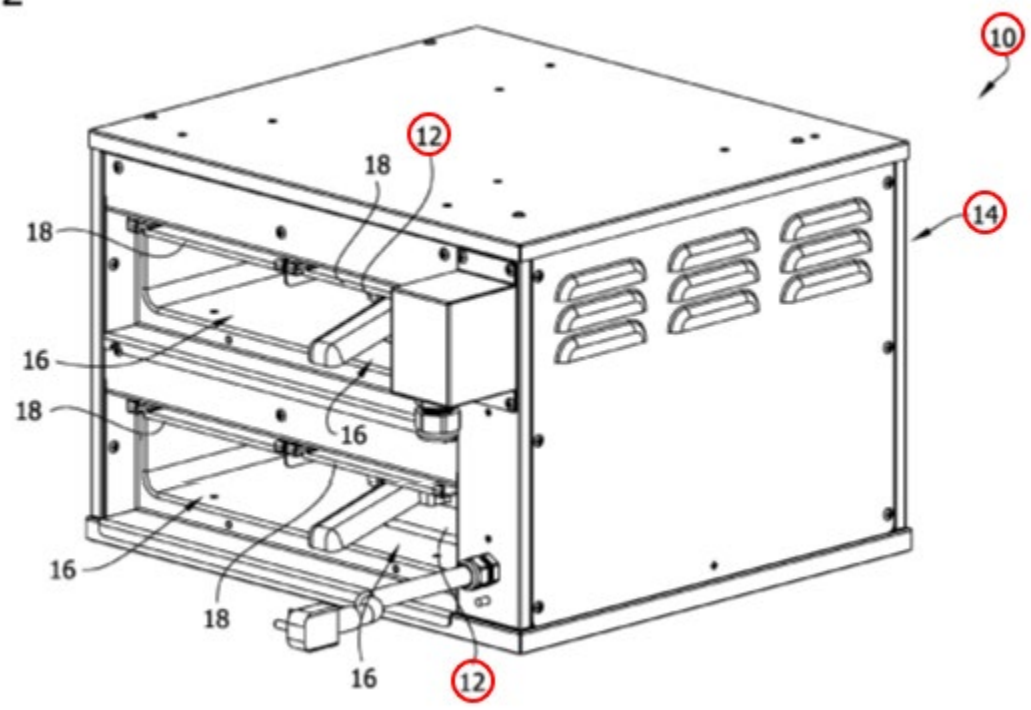


FIG. 2



EX1011: Figs. 1 and 2 (annotated).

435. As explained in Paragraphs 166-241 (Ground 1, claim limitations 1.b-1.e), it would have been obvious to hold four different food types in the four zones of the IRHS24 Holding Unit. EX1006: 1; EX1005: 4, 16; EX1007: 51, 53.

436. It would have been obvious to move the trays (with food) of the IRHS24 Holding Unit into and out of the food holding compartments (e.g., first and second food holding compartments) via the front and back openings (e.g., first opening, second opening, third opening, and fourth opening) as recited in Claims 5 and/or 6 in view of Shei'821 to efficiently load cooked food into the tray to keep warm before serving and/or to remove cooked food from the tray to serve to

customers. EX1011: ¶[0003] ("store food in such a container before preparing, serving, and/or consuming the food"), ¶[0026] ("the pan storage apparatus 10 is configured for holding food at a warm temperature"); EX1018: 4:19-23 ("the space 16 be conditioned with the food item 42 in the receptacle 32 maintained in this conditioned environment with the receptacle in the operative position of FIG. 2. In a preferred form, the conditioning source is a heater"); EX1005: 4: ("Extended hold times with improved food quality[,] … precisely control the environment in each pan, allowing customized settings for each food product. This gives you the ability to maintain gold standard sensory attributes at drastically extended hold times while delivering hotter food to your customers"), 16 ("delivering hotter food to your customers"); EX1006: 1 ("holding of all fried foods resulting in extended hold time"); EX1007: 53 ("gold standard food is a[l]ways available"); EX1012: ¶[0003] ("food holding cabinets for holding cooked [] in one or more food trays at an elevated temperature until the food is to be served"); EX1013: ¶[0002] ("maintaining food in a ready to use condition in which previously cooked food portions are contained in trays stored within a food warming apparatus"), ¶[0004] ("cooked food portions are often maintained in a ready-to-use condition until they served to the customer"), ¶[0019] ("cooked food portions may be placed in one or more open-top containers, which are referred to herein as "trays." The trays containing the previously cooked food portions may be placed in the heating

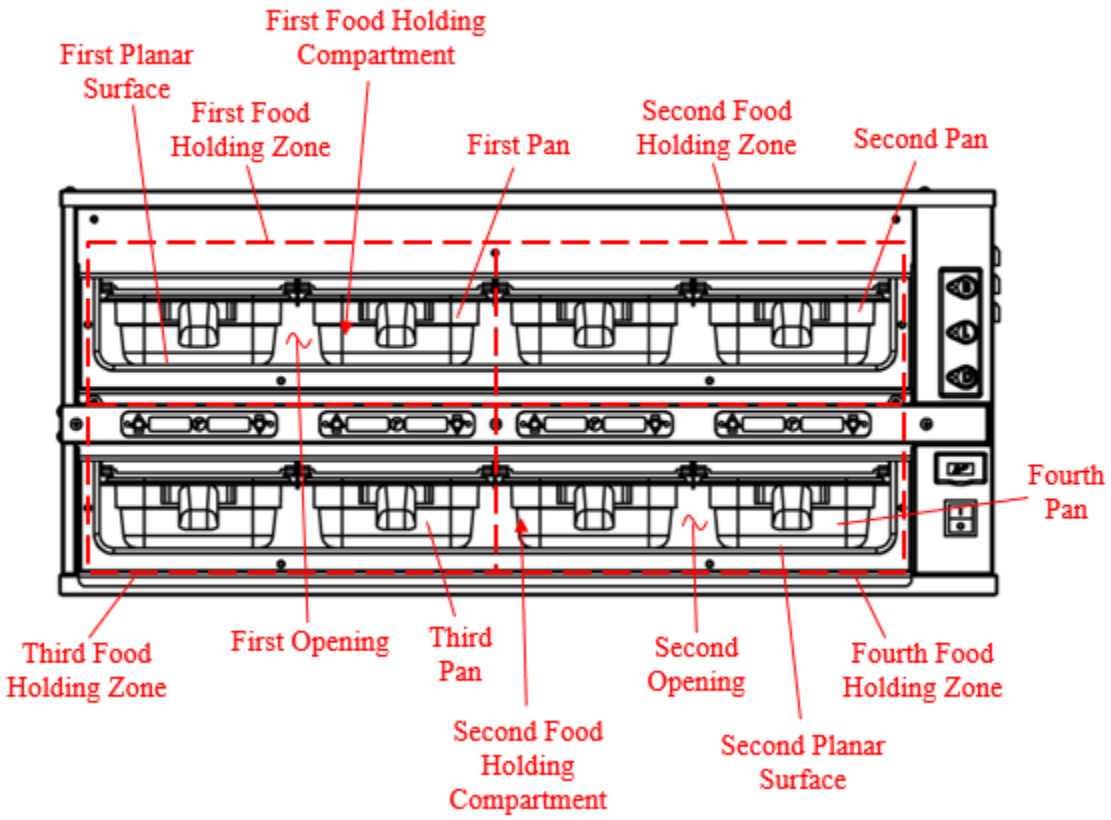
compartments to maintain the portions at a desired temperature"), ¶[0062] ("A user may pull out tray 40 from first sub-compartment 64 to access tray 40, such as to add or remove previously cooked food portions from tray"), ¶[0063] ("A user may pull out tray 42 from second sub-compartment 66 to access tray 42, such as to add or remove previously cooked food portions from tray"); EX1015: ¶[0018] ("cooked food portions may be placed in one or more open-top containers, which are referred to herein as "trays." The trays containing the previously cooked food portions may be placed in one or more heating compartments to maintain the portions at a desired temperature"), ¶[0033] ("replace the food product with fresh food product"); EX1016: ¶[0008] ("placing the pre-cooked food in a holding compartment of food warming apparatus"), ¶[0059] ("food has just been cooked in a cooking appliance (e.g., cooking or baking oven, frier, etc.) and then is transferred to the holding oven"), ¶[0060] ("After the food is cooked, the food product is placed in a tray 103 and inserted into compartment 128 in the oven 101"), ¶[0080] ("At the end of a holding duration, any food remaining in the compartments 207 is typically disposed of and replaced by freshly cooked food"); EX1017: 2:46-47 ("multiple trays B in which precooked food is placed and held"), 6:43-44 ("Immediately after these foods are prepared, they are placed in the trays B").

437. This would have been nothing more than operating the IRHS24 Holding Unit according to the known operation (moving the pans into and out of the food holding compartments via the front and/or back openings of the compartments to load and retrieve food) of similar devices (Shei'821). There would have been a reasonable expectation of moving the food trays into and out of the IRHS24 Holding Unit according to the methods expressly disclosed by Shei'821 given that:

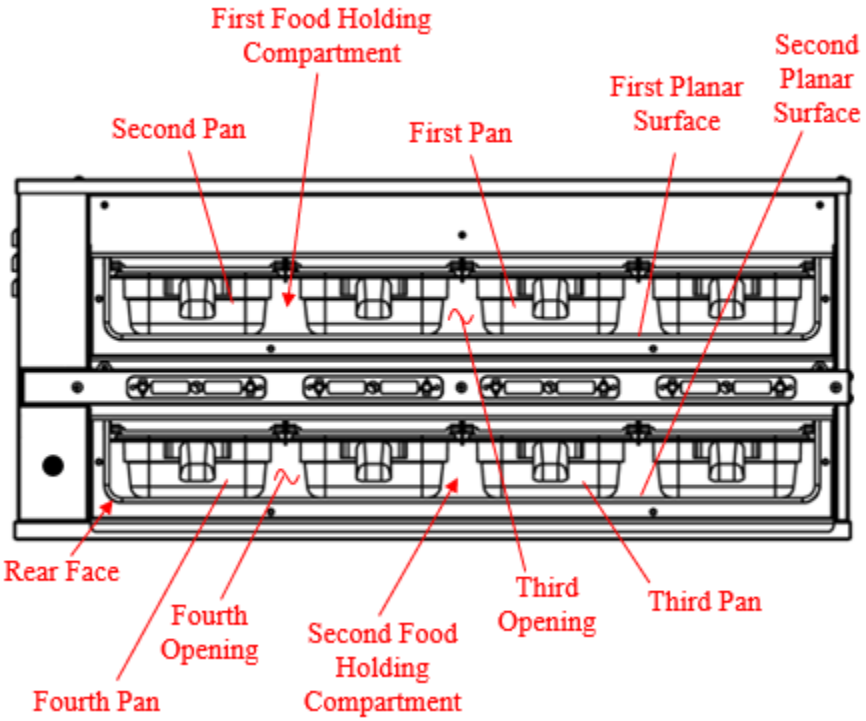
(1) the IRHS24 Holding Unit, Shei'821's pan storage apparatus is a food warming apparatus for pans/trays of food (e.g., all units with compartments for warming trays/pans of food),

(2) the food holding compartments of the IRHS24 Holding Unit have front and rear openings for the pans, and

(3) Shei'821 demonstrates this was a known way of operating pans in food warming apparatuses.



EX1005: 8 (annotated).



EX1005: 8 (modified to represent the rear view of the IRHS24 Holding Unit).

438. IRHS Documents teach a pass-through design "allow[ing] crews to work both sides." EX1007: 67.

439. Per Shei'821 and/or the IRHS Documents, it would have been obvious to receive each tray (and the food held thereby) through the one of the front openings (e.g., first or second openings) of the food holding compartments of the IRHS24 Holding Unit into the food holding zones in the food holding compartments as recited in claim limitations 5.a/b/c/d to increase access to the food/compartments to permit crews to work both sides. EX1011: ¶[0025]; EX1018: 4:49-52. Likewise, per Shei'821 and/or the IRHS Documents, it would have been obvious for each tray to pass through the one of the rear openings (e.g., third or fourth openings) of the

food holding compartments of the IRHS24 Holding Unit into the food holding compartments onto a respective first or second planar surface to increase access to the food/compartments to permit crews to work both sides. EX1011: ¶[0025]; EX1018: 4:49-52. If necessary, the POSA would add back (third and fourth) openings to the compartments, similar to the IRHS's front openings in view of Shei'821 and the IRHS Documents.

440. Accordingly, to the extent that there is any doubt that the IRHS Documents disclose moving the trays (with food) into and out of the compartments/zones of the recited multi-zone food holding bin through the openings in its chassis as required by Claims 5 and 6, the POSA would have found it obvious to operate the IRHS24 Holding Unit disclosed in the IRHS Documents in view of the IRHS Documents and Shei'821 to arrive at the method receiving pans/trays through front and rear compartment openings into zones of the compartments and onto the substantially planar surfaces. As such, Claims 5 and 6 would have been obvious for at least the reasons explained in Ground 1 above in further view of Shei'821.

VII. GROUND 4: Claim 7 Would Have Been Obvious Over the IRHS Documents in view of Shei'821, McMillan, Veltrop, and/or Hartfelder

A. Claim 7: the method of claim 6, further comprising: receiving a tray of the first, second, third, and fourth trays, when said tray is filled with freshly cooked food product, through the respective third or fourth opening; and receiving the tray of the first, second, third, and fourth trays, when food product has been removed from said tray, through the respective first or second opening

441. As discussed above, the POSA would have found it obvious to combine the teachings and disclosures of the IRHS Documents to arrive at the claimed method of maintaining different temperatures within a multi-zone food holding bin of Claim 6.

442. The IRHS Documents further teach having users/employees supply and remove food to and from pans/trays held by the IRHS24 Holding Unit by moving the pans/trays through the openings to the food holding compartments. EX1007: 5, 8, 20, 32. The pass-through design of the IRHS24 Holding unit "allows crews to work both sides," by moving pans through the openings. EX1007: 67. Specifically, food appears to be supplied via the IRHS' rear face and food is removed via the IRHS' front face based on the images below:



EX1007: 20 (annotated).

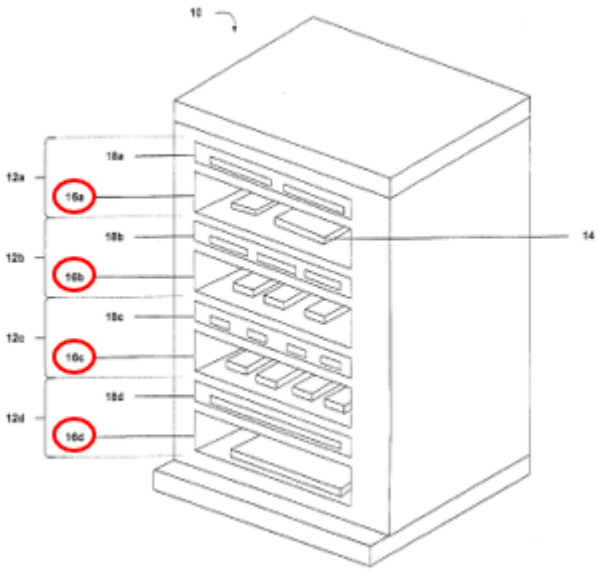


EX1007: 32 (annotated).

443. While the IRHS Documents may not expressly state the trays are filled with freshly cooked food product from one side (e.g., through the respective

third or fourth opening) and retrieving the food product from the other side (e.g., through the respective first or second opening), the POSA would have understood that this method of operation was the intent behind the pass-through design of the IRHS24 Holding Unit. And other prior art references explicitly disclose the operational use of pass-through food holding bins wherein users/employees fill the trays with fresh food from one side of the food holding bins and retrieve the food from the opposite side of the food holding bins.

444. McMillan discloses a holding cabinet (10) for holding food products that are to be maintained in a temperature-controlled environment. EX1019: Fig. 1; 2:49-55. The food holding cabinet (10) includes several food passageways (16a-16d). EX1019: 2:49-52, 2:65-67. The food passageways (16a-d) are open at both ends. EX1019: 3:2-5.



EX1019: Fig. 1 (annotated).

445. McMillan expressly teaches that in one method of operation, one operator loads food products into the passageways from the one side and another operator removes food products from the passageways from the other side. EX1019: 3:7-11 ("a first operator may load food products 14 into the shelving units 12 a-d from the front of the holding cabinet 10, and a second operator may remove food products 14 out of the shelving units 12 a-d from the rear of the holding cabinet").

446. Similarly, Veltrop teaches a food holding cabinet (10) with food holding compartments (50). EX1022: ¶[0010]. The cabinet (10) has an open front face (40) and an open rear face (45) for inserting food into and/or removing food from the food holding compartments (50). EX1022: ¶¶[0012], [0016].

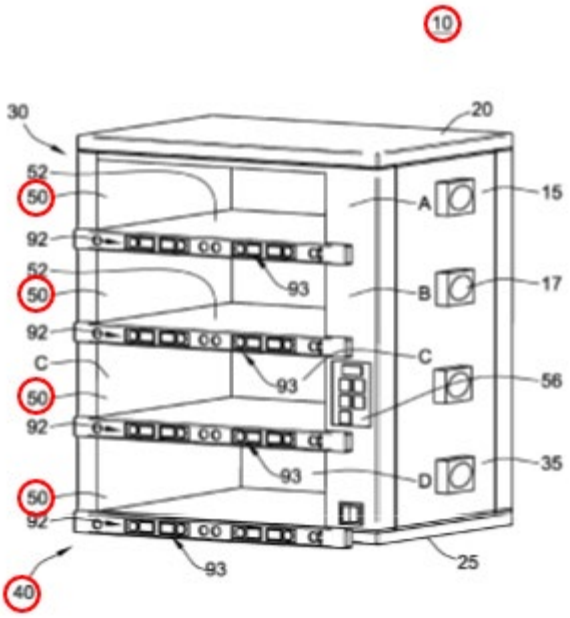


FIG. 1

EX1022: Fig. 1 (annotated).

447. Veltrop likewise expressly teaches that in one method of operation, cooked food is inserted into one side of the cabinet (10) and removed from the other side of the cabinet. EX1022: ¶[0002] ("Holding ovens to keep food warm are well known. May such ovens allow a cooked food item to be put into the oven from one side of the oven and taken from the oven on the opposite side whereby food preparers add food to the oven and food servers take food from the oven.").

448. Regarding a similar food holding unit, Hartfelder explains that a user may pull out a food tray (40) to access cooked food therein, remove some cooked food from the tray, and then reinsert the tray back into the holding location. EX1013: ¶[0057] ("a user … may pull the tray out to access one or more

previously cooked food portions in the tray and push the tray back into place"), ¶[0062] ("A user may pull out tray 40 from first sub-compartment 64 to access tray 40, such as to … remove previously cooked food portions from tray 40. After accessing tray 40, the user may then insert tray 40 into first sub-compartment 64.").

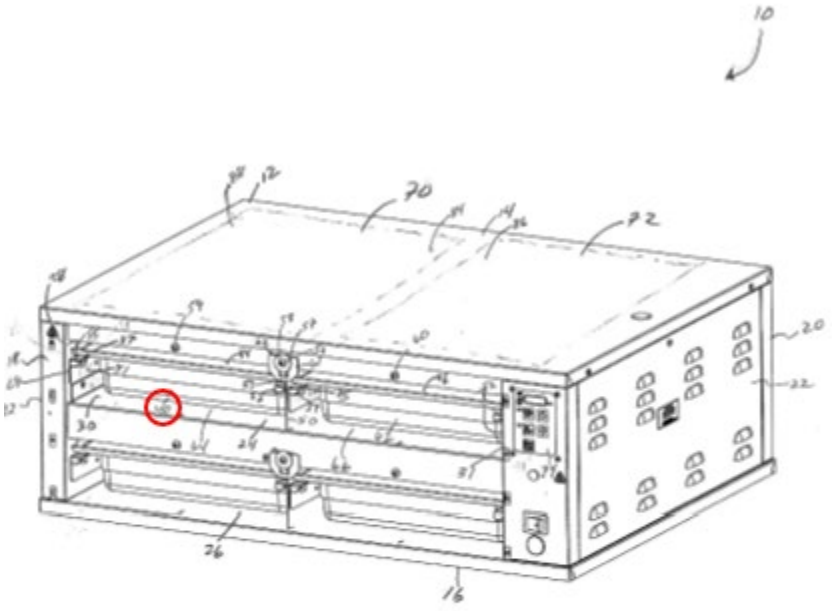


FIGURE 1

EX1013: Fig. 1 (annotated).

449. Similar to Hartfelder, Shei'821 explains "contents [(e.g., food)] stored in a pan 12 in the pan storage apparatus 10 can be accessed by pulling the pan forward from a stowed position to expose an open top of the pan and its contents therein, and the pan can be pushed rearward to return the pan to its stowed

position, or the pan can be removed from the pan storage apparatus." EX1011: ¶[0024].

450. It would have been obvious, in view of McMillan and/or Veltrop, to operate the pans of the IRHS24 Holding Unit so that freshly cooked food is loaded (via the first, second, third, and fourth pans) into the food holding compartments from one side (e.g., rear side) via the respective third and fourth openings and food is removed (from the pans) from the food holding compartments from the other side (e.g., front side) via the respective first or second openings, and, in view of Hartfelder and/or Shei'821, to receive the pans back in the respective holding compartments from that other side via the respective first or second openings after food was removed. EX1019: 3:2-11; EX1022: ¶[0002]; EX1011: ¶[0024]; EX1013: ¶[0057], ¶[0062].

451. Such operation would facilitate efficient use of kitchen space by positioning the holding unit intermediate the food cooking area and food assembly area, providing cooking and assembly personnel separate, simultaneous access, and reducing bottlenecks that may result from a cooking/assembly personnel shared access point. EX1007: 67 ("Pass through design allows crews to work both sides"); EX1047: 2:45-55 ("[t]he device also includes at least one inlet door on one side of the device for inserting the food portions into the compartments and one complementary outlet door on the opposite side of the device for removing

therethrough food portions contained in the compartments. This pass-through configuration of the doors promotes an efficient use of space in the kitchen containing the device because, for example, the device can be positioned intermediate the food cooking area and the cooked food assembly area, thereby providing cooking and assembly restaurant personnel separate access to the device"), 8:57-9:16 ("Device 20 also promotes an efficient use of space within a kitchen containing device 20. A kitchen in a quick service restaurant is frequently divided into two or more work areas. For example, the food cooking area can include food cooking devices …. After being cooked, the food portions are transported to the sandwich assembly area for sandwich assembly…. Consequently, restaurant personnel in the food cooking area and in the sandwich assembly area handle the cooked food portions. Device 20 promotes an efficient use of space when device 20 is located within the kitchen intermediate the food cooking area and the sandwich assembly area. When so positioned, the restaurant personnel responsible for cooking can place a tray 54E containing the cooked food portions within compartment 40A through inlet door 32A of device 20 of inlet side 1, as shown in FIG. 3. Then, when the cooked food portions are needed for assembly into a sandwich, restaurant personnel remove tray 54E from compartment 40A through outlet door 33A of outlet side O of device 20"), 10:29-34 ("device 80 can be positioned within the kitchen of a quick service restaurant in

an area intermediate the food cooking area and the food finishing area. The flow-through design of inlet doors 106 and 108A-F and outlet doors 110 and 112A-F thus promotes an efficient use of space within the kitchen"); EX1048: 5:44-57 ("arrangement facilitates efficient food handling by providing simultaneous access to device 52 for personnel working within food cooking area 22 and for personnel working within cooked-food assembly area"); EX1022: ¶[0002] ("Holding ovens to keep food warm are well known. Many such ovens allow a cooked food item to be put into the oven from one side of the oven and taken from the oven on the opposite side whereby food preparers add food to the oven and food servers take food from the oven"); EX1019: 3:2-11 ("In some implementations, each passageway 16a-d may be open at both ends, providing each shelving unit 12a-d with a pass-through structure. In this way, operators may access the passageways 16a-d from the front and/or from the rear of the holding cabinet 10. Consequently, a first operator may load food products 14 into the shelving units 12a-d from the front of the holding cabinet 10, and a second operator may remove food products 14 out of the shelving units 12a-d from the rear of the holding cabinet 10.").

452. This would have been nothing more than operating the IRHS24 Holding Unit according to the known operation (moving the pans into and out of the food holding compartments via the front and/or back openings of the

compartments to load and retrieve food) of similar devices (McMillan, Veltrop, and/or Hartfelder).

453. There would have been a reasonable expectation of success in this method of operation given:

(1) the IRHS24 Holding Unit and McMillan's, Veltrop's, and Hartfelder's holding cabinets are food warming apparatuses for pans/trays of food (e.g., all units with compartments for warming trays/pans of food),

(2) the food holding compartments of the IRHS24 Holding Unit have front and rear openings for the pans ("Pass through design allows crews to work both sides"), and

(3) McMillan, Veltrop, and Hartfelder demonstrate this was a known way of operating pans in food warming apparatuses. EX1007: 67; EX1019: 3:7-11; EX1022: ¶[0002].

454. Per McMillan, Veltrop, and/or Hartfelder, it would have been obvious to the POSA to receive each tray (and the food held thereby) through the one of the front openings (e.g., first or second openings) to operate the IRHS24 cabinet in a pass-through manner: inserting (receiving) pans/trays that have been loaded with freshly cooked food through the rear openings (e.g., third and fourth openings) of the food holding compartments and retrieving (receiving) the pans/trays through

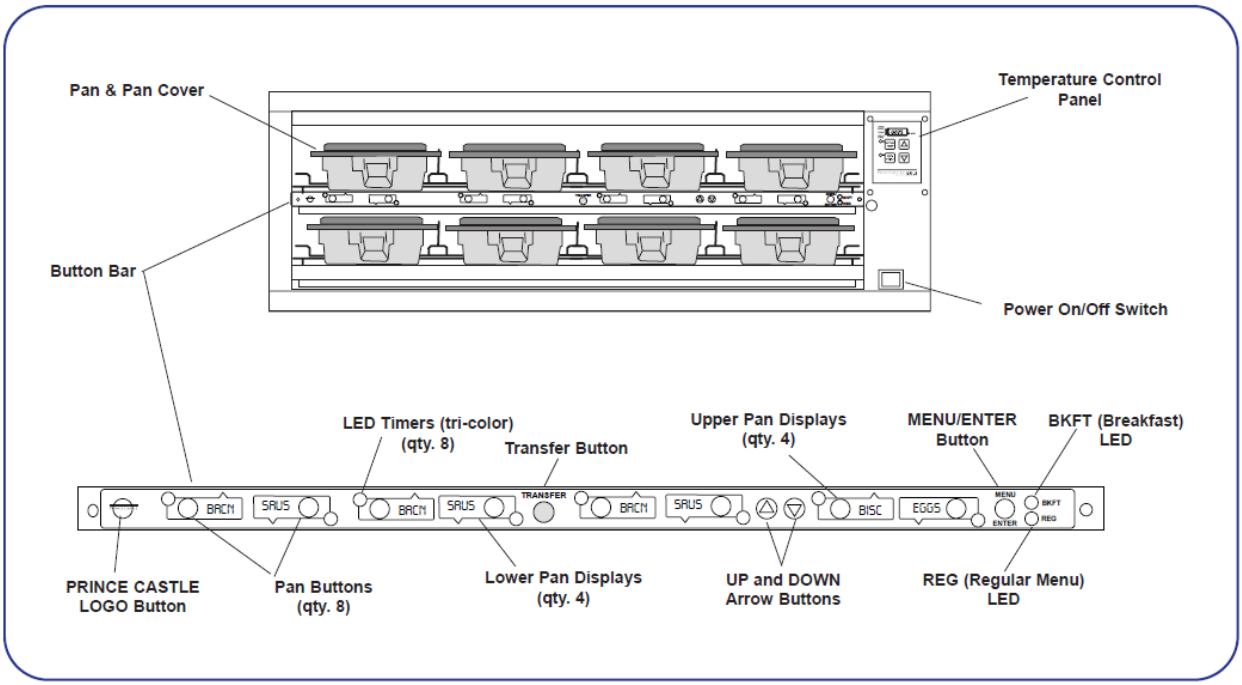
the front openings (e.g., first and second openings) of the food holding compartments after removal of cooked food from the pans/trays for serving. EX1019: 3:7-11; EX1022: ¶[0002]. As such, Claim 7 would have been obvious based on Grounds 1 and 3 above in further view of Shei'821, McMillan, Veltrop, and Hartfelder.

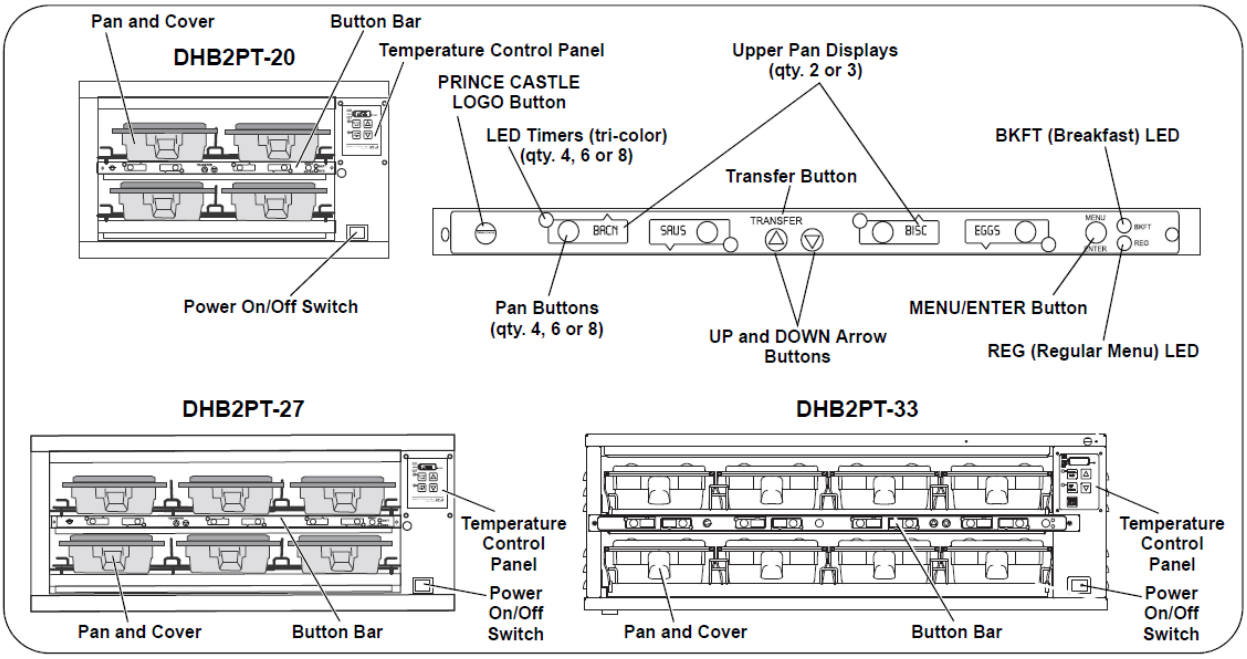
VIII. GROUND 5: Claim 18 Would Have Been Obvious According to Grounds 1 or Ground 7-9 In Further View of Prince Castle and/or Reese Even to the Extent the IRHS Documents Are Found Not to Sufficiently Teach the Comparative Energy Outputs of the Heating Elements

455. As discussed in Paragraphs 375-379 (Claim 18) above with respect to Ground 1, it is my opinion that the POSA would have recognized that pursuant to the disclosures of the IRHS Documents it would have been obvious to operate the heating element disposed at the top portion of the food holding compartments to output more heat energy than the heating elements disposed at the bottom portion of the food holding compartments. If it is determined that the IRHS Documents do not sufficiently describe the comparative energy outputs of the heating elements, the claimed comparative energy outputs would have still been obvious in view of Prince Castle and/or Reese.

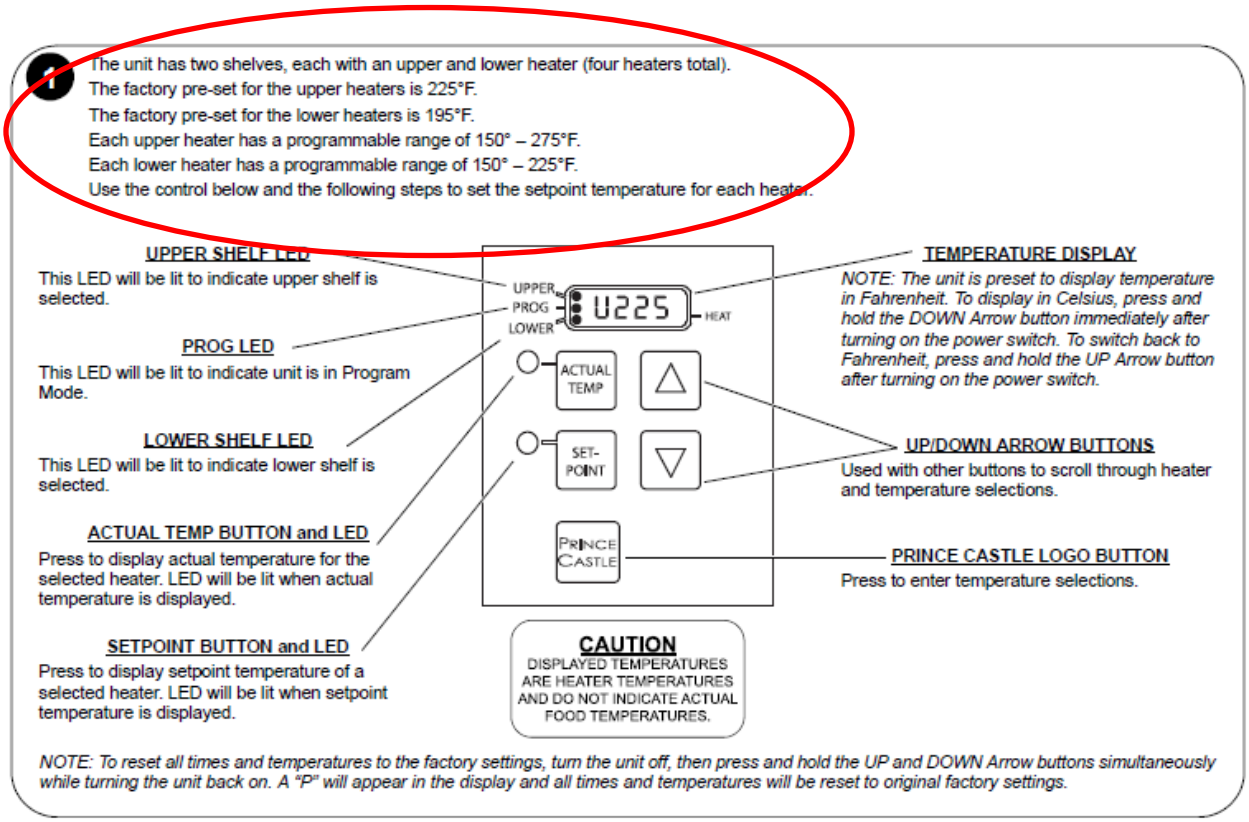
456. Claim 18 ("operating the first heating element to output more heat than the second heating element") concerns the comparative energy outputs of the heating elements.

457. Similar to the IRHS Holding Unit, Prince Castle (EX1009) discloses a Product Holding Bin where each compartment has "an upper and lower heater." EX1009: 22, 40. Prince Castle expressly teaches adapting the heating element disposed at the top portion of the food holding compartments to output more heat energy than the heating elements disposed at the bottom portion of the food holding compartments. Specifically, the 2006 and 2010 Operation Manuals of Prince Castle both explain that "[t]he factory pre-set for the upper heaters is 225°F" (with a max setting of 275°F) and "[t]he factory pre-set for the lower heaters is 195°F" (with a max setting of 225°F). EX1009: 22, 40.




Pan and Cover
Button Bar
DHB2PT-20
Temperature Control Panel
PRINCE CASTLE LOGO Button
LED Timers (tri-color) (qty. 4, 6 or 8)
Upper Pan Displays (qty. 2 or 3)
Transfer Button
BKFT (Breakfast) LED
Power On/Off Switch
Pan Buttons (qty. 4, 6 or 8)
UP and DOWN Arrow Buttons
MENU/ENTER Button
REG (Regular Menu) LED
BACN
SAUS
TRANSFER
BISC
EGGS
MENU
ENTER
BKFT
REG
DHB2PT-27
DHB2PT-33
Temperature Control Panel
Power On/Off Switch
Pan and Cover
Button Bar
Temperature Control Panel
Power On/Off Switch
Pan and Cover
Button Bar

EX1009: 19, 36.


The unit has two shelves, each with an upper and lower heater (four heaters total).
The factory pre-set for the upper heaters is 225°F.
The factory pre-set for the lower heaters is 195°F.
Each upper heater has a programmable range of 150° – 275°F.
Each lower heater has a programmable range of 150° – 225°F.
Use the control below and the following steps to set the setpoint temperature for each heater.
UPPER SHELF LED
This LED will be lit to indicate upper shelf is selected.
PROG LED
This LED will be lit to indicate unit is in Program Mode.
LOWER SHELF LED
This LED will be lit to indicate lower shelf is selected.
ACTUAL TEMP BUTTON and LED
Press to display actual temperature for the selected heater. LED will be lit when actual temperature is displayed.
SETPOINT BUTTON and LED
Press to display setpoint temperature of a selected heater. LED will be lit when setpoint temperature is displayed.
UPPER
PROG
LOWER
U225
HEAT
ACTUAL TEMP
SET-POINT
PRINCE CASTLE
TEMPERATURE DISPLAY
NOTE: The unit is preset to display temperature in Fahrenheit. To display in Celsius, press and hold the DOWN Arrow button immediately after turning on the power switch. To switch back to Fahrenheit, press and hold the UP Arrow button after turning on the power switch.
UP/DOWN ARROW BUTTONS
Used with other buttons to scroll through heater and temperature selections.
PRINCE CASTLE LOGO BUTTON
Press to enter temperature selections.
CAUTION
DISPLAYED TEMPERATURES ARE HEATER TEMPERATURES AND DO NOT INDICATE ACTUAL FOOD TEMPERATURES.
NOTE: To reset all times and temperatures to the factory settings, turn the unit off, then press and hold the UP and DOWN Arrow buttons simultaneously while turning the unit back on. A "P" will appear in the display and all times and temperatures will be reset to original factory settings.

EX1009: 40 (annotated).

458. As discussed above, the IRHS Documents teach that the upper heating element (IR bulb) of the IRHS Holding Unit can be selectively activated by the user to provide a limited period of increased heat output, independent of the other heating elements. EX1006: 1 ("IR Turbo Boost for instant shot of IR energy"); EX1007: 22 ("Utilize 'Turbo Boost" for a quick shot of heat to the product").

459. Similar to the IRHS Documents, Reese also teaches a product holding unit with upper IR heating elements having a turbo boost function to increase heat output "to re-crisp breaded (fried) food, to melt cheese on fries, to melt cheese on burger patties, to brown grilled food products, and/or to brown burger patties" before serving. EX1027: ¶¶[0001], [0019] ("deliver an increased amount of heat to the food"), [0021], [0025]. While the IRHS Documents do not describe specific uses of the IR Turbo Boost in application, Reese provides the understanding of how the IR Turbo Boost would be used and why Duke would have included such capabilities in the IRHS Holding Unit.

460. It would be understood by the POSA that a turbo boost capable of re-crisping fried food, melting cheese, or browning food as discussed would require significantly more heat than would be desirable for food holding, as maintaining such heat beyond a short burst would result in the food overcooking. It would have further been desirable for the first/upper IR heating elements in a food

holding to output more heat energy than second/lower conduction elements as needed for the first/upper IR heating elements to overcome several issues.

461. The IR heating elements are spaced apart from the food. Because IR energy intensity drops significantly as distance increases (even over a few inches), the IR heating element would be required to output considerably more heat energy than conductive heating elements (with nearly 100% of the heat energy being transferred by direct conduction) to ensure enough IR energy "hits" the food. Additionally, IR heating elements radiate IR energy in all directions. Even with reflectors, a portion of that heat energy is lost to the surrounding air and the structure of the holding unit. This loss of energy is compensated for by operating the IR heating elements at higher heat energy output levels.

462. Further, moisture evaporates from the surface of food as it sits, which creates a cooling effect. Top IR heating elements would need to provide enough energy to counteract this surface cooling and keep the top of the food at a warm temperature. Thus, the bottom heat would be kept lower just to maintain internal temperature, while the top IR heating elements would be required to do the heavy lifting of maintaining surface temperature and texture (keeping fried foods crispy, for example).

463. Accordingly, it would have been obvious to adapt each upper heating element of the IRHS Holding Unit—including the IRHS24 Holding Unit—be to

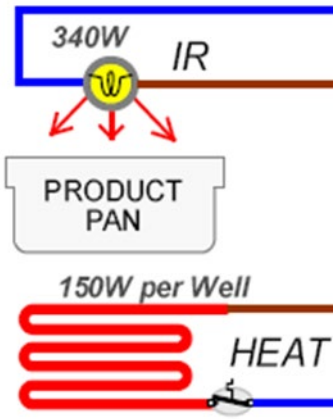
output more heat energy than the lower heating elements in view of the IRHS Documents, Prince Castle and/or Reese.

464. The POSA would have had the first/upper IR heating elements output more heat energy than the second/lower heating elements (higher target temperature, turbo boost heat, and/or higher wattage rating (EX1008: 64)) to help overcome the distance between the upper IR heating elements and the food, to counteract evaporative cooling, to maintain food surface temperature and texture, to compensate for the upper IR energy radiating in all directions, and/or to permit the cook "to re-crisp breaded (fried) food, to melt cheese on fries, to melt cheese on burger patties, to brown grilled food products, and/or to brown burger patties" with the first/upper IR heating elements. EX1027: ¶[0021]; EX1006: 1 ("Upper IR emitters provide optimum environment for holding of all fried foods resulting in extended hold time, moist protein, and crispy breading.").

465. Adapting the first/upper heating elements to output more heat energy than the second/lower heating element would also allow more direct heat on the food to "provide optimum environment" while "minimiz[ing] temperature distribution from top to bottom." EX1006: 1 ("[d]ual technology heating to reduce temperature variance from top to bottom"); EX1007: 51 ("deliver a consistently hot pan of product, from top to bottom").

466. This would have been nothing more than operating the IRHS24 Holding Unit according to the known operation (setting the upper heating elements to output more heat energy than the lower heating elements) of similar devices (Prince Castle).

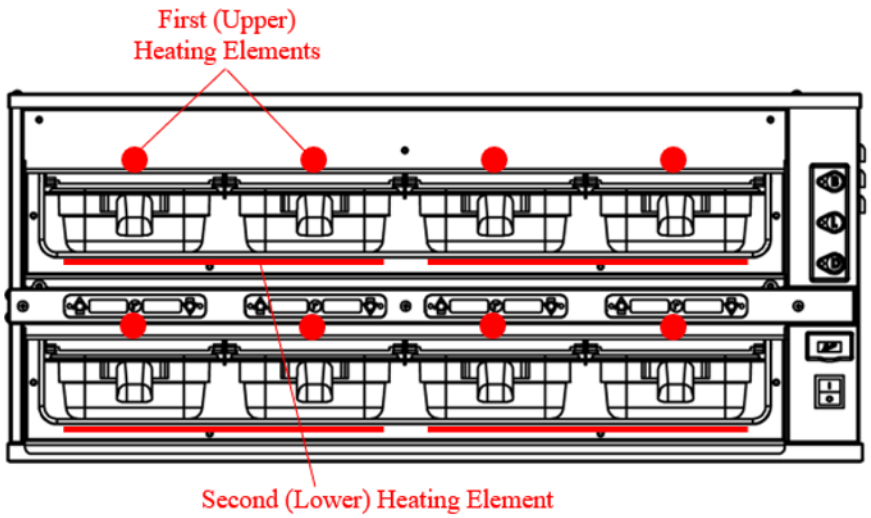
467. The POSA would have had a reasonable expectation of success given the IR first/upper heating elements operate independently of the second/lower heating elements, can pulse on and off as needed, and are higher wattage (340W) than the heat sink heating elements (150W per well or 300W per element). EX1006: 1 ("Individually controlled IR emitters pulse on and off for controlling optimum amount of energy being applied to the food").



EX1008: 64.

468. In implementation, each upper heating element (i.e., first heating element) of the IRHS24 Holding Unit being adapted to output more heat energy

than each lower heating element (i.e., second heating element) via having a higher target temperature, turbo boost functionality, and/or higher wattage rating.



EX1005: 8 (annotated).

469. Higher temperatures mean more heat energy. Having the upper/first IR heating elements operate at a higher target temperature than the lower/second heating elements means the upper/first IR heating elements are outputting more heat energy to maintain the higher temperature than the lower/second heating elements.

470. The claim limitation of Claim 18 concerning the comparative energy outputs of the heating elements is met by Prince Castle and/or Reese. Accordingly, to the extent that there is any doubt that the IRHS Documents disclose operating the heating element disposed at the top portion of the food holding compartments to output more heat energy than the heating elements disposed at the bottom

portion of the food holding compartments as required by Claim Limitation 18, the POSA would have found it obvious to modify the IRHS Holding Unit disclosed in the IRHS Documents in view of the IRHS Documents, Prince Castle, and/or Reese to arrive at the food holding bin as claimed. As such, Claim 18 would have been obvious for at least the reasons explained in Ground 1 in further view of Prince Castle and/or Reese.

IX. GROUND 6: Claim 19 Would Have Been Obvious According to Grounds 1 or Ground 7-9 In Further View of Merco Even to the Extent the IRHS Documents Are Found Not to Sufficiently Teach the Comparative Energy Outputs of the Heating Elements

471. As discussed in Paragraphs 380-383 (Claim 19) above with respect to Ground 1, it is my opinion that the POSA would have recognized that pursuant to the disclosures of the IRHS Documents it would have been obvious to operate the heating element disposed at the bottom portion of the food holding compartments to output more heat energy than the heating elements disposed at the top portion of the food holding compartments. It is my opinion that the POSA would have recognized that as disclosed by the IRHS Documents the heating element disposed at the bottom portion of the food holding compartments were adapted to output more heat energy than the heating elements disposed at the top portion of the food holding compartments. If it is determined that the IRHS Documents do not sufficiently describe the comparative energy outputs of the heating elements, the

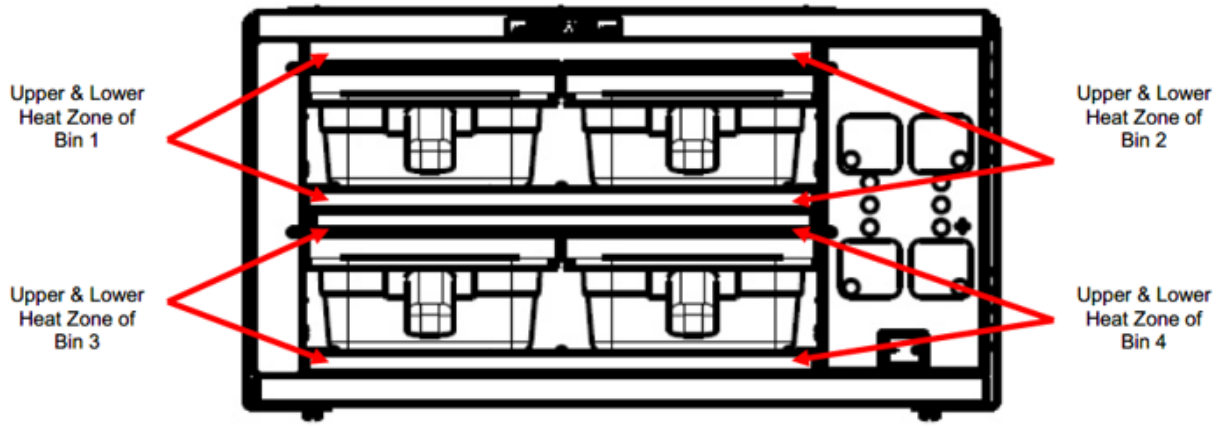
claimed comparative energy outputs would have still been obvious in view of Merco.

472. Claim 19 ("operating the second heating element to output more heat than the first heating element") concerns the comparative energy outputs of the heating elements.

473. Merco includes a manual for Merco's Holding Cabinets, similar to Duke's IRHS products. EX1028: 21. Merco's Holding Cabinets "Keep Food Hot, Fresh, and Ready for Assembly." EX1028: 14. As explained by Merco, "[e]ach product 'bin' has upper and lower heating elements that provide the heat necessary to hold your food product. It is critically important that each of these 'heat zones' be set to the appropriate temperature for each type of food product you wish to store in the bins." EX1028: 30. To this end, the upper and lower temperature settings for each heat zone in Merco's Holding Cabinet can be separately set. EX1028: 31 ("Press 'Up Arrow' button or 'Down Arrow' to set the lower temperature," "Press 'Up Arrow' button or 'Down Arrow' to set the upper temperature").



EX1028: 21.



EX1028: 30.

474. Moreover, there are pre-set upper and lower temperatures for particular food items. For example, for "eggs" the upper temperature is set to 160ºF and the lower temperature is set to 180ºF. EX1028: 39 (top row). Thus, as pre-set for eggs, the lower heating element heating the eggs will output more heat than the upper heating element heating the eggs.

475. It would have been obvious to have each lower heating element (e.g., second heating element) of the IRHS24 Holding Unit output more heat than each upper heating elements (e.g., first heating element) of the IRHS24 Holding Unit for each food holding zone in view of Merco in order to permit the IRHS24 Holding Unit to hold food products (e.g., eggs) that require a higher lower temperature compared to an upper temperature. EX1028: 39.

476. Moreover, the upper and lower heating elements of each food holding zone are independently controllable, as discussed in Paragraphs 166-211 with respect to claim limitation 1.b, and it was known that the heating elements could be operated to have either the same or different upper and lower heating temperatures depending on the optimal temperature profile for the specific food products (EX1028: 31). Accordingly, there was a finite and predictable set of options with respect to the choice of whether to operate the upper and lower heating elements at the same temperatures or to have one or the other heating elements output more energy than the other heating element (upper heat greater than lower heat, upper heat equal to lower heat, or upper heat less than lower heat), such that each option would have been obvious.

477. The POSA understands different food items require different temperatures, and would therefore would have selected an operation of the holding

unit to hold food products (e.g., eggs) that benefit from having more heat applied from the bottom than from the top. EX1028: 31.

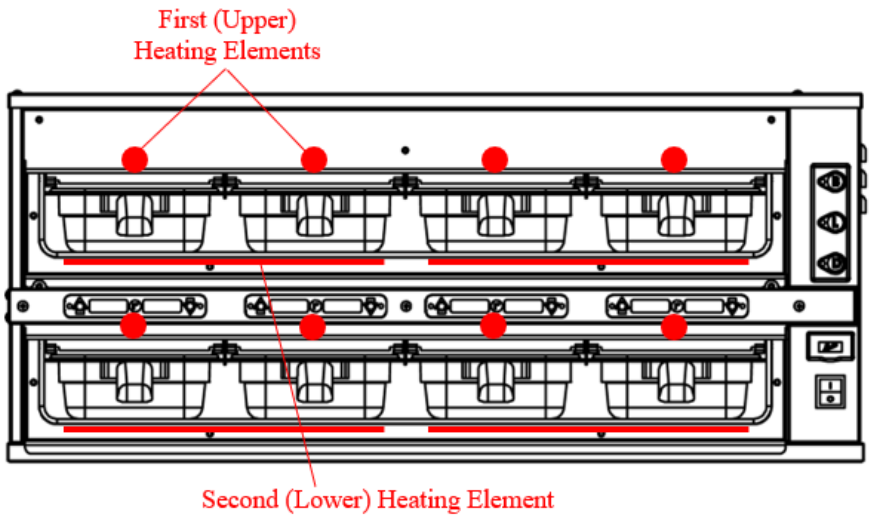
478. This would have been nothing more than operating the IRHS24 Holding Unit according to the known operation (setting the lower heating elements to output more heat energy than the upper heating elements) of similar devices (Merco). There would have been a reasonable expectation of success in operating the IRHS24 Holding Unit in this manner given:

(1) both the IRHS24 Holding Unit and Merco's Holding Cabinet are food warming apparatuses (e.g., all units with compartments for warming trays/pans of food),

(2) the upper and lower heating elements of the IRHS24 Holding Unit are independently controllable and can therefore have different target temperatures, and

(3) Merco demonstrates this was a preferred heat setting for certain foods (e.g., eggs). EX1028: 31.

479. In view of this modification, it would have been obvious to operate the second heating element to output more heat than the first heating element via having a higher target temperature.



EX1005: 8 (annotated).

480. The claim limitation of Claim 19 concerning the comparative energy outputs of the heating elements is met by Merco. Accordingly, to the extent that there is any doubt that the IRHS Documents disclose operating the heating elements disposed at the bottom portion of the food holding compartments to output more heat energy than heating element disposed at the top portion of the food holding compartments as required by Claim Limitation 19, the POSA would have found it obvious to modify the IRHS Holding Unit disclosed in the IRHS Documents in view of the IRHS Documents and Merco to arrive at the food holding bin as claimed. As such, Claim 19 would have been obvious for at least the reasons explained in Ground 1 above in further view of Merco.

X. GROUND 7: Claims 16-20 Would Have Been Obvious According to Grounds 1 and 5-6 In Further View of Jones Even to the Extent the IRHS Documents Are Found Not to Sufficiently Teach Receiving a User Input of the First Temperature Setpoint

481. As discussed in Paragraphs 364-370 (Ground 1, Claim 16) above with Respect to Ground 1, it is my opinion that the POSA would have recognized pursuant to the disclosures of the IRHS Documents that the IRHS24 Holding Units are operated by receiving a user input of the first temperature setpoint as required by Claim 16 (and Claims 17-20 by virtue of depending from Claim 16). If it is determined that the IRHS Documents do not sufficiently describe the IRHS24 Holding Units receiving a user input being a "food item" as recited in Claim 17, this claimed step would have still been obvious in view of Jones. It would have been obvious to further modify the IRHS Documents in view of Jones as explained below for the user input to be a user selection of a food item.

482. Jones teaches a food holding cabinet (12b) having heated compartments (UHC, LHC) for receiving food trays (14). EX1012: ¶¶[0069], [0072], Fig. 1B.

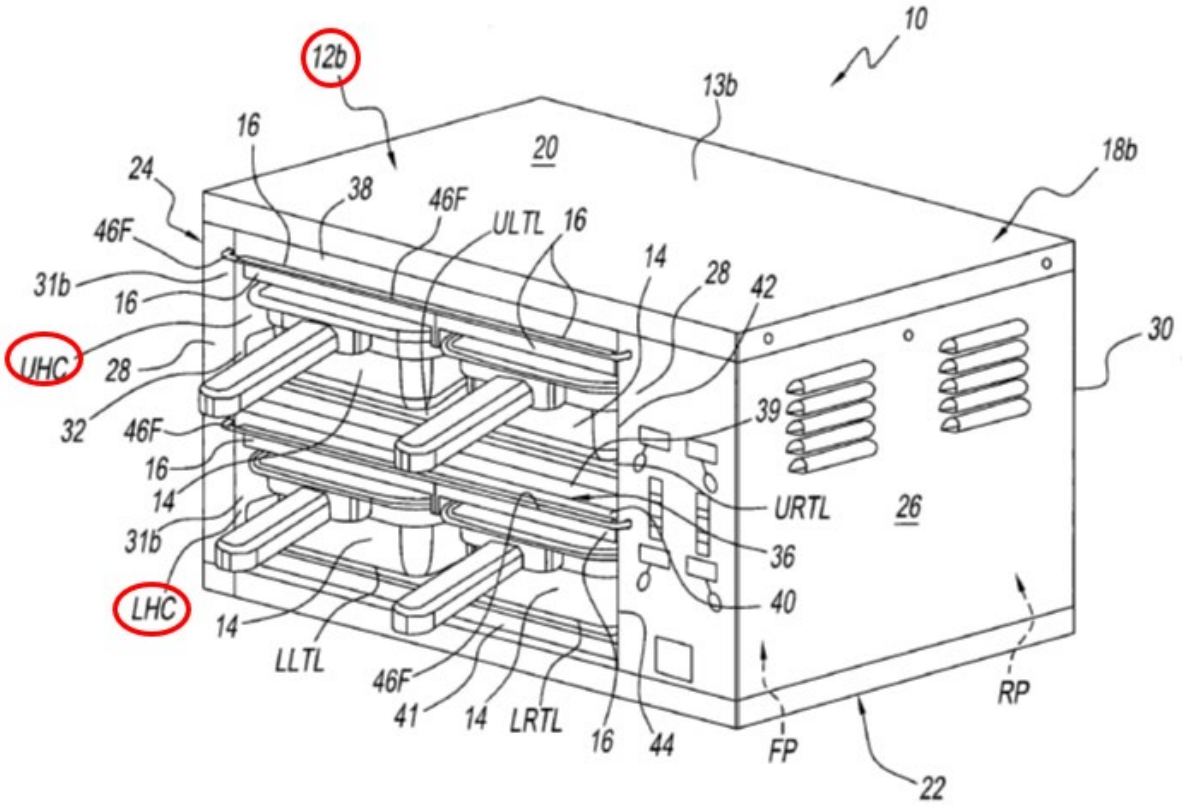


Fig. 1B

EX1012: Fig. 1B.

483. Jones's control system is programmed so that "food product holding parameters are assigned to and follow the name of the food product, not the tray or bin location." EX1012: ¶[0098]. Such parameters include the top and bottom temperature settings. EX1012: ¶[0098]. Jones's control system operates the cabinet (e.g., heating elements) for each particular holding location/bay based on the food product name assigned to that particular holding location/bay. EX1012: ¶[0098] ("assigns the holding parameters, top and bottom temperature and count down timings to the product name, so wherever the product name is displayed, the holding

parameters follow"). To set the food product name for each holding location/bay, Jones includes program button (82) "for accessing a given list of food items to be held in [the] holding cabinet." EX1012: ¶¶[0097], [0112]-[0115].

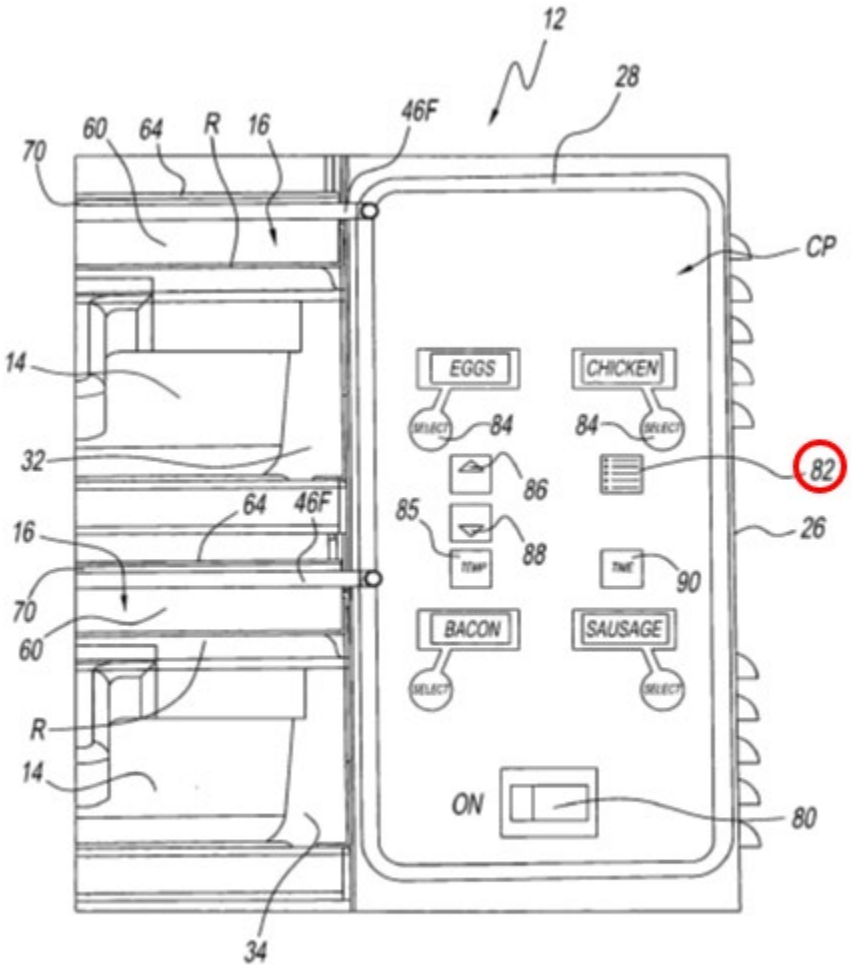


Fig. 17

EX1012: Fig. 17 (annotated).

484. It would have been obvious to modify the IRHS24 timer bars to include the ability to set temperature setpoints by individually assigning food product names to each pan holding location/bay as taught by Jones.

485. Changing food product names per Jones would provide an easy, fast, and intuitive way for a user to change setpoint temperatures for the pan holding locations/bays by simply changing the name of the food product assigned to any given pan holding location/bay. EX1012: ¶¶[0112]-[0115]; EX1016: ¶[0060] ("the control mechanism 140 can be programmed so that the operator need only select the type of food to be placed in the compartment and the control mechanism 140 automatically uses preselected settings for that type of food").

486. This would also allow the user to change the food product names, and thereby the holding temperatures, in real time as needed (e.g., temporary, small-scale change), such as to accommodate real time changes in the types of food being held, rather than being limited to the web-based programing that is transferred to the unit via a USB drive or the unit-wide/global daypart changes. EX1005: 19 ("Able to program via USB Port"); EX1007: 33 ("USB Drive: Allows for web programing updates for your [] IRHS holding unit[]"); EX1005: 16; EX1006: 1 ("Day part switch for global recipe changes (B, L, D)").

487. The IRHS24 timer bars already include controls for selecting parameters (e.g., meal sets) and selecting parameters such as food product names. EX1005: 16-17 (enter/menu button, arrow buttons, displays); EX1006: 1 ("[a]lphanumeric displays to indicate product description, temp and hold time remaining"). For example, the arrow buttons are used "to scroll to desired"

parameters (e.g., dayparts) and the enter button is used to accept the selected parameter. EX1005: 17 ("Use the Arrow Buttons to scroll to desired Daypart (i.e., 'MEAL SET 2', MEAL SET3') and press the ENTER button to accept"). And the pan displays of the IRHS Holding Unit are already able to display food product names (e.g., BURG). EX1006: 1 ("[a]lphanumeric displays to indicate product description, temp and hold time remaining"); EX1005: 16.

OPERATION – TIMER BAR FUNCTIONALITY



1. Status LEDs: Used for indicating status of pan.
   a. Non-Illuminated - Timer is Inactive – no product in pan
   b. GREEN – Timer is Active – product in pan (use first)
   c. FLASHING GREEN = Cook Warning Time reached (cook more product) or keypad in EDIT MODE (programming)

EX1005: 16.

488. The POSA would find it obvious to incorporate the capability to program the IRHS24 Holding Unit's timer bars/controller to change the food product name for individual pan locations/bays by use of the IRHS24's existing enter/menu and arrow buttons, similar to the teachings of Jones. EX1012: ¶¶[0097], [0112]-[0115], [0124]-[0125]. It would have been within the skill in the art to make any

changes to the IRHS Holding Unit's controller and software to implement these features. EX1019: 6:15-19 ("The main controller 34 may interface with the memory 32 and execute the control program. Under the direction of the control program, the main controller 34 may control the operation of the shelving unit 12a.").

489. For example, incorporating Jones' method with the IRHS24 Holding Unit: (1) the user would press and hold (or other manipulation involving) the IRHS24's enter/menu button to cause each pan display to display the current food product name of its associated pan location/bay, (2) the user would select the desired pan location/bay to change the food product name of by pressing the IRHS arrow button associated with the desired pan location/bay, (3) then the arrow buttons would be used to switch between available food product names, and (4) a subsequent press and hold of (or other manipulation involving) the enter/menu button would save the change. EX1012: ¶¶[0112]-[0115].

490. This would have been nothing more than the application of a known technique (associating temperature setpoints with food product names per Jones) to improve a similar device (IRHS24 Holding Unit) in the same way (display and change food product names for each pan holding location/bay to provide the ability for the user to change the temperature setpoints).

491. There would have been a reasonable expectation of success in modifying the IRHS24 Holding Unit in this manner because the timer bars already

include displays for displaying various parameters and controls for scrolling or incrementing/decrementing parameters similar to Jones's arrow and program keys, the functions would be incorporated as taught in Jones, and Jones showed it was possible. EX1012: ¶¶[0097], [0112]-[0115], [0124]-[0125].

492. Accordingly claim limitation of Claim 16 concerning receiving a user input of the first temperature setpoint is met by Jones, with at least the limitations of claim 17 further being obvious. In view of Jones, it would have been obvious for the received user input to be a selection of a food item for a food holding zone (e.g., first food holding zone), with the selection of the food item being associated with the operation and control of the heating elements (e.g., first and second heating elements) associated with the zone.

493. For example, in view of Jones, the user would have selected via IRHS24's bezel buttons (e.g., enter/menu, arrow buttons) the food product name for the first food holding zone, and the controller of the IRHS24 Holding Unit would independently operate and control the first and second heating elements based on the setpoint temperature associated with the selected food product name. EX1005: 16 ("each food product has a tailored HeatSink temperature and InfraRed pulse rate"); EX1012: ¶¶[0112]-[0115]; EX1016: ¶[0060] ("the control mechanism 140 can be programmed so that the operator need only select the type of food to be

placed in the compartment and the control mechanism 140 automatically uses preselected settings for that type of food").

494. Accordingly, to the extent that there is any doubt that the IRHS Documents disclose the IRHS24 Holding Units receiving a user input of the first temperature setpoint as required by Claim Limitation 16 or the user selection of the food item being associated with independent operation and control of the first heating element and the second heating element as required by Claim 17, the POSA would have found it obvious to modify the IRHS Holding Unit disclosed in the IRHS Documents in view of the IRHS Documents and Jones to arrive at the food holding bin as claimed. As such, Claims 16-20 would have been obvious for at least the reasons explained in Grounds 1, 5, and 6 above in further view of Jones.

XI. GROUND 8: Claims 1-20 Would Have Been Obvious According to Grounds 1-7 in Further View of Veltrop and Shei'155 Even to the Extent the IRHS Documents Are Found Not to Sufficiently Teach the Claim Limitations Concerning the Material of Construction of the Heatsinks or Whether the Heating Elements Are Thermally Coupled to Them

495. Within the claims of the '264 Patent, there were several claim limitations of Claims 1 and 3 that concern the material of construction of the substantially planar surfaces and whether the heating elements are thermally coupled to the heatsinks. These limitations are listed as follows:

- 1.a.3: “a first substantially planar bottom surface of a thermally conductive material”;
- 1.a.6: “a second substantially planar bottom surface of a thermally conductive material”;
- 1.b: “a second heating element … thermally coupled to the first substantially planar surface”;
- 1.c: “a fourth heating element … thermally coupled to the first substantially planar surface”;
- 1.d: “a sixth heating element … thermally coupled to the second substantially planar surface”;
- 1.e: “an eighth heating element … thermally coupled to the second substantially planar surface”;
- 3.a.3: “a third substantially planar bottom surface of a thermally conductive material”;
- 3.b: “a tenth heating element in the fifth food holding zone and thermally coupled to the third substantially planar surface”; and
- 3.c: “a twelfth heating element … thermally coupled to the third substantially planar surface.”

496. As discussed above, it is my opinion that the POSA would recognize the IRHS Documents—and more particularly the IRHS Specifications (EX1006)—taught the Heatsink (i.e., the “substantially planar surface” and “upper thermally conductive plate”) as being composed of anodized aluminum—a thermally conductive material—thus meeting these limitations. EX1006: 1 (“[a]nodized aluminum HeatSink”). If it is determined that the IRHS Documents do not sufficiently describe the IRHS material of construction of the substantially planar

surfaces and/or the heating elements being thermally coupled to the substantially planar surfaces, the claims would have still been obvious in view of Veltrop and/or Shei'155.

497. Veltrop teaches that the heater wire (67) is conductively coupled to the upper plate (51) via mechanical attachment, such as by thermally conductive adhesive or clamps. EX1022: ¶¶ [0025], [0050] ("The heat transfer devices disclosed herein are thermally coupled to the shelf 52, preferably by way of mechanical attachment to at least one of the plates 51 and 53. Mechanical attachment and the resultant thermal coupling is preferably accomplished by a thermally-conducive adhesive, however, clamps that are attached to a plate by screws driven into a plate can also be used."). Moreover, Veltrop teaches the upper plates (51) of its shelves (52) are made of aluminum. EX1022: ¶[0023] ("thermally-conductive plates 51 and 53 are preferably made of aluminum,"), Fig. 2.

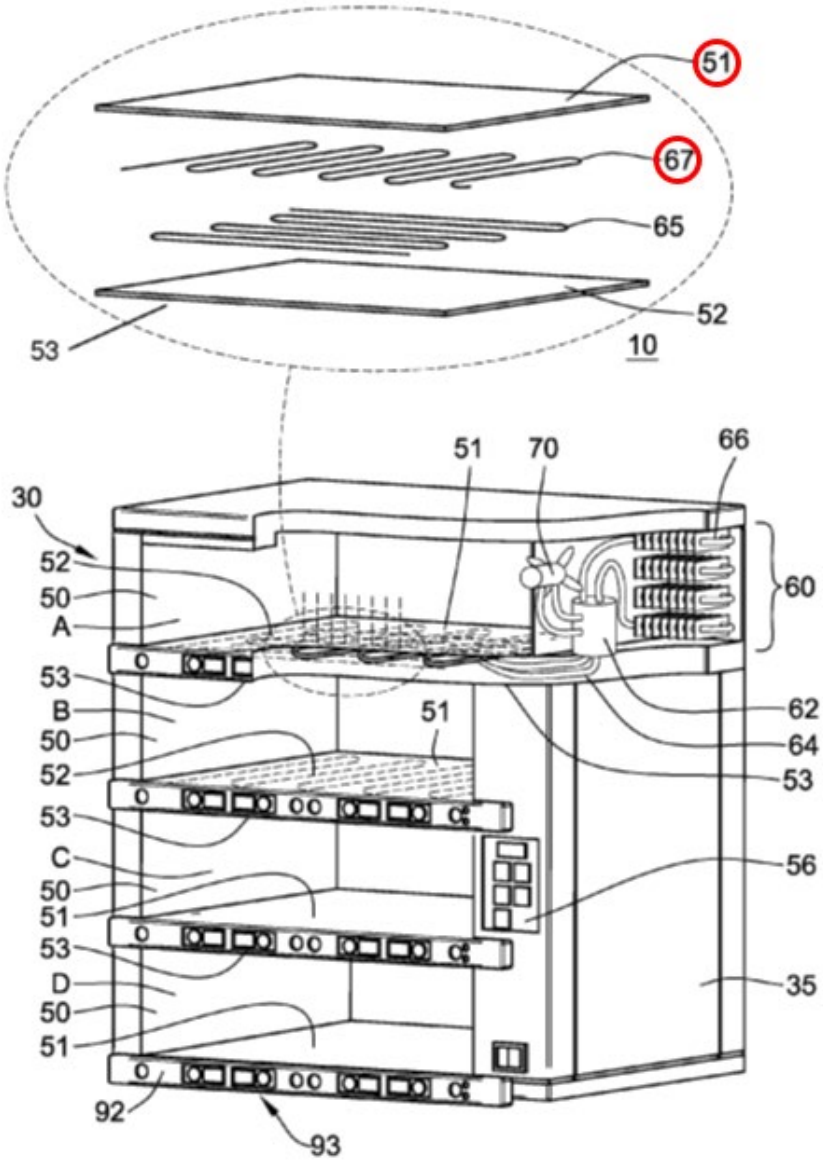
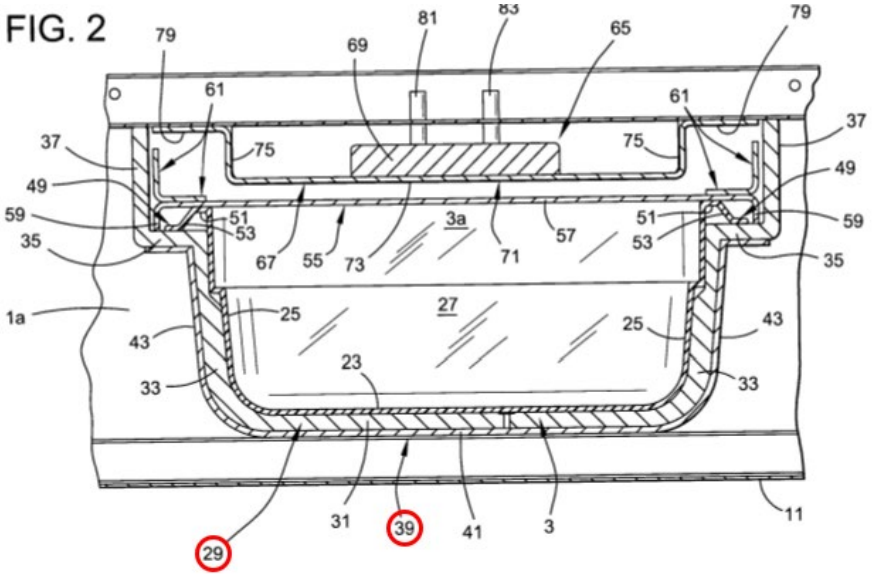


FIG. 2

EX1022: Fig. 2 (annotated).

498. Shei'155 similarly teaches an electrical resistance heating element (39) conductively coupled to the heat sink (29) via contact with the bottom of the heat sink. EX1016: ¶[0039] ("An electrical resistance heating element generally

designated 39 having a bottom component 41 contacting the bottom of the heat sink"). Shei'155 likewise teaches constructing its heat sink (29) out of aluminum. EX1016: ¶[0039] ("heat sink 29, which is made of aluminum").



EX1016: Fig. 2 (annotated).

499. It would have been obvious to make the IRHS heatsink plates from aluminum as taught by Veltrop and/or Shei'155 because aluminum is a preferred material for such structures and "conducts heat well." EX1017: 3:32-33; EX1022: ¶[0023]; EX1020: ¶¶[0021]-[0023] (in the context of individually controllable heating zones A-C across a shelf (21), disclosing that "shelves 21 are preferably made from thermally conductive materials such as aluminum, copper or steel, so that the temperature of the food holding compartments 23 can be maintained by the transfer of heat from the shelf 21 into the compartment"); EX1021: ¶¶[0020]-[0022] (in the context of individually controllable heating zones A-C across a shelf

(21), disclosing that "shelves 21 are preferably made from thermally conductive materials such as aluminum, copper or steel, so that the temperature of the food holding compartments 23 can be maintained by the transfer of heat from the shelf 21 into the compartment"). Further, making the heatsink plates of aluminum, instead of heavier material would reduce the weight of the unit (making it easier to ship) and reduce cost.

500. It would have likewise been obvious for the lower heating elements of the IRHS24/IRHS34 Holding Unit to be conductively coupled to the heatsink plates of the IRHS24/IRHS34 Holding Unit because conduction is a means for effectively and efficiently transferring the heat from the lower heating elements to the heat sinks and into the food in the pans. EX1016: Fig. 2, ¶[0039] ("[a]n electrical resistance heating element generally designated 39 having a bottom component 41 contacting the bottom of the heat sink"); EX1022: ¶[0050] ("[t]he heat transfer devices disclosed herein are thermally coupled to the shelf 52, preferably by way of mechanical attachment to at least one of the plates").

501. This would have been nothing more than selecting the technique of Veltrop and Shei'155—the construction of the floor of the food holding chambers—for the heat sink of the IRHS Holding Units (which already appears to have a similar construction for their heatsink) to ensure that the conductive heat

transfers from the heating elements to the heat sink and into the food in the same way.

502. There would have been a reasonable expectation of success given that the IRHS Holding Unit, Veltrop, and Shei'155 are all food warming cabinets and conduction was a well-known technique of heating food pans. EX1010: ¶[0020] ("bottom sheet 23 may be in contact with the heater 60 to allow for conductive heat transfer thereto"); EX1016: Fig. 2, ¶[0039] ("[a]n electrical resistance heating element generally designated 39 having a bottom component 41 contacting the bottom of the heat sink"); EX1017: Fig. 3, 4:51-53 ("[e]ach heat sink 46 is fitted with a heater which may take the form of a flexible heating element 76 of the electrical resistance type. It extends almost the full length of the heat sink 44, covering the flat bottom surface 54 of the bottom wall 50 [of the heat sink]"); EX1020: ¶[0020] ("thermally-conductive shelves"); EX1022: ¶[0050] ("[t]he heat transfer devices disclosed herein are thermally coupled to the shelf 52, preferably by way of mechanical attachment to at least one of the plates").

503. The fact that the heatsinks span multiple heating zones which may have different temperature setpoints would not have discouraged the POSA from using thermally conductive materials generally, or aluminum more specifically. As demonstrated by U.S. Publication No. 2011/0114618 ("Chung"), the POSA knew that heat sinks with multiple heating zones could be made of aluminum.

EX1020: ¶¶[0021]-[0023]. Specifically, the shelves (21) of Chung were made of aluminum despite that each of its shelves (21) were divided into three separately controlled temperature zones (A, B, C). EX1020: ¶[0021]; EX1020: ¶[0022] ("[t]emperature control of the separate zones A, B and C is accomplished by using separate temperature control elements in each zone, and which are thermally coupled preferentially to one zone over the others. By way of example, zone A in a first shelf has a heater embedded in the shelf and centered in the "A" zone. It therefore provides most of its heat output into the A zone.").

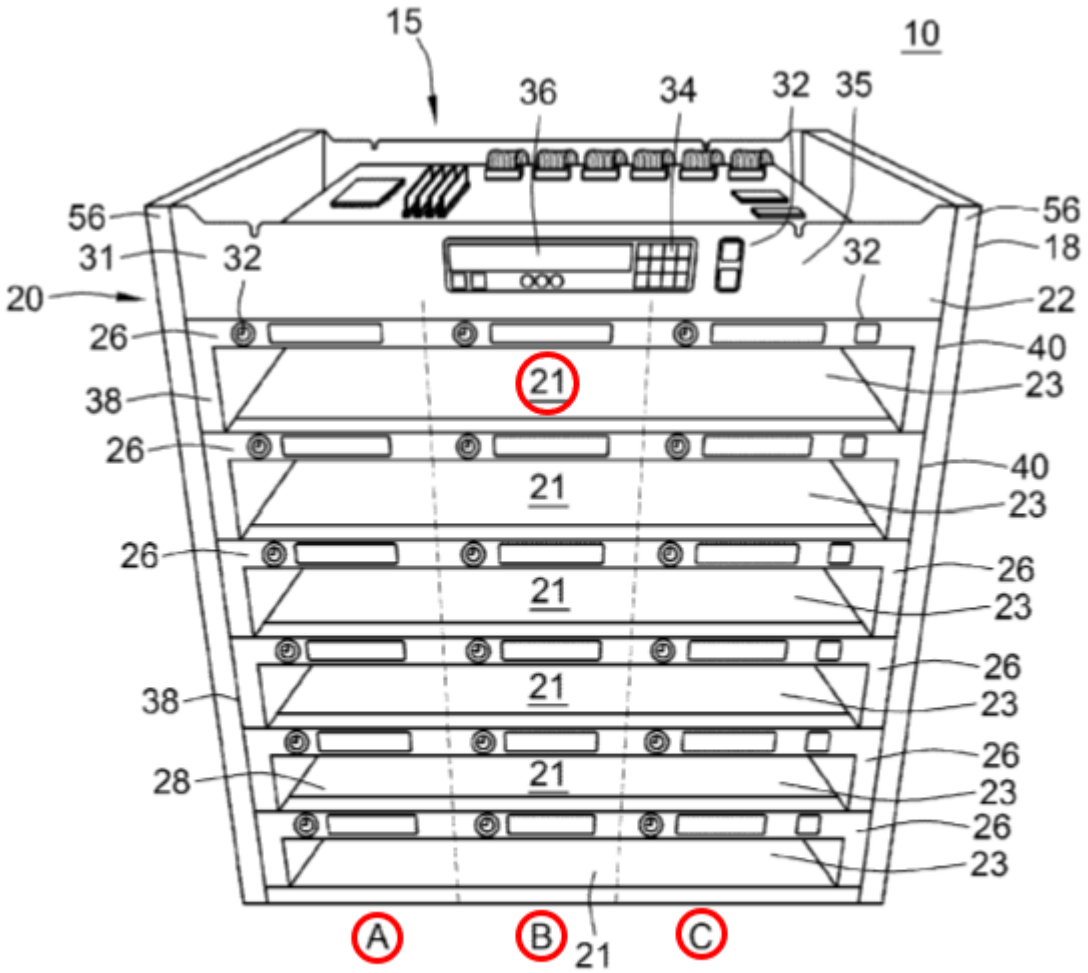
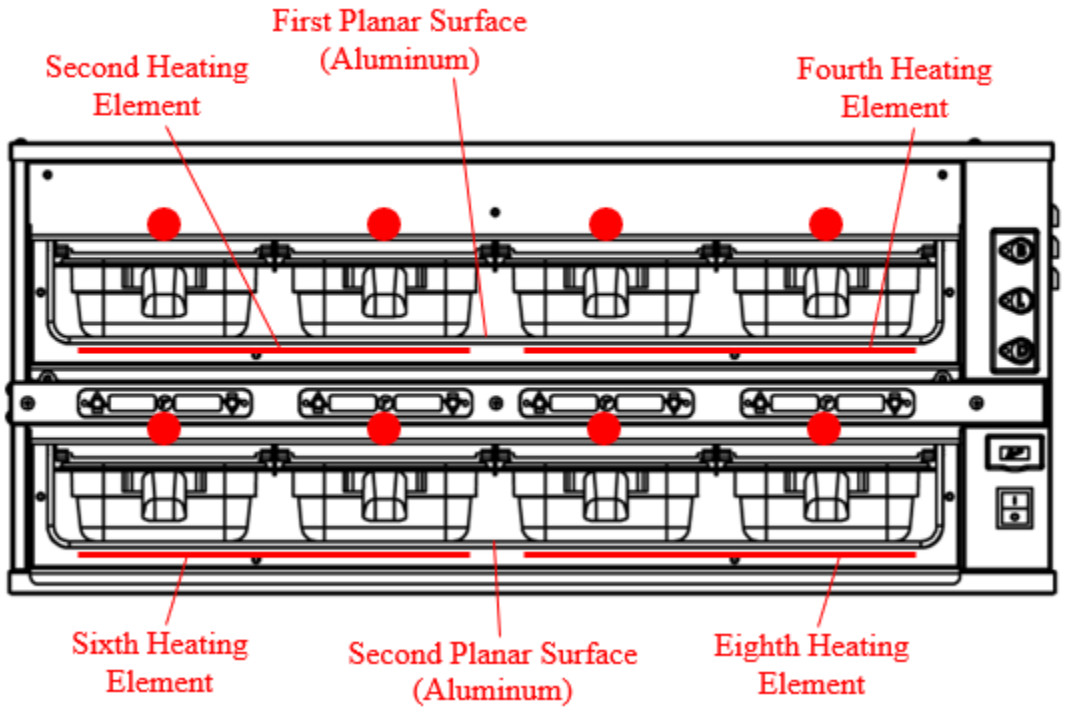


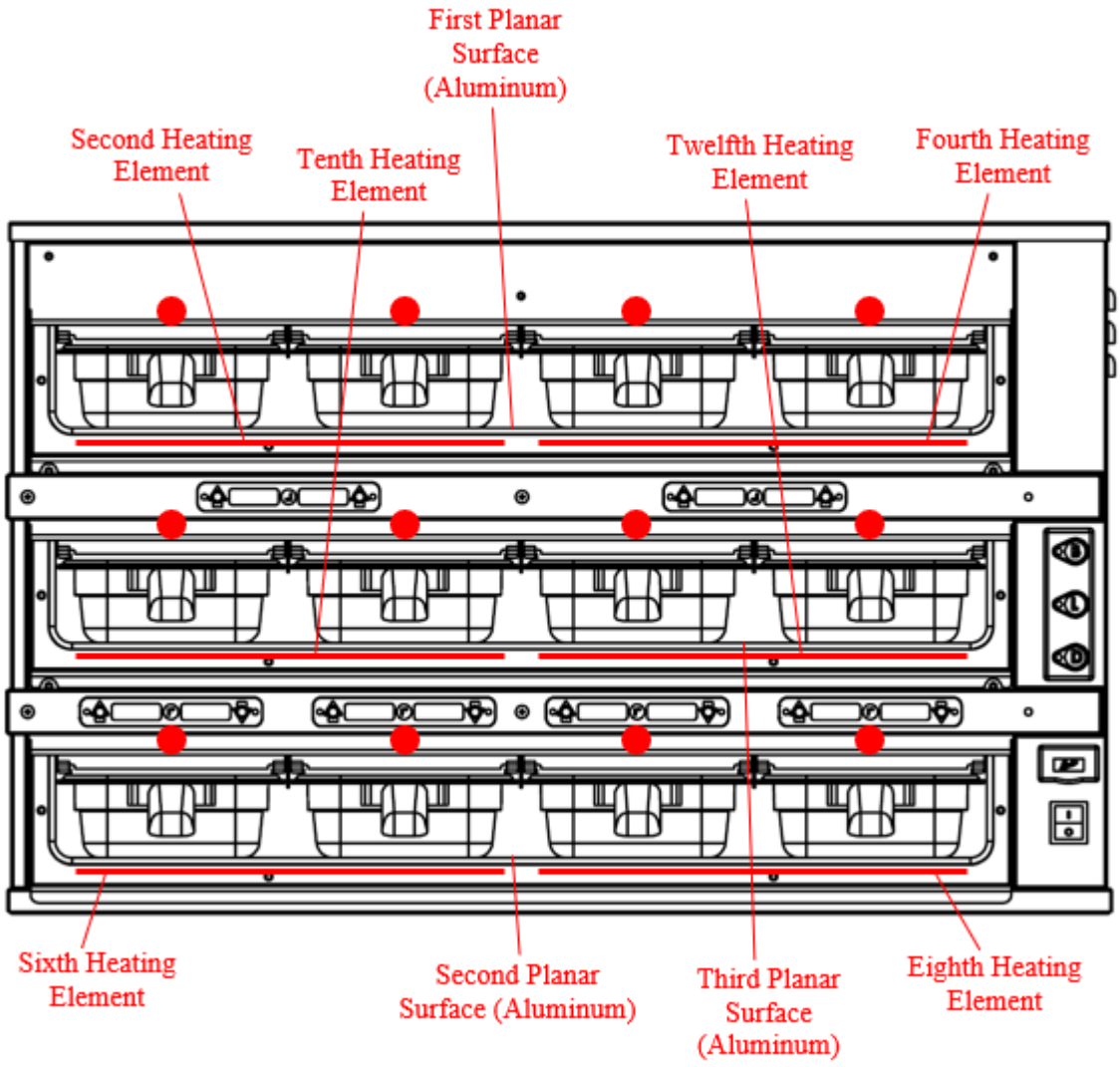
FIG. 2

EX1020: Fig. 2 (annotated).

504. In implementing this modification, the IRHS Holding Units' heatsinks would comprise aluminum or another thermally conductive material and the lower heating elements would heat the food pans through conduction (*e.g.*, the lower heating elements conductively heat the IRHS Holding Unit's heatsink plates which conductively heat the food pans resting on the heatsink plates). This is illustrated with the IRHS24 and IRSH34 Holding Units below.



EX1005: 8 (annotated).



EX1005: 9 (annotated).

505. The claim limitations of Claims 1 and 3 that concern the material of construction of the substantially planar surfaces and thermally coupling heating elements to the substantially planar surfaces are met by Veltrop and/or Shei'155. Accordingly, to the extent that there is any doubt that the IRHS Documents disclose the IRHS24 and IRHS34 Holding Units as meeting these limitations, the POSA would have found it obvious to modify the IRHS Holding Unit disclosed in

the IRHS Documents in view of Veltrop and/or Shei'155 to arrive at the food holding bin as recited. As such, Claims 1-20 would have been obvious for at least the reasons explained in Grounds 1-7 above in further view of Veltrop and/or Shei'155.

XII. GROUND 9: Claims 1-20 Would Have Been Obvious According to Grounds 1-8 in Further of Hartfelder and/or Veltrop Even to the Extent the IRHS Documents Are Found Not to Meet the "Panel" and "Substantially Planar Surface" Limitations

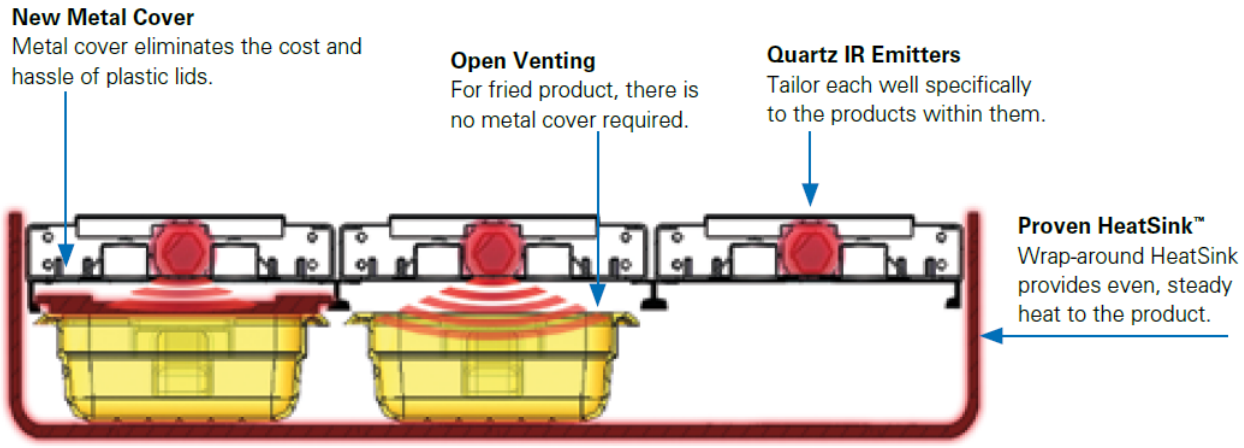
506. Within the claims of the '264 Patent, there were several claim limitations of 1, 3, and 12 that concern identifying the "panels" of the chassis or certain "substantially planar [] surfaces." These limitations are listed as follows:

- 1.a.1: "a chassis having a top panel, a first side panel, a second side panel, a bottom panel, a front face, and an opposing rear face";
- 1.a.3: "the first food holding compartment being defined by the first side panel, the second side panel, the top panel that provides a first top surface, and a first substantially planar bottom surface of a thermally conductive material being substantially unobstructed between the first side panel and the second side panel and";
- 1.a.6: "the second food holding compartment being defined by the first side panel, the second side panel, the bottom panel that provides a second substantially planar bottom surface of a thermally conductive material, and a second top surface,";
- 1.a.7: "the second substantially planar bottom surface being substantially unobstructed between the first side panel and the second side panel and";

- 3.a.3: “the third food holding compartment being defined by the first side panel, the second side panel, a third top surface, and a third substantially planar bottom surface of a thermally conductive material being substantially unobstructed between the first side panel and the second side panel and”

- 12: “The method of claim 9, wherein at least some of the lid holding shelves of the plurality of lid holding shelves downwardly depend from the first top surface towards the first substantially planar bottom surface, leaving the first substantially planar bottom surface substantially unobstructed between the first side panel and the second side panel”.

507. The IRHS Documents explain the heat sink wraps upwardly on the left and right sides as shown below:



EX1007: 53.

508. In my opinion the construction of the IRHS Holing Unit with wrap-around heat sinks are consistent with the claimed “panels” of the chassis and “substantially planar surfaces” as claimed in the ’264 Patent, such that the IRHS Documents sufficiently disclose the claim limitations. If it is determined that the

IRHS Documents do not sufficiently meet the claim limitations, the claims would have still been obvious in view of Hartfelder and/or Veltrop.

509. Hartfelder teaches a food warming apparatus (10) with upper and lower heating compartments (24, 26) having flat heat sinks (*e.g.*, lower compartment surfaces (30)). EX1013: ¶[0030]. Heaters below the lower compartment surfaces (30) heat the food pans through the lower compartment surfaces. EX1013: ¶[0037] ("each heating system includes one or more resistive heaters for heating its respective compartment from above and/or from below…. Heating compartment 24 may also be heated through lower compartment surface 30 by similar heater plates. Heating compartment 26 may be heated in a similar manner.").

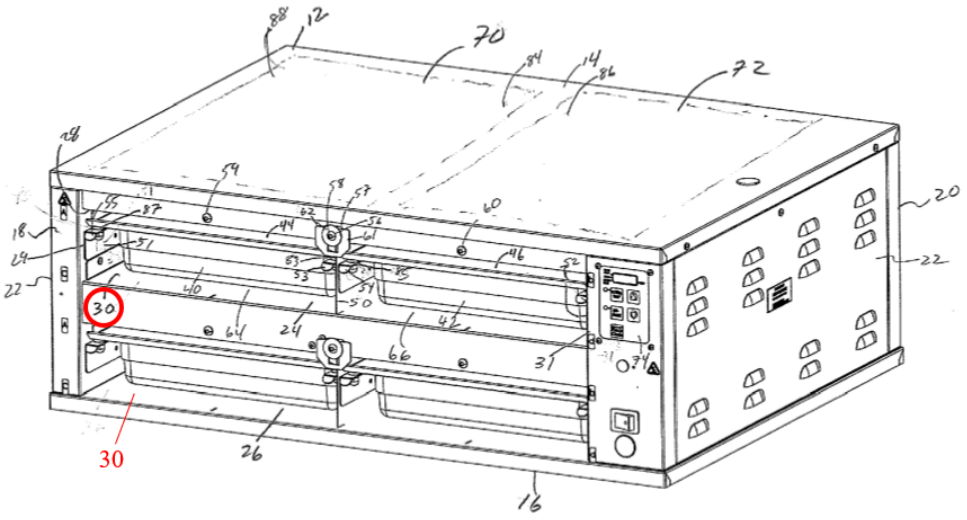


FIGURE 1

EX1013: Fig. 1 (annotated).

510. Veltrop teaches a food holding cabinet (10) with shelves (52) having flat heat sinks. The shelves (52) have flat thermally conductive plates (51) that support the food items and are heated from below by an electrically resistive heater wire (67). EX1022: ¶¶[0016] ("Food items can be placed onto a shelf 52"), [0022] ("thermally conductive plates or sides 51"), [0025] ("the heater wire 67 … [is] in thermal communication with at least one of the plates 51 and 53 such that when the wire 67 temperature rises due to an electric current flow, it provides heat energy into the plates 51 and/or 53, to which the wire 67 is thermally coupled to").

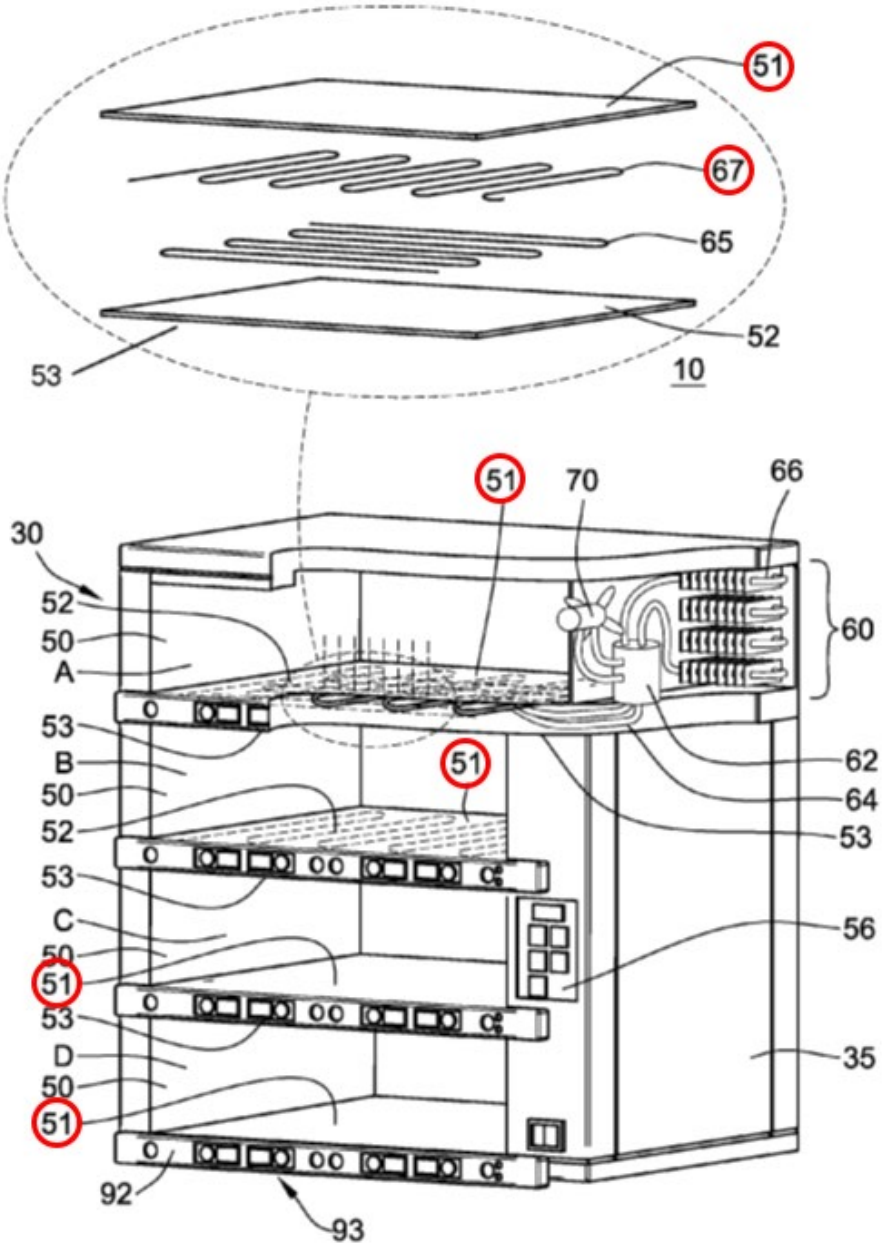


FIG. 2

EX1022: Fig. 2 (annotated).

511. It would have been obvious to modify the heatsink of the IRHS24/IRHS34 Holding Unit to be fully planar as taught by Hartfelder and/or

Veltrop, rather than wrapping the heat sink upwardly on the left and right sides as doing so could provide advantages.

512. Eliminating the upward wrapping of the heat sink would allow for a reduced width of the IRHS24/IRHS34 Holding Unit, furthering the IRHS24/IRHS34 Holding Unit's goal to have a small footprint. EX1007: 53 ("Smaller footprint allows IRHS to fit into smaller spaces"). This configuration would also reduce costs to manufacture the IRHS24/IRHS34 Holding Unit (less material, easier to construct as it would not require bending the heat sink, etc.) and to ship it than the existing configurations (smaller package, less weight), thereby reducing the overall cost.

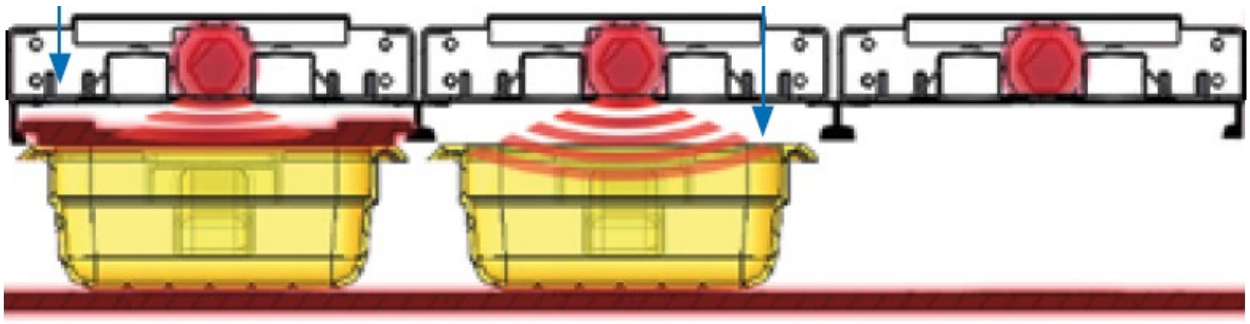
513. This modification would provide more uniform heating of food in the left-most and right-most pans in that the food across the width of the pan would be heated more evenly. For example, the food in the left-most pan, instead of being heated from the left side and bottom (promoting more heat on the left side) would be heated only from the bottom (promoting more evenly distributed across the bottom). The wrap-around configuration of the heatsink results in the food in the pan toward the outer side (e.g., adjacent the portion of the heatsink that extends upward) receiving more heat than other food in the pan, resulting in uneven heating. Removing the upwardly extending sides of the heatsink eliminates this problem.

514. This would also provide better heating consistency across all the pans (compartment sides vs. middle). While the IRHS Catalog explains the "[w]rap-around HeatSink provides even, steady heat to the product," the configuration of the heat sink results in the pans on either end receiving more heat from the heat sink than the pans in the middle. The portions of heat sink that wrap upwardly on the left and right sides result in the heat sink heating the pans on either end from both the bottom and the side. In contrast, the pans in the middle are heated from only the bottom by the heat sink. A flat heat sink, on the other hand, would result in all the pans being heated in a similar fashion (just from below by the heat sink) to provide a more consistent supply of heat to all the pans in a zone. Heating across all the pans in a heating zone (*e.g.*, across the compartment, or across the two left pans or the two right pans heated from below by the same heating element) would be more consistent. This allows the two pans on the left that are both heated by one heating element to receive the same amount of heat from the heating element. Likewise, this allows the two pans on the right that are both heated by one heating element to receive the same amount of heat from the heating element. This prevents the same food product in the two food pans from being unevenly heated—*e.g.*, the food in one pan being heated more than the same food in the other pan.

515. This modification would have been nothing more than the application of a known technique (flat heat sink configuration of Hartfelder or Veltrop) to improve a similar device (the IRHS Holding Unit) in the same way (by using a flat heat sink for each food holding compartment).

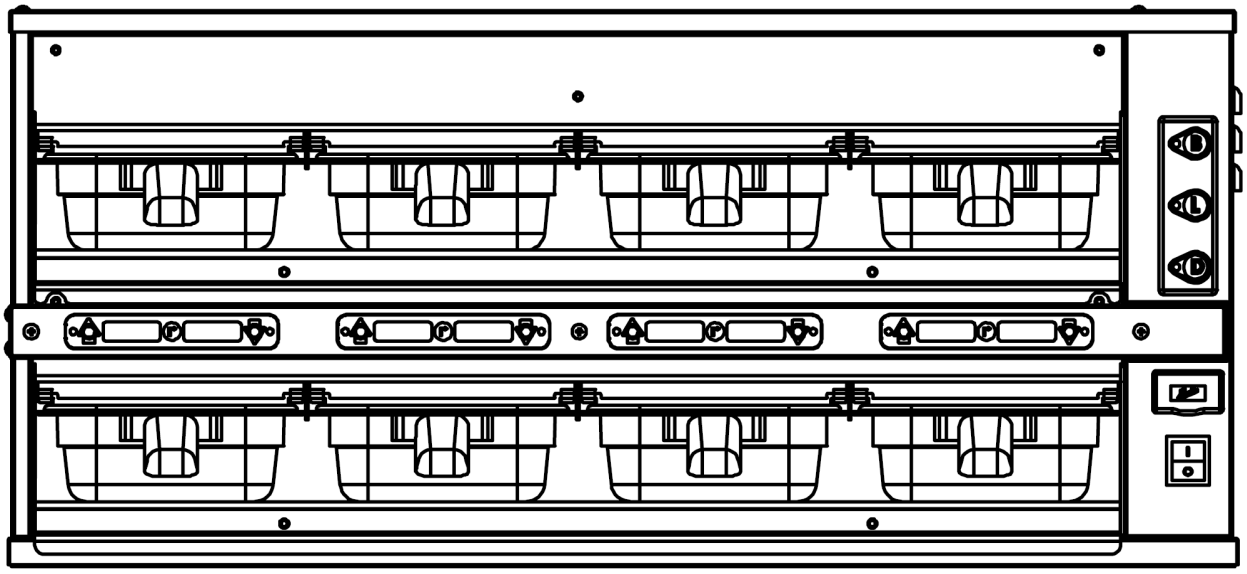
516. There would have been a reasonable expectation of success in making this modification given this modification requires only minor reconfiguration of some parts, within the POSA's capabilities, and because prior art demonstrates it was possible. EX1013: Fig. 1; EX1022: Fig. 2; EX1020: ¶¶[0021]-[0023].

517. A representative illustration of the modified heat sink is shown below:

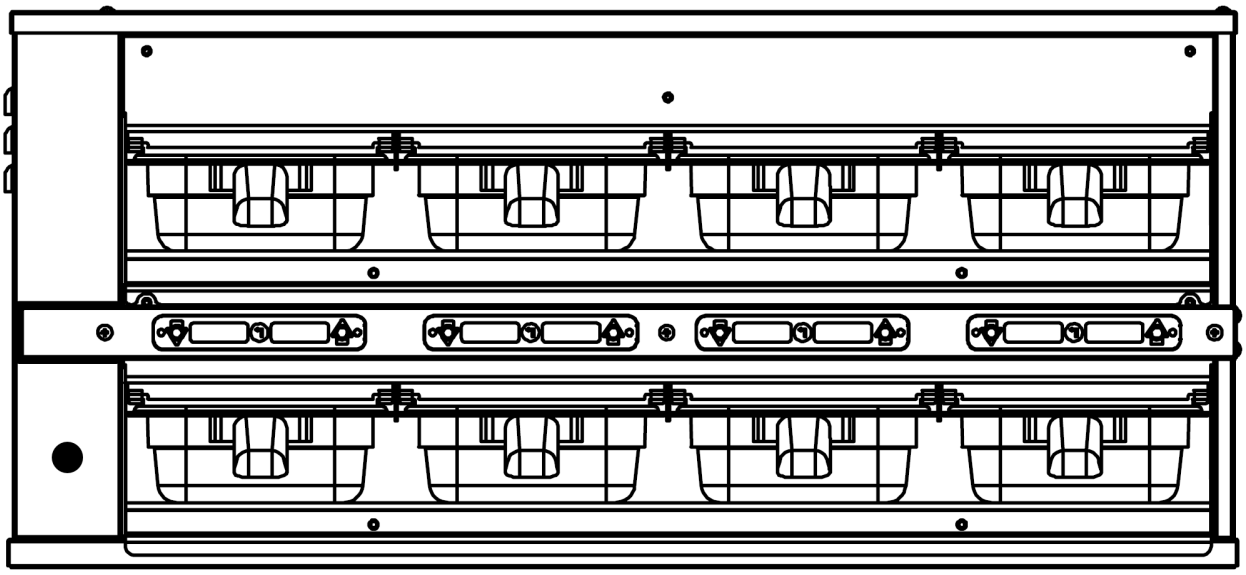


EX1007: 53 (modified)

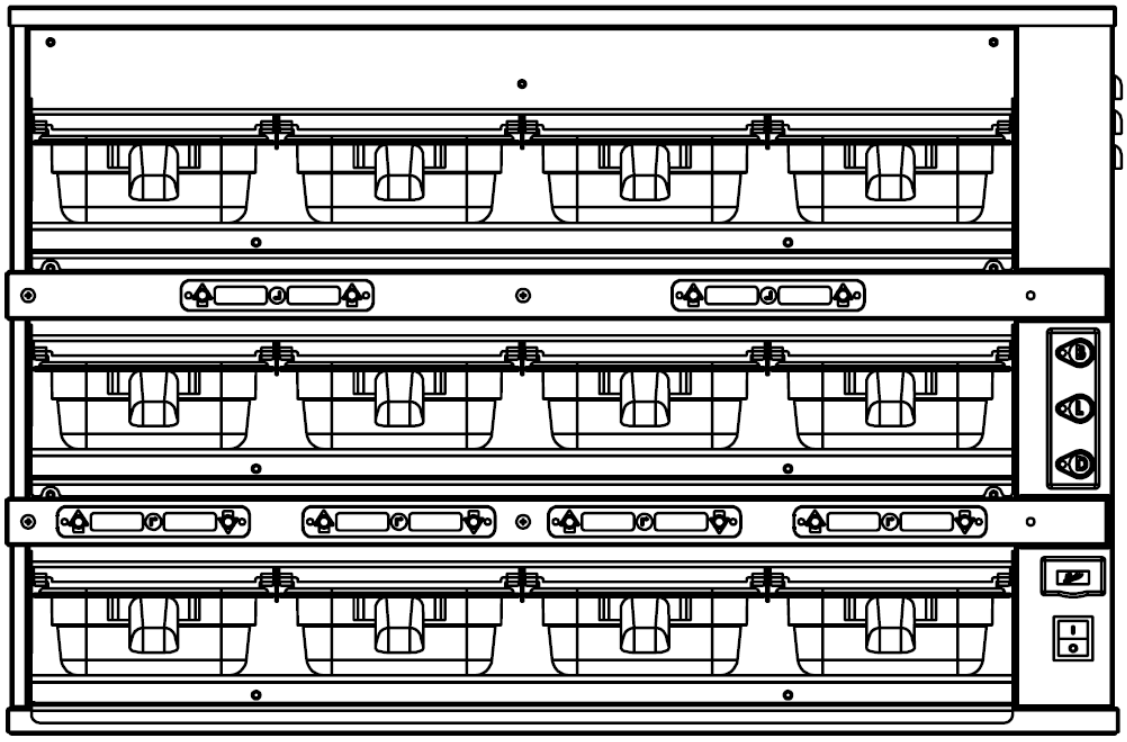
518. Representative illustrations of the IRHS24 Holding Unit and IRHS34 Holding Unit modified to have flat heat sinks are shown below:



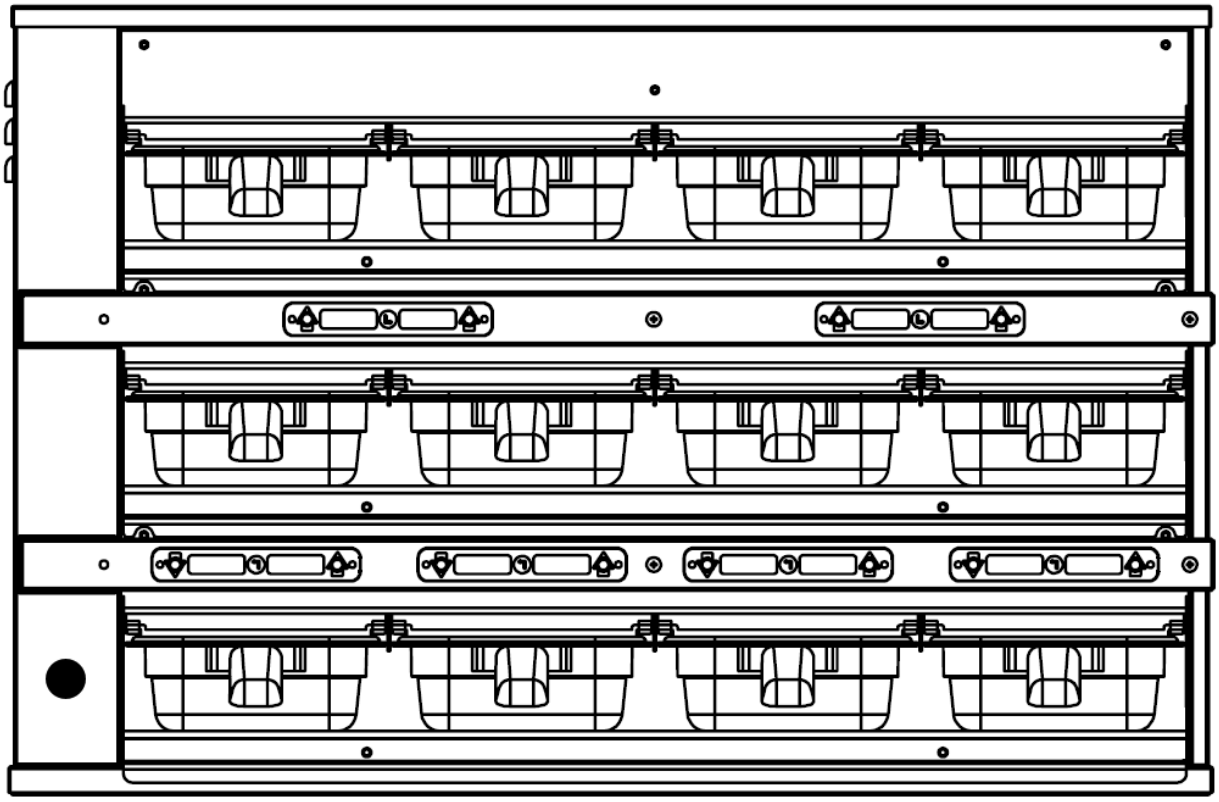
EX1005: 8 (modified-front).



EX1005: 8 (modified-rear).

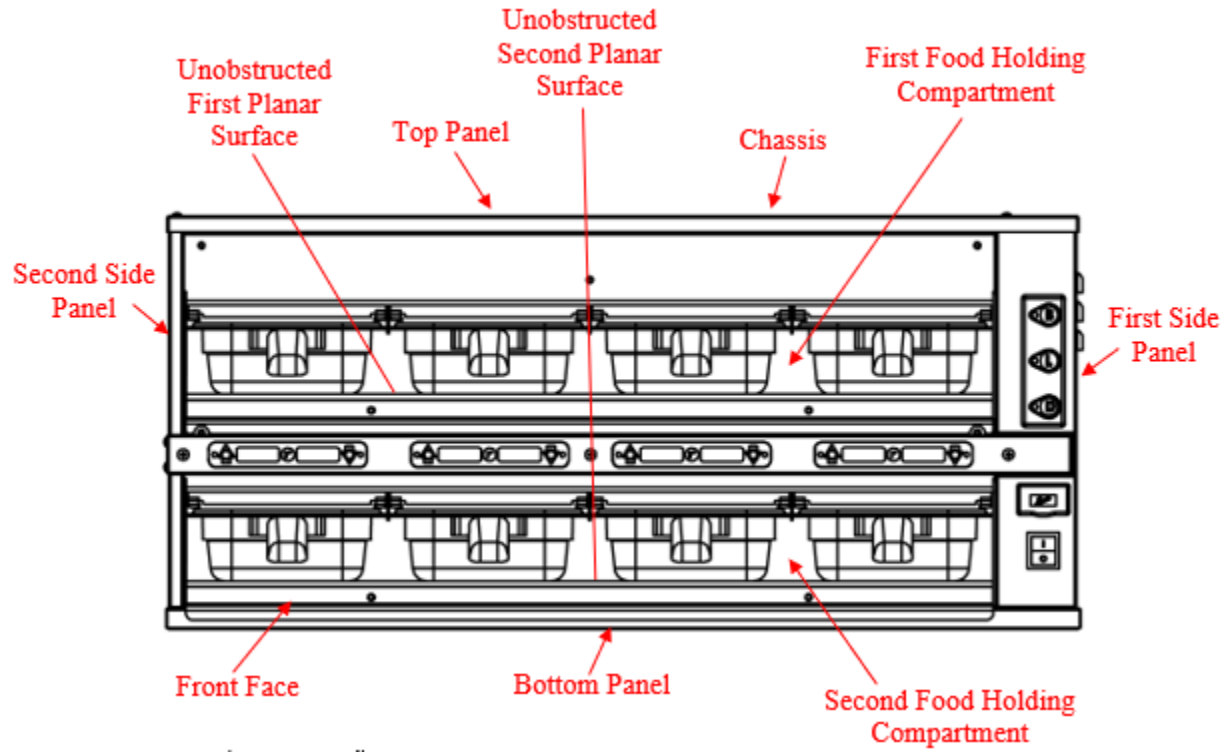


EX1005: 9 (modified-front).

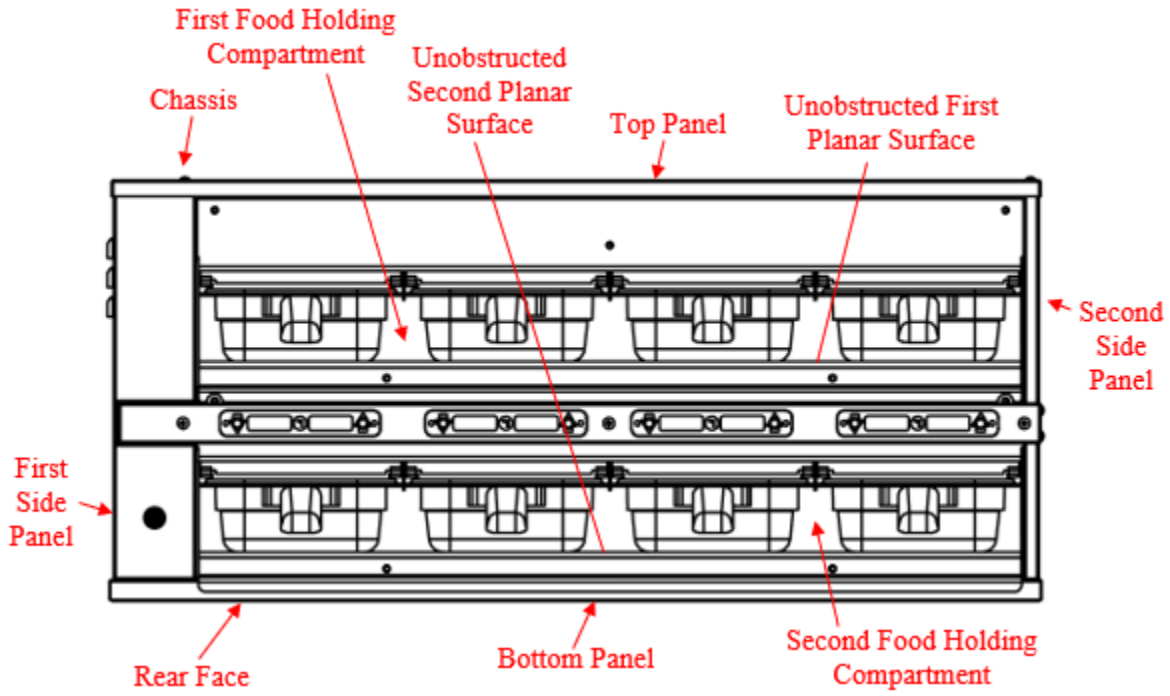


EX1005: 9 (modified-rear).

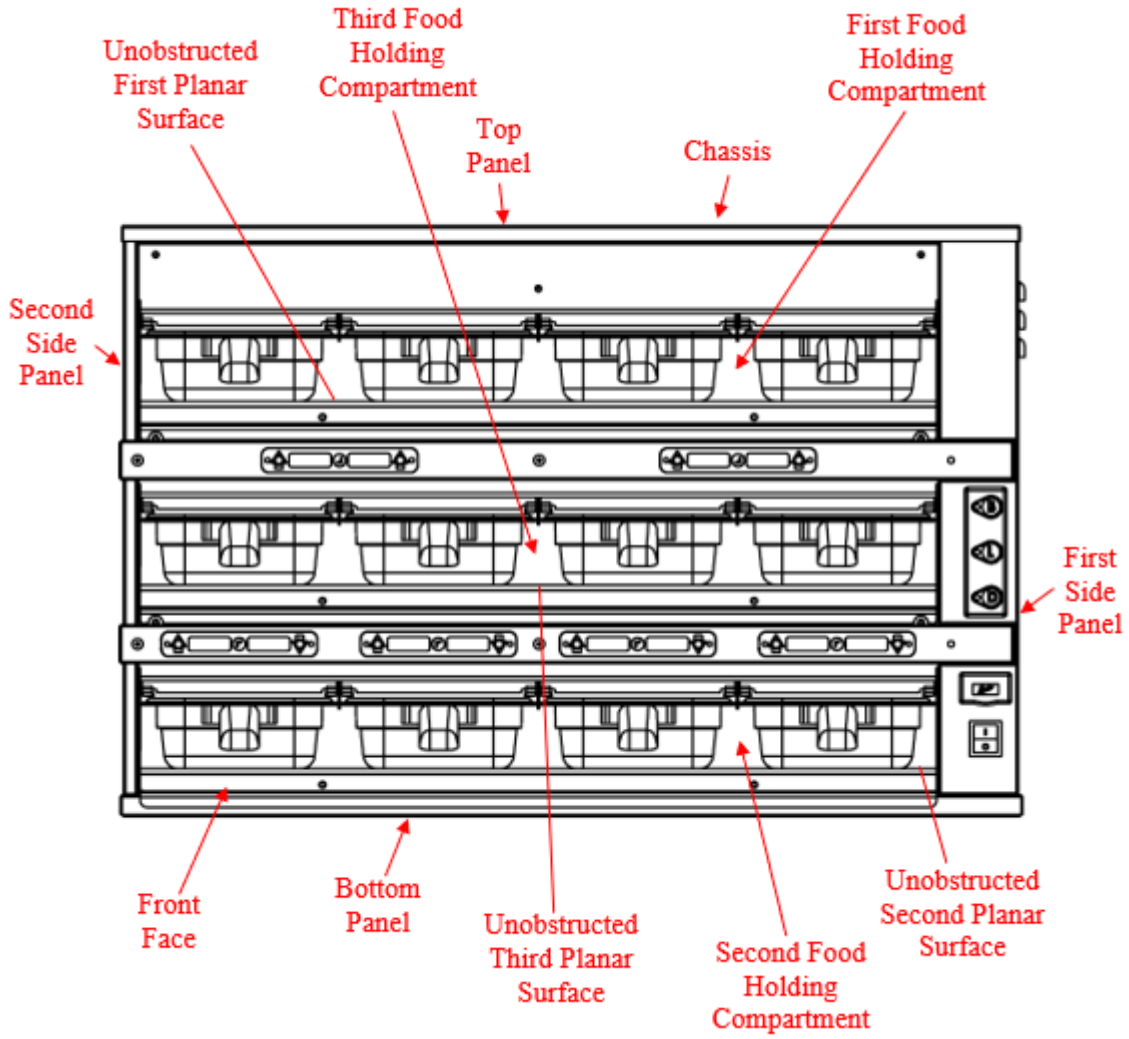
519. Under the modification of the IRHS24 and IRHS34 Holding Unit in view of Hartfelder or Veltrop, the limitations and steps of claims 1-20 are obvious for at least the reasons Grounds 1-8 above, with the further modified IRHS Holding Unit rendering obvious the limitations of the claims as demonstrated by the representative illustrations of the IRHS24 and IRHS34 Holding Unit modified to have flat heat sinks (as shown below):



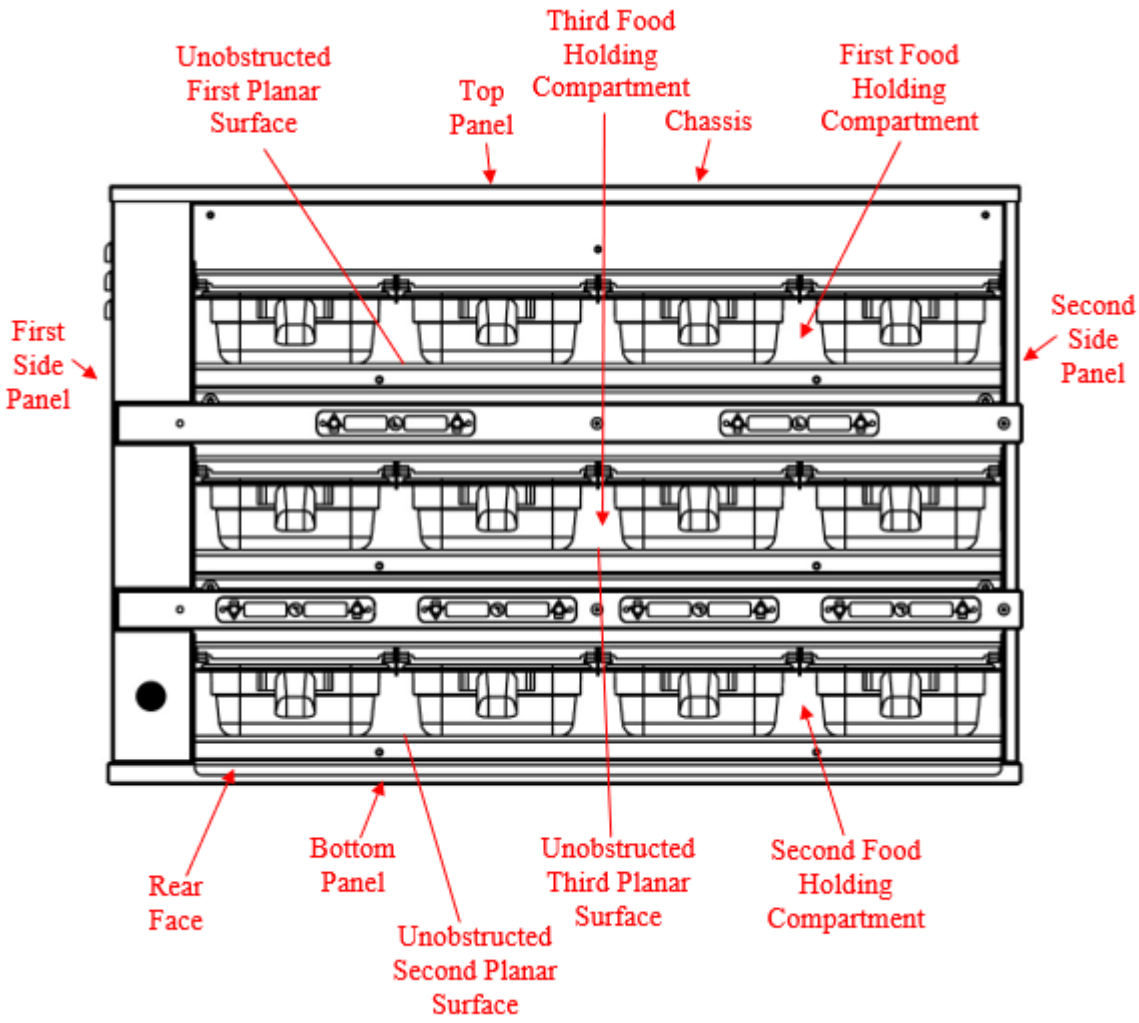
EX1005: 8 (modified-front).



EX1005: 8 (modified-rear).



EX1005: 9 (annotated).



EX1005: 9 (modified-rear).

520. The claim limitations of Claims 1, 3, and 12 that concern identifying the "panels" of the chassis or certain "substantially planar [] surfaces" are met by Hartfelder and/or Veltrop. Accordingly, to the extent that there is any doubt that the IRHS Documents disclose the IRHS24 and IRHS34 Holding Units as meeting these limitations, the POSA would have found it obvious to modify the IRHS Holding Unit disclosed in the IRHS Documents in view of Hartfelder and/or Veltrop to arrive at the food holding bin as recited. As such, Claims 1-20 would

have been obvious for at least the reasons explained in Grounds 1-8 above in further view of Hartfelder and/or Veltrop.

XIII. GROUND 10: Claims 1-10, 12-17 and 20 Would Have Been Obvious Over Fortmann'748 in view of the IRHS Documents, Jones, Fortmann'197, McMillan, Vaseloff, Hartfelder, Shei'099, Stanger, Loy, and/or Veltrop

521. Fortmann'748 teaches the use of a warming cabinet (10) for keeping food in trays (100) warm before serving. EX1010: ¶¶[0002], [0014], Fig. 1. The cabinet (10) has a plurality of shelves (21) dividing the warming volume (18) into separate compartments that are disclosed as being capable of receiving multiple trays (100) of food. EX1010: ¶¶[0014]-[0015], Figs. 1 and 6.

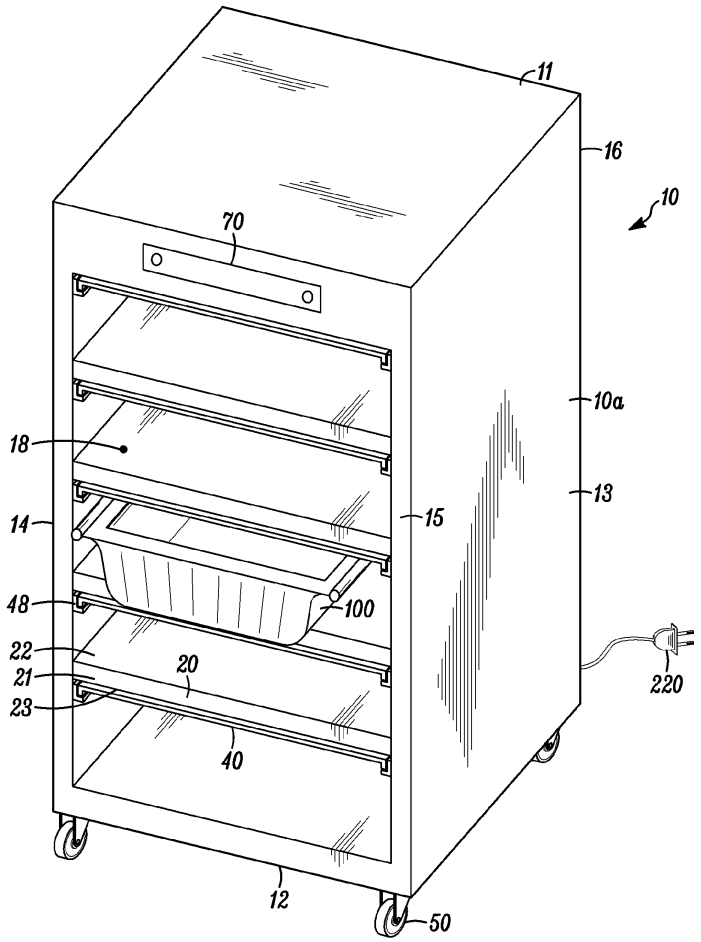


FIG. 1

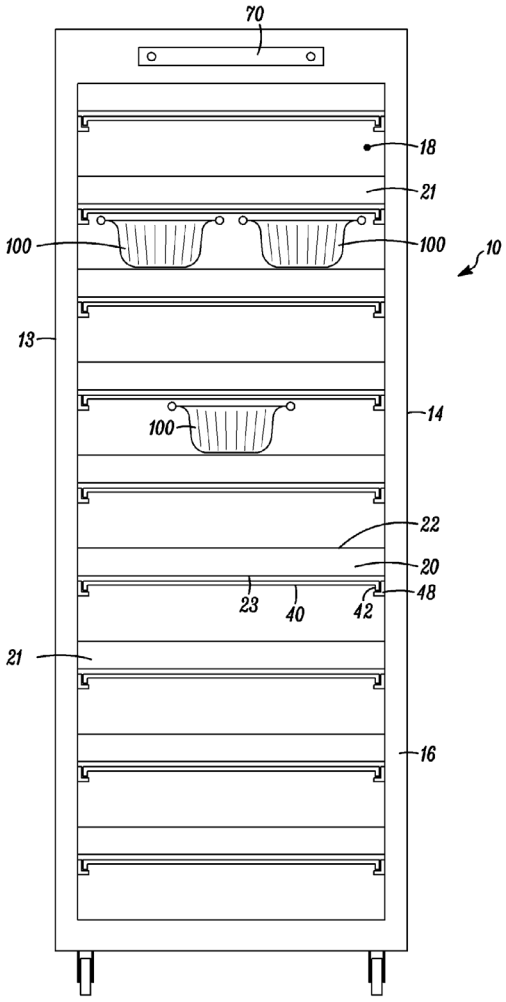


FIG. 6

EX1010: Figs. 1 and 6.

522. Notably, the claims of the ’264 Patent pertains to the operation of a food warming cabinet that mixes and matches a number of independent methods/features and design choices (*e.g.*, number and configuration of food holding bays, location and configuration of the controls, location and configuration of the heating elements, inclusion of lid holding shelves and latches to secure the lids in place, and independent temperature control of the food holding bays) that were already known in the art.

523. Fortmann'748 thus presents the base structure of a food holding cabinet which a POSA would have considered ripe to incorporate specific design choices and advancements from other food holding cabinets such as those taught by the IRHS Documents, Jones, Fortmann'197, McMillan, Vaseloff, Hartfelder, and/or Shei'099.

A. Modifications of Fortmann'748

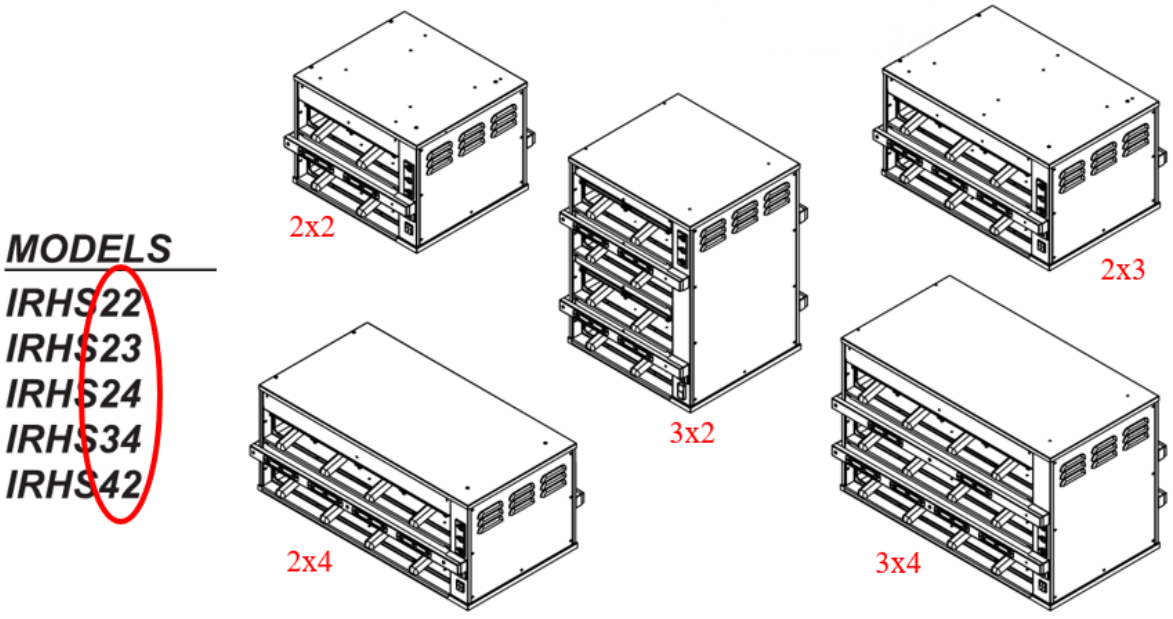
1. 2x4 and 3x4 Configurations

524. While Fortmann'748 does not explicitly disclose a 2x4 (eight pan locations/bays arranged in a 2x4 grid) or 3x4 (twelve pan locations/bays arranged in a 3x4 grid) configuration as recited by the structural limitations and/or required to perform the method steps of the '264 Patent claims, such configurations would have been both consistent with and obvious in light of the teachings of Fortmann'748.

525. Fortmann'748 explains the cabinet (10) "may be 5-6 feet tall" in one embodiment but further explains that other embodiments "may be only about 1-2 feet tall and configured to rest upon a table or other elevated surface within the establishment." EX1010: ¶[0014]. Fortmann'748 teaches the cabinet (10) may contain any number of compartments for receiving trays (100). EX1010: ¶[0016] (the cabinet "may include 2, 5 (FIG. 1), 10 (FIG. 6), or another number of vertically spaced shelves 21 within the warming volume 18").

526. Fortmann'748 also explains the shelves (21) of the cabinet (10) can have a "sufficient width to accept ***two or more*** standard 12 inch wide restaurant warming pans therewithin in a side by side relationship." EX1010: ¶[0015] (emphasis added), *see also* ¶ [0014] (identifying that instead of 12 inch wide warming pans the cabinet could be designed to accept "trays, pizza boxes, or the like").

527. The IRHS Documents teach a family of tabletop food holding units of different configurations, such as 2x2 (four pan locations arranged in a 2x2 grid), 3x2 (six pan locations arranged in a 3x2 grid), 2x3 (six pan locations arranged in a 2x3 grid), 2x4 (eight pan locations arranged in a 2x4 grid), and 3x4 (twelve pan locations arranged in a 3x4 grid). EX1005: 1; EX1006: 1; EX1007: 55-57.



EX1005: 1 (annotated).

528. Shei'099 also teaches a warming cabinet (26) having a 3x4 configuration. EX1017: 3:9-16.

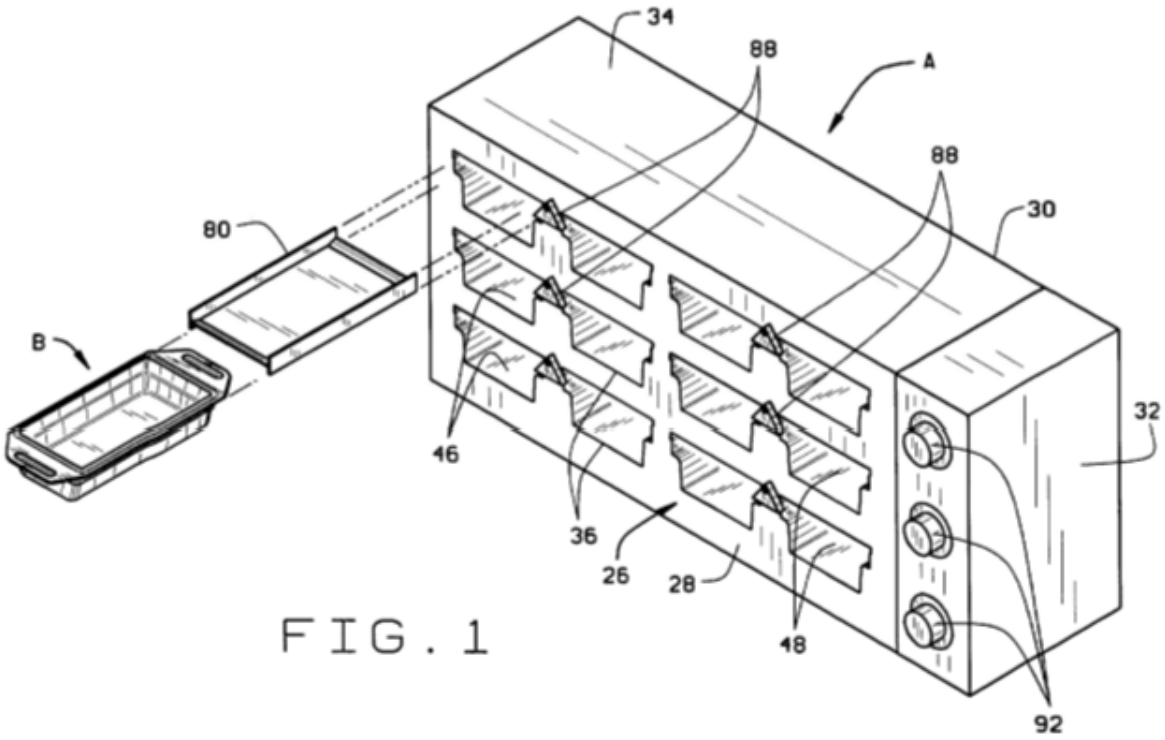


FIG. 1

EX1017: Fig. 1.

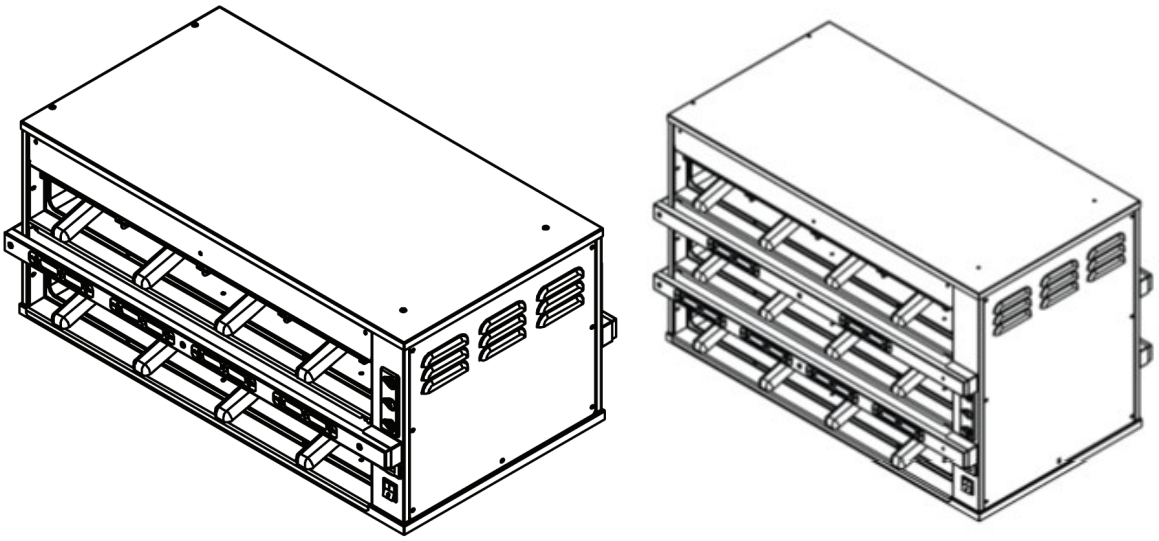
529. In view of the IRHS Documents and Shei'099, it would have been obvious to configure Fortmann'748's cabinet (10) to have only two or three compartments, with each compartment having four relatively narrow pan holding locations (*i.e.*, modifying Formann '748's cabinet to specifically have a 2x4 configuration holding eight relatively narrow pan holding locations arranged in a 2x4 grid (two rows, four columns) or have a 3x4 configuration holding twelve

relatively narrow pan holding locations arranged in a 3x4 grid (three rows, four columns)).

530. A two or three row configuration would make the Fortmann'748 cabinet (10) "only about 1-2 feet tall" and therefore more suitable to "rest upon a table" in a commercial kitchen. EX1010: ¶[0014]; EX1007: 53 ("Smaller footprint allows IRHS to fit into smaller spaces").

531. This configuration would also make Fortmann'748's cabinet (10) cheaper to manufacture (less material, reduces parts, etc.) and cheaper to ship (smaller package, less weight) than the configurations shown in Figs. 1 and 6 of Fortmann'748, thereby reducing the overall cost.

532. Reconfiguring Fortmann'748's cabinet (10) to have a 2x4 and/or 3x4 configuration per the IRHS Documents would have been an obvious design choice, as this was a common configuration in the art as shown below. EX1013: ¶¶[0028] ("exemplary food warming apparatus 10 with two heating compartments"), [0030] ("two trays in each compartment, it is to be understood that the compartments may be sized to accommodate a greater or fewer number of trays"); EX1015: ¶¶[0024] ("four heating compartments, it is to be understood that a food warming apparatus could be provided with a greater or fewer number of heating compartments"), [0026] ("two trays in each compartment, it is to be understood that the compartments may be sized to accommodate a greater or fewer number of trays").



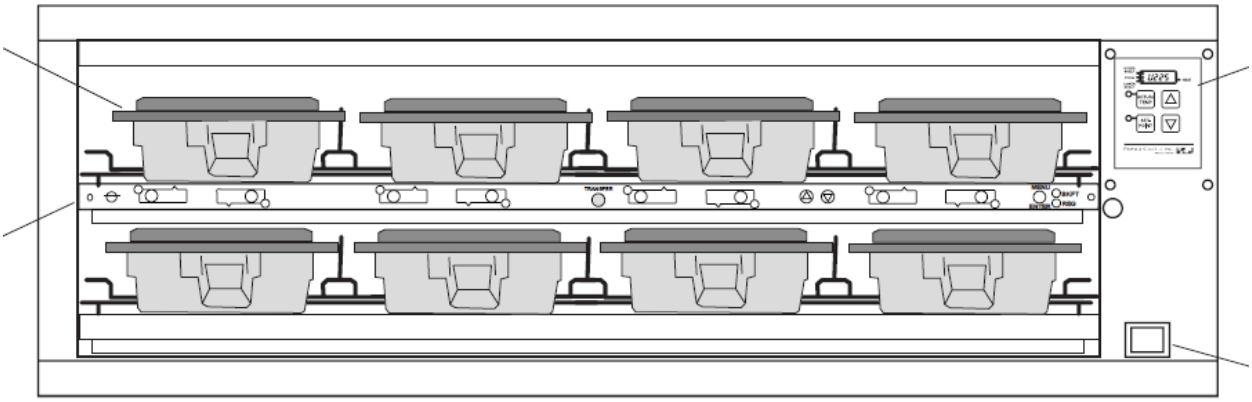
EX1005: 1.





EX1007: 56.





EX1009: 11, 19.

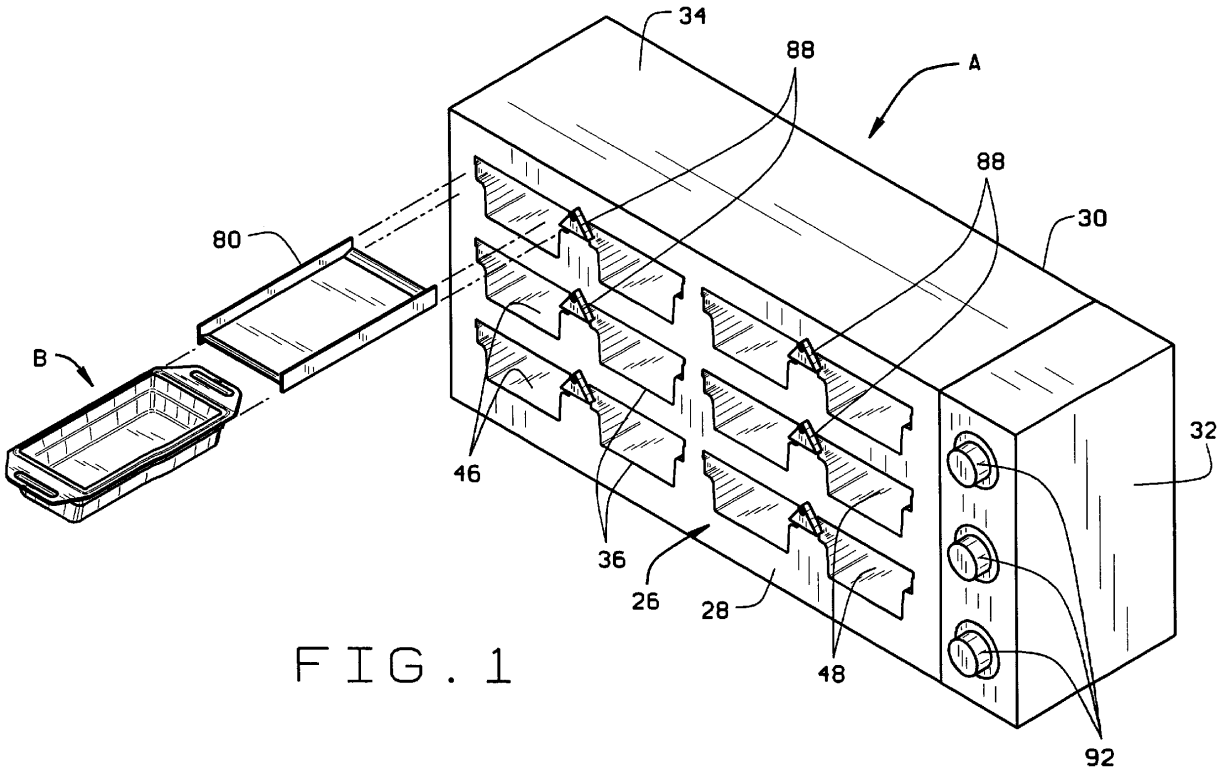


FIG. 1

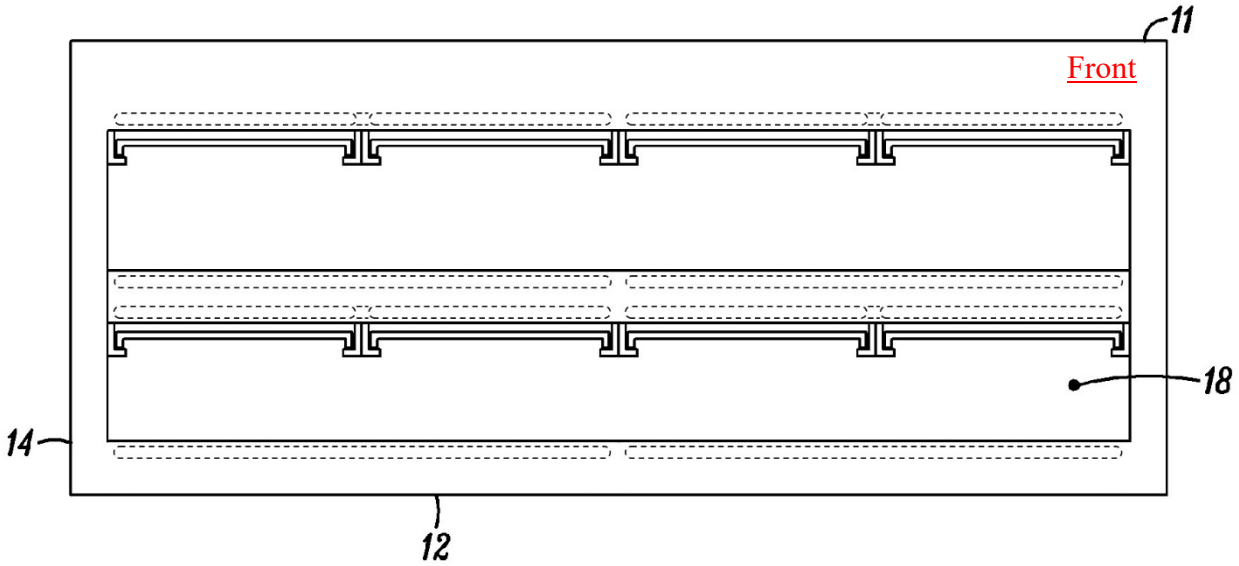
EX1017: Fig. 1.

533. The selection of a 2x4 and/or 3x4 pan holding location/bay configuration would have been nothing more than the application of a known configuration (the 2x4 and/or 3x4 pan holding location/bay configuration of the IRHS Documents) to a similar device (Fortmann'748's cabinet) implemented in the same way (Fortmann'748's cabinet with eight/twelve pan holding locations/bays for warming pans of food).

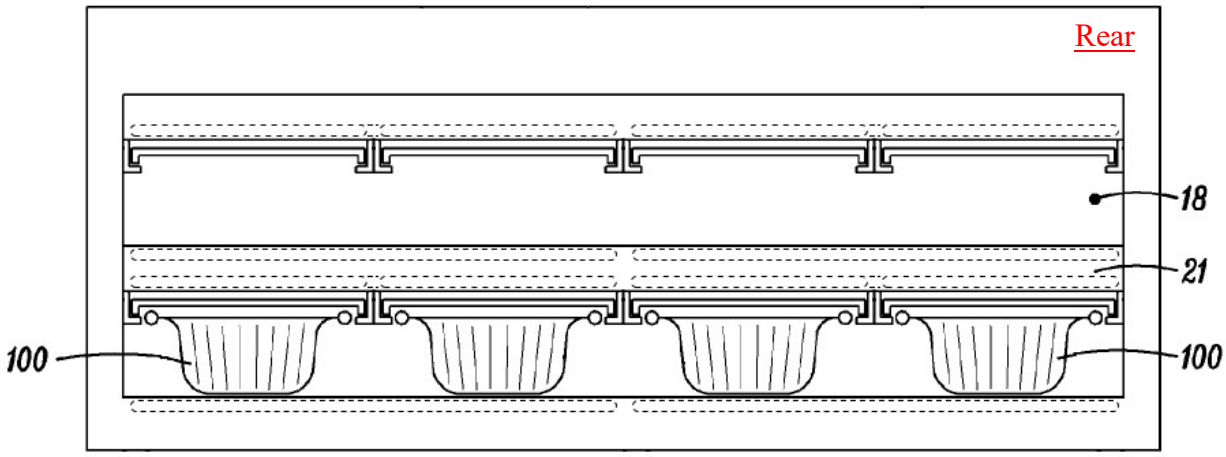
534. There would have been a reasonable expectation of success in making this modification given (1) the similarities between Fortmann'748's cabinet, the IRHS Documents' food holding unit, and Shei'099 cabinet (e.g., all receive

pans/trays of food to warm), (2) Fortmann'748's description that its cabinet can be made smaller to "rest upon a table" (EX1010: ¶[0014]), and such a modification would merely require removing unnecessary components (e.g., extra shelves) and changing the size of components (e.g., changing the size of the body (10a)). EX1005: 1; EX1006: 1; EX1007: 55-57; EX1017: Fig. 1.

535. Representative illustrations[1] of Fortmann'748's cabinet modified to have a 2x4 configuration are shown below:



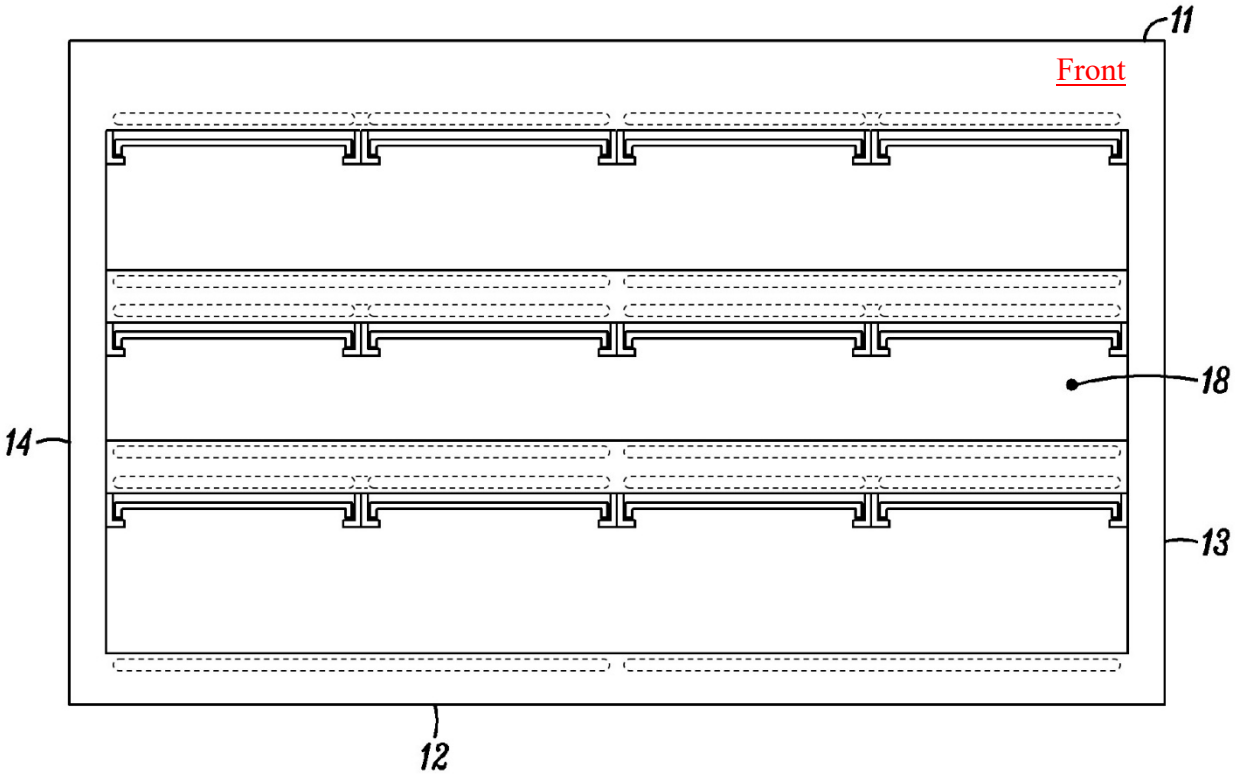
[1] These illustrations include further modifications as explained below.

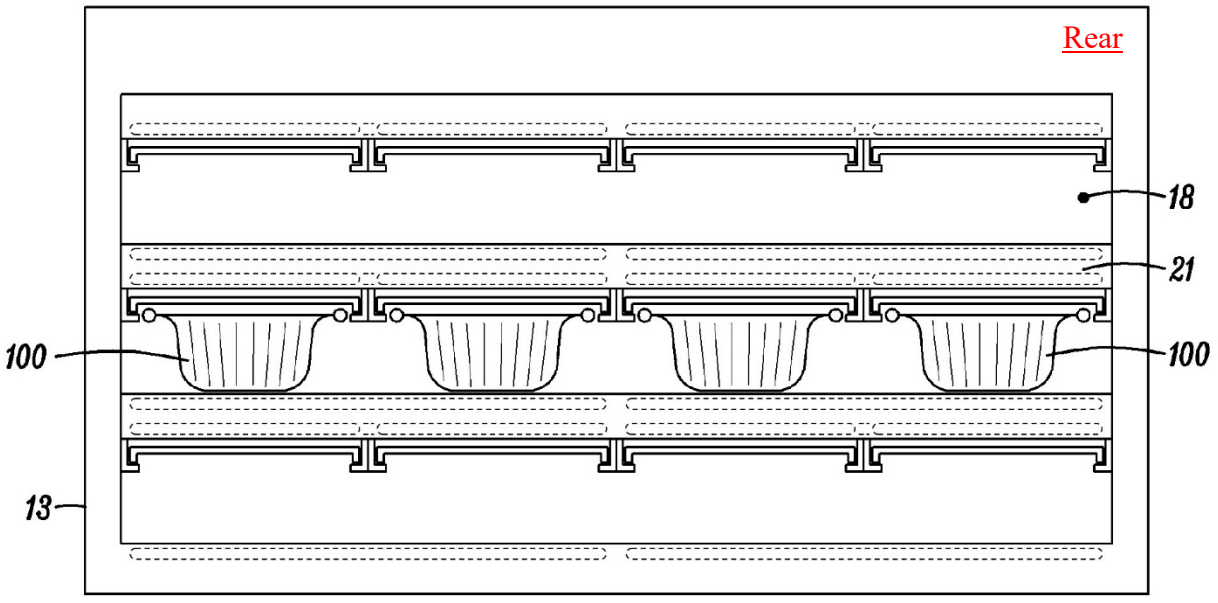


EX1010: Figs. 2 and 6 (modified, annotated).

536. Representative illustrations[2] of Fortmann'748's cabinet modified to have a 3x4 configuration are shown below:

[2] As with the 2x4 configuration illustrations, the 3x4 configuration illustrations include further modifications as explained below.





EX1010: Figs. 2 and 6 (modified, annotated).

2. Multiple Temperature Zones per Compartment

537. Each shelf (21) of Fortmann'748's cabinet (10) includes "one or more heaters 60 … that are disposed within the internal volume [of the] shelf 21." EX1010: ¶[0019], Fig. 2. Each shelf's one or more heaters (60) are "shown schematically" in Figs. 2 and 3 and are independently controllable relative to the heaters of other shelves "to establish two or more heat zones of differing temperatures within the warming volume [18]." EX1010: ¶¶[0019], [0021], [0024], [0027]. Fortmann'748 teaches that the heaters 60 may be disposed so as to make contact with "at least the upper sheet 22 forming the shelf 21" and also "may contact the lower sheet 23 forming the shelf 21" such that it would provide heat to both the compartment above the shelf (21) and to the compartment below the shelf (21).

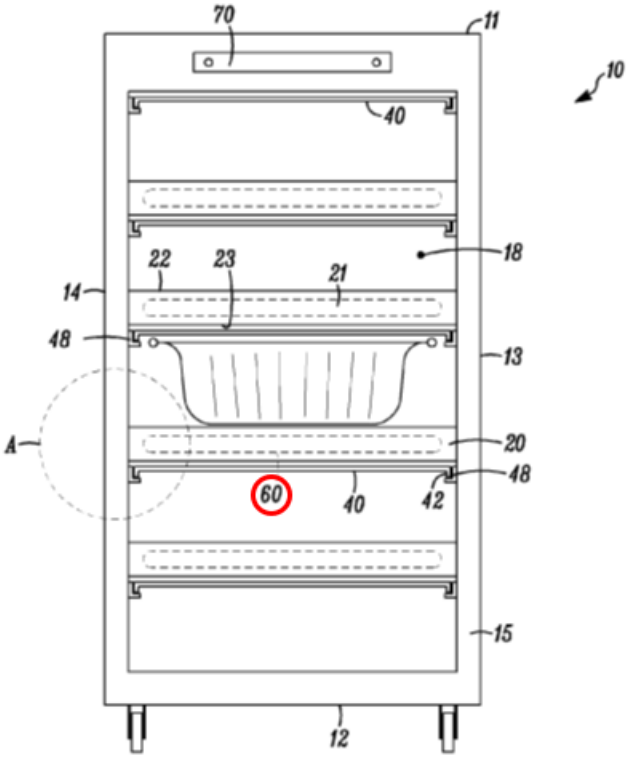


FIG. 2

EX1010: Fig. 2 (annotated).

538. As such, for Fortmann'748 the shelves (21) divide the warming volume (18) into multiple compartments, with at least each compartment acting as its own temperature zone. Fortmann further discloses that each compartment can receive a pair of pans within its shared heat zone. EX1010: ¶[0015] ("the shelves 21 are configured with sufficient width to accept two or more standard 12 inch wide restaurant warming pans therewithin in a side by side relationship"); Fig. 6.

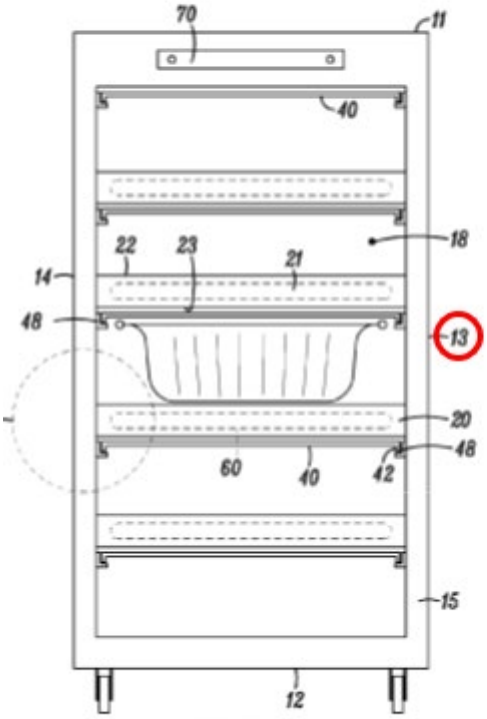


FIG. 2

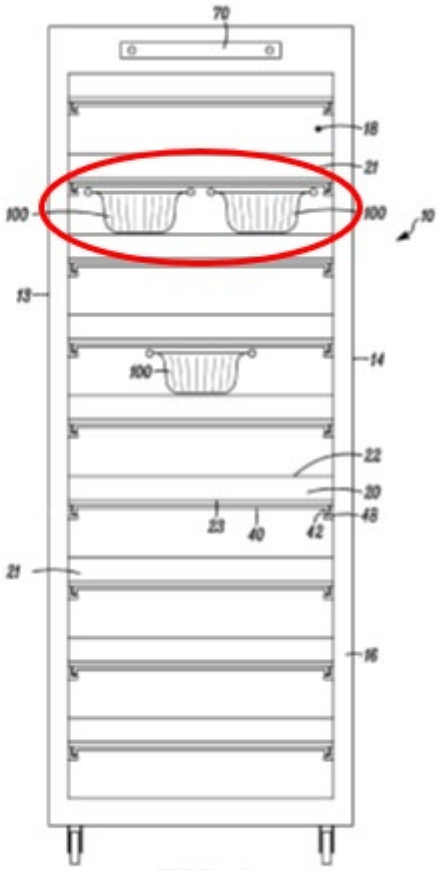


FIG. 6

EX1010: Figs. 2, 6 (annotated).

539. As each shelf (21) was taught to "include[] one ***or more*** heaters 60" the POSA would have contemplated that a shelf with more than one heater could have multiple temperature zones, thus creating multiple temperature zones per compartment.

540. Whereas the POSA would have contemplated creating multiple temperature zones per compartment based on Fortmann'748 alone, each of Jones

(EX1012), Hartfelder (EX1013), Stanger (EX1042), Loy (EX1043), and the IRHS Documents (EX1005-1008) expressly teach this.

541. Jones teaches a food holding cabinet (12b) with an upper heating compartment (UHC) and a lower heating compartment (LHC), each for receiving food trays (14). EX1012: ¶¶[0069], [0072], Fig. 1B. The upper and lower heating compartments (UHC, LHC) are separated by a shelf (36). EX1012: ¶[0072], Fig. 1B.

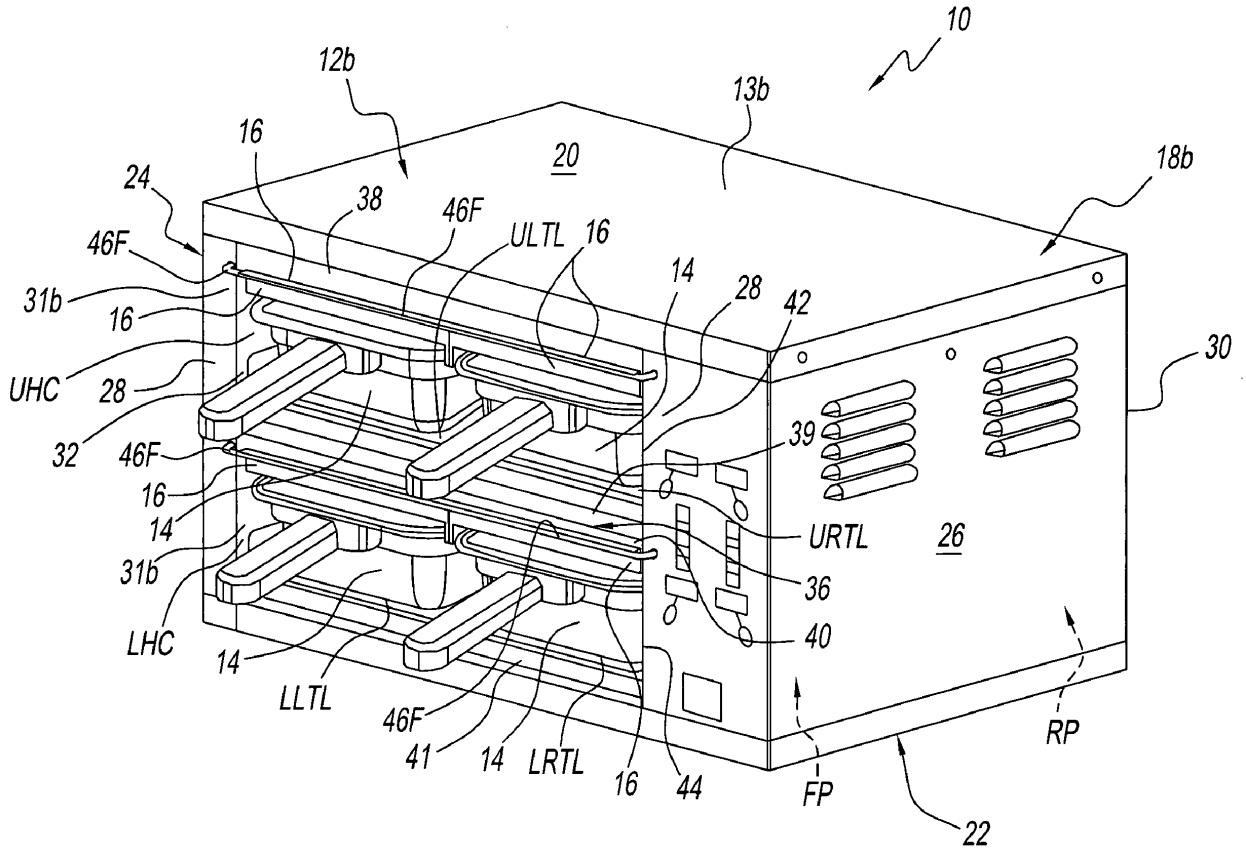
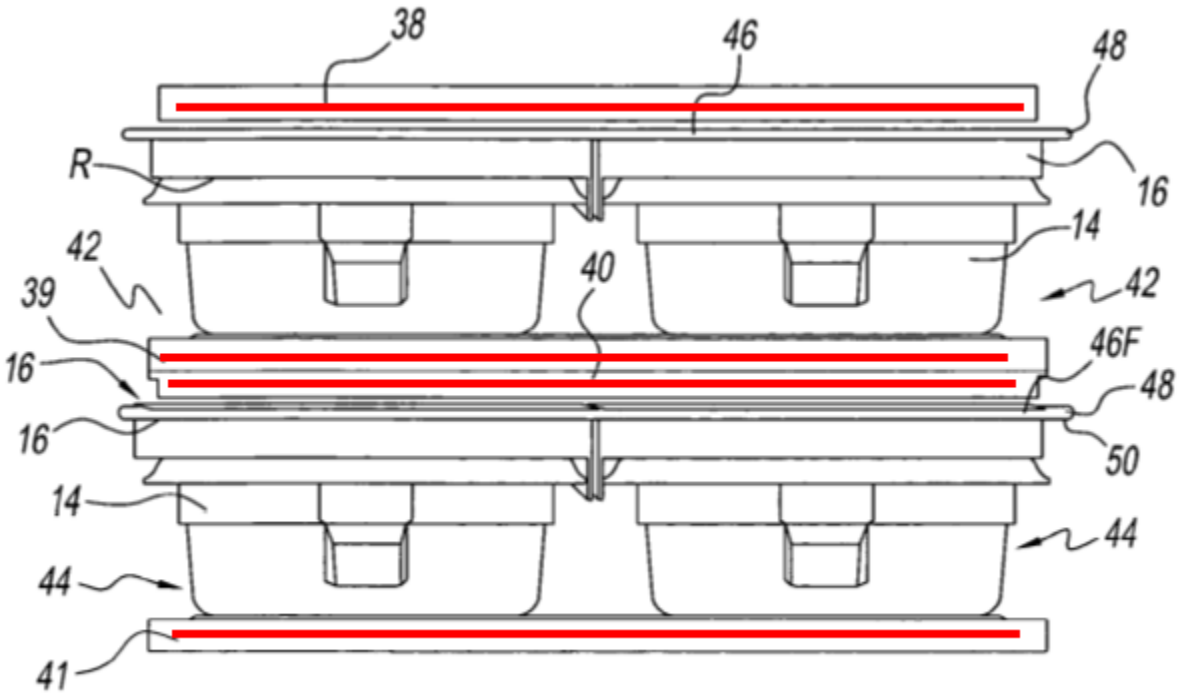


Fig. 1B

EX1012: Fig. 1B.

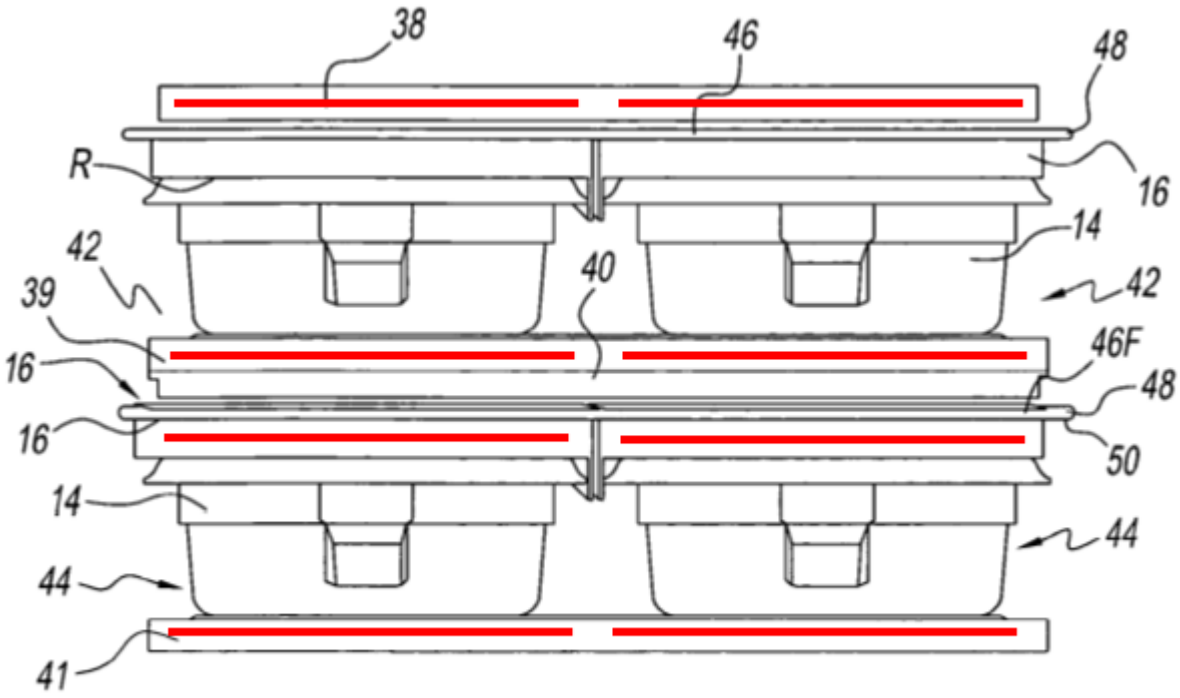
542. The food holding cabinet (12b) receives four food trays (14). EX1012: ¶[0072], Fig. 1B. For example, the upper heating compartment (UHC) has an upper left tray location (ULTL) and an upper right tray location (URTL) which each receive a food tray (14). EX1012: ¶[0072], Fig. 1B. Likewise, the lower heating compartment (LHC) has a lower left tray location (LLTL) and a lower right tray location (LRTL) which each receive a food tray (14). EX1012: ¶[0072], Fig. 1B. In one embodiment, Jones's food holding cabinet (12b) has an upper heater (38, 40) and a lower heater (39, 41) for each heating compartment (UHC, LHC) to heat both tray locations within the respective compartment. EX1012: ¶[0073], Fig. 1G.



EX1012: Fig. 1G (annotated).

543. In a separate embodiment, Jones explains that instead of one upper heater (38, 40) and one lower heater (39, 41) for each heating compartment (UHC, LHC), each tray location (ULTL, URTL, LLTL, LRTL) can include discrete upper and lower heaters. This results in quadrant zoning where each compartment has side-by-side zones open to each other across the compartment.

> "In preferred embodiments, for example, in food holding cabinet 12b of FIG. 1B, there are ***eight heaters***, ***one mounted above and another mounted below each of the upper left and right tray locations***, and ***one mounted above and another mounted below each of the lower left and right tray locations***." EX1012: ¶[0096] (emphasis added).



EX1012: Fig. 1G (annotated).

544. Jones further teaches that the temperatures in the side-by-side zones of each compartment can be different to accommodate different types of food held in

each location. EX1012: ¶[0098] ("assigns the holding parameters, top and bottom temperature … to the product name, so wherever the product name is displayed, the holding parameters follow", and "temperature settings for the top and bottom heater that are set to the product name and no matter how many locations have the same product name displayed [1 location up to all locations]"), Fig. 19 ("Select Product Name to be held in Display Location. Each display may have the same Product Name, or all different Product Names … Heating system maintains Top and Bottom Preset Temps for Product Names").

545. Similarly, Hartfelder teaches quadrant zoning for a food warming apparatus (10), with upper and lower compartments (24, 26) each having left upper and lower heating plates and right upper and lower heating plates (only the top-most heater plates (70, 72) are shown in the figures). EX1013: ¶[0037] ("heating compartment 24 may be heated through upper compartment surface 28 by heater plates 70 and 72, which may be positioned over trays 40 and 42, respectively. Heating compartment 24 may also be heated through lower compartment surface 30 by similar heater plates. Heating compartment 26 may be heated in a similar manner").

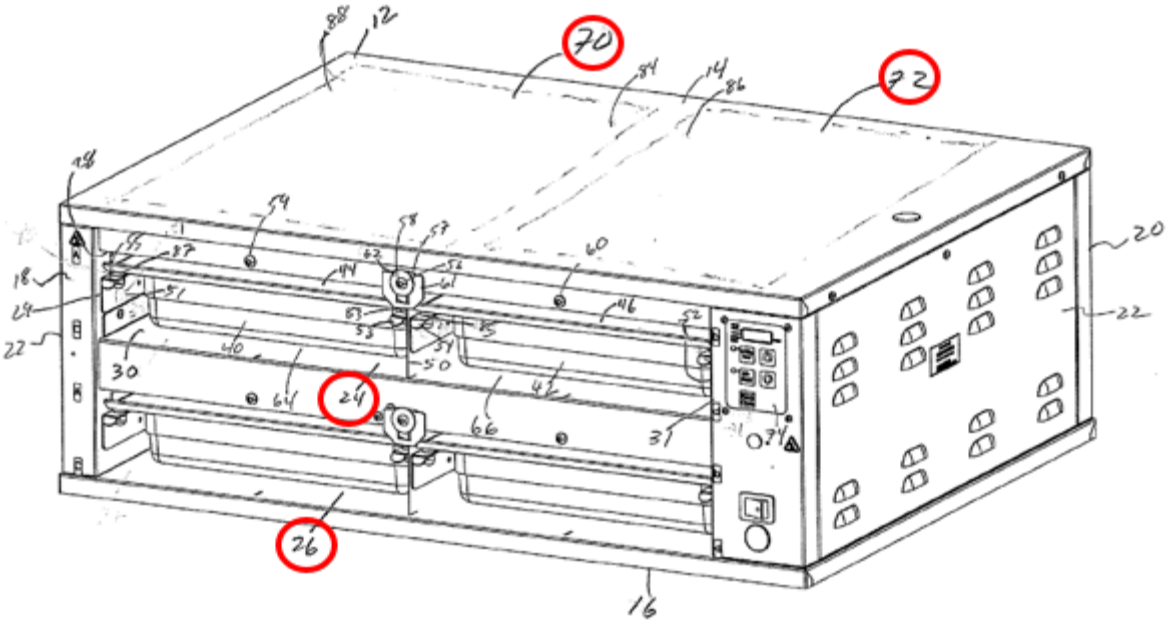


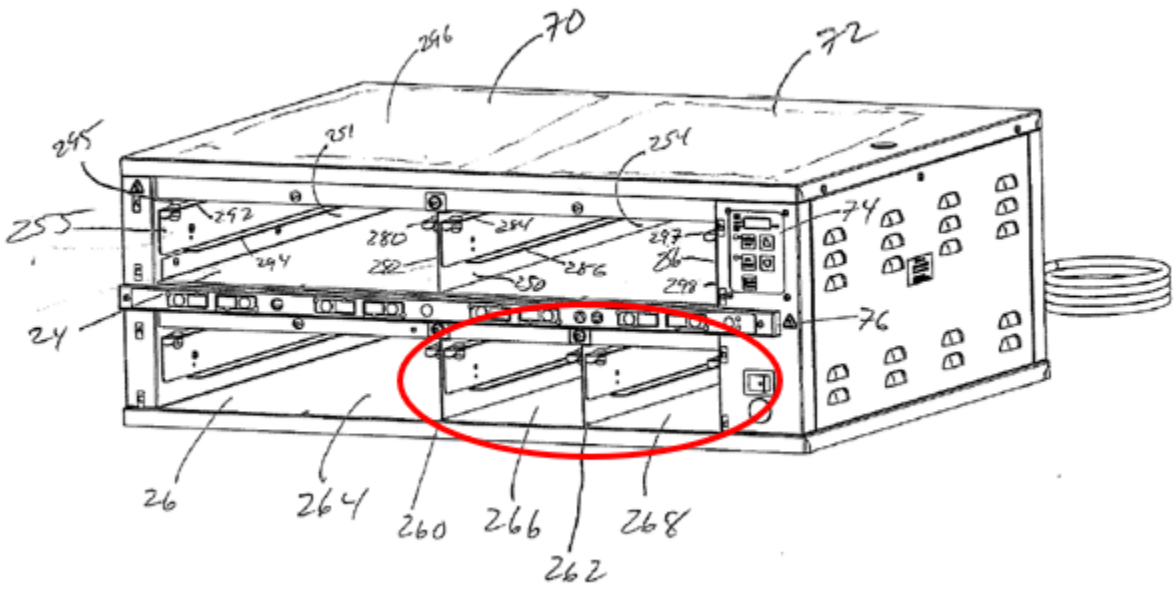
FIGURE 1

EX1013: Fig. 1 (annotated).

546. In Figure 1, each compartment holds two relatively wide trays (46) and Hartfelder teaches zoned heating for the left and right sides of the compartment in that "the operator [can] select setpoint temperatures … for specific trays." EX1013: ¶[0038].

547. Hartfelder's quadrants/zones are configurable to each define two pan bays that share the quadrant's/zone's upper and lower heaters. Hartfelder has dividers/partitions and associated mounting points (e.g., 58, 59, 60) to configure each heating zone/quadrant to hold two narrow trays instead of one wider tray.

EX1013: ¶¶[0031], [0034]. As an example, in Figure 3, Hartfelder shows the lower-right heating zone/quadrant configured to receive two narrow trays to share the upper and lower heaters of that zone. EX1013: ¶[0037], [0041].

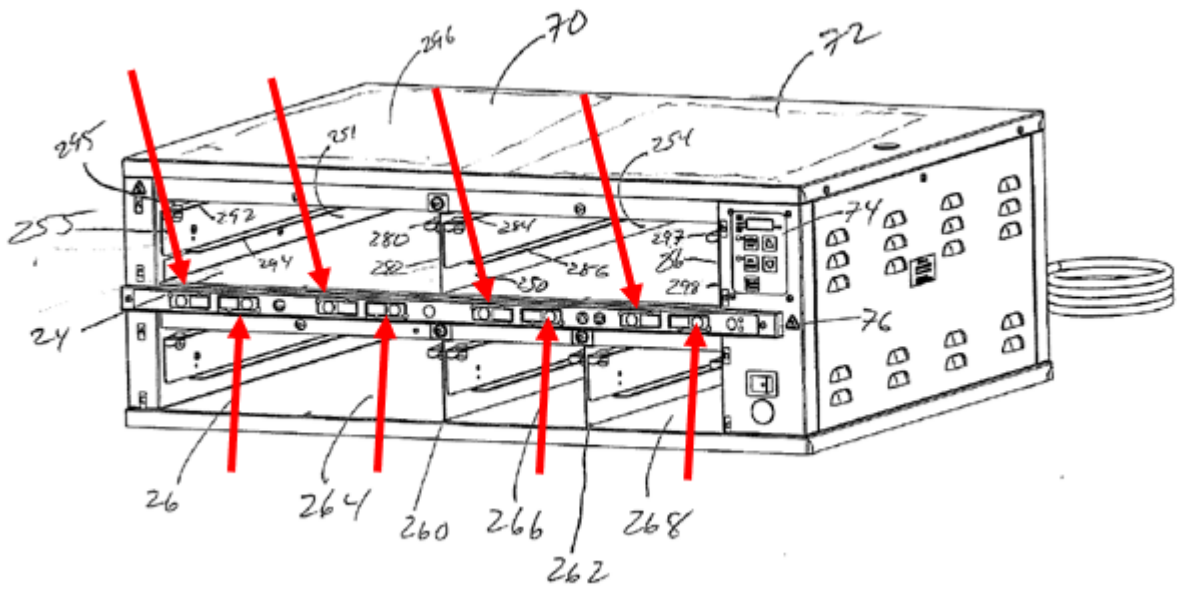


EX1013: Fig. 3 (annotated).

548. The POSA would understand each heating zone/quadrant can be configured to define two bays with dividers (e.g., 250, 260, 262) similar to Figure 3's lower right zone/quadrant, such that a total of eight trays could be held in eight bays. EX1013: ¶¶[0041], [0045] ("multi-level divider 250 is mounted inside heating compartment 24 by mounting fastener 56 passing through mount 257 of multi-level divider 250 and through a hole at fixed mounting point 58 in cabinet 12 and then by securing mounting fastener 56 to cabinet 12"), Fig. 3

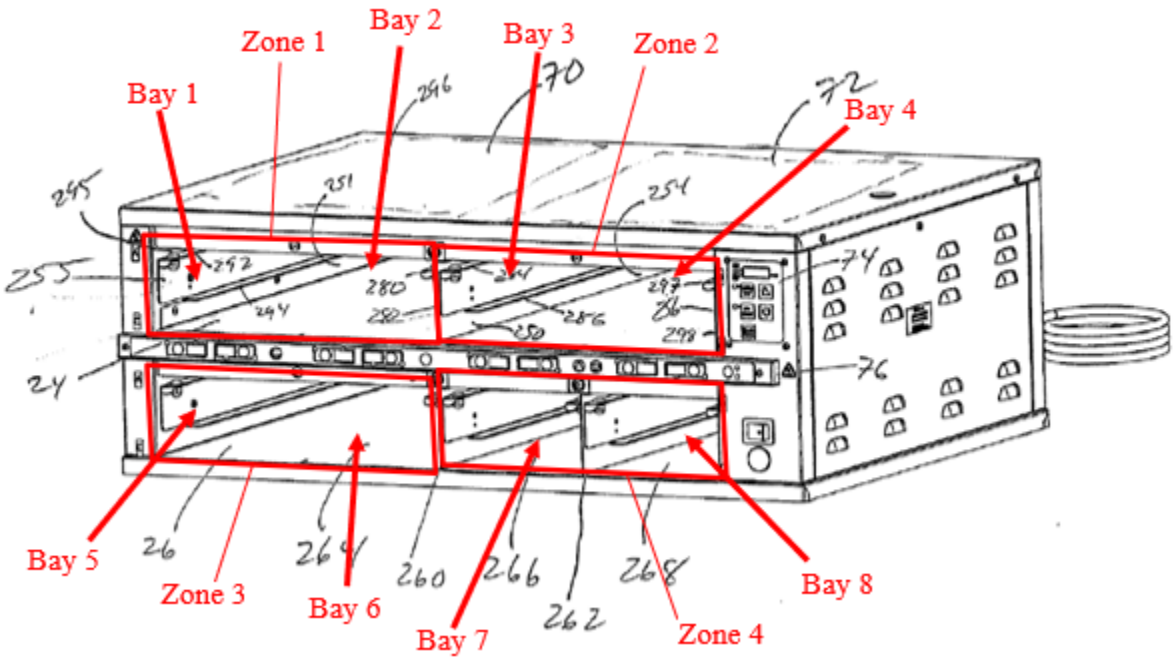
(showing three fasteners (56) for mounting three dividers within each compartment, to divide the compartments into four bays).

549. Notably, Hartfelder's bezel includes corresponding controls (e.g., timer controls and food name displays) for each of the eight pan bays. EX1013: ¶[0039].



EX1013: Fig. 3 (annotated).

550. Accordingly, the POSA would understand that Hartfelder teaches that each compartment (24, 26) includes adjacent heating zones each sized to receive a pair of narrow trays, with the pair of narrow trays sharing the heating zone's upper heater and lower heater.



EX1013: Fig. 3 (annotated).

551. Stanger teaches a food holding unit with quadrant zoning where each compartment includes two adjacent heating zones that are open across the compartment, with each heating zone being sized to hold a pair of side-by-side pans (each heating zone has two bays). EX1042: ¶[0055] ("FIG [14] is a front right side perspective view of yet another embodiment of the food holding cabinet according to the present disclosure with eight trays…. Each blower system provides heated airflow to two trays via an upper air plenum which is divided down the center (not shown). FIG. 14 includes two control bays with four micro blowers.").

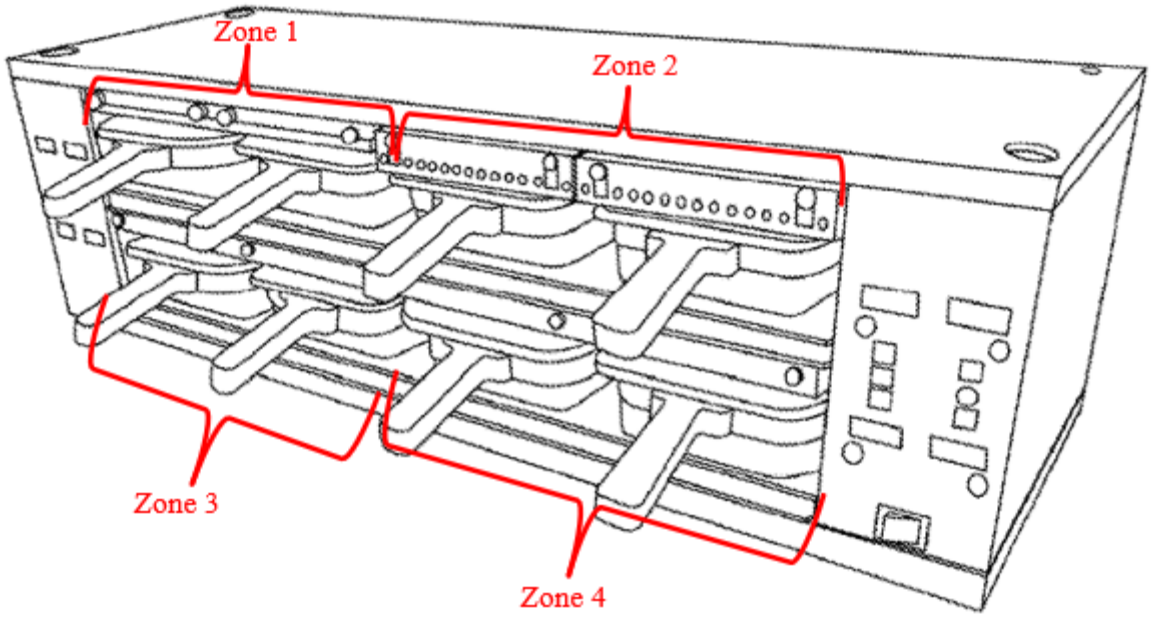
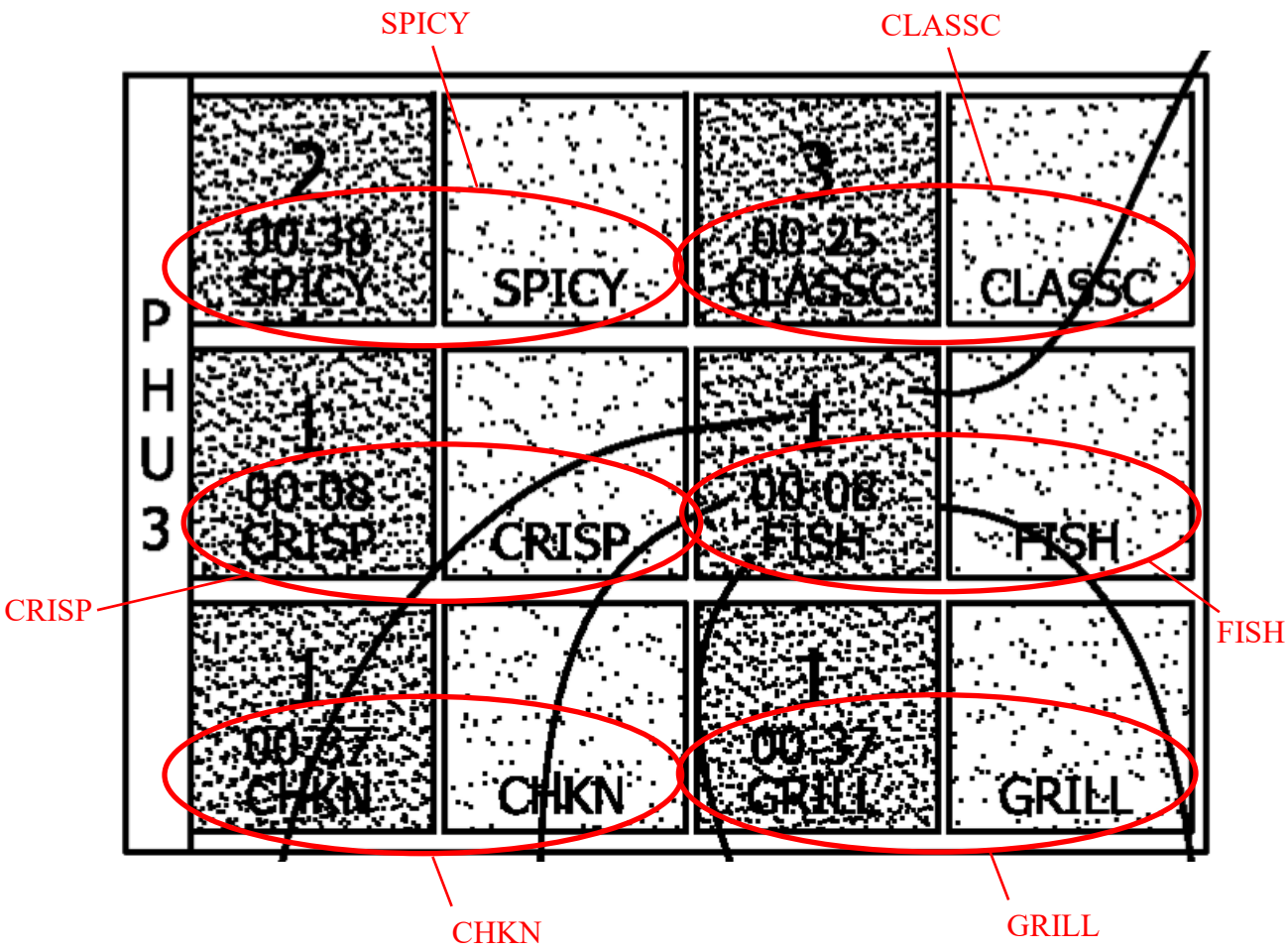


FIG. 14

EX1042: Fig. 14 (annotated).

552. The POSA's understanding of this embodiment would be informed by Stanger's disclosure of other embodiments as including heated airflow systems for heating groups of pans, and Stanger's explanation that the FIG. 14 embodiment includes "two control bays with four micro blowers" and that "[e]ach blower system provides heated airflow to two trays." EX1042: ¶¶[0055], [0043], [0046], Figs. 2 and 4. Specifically, the POSA would understand that Stanger uses convection—instead of conduction or radiant heating—in the form of blown hot air for heating. Accordingly, where a common blower system provides airflow to two or more bays, those two or more bays would form a heating zone in the context of the '264 Patent.

553. Loy teaches a paired-pan arrangement of food pans within a four-pan-wide food holding unit which includes multiple rows of food pans each including a pair of adjacent pans of a same food type arranged horizontally next to another pair of adjacent pans of a different food type (food types of the pan pairs including SPICY, CLASSC, CRISP, FISH, CHKN, and GRILL). EX1043: Fig. 17.



EX1043: Fig. 17 (enlarged, annotated).

554. Loy teaches speed of food service is important and holding multiple pans of the same food type promotes cooked food inventory continuity. EX1043: ¶¶[0002]-[0003], [0006], [0029], [0033]. Specifically, Loy teaches holding

multiple pans of each food type as a method of maintaining a first-in-first-out convention to meet the demands of a high-volume quick service restaurant by enabling the restaurant's employees to serve out of the pan which has been held the longest and to switch to the other pan once its hold time has elapsed. EX1043: ¶¶[0001], [0027], [0029].

555. In view of Jones, Hartfelder, Stanger, Loy, and/or the IRHS Documents, it would have been obvious for the modified Fortmann'748 2x4 and 3x4 cabinets to have multiple zones per compartment, two-pan/two-bay zoning (quadrant zoning for the 2x4 configuration, and following the two-pan/two-bay zoning principles, sextant zoning for the 3x4 configuration), with each independently controlled zone including upper and lower heaters for two pans/bays, adjacent zones being open to each other across the compartment.

556. This would be obvious based on the prior art teachings for zoning across the compartment (Jones, Hartfelder, Stanger, the IRHS Documents), zones including single upper and lower heaters (Jones, Hartfelder), zones sized for two pans (Hartfelder, Stanger, the IRHS Documents), adjacent zones being open to each other across the compartment (Jones, Stanger, the IRHS Documents), and the two-pan/two-bay zones facilitate paired-pan cooked food inventory continuity (Loy).

557. Fortmann'748 already discloses heating two compartments (e.g., upper and lower compartments) independently. EX1010: ¶¶[0022], [0024]. This modification would further Fortmann'748's goal of heating "zones" for "food products that require different warming temperatures" by providing multiple temperature zones within the same compartment. EX1010: ¶[0024]; EX1019: 1:36-45 ("fast food restaurants [] face challenges [to] maintain a large volume of different food products … [at] different storage temperatures"), 1:46-48 ("there exists a need for a holding cabinet … structured and arranged to maintain multiple categories of food products"), 4:45-52.

558. This would increase the overall number of temperature zones for the same cabinet size and enable each compartment of Fortmann'748's cabinet to receive pans of food requiring different warming temperatures, increasing the flexibility for each compartment and the cabinet to hold more types of food at the same time. EX1019: 1:38-40 ("Each type of food product may present different requirements. For example, different foods may require different storage temperatures"). This would also enable a quick service restaurant using the unit to hold multiple pans of each food type and use a first-in-first-out convention to meet high-volume customer demands. EX1043: ¶¶[0001], [0027], [0029]; Fig. 17.

559. Moreover, the two-pan/two-bay zones would be an efficient way to provide intermediate granularity in temperature zoning (shared upper and lower

heaters for the zone's pan pairs) without requiring the complexity of every pan/bay having its own heaters (more complex wiring and power management). EX1046: 2 ("Each recipe controls a two pan location … Full independence [per pan] is acceptable, but not required").

560. The two-pan/two-bay zoning would facilitate holding two pans per food type for providing cooked food inventory continuity, increasing speed of food service and customer satisfaction. EX1043: ¶¶[0002]-[0003] ("food management controls system for managing food in a food holding apparatus having [first and second] food holing location[s] for holding food of a first food type"); EX1007: 8 ("speed of service improves greatly, and better tasting product leads to higher guest satisfaction").

561. Such a modification would have been further motivated to meet demands of market forces. For example, consistent with Loy's two-pan/two-bay arrangement above and the two-pan/two-bay zoning taught by Hartfelder, Stanger, and the IRHS Documents, I understand that Burger King imposed standards for the manufacturers of its food holding cabinets requiring "that each product must have two PHU slots available [and] each heating zone [must] consists of 2 PHU pan spaces." EX1044: 50.

- **PHU Heating Zones**

  Both new PHU units have different heating zones. Following the current standards that each product must have two PHU slots available, each heating zone consists of 2 PHU pan spaces. Each of the red spaces highlighted below represents a heating zone, therefore a 4x2 or a 2x4 PHU will have space for 8 PHU pans and 4 heat zones. A 3x4 unit will have space for 12 PHU pans and 6 heat zones.



EX1044: 50 (zoning bracket annotations in original, underlining added).

562. The market forces also included Burger King's demands for a food holding unit in 2x4 and 3x4 configurations with "[h]eat source[s] required above and below product pan", "[d]ynamic controls to facilitate product-specific flexible recipes", and for "[e]ach recipe [to] control[] a two pan location." EX1045: 2. I understand that Burger King's specifications "always stated control of 2 pan zones for product rotation." EX1046: 2.

Product Holding Units (PHUs)

1. Heat source required above and below product pan
2. Dynamic controls to facilitate product-specific flexible recipes
    a. Each recipe controls a two pan location
3. Extend hold time of Burger Core Products – validated by Sensory testing
4. Must supply all PHU Sizes – 3x4, 2x4, 2x3, & 2x2 **4x2 PHU may be required outside of US
5. Cannot exceed the following dimension per size
    a. 2x2 - H 14.5" x W 20" x D 17.5"
    b. 2x3 - H 14.5" x W 30" x D 17.5"
    c. 2x4 - H 14.5" x W 36.5" x D 17.5"
    d. 3x4 - H 21" x W 36.5" x D 17.5"
    e. 4x2 - H 25.5" x W 20" x D 17.5"

EX1045: 2 (annotated).

i. Flat platen must have two zones for each two pans on 2x4 and 3x4. Example: A 2x4 will have two separate heat zones on top and two on bottom. Even if we can produce good results with one setting for current products, they want the flexibility for future development. This is a requirement for both Duke and Merco and is non- negotiable. The 2x3 could have 4 zones but they would like to see the price differential between 2 zones and 4. A decision will be made based on cost for the 2x3.

EX1049: 2 (annotated).

563. When implementing zones across Fortmann'748's compartments, POSA would maintain upper and lower heaters for more uniform heating, better food quality, and extended hold time. EX1010: ¶[0020]; EX1006: 1 ("Dual technology heating to reduce temperature variance from top to bottom", "Upper IR emitters provide optimum environment for holding of all fried foods resulting in extended hold time," "minimize temperature distribution from top to bottom of pan"); EX1005: 4 ("Extended hold times with improved food quality and consistency were achieved through the innovative combination of two proven,

patented Duke technologies: InfraRed and HeatSink," "ability to maintain gold standard sensory attributes at drastically extended hold times while delivering hotter food"); EX1007: 53 ("hold time extension across your full menu is possible with top and bottom heat," "Improved temperature consistency throughout the pan through the unique use of dual holding technologies, InfraRed and HeatSink," "Precise holding for each product in an optimized environment tailored to that product").

564. The POSA would maintain the openness of Fortmann'748's compartments (pan bays open to each other across compartments) for ease of compartment cleaning. EX1005: 13-14 ("Use a sanitizer-soaked towel and wipe out all compartments"); EX1017: 7:32-35 ("[t]his leaves the cavity 48 of the heat sink 46 unobstructed, and it is easily cleaned, owing to its continuous and smooth surfaces").

565. To the extent Fortmann'748's top compartment does not have heaters above it and Fortmann'748's bottom compartment does not have heaters below it, this modification would further add these heaters in the top wall (11) and bottom wall (12), thereby providing better and more uniform heating, better food quality, and extended hold time for the top and bottom compartments as is provided in the compartments between the shelves (21). EX1006: 1 ("minimize temperature distribution from top to bottom of pan"); EX1005: 4 ("[e]xtended hold times with

improved food quality and consistency were achieved through the innovative combination of two proven, patented Duke technologies: InfraRed and HeatSink. This new technology allows you to precisely control the environment in each pan"); EX1007: 53 ("[i]mproved temperature consistency throughout the pan through the unique use of dual holding technologies").

566. This modification would merely require duplicating and resizing Fortmann'748's existing heaters (60) around the compartments so that each zone within the compartments includes discrete upper and lower heaters.

567. This modification would have been nothing more than the application of a known technique (the upper and lower heating elements per heating zone of Jones or Hartfelder) to improve a similar device (Fortmann'748's cabinet) in the same way (independent temperature control of each heating zone via each zone's upper and lower heating elements).

568. There would have been a reasonable expectation of success in making this modification given:

(1) Fortmann'748 already teaches heaters in shelves for heating compartments from above and below and a zone-capable control system;

(2) the similarities between the Fortmann'748 cabinet and the holding unit of Jones and Hartfelder (e.g., all units with compartments for warming trays/pans of food via heating elements);

(3) the function of Fortmann'748's heaters would not change; and

(4) Jones, the IRHS Documents, and McMillan demonstrate individual heating of adjacent zones open to each other across a compartment was possible.

EX1010: ¶[0027]; EX1012: ¶¶[0073], [0096]; EX1019: 4:36-52, Fig. 5a; see also EX1020: ¶¶[0021]-[0023] (in the context of individually controllable heating zones A-C across a shelf (21), disclosing that "shelves 21 are preferably made from thermally conductive materials ... so that the temperature of the food holding compartments 23 can be maintained by the transfer of heat from the shelf 21 into the compartment"), Fig. 2; EX1005: 20, 25; EX1007: 53.

569. U.S. Publication No. 2011/0114618 ("Chung") further demonstrates that the POSA knew a single heating compartment could successfully be divided into multiple heating zones despite sharing a common surface between the heating zones. EX1020: ¶¶[0021]-[0023]. Specifically, each of Chung's shelves (21) were successfully divided into three separately controlled temperature zones (A, B, C). EX1020: ¶[0021]; EX1020: ¶[0022] ("[t]emperature control of the separate zones A, B and C is accomplished by using separate temperature control elements in each zone, and which are thermally coupled preferentially to one zone over the others. By way of example, zone A in a first shelf has a heater embedded in the shelf and centered in the "A" zone. It therefore provides most of its heat output into the A zone.").

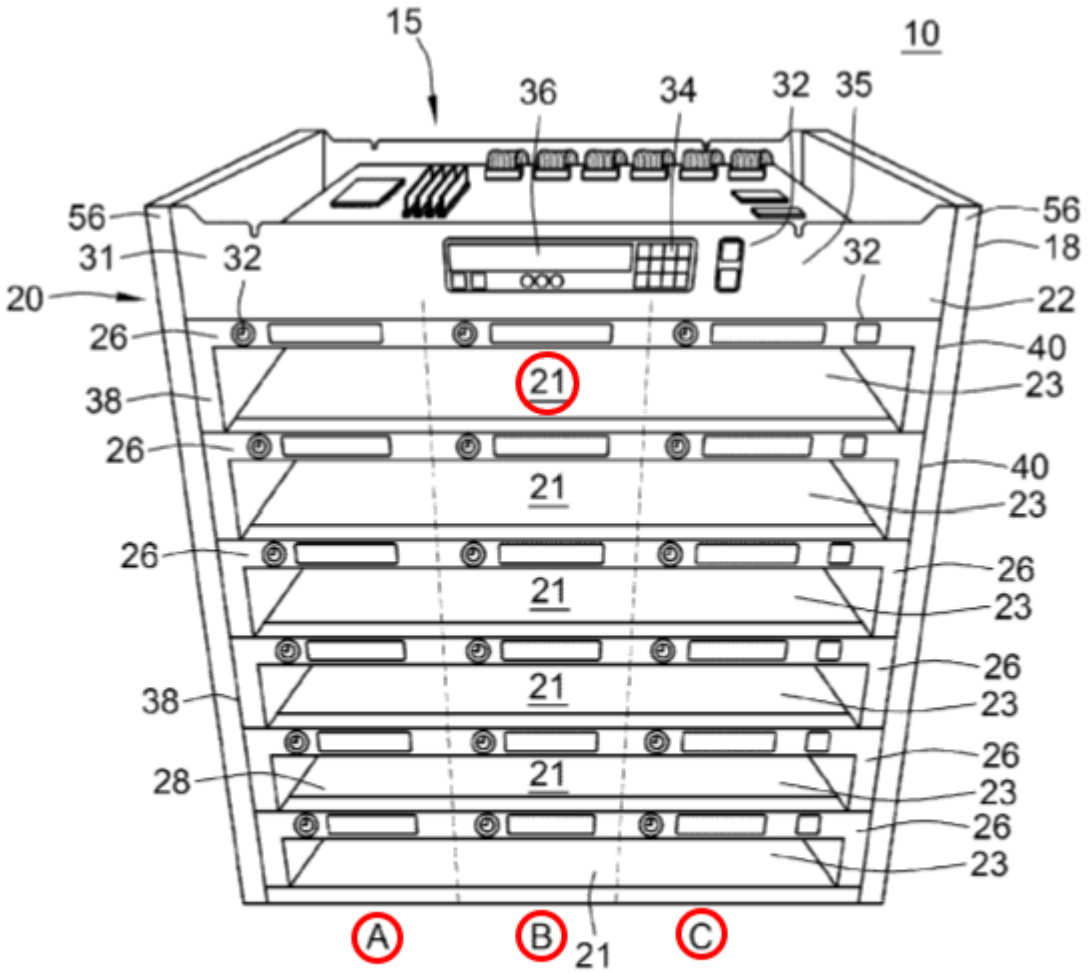
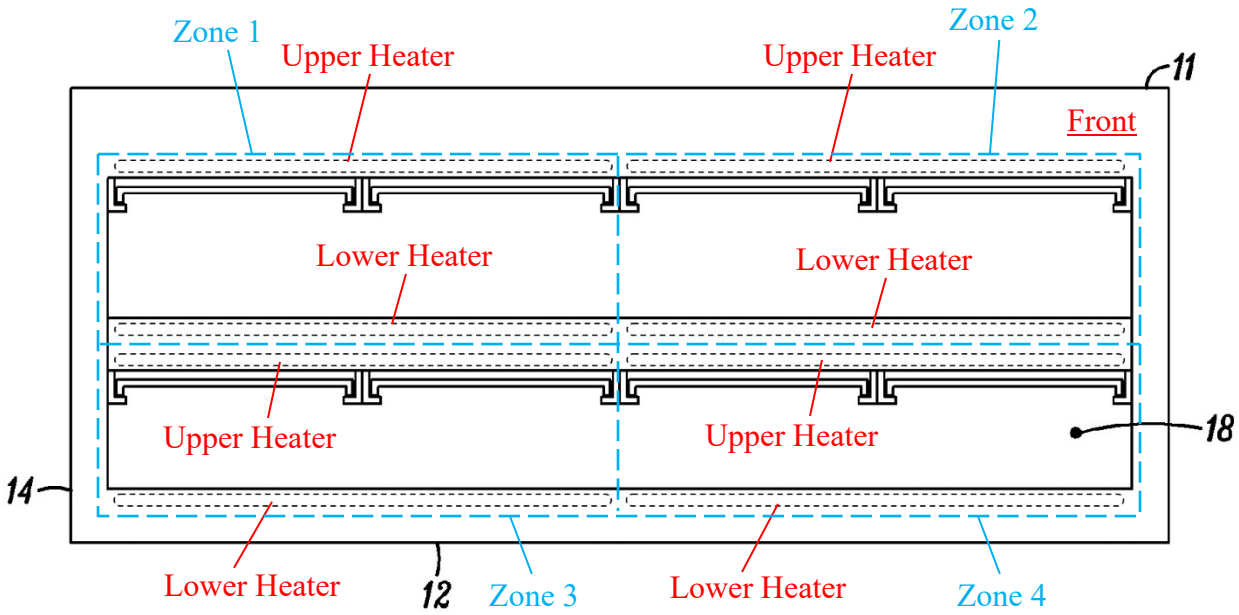


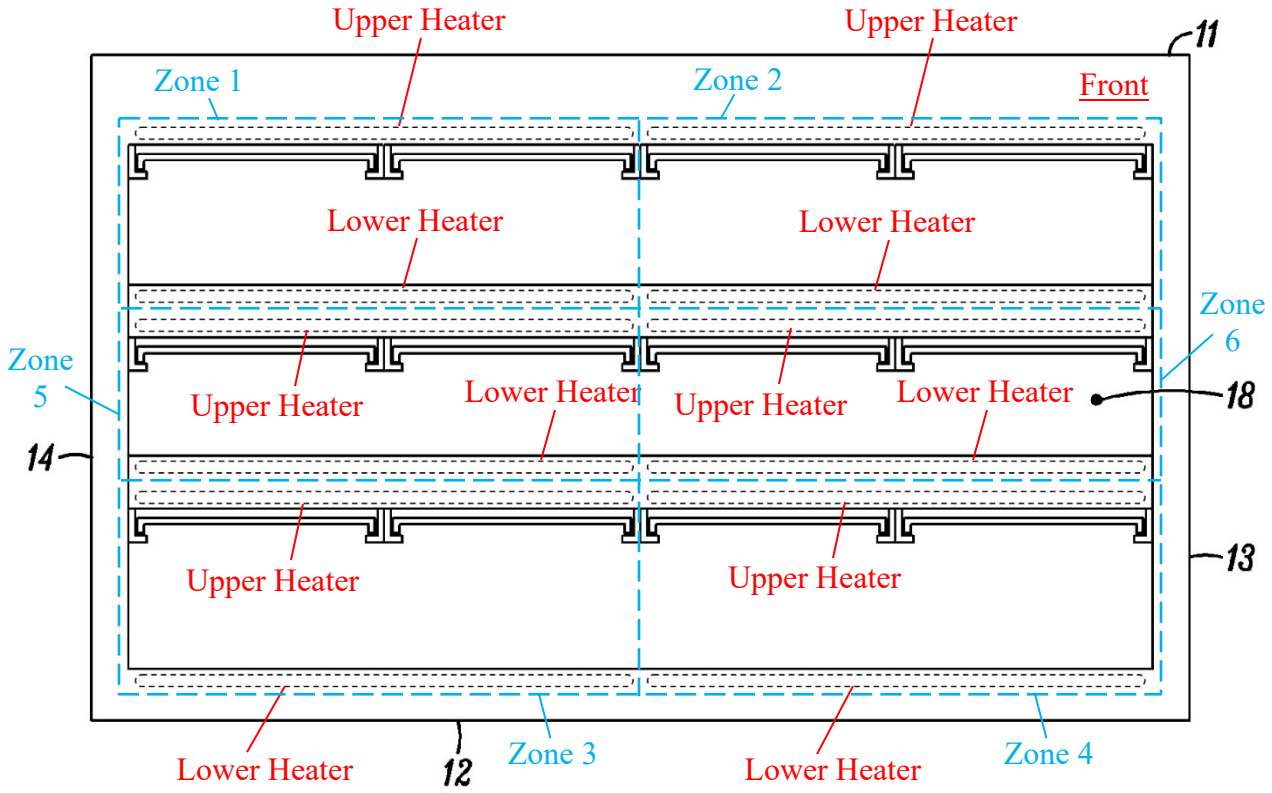
FIG. 2

EX1020: Fig. 2 (annotated).

570. Based on these teachings, the POSA would duplicate the existing heaters (60) of Fortmann'748 so that each two-pan/two-bay heating zone has an upper heater and a lower heater shared by the pans and that are independently controllable from heaters of other zones. Schematic illustrations of the 2x4 and 3x4 Fortmann'748 cabinet modified to have a single upper heater and a single lower heater for each zone are shown below.

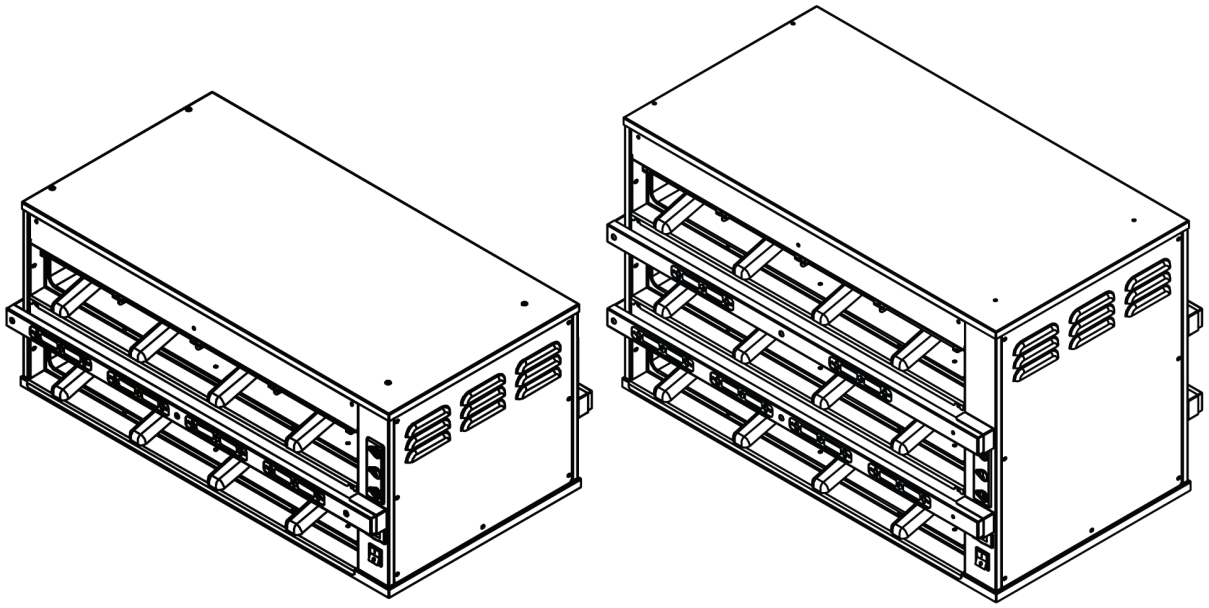


EX1010: Fig. 2 (modified, annotated).



EX1010: Fig. 2 (modified, annotated).

571. An alternative but similar zoned heating arrangement would have been obvious in view of the IRHS Documents (EX1005-1008). The IRHS Documents teach a holding unit with upper and lower compartments (or upper, middle, and lower compartments) that receive food trays. EX1005: 1; EX1006: 1; EX1007: 56. It would have been obvious to combine the teachings of the IRHS Documents (EX1005-1008) as explained in Ground 1.



EX1005: 1.



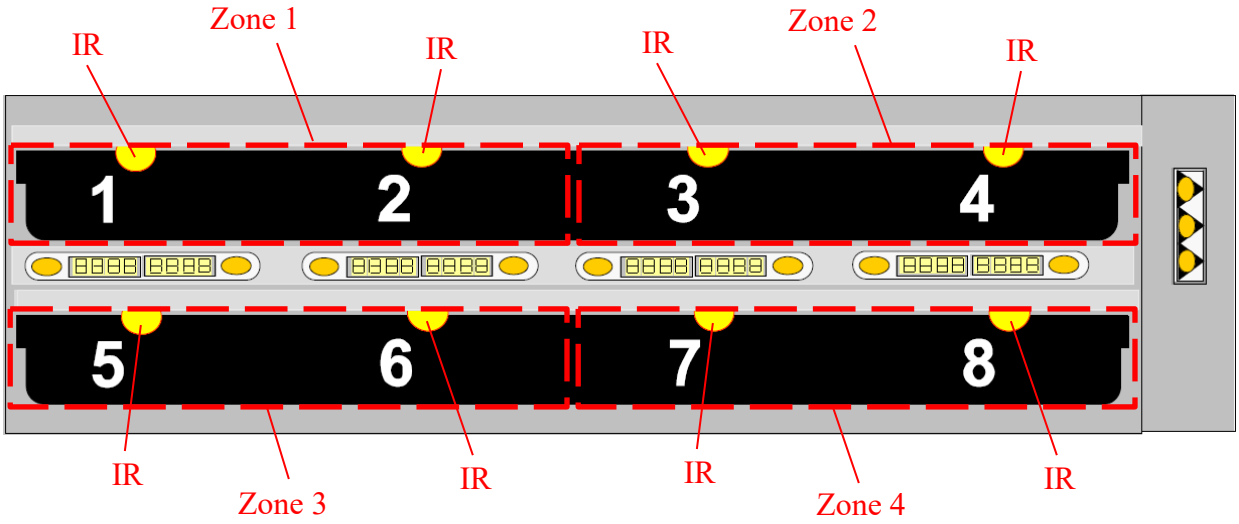
EX1007: 56.

572. For example, the IRHS Documents describe an IRHS24 Holding Unit (the "2" and "4" indicating the unit has eight pan locations arranged in a 2x4 grid (two rows and four columns)) and an IRHS34 Holding Unit (the "3" and "4" indicating the unit has twelve pan locations arranged in a 3x4 grid (three rows and four columns)) having independent heating zones. EX1005: 16 ("[t]his new technology allows you to precisely control the environment in each pan, allowing

customized settings for each food product"), 25 ("1/2 ROW HEAT (2 Wells)" and "Per Well IR Element").

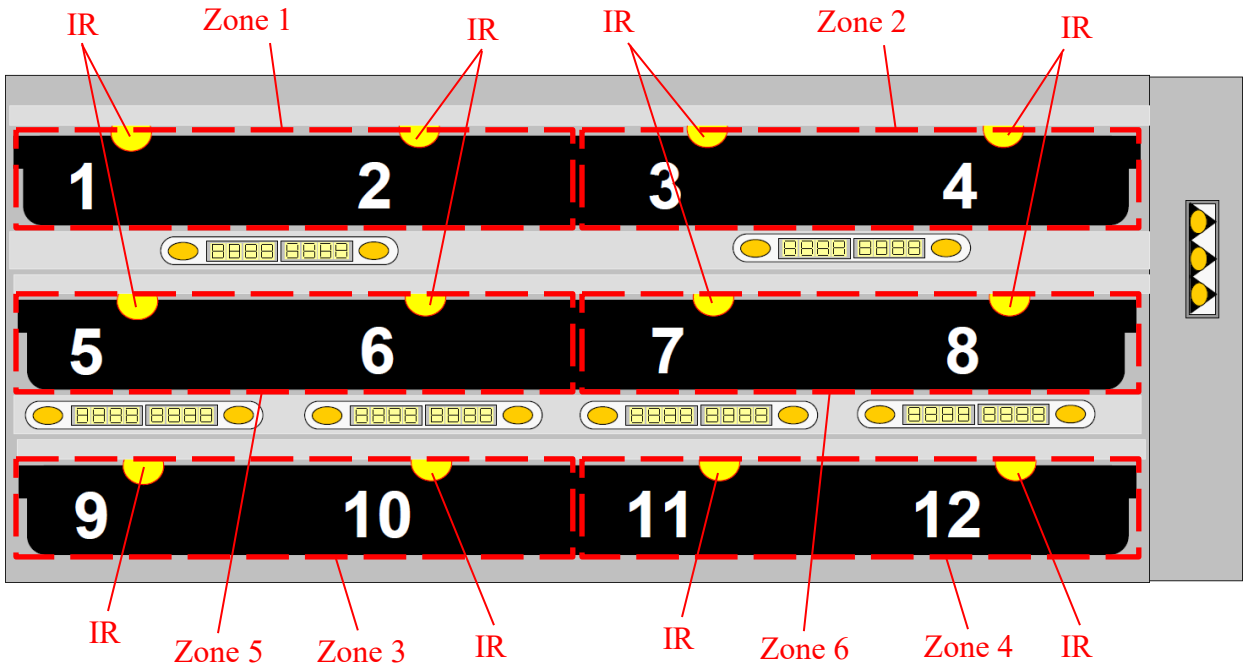
573. The IRHS Documents further explain the IRHS24/IRHS34 Holding Units have "[z]oned bottom heat" and "individually controlled IR emitters" for top heat. EX1006: 1; EX1007: 53 ("dual holding technologies, InfraRed and HeatSink").

574. The IRHS24 Holding Unit has quadrant zoning, the first heating zone includes pan locations or wells "1" and "2." The second heating zone includes pan locations or wells "3" and "4." The third heating zone includes pan locations or wells "5" and "6." And the fourth heating zone includes pan locations or wells "7" and "8." The first and second zones are open to each other across the upper compartment and the third and fourth zones are open to each other across the lower compartment.



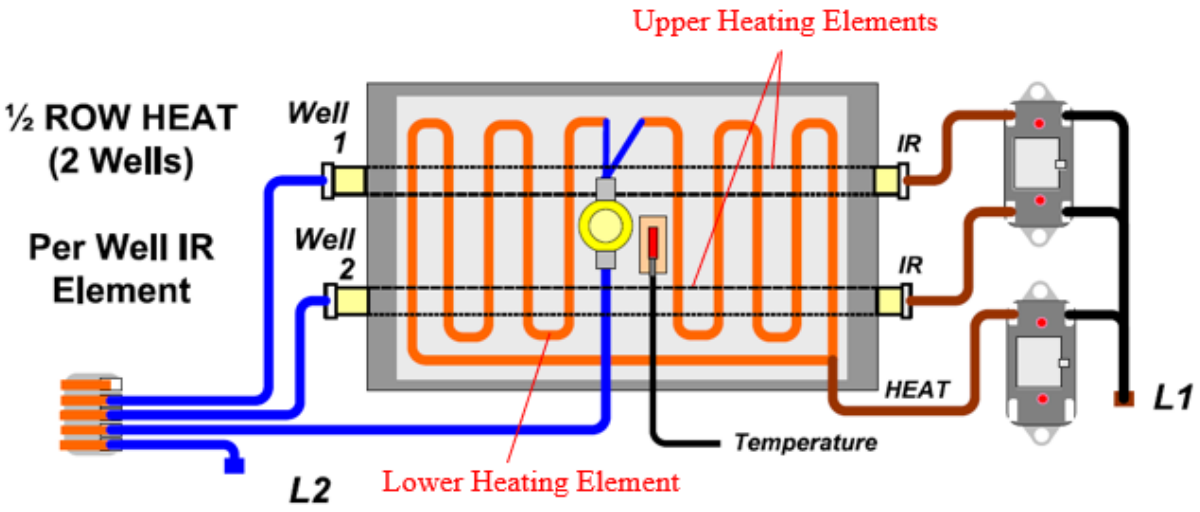
EX1005: 25 (annotated).

575. The IRHS34 Holding Unit has sextant zoning, the first heating zone includes pan locations or wells "1" and "2." The second heating zone includes pan locations or wells "3" and "4." The third heating zone includes pan locations or wells "9" and "10." The fourth heating zone includes pan locations or wells "11" and "12." The fifth heating zone includes pan locations or wells "5" and "6." And the sixth heating zone includes pan locations or wells "7" and "8."

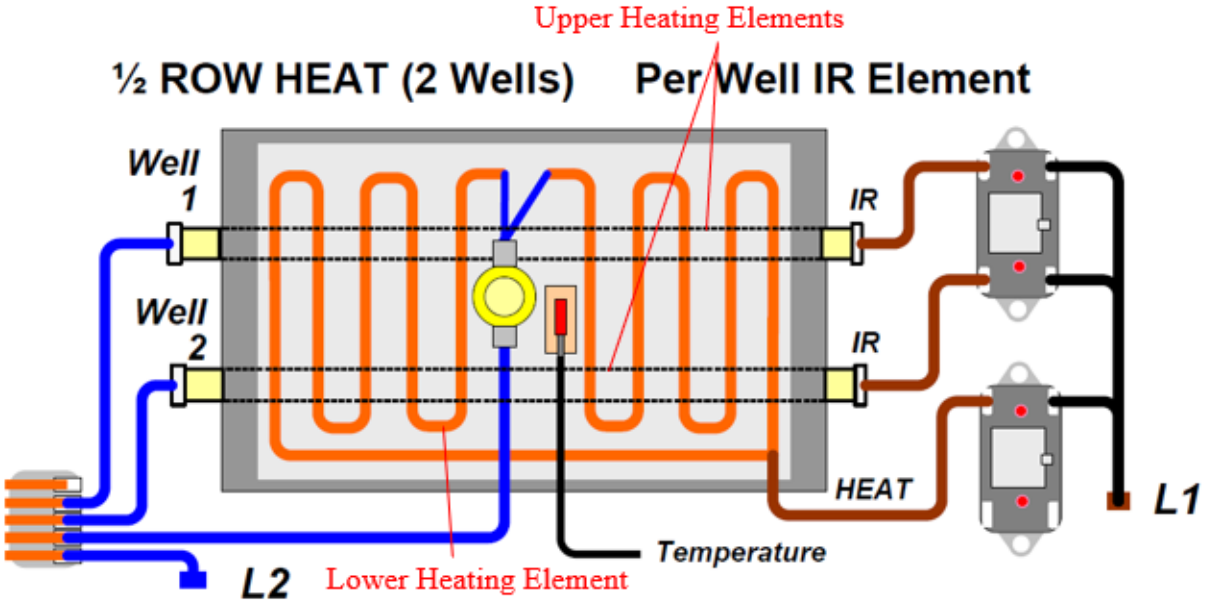


EX1005: 26 (annotated).

576. Each heating zone includes upper heating elements in the form of infra-red (IR) bulbs and lower electrical resistance heating element. EX1005: 20 (elements 16 and 17), 25, 26; EX1007: 53. The images below show the upper heating elements (IR) and lower heating element for one heating zone:



EX1005: 25 (annotated).



EX1005: 26 (annotated).

577. It would have been obvious to modify the Fortmann'748 2x4 and 3x4 cabinets to provide multiple zones per compartment, two-pan/two-bay zoning (quadrant zoning for the 2x4 configuration and sextant zoning for the 3x4 configuration), where each independently controlled zone includes two upper

heaters and a single lower heater for the two pans/bays, with adjacent zones being open to each other across the compartment—as taught by the IRHS Documents.

578. Fortmann'748 already discloses heating two compartments (*e.g.*, upper and lower compartments) independently. EX1010: ¶¶[0022], [0024]. Again, this modification would further Fortmann'748's goal of heating "zones" for "food products that require different warming temperatures" by providing multiple temperature zones within the same compartment. EX1010: ¶[0024]; EX1019: 1:36-45 ("fast food restaurants [] face challenges [to] maintain a large volume of different food products … [at] different storage temperatures"), 1:46-48 ("there exists a need for a holding cabinet … structured and arranged to maintain multiple categories of food products"), 4:45-52.

579. This would increase the overall number of temperature zones for same cabinet size and enable each compartment of Fortmann'748's cabinet to receive pans of food requiring different warming temperatures, increasing the flexibility for each compartment and the cabinet to hold more types of food at the same time. EX1007: 51 ("allows unlimited menu flexibility as each food product has tailored settings to control the thermal path of the food, leading to optimal quality, consistency and extended hold"), 53 ("[t]otal well independence allows freedom in product placement in the IRHS"); EX1019: 1:38-40 ("Each type of food product may present different requirements. For example, different foods may require

different storage temperatures"). This configuration would also "provide improved temperature separation between tray or bin locations" and "more accurate temperature control between products." EX1012: ¶[0096]. This would also allow users to "precisely control the environment in each pan, allowing for customized settings for each food product." EX1005: 16.

580. Again, to the extent Fortmann'748's top compartment does not have heaters above it and Fortmann'748's bottom compartment does not have heaters below it, this modification would add these heaters in the top wall (11) and bottom wall (12), thereby providing better and more uniform heating, better food quality, and extended hold time for the top and bottom compartments as is provided in the compartments between the shelves (21). EX1006: 1 ("minimize temperature distribution from top to bottom of pan"); EX1005: 4 ("[e]xtended hold times with improved food quality and consistency were achieved through the innovative combination of two proven, patented Duke technologies: InfraRed and HeatSink. This new technology allows you to precisely control the environment in each pan"); EX1007: 53 ("[i]mproved temperature consistency throughout the pan through the unique use of dual holding technologies"). This modification would merely require duplicating and resizing Fortmann'748's existing heaters (60) around the compartments so that each zone within the compartments includes both upper and lower heaters.

581. This modification would have been nothing more than the application of a known technique (the inclusion of upper and lower heating elements per heating zone of the IRHS Documents) to improve a similar device (the Fortmann'748 cabinet) in the same way (providing independent temperature control of each heating zone via each zone's upper and lower heating elements).

582. There would have been a high expectation of success in making this modification given:

(1) Fortmann'748 already teaches heating a compartment with heaters built into the shelf and a zone-capable control system;

(2) Fortmann'748 already teaches that each shelf (21) may "include[] one or more heaters 60";

(3) Fortmann'748 already teaches that the heaters (60) could provide heating to the compartments both above and below the shelf (21);

(4) the similarities between the Fortmann'748 cabinet and the holding unit the IRHS Documents (*e.g.*, all units with at least two compartments for warming trays/pans of food via heating elements);

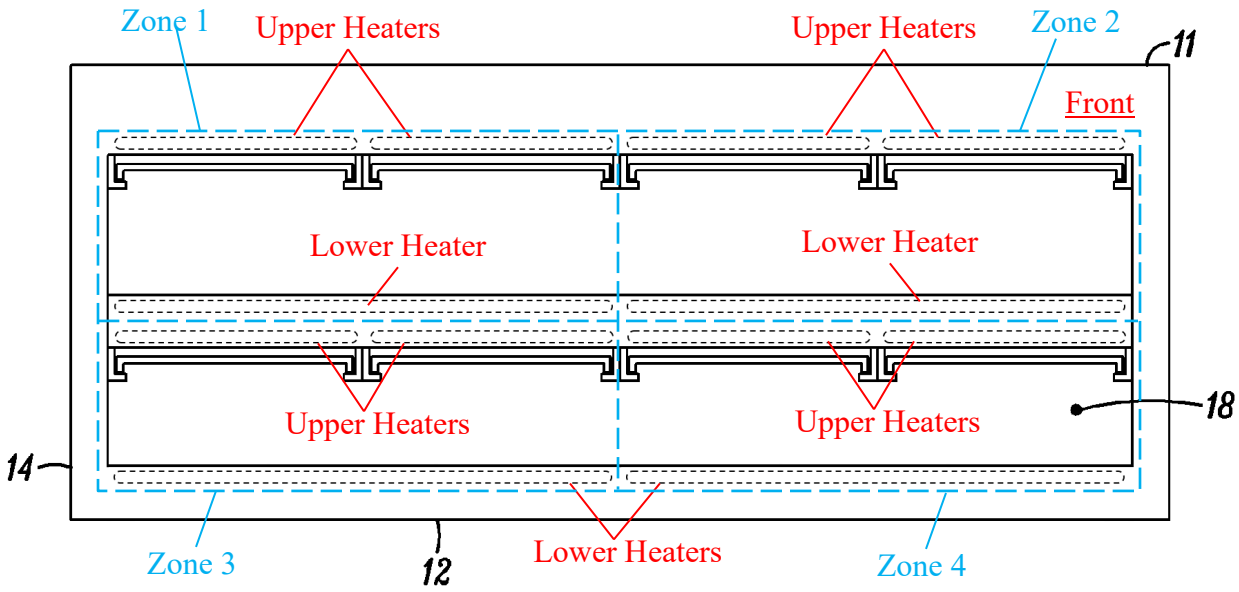
(5) that the function of Fortmann'748's heaters would not change; and

(6) the IRHS Documents demonstrate that individual heating of adjacent zones within a compartment was possible.

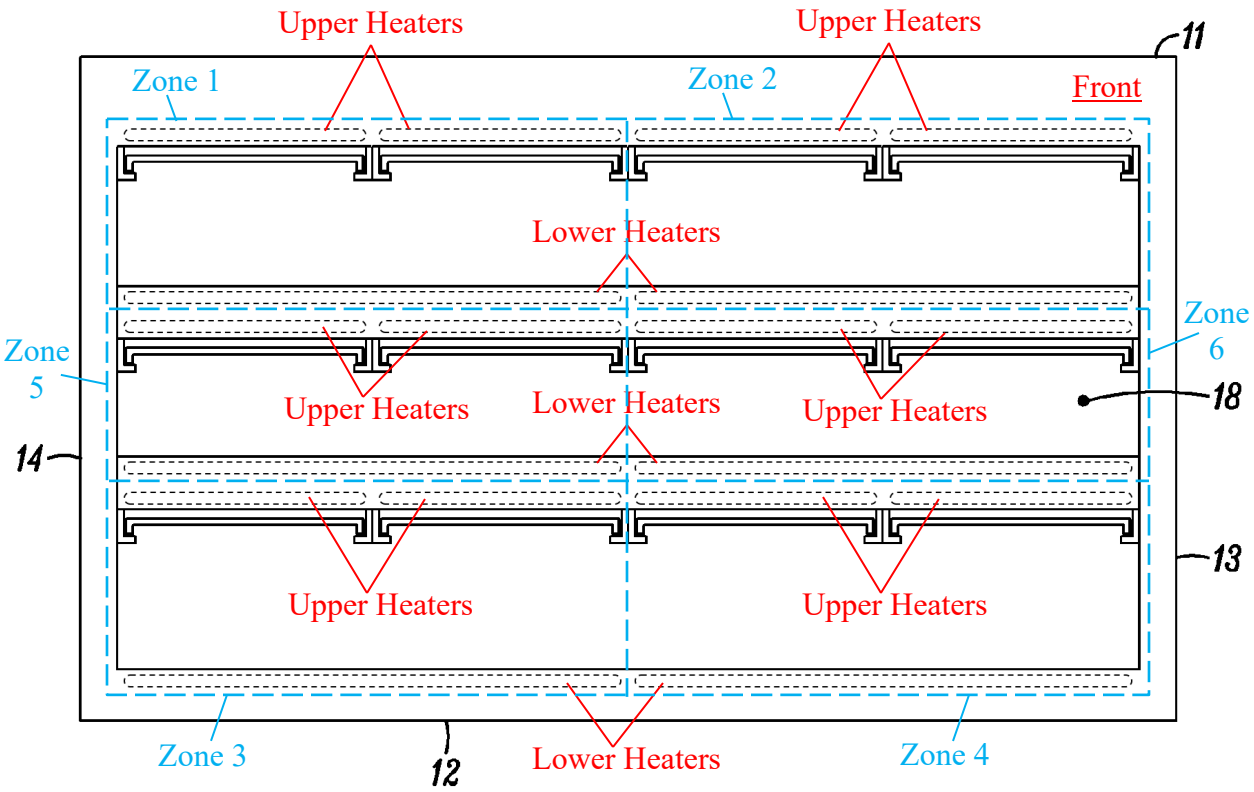
583. Additional prior art references demonstrate that there was a motivation within the field to include multiple heating zones across a shelf and that such configurations were already known to be readily feasible.

584. IRHS Documents teach each zone (e.g., pair of pan holding locations) within a compartment of a 2x4 or 3x4 holding unit having two upper heating

elements (e.g., IR bulbs), one for each pan holding location/bay, and a single lower heating element. EX1005: 20, 25; EX1006: 1; EX1007: 53. Based on these teachings, the POSA would duplicate the existing heaters (60) of Fortmann'748 to provide each two-pan/two-bay zone with two upper heaters and a single lower heater, and the heaters of each zone being independently controllable from heaters of other zones. Schematic illustrations of the 2x4 Fortmann'748 cabinet modified to have this arrangement of heaters are shown below. The 3x4 Fortmann'748 cabinet would be similar.

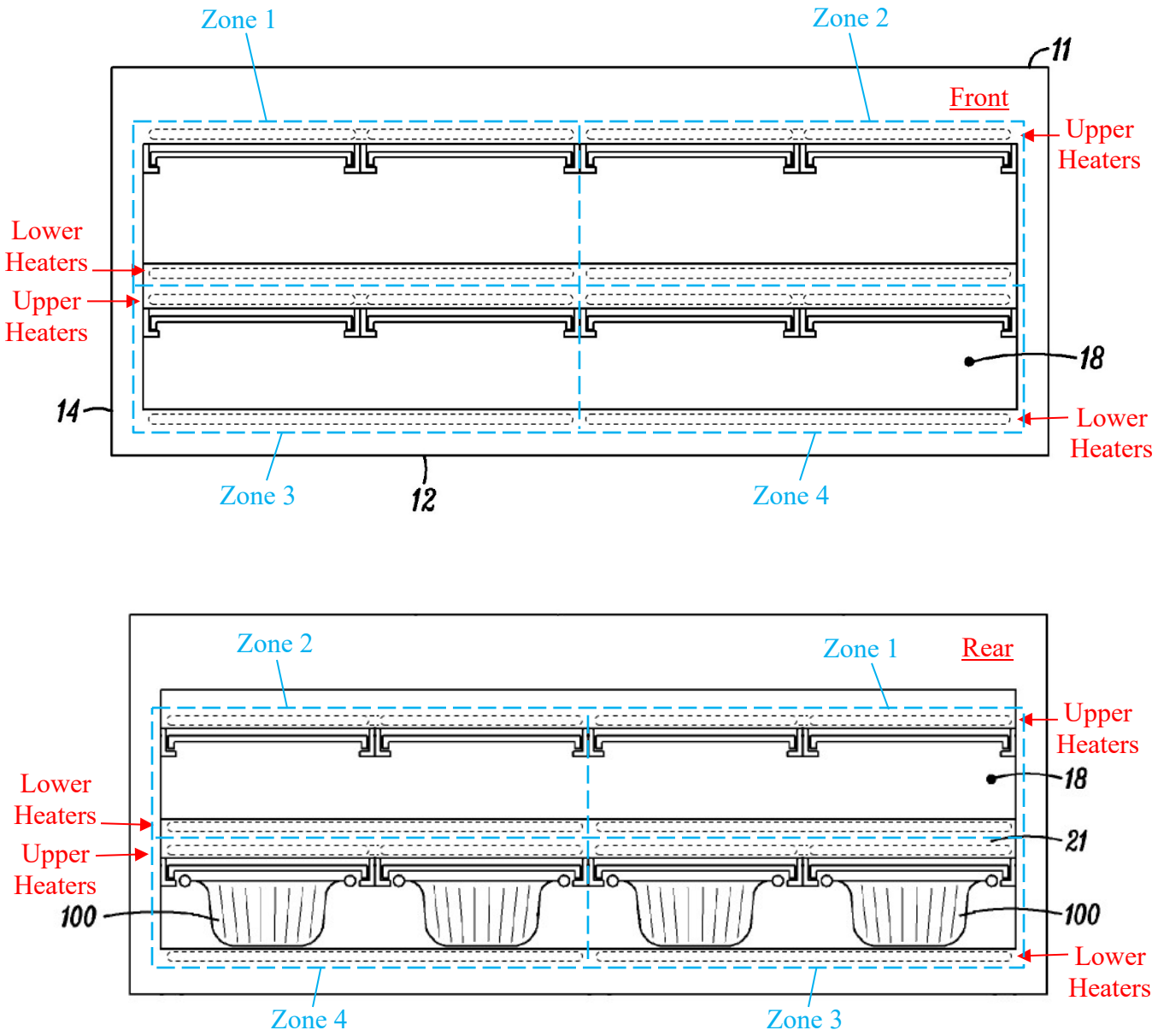


EX1010: Figs. 2 (modified, annotated).

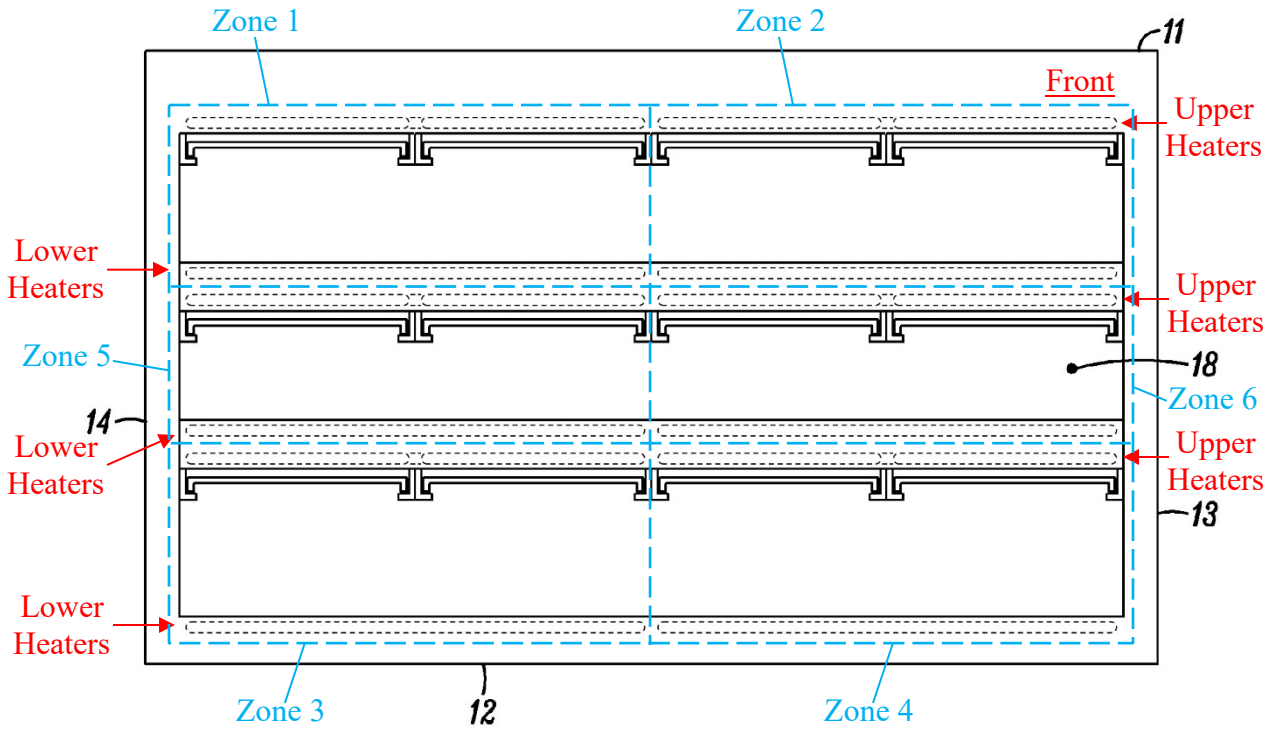


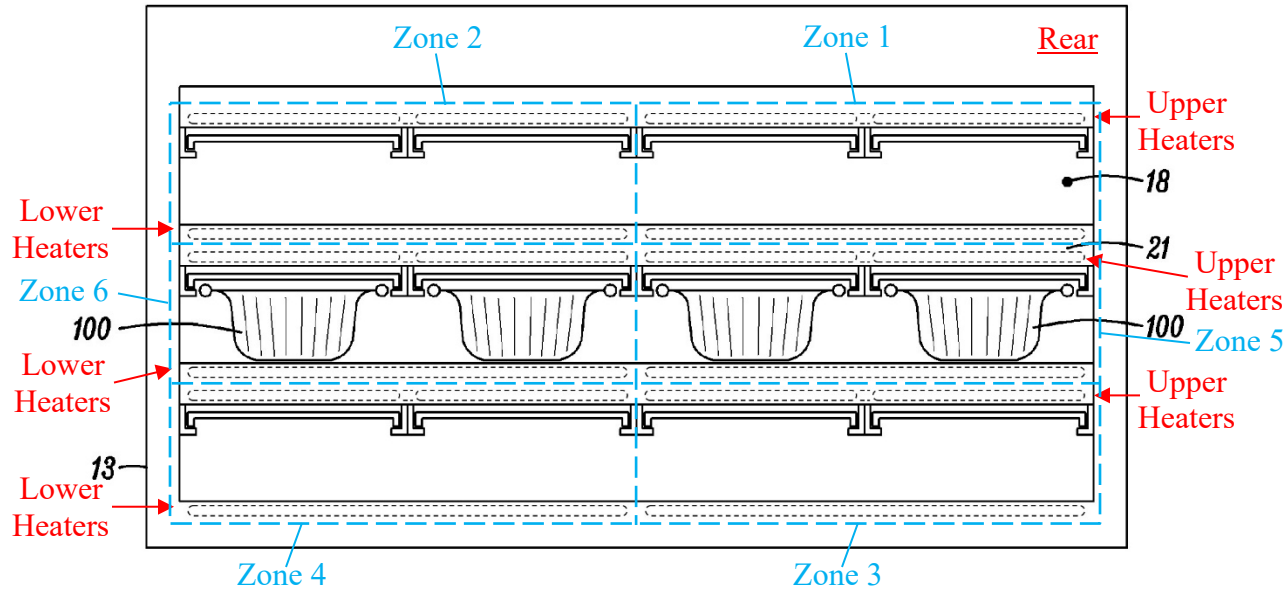
EX1010: Figs. 2 (modified, annotated).

585. Schematic illustrations of the 2x4 and 3x4 Fortmann'748 cabinets indicating both heater configurations—(1) single upper heater and single lower heater for each zone, and (2) two upper heaters and single lower heater for each zone—are shown below. Notably, the claims of the '264 Patent would have been obvious regardless of which of the two heater configurations discussed in Paragraphs 570 and 584 are relied upon. The following illustrations are intended to simultaneously represent both configurations and will be used in the Grounds 10-12 based on Fortmann'748.



EX1010: Figs. 2 and 6 (modified, annotated).





EX1010: Figs. 2 and 6 (modified, annotated).

586. Insulation can be added to minimize the impact adjacent heaters may have on one another and direct the heat from the heaters into the compartments, as known in the art. EX1018: 4:33-38, Fig. 2; EX1014: 9:32-37, Fig. 10.

3. Independently Controllable Top and Bottom Heaters per Zone

587. Fortmann'748's heaters (60) are taught to be independently controllable from one another. EX1010: ¶¶[0021] ("each shelf 21 may include one or more heaters 60 that are controlled separately from the heaters 60 that are disposed in conjunction with the remaining shelves 21"), [0027] ("the controller may selectively provide or secure current to the one or more heaters 60 disposed within each zone to control the temperature of the zone").

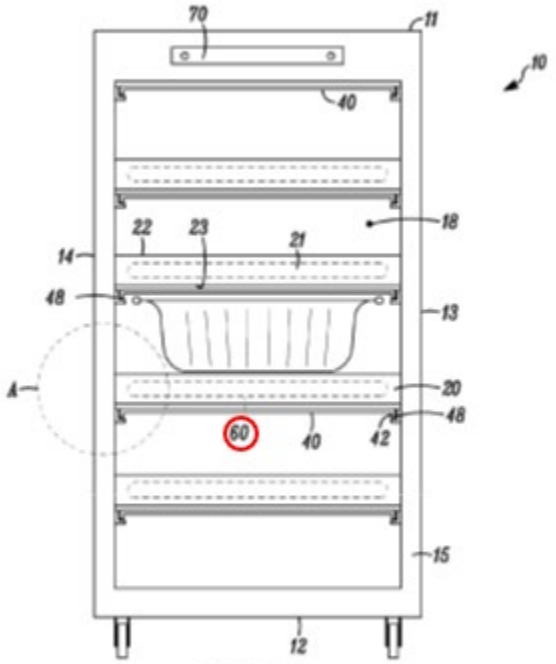


FIG. 2

EX1010: Fig. 2 (annotated).

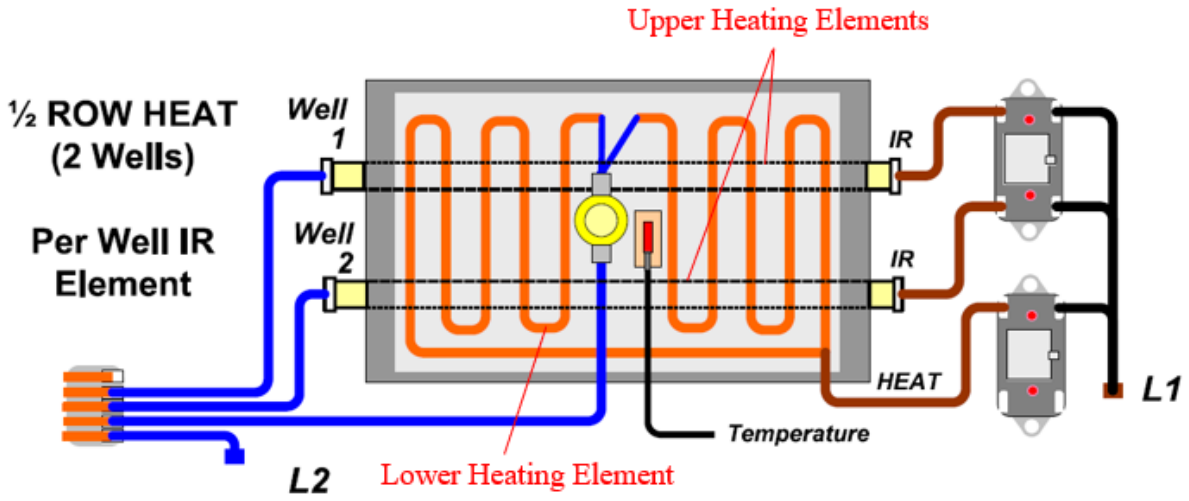
588. Jones, Fortmann'197, the IRHS Documents, and McMillan likewise teach food holding zones that are independently controllable from one another, providing more particularized descriptions of their disclosed controls configurations which the POSA would have been motivated to incorporate with respect to the Fortmann'748 cabinet as modified in Paragraphs 524-586 (Ground 10, Section XIII(A)(1)-(2)) above.

589. Jones teaches that upper and lower heaters for the food holding zones are independently controllable. Jones explains its "control features of the invention provide control over … upper and lower heat settings that are … programmed into the software for each product name." EX1012: ¶[0098]. Jones describes control operations in which an operator can independently set the temperatures of the upper and lower heating elements separately. EX1012: ¶[0130] ("Use 'Up' and 'Down' Arrows to Set Upper Heater Temperature" and "Use 'Up' and 'Down' Arrows to Set Lower Heater Temperature").

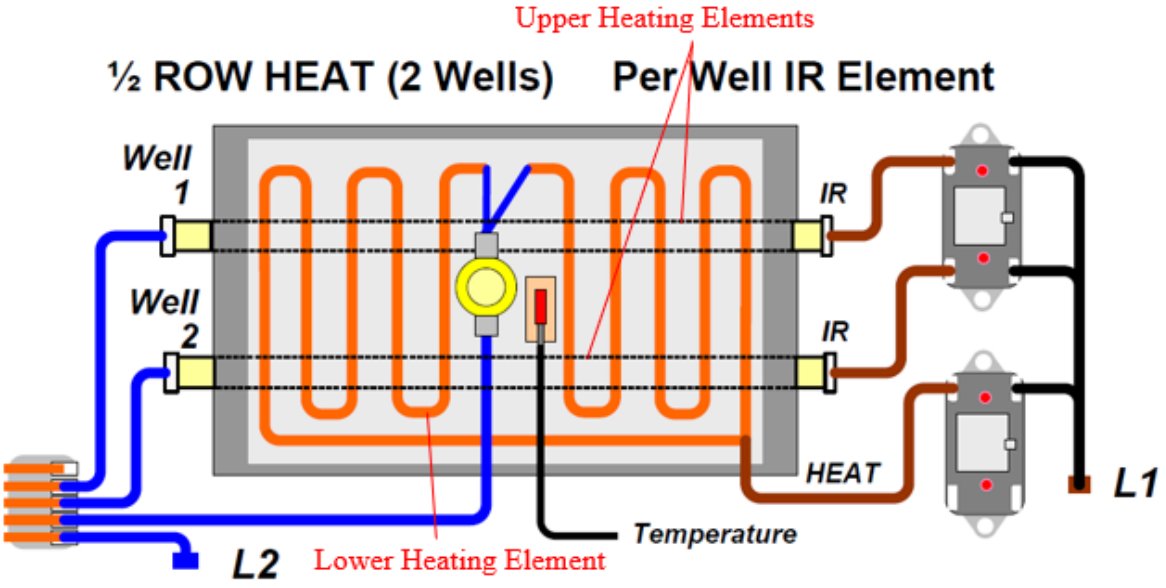
590. Similarly, Fortmann'197 has independently controllable upper and lower heaters for each of its zones. EX1014: 8:63-67 ("the plate 40 may include multiple heaters 501, such as one heater 501 per discrete heating zone 100, with the controller 1000 controlling the heat to each heater 501 to maintain the desired temperature in the specific discrete heating zone"), 9:50-65 ("[t]he upper heaters

521, 522, 523, 524 may be individually controlled to maintain the temperature within the respective discrete heating zone 100 associated with the heater"), 9:59-65 ("the instructions inputted by the user … may be used by the controller 1000 to operate the respective upper heater (and lower heater 501 in embodiments where the lower heater (or a portion of the lower heater may be controlled)[)] as necessary to maintain the desired temperature within the zone)").

591. Likewise, the IRHS Documents teach the upper (IR bulb) and lower (electrical resistance heating element) heaters for each zone which are independently controllable from one another, as explained in Paragraphs 166-211 above (Ground 1, claim limitation 1.b).

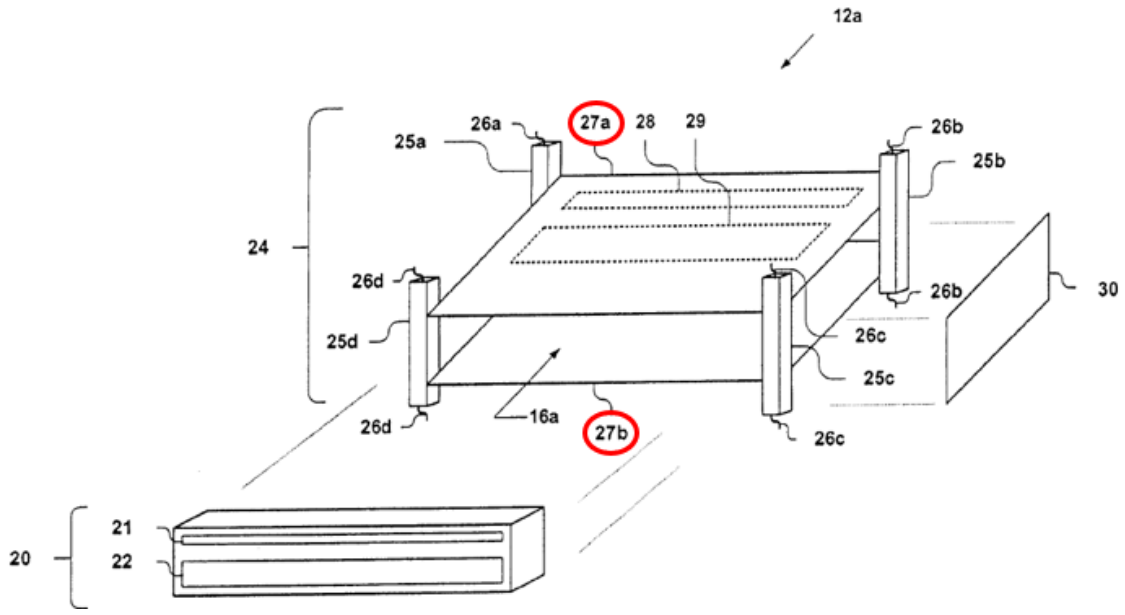


EX1005: 25 (annotated).



EX1005: 26 (annotated).

592. Lastly, McMillan states "[e]ach of the heater plates 27a, 27b may be individually controlled to maintain a certain temperature set by an operator." EX1019: 4:40-42. As shown below, heater plate "27a" is heating a food holding zone above a shelf (i.e., a lower heater for the food holding zone above the shelf) and heater plate "27b" is heating a food holding zone below a shelf (i.e., an upper heater for the food holding zone below the shelf).



EX1019: Fig. 2 (annotated).

593. It would have been obvious to make the upper and lower heaters of each zone of Fortmann'748's cabinet as modified in Paragraphs 524-586 above to be independently controllable, as taught by Jones, Fortmann'197, the IRHS Documents, and/or McMillan.

594. This adaptation would have provided "more accurate temperature control between products" and "limit temperature bleed over between [zones]." EX1012: ¶[0096]. This adaptation would have also enabled "precise[] control [of] the environment in each pan, allowing customized settings for each food product" and provided "the ability to maintain gold standard sensory attributes at drastically extended hold times while delivering hotter food to [] customers." EX1005: 4 (explaining the benefits of the IRHS heatsink and IR bulbs); EX1007: 10 ("Tailor each well specifically to the products within them, providing unlimited flexibility

per well"). Independently controllable upper and lower heaters would have also "minimize temperature distribution from top to bottom of [the] pan" in the zone to improve temperature consistency. EX1006: 1; EX1007: 53 ("[i]mproved temperature consistency").

595. Additionally, having independently controllable upper and lower heaters of each zone of the modified Fortmann'748's cabinet would have "offer[ed] maximum flexibility in setting the precise food holding temperatures." EX1009: 16. This would have allowed the upper and lower heaters of each zone to be set to different temperatures as needed for certain food products (*e.g.*, eggs) which may have higher quality where the overhead heating is set differently than the heating from underneath. EX1028: 39 (teaching the upper heating temperature for eggs is 160°F and the lower heating temperature for eggs is 180°F).

596. This modification would have been nothing more than the application of a known technique (the independently controllable upper and lower heaters per heating zone of Jones, Fortmann'197, the IRHS Documents, and/or McMillan) to improve a similar device (Fortmann'748's cabinet) in the same way (incorporating independent temperature control of each heating zone via each zone's independently controllable upper and lower heaters).

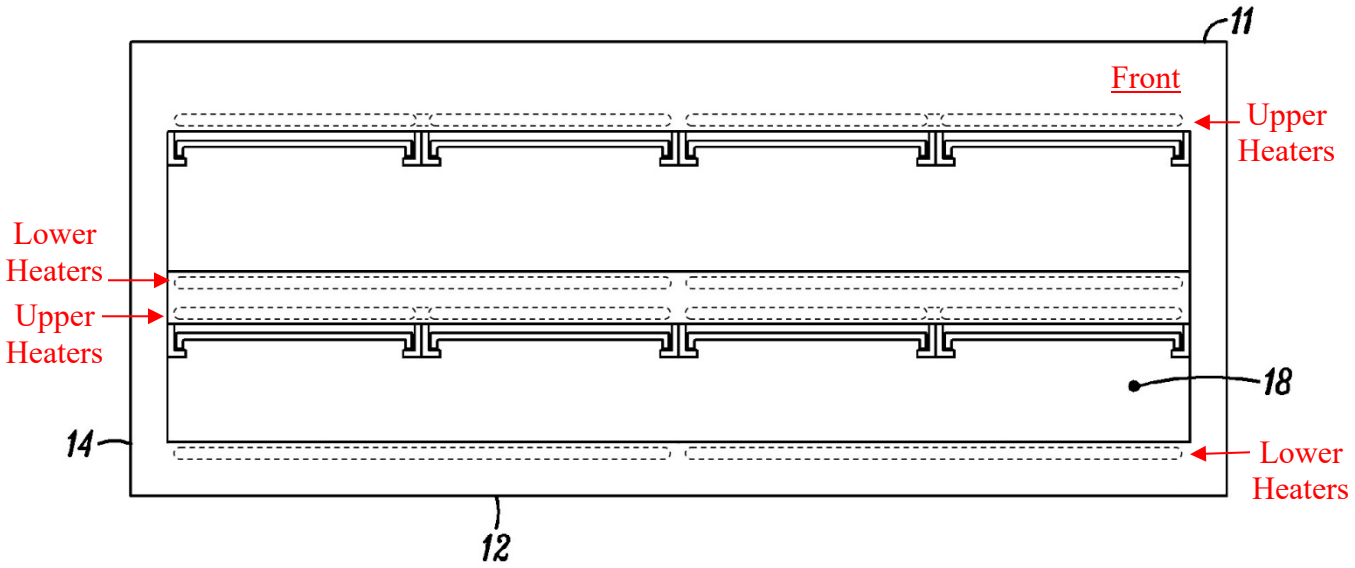
597. There would have been a high expectation of success in making this modification given:

(1) the similarities between the Fortmann'748 cabinet and the holding unit of Jones, Fortmann'197, the IRHS Documents, and McMillan (*e.g.*, all units with two or more compartments for warming trays/pans of food via heating elements);

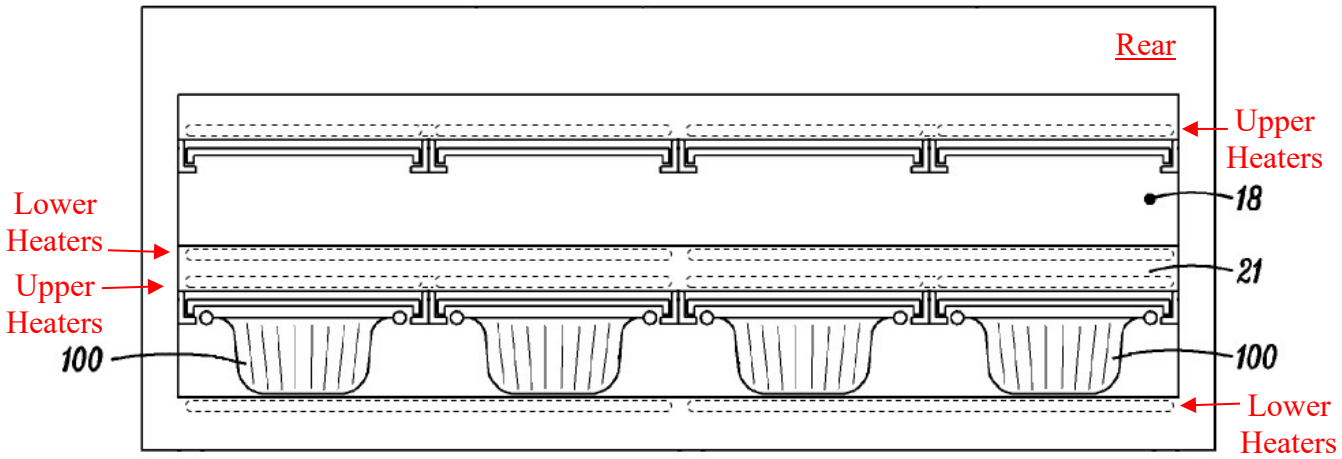
(2) Fortmann'748 has a zone-capable control system. EX1010: ¶[0027]; and

(3) that Jones, Fortmann'197, the IRHS Documents, and McMillan demonstrate it is feasible to independently control upper and lower heaters. EX1005: 16; EX1006: 1; EX1007: 53; EX1012: ¶[0096]; EX1014: 8:63-67, 9:50-65; EX1019: 4:36-59.

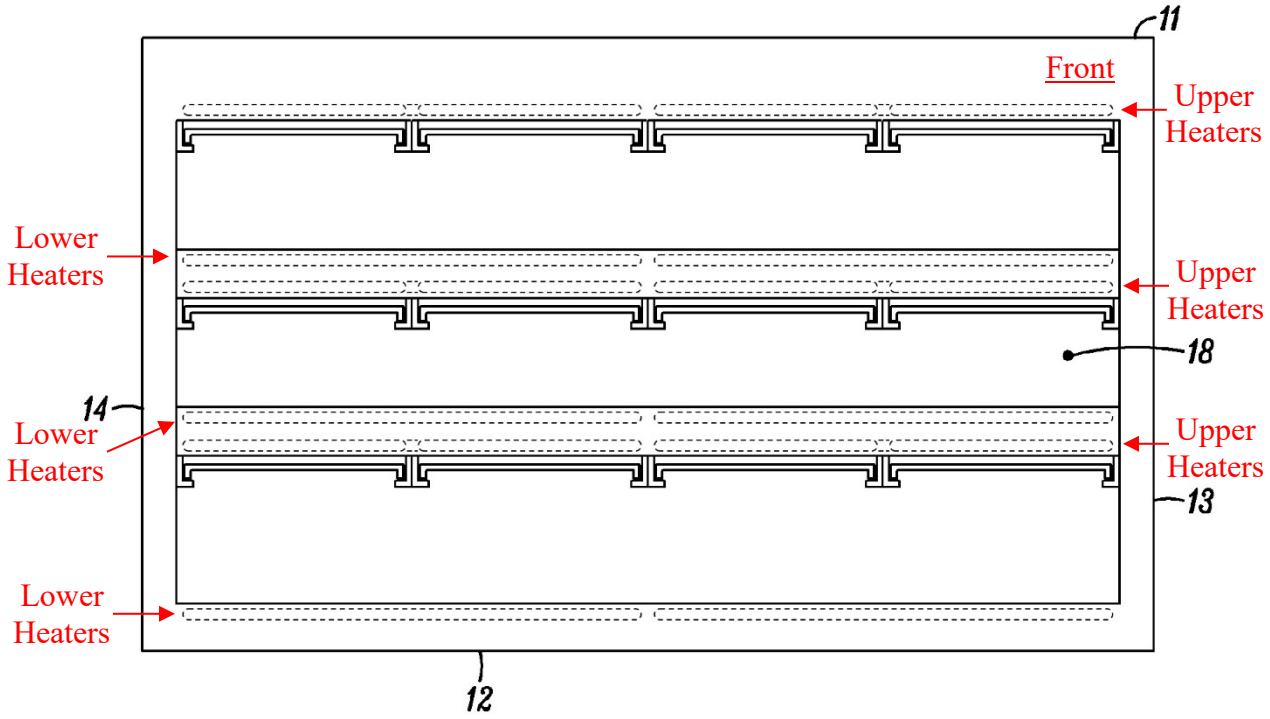
598. Representative illustrations[3] of Fortmann'748's cabinet modified to demonstrate each food holding zone having independently controllable upper and lower heaters as shown below:

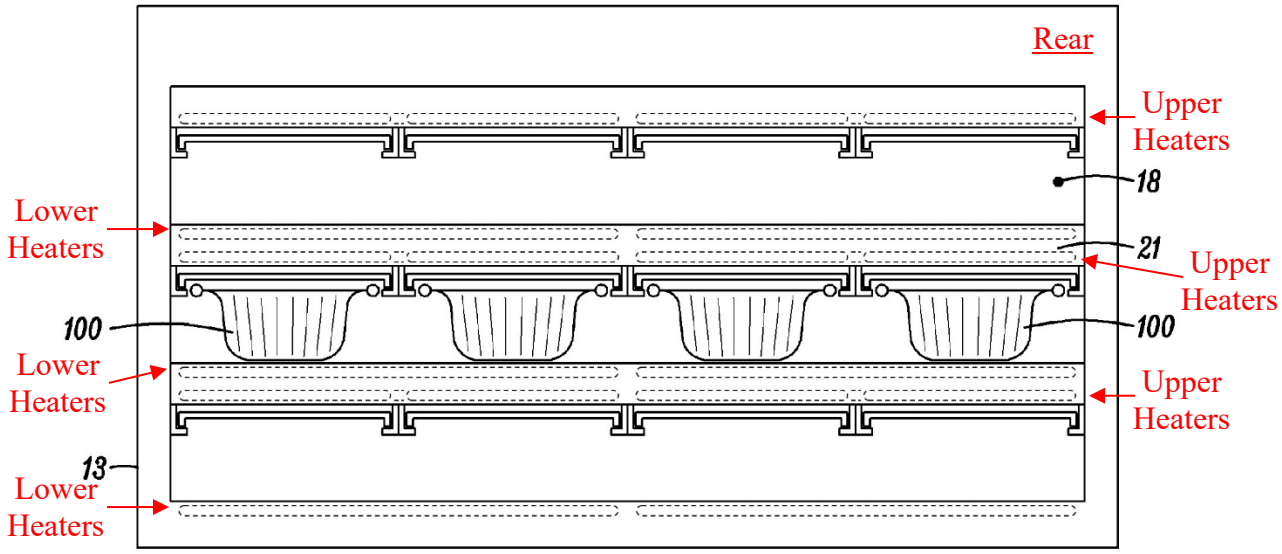


[3] These illustrations include further modifications as explained below.



EX1010: Figs. 2 and 6 (modified, annotated).





EX1010: Figs. 2 and 6 (modified, annotated).

599. Fortmann'748 teaches a control system having "one [or] more sensors disposed in each heating zone," "an input device for the user to select the desired temperature [] within the heating zone" and a "controller [that] selectively provide[s] or secure[s] current to the one or more heaters 60 disposed within each zone to control the temperature of the zone." EX1010: ¶[0027]. The control system thus "adjusts the heat output within each zone to achieve the desired temperature." EX1010: ¶[0027].

600. When modifying the Fortmann'748 cabinet to have multiple two-pan/two-bay heating zones per compartment by adding independent upper and lower heaters for each zone and to have the upper and lower heaters for each zone

to be independently controllable, the POSA would have operatively coupled all the heaters to Fortmann'748's control system. EX1010: ¶[0027].

601. Fortmann'748's controller is already able to operate heaters independently in different zones and therefore would have been understood to be capable of operating the additional heaters independently as well. EX1010: ¶¶[0021] ("one or more heaters 60 that are controlled separately from the heaters 60 that are disposed in conjunction with the remaining shelves 21"), [0024] ("establish two or more heat zones of differing temperatures within the warming volume, to allow food products that require different warming temperatures to be simultaneously disposed within the cart 10"); [0027] ("a control system configured to adjust the heat output within each zone to achieve the desired temperature. In some embodiments, the controller may selectively provide or secure current to the one or more heaters 60 disposed within each zone to control the temperature of the zone").

602. When implementing the modifications, the POSA or a member of his/her interdisciplinary team would have been able to make any minor programming changes to Fortmann'748's controller, as taught by Jones, Fortmann'197, the IRHS Documents, and McMillan, to:

(1) independently control the upper and lower heaters for each zone to provide the multiple independently controlled heating zones across each compartment of Fortmann'748's modified cabinet; and

(2) make the upper and lower heaters of each zone independently controllable.

603. As corroborated by Fortmann'197, the POSA would have "appreciated that controllers [were] well known [as being] capable of controlling one or more heaters based upon feedback systems to maintain a monitored location (such as a discrete heating zone) within a temperature range." EX1014: 9:65-10:2.

4. Modified Controls

604. Fortmann'748 describes its control system as having a generic "input device for the user to select the desired temperature [] within the heating zone" and "a display that provides an indication of a temperature upon or proximate to each of the plurality of shelves 21 (or representative shelves within a specific heat zone)." EX1010: ¶[0027].

605. While Fortmann'748 describes a generic input device and display, Vaseloff provides more specific descriptions of its input devices and displays that would be compatible with and improve upon Fortmann'748. Vaseloff teaches a food holding device (30) having a timer module (32). EX1026: 2:60-63, 3:48-49, Figs. 3, 4, 10. The timer module (32) includes display devices (60), timer status indicators (62), and timer buttons (64). EX1026: 3:48-51. Each display device (60) is grouped with a corresponding timer status indicator (62) and timer button (64), and these groupings (*e.g.*, display/control groups) are positioned near and associated with a particular pan location (34) as confirmed by a visual indicator

arrow (66) that points up or down to the pan location. EX1026: 4:5-6, 4:20-22, 4:26-33, 4:48-49, 6:51-52.

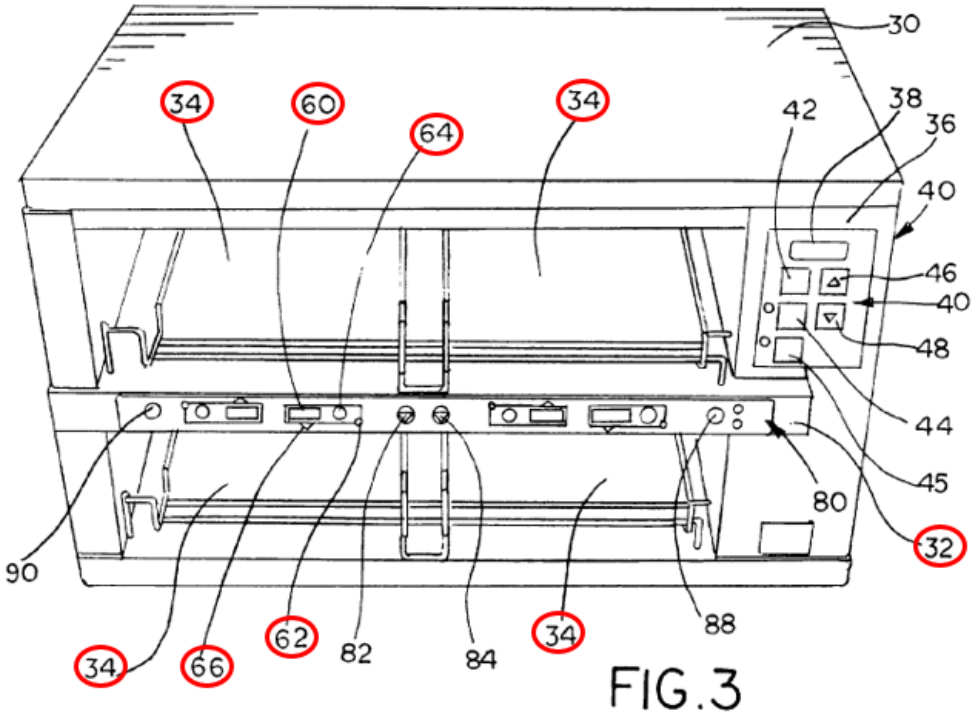


FIG.3

EX1026: FIG. 3 (annotated).

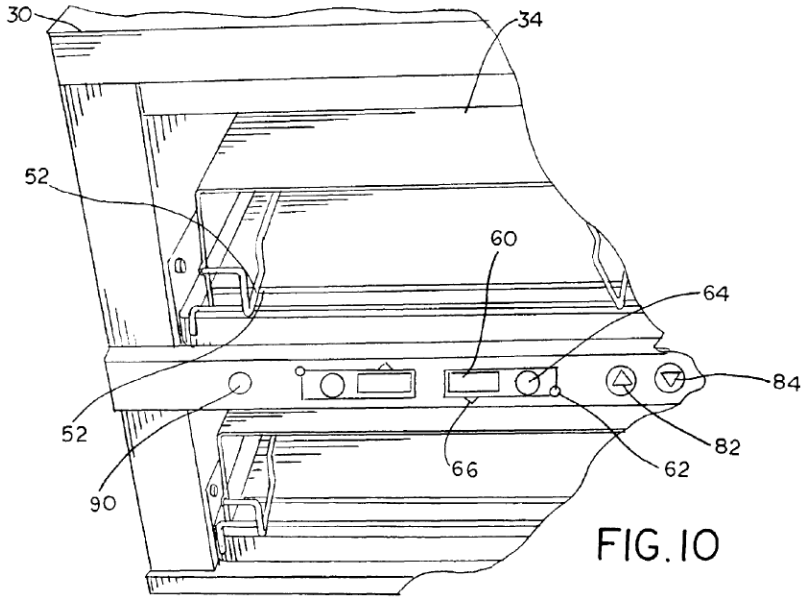


FIG.10

EX1026: Fig. 10.

606. The display devices (60) display the identity of the food (*e.g.*, "EGGS") held at each pan location (34) and "can display or indicate a variety of information about the food." EX1026: 4:5-15. For example, the timer button (64) activates/deactivates a hold timer, and the timer status indicator (62) includes an LED capable of flashing and emitting any color for indicating statuses such as "standby", "food product has expired", "timing in progress", and "near expiration and oldest food product of its kind". EX1026: 6:51-52, 4:50-59; 6:1-25. The POSA would have recognized Vaseloff's display devices (60), timer status indicators (62), and timer buttons (64) as suitable examples of the generic input device and display in Fortmann'748's control system.

607. In view of Vaseloff, the POSA would have considered it obvious to incorporate Vaseloff's display/control groups (*e.g.*, each set of display device (60), timer status indicator (62), timer button (64), and indicator arrow (66)) into Fortmann'748's modified cabinet for each pan holding location/bay. In incorporating Vaseloff's display/control groups, each pan holding location/bay would have its own display/control group (*e.g.*, display device (60), timer status indicator (62), timer button (64), and indicator arrow (66)). EX1019: 3:21-23 ("each display panel 18a-d may be configured to convey information corresponding to the number of different categories or types of food products").

608. Providing each pan holding location/bay with its own display/control group would visually associate the controls with the pan holding location/bay, making it easier and quicker for the user to identify the controls (*e.g.*, display device (60), timer status indicator (62), and timer button (64)) for each pan holding location. EX1026: 4:20-22 ("display devices 60 are positioned on the timer modules 32 such that a user can visually determine which display device 60 is associated with which holding compartment"); EX1019: 10:5-10 ("the holding cabinet user interface includes food product displays 180a-d for conveying information regarding the stored food products. The location of the food product displays 180a-d corresponding to the position of the food products within the passageway 16a").

609. Providing each pan holding location/bay with its own display/control group would thus improve the user's interaction with the cabinet by making it more intuitive for the user to associate the information shown by the display with a specific pan holding location/bay and to identify the input device associated with the pan holding location/bay (*e.g.*, to start a hold timer for the particular pan). EX1026: 4:25-30 ("a user of the food holding device 30 can intuitively determine the association of the display device 60 with its associated holding compartment"), 6:51-55 ("a timer may also be activated/deactivated by an associated timer button 64").

610. Moreover, as Vaseloff's display devices (60) display the identity of the food (*e.g.*, "EGGS") held at each pan holding location, and Vaseloff's indicators (62) indicate food/timer status, adopting Vaseloff's display/control group would intuitively identify the type of food at or to be placed in each pan holding location and facilitate food inventory/timing management (*e.g.*, discard expired food, cook more food) including first-in-first-out operations. EX1026: 4:5-15, 4:48-6:25.

611. Adopting Vaseloff's display/control groups would have been nothing more than combining known prior art elements (display/control groups of Vaseloff and the cabinet of Fortmann'748) according to known methods (the arrangement taught by Vaseloff) to yield predicable results (display/control groups on the cabinet with controls associated with each pan holding location). Likewise, this modification would have also been nothing more than an application of a known technique (the display/control groups of Vaseloff) to a known device (the cabinet of Fortmann'748) in the same way (incorporating the display/control groups on the cabinet with controls associated with each pan holding location/by).

612. The POSA would have been motivated to adopt Vaseloff's display/control groups and had a high expectation of success because the food holding units are similar. And Vaseloff explains, "one of ordinary skill in the art will appreciate the flexibility and versatility of the disclosed food timing system

for it can be applied to any food preparation and storage device that is typically used in restaurants." EX1026: 11:35-38.

613. Moreover, there would have also been a high expectation of success in making this modification given:

(1) the similarities between the Fortmann'748 cabinet and the unit of Vaseloff (*e.g.*, all units with compartments for warming trays/pans of food via heating elements),

(2) Fortmann'748's control system already uses a generic input device and display, and

(3) Vaseloff's display/control groups would function in generally the same way when incorporated into Fortmann'748's cabinet.

614. When implementing this adaptation, the POSA would have connected each of Vaseloff's display/control groups, including display device (60), timer status indicator (62), and timer button (64), to Fortmann'748's controller as taught by Fortmann'748 and Vaseloff. EX1010: ¶[0027] ("control system may include or operate in conjunction with a display" and "control system 200 may include or communicate with an input device"); EX1026: 2:17-20 ("the food timing system further includes a centralized processor and a centralized memory for managing the connectivity, information sharing, and coupled operations of the timer modules 32").

615. The POSA or a member of his/her interdisciplinary team would have further suitably modified the connections to and/or programming of Fortmann'748's controller to accommodate the Vaseloff display/control groups.

616. Moreover, when modifying Fortmann'748's cabinet to include Vaseloff's display/control groups, it would have been obvious to arrange the Vaseloff display/control groups on both the front and back of Fortmann'748's cabinet as taught by Fortmann'197, the IRHS Documents, and/or McMillan. Each of Fortmann'197, the IRHS Documents, and McMillan teach providing displays and controls on both the front and back sides of pass-through warming cabinets. EX1005: 8, 20, 25; EX1006: 2; EX1007: 54, 56; EX1008: 61; EX1014: 3:51-55, 4:25-37; EX1019: 3:44-47, 4:15-17. Fortmann'748 cabinet is a pass-through design that allows food pans to be inserted and removed from both the front and back of the unit. EX1010: ¶[0014].

617. Providing Vaseloff's display/control groups on both the front and back of Fortmann'748's cabinet would allow for viewing information (*e.g.*, temperature) and for controlling of cabinet (specifically, each pan holding location) operation (*e.g.*, timer) from either the front or back side. EX1014: 4:32-37 ("where the plurality of displays 130 and inputs 140 are provided on both the front and rear end walls 60, 70, the respective displays 130 may be operated simultaneously, and one or both of the inputs 140 may be configured to accept user instructions"); EX1019: 5:42-44 ("the control system 30 may transmit display commands to the display screen 21 of a front and/or rear bezel assembly 20 for displaying particular information"); EX1024: 11:34-38 ("control and display areas 264A-D [on the inlet

side I] are replicated on outlet side O as control and display areas 266A-D and are controllable from either inlet side I or outlet side O for the convenience of the restaurant personnel"). This would thus allow users on both sides of the cabinet to coordinate proper use of the food in the cabinet. EX1029: 5:19-23 ("[b]ecause both the front side and rear side of the cabinet 10 have displays, operators on the front side and operators at the rear side view substantially identical information to coordinate proper use of the food in the cabinet").

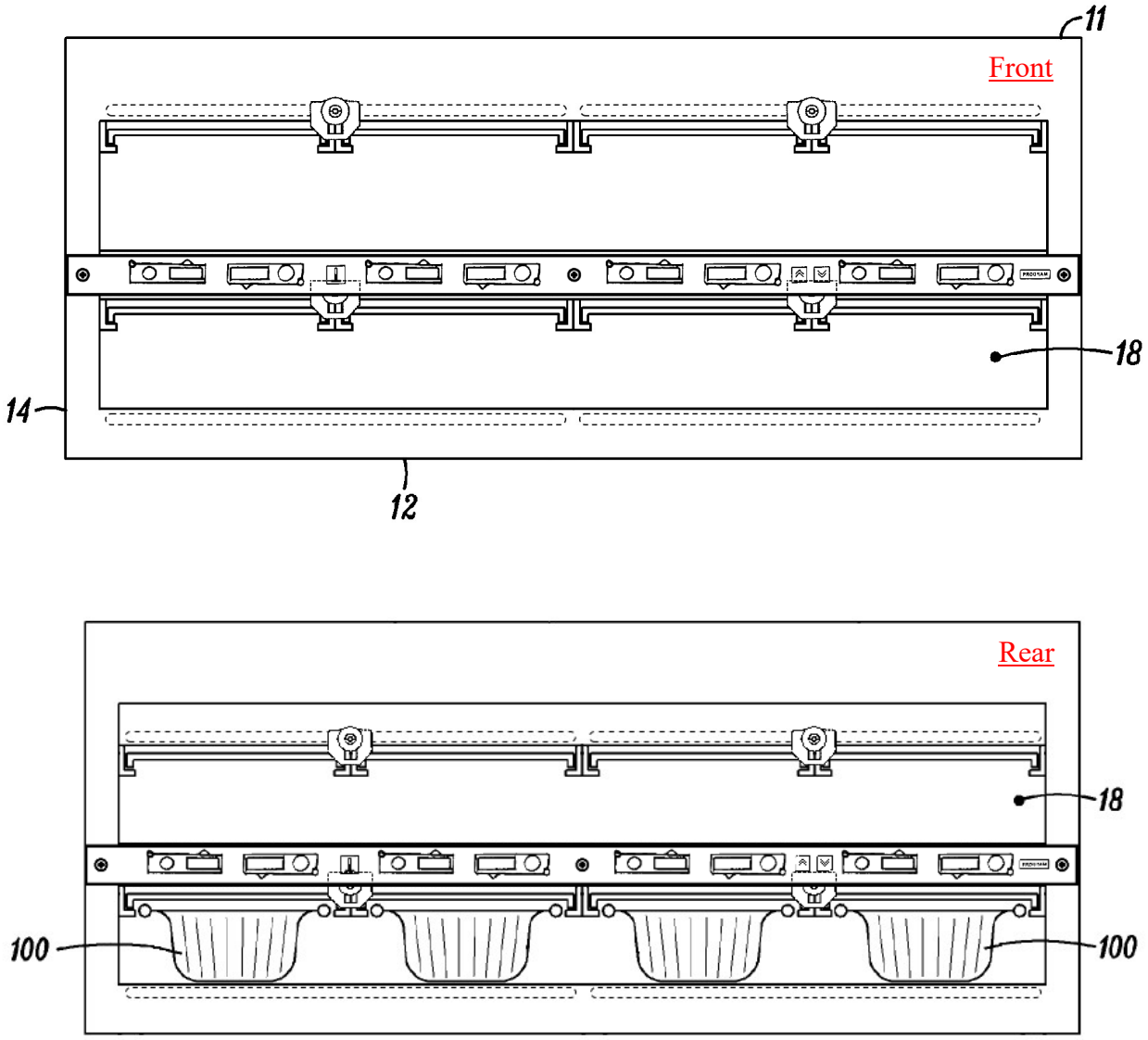
618. Providing Vaseloff's display/control groups on both the front and back of Fortmann'748's cabinet would have been nothing more than the application of a known technique (arranging displays and controls on both the front and rear of a cabinet per Fortmann'197, the IRHS Documents, and/or McMillan) to improve a similar device (the Fortmann'748 cabinet) in the same way (enabling operators on the front and/or rear side of the cabinet to view information and control the operation of the cabinet).

619. There would have been a high expectation of success in making these modifications given

(1) the similarities between the Fortmann'748 cabinet and the units of Fortmann'197, the IRHS Documents, and McMillan (*e.g.*, each disclose units with compartments for warming trays/pans of food via heating elements); and

(2) that Vaseloff's display/control groups would still function in generally the same way.

620. Representative illustrations[4] of the 2x4 Fortmann'748 cabinet modified to have Vaseloff's display/control groups are shown below. The 3x4 Fortmann'748 cabinet would be similar.



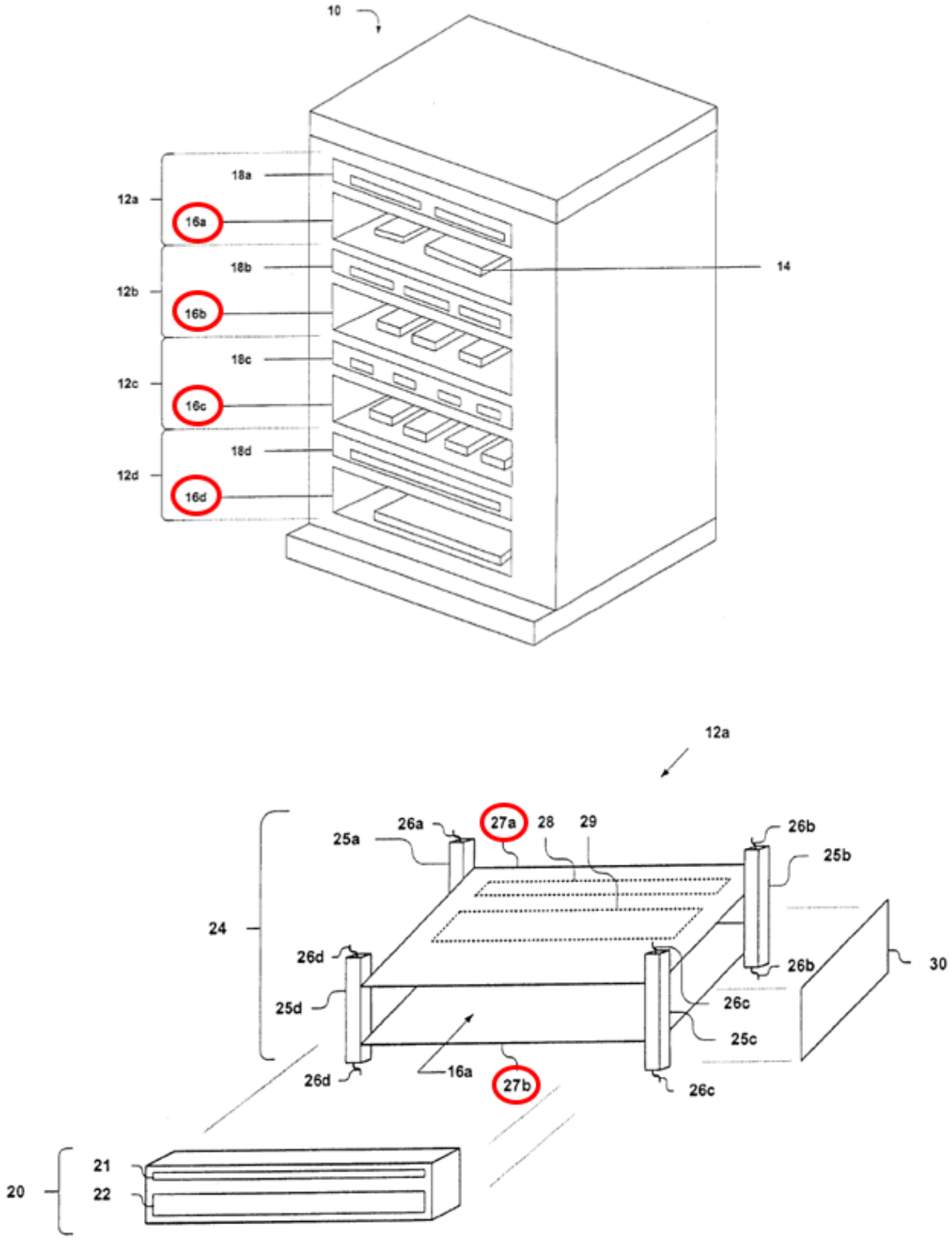
EX1010: Figs. 2 and 6 (modified).

[4] These illustrations include further modifications as explained below.

5. Temperature Control

621. Fortmann'748 describes its control system as having a generic "input device for the user to select the desired temperature [] within the heating zone" and "a display that provides an indication of a temperature upon or proximate to each of the plurality of shelves 21 (or representative shelves within a specific heat zone)." EX1010: ¶[0027]. While Fortmann'748 describes a generic input device and display for providing temperature control, McMillan provides more specific descriptions as to how such devices and displays could be configured and operated.

622. McMillan teaches a food holding cabinet (10) including several food passageways (16a-16d). EX1019: 2:49-52, 2:65-67. Each passageway includes upper and lower heater plates (27a, 27b). EX1019: 4:36-52.



EX1019: Figs. 1 and 2 (annotated).

623. McMillan teaches the upper and lower heater plates (27a, 27b) "may be individually controlled to maintain a certain temperature set by an operator" and that the upper and lower heater plates may include heating elements configured for zoned heating across the width of the compartment "such that different portions of the passageway 16a may be set to different temperatures." EX1019: 4:36-52. To accomplish this, each of McMillan's food passageways has a display panel (18a-d) having a food product display (180a-d) for each food holding location. EX1019: 9:58-61, 10:5-10.

624. Each of these food product displays (180a-d) include a message area (183a-d) for displaying information to the user, such as the name of the food product being held in the food holding location and the holding temperature (actual holding temperature and/or set holding temperature). EX1019: 10:10-33 ("message areas 183a-d may display alpha-numeric messages to an operator regarding the stored food products 14.… For example, when a food product is selected, the message display areas 183a-d may present a description (*e.g.*, name, category) of the selected food product.… When the temperature is set, the message display areas 183a-d may present a numeric value indicating the current and/or set temperature.").

625. McMillan's display panel (18a-d) includes arrow keys (184, 185), a temperature key (187) for the user to display temperature information and/or enter

operational changes, and a program key (188) for the user to set the holding temperatures. EX1019: 10:43-58 ("The up and down arrow keys 184, 185 allow an operator to increase and decrease displayed values (*e.g.*, temperature, time) or change selections…. The temperature/enter/page key 187 may respond to user input and allow an operator to display temperature information, enter operational changes, and/or scroll to different pages. The program key 188 may respond to user input and may allow an operator to change or select food products, meals, product positions, and/or holding temperatures.").

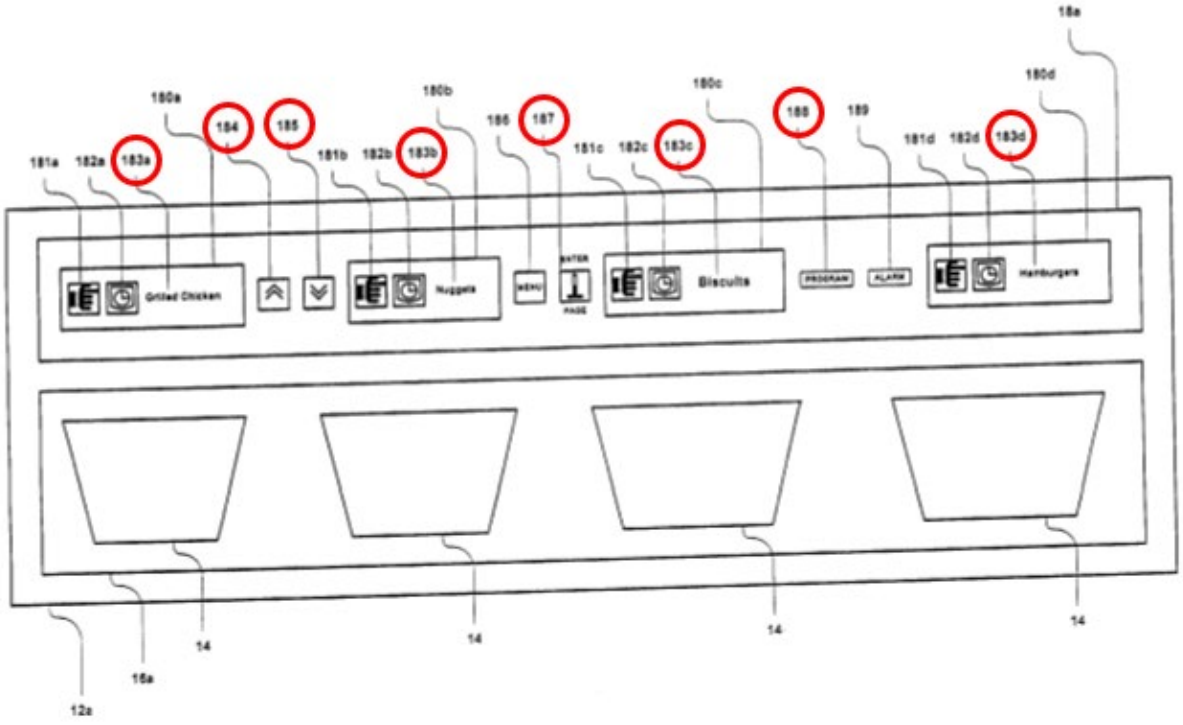


Fig. 5a

EX1019: Fig. 5a (annotated).

626. The POSA would have found it obvious to modify the display devices of Vaseloff (and/or programming of Fortmann'748's control system) to include the ability to display current temperatures and setpoint temperatures in the display device (60) for each pan location/bay as taught by McMillan. EX1019: 10:30-32 ("display areas [] may present a numeric value indicating the current and/or set temperature").

627. Moreover, in view of McMillan, it would have been obvious to incorporate McMillan's controls to change the setpoint temperatures. EX1019: 10:43-58 ("allow an operator to change or select … holding temperatures"). Fortmann'748 generally explains its input device allows "the user to select a desired temperature within the specific … heat zone" and McMillan provides a specific example of how this can be implemented. EX1010: ¶[0027].

628. Incorporation of McMillan's controls for displaying and setting the temperature would have provided an easy, fast, and intuitive way for a user to see current and setpoint temperatures in a manner associating them with the corresponding pan location/bay. EX1019: 1:29-35, 1:38-49, 10:6-10; EX1026: 4:20-22, 4:25-30. Incorporation of McMillan's controls for displaying and setting temperature would have also allowed the user to change the holding temperatures as needed, such as to accommodate changes in the types of food being held.

629. In making this modification, it would have been obvious for the POSA to incorporate McMillan's arrow keys (184, 185) to "allow an operator to increase and decrease displayed values (*e.g.*, temperature, time) or change selections," as taught by McMillan. EX1026: 7:30-32; EX1019: 10:46-48. It would have further been obvious for the POSA to incorporate McMillan's temperature button (187) to "allow a user to display temperature information, enter operational changes, and/or scroll to different pages" and/or the program button (188) to permit the user to "change or select … holding temperatures." EX1019: 10:52-58.

630. It would have been well within the skill in the art to implement the arrow keys, temperature button, and program button as physical buttons. EX1026: 2:60-3:19 (teaching physical programming buttons), 7:29-32 (teaching physical up-arrow and down-arrow buttons).

631. It would have been obvious to the POSA to program Fortmann'748's controller, as modified in view of Vaseloff, to permit a user to display the current and setpoint temperatures for each pan location in the associated display (60) and to change the setpoint temperature for individual pan locations/bays by use of the up-arrow and down-arrow buttons (184, 185), the temperature button (187), and/or the program button (188), similar to the teachings of McMillan. EX1019: 10:6-8, 10:20-33, 10:42-58.

632. For example, a first press of the temperature button (187) could cause each display (60) to display a current temperature of its associated pan location. Additional presses of the temperature button (187) could cause each display (60) to display an upper setpoint temperature then a lower setpoint temperature of its associated pan location. The program button (188) could be pressed as needed to cycle through the displays (60) (*e.g.*, from left to right) to select a desired pan location for temperature programming and the arrow buttons (184,185) could be pressed to adjust the displayed setpoint temperature for that pan location. This is just one example of a way to implement the modification, as the POSA would understand there are other ways of doing it (e.g., McMillan's general teachings of using buttons to display parameters and arrow buttons to change them). EX1019: 10:43-58.

633. Implementation of McMillan's control operations would have been nothing more than the application of a known technique (incorporating actual and set-point temperature display and the operations to change the set-point temperature of McMillan) to improve a similar device (Fortmann'748's cabinet) in the same way (displaying actual and set-point temperatures for each pan holding location to a user and providing the ability for the user to change the set-point temperature).

634. There would have been a high expectation of success in making these modifications given:

(1) the similarities between the Fortmann'748 cabinet, Vaseloff's unit, and the unit of McMillan (*e.g.*, all units with compartments for warming trays/pans of food via heating elements);

(2) that Vaseloff's display devices are already able to display numeric values (EX1026: 4:10-12, 7:26-32); and

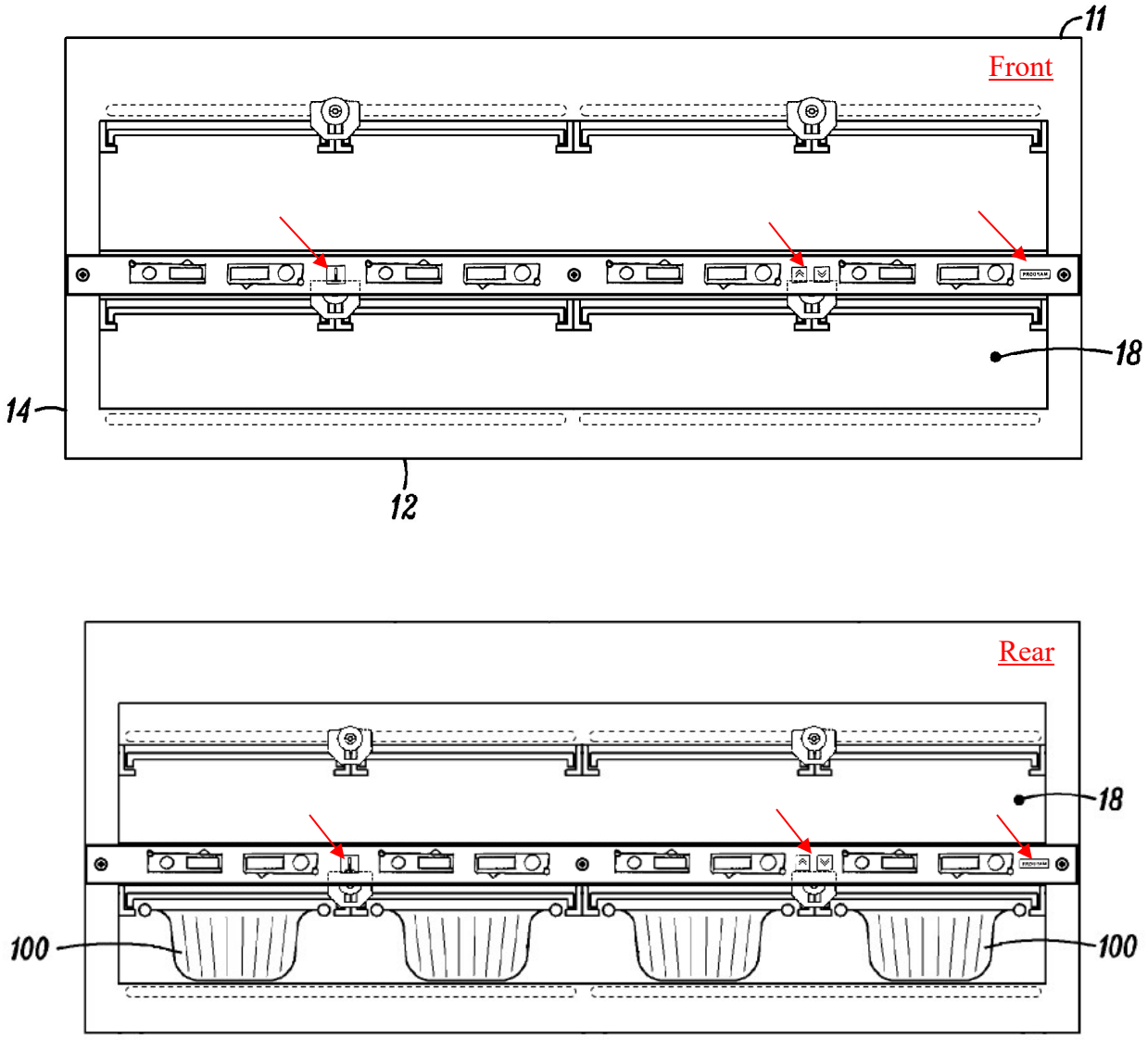
(3) McMillan's buttons would function in generally the same way when incorporated into Fortmann'748's cabinet.

635. When implementing this modification, it would have been obvious to the POSA to connect McMillan's controls (*e.g.*, arrow keys (184, 185), temperature button (187), program button (188)) to Fortmann'748's controller. EX1010: ¶[0027].

636. It would have been within the skill in the art to make any changes to Fortmann'748's controller and software to implement this ability to display and change temperatures. EX1019: 6:15-19 ("The main controller 34 may interface with the memory 32 and execute the control program. Under the direction of the control program, the main controller 34 may control the operation of the shelving unit 12a.").

637. Representative illustrations[5] of the 2x4 Fortmann'748 cabinet modified to have McMillan's controls (*e.g.*, arrow buttons, temperature button, program button) are shown below. The 3x4 Fortmann'748 cabinet would be similar.

[5] These illustrations include further modifications as explained below.



EX1010: Figs. 2 and 6 (modified).

6. Timer Bar/Bezel

638. As discussed above it would have been obvious to the POSA to modify Fortmann'748's cabinet to include Vaseloff's display/control groups and buttons per McMillan. It would have further been obvious to locate these

display/control groups and buttons on a time bar or time bezel as taught by Fortmann'197, the IRHS Documents, and Hartfelder.

639. Fortmann'197's holding cabinet (10) has control bars (60) spaced forward of the shelves (40) and control bars (70) spaced rearward of the shelves. EX1014: 2:58-59, 3:28-30, 3:55-56, 4:18-37, Figs. 1-3 and 5. An "air gap" (80, 90) is established between each control bar (60) and its corresponding shelf. EX1014: 3:36-39, 4:18-25. As shown below, each control bar (60, 70) includes "a display 130 and input 140 that is associated with each discrete heating zone 100." EX1014: 3:51-55, 4:25-32, Figs. 1-3. The user would interact with the displays (130) and inputs (140) to control each respective heating zone. EX1014: 4:32-37, 9:56-65.

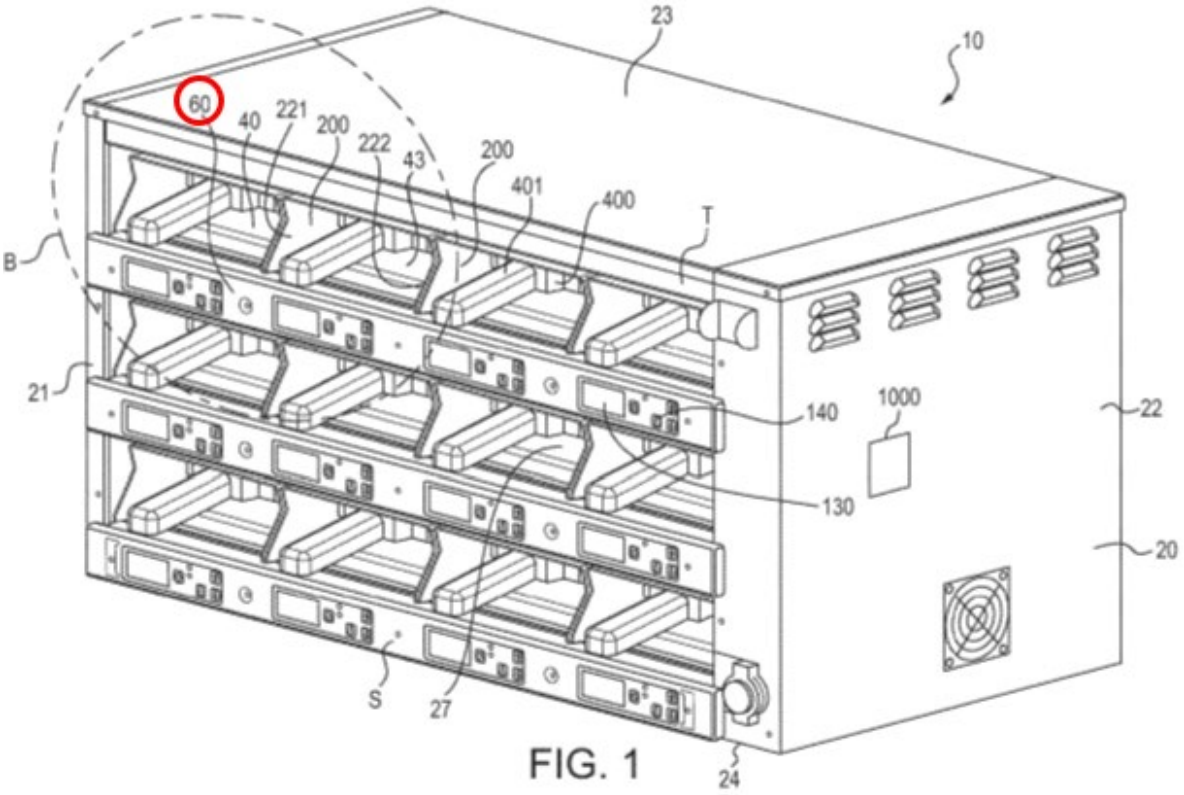

23
10
60
40
221
200
222
43
200
401
400
T
B
21
140
1000
22
130
20
S
27
24

FIG. 1

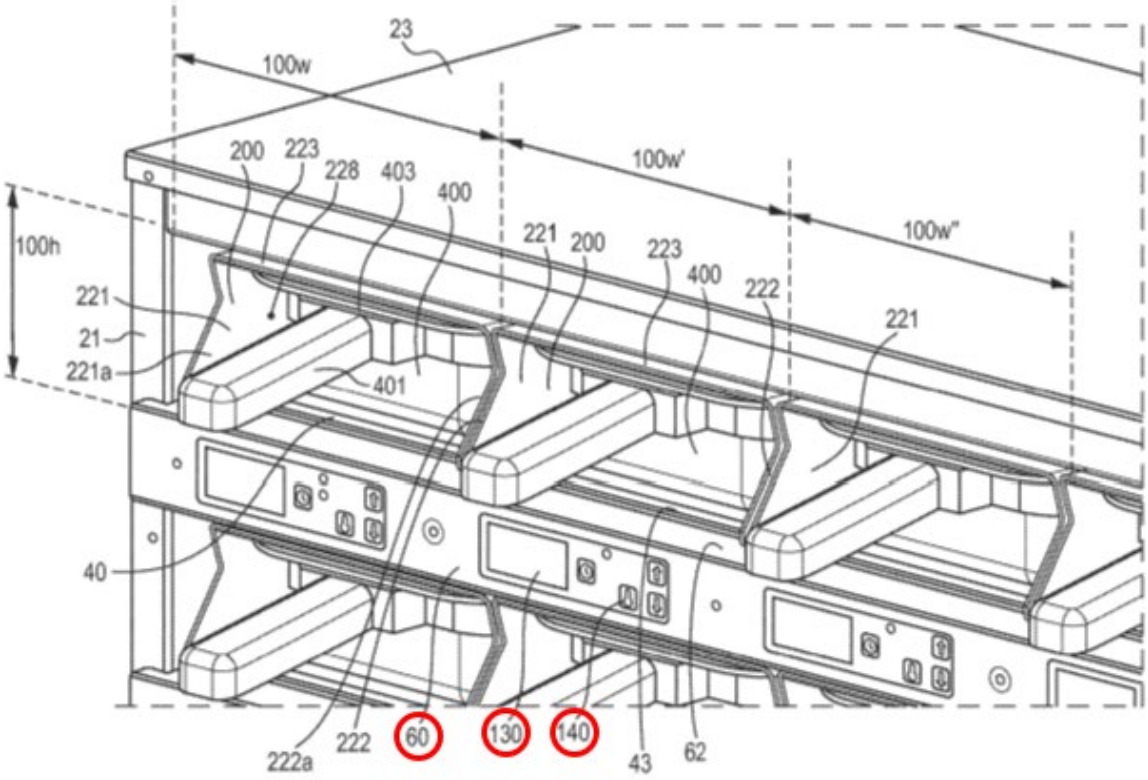

23
100w
100w'
100w"
100h
200
223
228
403
400
221
200
223
400
222
221
21
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401
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222a
222
60
130
140
43
62

FIG. 2

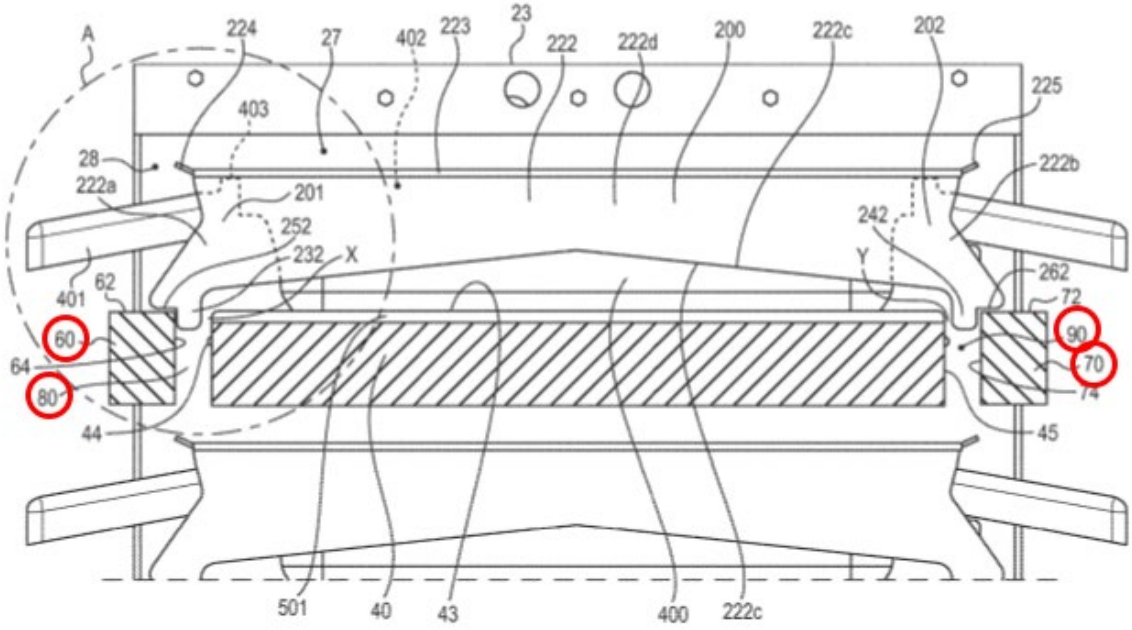
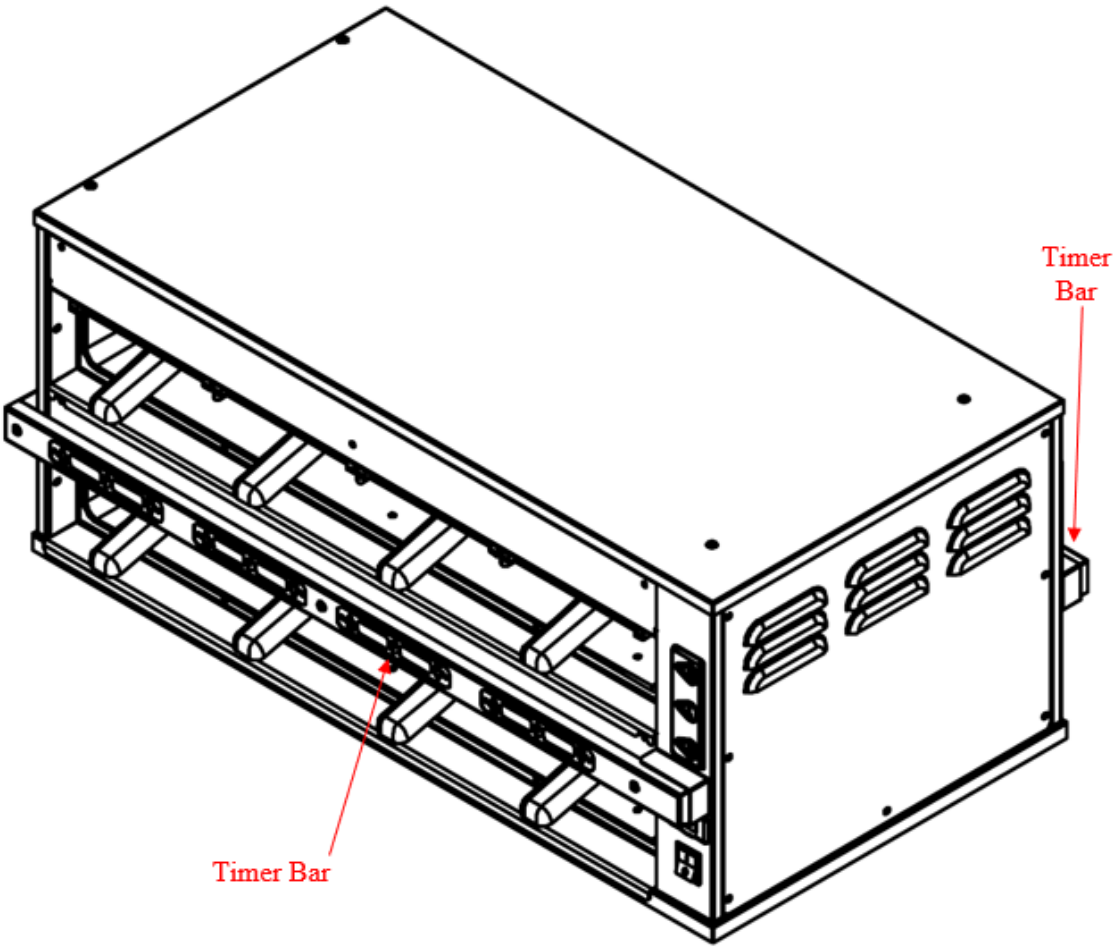

A
224
27
402
223
23
222
222d
200
222c
202
225
403
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222a
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252
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43
400
222c

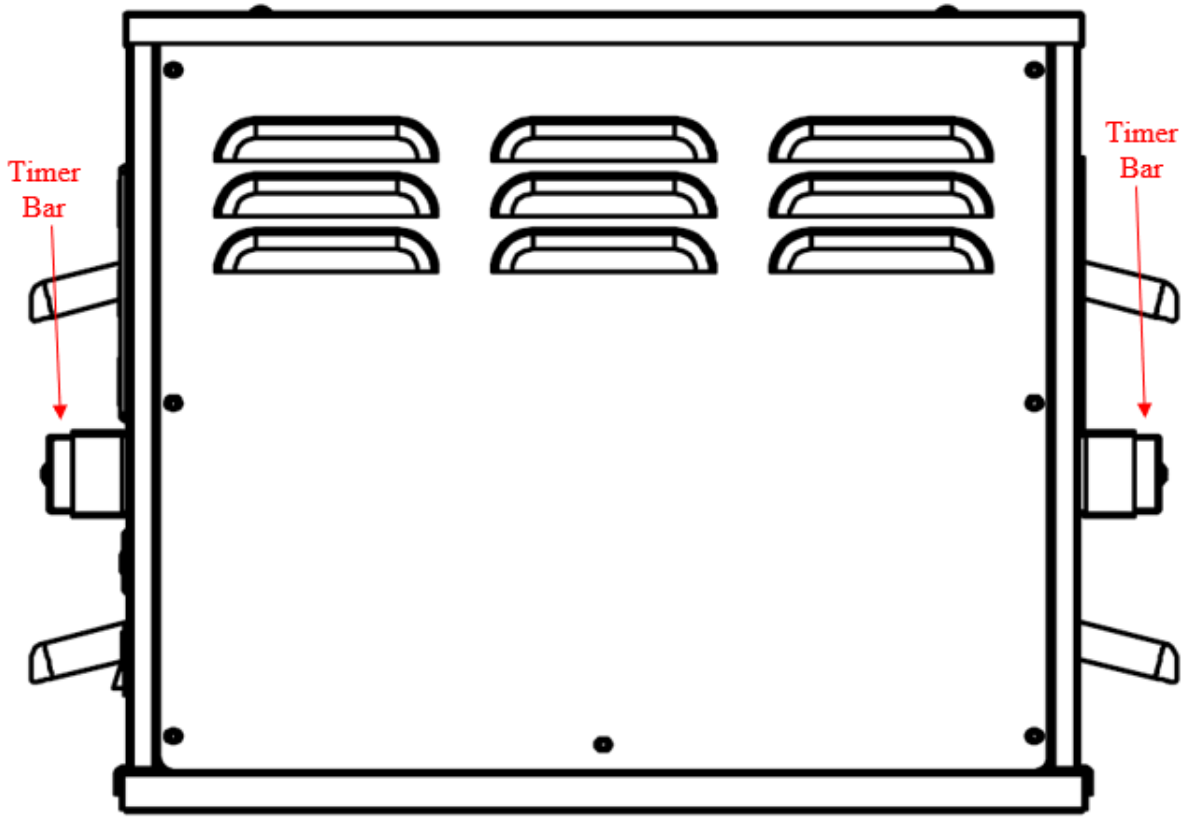
FIG. 5

EX1014: Figs. 1, 2, and 5 (annotated).

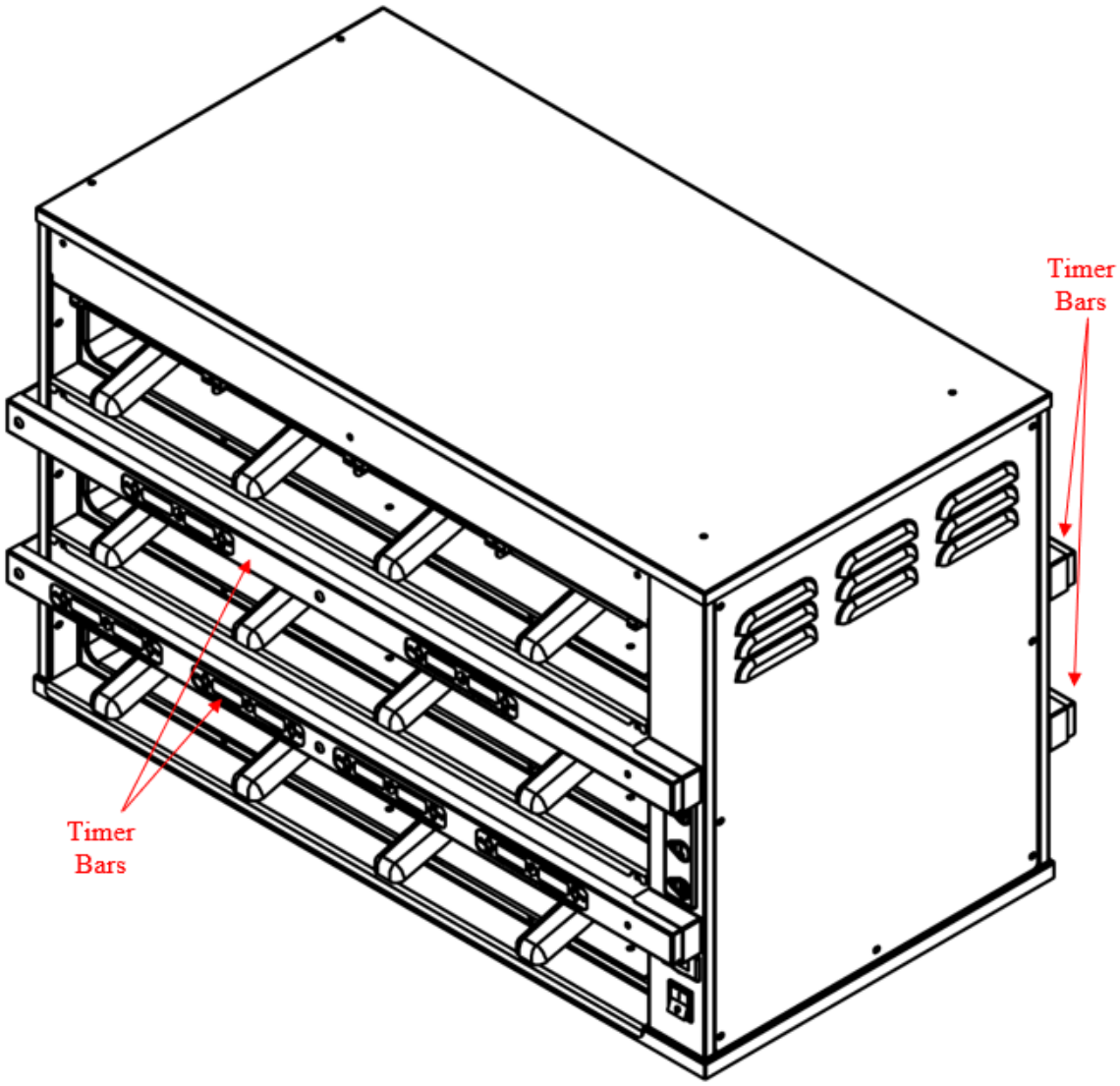
640. Similarly, the IRHS Documents teach a holding unit with front and rear control (timer) bars. EX1005: 4 ("Duke timer bar and control system"), 7, 20 ("TIMER BAR"), 25 ("FRONT TIMER BARS" and "REAR TIMER BARS"); EX1006: 1 ("[a]lphanumeric displays to indicate product description, temp and hold time"); EX1007: 51 ("more robust Duke timer bars"), 52, 54 ("Duke Timer Bar … Double-sided"), 56 ("Controls … Double").

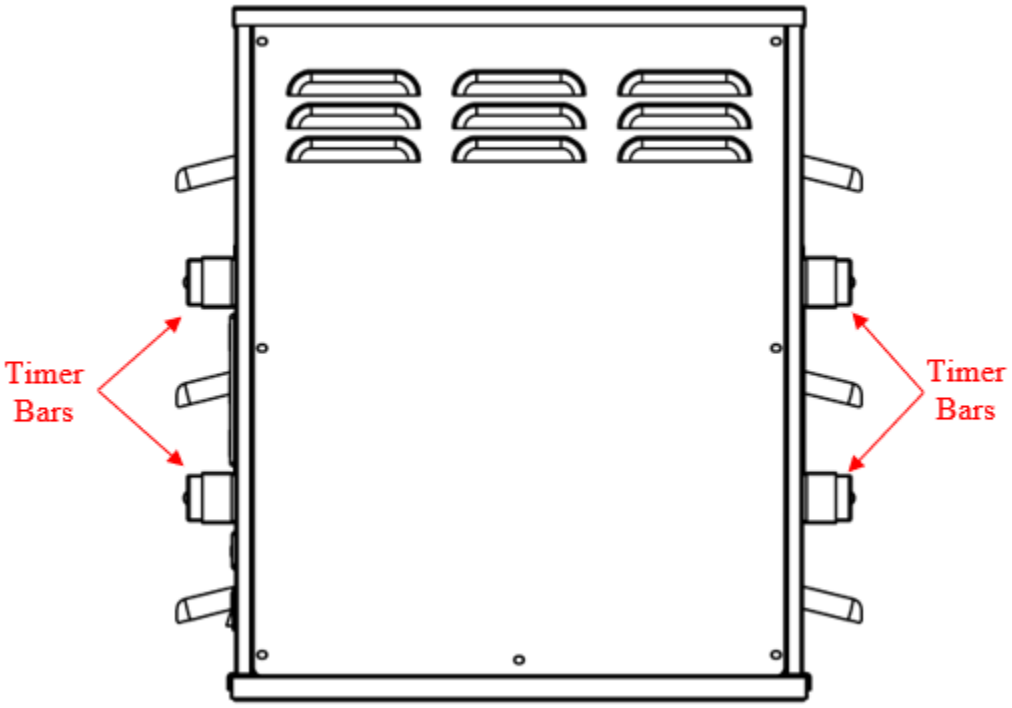
641. The timer bars as disclosed in the IRHS Documents have buttons and displays for each pan holding location that allow the user to input commands and view information (*e.g.*, food name, temperature, etc.) for each pan holding location. EX1005: 16-17 ("Pan Display … Displays Product Name and Hold Time Remaining," "DISPLAY LINK, HOLD TIME, TEMPERATURE," "This indicates the Heat Sink Temperature for BURG"); EX1006: 1 1 ("[a]lphanumeric displays to indicate product description, temp and hold time"); EX1007: 52.


Timer
Bar
Timer Bar



EX1005: 8 (annotated).


Timer
Bars
Timer
Bars

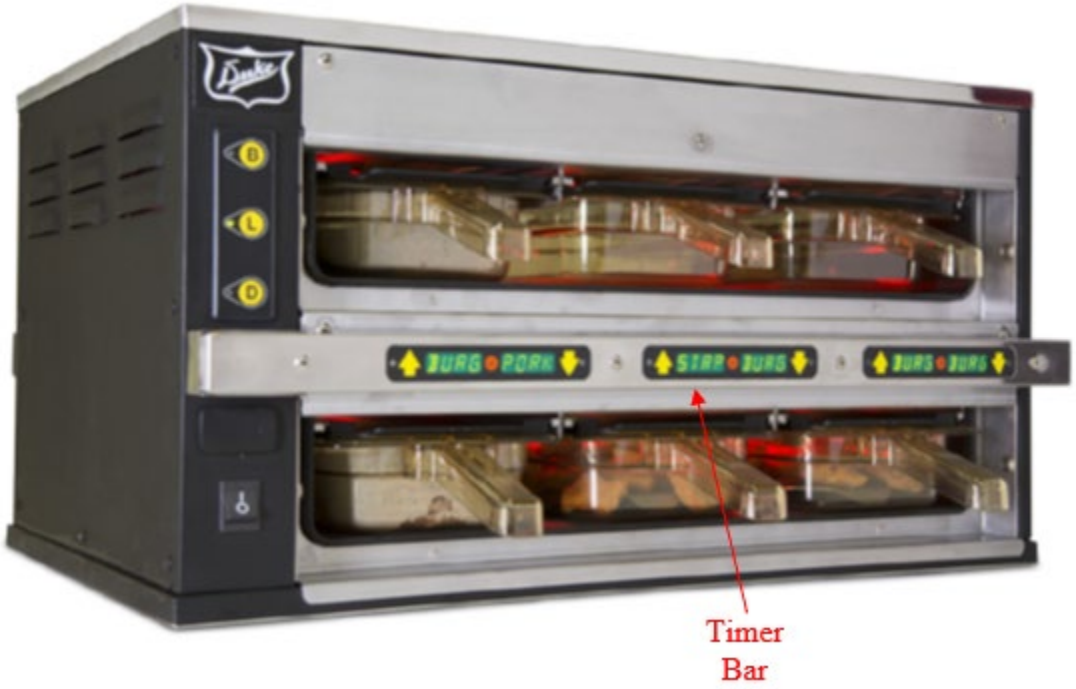


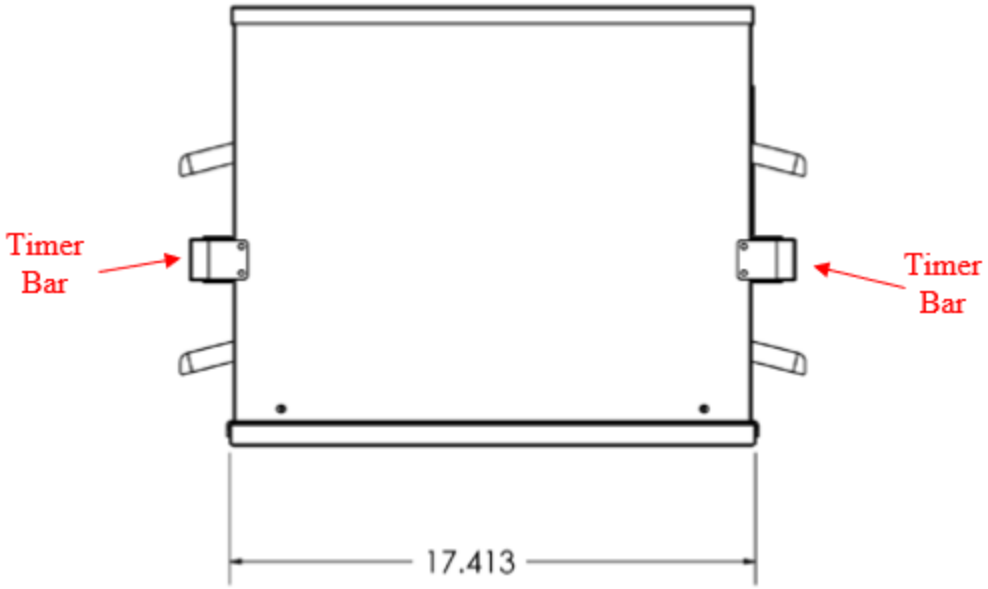
EX1005: 9 (annotated).





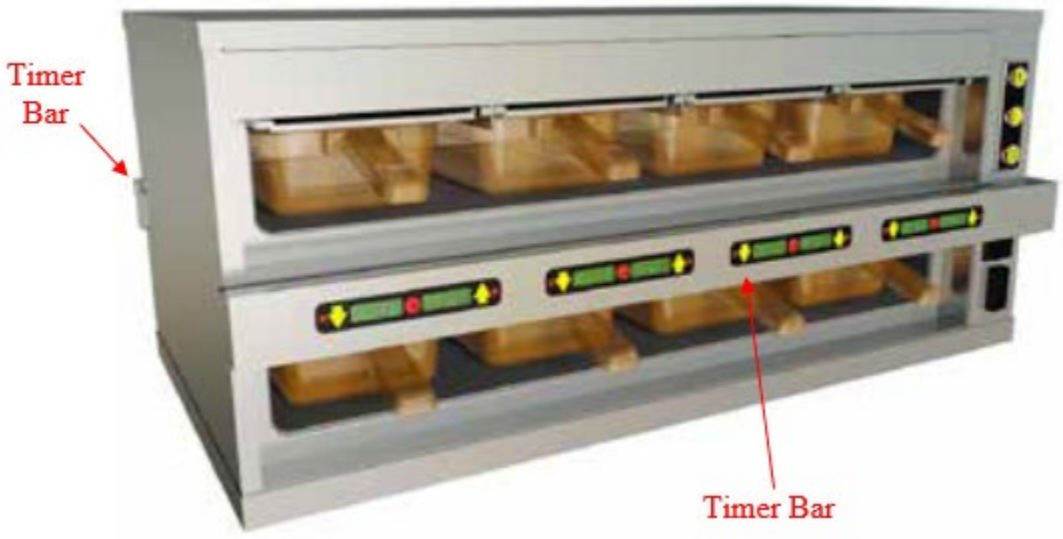
EX1005: 17.

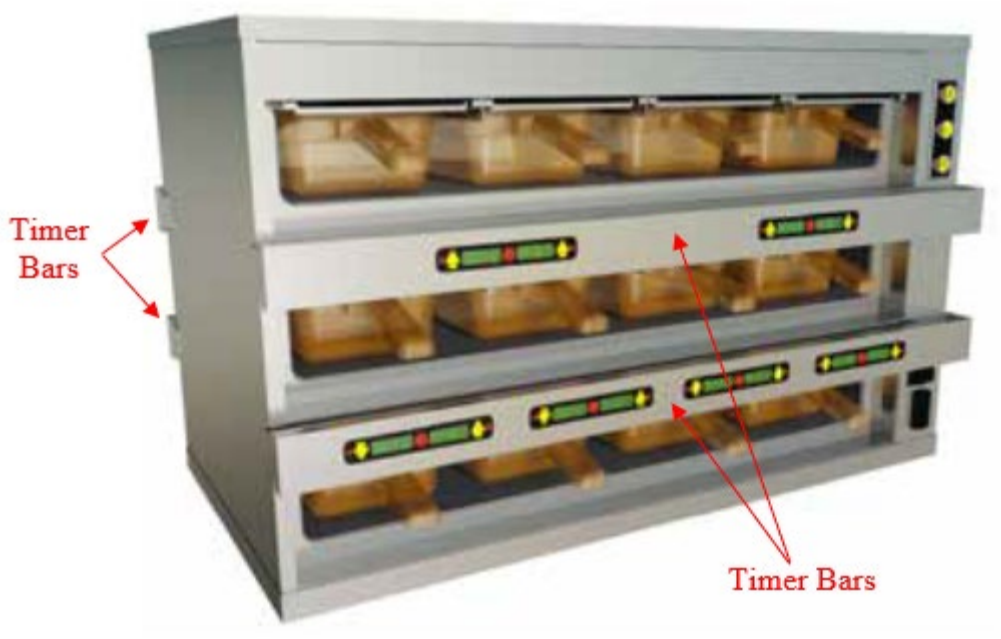




EX1006: 1-2 (annotated).

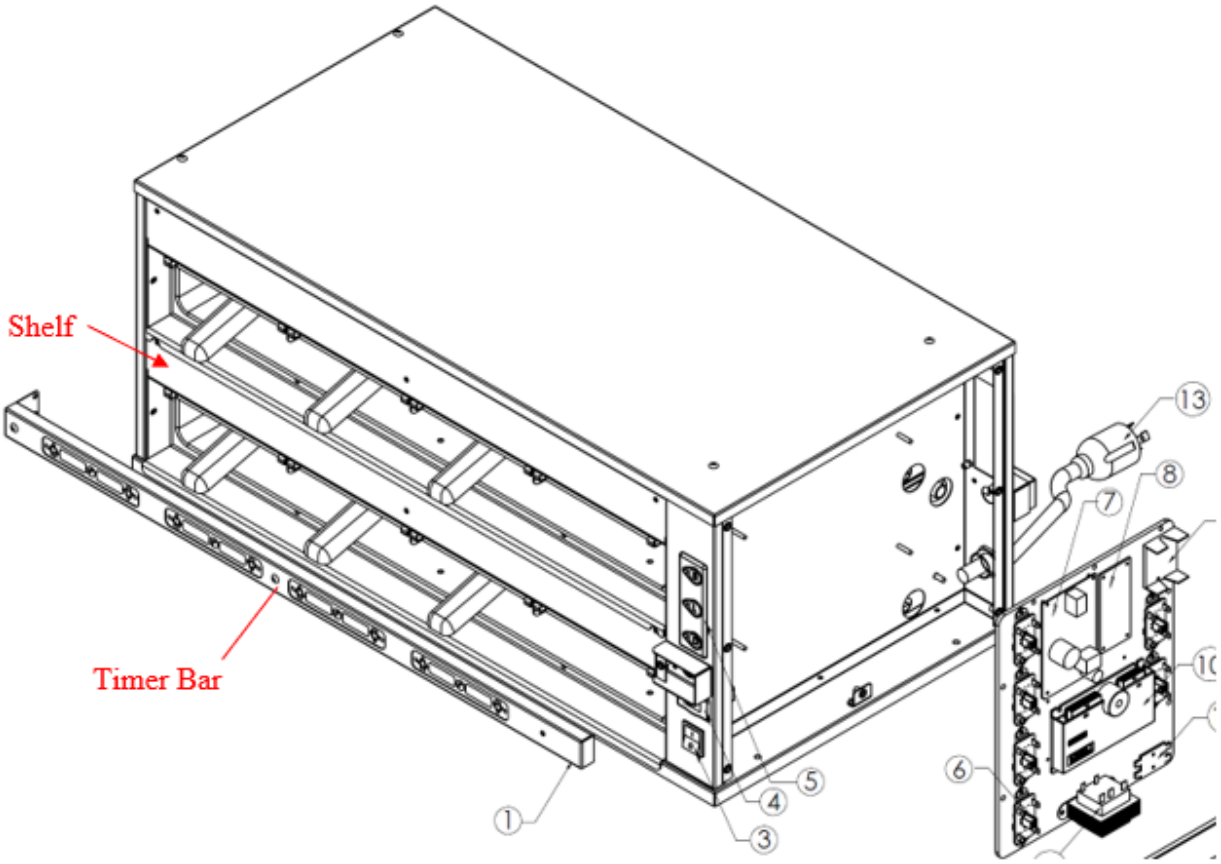

0047 0117
0117 0118
Timer Bar


Timer
Bar
Timer Bar

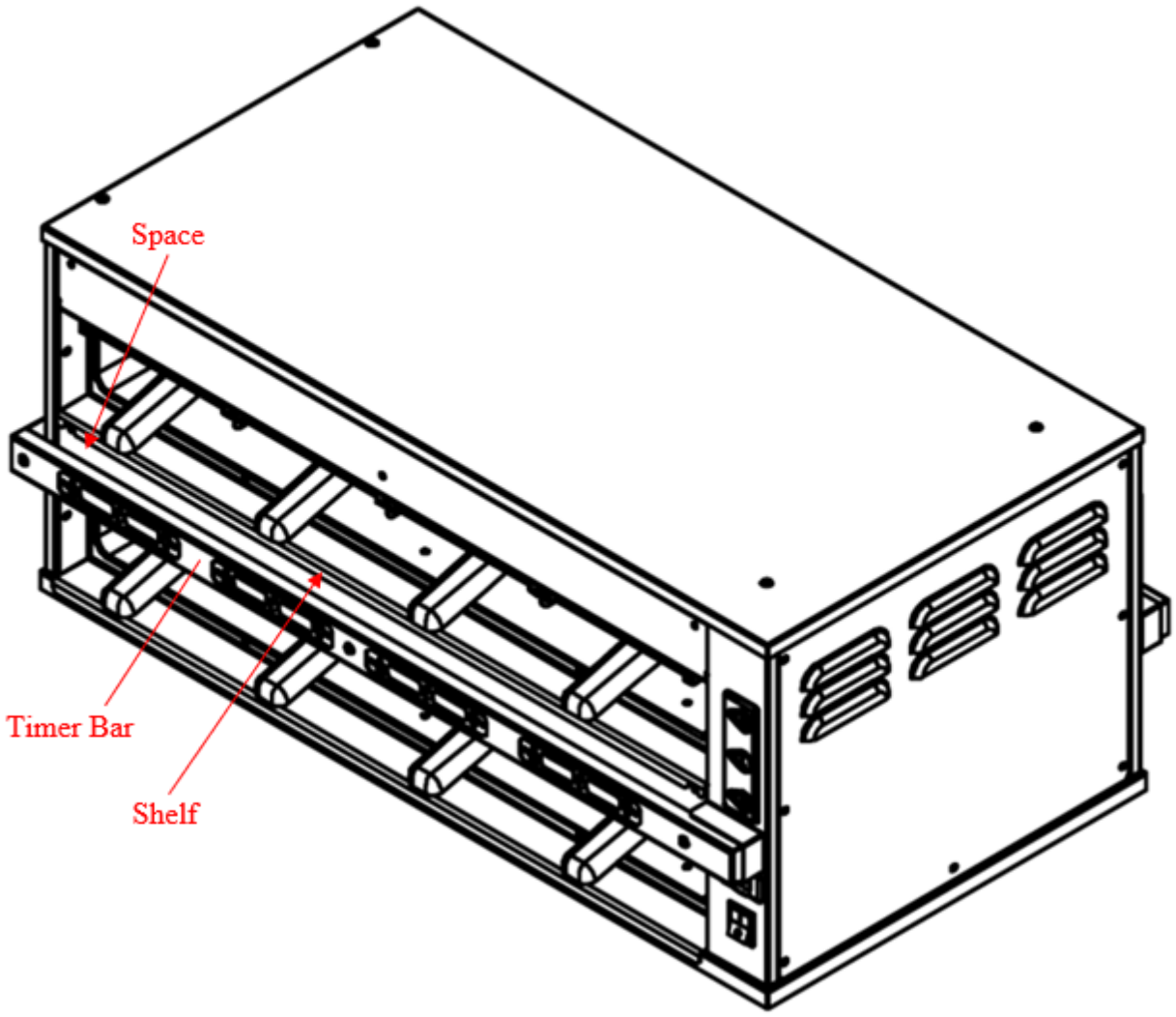


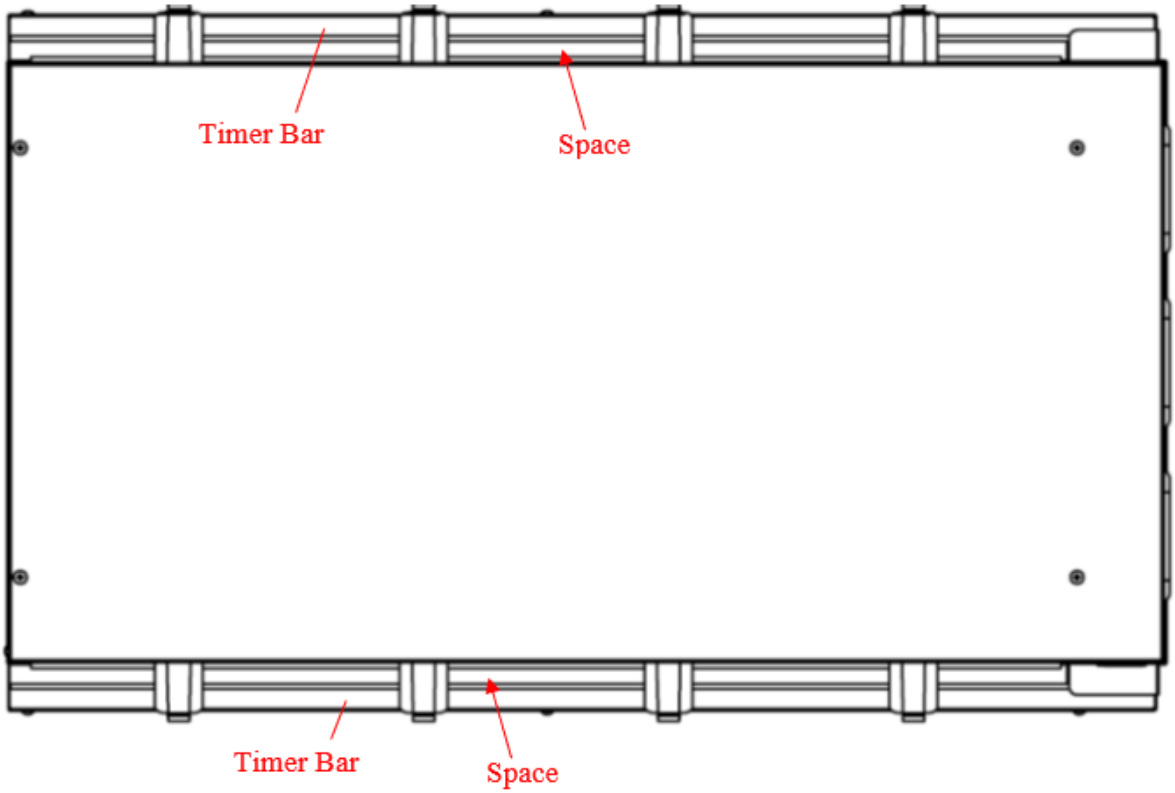
EX1007: 52, 56 (annotated).

642. The front and rear timer bars of the IRHS Documents are spaced apart from the shelf.

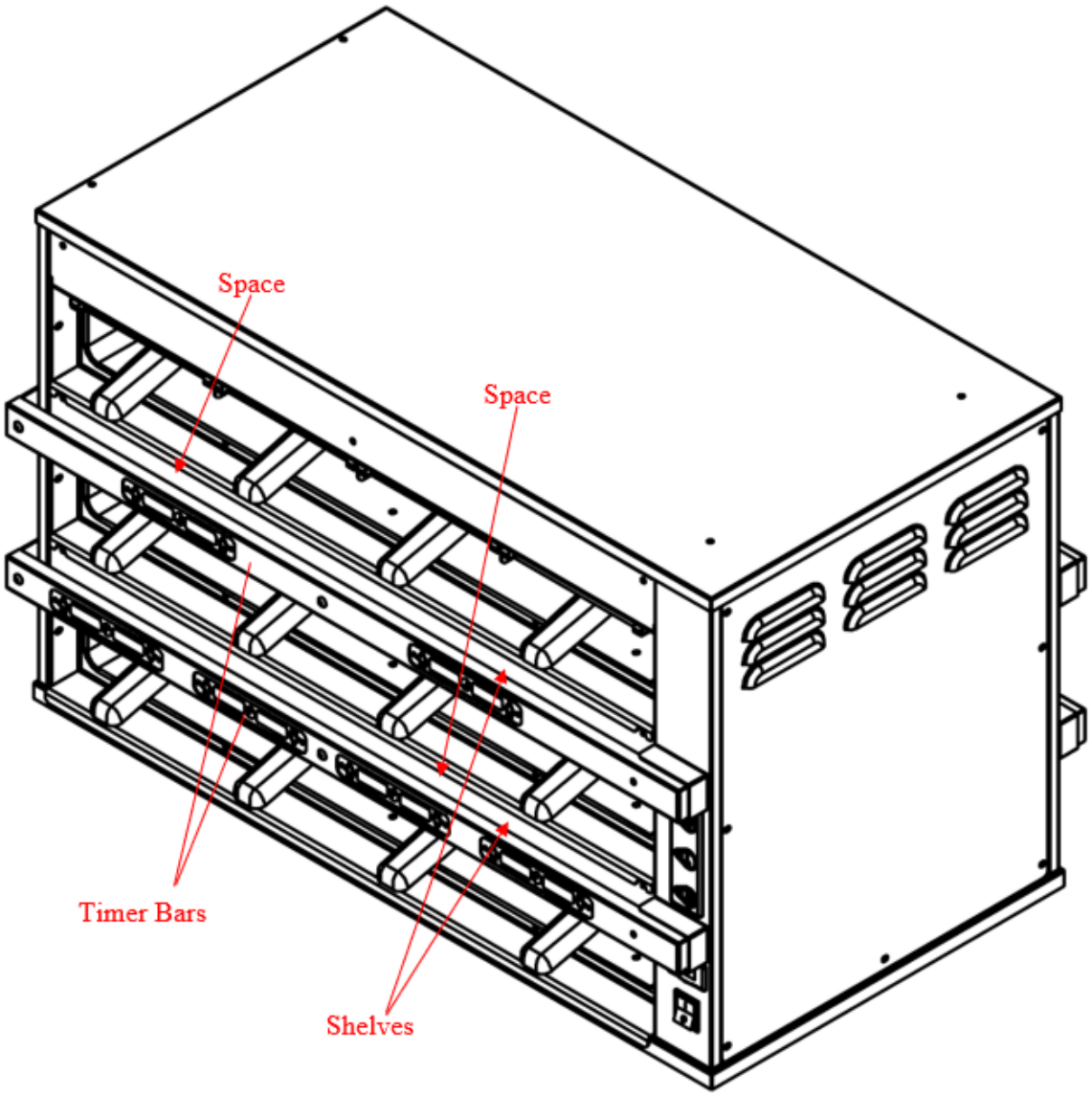


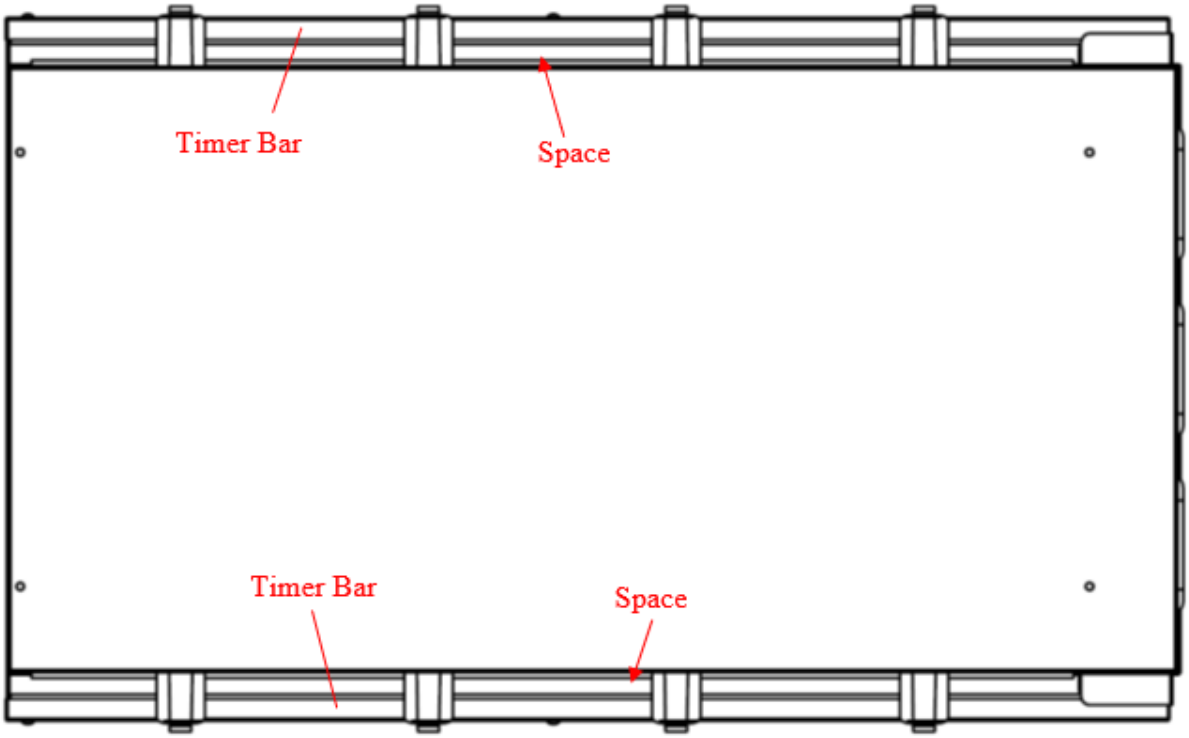
EX1005: 19 (annotated).


Space
Timer Bar
Shelf

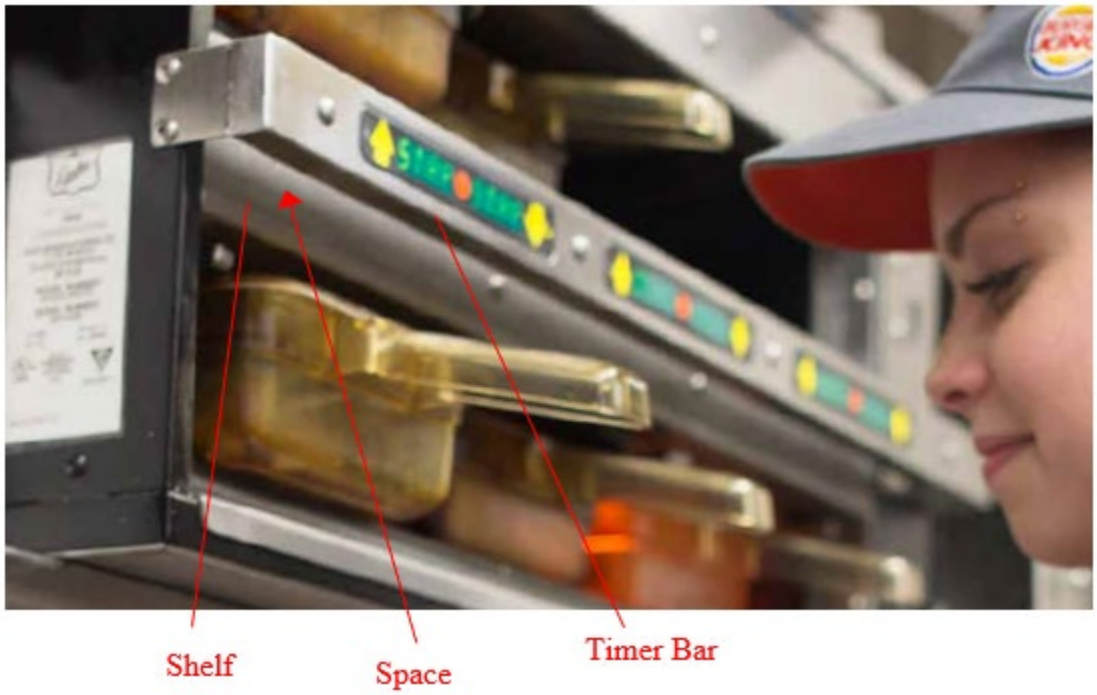


EX1005: 8 (annotated).


Space
Space
Timer Bars
Shelves

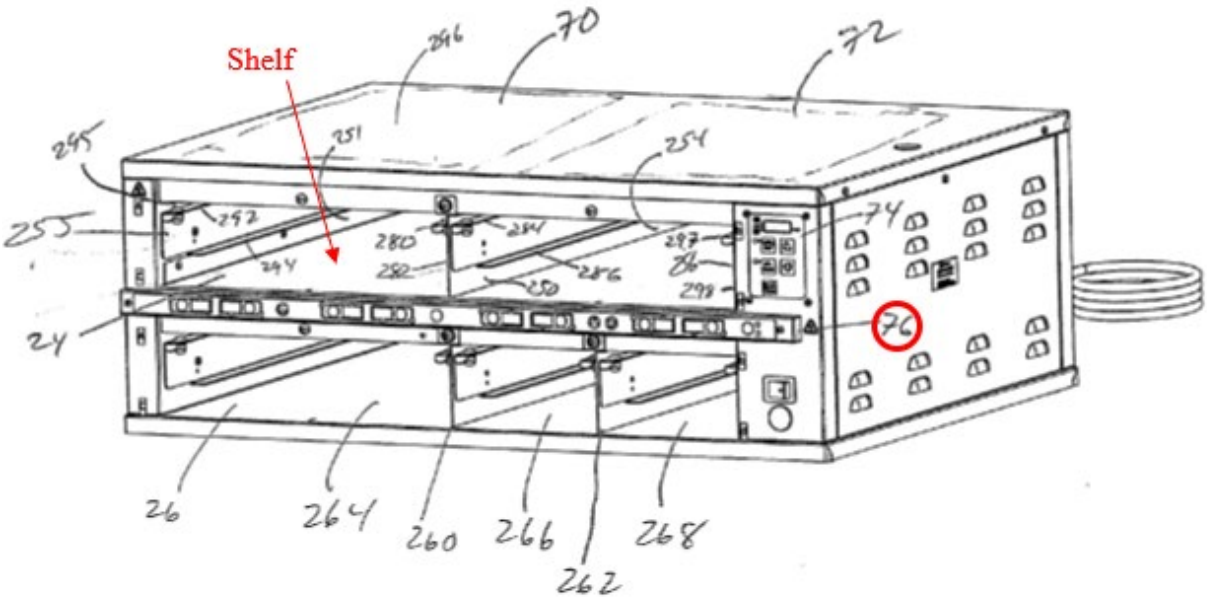


EX1005: 9 (annotated).

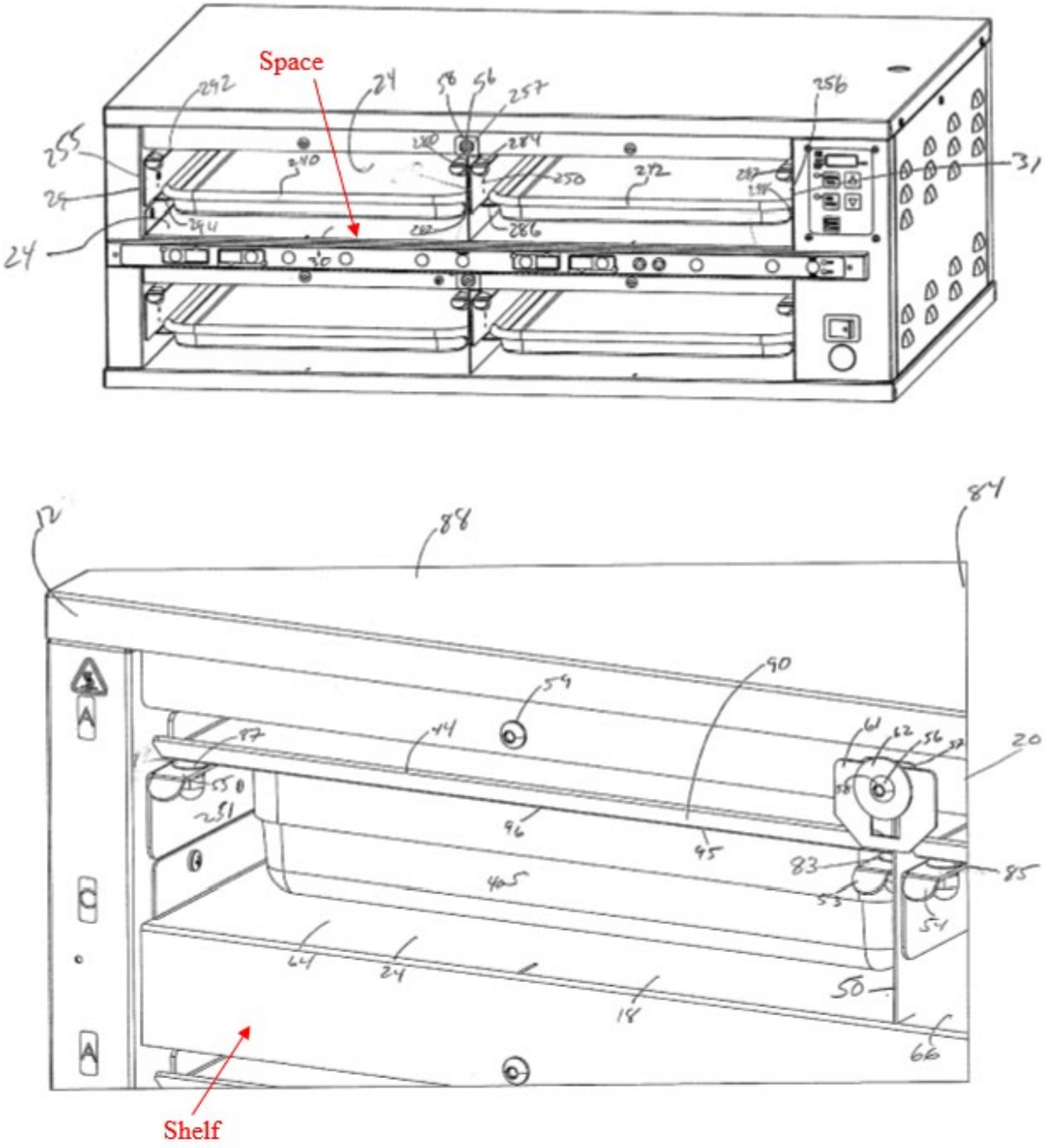


EX1007: 28 (annotated).

643. Hartfelder (EX1013) similarly teaches a food warming apparatus (10) having an interface bar (76) in front of a shelf for housing displays and controls. Similar to Fortmann'197 and the IRHS Documents, the interface bar (76) of Hartfelder is spaced apart from the shelf. EX1013: Figs. 3, 4, and 9 (showing the front of the shelf spaced rearward of the front of the cabinet).



EX1013: Fig 3.



EX1013: Figs. 4 and 9 (annotated).

644. The POSA would have found it obvious to modify Fortmann'748's cabinet—modified to incorporate Vaseloff's display/control groups and McMillan's buttons/keys—such that the display/control groups and buttons would

be located in the timer bar housings in view of Fortmann'197, the IRHS Documents, and/or Hartfelder. As taught by Fortmann'197, the IRHS Documents, and Hartfelder, the front and rear timer bars would each be spaced apart from the shelf or front/rear face of Fortmann'748's modified cabinet.

645. This arrangement would protect Vaseloff's display/control groups and McMillan's buttons/keys from heat generated by the heaters in Fortmann'748's shelf. EX1019: 3:52-55 (using "thermal barriers (not shown) to protect the display screen 21 from excessive temperatures"), 3:55-57 (explaining that the space allows "convection air flow" between the timer bars and the shelf further "protect[ing] the display screen 21 from excessive temperatures"); EX1029: 2:4-11 (explaining "control circuity has a shortened useful life span" when "located proximate to the heat source in the food warmer"), 5:41-49 ("locating the display drivers 30a-d remotely, the majority of the display control circuitry and the operator interface circuitry is located away from the heater plates 18a and 18b in cooler portions of the cabinet body … result[ing] in an extended service life of the circuitry"); *see also* EX1014: 3:32-36 (teaching placing the timer bars "out of the internal volume of the cabinet, which is the heated environment.").

646. Moreover, arranging Vaseloff's display/control groups and McMillan's buttons/keys in the timer bars would facilitate easy access to the electronics for maintenance, repair, and/or replacement. EX1008: 12-15; EX1013:

Figs. 1-4 and 9 (Figs. 1, 2, and 9 showing interface bar not installed, Figs. 3 and 4 showing interface bar installed).

647. Locating the display/control groups and buttons in timer bar housings would have been nothing more than the application of a known technique (the spaced timer bars of Fortmann'197, the IRHS Documents, and/or Hartfelder) to improve a similar device (the Fortmann'748 cabinet) in the same way (incorporating front and rear timer bars on the cabinet for housing the displays/controls for the pan holding locations).

648. There would have been a high expectation of success in making this modification given:

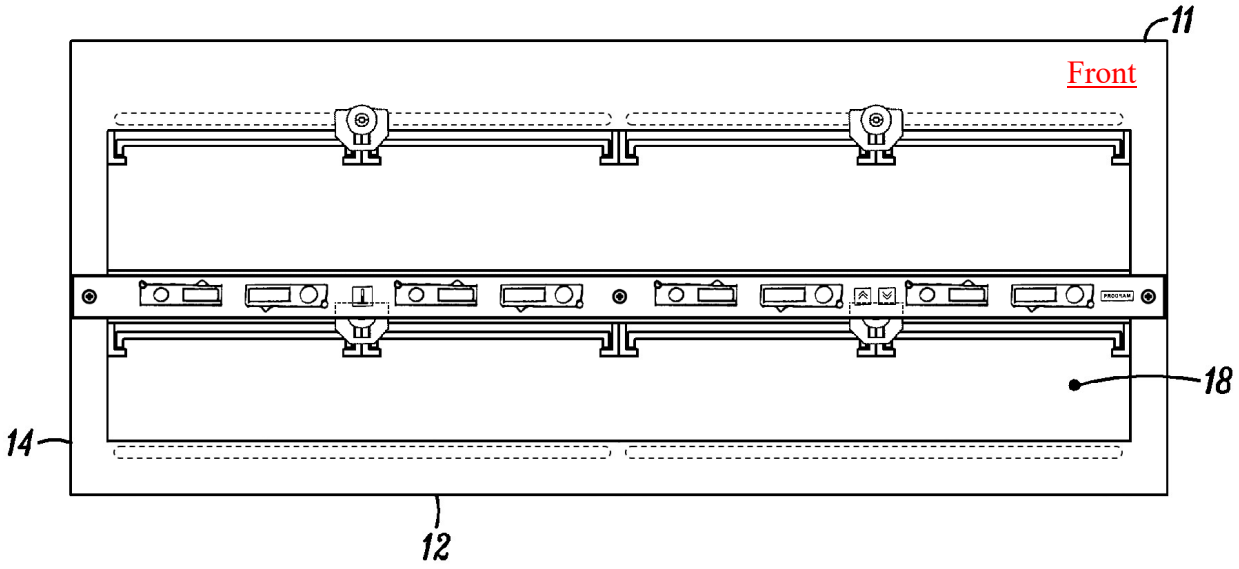
(1) the similarities between the Fortmann'748 cabinet and the units of Fortmann'197, the IRHS Documents, and Hartfelder (*e.g.*, units with compartments for warming trays/pans of food via heating elements); and

(2) the functionality of display/control groups and buttons as incorporated from Vaseloff and McMillan would not change.

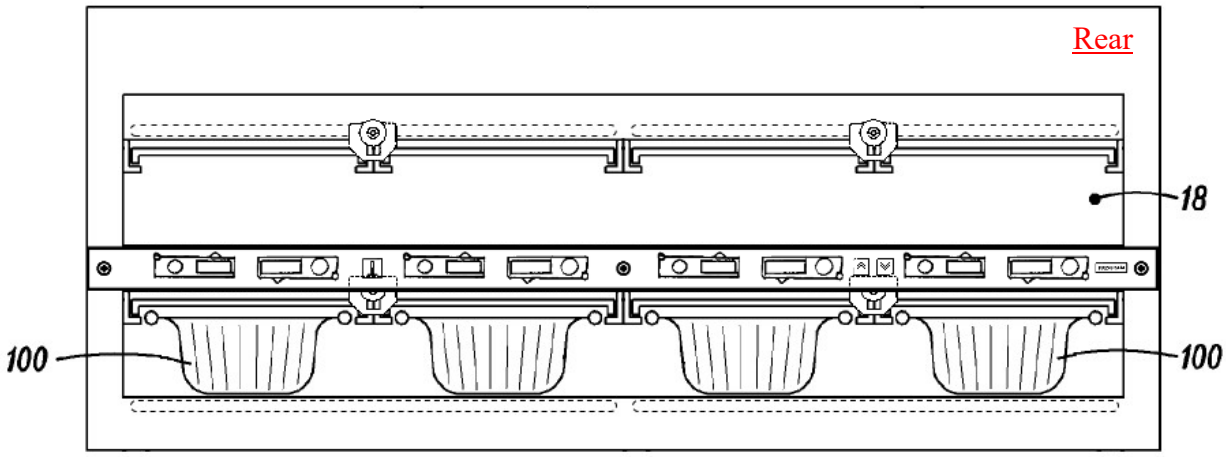
649. It would have been understood by the POSA that the timer bars could be added to either a single side (*i.e.*, just a front timer bar) or both sides (*i.e.*, both front and rear timer bars) of the Fortmann'748 cabinet. Adding the time bar on both sides of the Fortmann'748 cabinet would add the flexibility of operating the cabinet and changing its settings from either side, but at the tradeoff of increasing the cost.

650. In implementing this modification, the POSA would attach the front and rear timer bars to the chassis of Fortmann'748's cabinet proximate to the front and rear faces, respectively, as taught by Fortmann'197, the IRHS Documents, and/or Hartfelder. EX1005: 8; EX1006: 1; EX1007: 28, 52, 56; EX1008: 12; EX1013: Fig. 3; EX1014: Figs. 1-3.

651. Representative illustrations[6] of the 2x4 Fortmann'748 cabinet modified to have front and rear spaced timer bars are shown below. The 3x4 Fortmann'748 cabinet would be similar.



[6] These illustrations include further modifications as explained below.



EX1010: Figs. 2 and 6 (modified).

7. Discrete Lids for Each Pan Holding Location

652. Each compartment of Fortmann'748's cabinet includes a single lid or cover (40). EX1010: ¶[0017] ("[t]he plurality of shelves 21 may each include a removable and slidable cover 40 that is disposed in conjunction with and below each shelf 21 (with the exception of the bottom shelf 21, with a cover 40 also provided above the upper-most shelf)" and "[a]n additional cover 40 may be slidably disposed at the top of the warming volume 18 to enclose a pan 100 that is disposed upon the upper-most shelf 21").

653. The lids (40) maintain heat and moisture in the pans (100). EX1010: ¶[0017] ("[t]he cover 40 is configured to provide a lid to each restaurant or hotel pan 100 that is placed onto the shelf 21 within the warming volume 18 such that the heat from the food products disposed within the pan 100 (and the heat of the residual heat of the pan 100 itself) is substantially prevented from escaping due to

convective heat transfer. The cover 40 additionally substantially encloses the one or more pans 100 disposed upon the shelf 21 therebelow, which maintains any moisture or water vapor within the pan 100 to prevent the warmed food disposed within the pan 100 from drying"). The lids (40) are further removeable. EX1010: ¶[0017] ("removable and slidable cover"), Fig. 4.

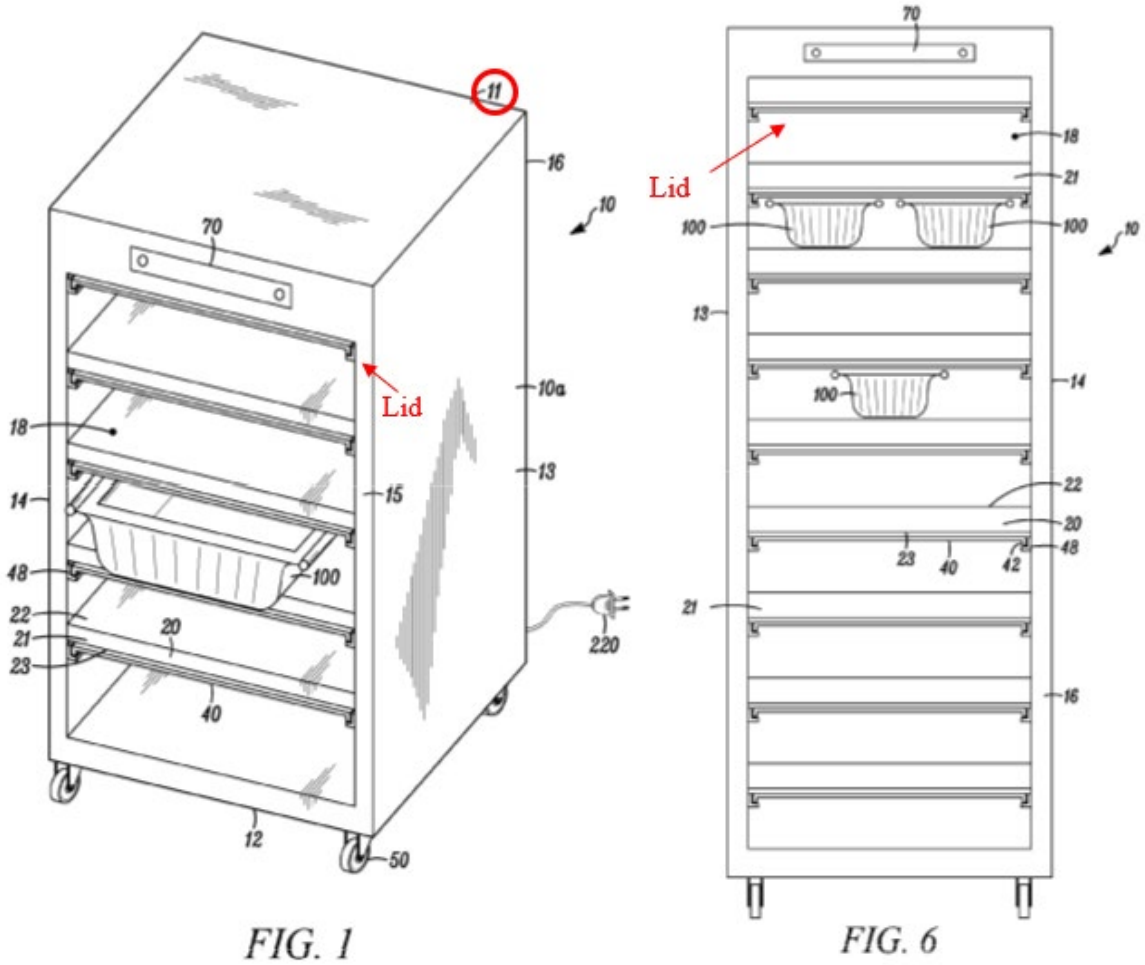


FIG. 1 FIG. 6

EX1010: Figs. 1 and 6 (annotated).

654. While Fortmann'748's cabinet only includes a single lid or cover (40) per food holding compartment, the prior art is replete with cabinets that include

discrete lids for each pan/pan holding location). Jones, Fortmann'197, and the IRHS Documents provide examples of such prior art. EX1012: ¶[0072] ("a food tray cover 16 above each respective upper left tray location ULTL and upper right food tray location URTL, and … a food tray cover above each respective lower left and lower right food tray locations, LLTL and LRTL"), Fig. 1B; EX1014: 4:50-53, Figs. 1-4; EX1005: 8, 9; EX1006: 1 ("HeatSink cover"), 2; EX1007: 53 ("Metal Cover"), 58 ("Cover allows better heat transfer and greater seal assurance; critical to maintain food quality with extended hold times"); EX1014: 7:31-32 ("covers 200 … configured to partially enclose one of the discrete heating zones 100").

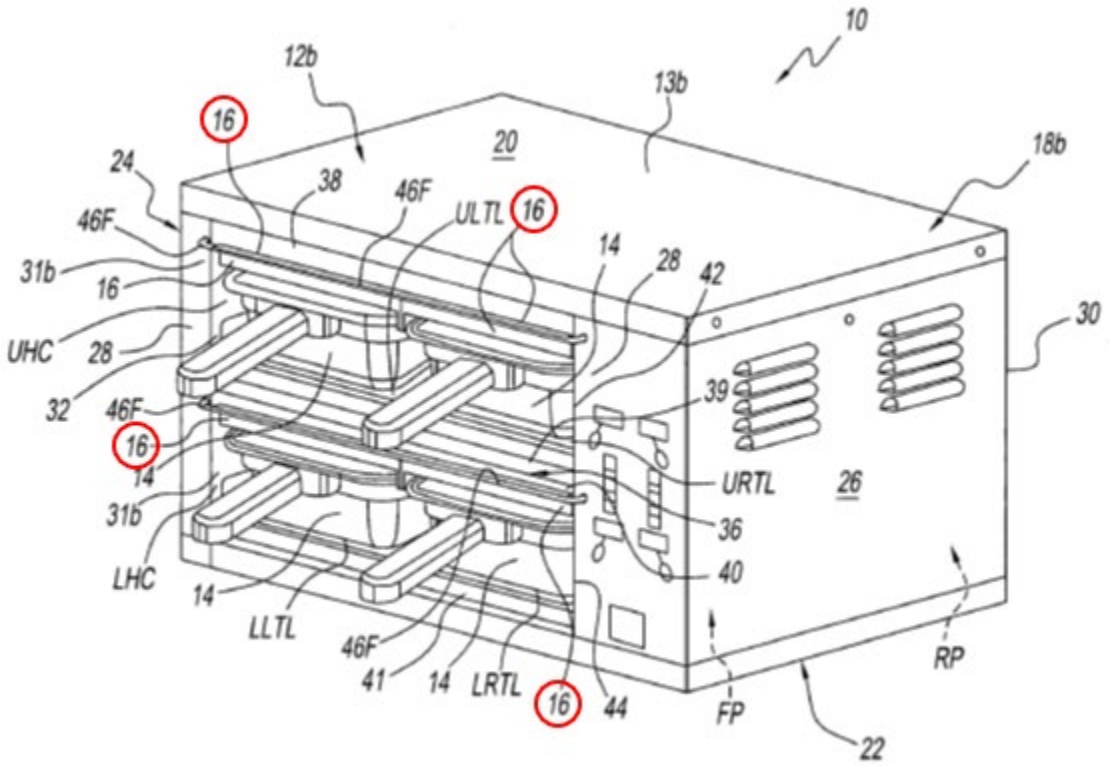


Fig. 1B

EX1012: Fig. 1B (annotated).

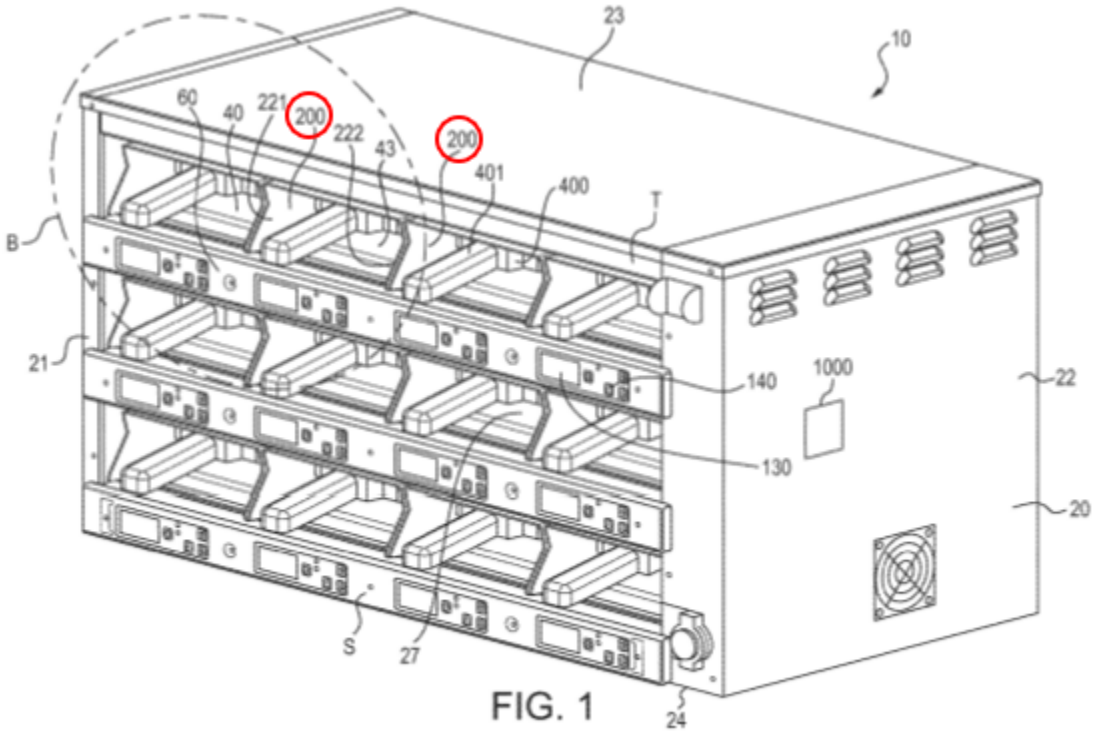
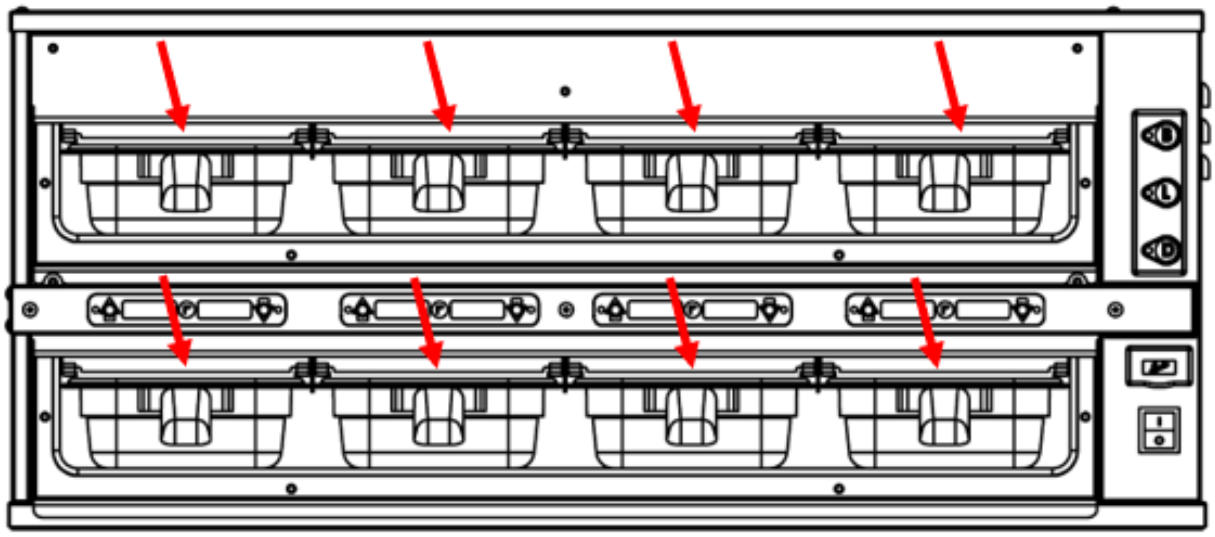
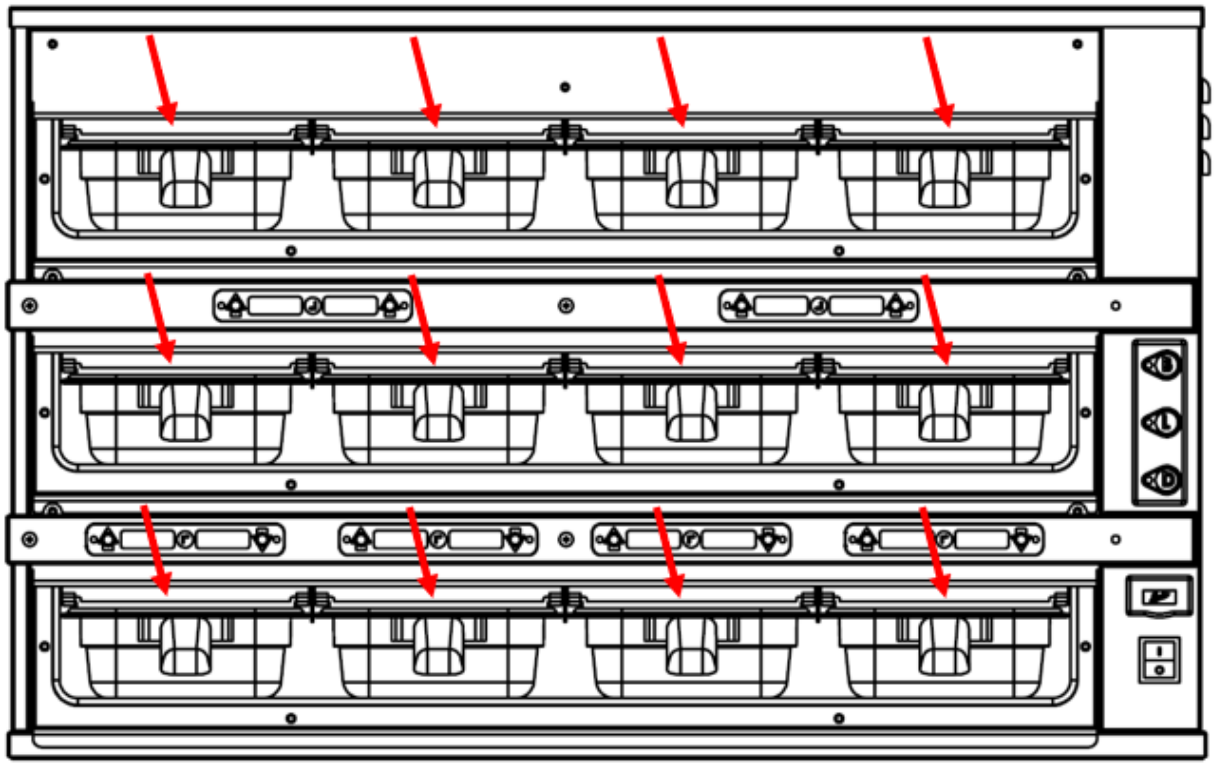


FIG. 1

EX1014: Fig. 1 (annotated).



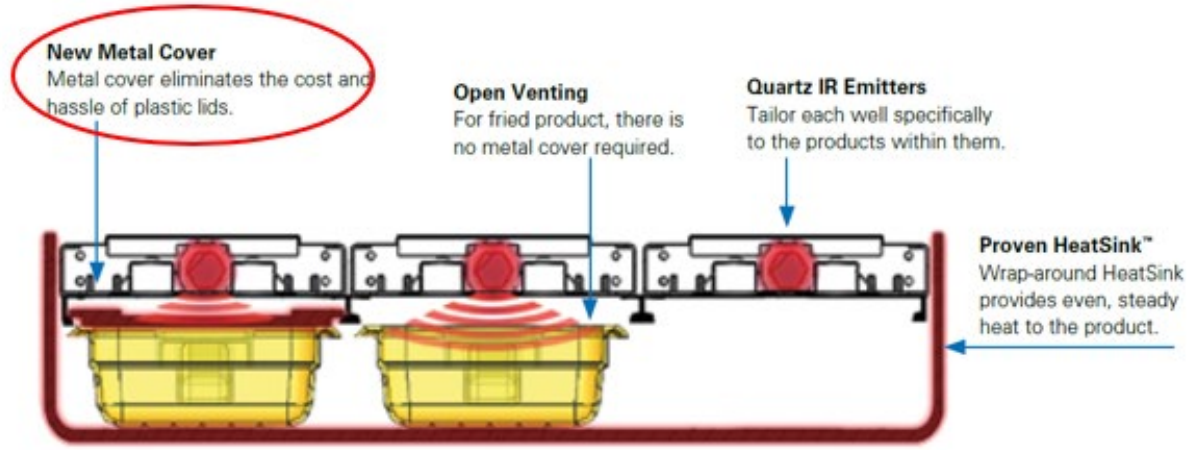
EX1005: 8 (annotated).



EX1005: 9 (annotated).



EX1006: 2 (annotated).



EX1007: 53 (annotated).

655. It would have been obvious to modify the Fortmann'748 cabinet to have discrete lids for each pan holding location/bay (instead of a single lid per compartment), as taught by Jones, Fortmann'197, and/or the IRHS Documents.

656. This modification would further Fortmann'748's goal of having "zones" for different types of food by allowing the lids for individual pans to be selectively removeable, increasing the flexibility for the cabinet and each compartment to hold more types of food (more temperature/moisture combinations) at the same time. EX1010: ¶[0024].

657. For example, for certain types of food (*e.g.*, non-fried foods such as burgers and grilled chicken) it would have been desirable to maintain the moisture from the food in the food pan/tray with a lid. EX1016: ¶[0003] ("[a]s the food loses moisture due to evaporation, flavor is lost. This affects the texture and taste of the product. For example, chicken meat fibers will dry out and become tough");

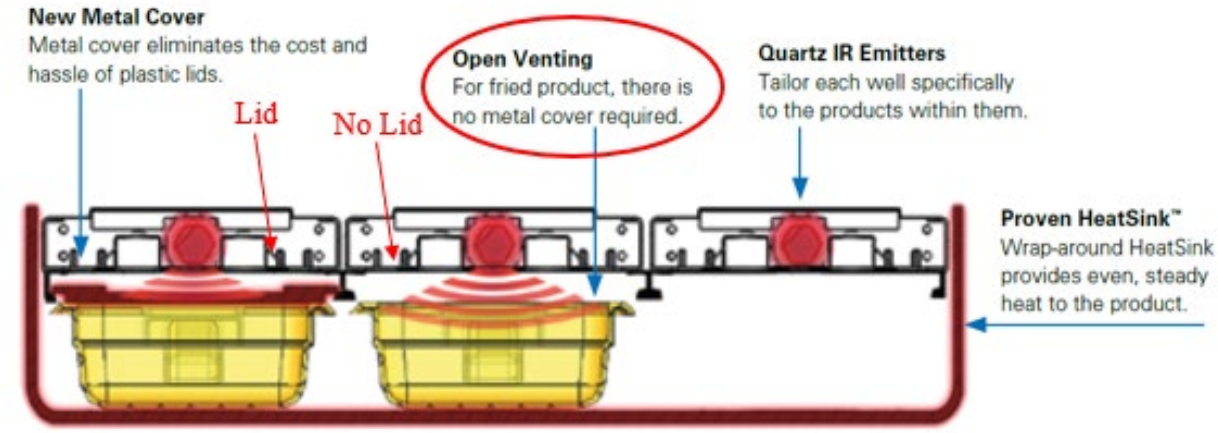
EX1017: 6:45-47 ("[s]ome of these foods, such as hamburger patties, [lose] their taste and texture with loss of moisture"); EX1014: 7:50-56 ("when it is desired to heatingly store food products in a moist environment, the cover 200 may be installed in the discrete heating zone such to enclose [] the opening 402 into the pan 400 and to prevent moisture from the food products within the pan 400 from leaving the pan 400").

658. In yet other examples, it may be desired for the food pan to be uncovered to allow moisture from the food (*e.g.*, fried foods such as fried chicken) to vent to keep the food crispy or prevent it from becoming soggy. EX1013: ¶[0044] ("food portions, such as fried foods or breads like biscuits, [] are maintained uncovered to prevent the previously cooked food portions from becoming soggy"); EX1017: 6:47-48 ("[o]ther[] [foods], such as fried chicken fillets, biscuits, and eggs become soggy if stored in an abundance of moisture"); EX1007: 53 ("Open Venting For fried product, there is no metal cover required"); EX1014: 7:61-67 ("where a relatively dry environment is desired, the cover 200 may be removed from the discrete heating zone 100 to allow any moisture within the food product disposed within the opening 402 of the pan 400 to travel away from the pan 400").

659. It thus would have been obvious to modify Fortmann'748's cabinet to have individual lids for each food pan/tray in order to provide more flexibility in

food placement, more discrete and better control over venting/sealing, and ability to hold more food types at different holding combinations (temperature/venting). EX1007: 53; EX1019: 1:36-39 ("fast food restaurants [] face challenges [to] maintain a large volume of different food products … [that] present different [holding] requirements"), 1:43-45 ("As the number of offered food products increases, so does the complexity of a system capable of maintaining all the different types of food products.").

660. For example, by incorporating individual lids for each food pan/tray the user could then keep the lids in the compartment for the non-fried foods and remove the lids from the compartment for the fried foods.



EX1007: 53 (annotated).

661. Moreover, discrete lids for each pan holding location/bay are smaller, making the lids easier to move and clean.

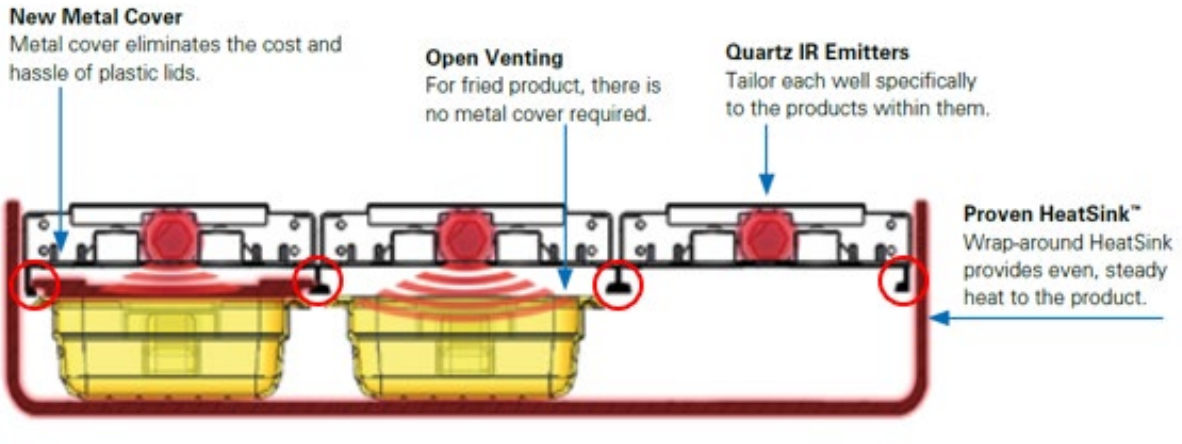
662. Furthermore, when holding foods where moisture retention is desired (*e.g.*, burgers), having discrete lids for each food pan/tray allows each lid to form a better seal and eliminate influence that other food pans/trays could have on the seal. EX1007: 10 ("Completely sealed metal cover"), 21 ("covers for individual control"), 58 ("greater seal assurance; critical to maintain food quality with extended hold times"). For example, if each pan is provided its own discrete lid, the movement of one pan to add or remove food would not affect the seal of a lid on any of the other pans.

663. Adding discrete lids for each food pan/tray would merely require duplicating and resizing Fortmann'748's lids to cover one pan (100) and duplicating Fortmann'748's tracks (48) across the compartments to hold the additional lids.

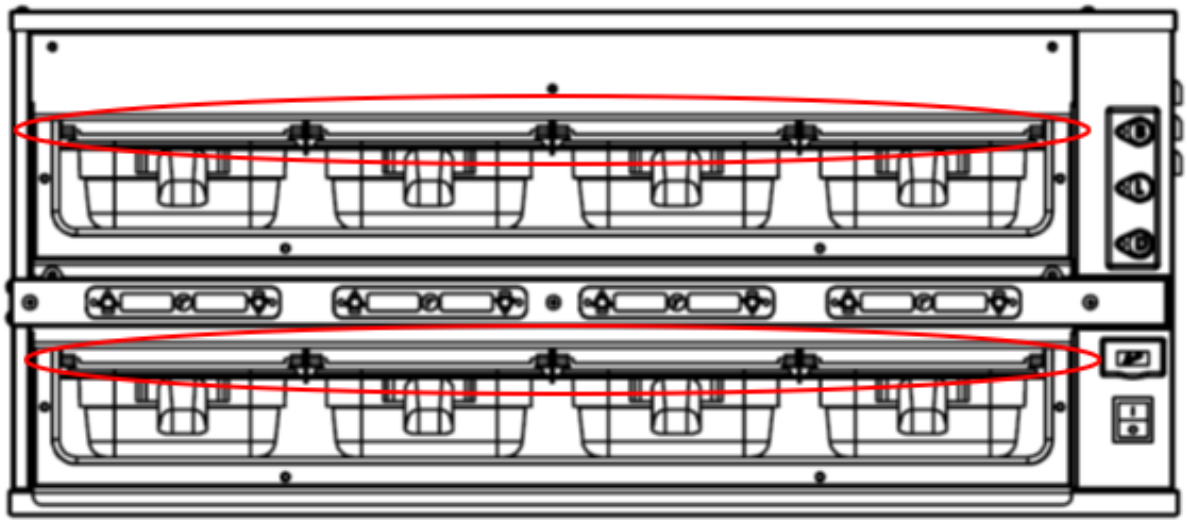
664. In duplicating the tracks (48), it would have been obvious to secure them to the overlying structure, as taught by Fortmann'748. EX1010: ¶[0018] ("a track 48 may be fixed directly to the respective shelf 21 and is disposed beneath each of the right and left sides of the shelf 21").

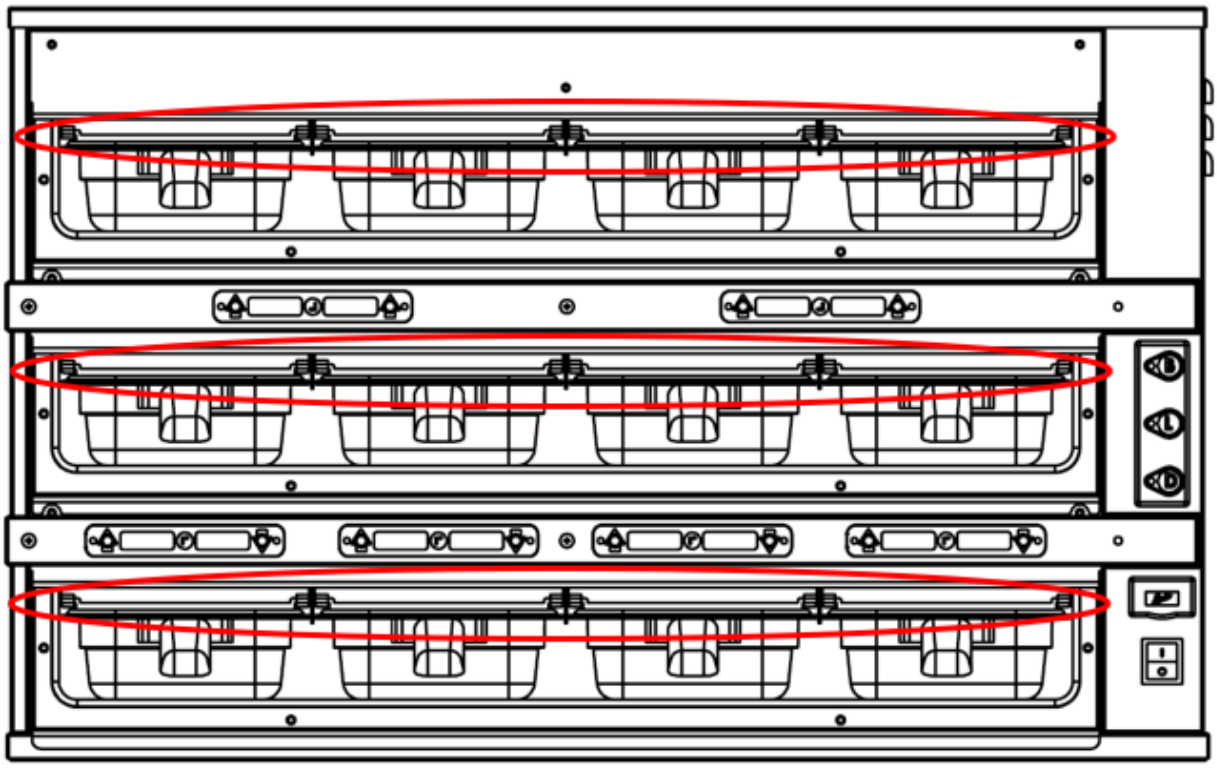
665. Moreover, in view of the IRHS Documents, the POSA would have known to simply duplicated the Fortmann'748 lid holding shelves across the width of the compartment to provide suitable support structure in locations/orientations for holding left and right sides of the individual lids.

666. Specifically, the IRHS Documents disclose discrete lids and sets of lid holding shelves for each lid secured to the overhead structure (including the top panel). EX1005: 4 ("robust aluminum Heat Sink Cover for broiled foods"), 8, 20-21 (ref. no. 18); EX1007: 53 ("[m]etal cover eliminates the cost and hassle of plastic lids"), 56, 58 ("[c]over allows better heat transfer and greater seal assurance; critical to maintaining food quality with extended hold times").

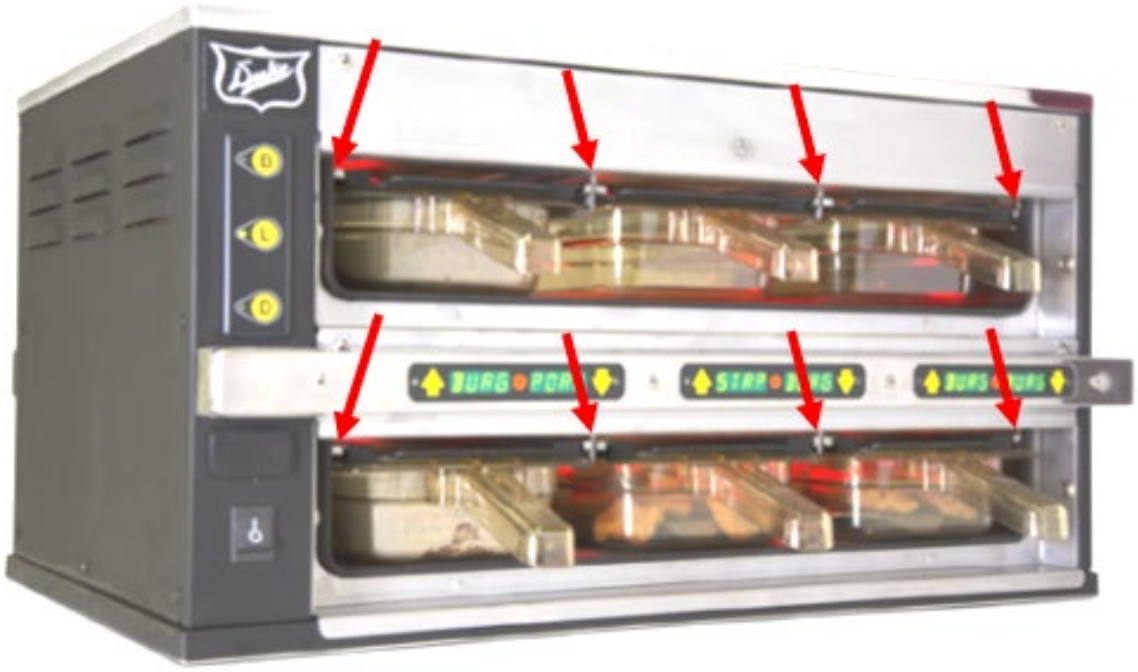


EX1007: 53 (annotated).

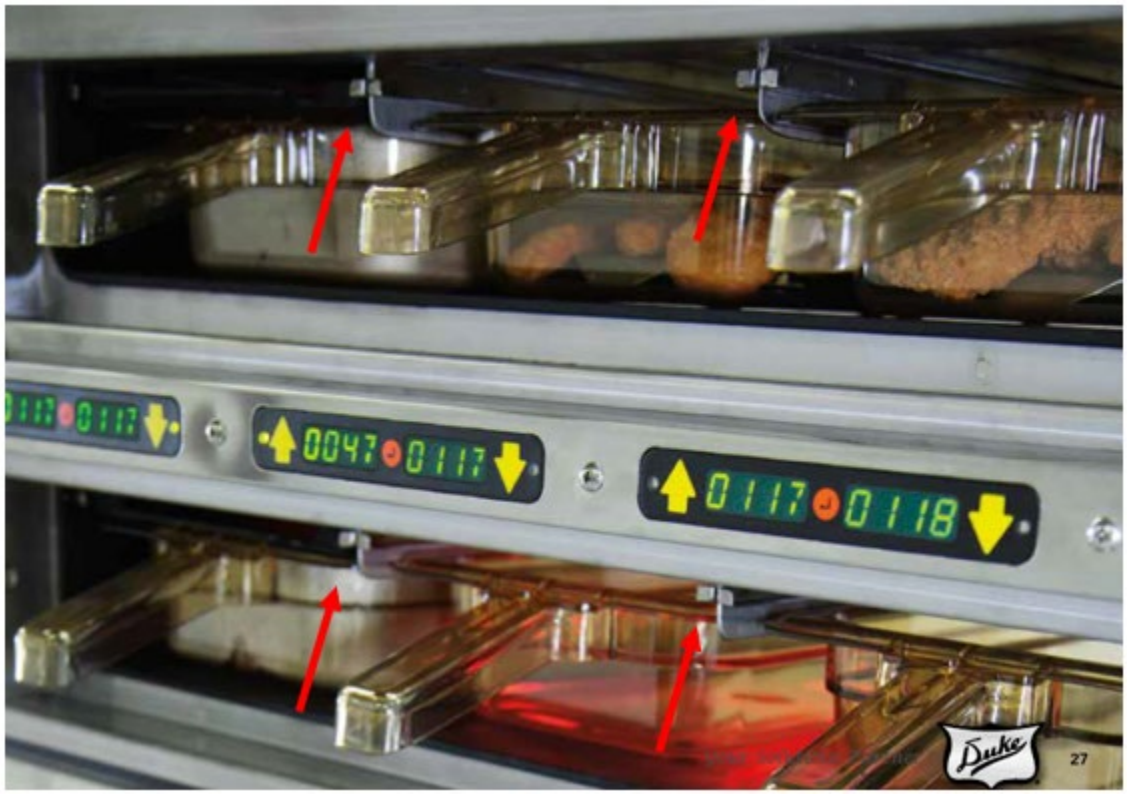




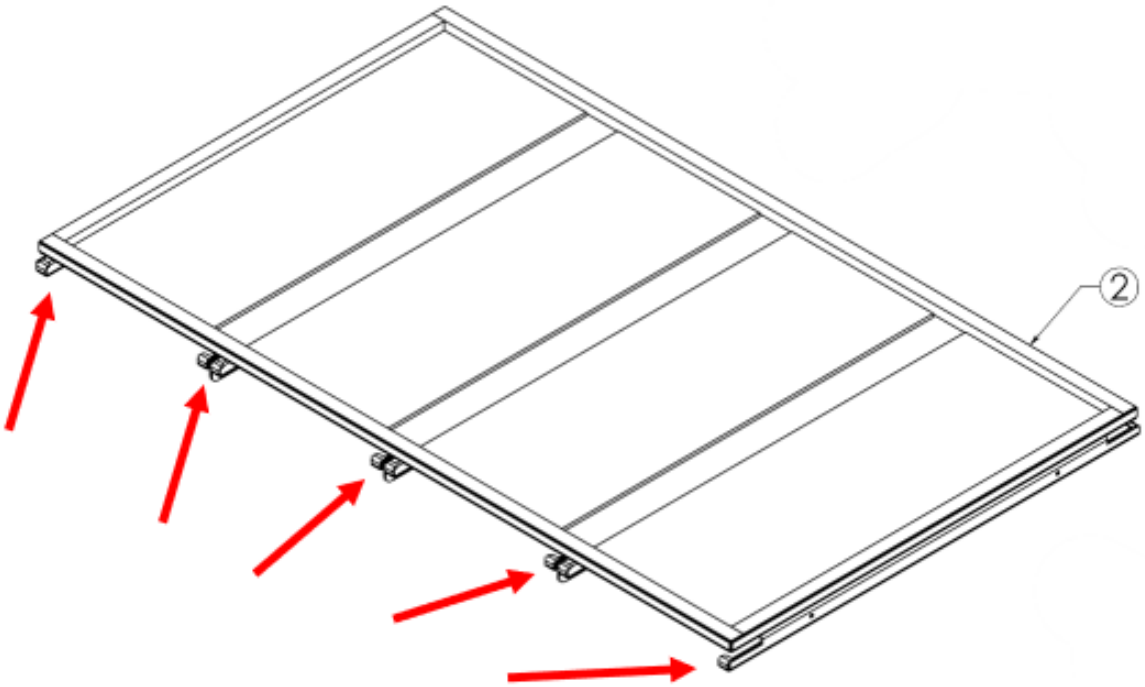
EX1005: 9 (annotated).



EX1006: 2 (annotated).



EX1007: 52 (annotated).



EX1005: 19 (annotated).

667. Resizing and duplicating lids and duplicating the lid holding shelves would have been nothing more than the application of a known technique (providing individual lids for each food pan/tray as taught by the IRHS Documents, Jones, and/or Fortmann'197) to improve a similar device (the Fortmann'748's cabinet) in the same way (the independent lids would be supported by discrete lid supporting shelves secured to overhead structure).

668. There would have been a high expectation of success in making this modification given

(1) the similarities between the Fortmann'748 cabinet and the holding unit of the IRHS Documents;

(2) the function and operation of Fortmann'748's lid holding shelves would not change; and

(3) the IRHS Documents demonstrate discrete lid holding shelves for each lid is possible. EX1012: ¶[0072], Fig. 1B; EX1014: 4:50-53, 7:31-32, Figs. 1-4; EX1005: 8; EX1006: 1-2; EX1007: 53, 58.

669. In view of Fortmann'748, it would have been obvious to directly fix the tracks (48) that support the lids (40) that are directly below top panel (11) to the top panel. Fortmann'748 discloses two ways of mounting the track (48) in the chassis (10a): (1) mounted on the side panels (13, 14), or (2) mounted on the shelves (21). EX1010: ¶[0018]. This arrangement would still be applicable for supporting individual lids for each food pan/tray, with the addition that because the top lid (40) does not have a shelf (21) above it, the track (48) would instead be fixed directly to the top panel (11) (the top panel substituting as the shelf in this context).

670. This would have also been the application of a known technique (Fortmann'748 mounting a track to an overhead structure) to improve a similar device (the tracks for the top compartment) in the same way (mounting the top tracks to the overhead structure).

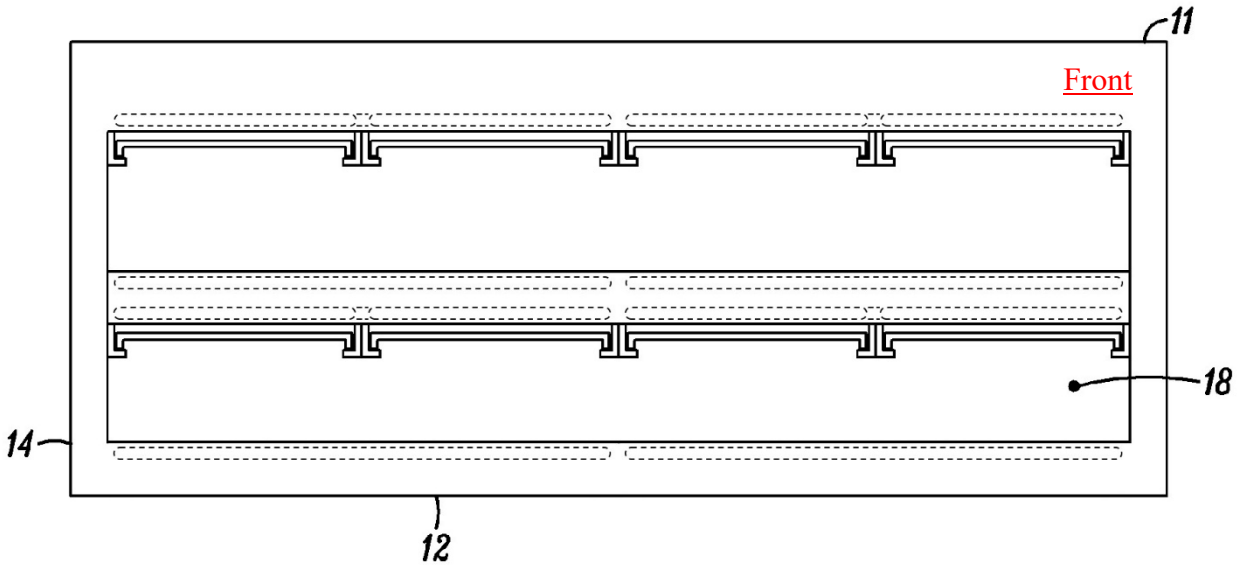
671. There would have been a high expectation of success in making this modification given

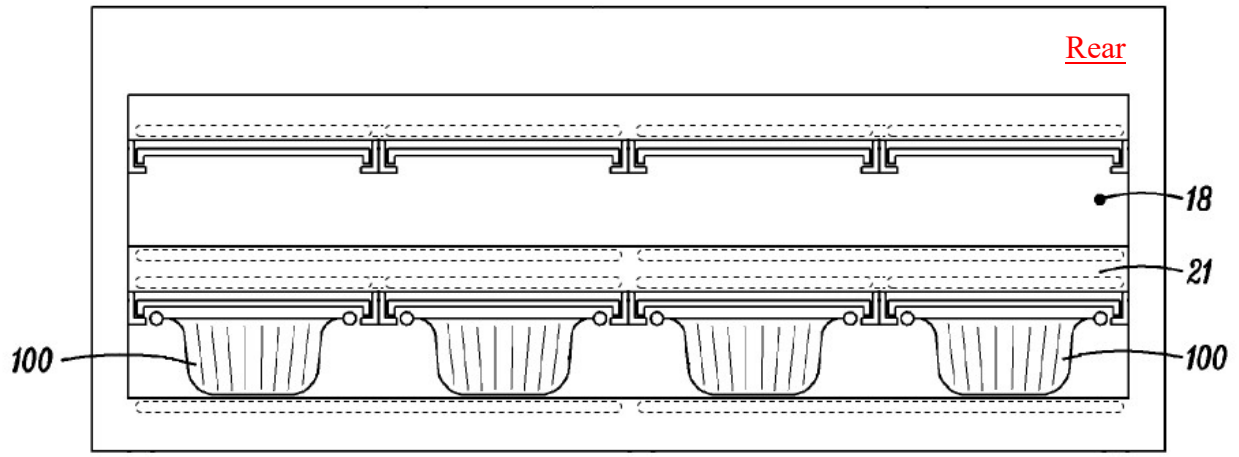
(1) the similarities between the Fortmann'748 cabinet and the holding unit of Jones, Fortmann'197, or the IRHS Documents (*e.g.*, all units with lids);

(2) the function and operation of Fortmann'748's lids would not change; and

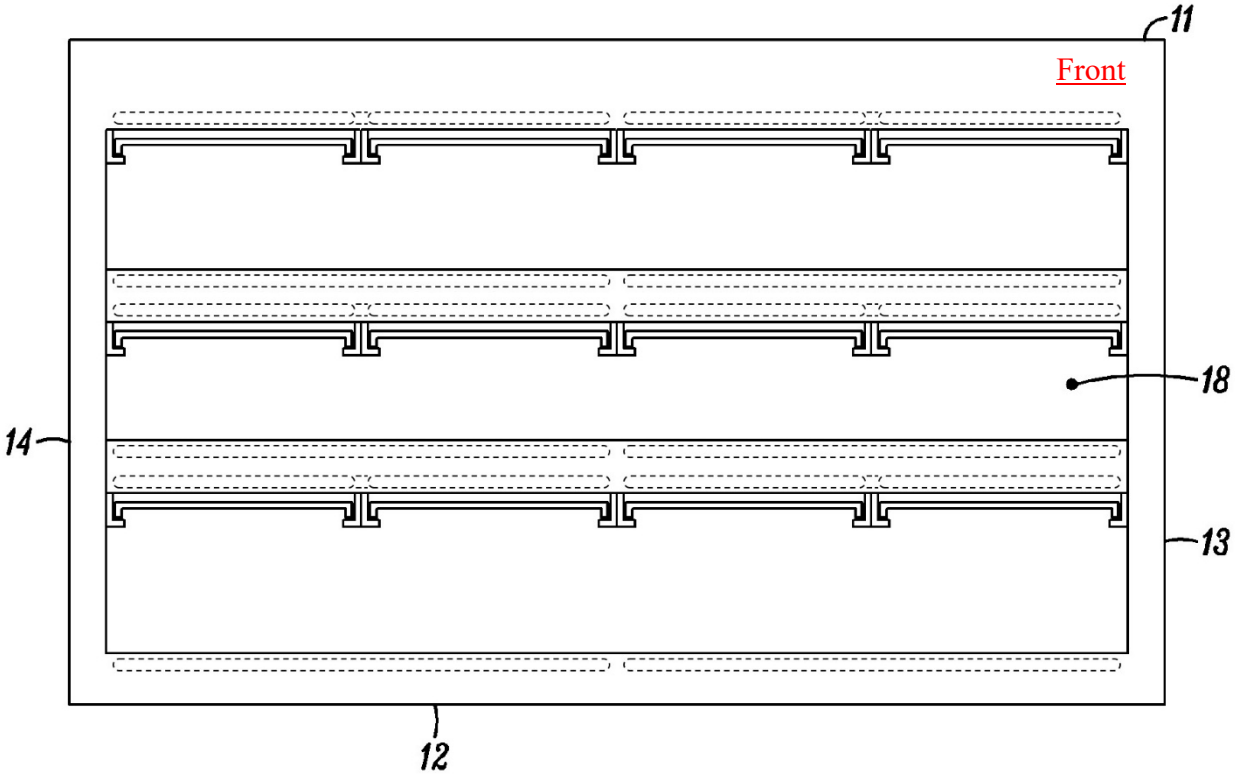
(3) Jones, Fortmann'197, and the IRHS Documents demonstrate individual lids for each pan holding location/bay is possible.

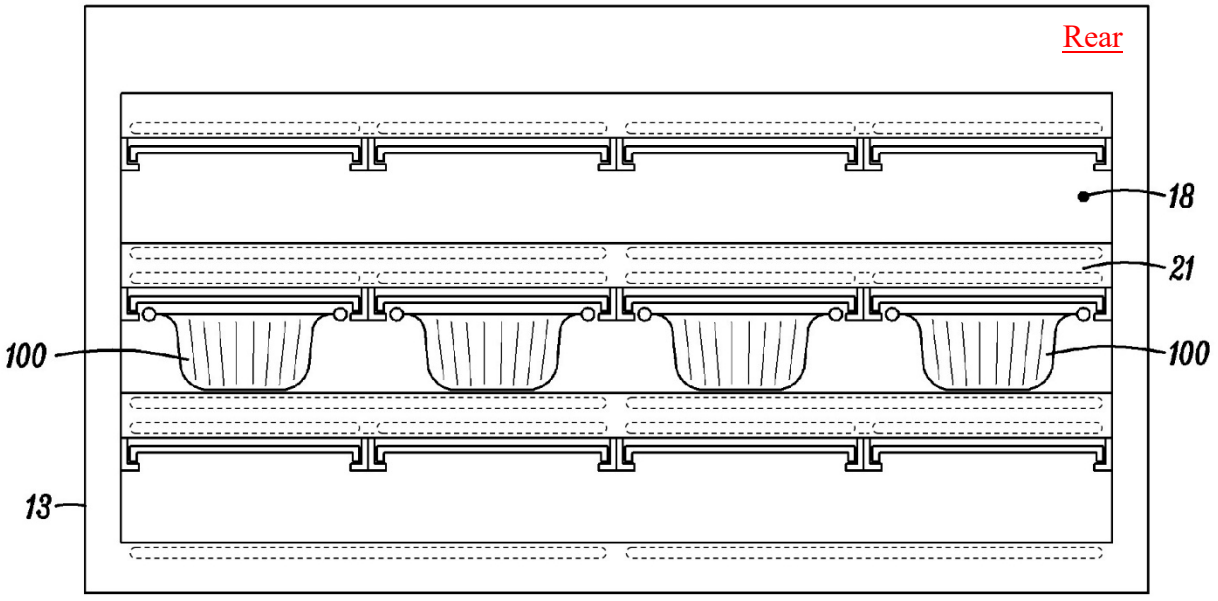
672. Schematic illustrations of the 2x4 and 3x4 Fortmann'748 cabinet modified to have individual lids for each pan holding location are shown below:





EX1010: Figs. 2 and 6 (modified, annotated).





EX1010: Figs. 2 and 6 (modified, annotated).

8. Latches

673. Each compartment of Fortmann'748's cabinet includes a removable lid or cover (40). EX1010: ¶[0017] ("[t]he plurality of shelves 21 may each include a removable and slidable cover 40 that is disposed in conjunction with and below each shelf 21 (with the exception of the bottom shelf 21, with a cover 40 also provided above the upper-most shelf)" and "[a]n additional cover 40 may be slidably disposed at the top of the warming volume 18 to enclose a pan 100 that is disposed upon the upper-most shelf 21"). The lid (40) slides along tracks (48) and can rest on the top of the pan (100). EX1010: ¶¶[0017] ("a removable and slidable cover 40"), [0018] ("the cover 40 [is] closely received within the track 48 to encourage stability within the track 48 and ease of sliding movement therewithin" and "no space between the upper edges of the pan 100 and the bottom surface of the cover 40").

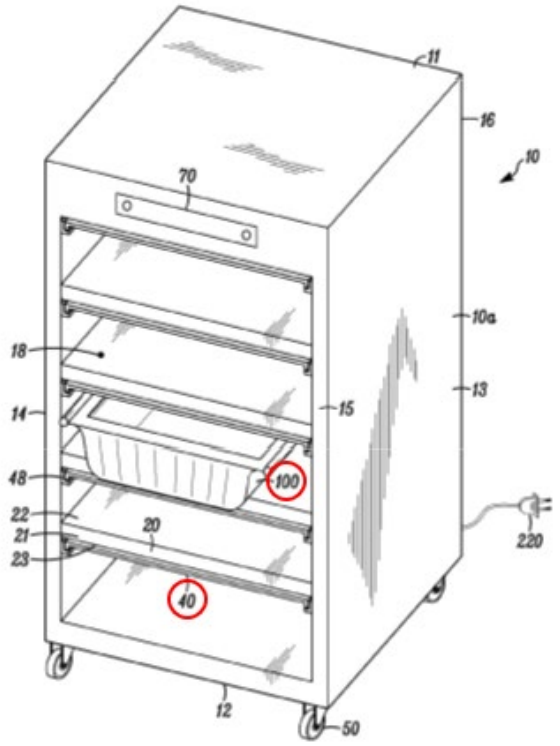


FIG. 1

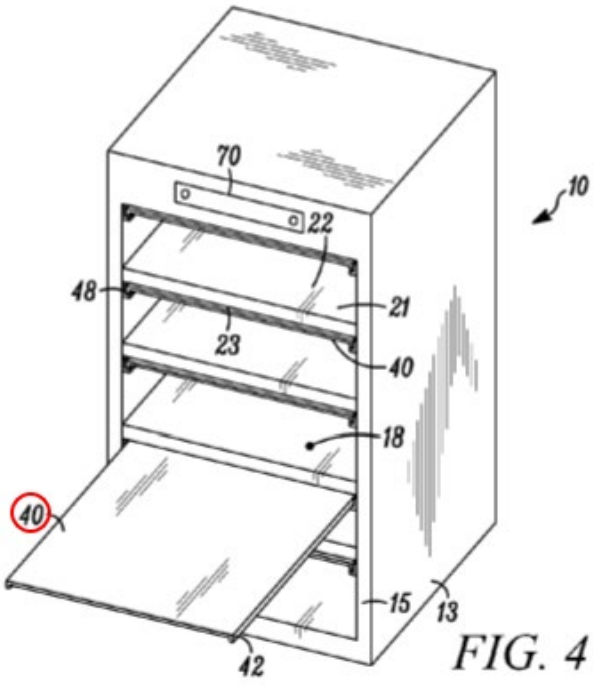


FIG. 4

EX1010: Figs. 1 and 4 (annotated).

674. Notably, similar food holding units which include covers or lids routinely include latches to secure the lid in place. For example, Hartfelder teaches a food warming apparatus (10) that receives trays (40) in heating compartments (24, 26) with covers or lids (44, 46). EX1013: ¶¶[0028] ("food warming apparatus 10"), ¶[0030] ("[e]ach of heating compartments 24 and 26 is sized to accommodate a plurality of trays, as exemplified in FIG. 1 by trays 40 and 42 in heating compartment 24. Each of trays 40 and 42 are covered by covers 44 and 46, respectively.").

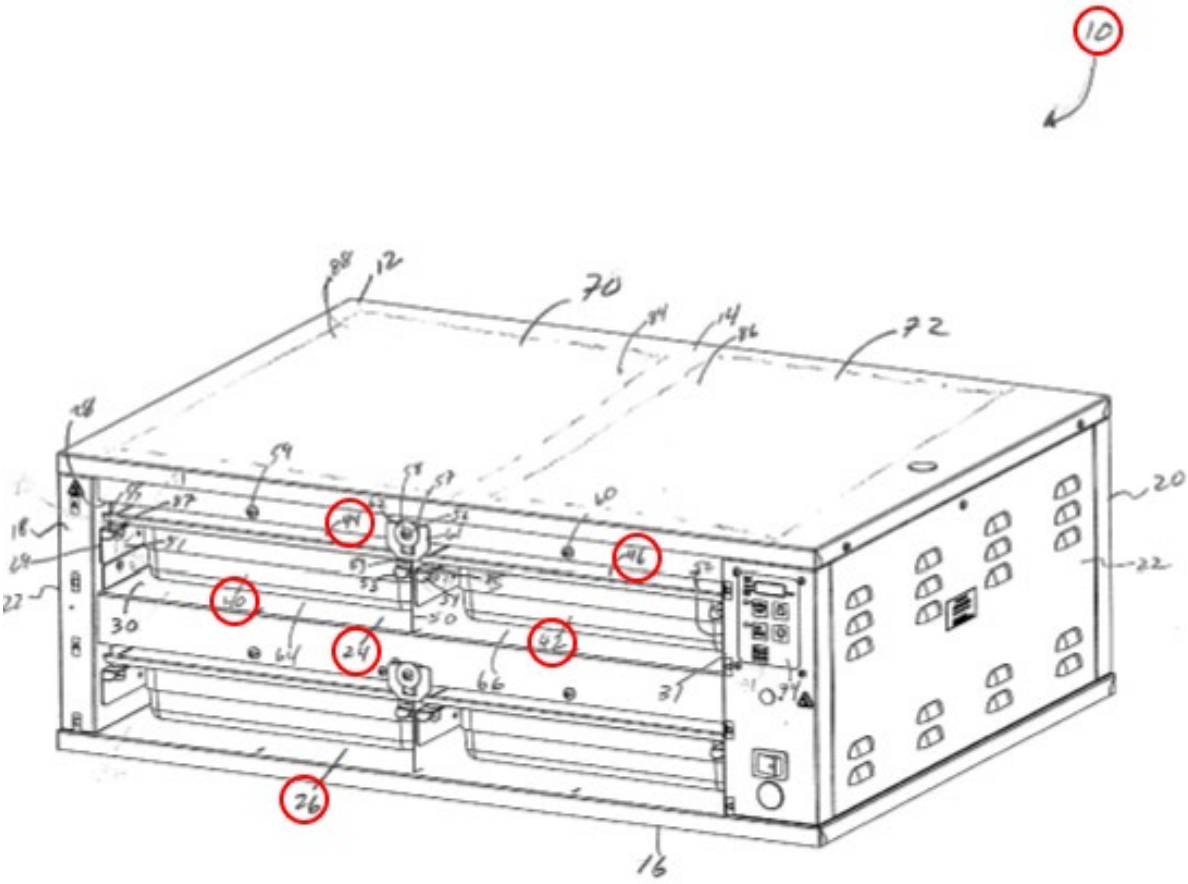


FIGURE 1

EX1013: Fig. 1 (annotated).

675. To prevent the lids (44, 46) from moving with the trays (40, 42) when the trays are removed from the heating compartment (24, 26), the Hartfelder apparatus (10) includes stop members (61) which retain the lids. EX1013: ¶[0058] ("[a]s best shown in FIG. 9, when tray 40 is withdrawn from sub-compartment 64 of heating compartment 24, front turned-up edge 90 of cover 64, acting as an

engagement edge, engages stop member 61. The engagement of engagement edge 90 with stop member 61 arrests the movement of cover 44. As the movement of cover 44 is arrested, cover 44 is retained upon within sub-compartment 64 while tray 40 is withdrawn"), Fig. 9.

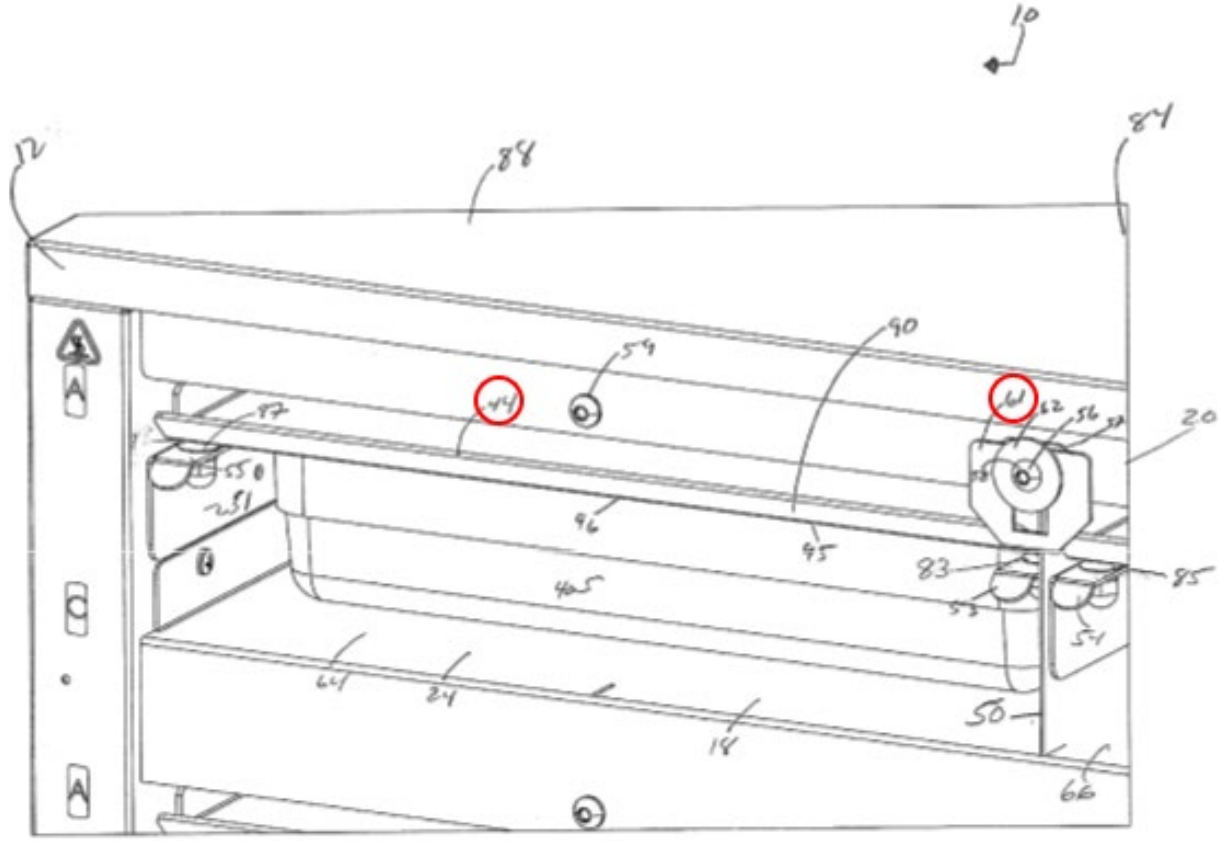


FIGURE 9

EX1013: Fig. 9 (annotated).

676. Shei'099 discloses similar stops (88) between pairs of covers (80) where the stops are biased by gravity to a cover-retaining position (to retain both

covers) and pivotable to the left or right to selectively permit insertion/removal of either of the covers. EX1017: 6:9-32.

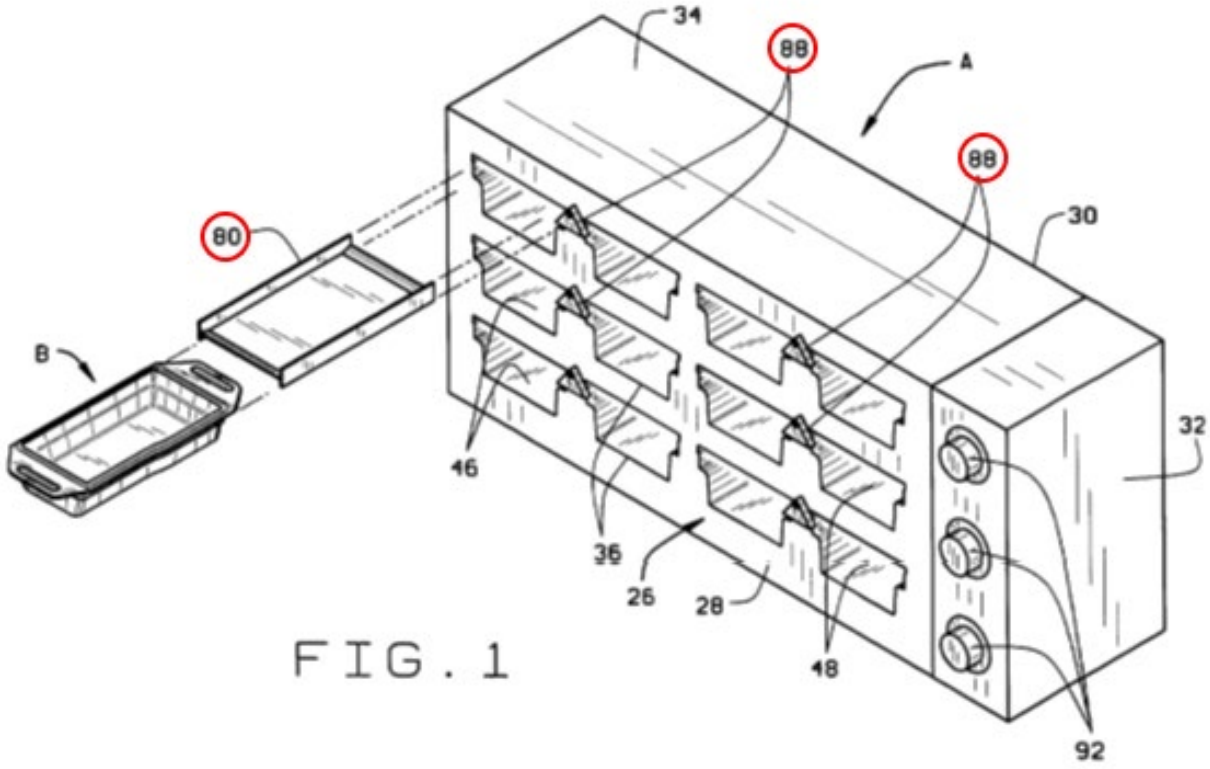


FIG. 1

EX1017: Fig. 1 (annotated).

677. It would have been obvious to the POSA to modify Fortmann'748's cabinet to include Hartfelder's stop members (61) or Shei'099's stops (88) for retaining the lids of Fortmann'748's cabinet on the lid-holding shelves. EX1013: ¶[0058].

678. The stop members (61) or stops (88) would prevent the lids, which are in contact with the pans, from moving with the pans as the pans are inserted into and removed from the compartments. EX1013: ¶[0058] ("[a]s best shown in FIG.

9, when tray 40 is withdrawn from sub-compartment 64 of heating compartment 24, front turned-up edge 90 of cover 64, acting as an engagement edge, engages stop member 61. The engagement of engagement edge 90 with stop member 61 arrests the movement of cover 44. As the movement of cover 44 is arrested, cover 44 is retained upon within sub-compartment 64 while tray 40 is withdrawn"); EX1017: 6:19-22. This would retain the lids in position to cover the pans when the pans are in the heating compartments.

679. The addition of latches would have been nothing more than using a known technique (the incorporation of stop members of Hartfelder or Shei'099 to retain lids) to improve a similar device (the Fortmann'748 cabinet with lids) in the same way (retaining lids in place while moving food pans into and out of the food holding compartments).

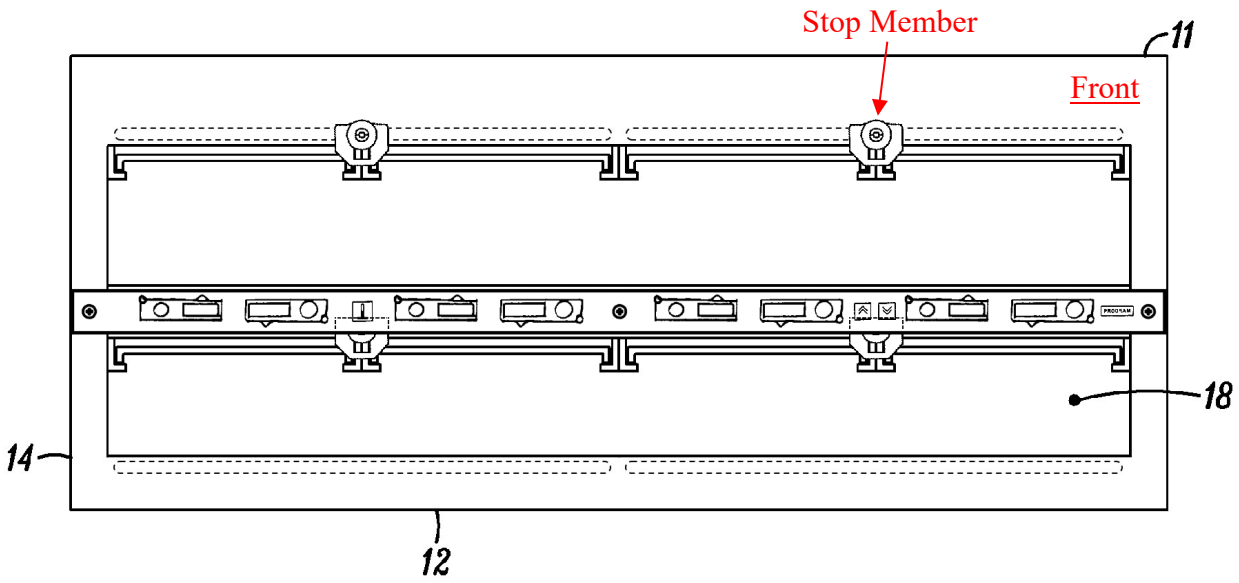
680. There would have been a high expectation of success in making this modification given:

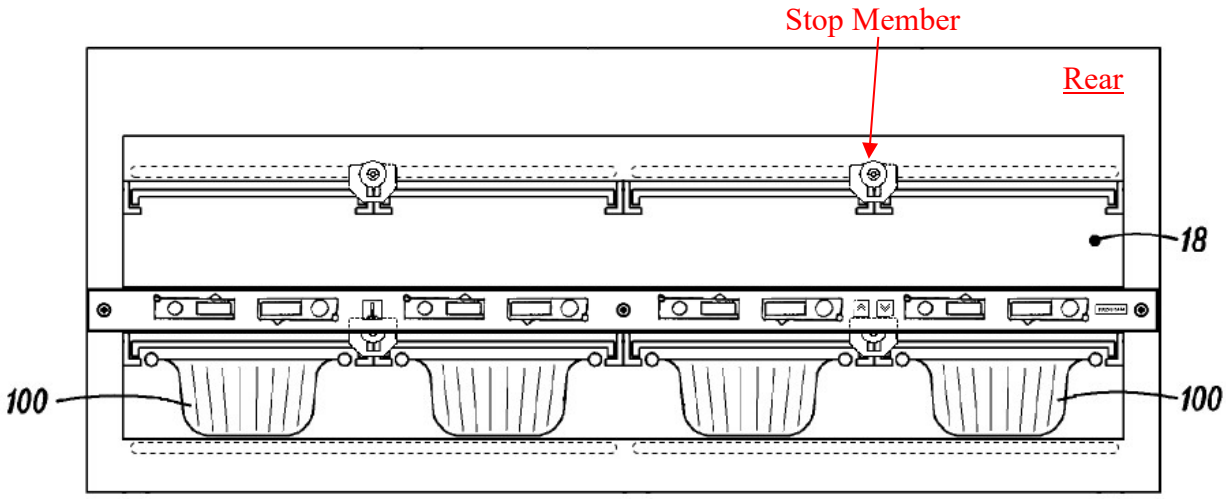
(1) the similarities between the Fortmann'748 cabinet and Hartfelder's and Shei'099's unit (*e.g.*, all units with compartments for warming trays/pans of food with lids covering the trays/pans); and

(2) that the stop member of Hartfelder or the stop of Shei'099 would perform the same function in the same way in Fortmann'748's cabinet. EX1013: ¶[0058].

681. In making this modification, it would have been obvious to the POSA to arrange each stop member (61) or stop (88) on the face of the shelf between two lids as taught by Hartfelder and Shei'099.

682. A representative illustration of the 2x4 Fortmann'748 cabinet modified to have Hartfelder's stop members (61) for the lids is shown below (the 3x4 Fortmann'748 cabinet would be similar). A modification implementing Shei'099's stops (88) would be similar to below, except Hartfelder's stop members (61) would be replaced with Shei'099's stops (88).





EX1010: Figs. 2 and 6 (modified, annotated).

B. Independent Claim 1

1.P: a method of maintaining different temperatures within a multi-zone food holding bin, the multi-zone food holding bin comprising

683. The POSA would recognize that Fortmann'748 discloses the use of a multi-zone food holding bin to maintain the temperature of previously cooked foods at different temperatures. EX1010: ¶[0002]. Specifically, Fortmann'748 teaches the use of a food holding bin or warming cabinet (10) having multiple zones for a plurality of food pans (100). EX1010: ¶¶[0014], [0024] ("multiple heat zones"), [0027], Figs. 1 and 6.

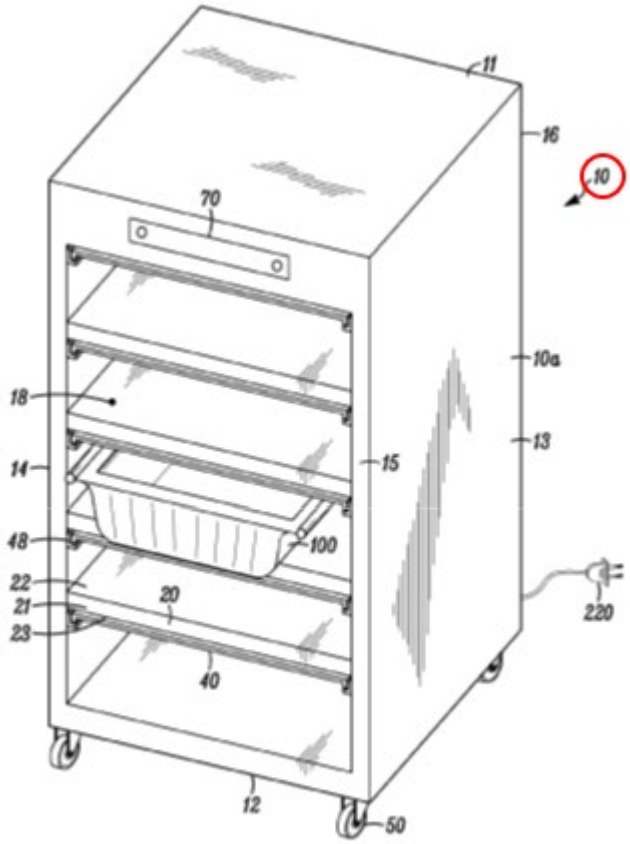


FIG. 1

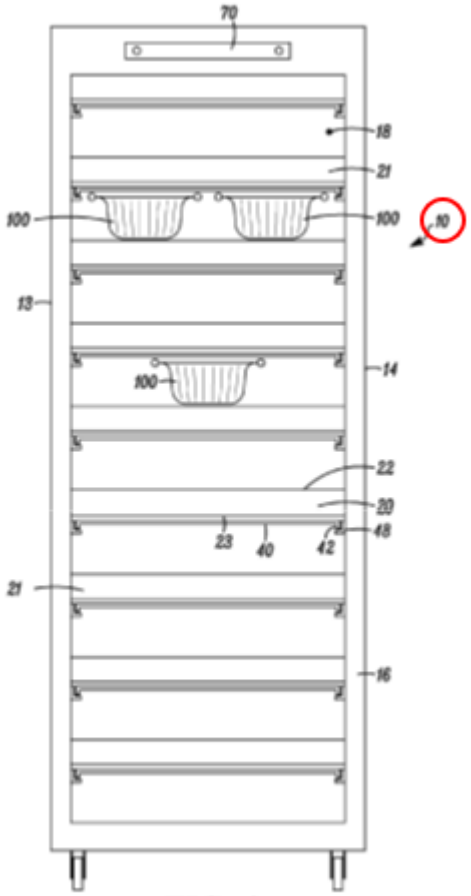


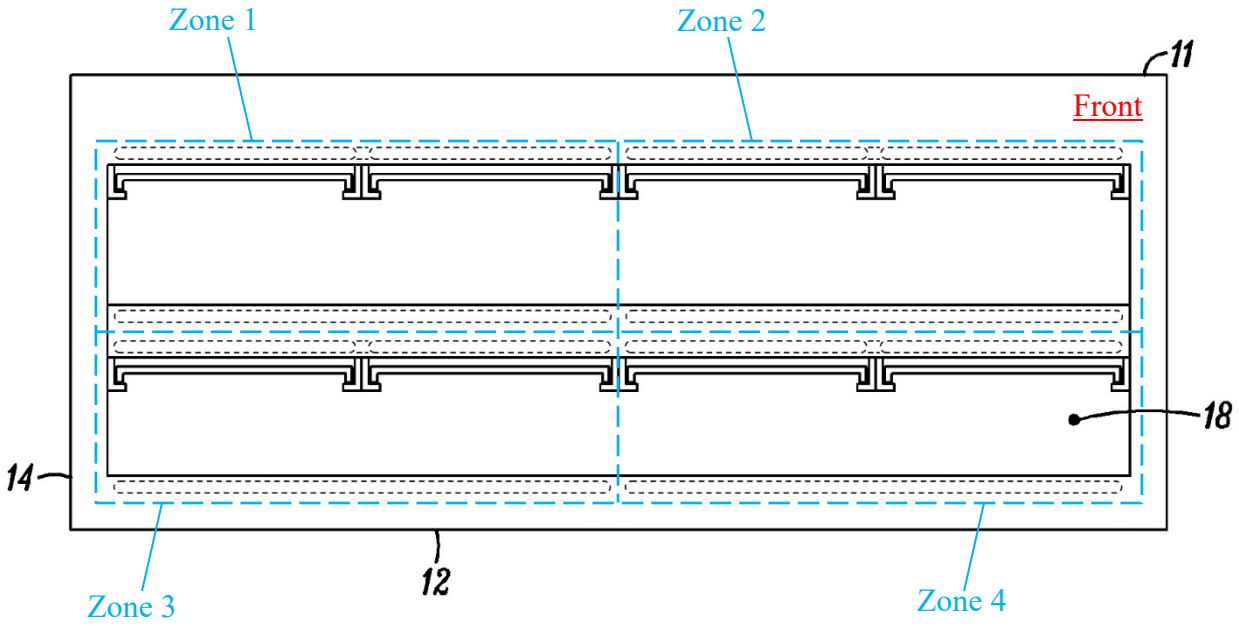
FIG. 6

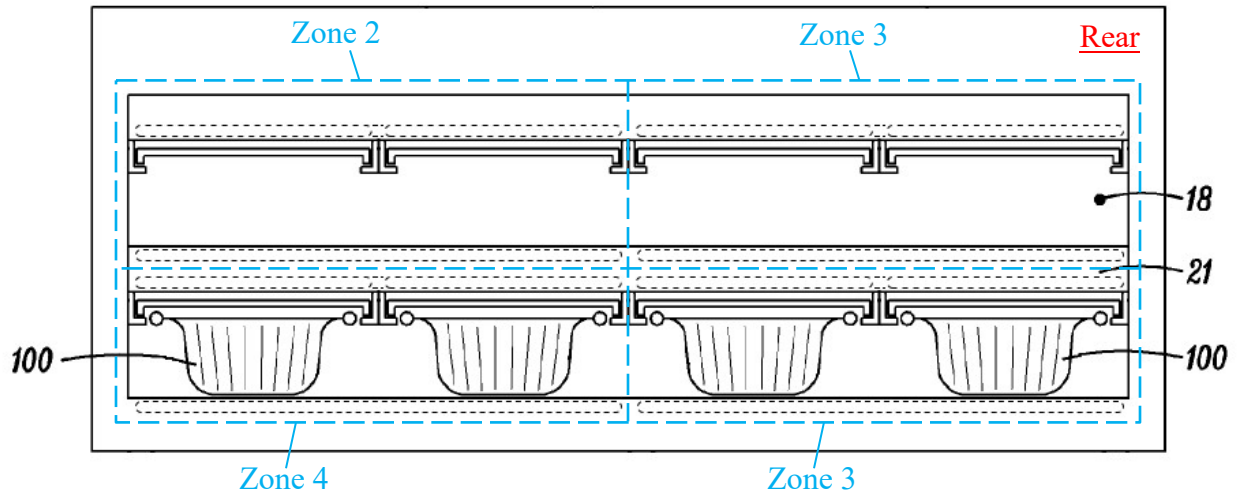
EX1010: Figs. 1 and 6 (annotated).

684. Jones, Hartfelder, Stanger, Loy, and/or the IRHS Documents each disclose multiple temperature zones and Jones, the IRHS Documents, McMillan, and/or Fortmann'748 disclose zones at different temperatures such that it would have been obvious to modify Fortmann'748's cabinet to have multiple zones maintained at different temperatures, as explained in Paragraphs 537-586 (Ground 10, Section XIII(A)(2)). EX1010: ¶¶[0024], [0027]; EX1012: ¶¶[0096], [0098],

[0130]; EX1005: 4, 16, 25, 26; EX1006: 1; EX1007: 51, 53; EX1013: ¶[0037]; EX1019: 4:45-52; EX1042: ¶[0055]; EX1043: Fig. 17.

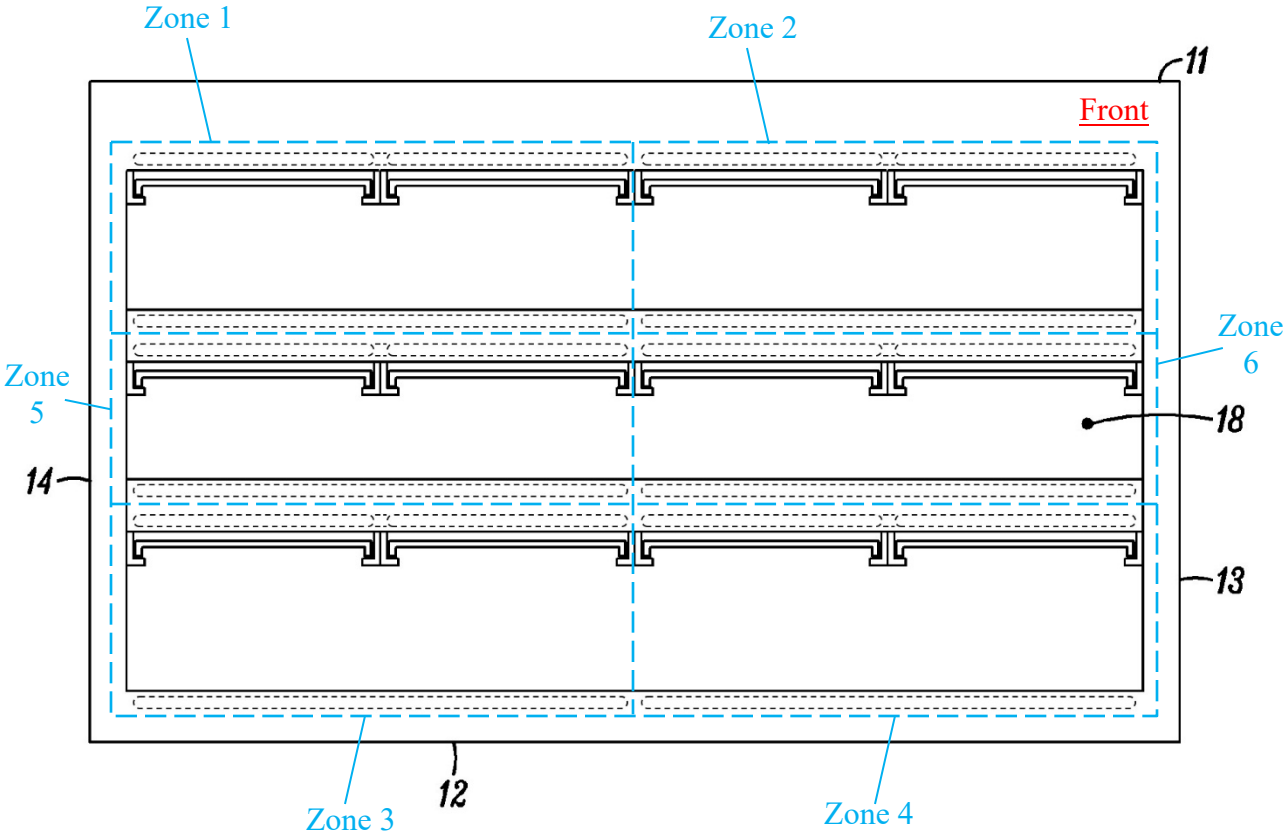
685. Certain of the dependent claims of the ’264 Patent recite different bay configurations for multi-zone food holding bins. EX1001: claims 2 (necessitating a 2x4 bay configuration) and 3 (necessitating a 3x4 bay configuration). Accordingly, the invalidity of claim 1 will be demonstrated according to modifications to Fortmann’748’s cabinet achieving both a 2x4 and a 3x4 configuration, invalidity of independent claims 2 and 5-20 will be demonstrated according to modifications Fortmann’748’s cabinet achieving a 2x4 configuration, and invalidity of independent claims 3 and 4 will be demonstrated according to modifications Fortmann’748’s cabinet achieving a 3x4 configuration. Illustrations of Fortmann’748’s cabinet as modified according to Jones, Fortmann’197, the IRHS Documents, and McMillan as described in the Paragraphs 524-682 are demonstrated as follows:

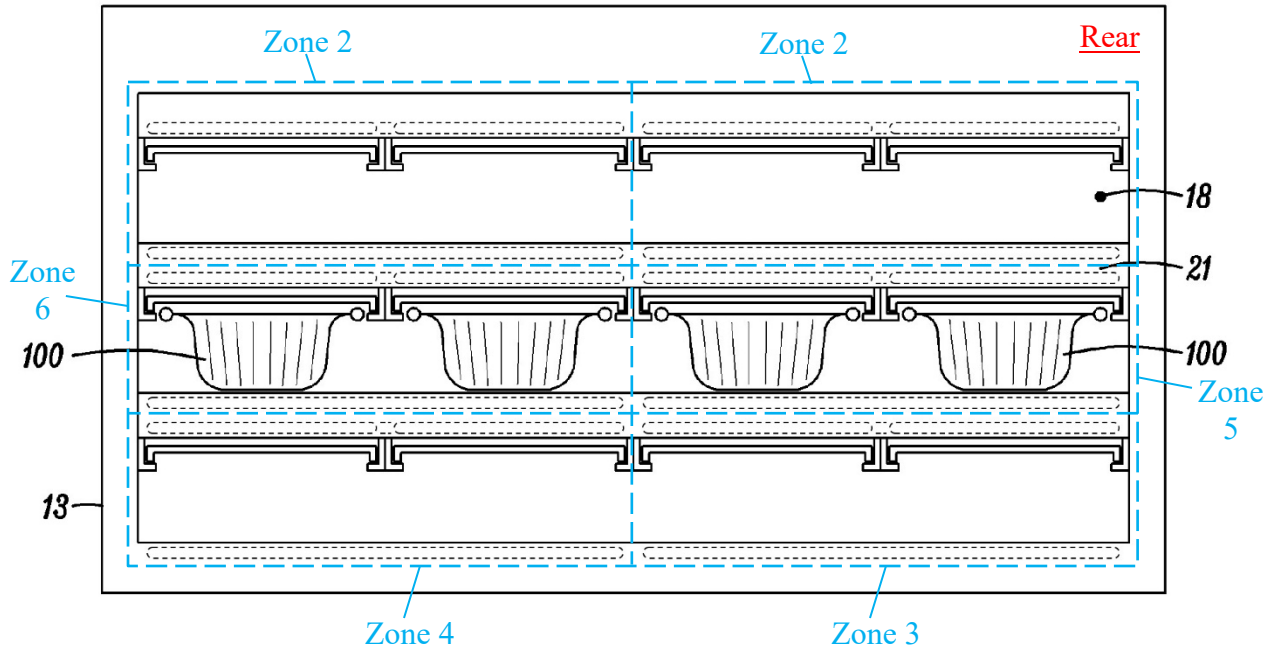




EX1010: Figs. 2 and 6 (modified[7], annotated).

[7] Modified figures through Grounds 10-12 (the Fortmann grounds) represent the modifications in Paragraphs 524-682 (Section XIII(A)).

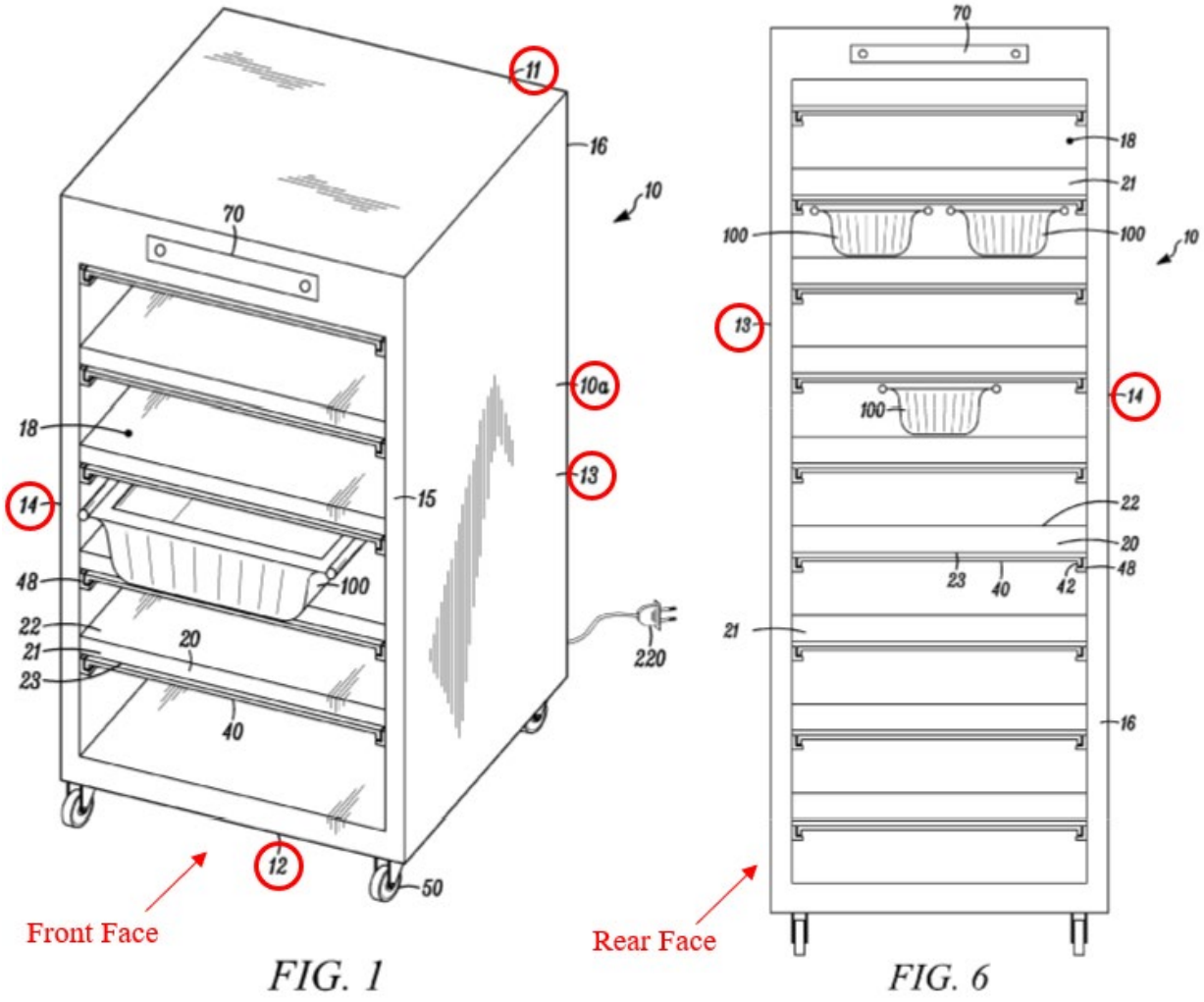

Zone 1
Zone 2
11
Front
Zone
6
Zone
5
18
14
13
12
Zone 3
Zone 4



EX1010: Figs. 2 and 6 (modified, annotated).

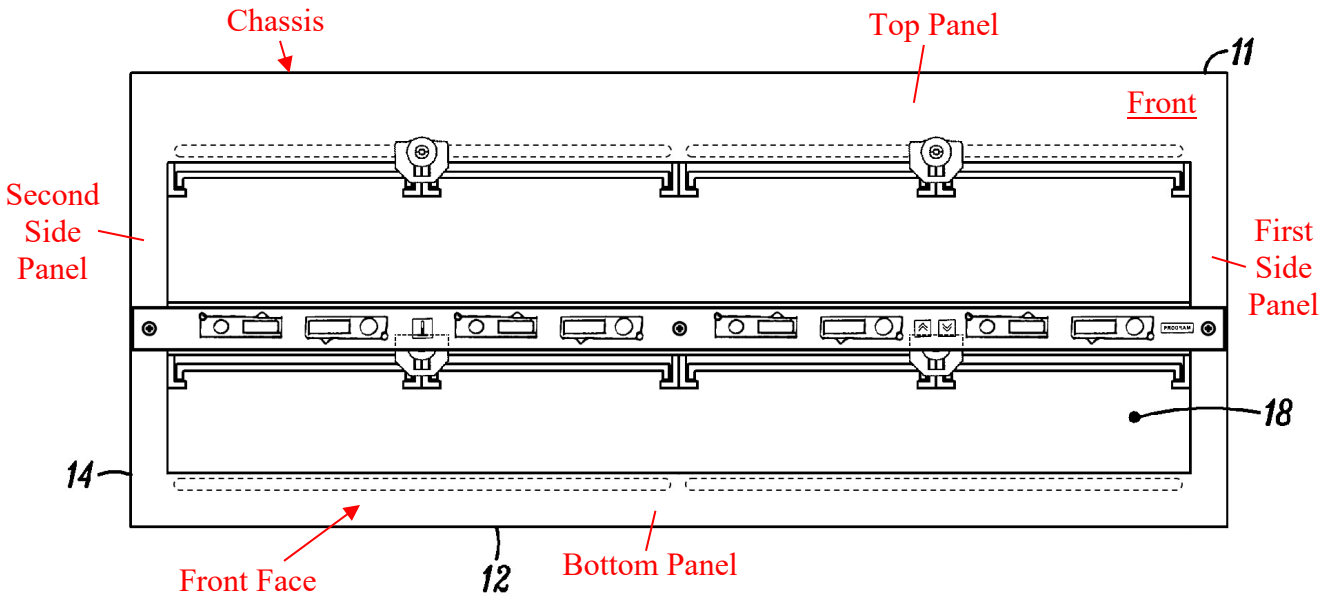
1.a.1: a chassis having a top panel, a first side panel, a second side panel, a bottom panel, and a front face

686. The POSA would recognize that Fortmann'748 discloses its multi-zone food holding bin as having "a chassis having a top panel, a first side panel, a second side panel, a bottom panel, and a front face." For example, Fortmann'748's warming cabinet (10) has a chassis (10a) having a top panel (11), a first side panel (13), a second side panel (14), and a bottom panel (12). EX1010: ¶[0014] ("warming cart 10 includes a body 10a that is defined from a top wall 11, a bottom wall 12, a left wall 14, and a right wall 13"). The cabinet (10) likewise has a front face and a rear face. EX1010: ¶[0014] ("warming cart 10 is configured with an open front side 15 and an open back side 16"), Figs. 1 and 6.

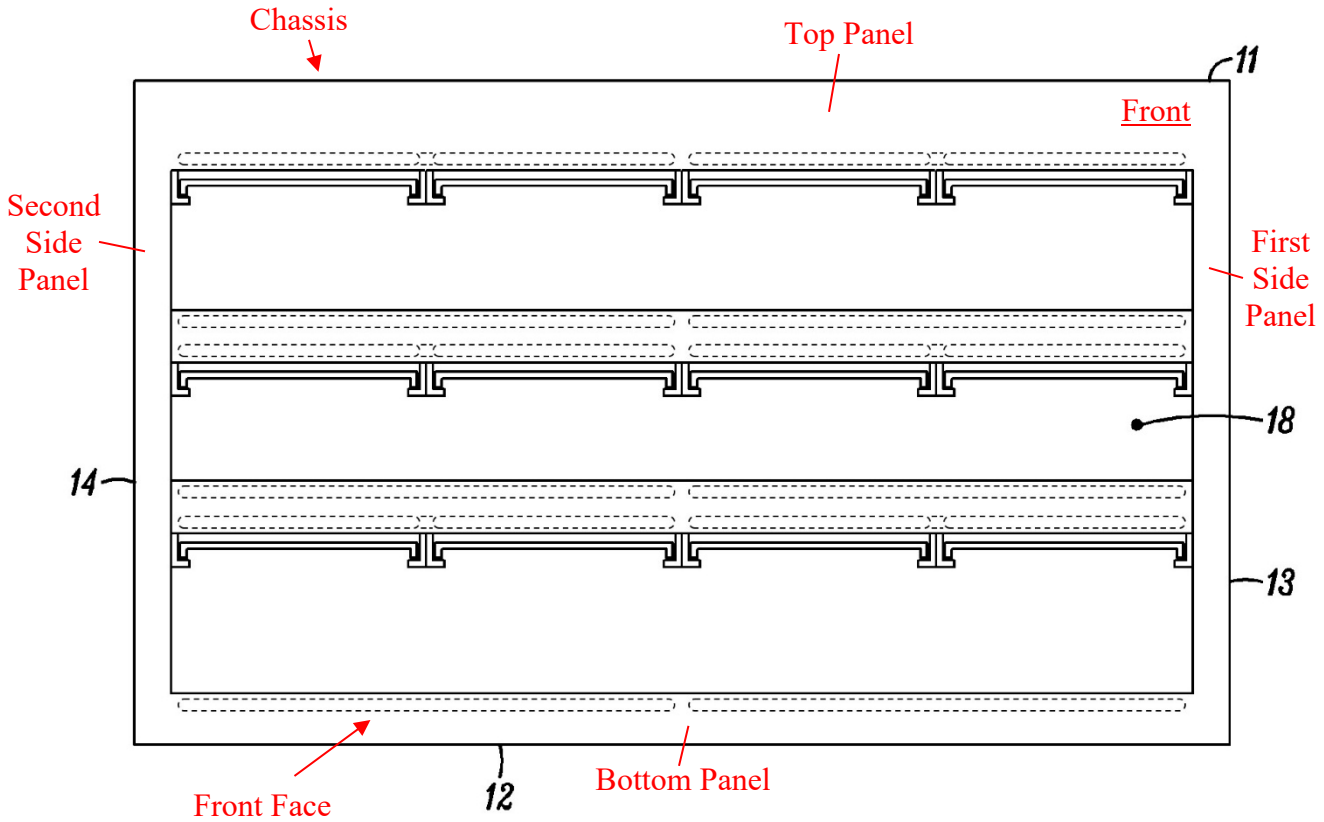


EX1010: Figs. 1 and 6 (annotated).

687. This teaching would likewise hold true for the Fortmann'748 cabinet as modified to have a 2x4 or 3x4 configuration according to Paragraphs 524-536 (Ground 10, Section XIII(A)(1)) above as shown in the modified renderings below. The modified figures throughout Grounds 10-12 represent the modifications explained in Paragraphs 524-682 (Ground 10, Section XIII(A)).



EX1010: Fig. 2 (modified, annotated).



EX1010: Fig. 2 (modified, annotated).

1.a.2: the multi-zone food holding bin having a first food holding compartment within the chassis and comprising a first food holding zone and a second food holding zone

688. The chassis (10a) of Fortmann'748's cabinet (10) has an interior volume (18) for the food pans (100). EX1010: ¶[0014], Figs. 1 and 6. The cabinet (10) includes a plurality of shelves (21) dividing the interior volume (18) into a plurality of food holding compartments. EX1010: ¶[0015] ("a shelf 21 that is fixed to the right and left sides 14, 13 of the body 10a, with the top surface 22 of the shelf 21 being spaced from a bottom surface 23 of a neighboring shelf 21 a distance to allow a conventional restaurant cooking pan 100 to be inserted therebetween"), Figs. 1 and 6.

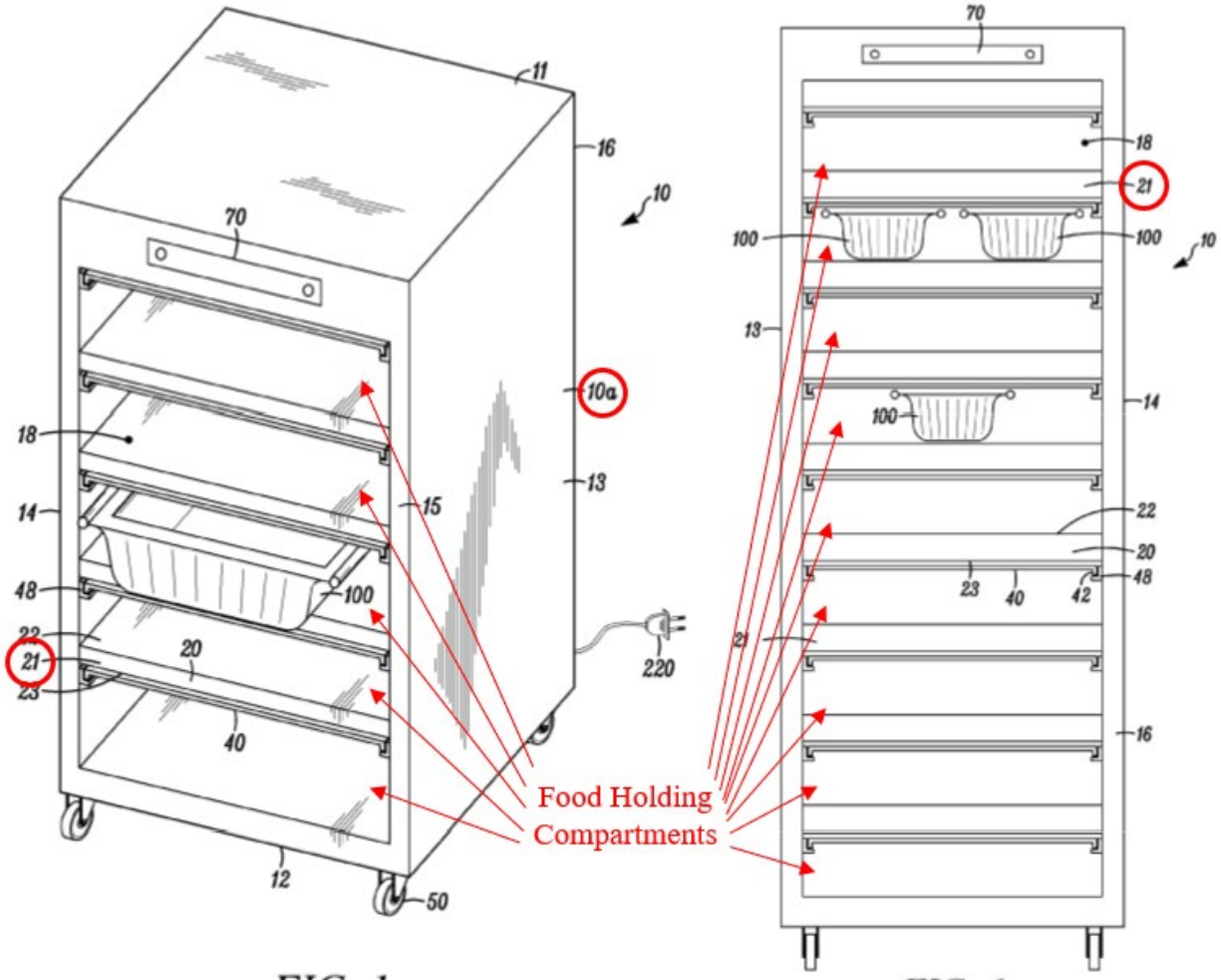


FIG. 1 FIG. 6

EX1010: Figs. 1 and 6 (annotated).

689. With respect to the claims of the ’264 Patent the first food holding compartment is the food holding compartment located above the uppermost shelf of the Fortmann’748’s cabinet.

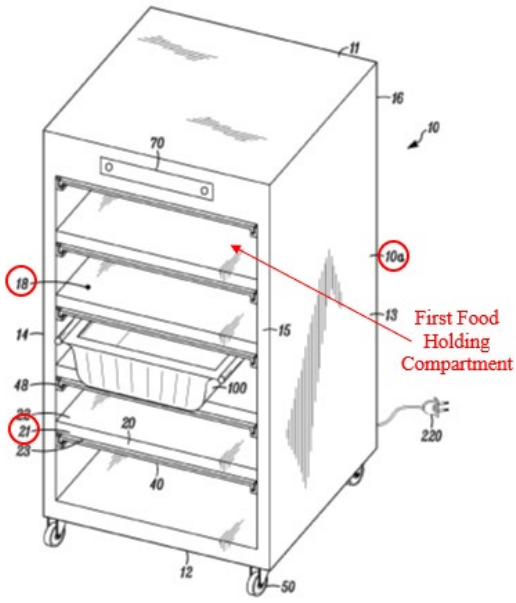


FIG. 1

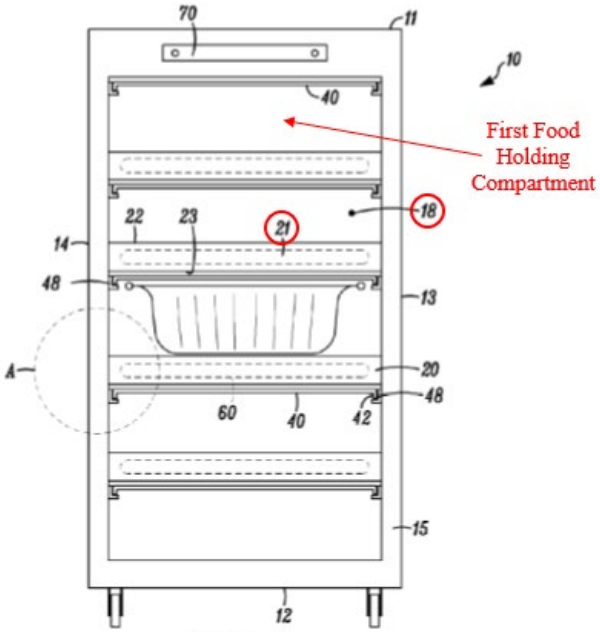
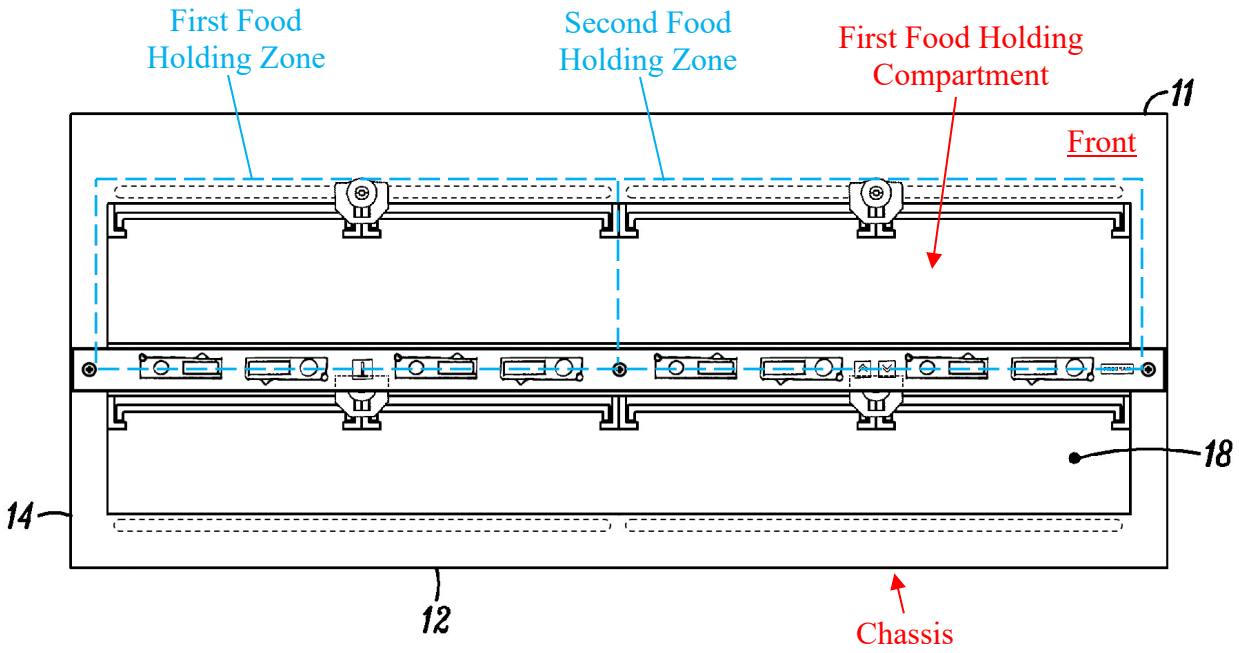


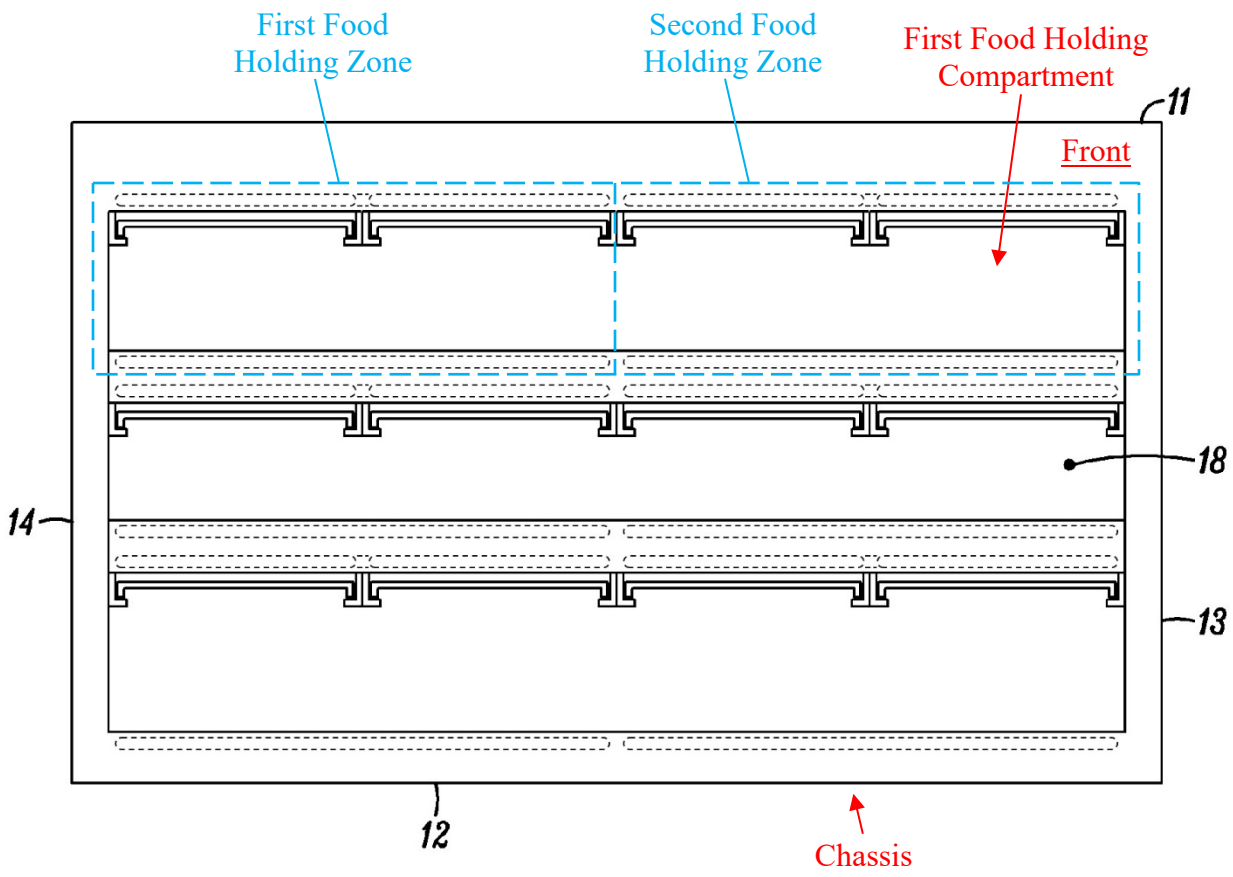
FIG. 2

EX1010: Figs. 1 and 2 (annotated).

690. Jones, Hartfelder, Stanger, Loy, and/or the IRHS Documents disclose multiple food holding zones per compartment such that it would have been obvious to modify Fortmann'748's cabinet to have a first food holding zone and a second food holding zone in the first food holding compartment within the chassis as explained in Paragraphs 524-536 (Ground 10, Section XIII(A)(1)). EX1005: 20, 25, 26; EX1007: 53; EX1012: ¶¶[0069], [0072], [0096]; EX1013: ¶[0037]; EX1042: ¶[0055]; EX1043: Fig. 17. Representative illustrations of Fortmann'748's cabinet as modified are shown below:



EX1010: Fig. 2 (modified, annotated).



EX1010: Fig. 2 (modified, annotated).

1.a.3: the first food holding compartment being defined by the first side panel, the second side panel, the top panel that provides a first top surface, and a first substantially planar bottom surface of a thermally conductive material being substantially unobstructed between the first side panel and the second side panel and

691. The chassis (10a) of Fortmann'748's cabinet (10) has an interior volume (18) for the food pans (100). EX1010: ¶[0014], Figs. 1 and 6. The cabinet (10) includes a plurality of shelves (21) dividing the interior volume (18) into a

plurality of food holding compartments. EX1010: ¶[0015] ("a shelf 21 that is fixed to the right and left sides 14, 13 of the body 10 a, with the top surface 22 of the shelf 21 being spaced from a bottom surface 23 of a neighboring shelf 21 a distance to allow a conventional restaurant cooking pan 100 to be inserted therebetween").

692. The food holding compartment located above the uppermost shelf (21) of the Fortmann'748's cabinet meets the requirements of the "first food holding compartment" as recited in this claim limitation as it is defined by the first side panel (13), the second side panel (14), the top panel (11) providing a first top surface, and a first substantially planar bottom surface formed by the shelf (21). As annotated with respect to Figures 1 and 2 below, the first substantially planar bottom surface is substantially unobstructed between the first side panel and the second side panel.

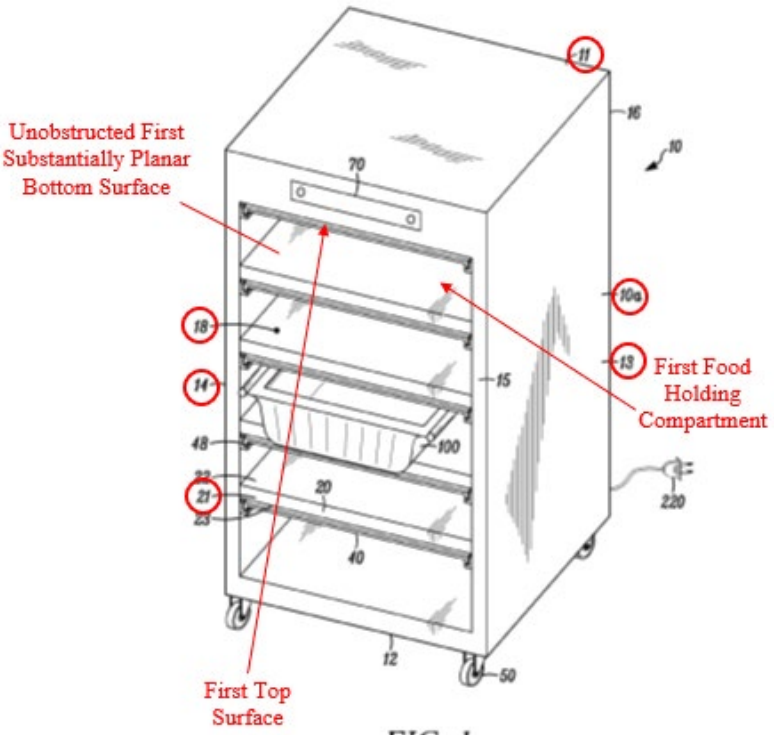


FIG. 1

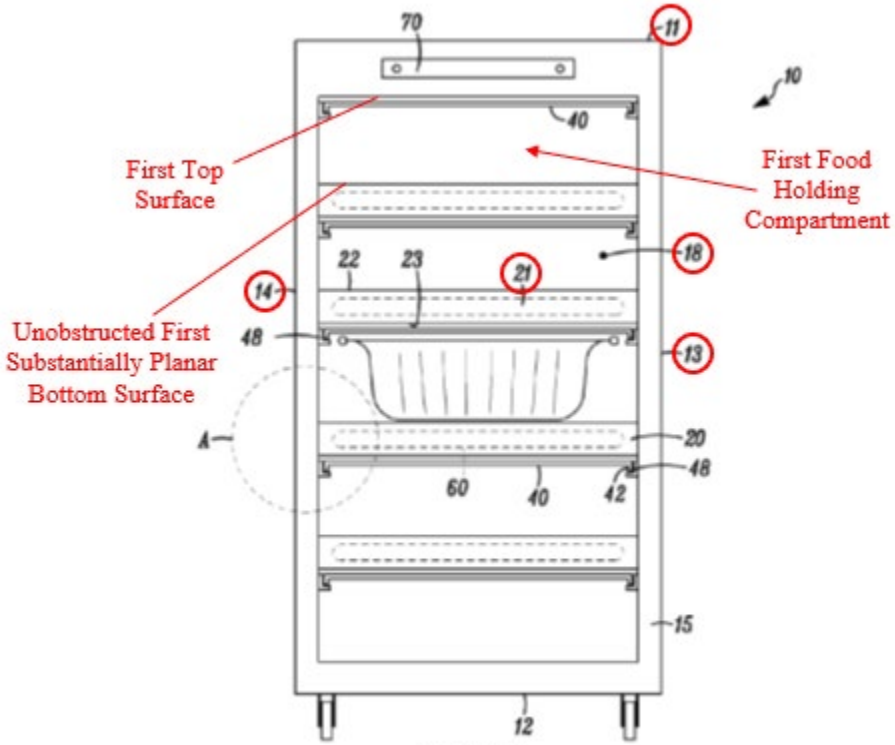
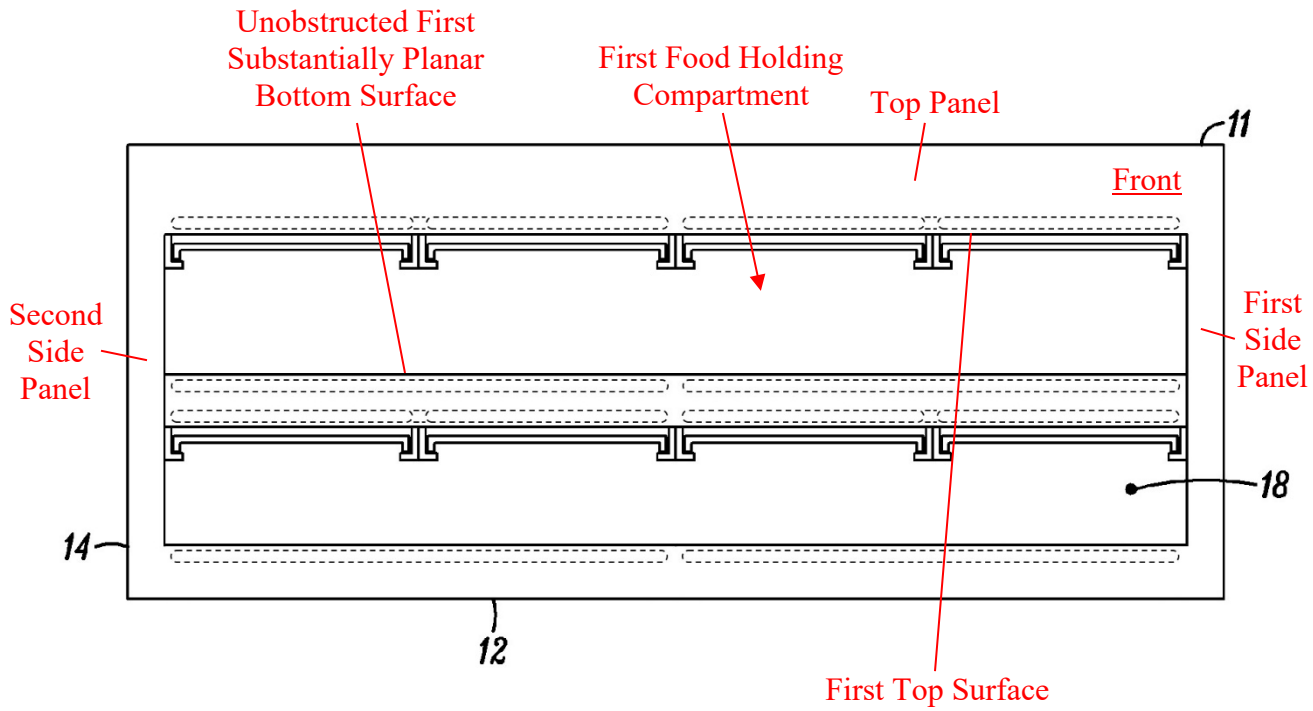


FIG. 2

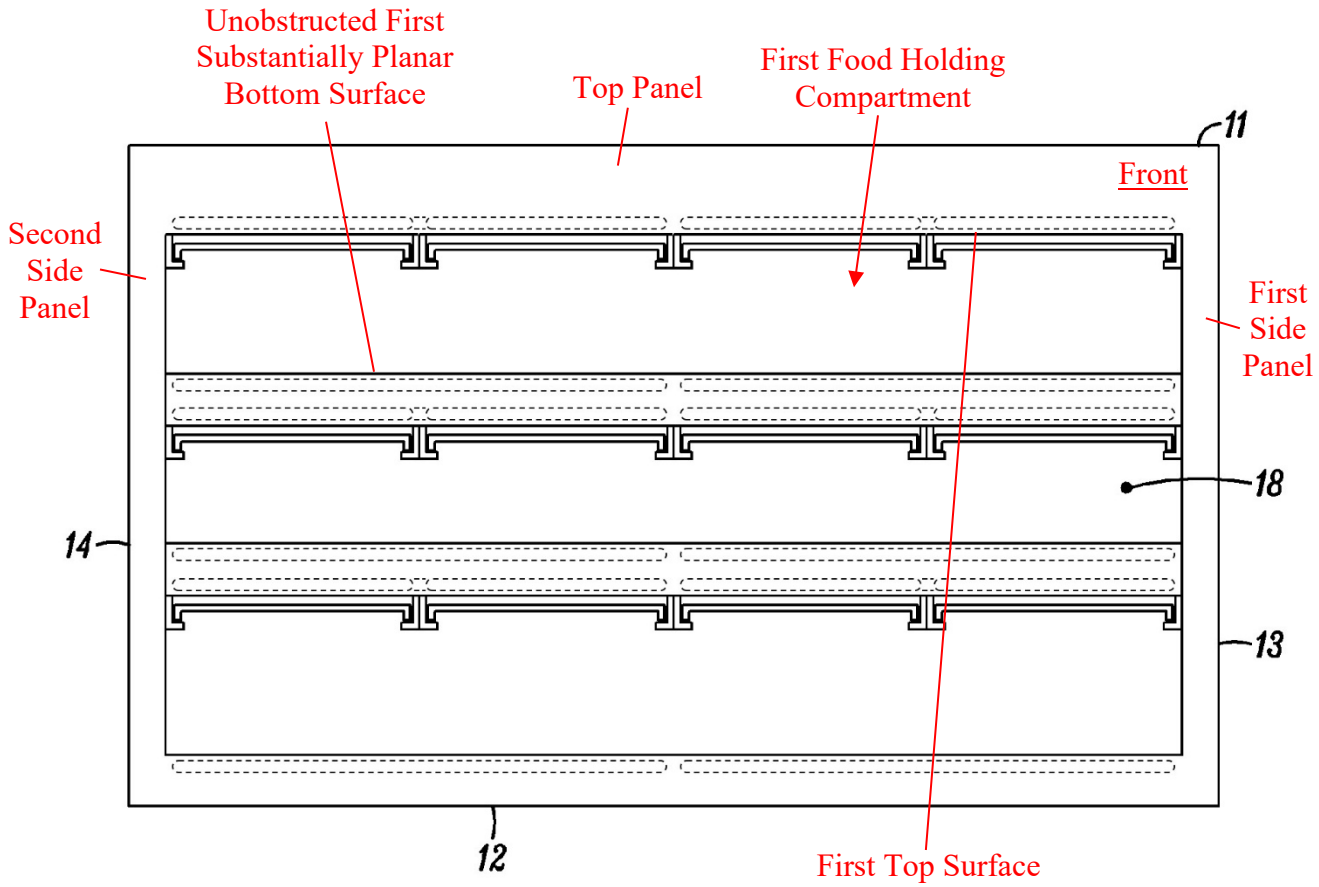
EX1010: Figs. 1 and 2 (annotated).

693. The first substantially planar bottom surface is disclosed as being formed by the upper sheet (22) of the shelf (21), which is made of "stainless steel," a thermally conductive material. EX1010: ¶[0019].

694. In adapting the Fortmann'748 cabinet to a 2x4 or 3x4 configuration as discussed at Paragraphs 524-536 (Ground 10, Section XIII(A)(1)) above, the food holding compartment located above the uppermost shelf would continue to meet the requirements of the "first food holding compartment" as recited in this claim limitation.



EX1010: Fig. 2 (modified, annotated).



EX1010: Fig. 2 (modified, annotated).

1.a.4: a first opening through the front face configured to allow a tray for food items to be passed through the first opening into the first food holding compartment and onto the first substantially planar surface and

695. The chassis (10a) of Fortmann'748's cabinet (10) has an open front side (15) to allow pans (100) to pass into and out of the food holding compartments in the interior volume (18). EX1010: ¶[0014] ("[t]he warming cart 10 is configured with an open front side 15 … to allow one or more pans 100 to be

quickly disposed within the cart 10 and the warming volume and removed from the cart 10 without operation of doors or other barriers found on conventional warming carts. As shown in FIGS. 1, 2, 4, and 5 the front side 15 is open to allow pans 100, trays, pizza boxes and the like to slide through the open front side 15 and within the warming volume 18 of the cart").

696. As addressed above, the first food holding compartment is the food holding compartment defined by the first side panel, the second side panel, the top panel, and the shelf/top shelf of Fortmann'748's cabinet. Thus, it would be the opening through the front face corresponding to this first food holding compartment which meets the recited "first opening."

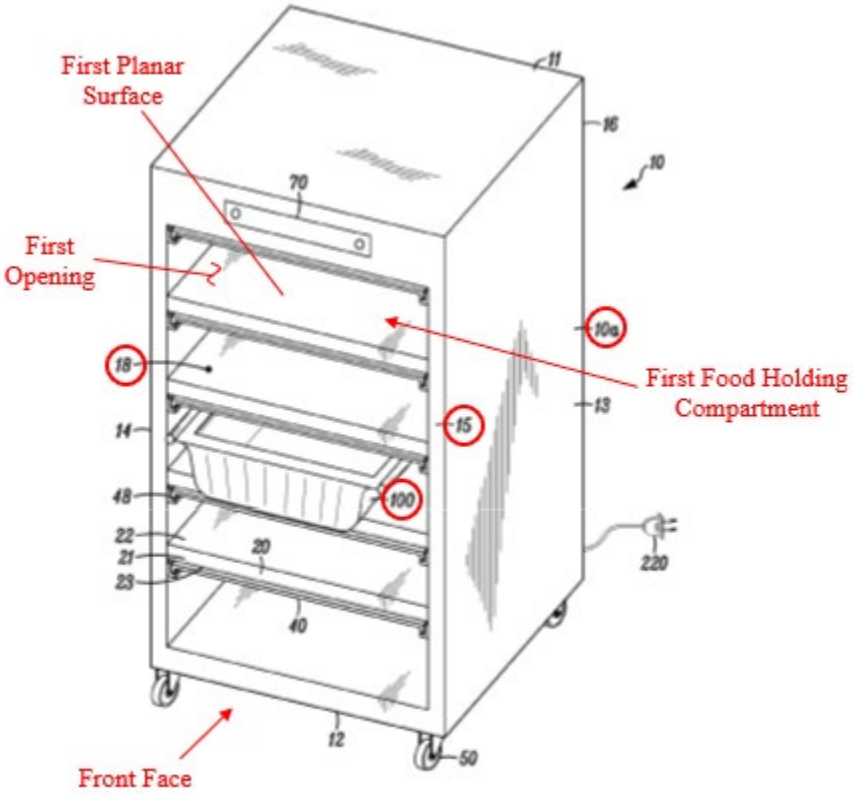

First Planar Surface
First Opening
First Food Holding Compartment
Front Face
11
16
10
70
10a
18
13
14
15
48
100
22
21
23
20
40
220
12
50

FIG. 1

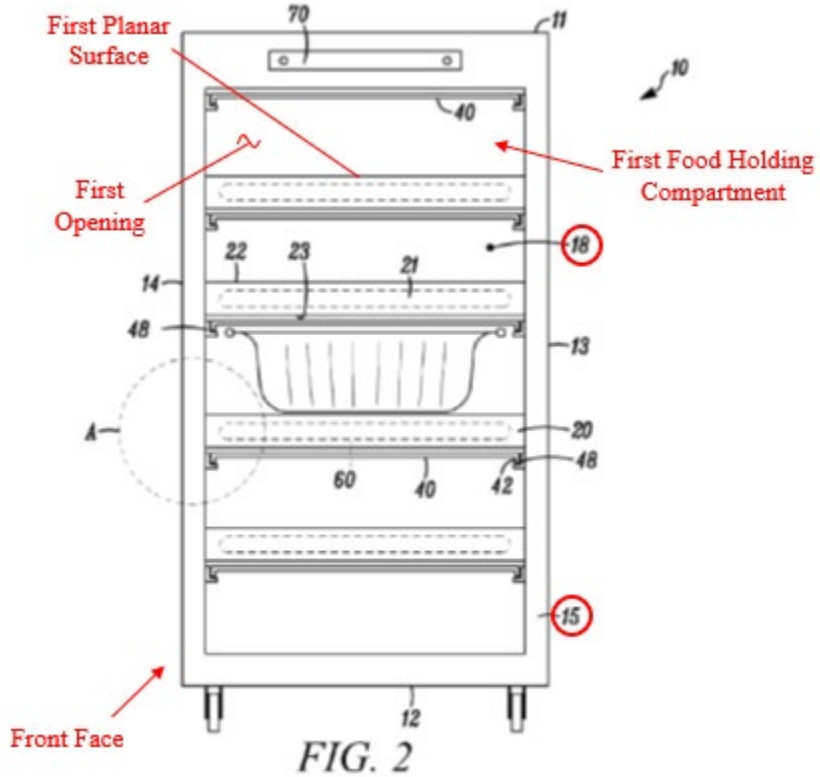
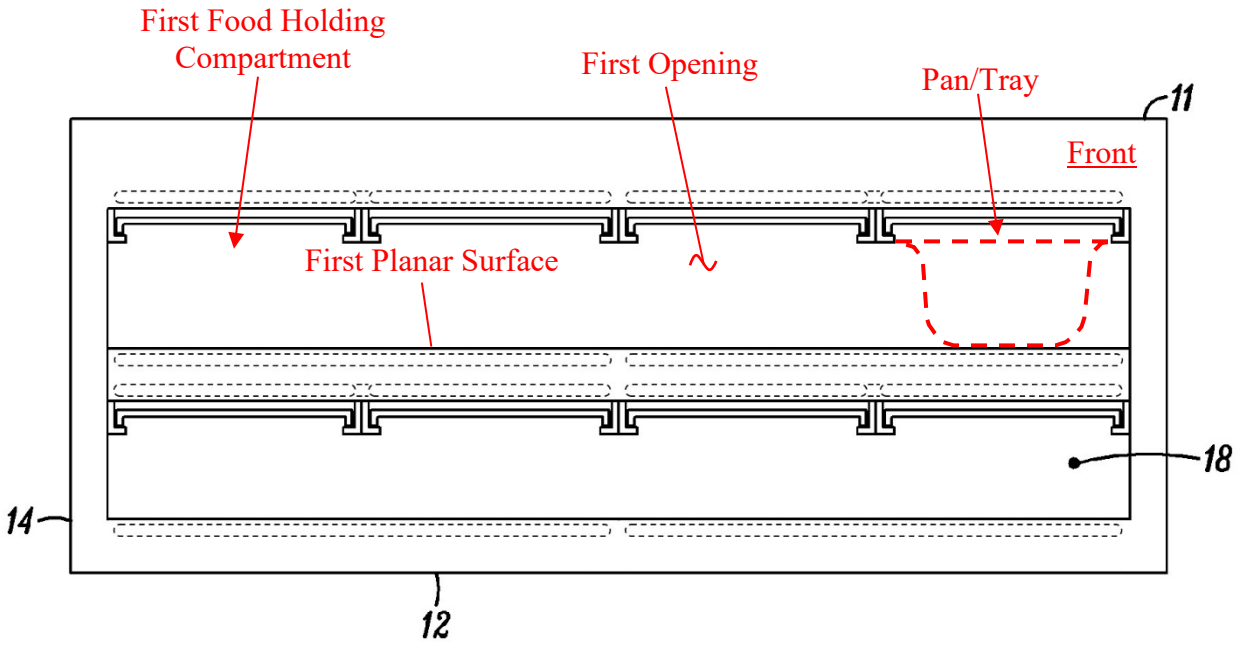

First Planar Surface
First Opening
First Food Holding Compartment
Front Face
70
11
10
40
18
22
23
21
14
48
13
A
20
60
42
15
12

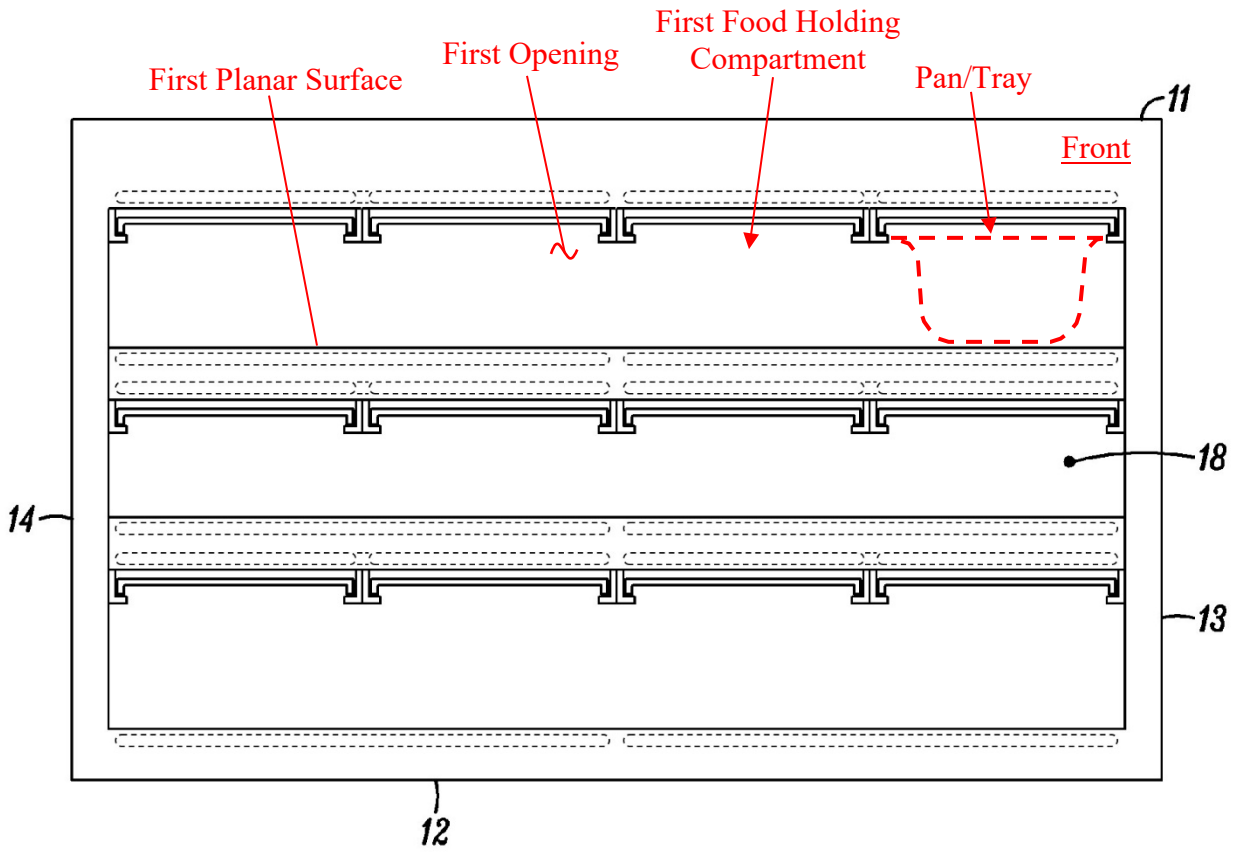
FIG. 2

EX1010: Figs. 1 and 2 (annotated).

697. The POSA would recognize that this first opening through the front face (15) is intended to allow food pans (100) to pass through into the first food holding compartment and to rest on the first planar surface of the shelf (21). EX1010: ¶[0015] ("the top surface 22 of the shelf 21 [is] spaced from a bottom surface 23 of a neighboring shelf 21 a distance to allow a conventional restaurant cooking pan 100 to be inserted therebetween"), ¶[0017] ("pan 100 that is placed onto the shelf 21"). This teaching and understanding would likewise hold true for the Fortmann'748 cabinet as modified according to Paragraphs 524-682 (Ground 10, Section XIII(A)) above as shown in the modified renderings below.



EX1010: Fig. 2 (modified, annotated).



EX1010: Fig. 2 (modified, annotated).

1.a.5: a second food holding compartment within the chassis and comprising a third food holding zone and a fourth food holding zone

698. As addressed above in Paragraphs 695-697 (claim limitation 1.a.4), the chassis (10a) of Fortmann'748's cabinet (10) has an interior volume (18) and includes a plurality of shelves (21) dividing the interior volume (18) into a plurality

of food holding compartments. EX1010: ¶[0014], ¶[0015] ("a shelf 21 that is fixed to the right and left sides 14, 13 of the body 10 a, with the top surface 22 of the shelf 21 being spaced from a bottom surface 23 of a neighboring shelf 21 a distance to allow a conventional restaurant cooking pan 100 to be inserted therebetween"); Figs. 1 and 6.

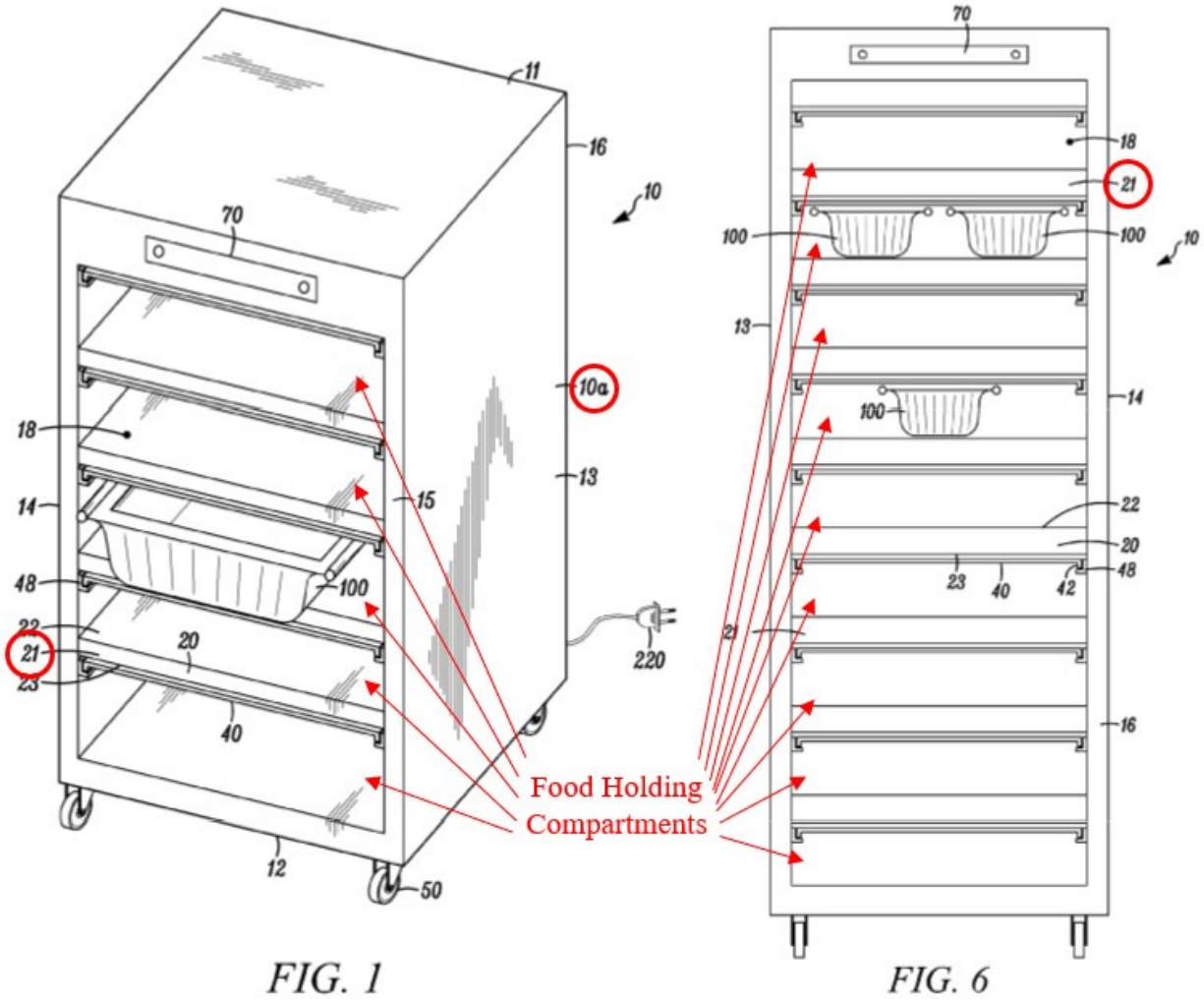


FIG. 1 FIG. 6

EX1010: Figs. 1 and 6 (annotated).

699. With respect to the claims of the ’264 Patent the second food holding compartment is the food holding compartment located below the lowermost shelf of the Fortmann’748’s cabinet.

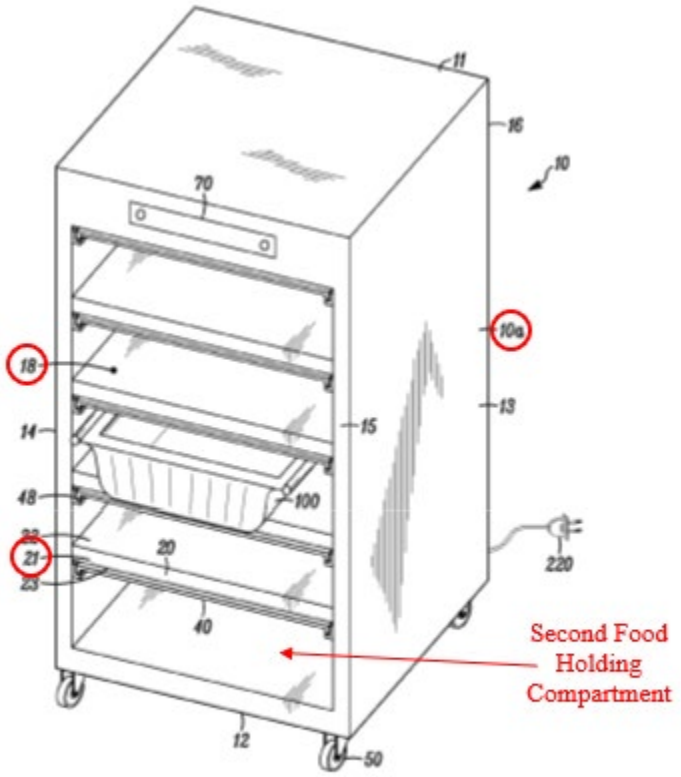


FIG. 1

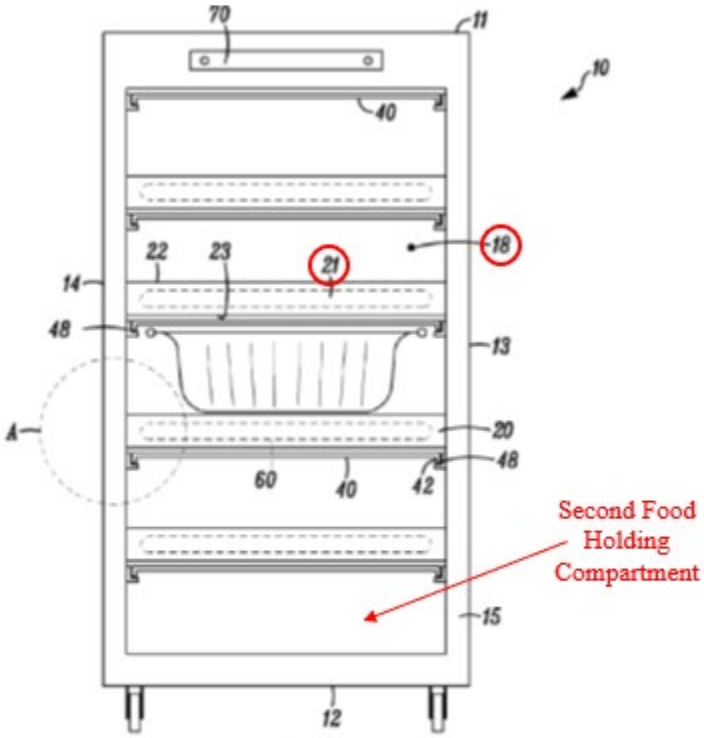
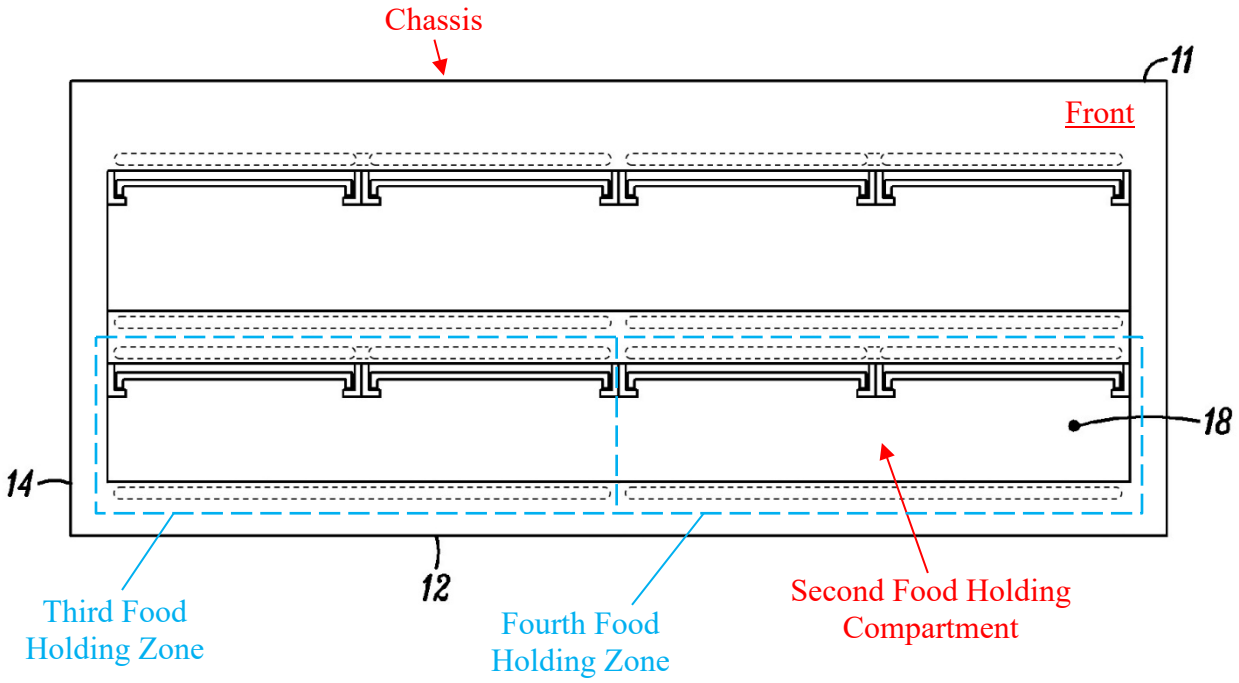


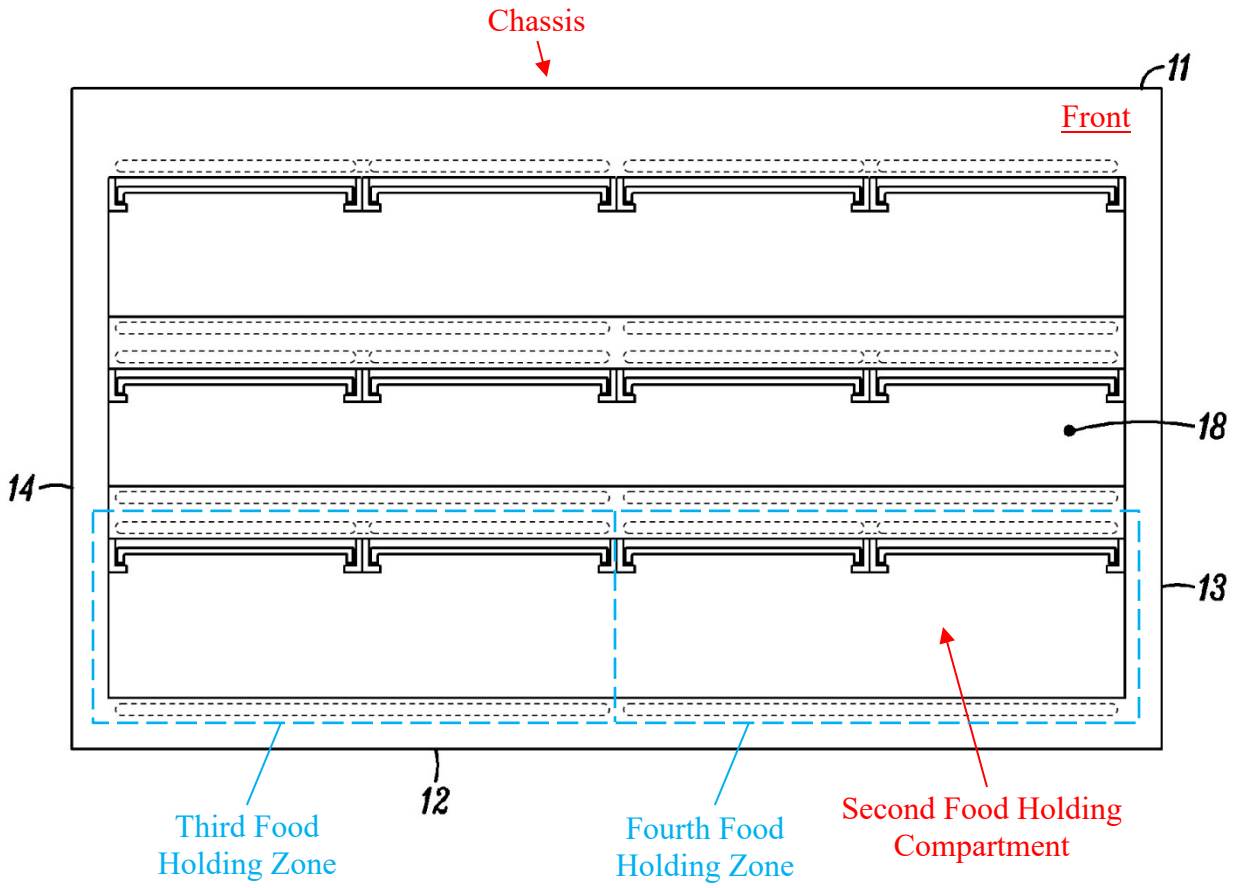
FIG. 2

EX1010: Figs. 1 and 2 (annotated).

700. Jones, Hartfelder, Stanger, Loy, and/or the IRHS Documents disclose multiple food holding zones per compartment such that it would have been obvious to modify Fortmann'748's cabinet to have a third food holding zone and a fourth food holding zone in the second food holding compartment within the chassis as explained in Paragraphs 537-586 (Ground 10, Section XIII(A)(2)). EX1005: 20, 25, 26; EX1007: 53; EX1012: ¶¶[0069], [0072], [0096]; EX1013: ¶[0037]; EX1042: ¶[0055]; EX1043: Fig. 17. Representative illustrations of Fortmann'748's cabinet as modified are shown below:



EX1010: Fig. 2 (modified, annotated).



EX1010: Fig. 2 (modified, annotated).

1.a.6: the second food holding compartment being defined by the first side panel, the second side panel, the bottom panel that provides a second substantially planar bottom surface of a thermally conductive material, and a second top surface

701. As addressed above in Paragraphs 695-697 (claim limitation 1.a.4), the chassis (10a) of Fortmann'748's cabinet (10) has an interior volume (18) and includes a plurality of shelves (21) dividing the interior volume (18) into a plurality of food holding compartments. EX1010: ¶[0014], ¶[0015] ("a shelf 21 that is

fixed to the right and left sides 14, 13 of the body 10 a, with the top surface 22 of the shelf 21 being spaced from a bottom surface 23 of a neighboring shelf 21 a distance to allow a conventional restaurant cooking pan 100 to be inserted therebetween"); Figs. 1 and 6.

702. The food holding compartment located below the lowermost shelf (21) of the Fortmann'748's cabinet meets the requirements of the "second food holding compartment" as recited in this claim limitation as it is defined by the first side panel (13), the second side panel (14), a second top surface, and the bottom panel (12) providing a second substantially planar bottom surface. Specifically, the lower sheet (23) of the shelf (21) provides the second top surface. EX1010: ¶¶[0015], [0019].

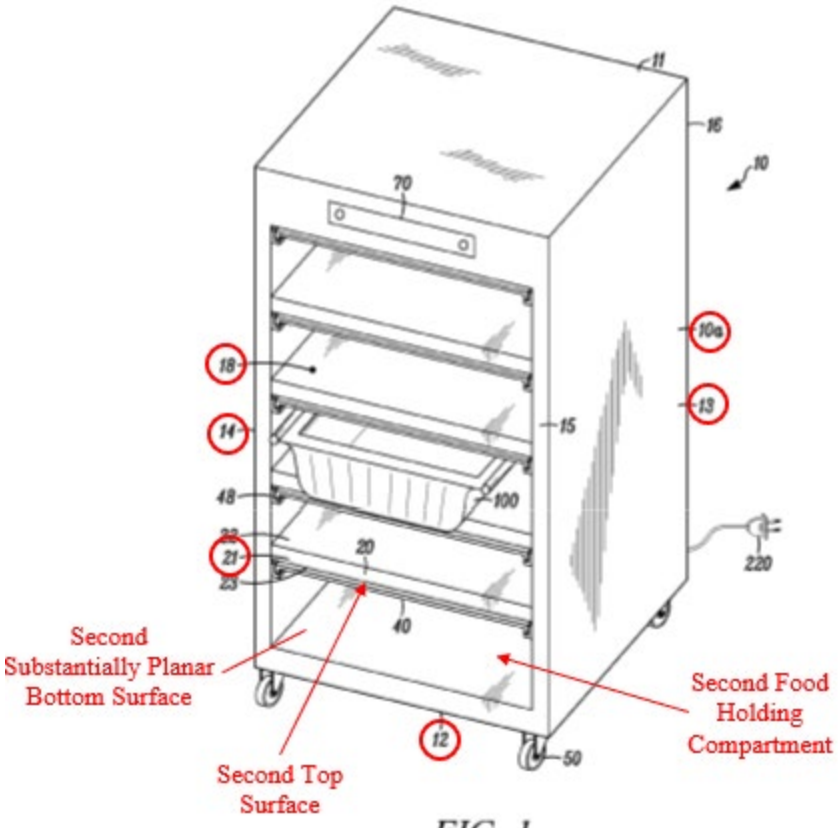

11
16
10
70
10a
18
13
14
15
48
100
21
20
220
23
40
Second
Substantially Planar
Bottom Surface
Second Food
Holding
Compartment
12
50
Second Top
Surface

FIG. 1

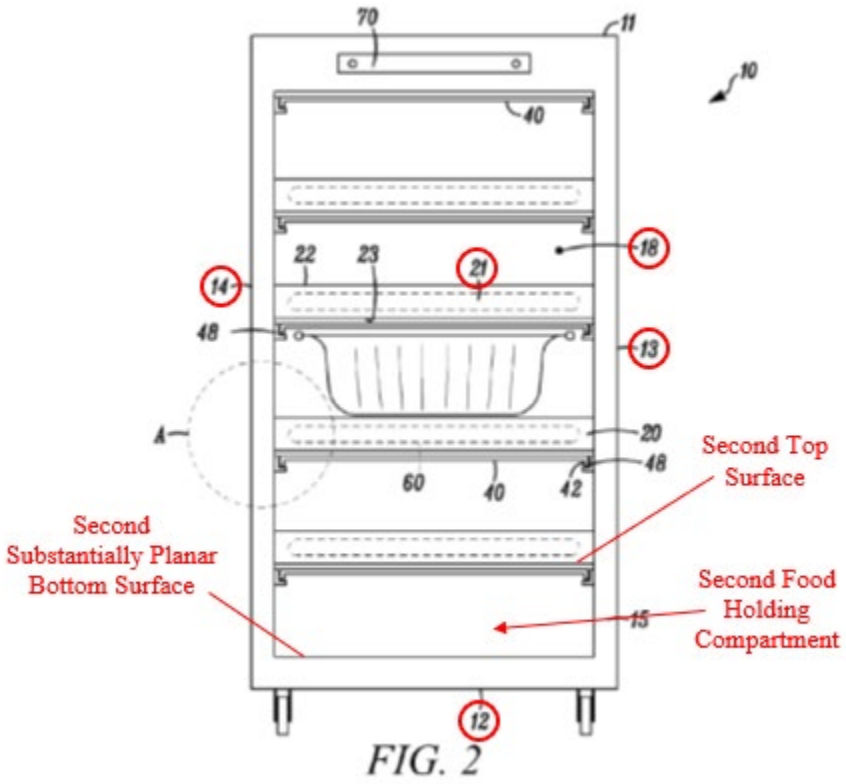


FIG. 2

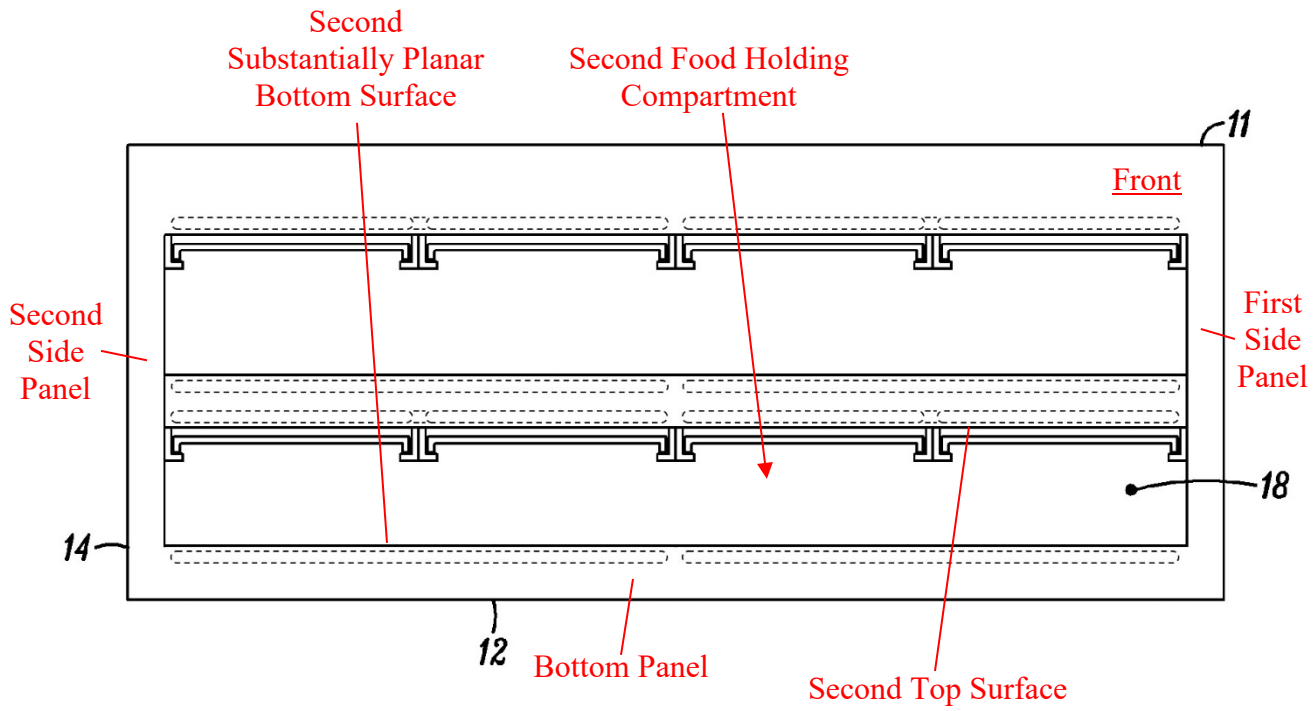
EX1010: Figs. 1 and 2 (annotated).

703. The bottom panel (12) provides the second planar surface. The POSA would understand Fortmann'748 to disclose the bottom panel (12) as being constructed of stainless steel. Specifically, the POSA would understand Fortmann'748 to be identifying the bottom panel (12) as being another shelf (21) for supporting food pans (100) in that it identifies that Fig. 1 includes 5 shelves and Fig. 2 includes 10 shelves. EX1010: ¶[0016] ("the cart 10 may include 2, 5 (FIG. 1), 10 (FIG. 6), or another number of vertically spaced shelves 21"). Notably, for Fig. 1 to have five shelves (21) and for Fig. 6 to have ten shelves, the bottom panel must be considered a shelf.

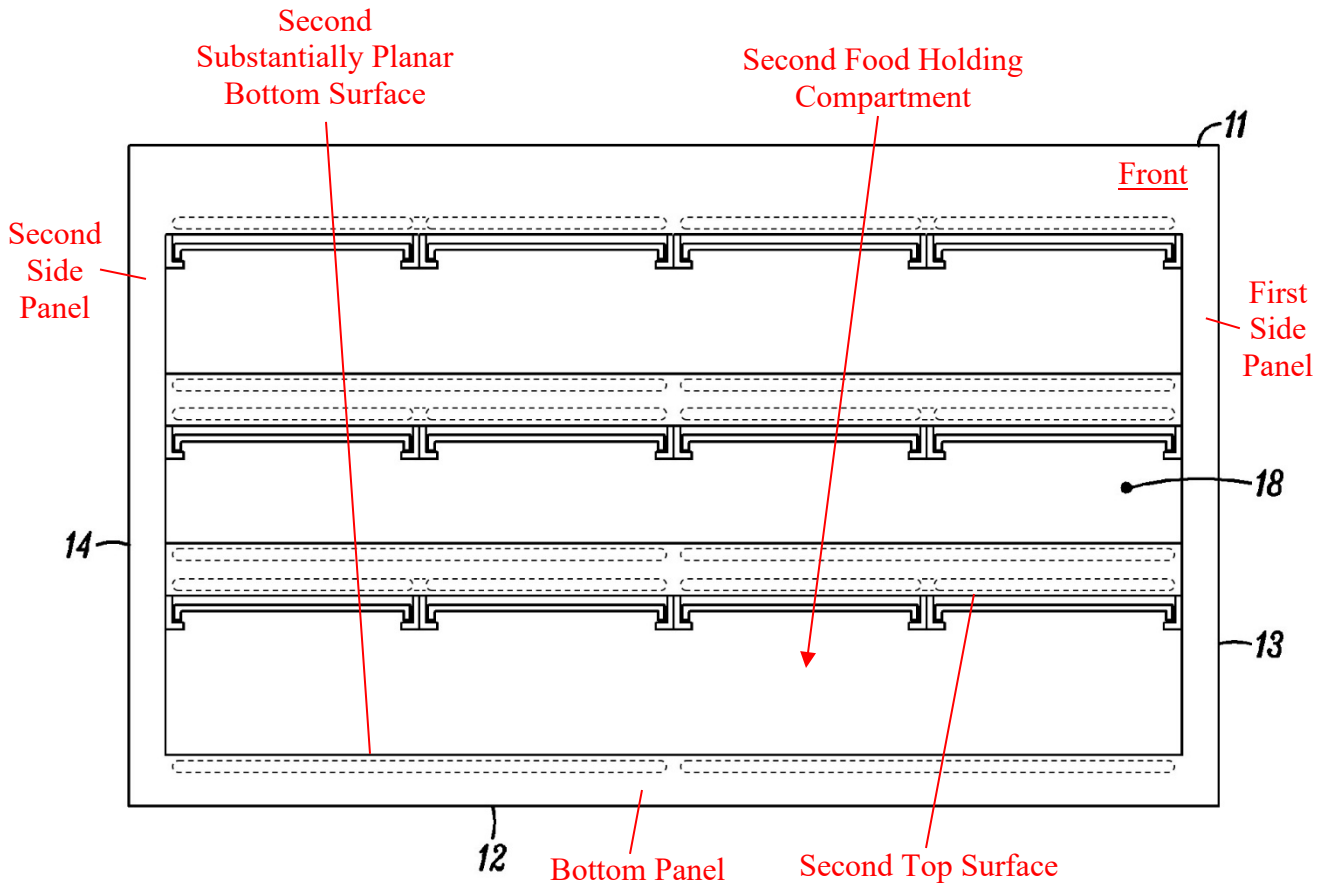
704. Likewise, the Fortmann'748 identifies that each of "[t]he plurality of shelves 21 may each include a removable and slidable cover 40 that is disposed in conjunction with and below each shelf 21 (*with the exception of the bottom shelf 21*"). EX1010: ¶[0017] (emphasis added). This is consistent with identifying the bottom panel (12) as being the "bottom shelf 21," as the cabinet does not receive a cover under the bottom panel (12).

705. Fortmann'748 explains the shelves (21) are formed by "planar sheets of thin material (such as stainless steel) that form an envelope for the heater 60 to be disposed therebetween." EX1010: ¶[0019]; EX1010: ¶[0015] ("with the top surface 22 of the shelf 21 being spaced from a bottom surface 23 of a neighboring shelf 21"), Figs. 1 and 6. Stainless steel is a thermally conductive material. Therefore, Fortmann'748 is disclosing that the second substantially planar surface formed by the bottom panel (12) is made of a thermally conductive material.

706. In adapting the Fortmann'748 cabinet to a 2x4 or 3x4 configuration as discussed at Paragraphs 524-536 (Ground 10, Section XIII(A)(1)) above, the food holding compartment located above bottom panel and below the lowermost shelf would continue to meet the requirements of the "second food holding compartment" as recited in this claim limitation.



EX1010: Fig. 2 (modified, annotated).



EX1010: Fig. 2 (modified, annotated).

707. Moreover, to the extent it is disputed that Fortmann'748 is disclosing that the bottom panel (12) is made of a thermally conductive material, it would have been obvious to make Fortmann'748's bottom panel (12) out of stainless steel, as stainless steel is a suitable material for constructing warming cabinets and for supporting food trays. EX1010: ¶[0019].

708. Fortmann'748 discloses its shelves (21) are made of stainless steel. EX1010: ¶[0019]. Using stainless steel to construct the bottom panel (12) would thus have been a mere design choice.

709. This design choice would have simply combined known elements (stainless steel and Fortmann'748's bottom panel) according to known methods (the construction taught by Fortmann'748) to yield predictable results (a bottom panel able to support food trays). This design choice is also nothing more than the use of a known technique (using stainless steel) to improve a similar device (Fortmann'748's bottom panel) in the same way to yield predictable results (a bottom panel able to support food trays). To the extent that Fortmann'748's bottom panel was made of another material, modifying it to be stainless steel would have been a simple substitution of one known alternative (stainless steel) with another (material of Fortmann'748's bottom panel) to obtain predictable results (a bottom panel able to support food trays).

710. The POSA would have had a reasonable expectation of success, given Fortmann'748 uses stainless steel in other parts of the warming cabinet (10). EX1010: ¶[0019].

1.a.7: the second substantially planar bottom surface being substantially unobstructed between the first side panel and the second side panel and

711. As shown below, the second substantially planar bottom surface is substantially unobstructed between the first and second side panels (13, 14).

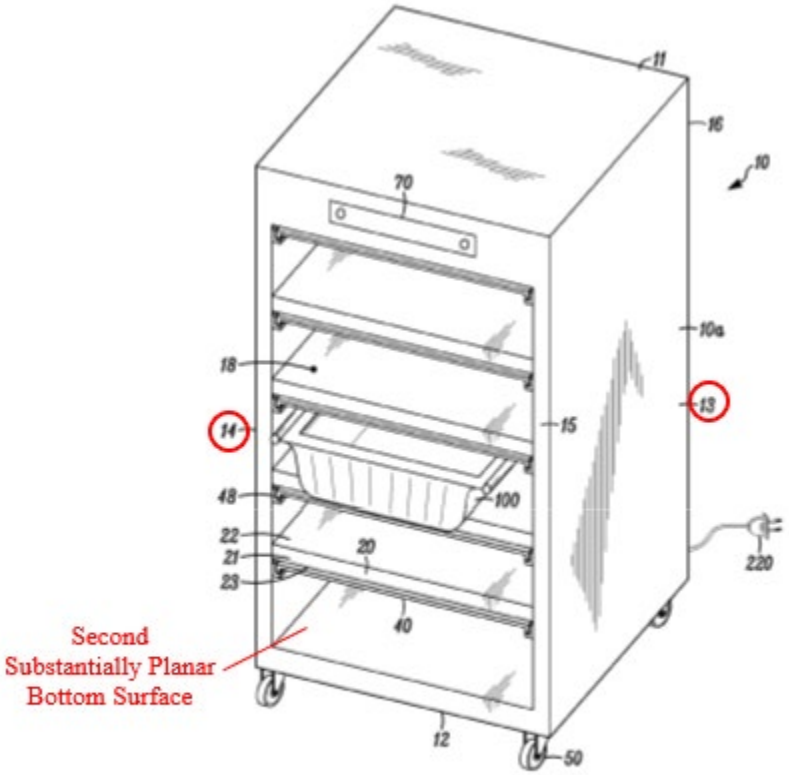


FIG. 1

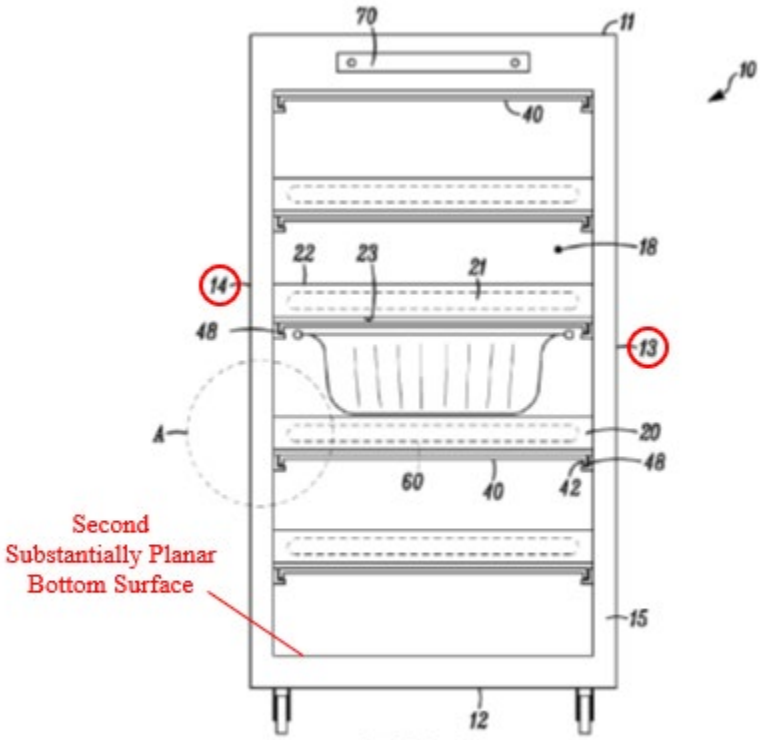
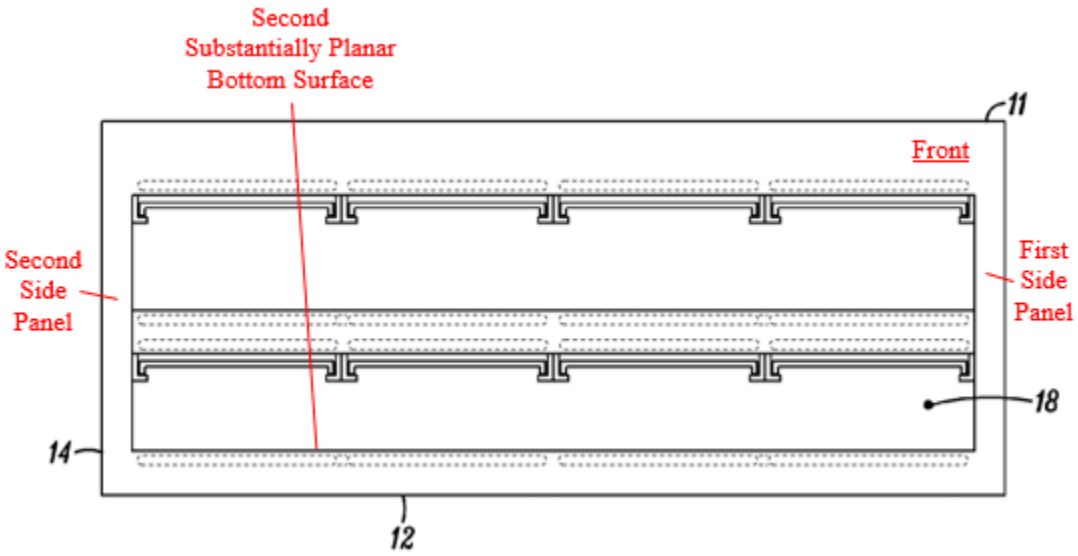


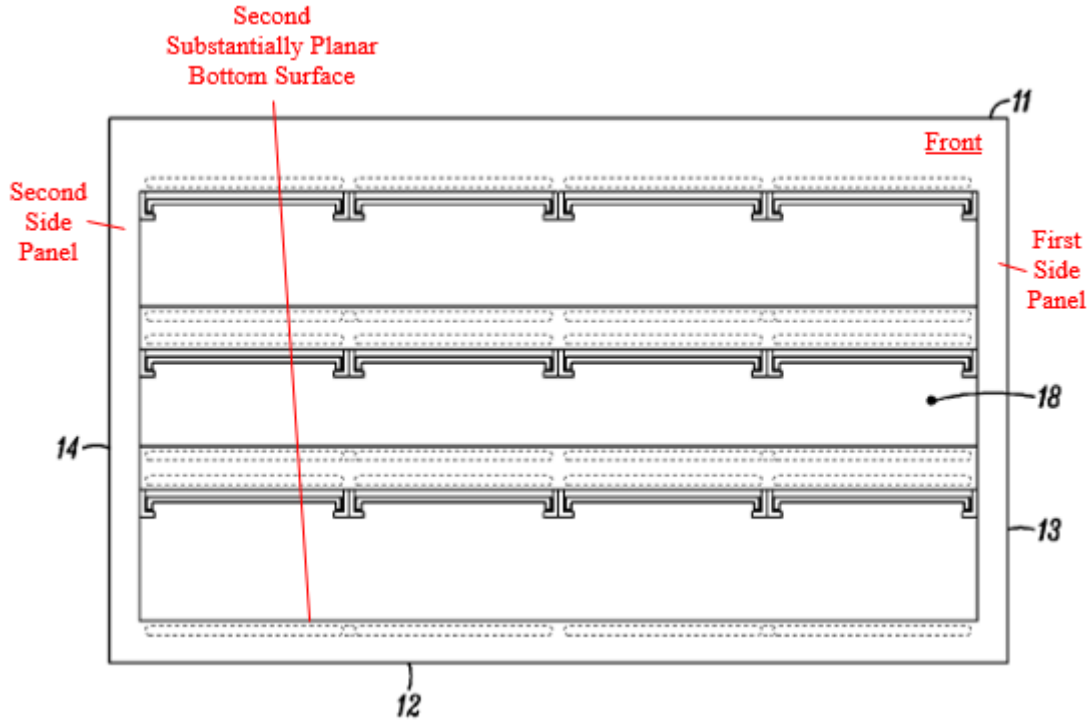
FIG. 2

EX1010: Figs. 1 and 2 (annotated).

712. This teaching and understanding would likewise hold true for the Fortmann'748 cabinet as modified according to Paragraphs 524-682 (Ground 10, Section XIII(A)) above as shown in the modified renderings below.



EX1010: Fig. 2 (modified, annotated).



EX1010: Fig. 2 (modified, annotated).

1.a.8: a second opening into the second food holding compartment and onto the second substantially planar surface

713. As addressed above in Paragraphs 695-697 (claim limitation 1.a.4), the chassis (10a) of Fortmann'748's cabinet (10) has an open front side (15) to allow pans (100) to pass into and out of the food holding compartments in the interior volume (18). EX1010: ¶[0014] ("[t]he warming cart 10 is configured with an open front side 15 … to allow one or more pans 100 to be quickly disposed within the cart 10 and the warming volume and removed from the cart 10 without operation of doors or other barriers found on conventional warming carts. As shown in FIGS. 1, 2, 4, and 5 the front side 15 is open to allow pans 100, trays, pizza boxes and the like to slide through the open front side 15 and within the warming volume 18 of the cart").

714. As addressed above, the second food holding compartment is the food holding compartment defined by the first side panel, the second side panel, the bottom panel, and the shelf/bottom shelf of Fortmann'748's cabinet. Thus, it would be the opening through the front face corresponding to this second food holding compartment which meets the recited "second opening."

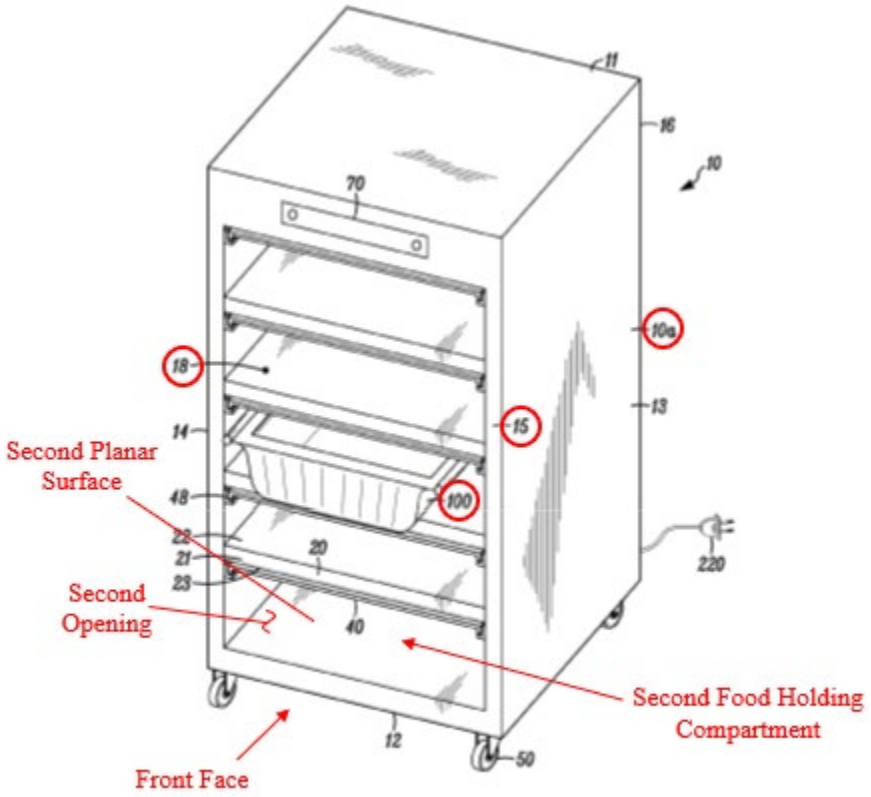

11
16
10
70
10a
18
13
15
14
Second Planar Surface
100
48
22
21
23
20
220
Second Opening
40
Second Food Holding Compartment
12
50
Front Face

FIG. 1

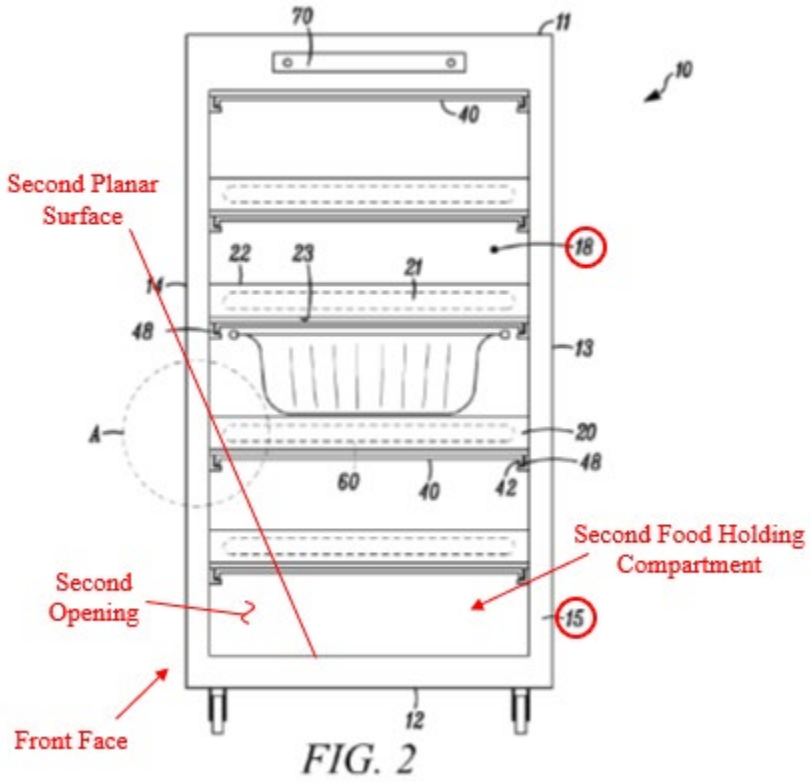
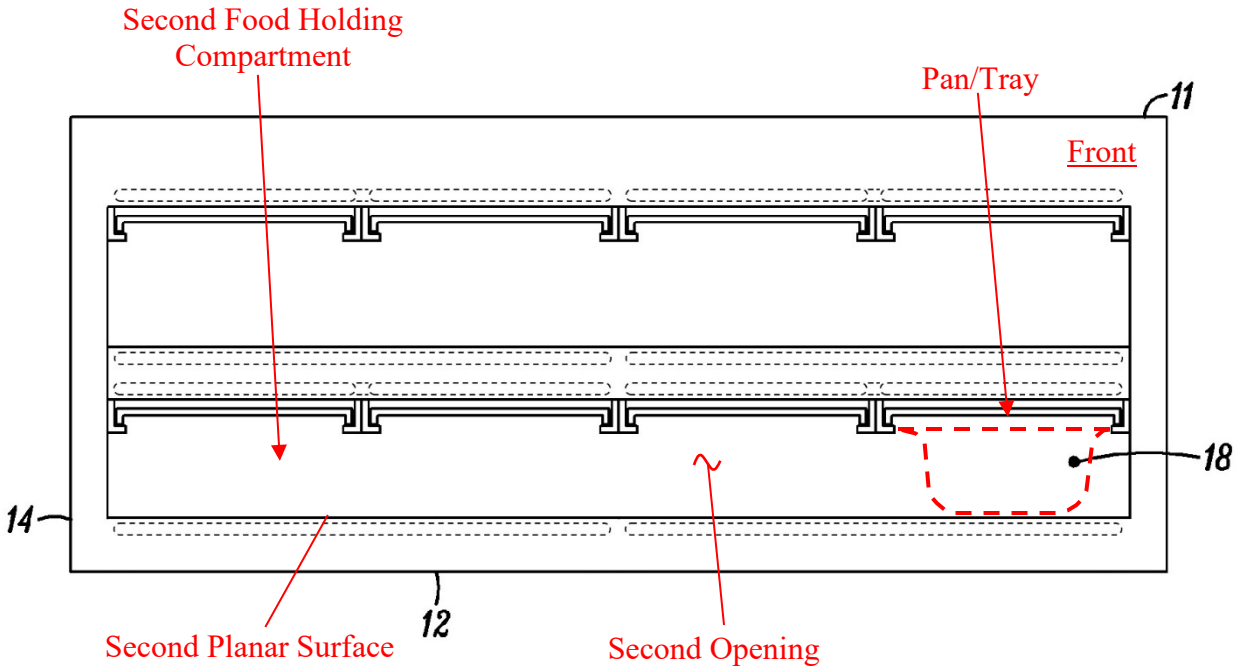


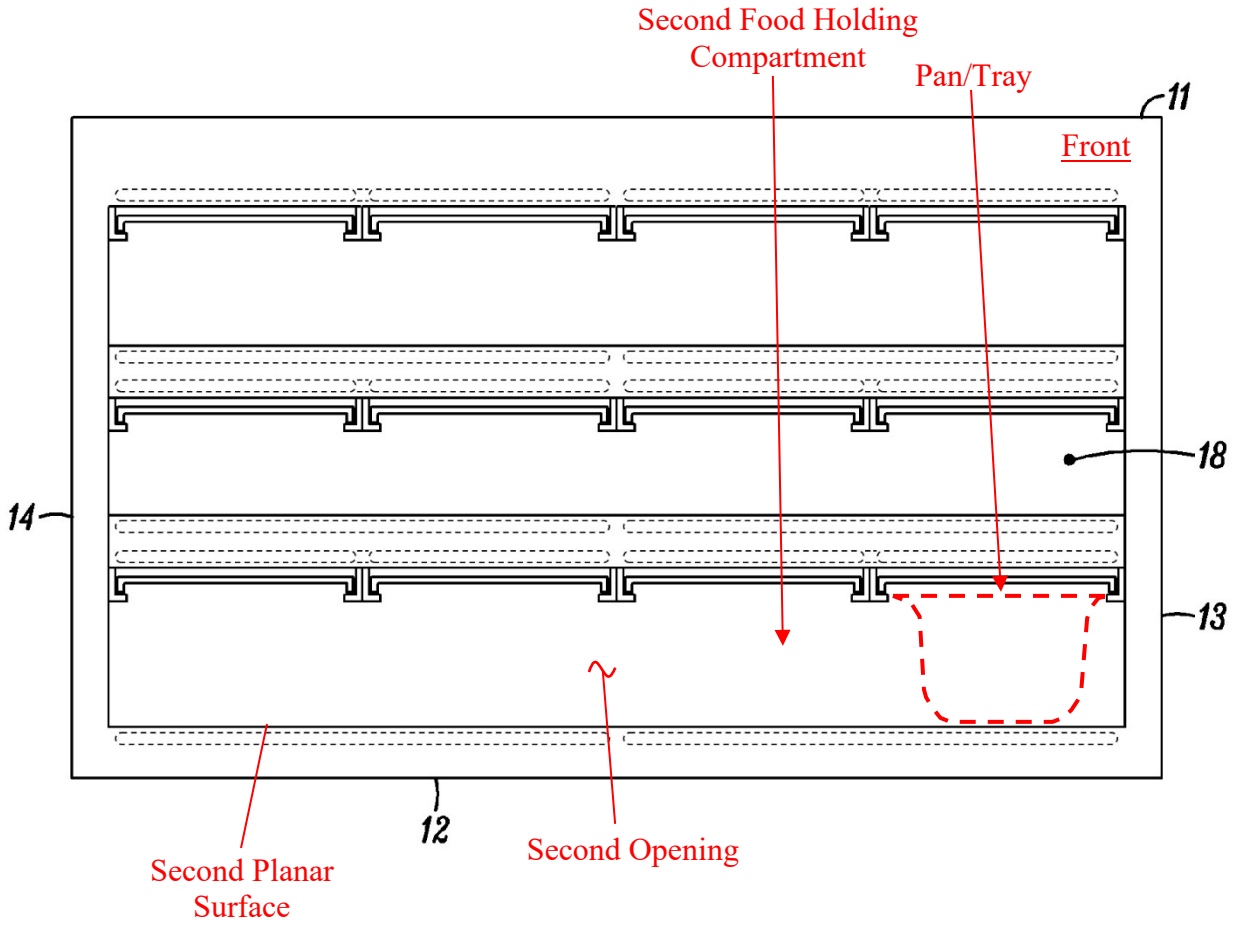
FIG. 2

EX1010: Figs. 1 and 2 (annotated).

715. The POSA would recognize that this second opening through the front face (15) is intended to allow food pans (100) to pass through into the first food holding compartment and to rest on the second planar surface of the bottom panel (12). EX1010: ¶[0015] ("the top surface 22 of the shelf 21 [is] spaced from a bottom surface 23 of a neighboring shelf 21 a distance to allow a conventional restaurant cooking pan 100 to be inserted therebetween"), ¶[0017] ("pan 100 that is placed onto the shelf 21"). This teaching and understanding would likewise hold true for the Fortmann'748 cabinet as modified according to Paragraphs 524-682 (Ground 10, Section XIII(A)) above as shown in the modified renderings below.



EX1010: Fig. 2 (modified, annotated).



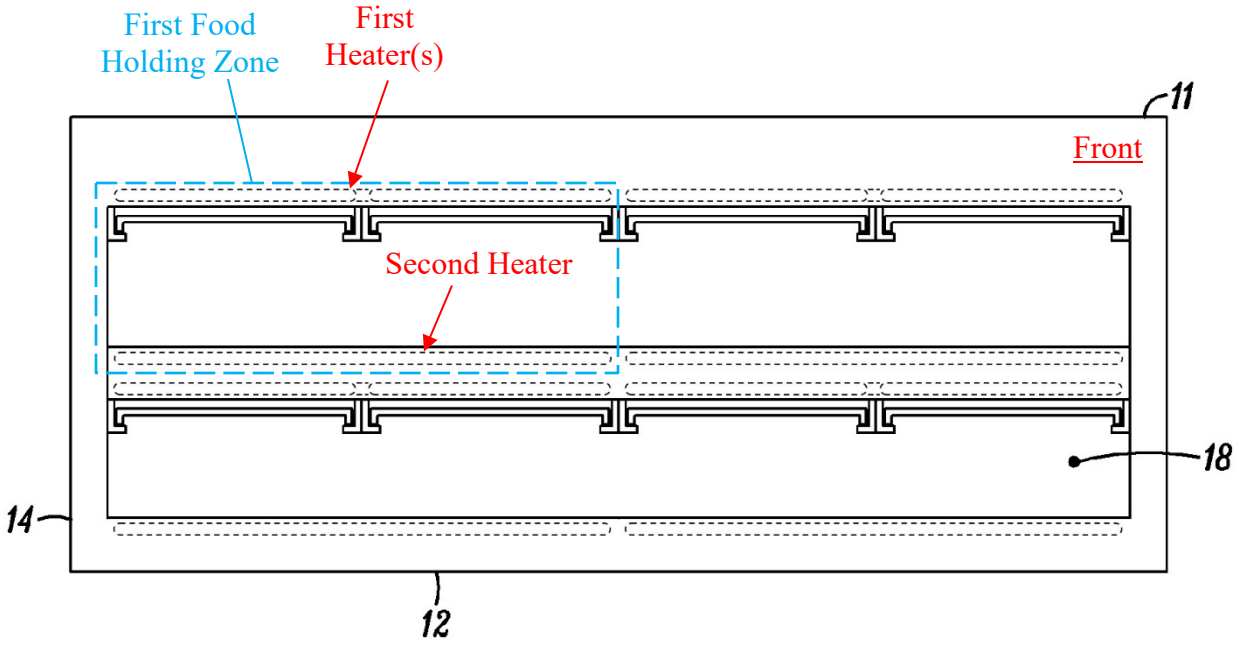
EX1010: Fig. 2 (modified, annotated).

1.b: the method comprising: operating the first food holding zone to a first temperature setpoint by independently operating a first heating element in the first food holding zone and thermally coupled to the first top surface and independently operating a second heating element in the first food holding zone and thermally coupled to the first substantially planar surface

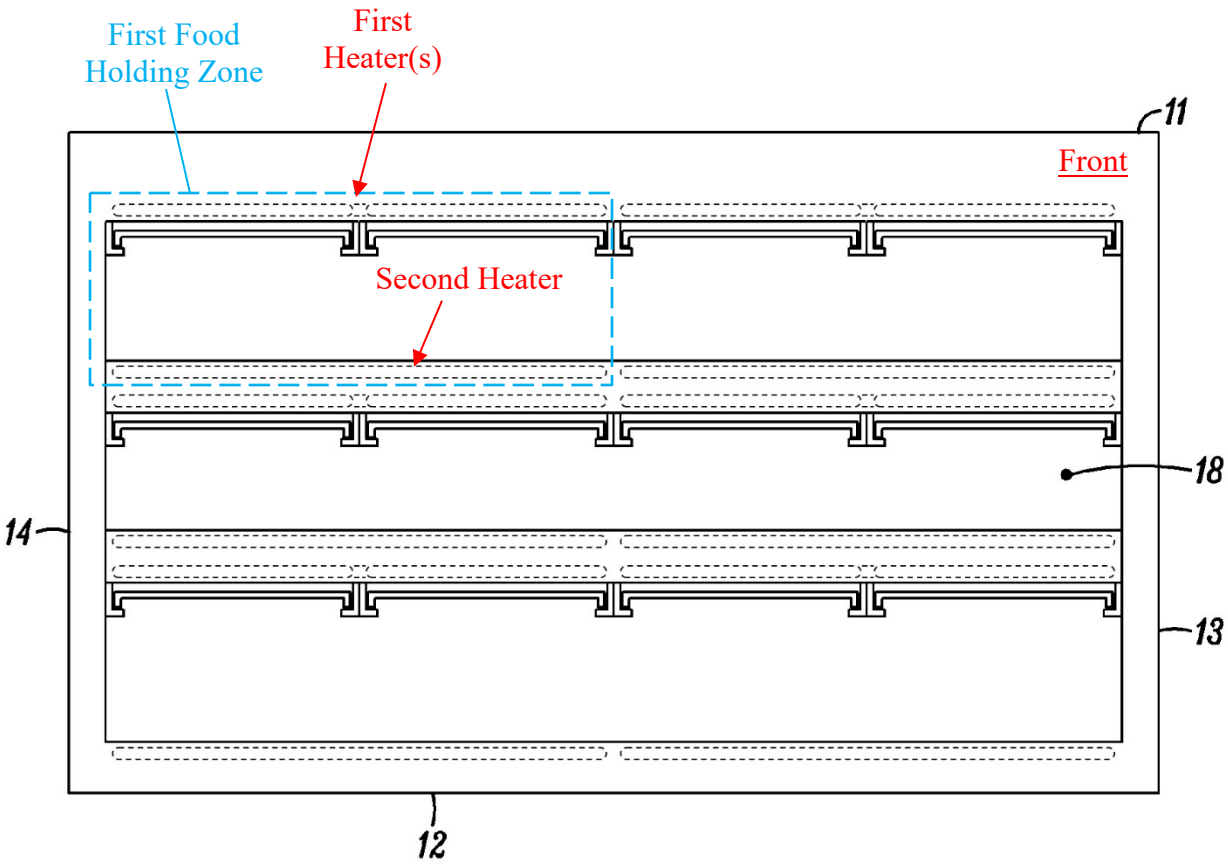
716. The POSA would recognize that Fortmann'748 discloses having food holding zones with independently controllable heating elements. EX1010: ¶¶[0019] (describing that the shelves divide the warming volume [18] into

compartments “to establish two or more heat zones of differing temperatures within the warming volume [18]”), [0021], [0024].

717. It would have been further obvious to modify the Fortmann’748 cabinet in view of Jones (EX1012), Hartfelder (EX1013), and/or the IRHS Documents (EX1005-1008) as discussed in Paragraphs 537-586 (Ground 10, Section XIII(A)(2))and to modify the Fortmann’748 cabinet in view of Jones, Fortmann’197 (EX1014), the IRHS Documents, and/or McMillan (EX1019) as discussed in Paragraphs 587-603 (Ground 10, Section XIII(A)(3)), such that each food holding zone has independently operable upper and lower heaters (heating elements). EX1005: 16, 20, 25, 26; EX1006: 1; EX1007: 53; EX1012: ¶¶[0072], [0073], [0096], [0098], [0130]; EX1013: ¶[0037]; EX1014: 3:6-27, 8:63-9:19, 9:50-65; EX1019: 4:36-59. Thus, it would have been obvious for Fortmann’748 to have first/upper heating element(s) and a second/lower heating element at respective top and bottom portions of the first food holding zone.



EX1010: Fig. 2 (modified, annotated).



EX1010: Figs. 2 (modified, annotated).

718. Jones, Fortmann'197, the IRHS Documents, and McMillan all disclose that their heating elements of each zone are independently controllable from one another and from the heating elements of other zones. EX1005: 16, 20, 25; EX1006: 1; EX1007: 53; EX1010: ¶¶[0021], [0027]; EX1012: ¶¶[0072], [0096], [0098], [0130]; EX1014: 3:6-27, 8:63-9:19, 9:50-65; EX1019: 4:36-59.

719. In modifying Fortmann'748's cabinet such that the first food holding zone were to have first/upper heater(s) and second/lower heater(s) it would have further been obvious for the upper heater(s) and lower heater(s) in each food holding zone (e.g., first food holding zone) to be independently controllable from one another and from the upper and lower heaters of the other food holding zones.

720. Specifically, as explained in Paragraphs 537-603 (Ground 10, Section XIII(A)(2)-(3)), when duplicating Fortmann'748's heaters (60) in view of Jones, Hartfelder, and/or the IRHS Documents, the POSA would have maintained the independent control of the heaters as taught by Jones, Fortmann'197, the IRHS Documents, and/or McMillan. As explained in Paragraphs 537-603 (Ground 10, Section XIII(A)(2)-(3)), Fortmann'748's modified control system would independently operate the upper and lower heaters in one zone from one another and from the upper and lower heaters in other zones.

721. In addition, Fortmann'748's control system has "one [or] more sensors disposed in each heating zone," "an input device for the user to select the desired temperature [] within the heating zone" and a "controller [that] selectively provide[s] or secure[s] current to the one or more heaters 60 disposed within each zone to control the temperature of the zone." EX1010: ¶[0027]. This control system is taught to "adjust[] the heat output within each zone to achieve the desired

temperature." EX1010: ¶[0027]. Thus, each food holding zone in Fortmann'748 cabinet has a temperature setpoint.

722. The prior art teaches each food holding zone having its own temperature setpoint. For example, Jones teaches customized temperature settings for each food type and that the temperature in the tray locations (zones) can be different based on the temperature presets for the particular types of food held in each location. EX1012: ¶[0098] ("assigns the holding parameters, top and bottom temperature … to the product name, so wherever the product name is displayed, the holding parameters follow", and "temperature settings for the top and bottom heater that are set to the product name and no matter how many locations have the same product name displayed [1 location up to all locations]"), Fig. 19 ("Select Product Name to be held in Display Location. Each display may have the same Product Name, or all different Product Names … Heating system maintains Top and Bottom Preset Temps for Product Names").

723. The IRHS Documents similarly teach to customize temperature settings by food type and teach holding zones having different food types. EX1006: 1 ("[c]ustom heat settings for food product"); EX1005:16 ("[t]his new technology allows you to precisely control the environment in each pan, allowing customized settings for each food product" and "each food product has a tailored HeatSink temperature and InfraRed pulse rate"); EX1007: 51 ("each food product

has tailored settings to control the thermal path of the food, leading to optimal quality, consistency and extended hold"), 53 ("[p]recise holding for each product in an optimized environment tailored to that product"). The temperature settings for each pan location/heating zone are independent of the other food product types being held in the other pan locations/zones. EX1005: 25 ("1/2 ROW HEAT (2 Wells)"); EX1006: 1 ("independent well flexibility"); EX1007: 53 ("[t]otal well independence allows freedom in product placement in the IRHS" and "[t]ailor each well specifically to the products within them").



EX1007: 12.

722. Likewise, McMillan teaches heating different zones to different temperatures. EX1019: 4:45-52 ("each of the heater plates 27a, 27b may include customizable heating elements arranged such that different portions of the passageway 16a may be set to different temperatures. In this way, the temperature of each passageway may be maintained according to the number and types of food

product to be stored. For example, the passageway 16 a may be set to store four different types of food products at four different temperatures").

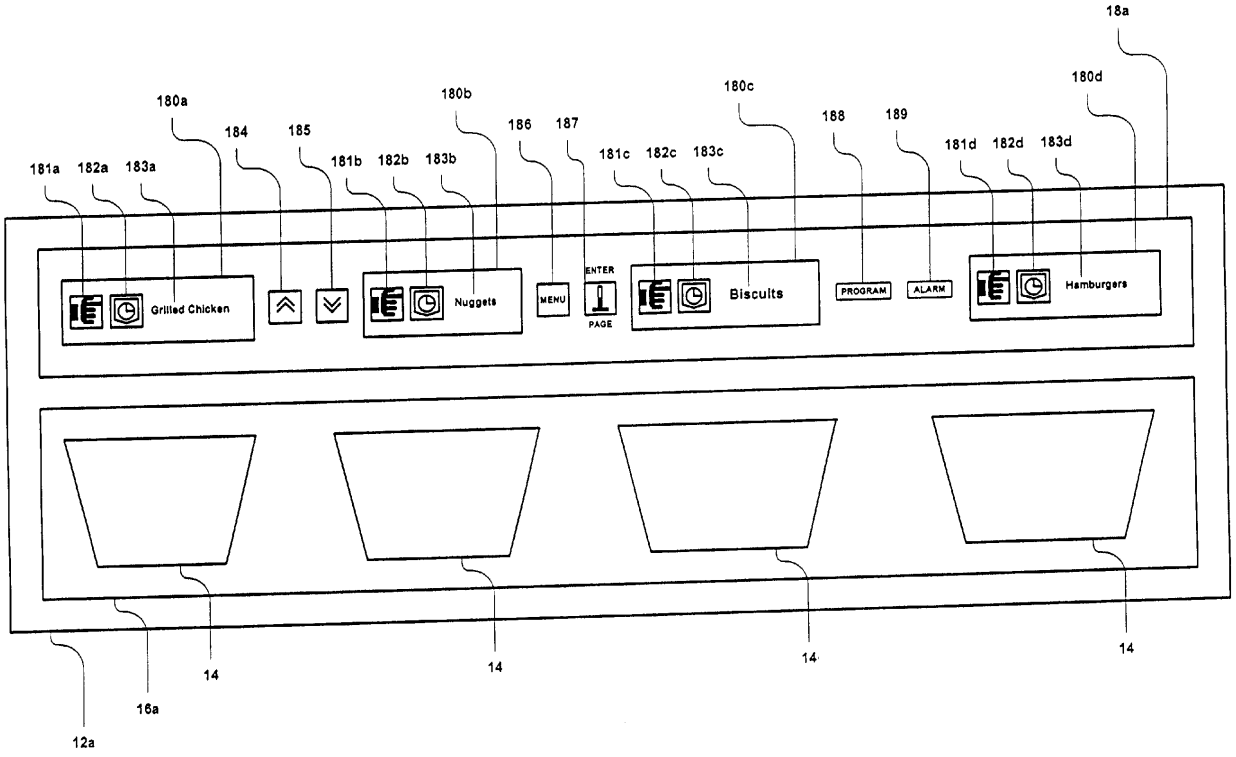


Fig. 5a

EX1019: Fig. 5a.

723. Fortmann'748 further teaches heating different zones to different temperatures. EX1010: ¶[0024] ("[i]n embodiments with multiple heat zones, the two or more infinite switches 210 may be calibrated to establish two or more heat zones of differing temperatures within the warming volume, to allow food products that require different warming temperatures to be simultaneously disposed within the cart").

724. It would have been obvious, per Jones, Fortmann'748, the IRHS Documents, and/or McMillan, to heat the food holding zones to different temperature setpoints by independently operating the heaters to accommodate customized heat settings for different types of food received in each holding zone (e.g., the first, second, third, and fourth holding zones receive respective different first, second, third, and fourth food types) and to increase holding capacity for different types of cooked food to meet customer demands. EX1028: 30 ("[i]t is critically important that each of these 'heat zones' be set to the appropriate temperature for each type of food product"), 14 (example temperatures), 39 (example temperatures); EX1019: 1:17-45 (explaining "'fast food' restaurants compete to deliver food products as quickly as possible while preserving quality of the taste, consistency, and appearance of the food" and outlining "challenges" of "maintain[ing] a large volume of different food products" each "requir[ing] different storage temperatures"); EX1010: ¶[0024] ("establish two or more heat zones of differing temperatures within the warming volume, to allow food products that require different warming temperatures to be simultaneously disposed within the cart"); EX1006: 1 ("each compartment individually controlled").

725. This would have been nothing more than the use of a known technique (heating zones to different temperature setpoints per Jones, Fortmann'748, the IRHS Documents, and McMillan) to improve a similar device

(Fortmann'748's cabinet) in the same way (independently operate the heaters of each zone to heat the zones to different temperatures).

726. As there would have been a high expectation of success modifying Fortmann'748's cabinet as discussed in Paragraphs 537-603 (Ground 10, Section XIII(A)(2)-(3)), the resulting capability to independently operate the heaters of each zone to heat the zones to different temperatures would have likewise been expected and because Fortmann'748 has a zone-capable control system. EX1010: ¶[0027].

727. Thus, it would have been obvious for Fortmann'748's controller to operate each food holding zone (e.g., first food holding zone) to a temperature setpoint (e.g., the first temperature setpoint)—based on the specific food type temperature settings assigned to the respective zone—by independently operating the upper heater(s) (e.g., first heater(s)) and independently operating the lower heater (e.g., second heater) associated with the respective zone.

728. Fortmann'748 also explains its heaters (60) ("heating elements") are between the two planar sheets (22, 23) in the shelf (21). EX1010: ¶[0019] ("the shelves 21 may include two planar sheets of thin material (such as stainless steel) that form an envelope for the heater 60 to be disposed therebetween"). The heaters (60) are in contact with the upper and lower sheets (22, 23) so that the heaters are thermally coupled (via conduction) with the sheets. EX1010: ¶[0019] ("the heater

60 makes surface contact with at least the upper sheet 22 forming the shelf 21 (and also the heater 60 may contact the lower sheet 23 forming the shelf 21) such that a percentage of the heat generated by the heaters disposed in conjunction with each shelf 21 is transferred directly to the shelf by conductive heat transfer").

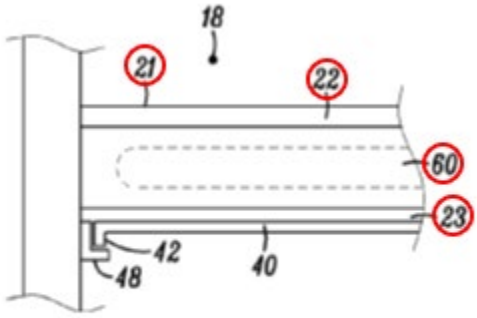


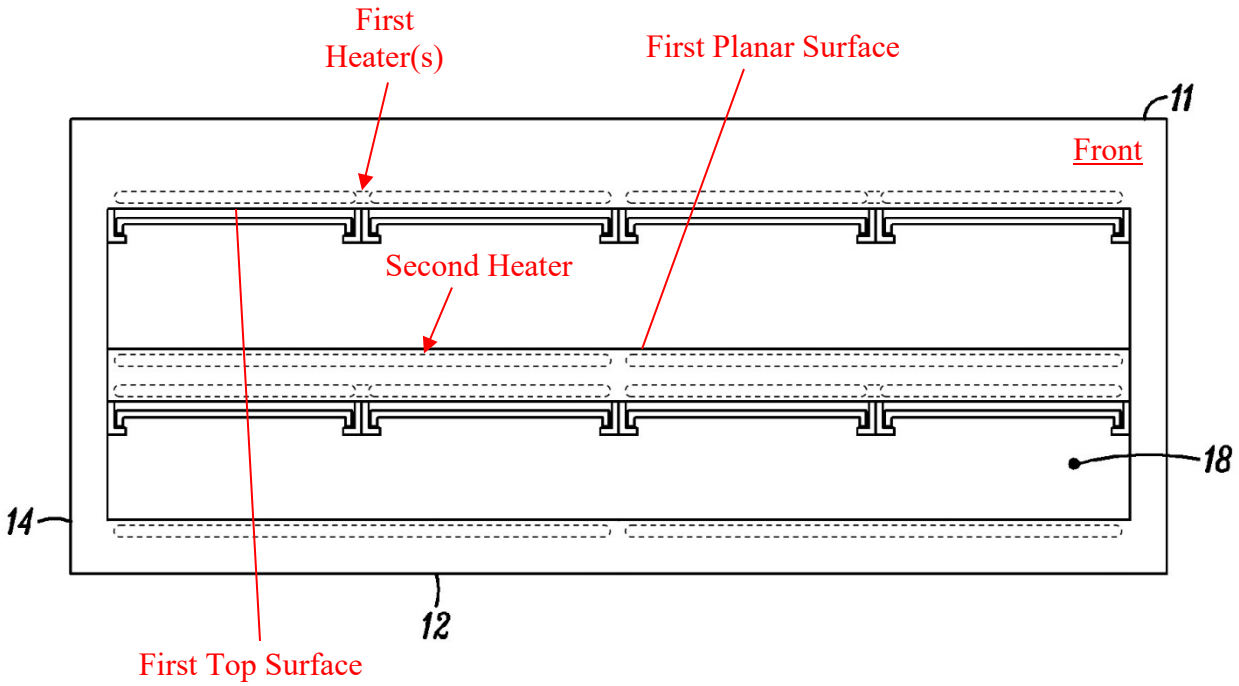
FIG. 3

EX1010: Fig. 3 (annotated).

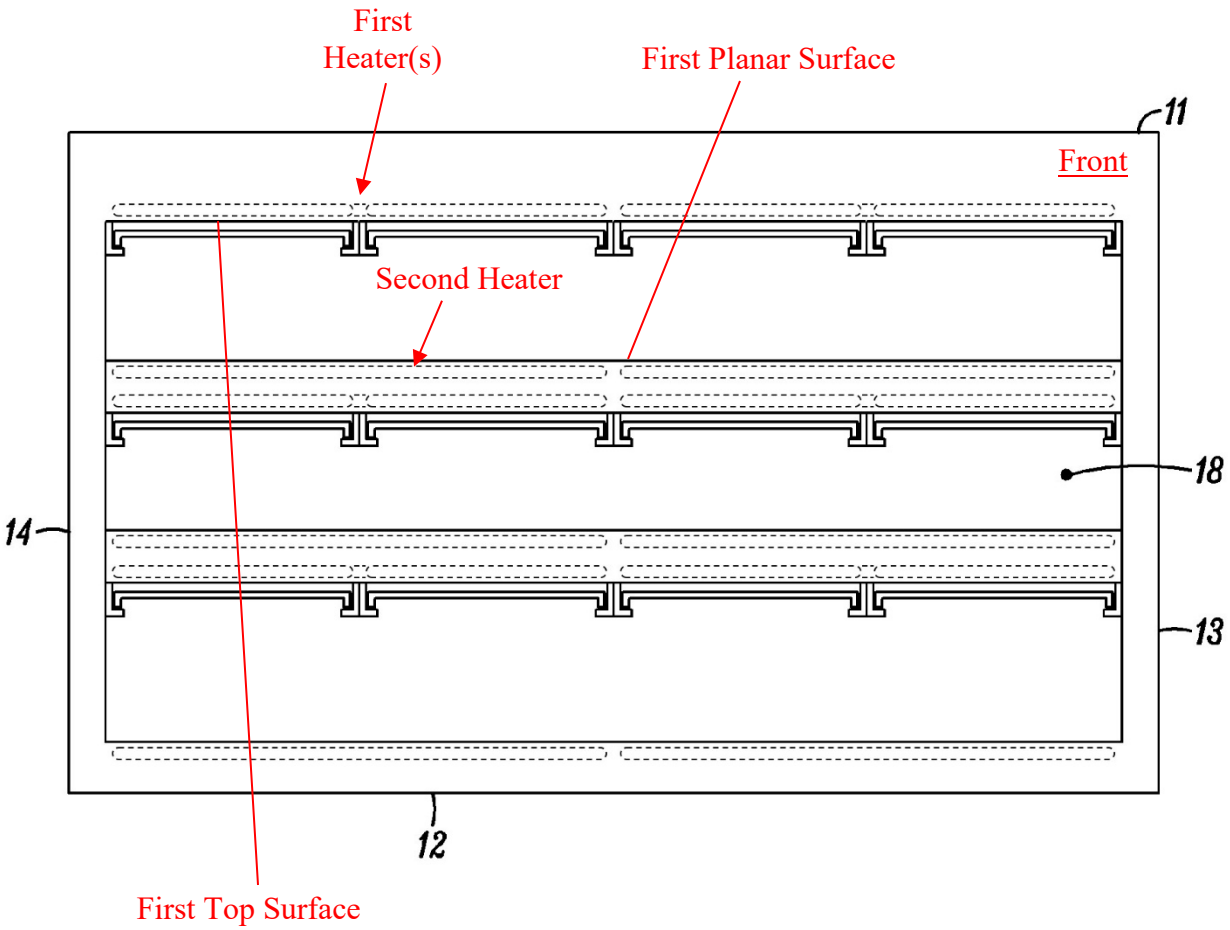
729. When modifying the heaters (60) of Fortmann'748 as explained in Paragraphs 537-586 (Ground 10, Section XIII(A)(2)), the POSA would have followed the teachings of Fortmann'748 and had the upper heater(s) (e.g., first heater(s)) contact the sheet forming the first top surface to be thermally coupled with the first top surface and heat the first food holding compartment below. EX1010: ¶¶[0019]-[0020]. Fortmann'748 teaches that its heaters contact the sheet (that forms the top surface) overlying the compartment to heat the compartment. EX1010: ¶[0019] ("the heater 60 may contact the lower sheet 23"), ¶[0020] ("bottom sheet 23 may be in contact with the heater 60 to allow for conductive heat

transfer thereto as well as receiving heat from the heater due to radiation heat transfer, … the bottom sheet 23 [is] configured to transfer a portion of the heat generated by the one or more heaters 60 … to the portion of the warming volume 18 located below"). Thus, it would have been obvious for the first heater(s) to be thermally coupled to the first top surface to heat the first food holding compartment below the first top surface.

730. When modifying the heaters (60) of Fortmann'748 as explained in Paragraphs 537-586 (Ground 10, Section XIII(A)(2)), the POSA would have continued following the teachings of Fortmann'748 and had the lower heaters (e.g., second heater) in the shelf contact the upper sheet (22) forming the planar surface (e.g., first planar surface) to be thermally coupled with the upper sheet's planar surface and heat the food holding compartment above. EX1010: ¶¶[0019]-[0020]. Thus, it would have been obvious for the second heater to be thermally coupled to the first planar surface to heat the first food holding compartment.



EX1010: Fig. 2 (modified, annotated).



EX1010: Fig. 2 (modified, annotated).

1.c: operating the second food holding zone to a second temperature setpoint by independently operating a third heating element in the second food holding zone and thermally coupled to the first top surface and independently operating a fourth heating element in the second food holding zone and thermally coupled to the first substantially planar surface

731. For the reasons explained in Paragraphs 716-730 with respect to claim limitation 1.b, it would have been obvious to modify Fortmann'748's cabinet to

have an upper/third heating element and a lower/fourth heating element in the second food holding zone for heating the second food holding zone.

732. For the reasons explained in Paragraphs 716-730 (claim limitation 1.b), it would have further been obvious for Fortmann'748's controller to operate each food holding zone (e.g., second food holding zone) to a temperature setpoint (e.g., the second temperature setpoint)—based on the specific food type temperature settings assigned to the respective zone—by independently operating the upper heater(s) (e.g., third heater(s)) and independently operating the lower heater (e.g., fourth heater) associated with the respective zone.

733. Fortmann'748 also explains its heaters (60) ("heating elements") are between the two planar sheets (22, 23) in the shelf (21). EX1010: ¶[0019] ("the shelves 21 may include two planar sheets of thin material (such as stainless steel) that form an envelope for the heater 60 to be disposed therebetween"). The heaters (60) are in contact with the upper and lower sheets (22, 23) so that the heaters are thermally coupled (via conduction) with the sheets. EX1010: ¶[0019] ("the heater 60 makes surface contact with at least the upper sheet 22 forming the shelf 21 (and also the heater 60 may contact the lower sheet 23 forming the shelf 21) such that a percentage of the heat generated by the heaters disposed in conjunction with each shelf 21 is transferred directly to the shelf by conductive heat transfer").

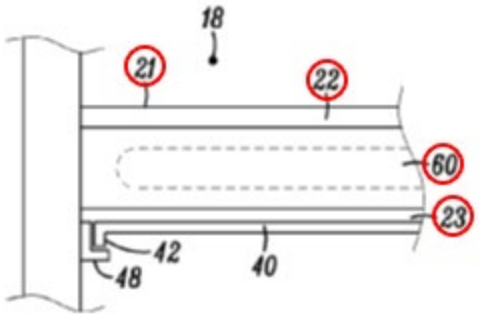


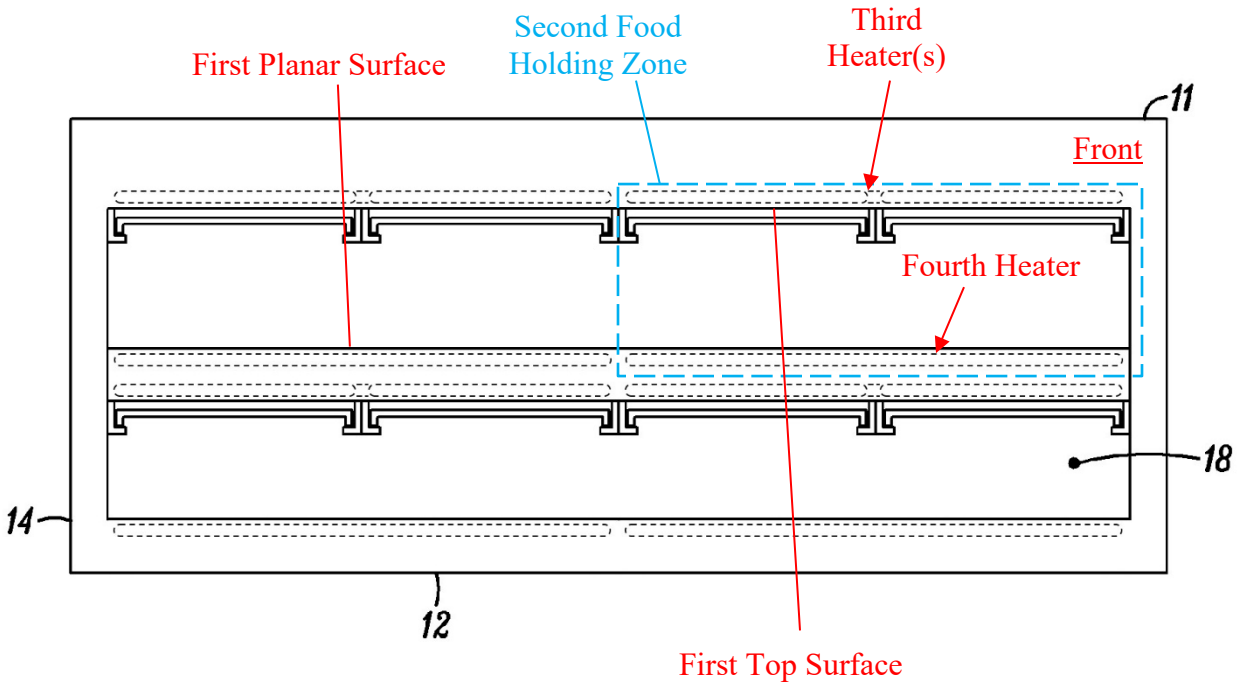
FIG. 3

EX1010: Fig. 3 (annotated).

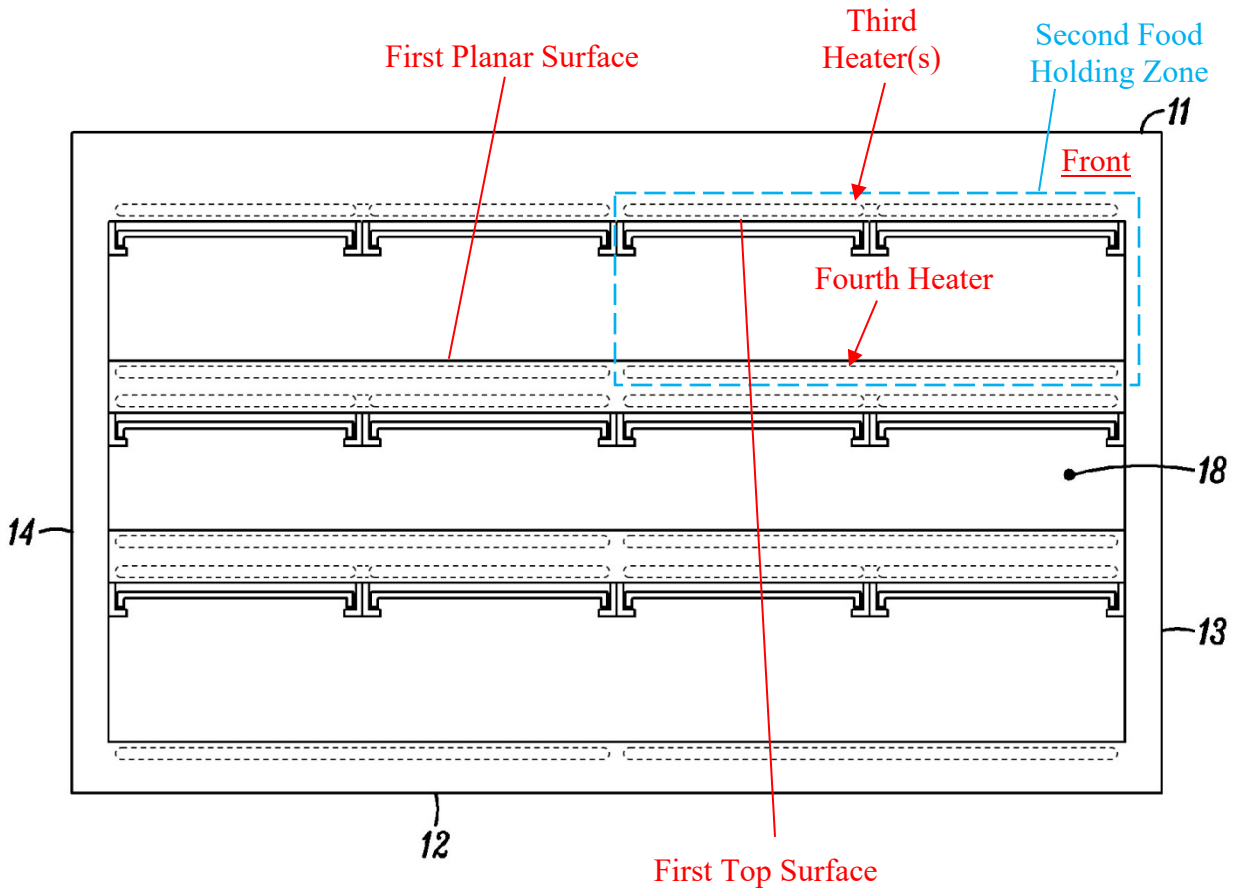
734. When modifying the heaters (60) of Fortmann'748 as explained in Paragraphs 537-586 (Ground 10, Section XIII(A)(2)), the POSA would have followed the teachings of Fortmann'748 and had the upper heater(s) (e.g., third heater(s)) contact the sheet forming the first top surface to be thermally coupled with the first top surface and heat the first food holding compartment below. EX1010: ¶¶[0019]-[0020]. Fortmann'748 teaches that its heaters contact the sheet (that forms the top surface) overlying the compartment to heat the compartment. EX1010: ¶[0019] ("the heater 60 may contact the lower sheet 23"), ¶[0020] ("bottom sheet 23 may be in contact with the heater 60 to allow for conductive heat transfer thereto as well as receiving heat from the heater due to radiation heat transfer, … the bottom sheet 23 [is] configured to transfer a portion of the heat generated by the one or more heaters 60 … to the portion of the warming volume 18 located below"). Thus, it would have been obvious for the third heater(s) to be

thermally coupled to the first top surface to heat the first food holding compartment below the first top surface.

735. When modifying the heaters (60) of Fortmann'748 as explained in Paragraphs 537-586 (Ground 10, Section XIII(A)(2)), the POSA would have followed the teachings of Fortmann'748 and had the lower heaters (e.g., fourth heater) in the shelf contact the upper sheet (22) forming the planar surface (e.g., first planar surface) to be thermally coupled with the upper sheet's planar surface and heat the food holding compartment above. EX1010: ¶¶[0019]-[0020]. Thus, it would have been obvious for the fourth heater to be thermally coupled to the first planar surface to heat he first food holding compartment.



EX1010: Fig. 2 (modified, annotated).



EX1010: Fig. 2 (modified, annotated).

1.d: operating the third food holding zone to a third temperature setpoint by independently operating a fifth heating element in the third food holding zone and thermally coupled to the second top surface and independently operating a sixth heating element in the third food holding zone and thermally coupled to the second substantially planar surface

736. For the reasons explained in Paragraphs 716-730 with respect to claim limitation 1.b, it would have been obvious to modify Fortmann'748's cabinet to

have a fifth heater and a sixth heater in the third food holding zone for heating the third food holding zone.

737. For the reasons explained in Paragraphs 716-730 (claim limitation 1.b), it would have further been obvious for Fortmann'748's controller to operate each food holding zone (e.g., third food holding zone) to a temperature setpoint (e.g., the third temperature setpoint)—based on the specific food type temperature settings assigned to the respective zone—by independently operating the upper heater(s) (e.g., fifth heater(s)) and independently operating the lower heater (e.g., sixth heater) associated with the respective zone.

738. Fortmann'748 also explains its heaters (60) ("heating elements") are between the two planar sheets (22, 23) in the shelf (21). EX1010: ¶[0019] ("the shelves 21 may include two planar sheets of thin material (such as stainless steel) that form an envelope for the heater 60 to be disposed therebetween"). The heaters (60) are in contact with the upper and lower sheets (22, 23) so that the heaters are thermally coupled (via conduction) with the sheets. EX1010: ¶[0019] ("the heater 60 makes surface contact with at least the upper sheet 22 forming the shelf 21 (and also the heater 60 may contact the lower sheet 23 forming the shelf 21) such that a percentage of the heat generated by the heaters disposed in conjunction with each shelf 21 is transferred directly to the shelf by conductive heat transfer").

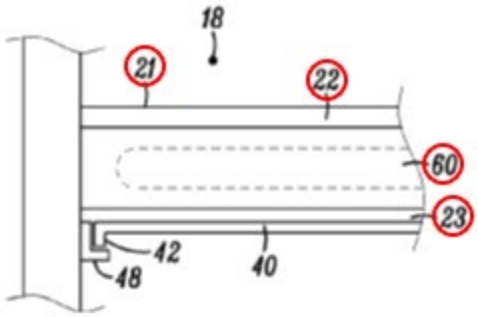


FIG. 3

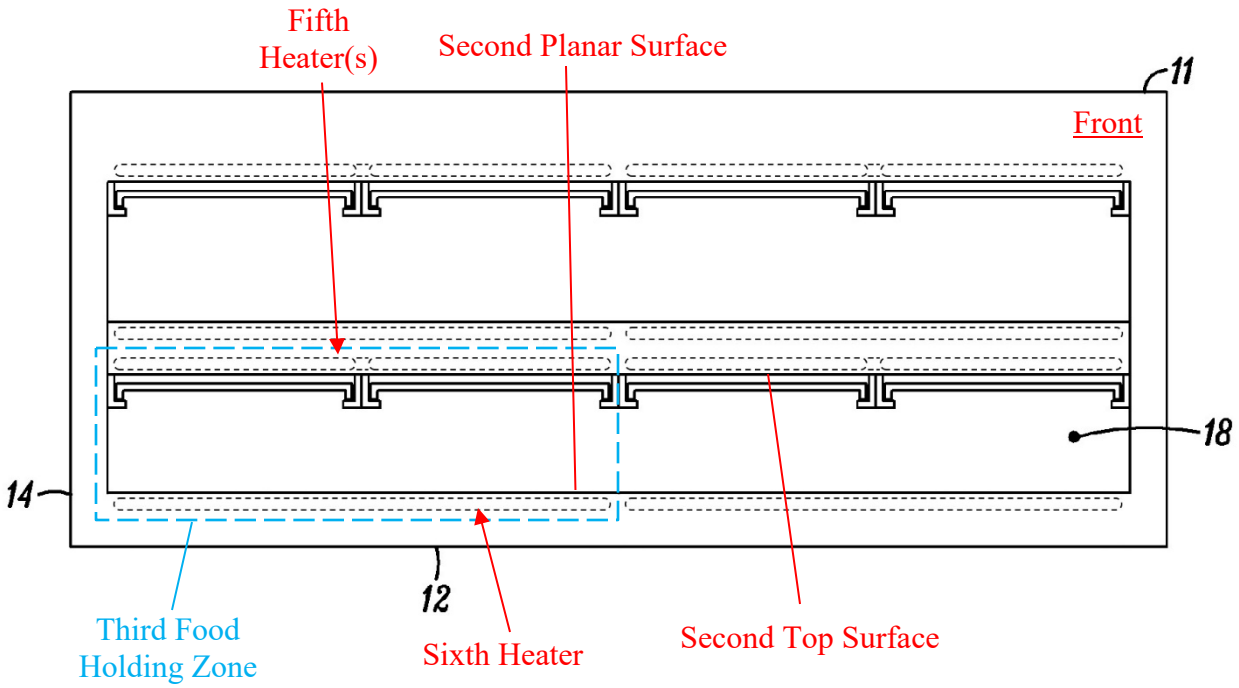
EX1010: Fig. 3 (annotated).

739. When modifying the heaters (60) of Fortmann'748 as explained in Paragraphs 537-586 above (Ground 10, Section XIII(A)(2)), the POSA would have followed the teachings of Fortmann'748 and had the upper heaters (e.g., fifth heater(s)) in the shelf contact the lower sheet (23) forming the top surface (e.g., second top surface) to be thermally coupled with the lower sheet's top surface and heat the food holding compartment below. EX1010: ¶¶[0019]-[0020]. Thus, it would have been obvious for the fifth heater(s) to be thermally coupled to the second top surface to heat he second food holding compartment.

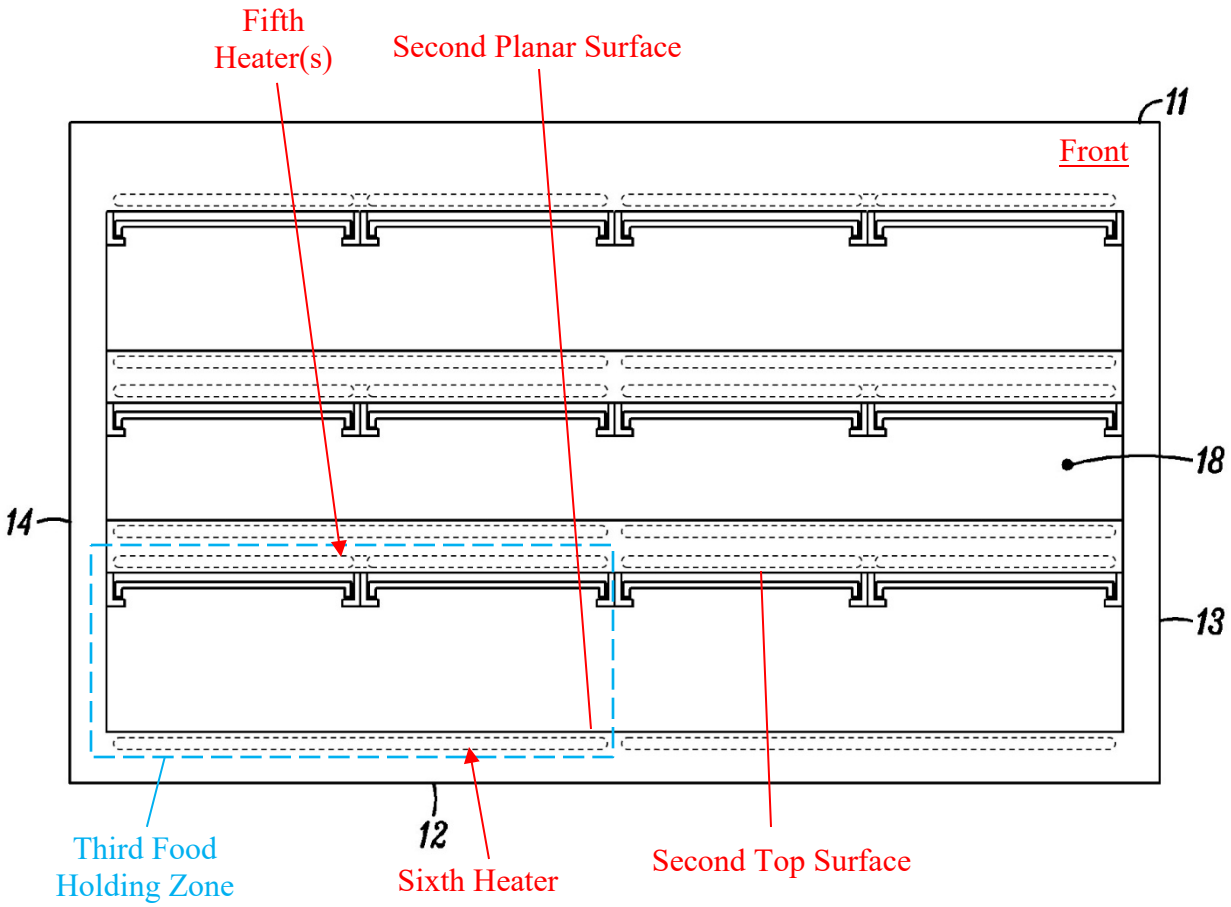
740. When modifying the heaters (60) of Fortmann'748 as explained in Paragraphs 537-586 (Ground 10, Section XIII(A)(2)), the POSA would have followed the teachings of Fortmann'748 and had the lower heaters (e.g., sixth heater) contact the sheet of the bottom panel (12) forming the second planar surface to be thermally coupled with the second planar surface and heat the second food holding compartment above. EX1010: ¶¶[0019]-[0020].

741. Although Fortmann'748 does not expressly identify that the heaters (60) are thermally coupled to the bottom panel (12) forming the second planar surface, Fortmann'748 identifies the bottom panel (12) as being another shelf (21), such that the POSA would have arranged the lower heaters in the bottom panel to contact (and thereby be thermally coupled to) the sheet forming the second planar surface as taught for the other shelves. EX1010: ¶[0016] ("the cart 10 may include 2, 5 (FIG. 1), 10 (FIG. 6), or another number of vertically spaced shelves 21"), ¶[0017] ("[t]he plurality of shelves 21 may each include a removable and slidable cover 40 that is disposed in conjunction with and below each shelf 21 (with the exception of the bottom shelf 21"). For Fig. 1 to have five shelves (21) and for Fig. 6 to have ten shelves, the bottom panel must be considered a shelf. For the "bottom shelf 21" not to have a cover (40) disposed below it, the bottom shelf must be considered to be the bottom panel (12).

742. Moreover, the POSA understands Fortmann'748 generally teaches to have heaters contact the sheet (that forms the planar surface) underlying the compartment to heat the compartment. EX1010: ¶[0019] ("the heater 60 makes surface contact with at least the upper sheet 22"). Thus, it would have been obvious for the sixth heater to be thermally coupled to the second planar surface to heat the second food holding compartment.



EX1010: Fig. 2 (modified, annotated).



EX1010: Fig. 2 (modified, annotated").

1.e: operating the fourth food holding zone to a fourth temperature setpoint by independently operating a seventh heating element in the fourth food holding zone and thermally coupled to the second top surface and independently operating an eighth heating element in the fourth food holding zone and thermally coupled to the second substantially planar surface

743. For the reasons explained in Paragraphs 716-730 (claim limitation 1.b), it would have been obvious to modify Fortmann'748's cabinet to have a

seventh heater and an eighth heater in the fourth food holding zone for heating the fourth food holding zone.

744. For the reasons explained in Paragraphs 716-730 (claim limitation 1.b), it would have been obvious for Fortmann'748's controller to operate each food holding zone (e.g., fourth food holding zone) to a temperature setpoint (e.g., the fourth temperature setpoint)—based on the specific food type temperature settings assigned to the respective zone—by independently operating the upper heater(s) (e.g., seventh heater(s)) and independently operating the lower heater (e.g., eighth heater) associated with the respective zone.

745. Fortmann'748 also explains its heaters (60) ("heating elements") are between the two planar sheets (22, 23) in the shelf (21). EX1010: ¶[0019] ("the shelves 21 may include two planar sheets of thin material (such as stainless steel) that form an envelope for the heater 60 to be disposed therebetween"). The heaters (60) are in contact with the upper and lower sheets (22, 23) so that the heaters are thermally coupled (via conduction) with the sheets. EX1010: ¶[0019] ("the heater 60 makes surface contact with at least the upper sheet 22 forming the shelf 21 (and also the heater 60 may contact the lower sheet 23 forming the shelf 21) such that a percentage of the heat generated by the heaters disposed in conjunction with each shelf 21 is transferred directly to the shelf by conductive heat transfer").

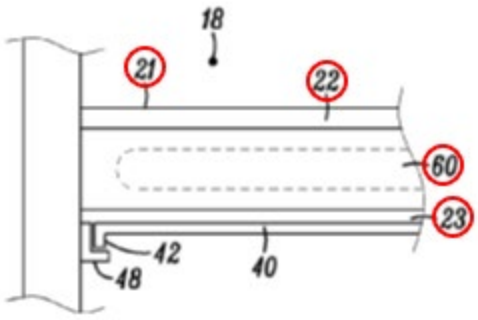


FIG. 3

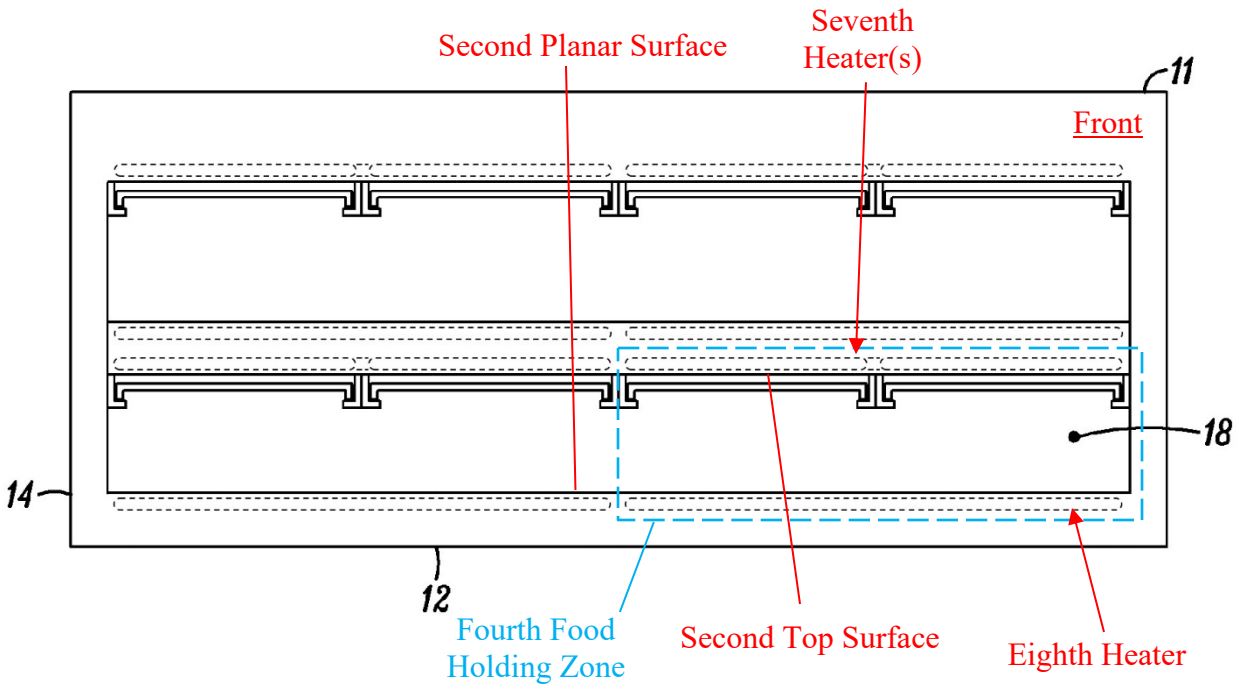
EX1010: Fig. 3 (annotated).

746. When modifying the heaters (60) of Fortmann'748 as explained in Paragraphs 537-586 above (Ground 10, Section XIII(A)(2)), the POSA would have followed the teachings of Fortmann'748 and had the upper heaters (e.g., seventh heater(s)) in the shelf contact the lower sheet (23) forming the top surface (e.g., second top surface) to be thermally coupled with the lower sheet's top surface and heat the food holding compartment below. EX1010: ¶¶[0019]-[0020]. Thus, it would have been obvious for the seventh heater(s) to be thermally coupled to the second top surface to heat the second food holding compartment.

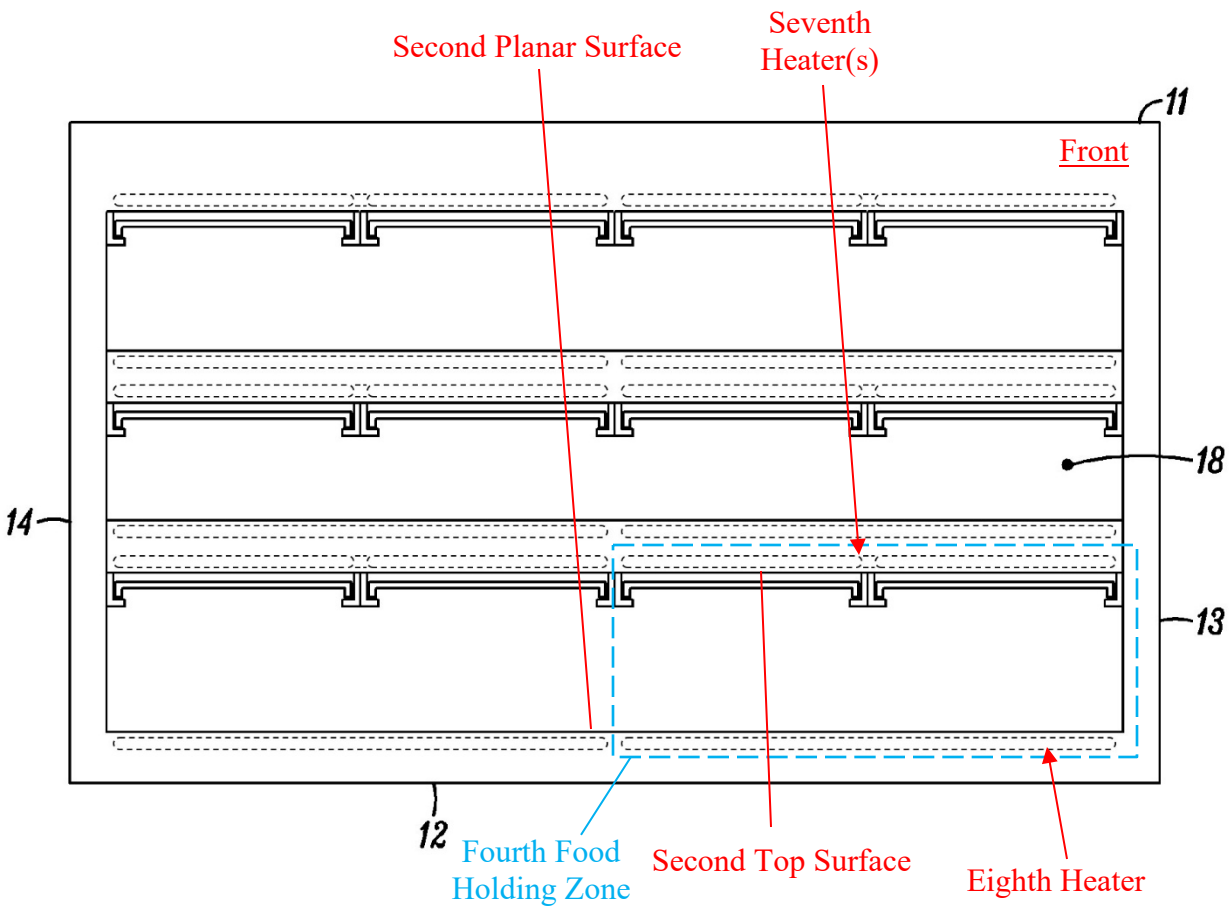
747. When modifying the heaters (60) of Fortmann'748 as explained in Paragraphs 537-586 (Ground 10, Section XIII(A)(2)), the POSA would have followed the teachings of Fortmann'748 and had the lower heaters (e.g., eighth heater) contact the sheet of the bottom panel (12) forming the second planar surface to be thermally coupled with the second planar surface and heat the second food holding compartment above. EX1010: ¶¶[0019]-[0020].

748. Although Fortmann'748 does not expressly identify that the heaters (60) are thermally coupled to the bottom panel (12) forming the second planar surface, Fortmann'748 identifies the bottom panel (12) as being another shelf (21), such that the POSA would have arranged the lower heaters in the bottom panel to contact (and thereby be thermally coupled to) the sheet forming the second planar surface as taught for the other shelves. EX1010: ¶[0016] ("the cart 10 may include 2, 5 (FIG. 1), 10 (FIG. 6), or another number of vertically spaced shelves 21"), ¶[0017] ("[t]he plurality of shelves 21 may each include a removable and slidable cover 40 that is disposed in conjunction with and below each shelf 21 (with the exception of the bottom shelf 21"). For Fig. 1 to have five shelves (21) and for Fig. 6 to have ten shelves, the bottom panel must be considered a shelf. For the "bottom shelf 21" not to have a cover (40) disposed below it, the bottom shelf must be considered to be the bottom panel (12).

749. Moreover, the POSA understands Fortmann'748 generally teaches to have heaters contact the sheet (that forms the planar surface) underlying the compartment to heat the compartment. EX1010: ¶[0019] ("the heater 60 makes surface contact with at least the upper sheet 22"). Thus, it would have been obvious for the eighth heater to be thermally coupled to the second planar surface to heat the second food holding compartment.



EX1010: Fig. 2 (modified, annotated).



EX1010: Fig. 2 (modified, annotated).

1.f: wherein the first temperature, second temperature, third temperature, and fourth temperature are independent from each other

750. As explained in Paragraphs 537-603 716-752 (Ground 10, Section XIII(A)(2)-(3) and claims limitations 1.b-1.e) Fortmann'748's controller would have independently operated the heaters from one another. Moreover, as described above in Paragraphs 537-637 and 716-730 (Ground 10 Sections XIII(A)(2)-(5) and

claim limitation 1.b), it would have been obvious to heat the food holding zones to different temperature setpoints in view of Jones, Fortmann'748, the IRHS Documents, and/or McMillan, thereby making the temperatures (e.g., first temperature, second temperature, third temperature, and fourth temperature) of the food holding zones (e.g., first food holding zone, second food holding zone, third food holding zone, fourth food holding zone) to be independent from one another. EX1012: ¶[0098]; EX1006: 1; EX1005: 4, 16, 25, 26; EX1007: 12, 51, 53; EX1019: 4:45-52; EX1010: ¶¶[0024], [0027].

751. As discussed in Paragraphs 537-637 and 716-749 above (Ground 10, Sections XIII(A)(2)-(5) and claim limitations 1.b-1.e), in modifying Fortmann'748's cabinet to have a first food holding zone and a second food holding zone, each with their own upper and lower heaters, it would have been obvious to adapt Fortmann'748's control system to independently operate the heaters of each food holding zone. Accordingly, the first food holding zone of the Fortmann'748 modified cabinet would have a controllable/maintainable first food holding temperature and the second food holding zone would have a controllable/maintainable second food holding temperature.

752. Accordingly, each step and limitation of Claim 1 is either disclosed in Fortmann'748 or would have been obvious in view of the teachings and disclosures of the IRHS Documents, Jones, Fortmann'197, McMillan, Vaseloff,

Hartfelder, Shei'099, Stanger, Loy, and/or Veltrop. As such, the POSA would have found it obvious to arrive at the method of maintaining different temperatures within a multi-zone food holding bin as claimed in Claim 1.

C. Claim 2: the method of claim 1, wherein the multi-zone food holding bin further comprises a shelf disposed between the first side panel and the second side panel, wherein a top surface of the shelf provides the first substantially planar bottom surface and a bottom surface of the shelf provides the second top surface

753. As discussed above, the POSA would have found it obvious to arrive at the claimed method of maintaining different temperatures within a multi-zone food holding bin of Claim 1. The POSA would additionally recognize that the prior art discloses the additional limitation added in Claim 2 further requiring the recited multi-zone food holding bin to "further comprise[] a shelf disposed between the first side panel and the second side panel, wherein a top surface of the shelf provides the first substantially planar bottom surface and a bottom surface of the shelf provides the second top surface."

754. As addressed above in Paragraphs 695-697 (claim limitation 1.a.4), the chassis (10a) of Fortmann'748's cabinet (10) has an interior volume (18) and includes a plurality of shelves (21) dividing the interior volume (18) into a plurality of food holding compartments. EX1010: ¶[0014], ¶[0015] ("a shelf 21 that is fixed to the right and left sides 14, 13 of the body 10 a, with the top surface 22 of the shelf 21 being spaced from a bottom surface 23 of a neighboring shelf 21 a

distance to allow a conventional restaurant cooking pan 100 to be inserted therebetween"); Figs. 1 and 6.

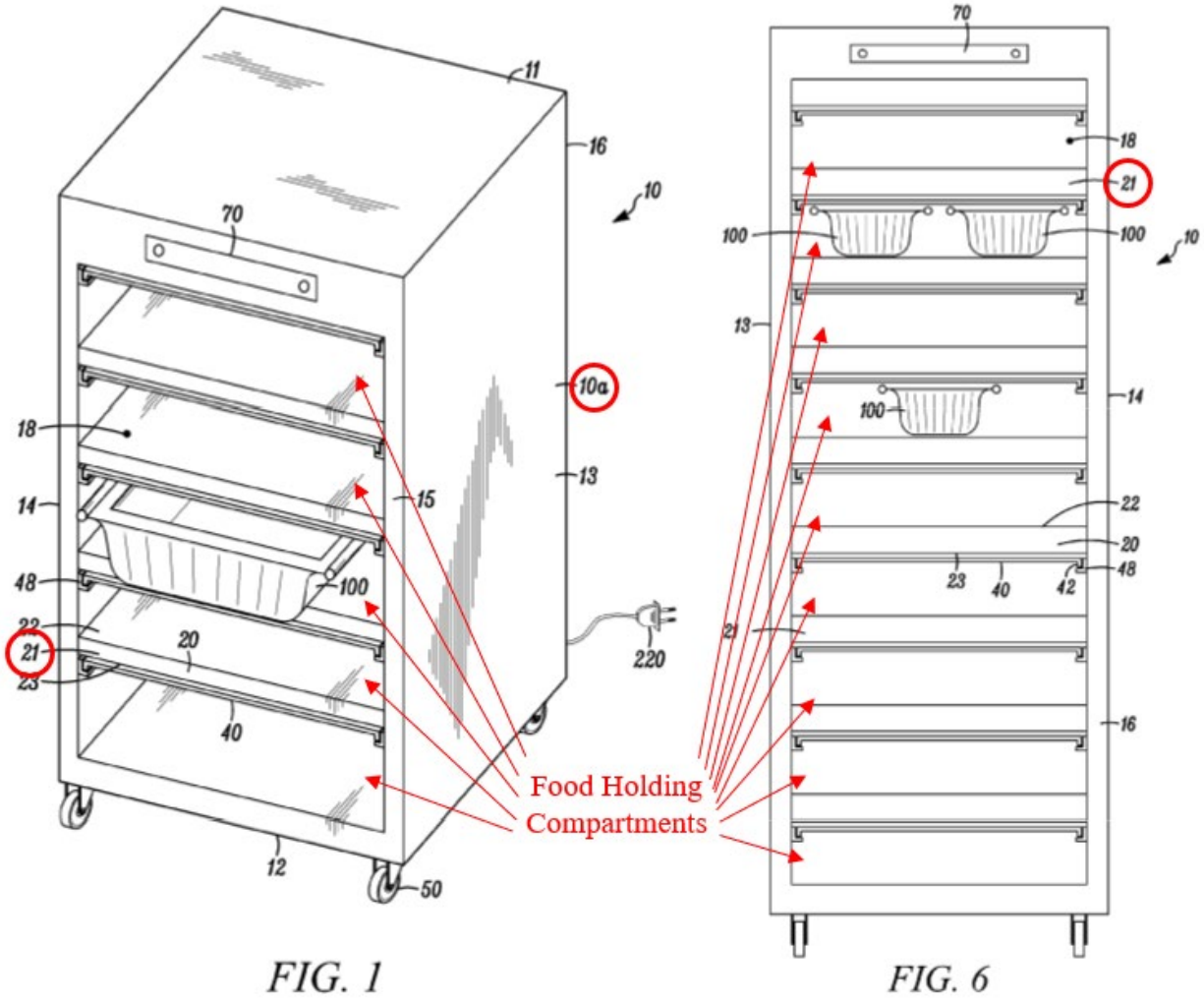


FIG. 1 FIG. 6

EX1010: Figs. 1 and 6 (annotated).

755. The shelves (21) have an upper sheet (22) forming a top surface of the shelf and a lower sheet (23) forming a bottom surface of the shelf. EX1010: ¶¶[0015], [0019]. The shelves (21) are between the first and second side panels (13, 14). EX1010: ¶¶[0014], [0015].

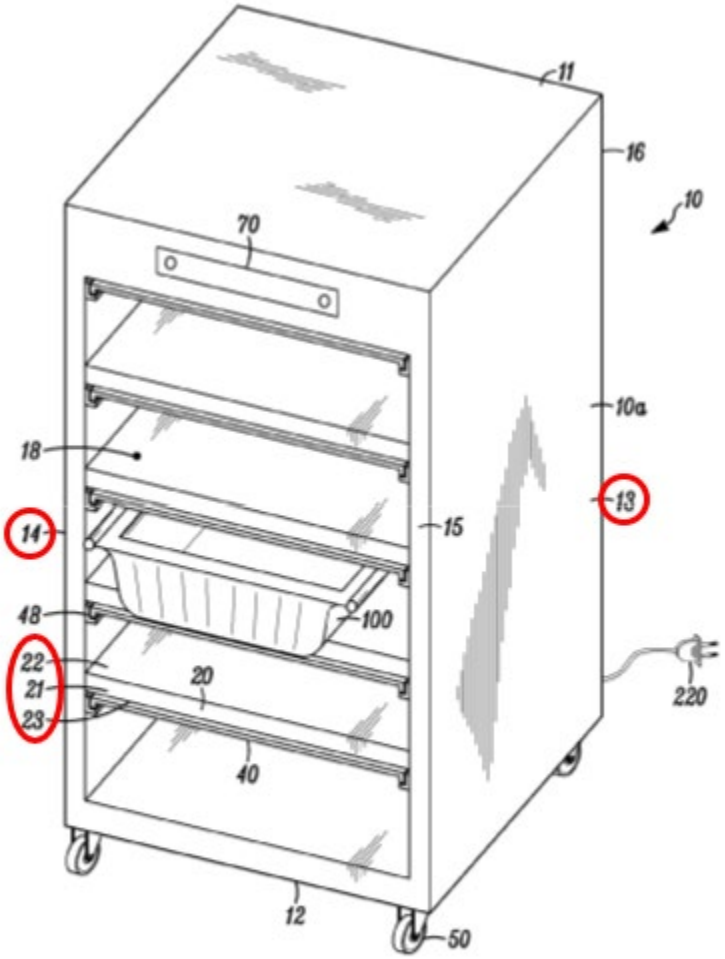


FIG. 1

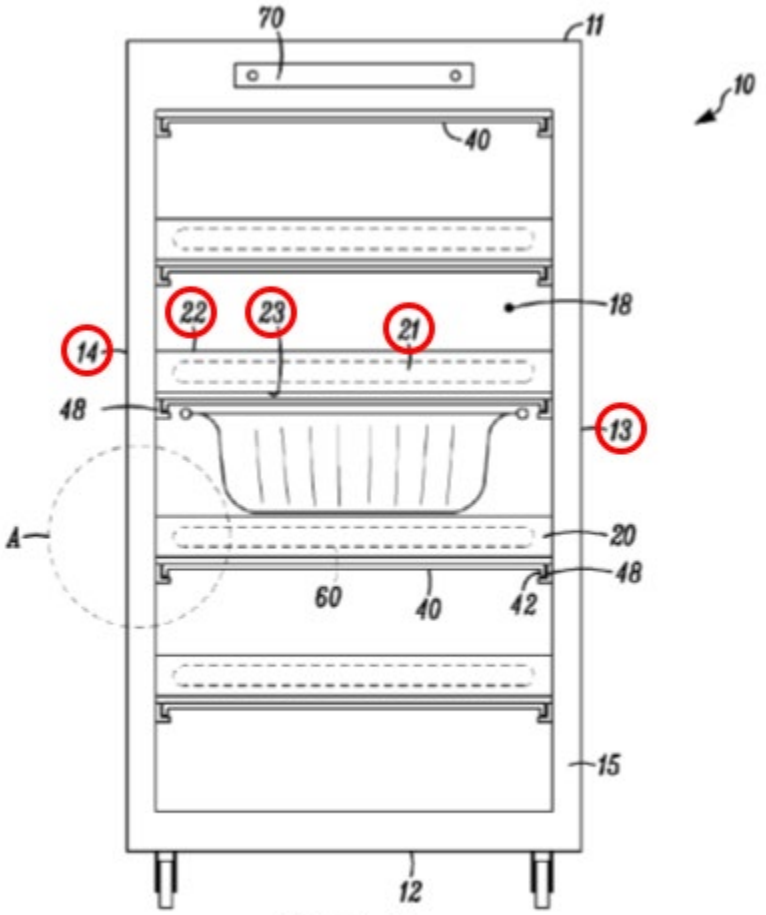


FIG. 2

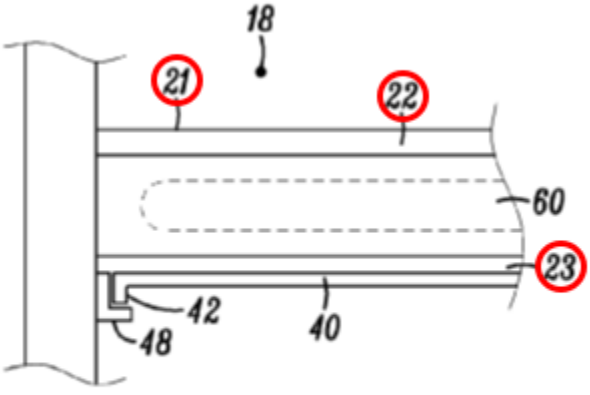
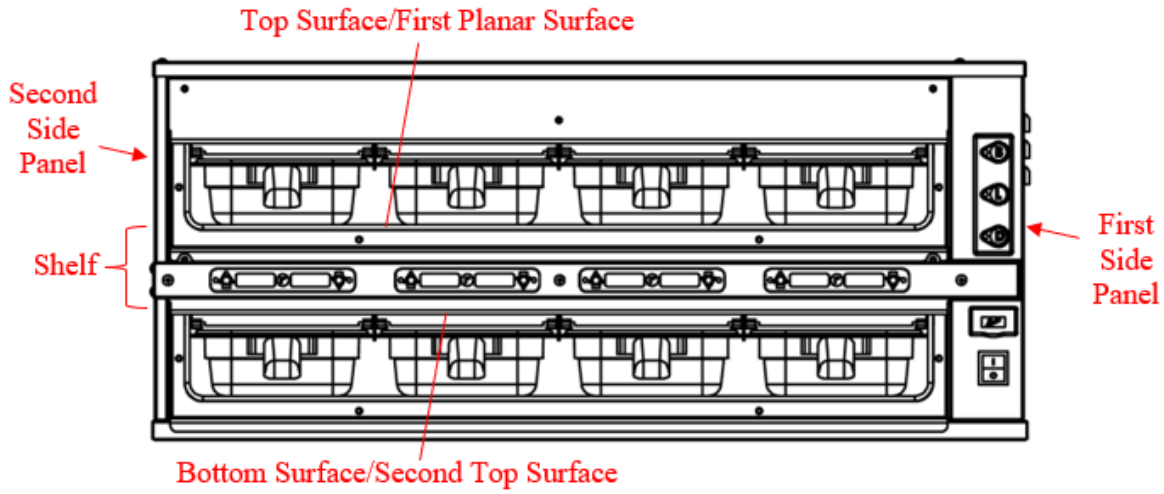


FIG. 3

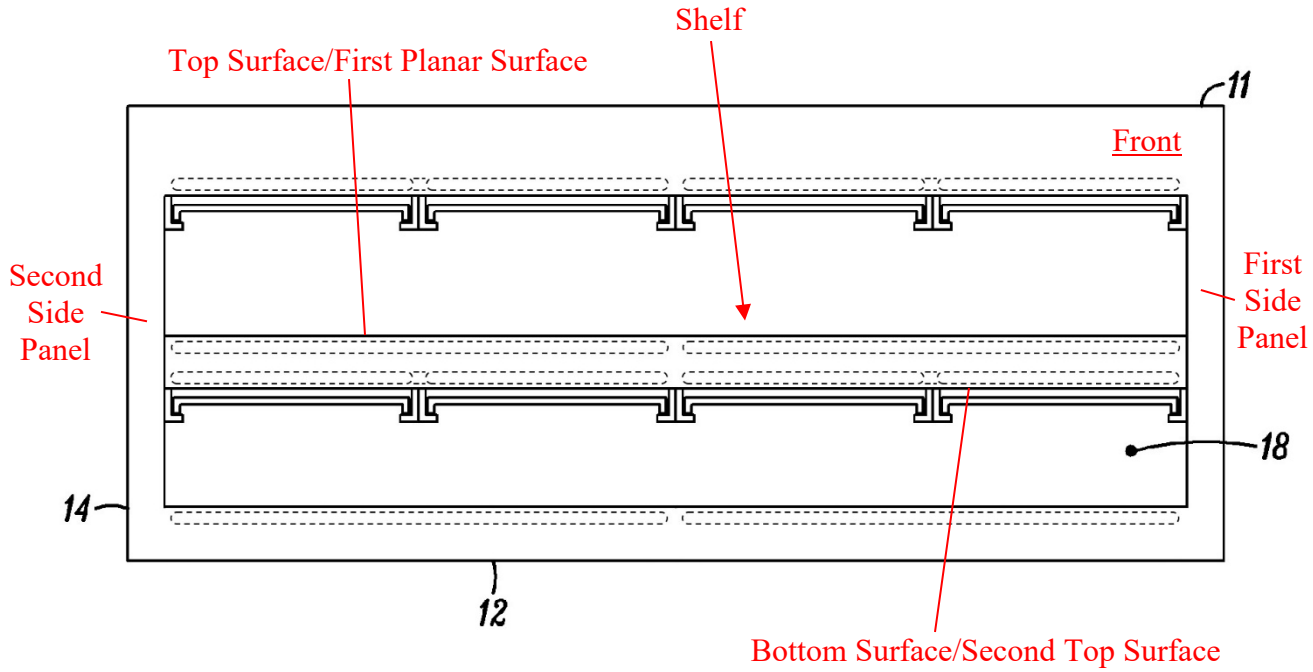
EX1010: Figs. 1-3 (annotated).

756. The IRHS Documents disclose a 2x4 configuration (with a single shelf separating a first/upper food holding compartment and a second/lower food holding compartment):



EX1005: 8 (annotated).

757. In view of the IRHS Documents disclosure of a 2x4 configuration, it would have been obvious to configure Fortmann'748's cabinet to have a 2x4 configuration per Paragraphs 524-536 (Ground 10, Section XIII(A)(1)), which results in a shelf between the first and second side panels, wherein the top surface of the shelf provides the first planar surface, and a bottom surface of the shelf provides the second top surface.



EX1010: Fig. 2 (modified, annotated).

758. Accordingly, the POSA would have found it obvious to combine the teachings and disclosures of Fortmann'748, the IRHS Documents, Jones, Fortmann'197, McMillan, Vaseloff, Hartfelder, Shei'099, Stanger, Loy, and/or Veltrop to arrive at the method of maintaining different temperatures within a multi-zone food holding bin as claimed in Claim 2.

D. Claim 3

3.a.1: the method of claim 1, wherein the multi-zone food holding bin further comprises a third food holding compartment within the chassis between the first food holding compartment and the second food holding compartment

759. As discussed above, the POSA would have found it obvious to arrive at the claimed method of maintaining different temperatures within a multi-zone food holding bin of Claim 1. The POSA would additionally recognize that the prior art discloses the additional limitation further requiring the recited multi-zone food holding bin to "further comprise[] a third food holding compartment within the chassis between the first food holding compartment and the second food holding compartment."

760. As addressed above in Paragraphs 695-697 (claim limitation 1.a.4), the chassis (10a) of Fortmann'748's cabinet (10) has an interior volume (18) and includes a plurality of shelves (21) dividing the interior volume (18) into a plurality of food holding compartments. EX1010: ¶[0014], ¶[0015] ("a shelf 21 that is fixed to the right and left sides 14, 13 of the body 10 a, with the top surface 22 of the shelf 21 being spaced from a bottom surface 23 of a neighboring shelf 21 a distance to allow a conventional restaurant cooking pan 100 to be inserted therebetween"); Figs. 1 and 6.

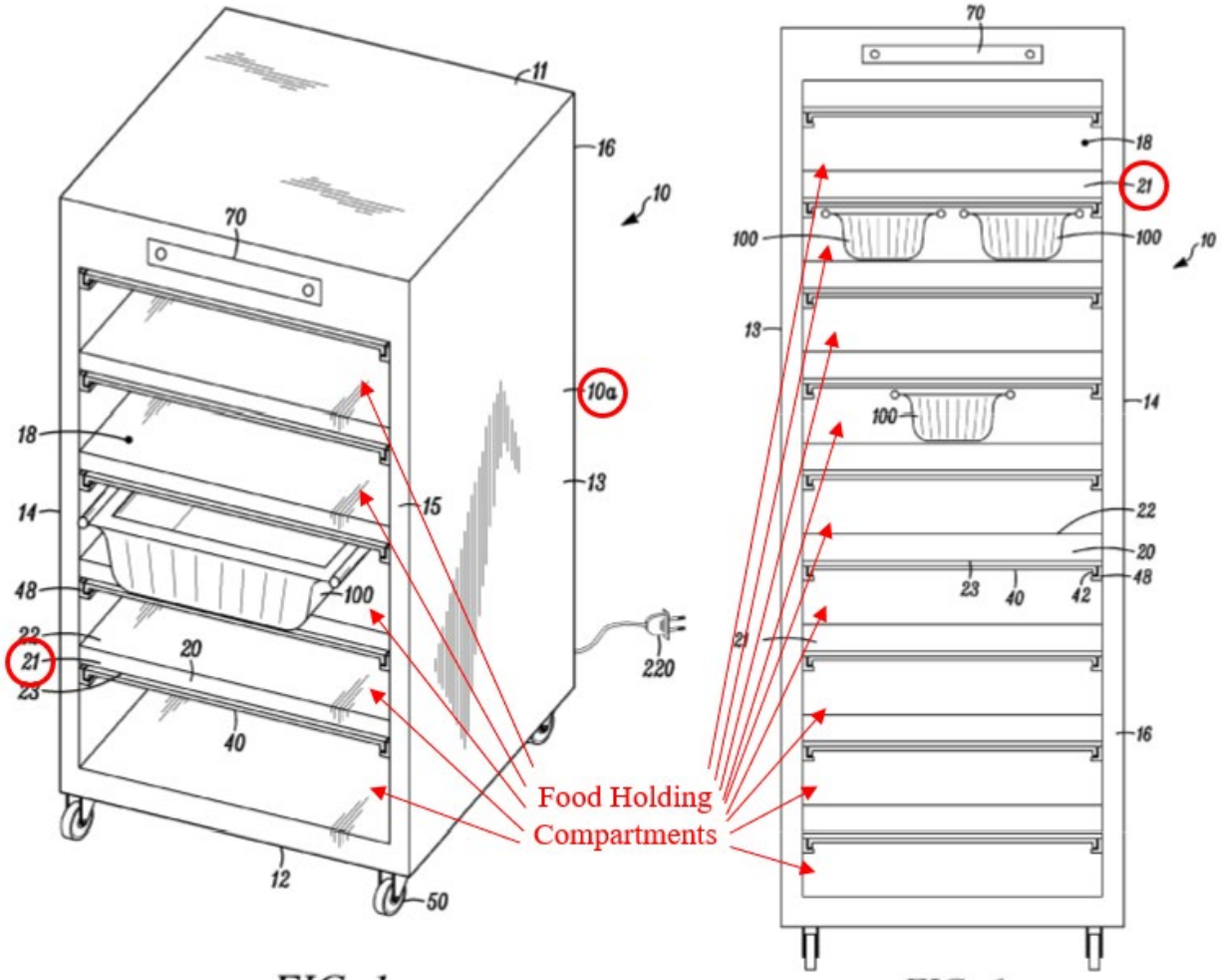


FIG. 1 FIG. 6

EX1010: Figs. 1 and 6 (annotated).

761. As addressed with respect to Claim 1.a.2, with respect to the claims of the ’264 Patent the first food holding compartment is the food holding compartment located above the uppermost shelf of the Fortmann’748’s cabinet.

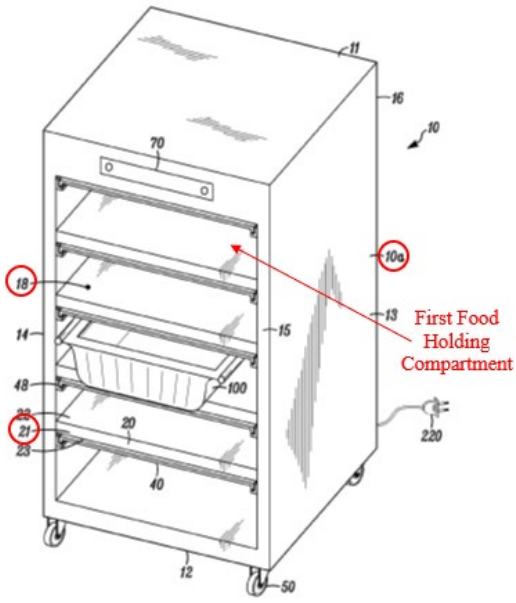


FIG. 1

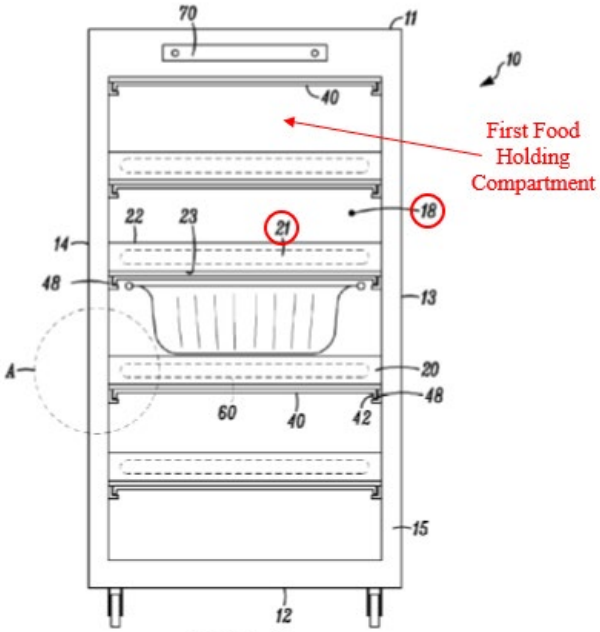


FIG. 2

EX1010: Figs. 1 and 2 (annotated).

762. And as addressed with respect to Claim 1.a.2, with respect to the claims of the ’264 Patent the second food holding compartment is the food holding compartment located below the lowermost shelf of the Fortmann’748’s cabinet.

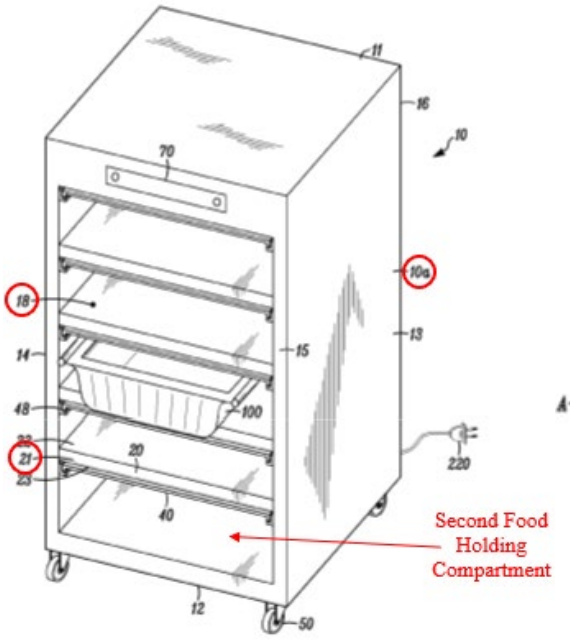


FIG. 1

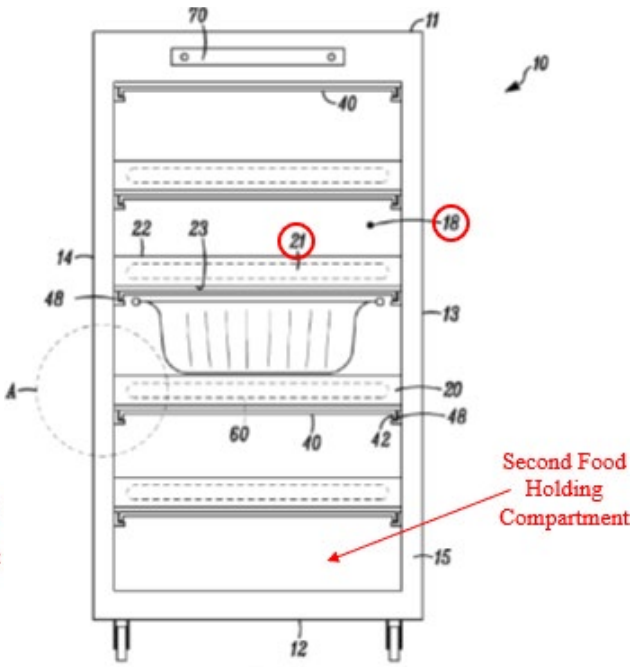


FIG. 2

EX1010: Figs. 1 and 2 (annotated).

763. Accordingly, Fortmann'748 discloses cabinets having yet a third food holding compartment within the chassis between the first food holding compartment and the second food holding compartment.

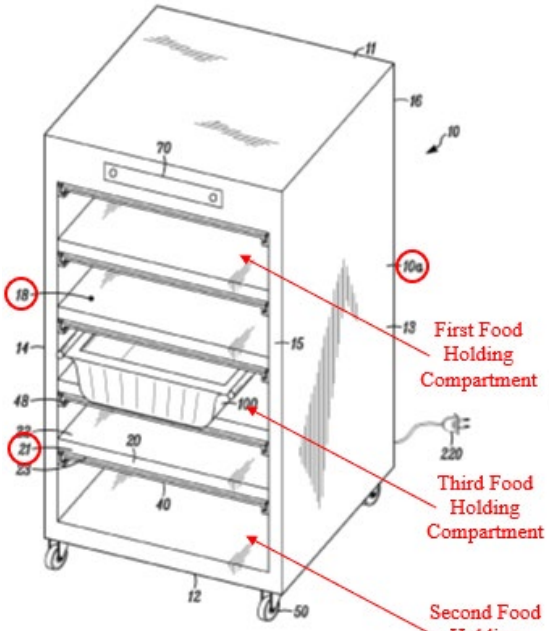


FIG. 1

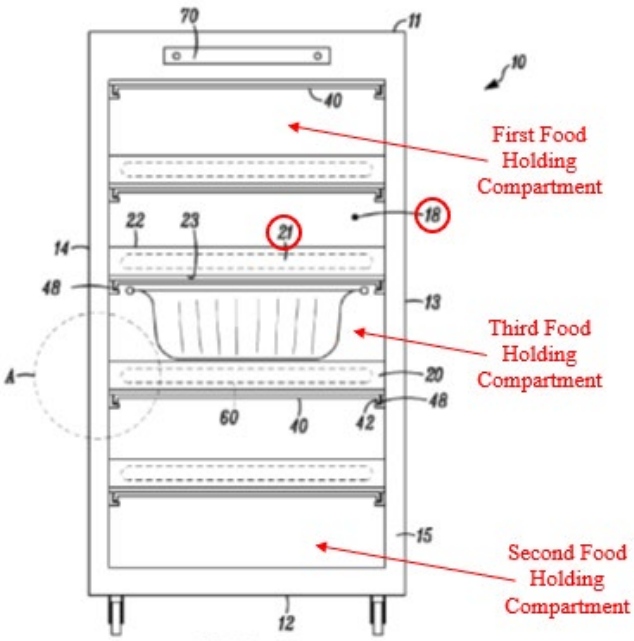
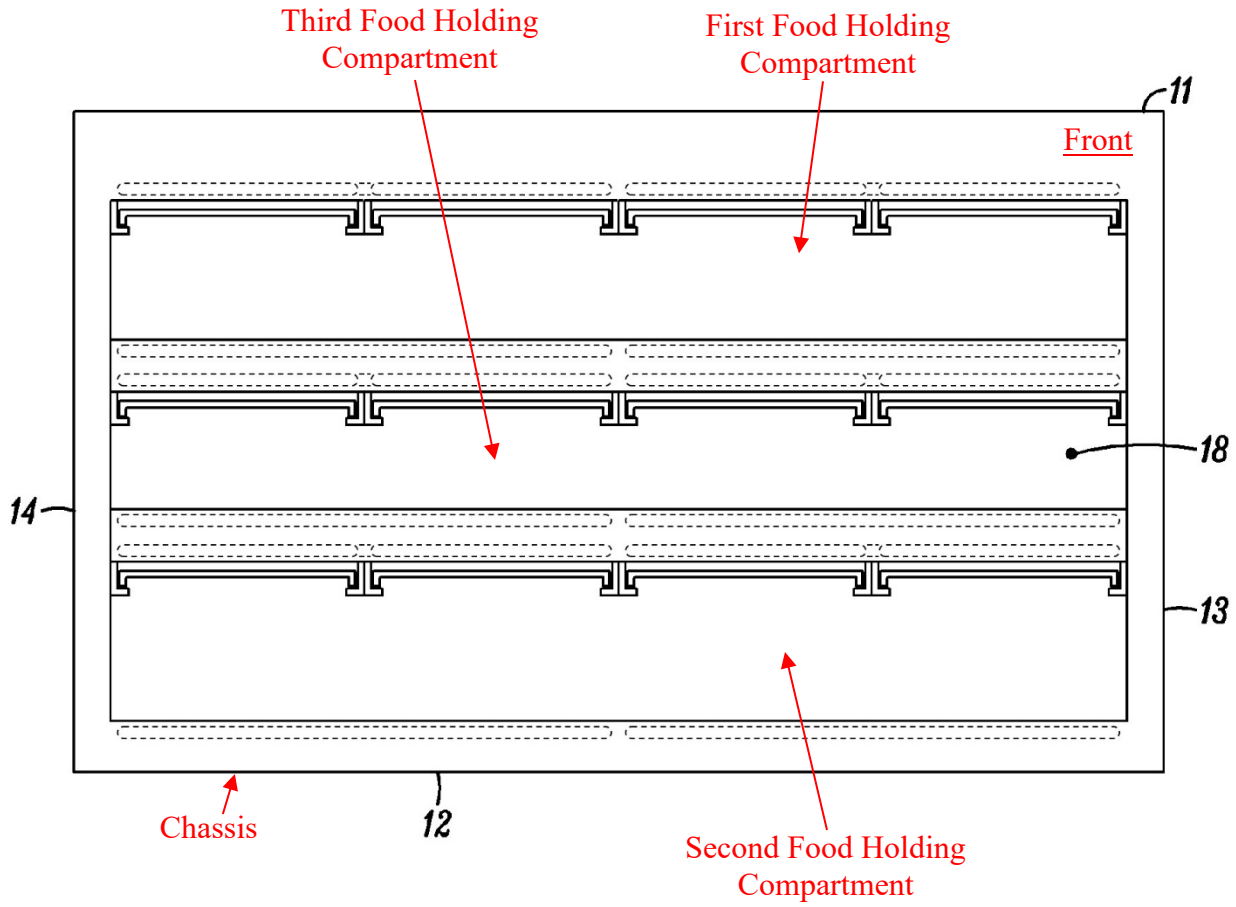


FIG. 2

EX1010: Figs. 1 and 2 (annotated).

764. The IRHS Documents disclose a 3x4 configuration (with two shelves separating a first/upper food holding compartment, a second/lower food holding compartment, and a third/middle food holding compartment), such that it would have been obvious to configure Fortmann'748's cabinet to have a 3x4 configuration per Paragraphs 524-536 (Ground 10, Section XIII(A)(1)). In adapting the Fortmann'748 cabinet to a 3x4 configuration as discussed at Paragraphs 524-536 (Ground 10, Section XIII(A)(1)) above, the food holding compartment located above between the first food holding compartment and the second food holding compartment would continue to meet the requirements of the "third food holding compartment" as recited in this claim limitation.

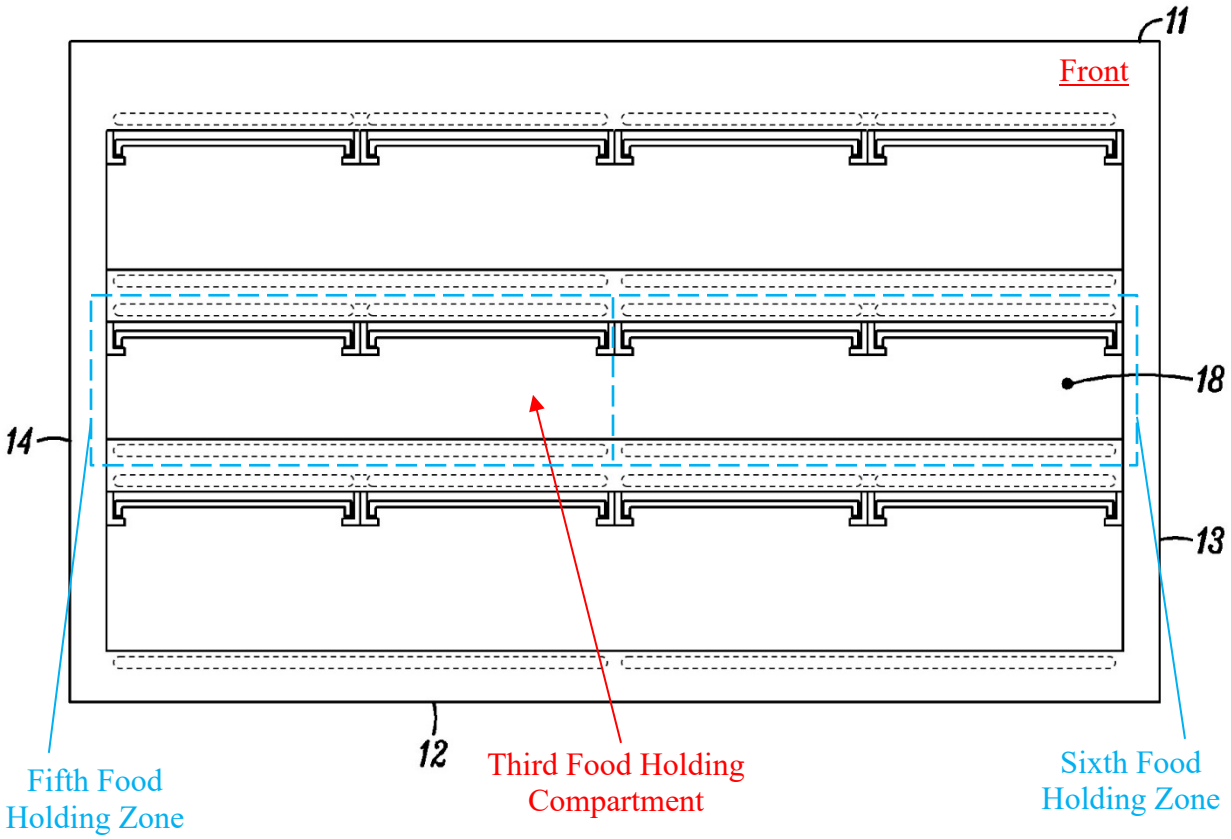


EX1010: Fig. 2 (modified, annotated).

3.a.2: the third food holding compartment comprising a fifth food holding zone and a sixth food holding zone

765. Jones, Hartfelder, Stanger, Loy, and/or the IRHS Documents disclose multiple food holding zones per compartment such that it would have been obvious to modify Fortmann'748's cabinet to have a fifth food holding zone and a sixth food holding zone in the third food holding compartment as explained in Paragraphs 537-586 above (Ground 10, Section XIII(A)(2)). EX1005: 20, 25, 26;

EX1007: 53; EX1012: ¶¶[0069], [0072], [0096]; EX1013: ¶[0037]; EX1042: ¶[0055]; EX1043: Fig. 17. Representative illustrations of Fortmann'748's cabinet as modified are shown below:



EX1010: Fig. 2 (modified, annotated).

3.a.3: the third food holding compartment being defined by the first side panel, the second side panel, a third top surface, and a third substantially planar bottom surface of a thermally conductive material being substantially unobstructed between the first side panel and the second side panel

766. As addressed above in Paragraphs 695-697 (claim limitation 1.a.4), the chassis (10a) of Fortmann'748's cabinet (10) has an interior volume (18) and includes a plurality of shelves (21) dividing the interior volume (18) into a plurality of food holding compartments. EX1010: ¶[0014], ¶[0015] ("a shelf 21 that is fixed to the right and left sides 14, 13 of the body 10 a, with the top surface 22 of the shelf 21 being spaced from a bottom surface 23 of a neighboring shelf 21 a distance to allow a conventional restaurant cooking pan 100 to be inserted therebetween"); Figs. 1 and 6.

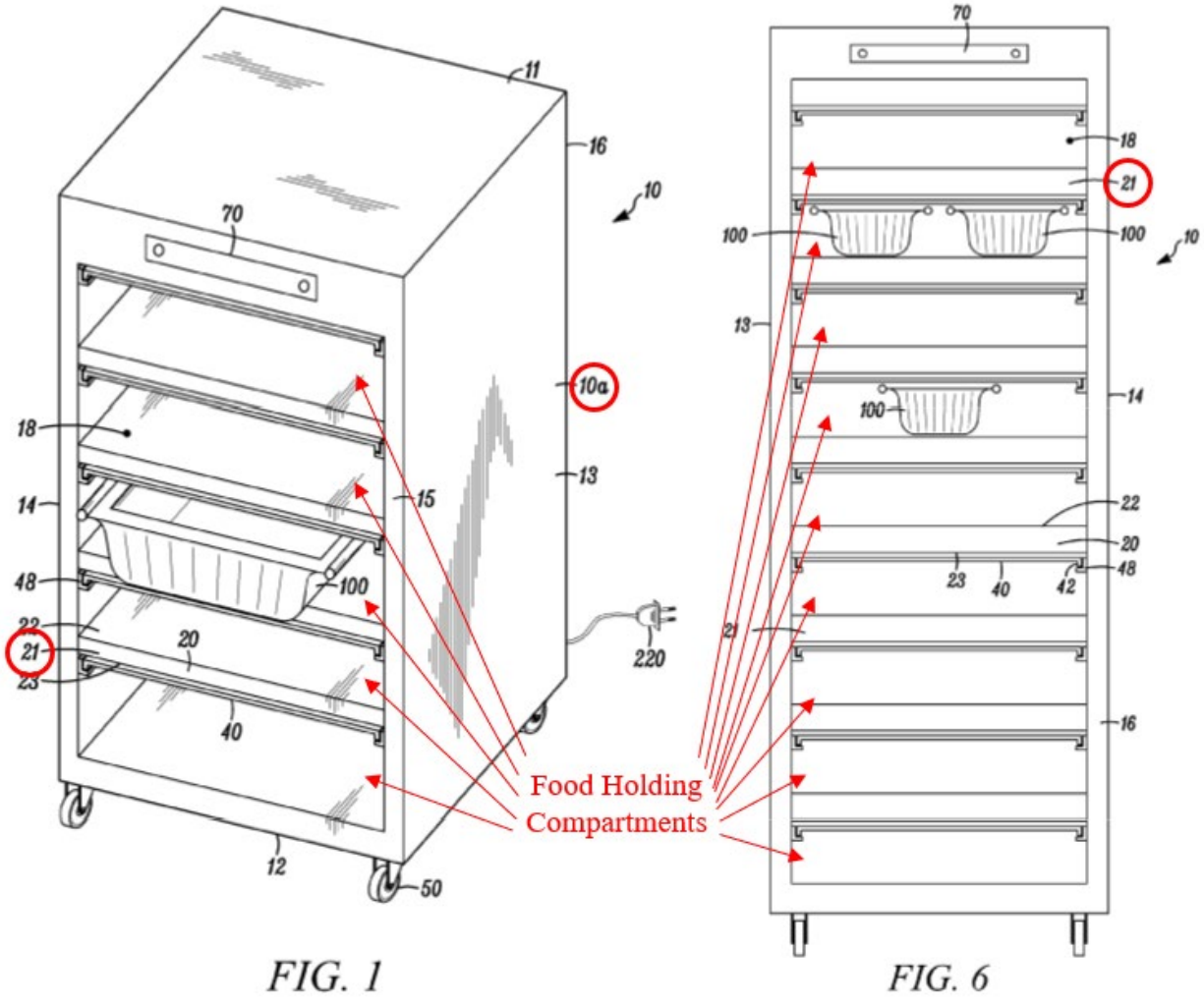


FIG. 1 FIG. 6

EX1010: Figs. 1 and 6 (annotated).

767. As disclosed a third food holding compartment defined by the first side panel (13), the second side panel (14), a third top surface (formed by the shelf (21) overlying the third food holding compartment), and a third substantially planar bottom surface (formed by the shelf (21) underlying the third food holding compartment). As shown in Figs. 1 and 2, the third substantially planar bottom

surface is substantially unobstructed between the first side panel and the second side panel. The only objects on this surface are the food pans, when present.

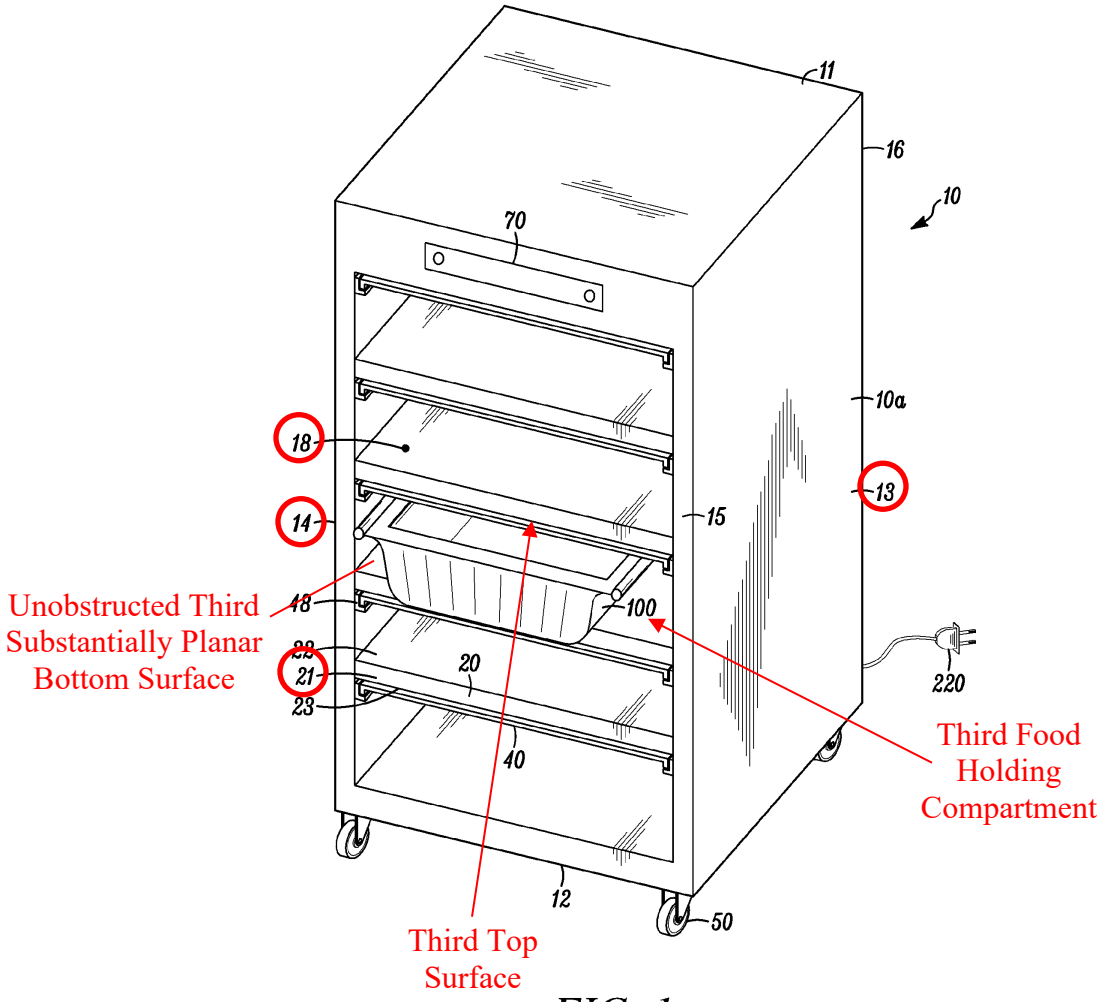


FIG. 1

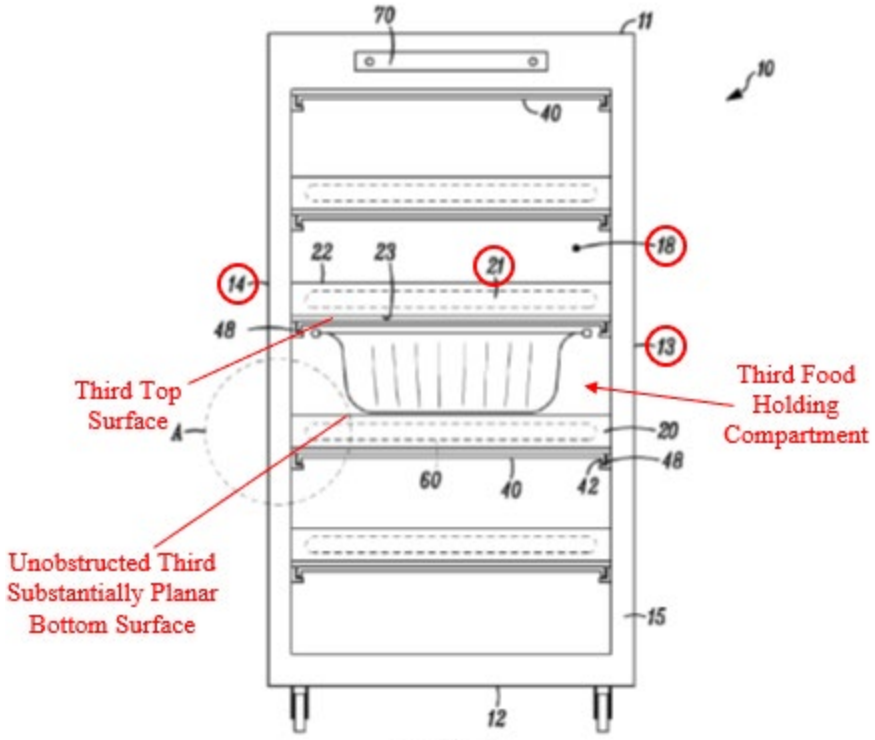
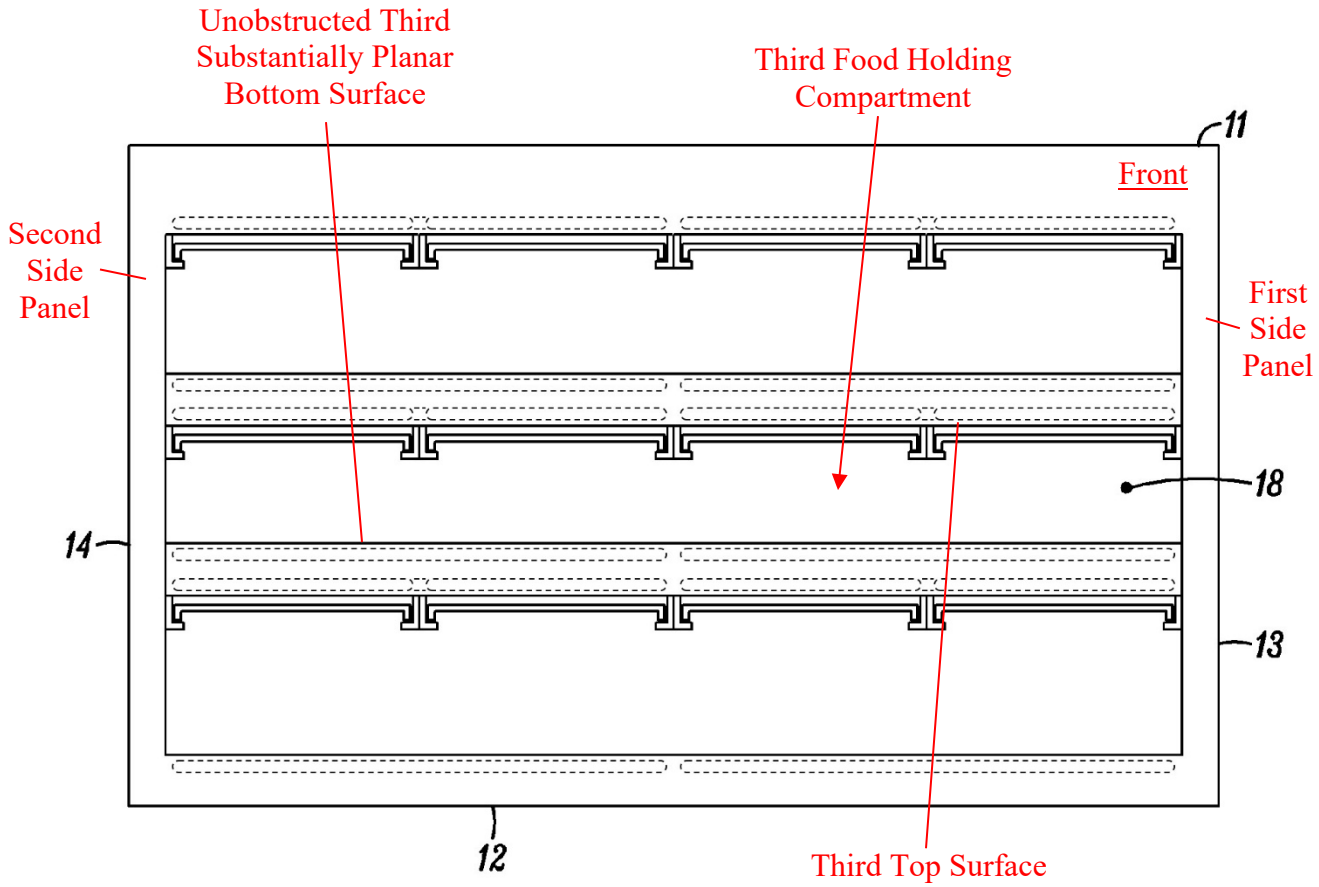


FIG. 2

EX1010: Figs. 1 and 2 (annotated).

768. The third substantially planar bottom surface is formed by the upper sheet (22) of the shelf (21), which is made of "stainless steel," a thermally conductive material. EX1010: ¶[0019]. Accordingly, the third substantially planar surface formed by the upper sheet (22) is of a thermally conductive material.

769. In adapting the Fortmann'748 cabinet to a 3x4 configuration as discussed at Paragraphs 524-536 (Ground 10, Section XIII(A)(1)) above, the underside of the top shelf provides a third top surface and the bottom shelf provides a third substantially planar bottom surface in the context of the claim limitation.



EX1010: Fig. 2 (modified, annotated).

3.a.4: a third opening through the front face configured to allow a tray for food items to be passed through the third opening into the third food holding compartment and onto the third substantially planar surface

770. The POSA would recognize that Fortmann'748 discloses a third food holding compartment having "a third opening" and that this "third opening" is "configured to allow a tray for food items to be passed through the third opening into the third food holding compartment and onto the third substantially planar

surface." The chassis (10a) of Fortmann'748's cabinet (10) has an open front side (15) to allow pans (100) to pass into and out of the food holding compartments in the interior volume (18). EX1010: ¶[0014] ("[t]he warming cart 10 is configured with an open front side 15 … to allow one or more pans 100 to be quickly disposed within the cart 10 and the warming volume and removed from the cart 10 without operation of doors or other barriers found on conventional warming carts. As shown in FIGS. 1, 2, 4, and 5 the front side 15 is open to allow pans 100, trays, pizza boxes and the like to slide through the open front side 15 and within the warming volume 18 of the cart").

771. Fortmann'748's cabinet thus has a third opening through the front face (15) for food pans (100) to pass through the third opening into the third food holding compartment and to rest on the third planar surface of the shelf (21). EX1010: ¶[0015] ("the top surface 22 of the shelf 21 [is] spaced from a bottom surface 23 of a neighboring shelf 21 a distance to allow a conventional restaurant cooking pan 100 to be inserted therebetween"), ¶[0017] ("pan 100 that is placed onto the shelf 21").

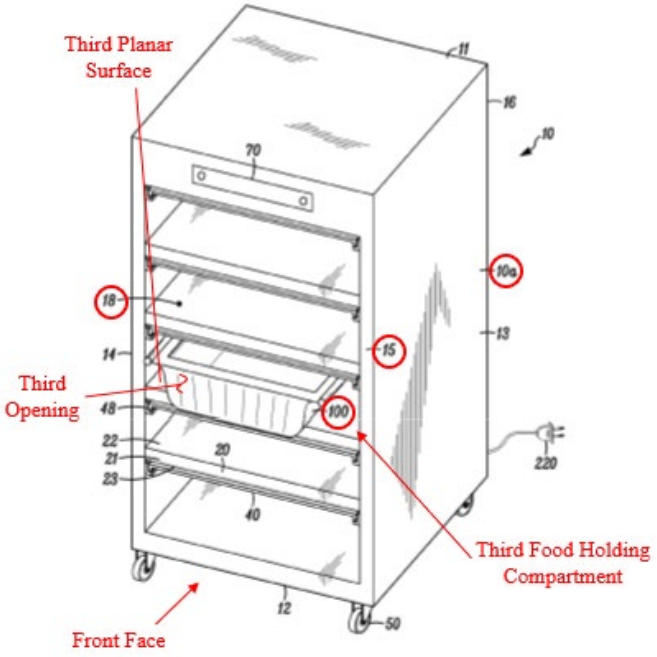


FIG. 1

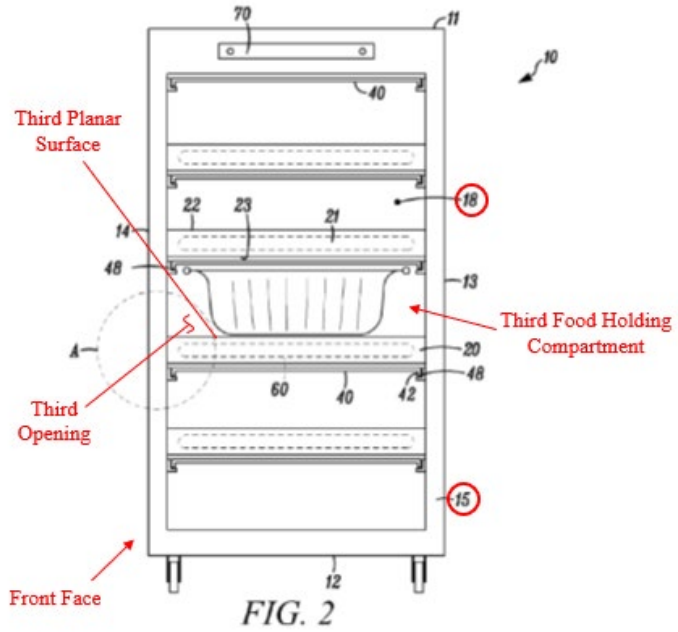
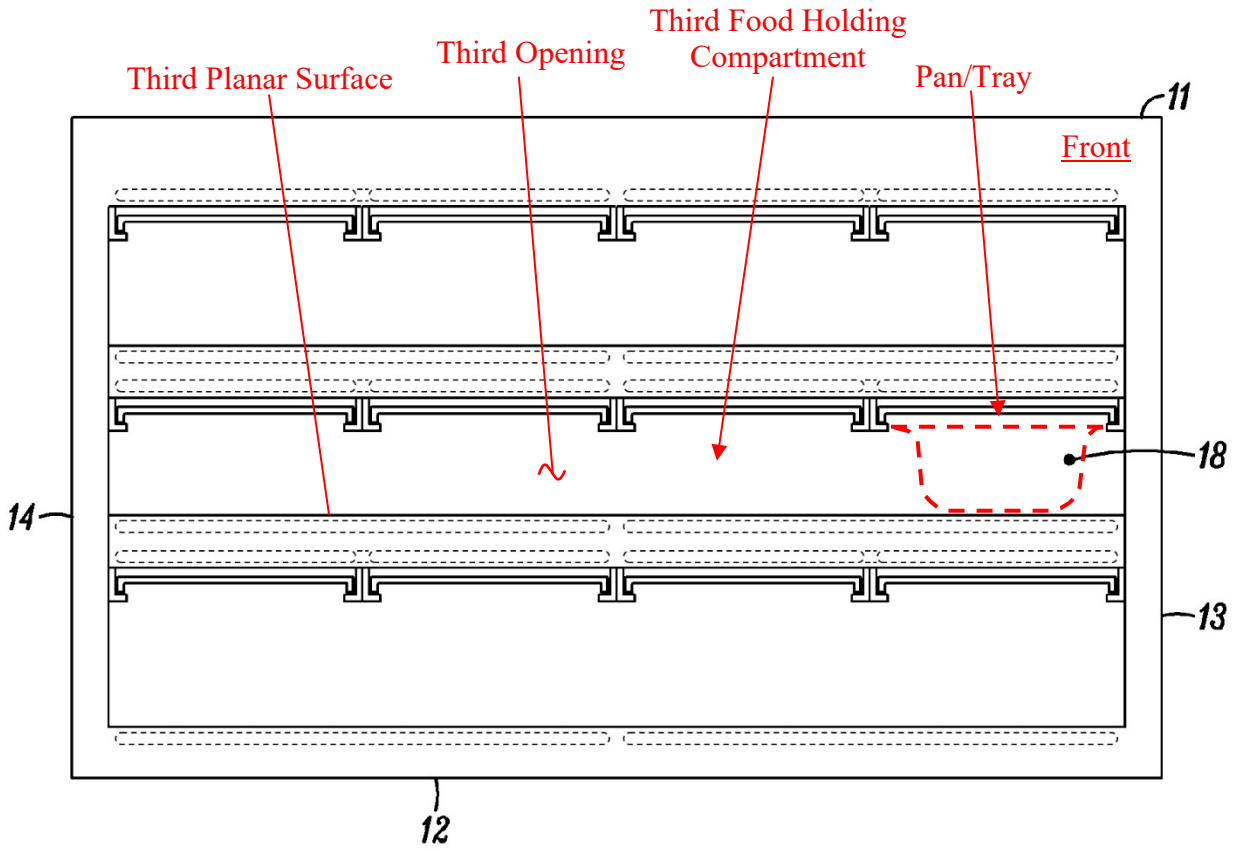


FIG. 2

EX1010: Figs. 1 and 2 (annotated).

772. This teaching and understanding would likewise hold true for the Fortmann'748 cabinet as modified to a 3x4 configuration according to Paragraphs

524-682 (Ground 10, Section XIII(A)) above as shown in the modified renderings below.



EX1005: 2 (modified, annotated).

3.b: the method further comprising: operating the fifth food holding zone to a fifth temperature setpoint by independently operating a ninth heating element in the fifth food holding zone and thermally coupled to the third top surface and independently operating a tenth heating element in the fifth food holding zone and thermally coupled to the third substantially planar surface

773. For the reasons explained in Paragraphs 537-586 and 716-730 (Ground 10, Section XIII(A)(2) and claim limitation 1.b), it would have been obvious to modify Fortmann'748's cabinet to have an upper/ninth heating element and a lower/tenth heating element in the fifth food holding zone for heating the fifth food holding zone.

774. For the reasons explained in Paragraphs 716-730 (claim limitation 1.b), it would have further been obvious for Fortmann'748's controller to operate each food holding zone (e.g., fifth food holding zone) to a temperature setpoint (e.g., the fifth temperature setpoint)—based on the specific food type temperature settings assigned to the respective zone—by independently operating the upper heater(s) (e.g., ninth heater(s)) and independently operating the lower heater (e.g., tenth heater) associated with the respective zone.

775. Fortmann'748 also explains its heaters (60) ("heating elements") are between the two planar sheets (22, 23) in the shelf (21). EX1010: ¶[0019] ("the shelves 21 may include two planar sheets of thin material (such as stainless steel) that form an envelope for the heater 60 to be disposed therebetween"). The heaters (60) are in contact with the upper and lower sheets (22, 23) so that the heaters are

thermally coupled (via conduction) with the sheets. EX1010: ¶[0019] ("the heater 60 makes surface contact with at least the upper sheet 22 forming the shelf 21 (and also the heater 60 may contact the lower sheet 23 forming the shelf 21) such that a percentage of the heat generated by the heaters disposed in conjunction with each shelf 21 is transferred directly to the shelf by conductive heat transfer").

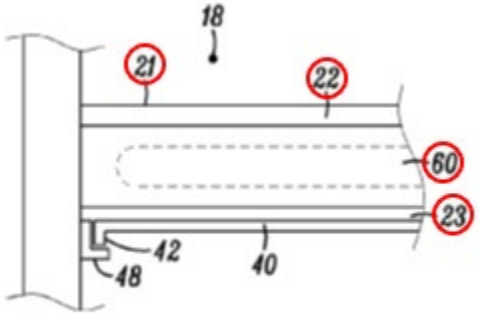
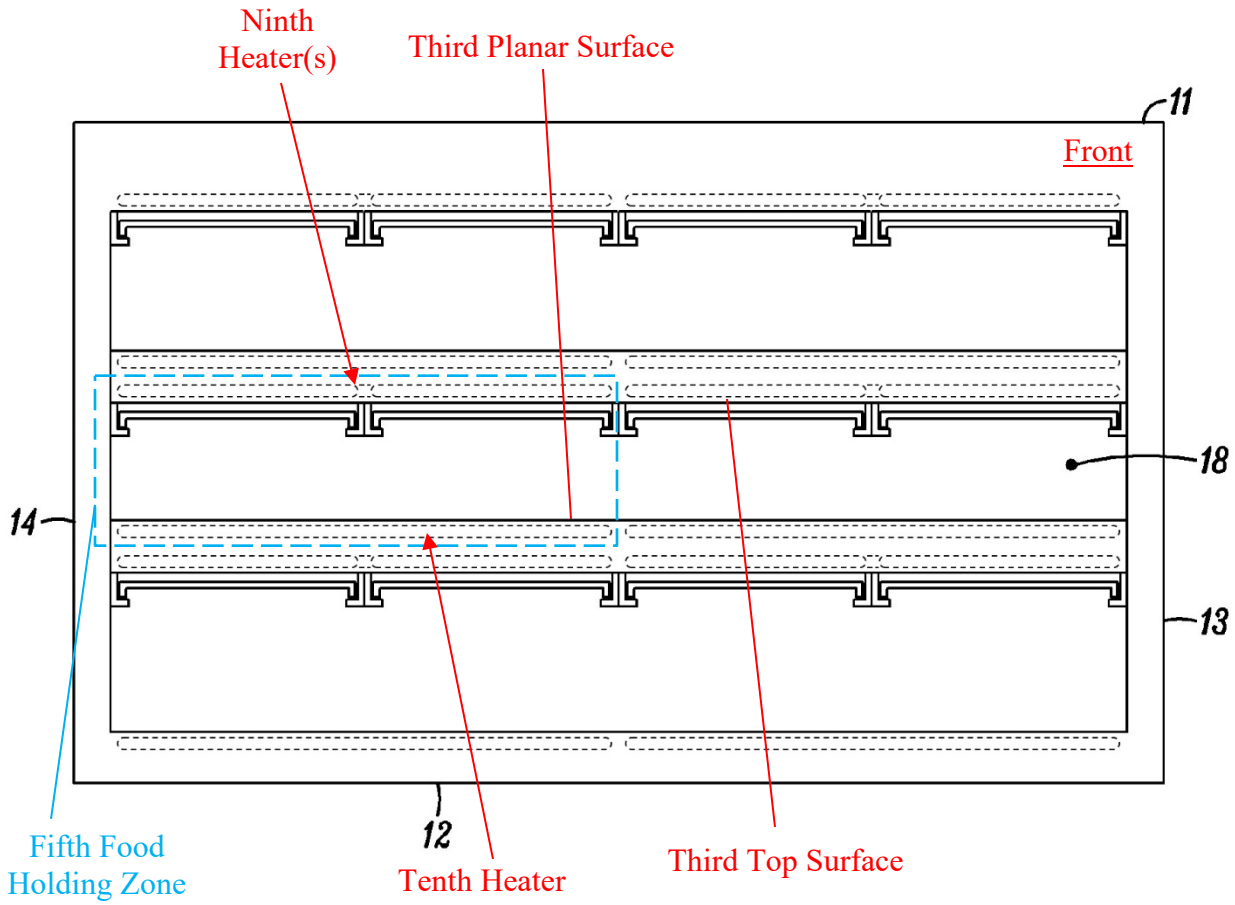


FIG. 3

EX1010: Fig. 3 (annotated).

776. When modifying the heaters (60) of Fortmann'748 as explained in Paragraphs 537-586 above (Ground 10, Section XIII(A)(2)), the POSA would have followed the teachings of Fortmann'748 and had the upper heaters (e.g., ninth heater(s)) in the shelf contact the lower sheet (23) forming the top surface (e.g., third top surface) to be thermally coupled with the lower sheet's top surface and heat the food holding compartment below. EX1010: ¶¶[0019]-[0020]. Thus, it would have been obvious for the ninth heater(s) to be thermally coupled to the third top surface to heat the third food holding compartment.

777. When modifying the heaters (60) of Fortmann'748 as explained in Paragraphs 537-586 (Ground 10, Section XIII(A)(2)), the POSA likewise would have followed the teachings of Fortmann'748 and had the lower heaters (e.g., tenth heater) in the shelf contact the upper sheet (22) forming the planar surface (e.g., third planar surface) to be thermally coupled with the upper sheet's planar surface and heat the food holding compartment above. EX1010: ¶¶[0019]-[0020]. Thus, it would have been obvious for the tenth heater to be thermally coupled to the third planar surface to heat the third food holding compartment.



EX1010: Fig. 2 (modified, annotated).

3.c: operating the sixth food holding zone to a sixth temperature setpoint by independently operating an eleventh heating element in the sixth food holding zone and thermally coupled to the third top surface and independently operating a twelfth heating element in the sixth food holding zone and thermally coupled to the third substantially planar surface

778. For the reasons explained in Paragraphs 716-730 with respect to claim limitation 1.b, it would have been obvious to modify Fortmann'748's cabinet to

have a upper/eleventh heating element and a lower/twelfth heating element in the sixth food holding zone for heating the sixth food holding zone.

779. For the reasons explained in Paragraphs 716-730 (claim limitation 1.b), it would have further been obvious for Fortmann'748's controller to operate each food holding zone (e.g., sixth food holding zone) to a temperature setpoint (e.g., the sixth temperature setpoint)—based on the specific food type temperature settings assigned to the respective zone—by independently operating the upper heater(s) (e.g., eleventh heater(s)) and independently operating the lower heater (e.g., twelfth heater) associated with the respective zone.

780. Fortmann'748 also explains its heaters (60) ("heating elements") are between the two planar sheets (22, 23) in the shelf (21). EX1010: ¶[0019] ("the shelves 21 may include two planar sheets of thin material (such as stainless steel) that form an envelope for the heater 60 to be disposed therebetween"). The heaters (60) are in contact with the upper and lower sheets (22, 23) so that the heaters are thermally coupled (via conduction) with the sheets. EX1010: ¶[0019] ("the heater 60 makes surface contact with at least the upper sheet 22 forming the shelf 21 (and also the heater 60 may contact the lower sheet 23 forming the shelf 21) such that a percentage of the heat generated by the heaters disposed in conjunction with each shelf 21 is transferred directly to the shelf by conductive heat transfer").

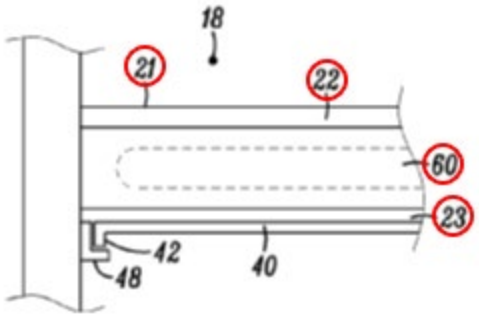


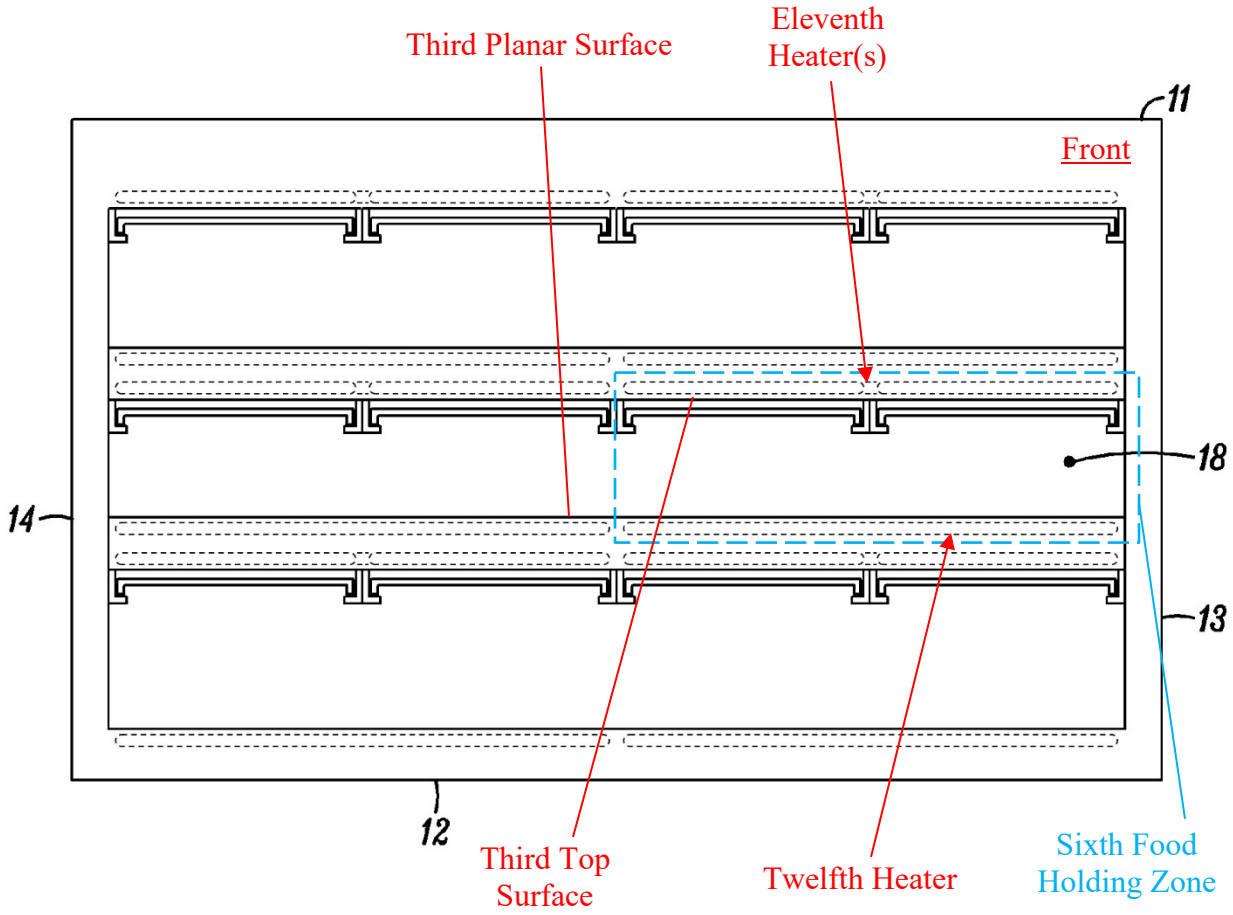
FIG. 3

EX1010: Fig. 3 (annotated).

781. When modifying the heaters (60) of Fortmann'748 as explained in Paragraphs 537-586 above (Ground 10, Section XIII(A)(2)), the POSA would have followed the teachings of Fortmann'748 and had the upper heater(s) (e.g., eleventh heater(s)) in the shelf contact the lower sheet (23) forming the top surface (e.g., third top surface) to be thermally coupled with the lower sheet's top surface and heat the food holding compartment below. EX1010: ¶¶[0019]-[0020]. Thus, it would have been obvious for the eleventh heater(s) to be thermally coupled to the third top surface to heat the third food holding compartment.

782. When modifying the heaters (60) of Fortmann'748 as explained in Paragraphs 537-586 (Ground 10, Section XIII(A)(2)), the POSA likewise would have followed the teachings of Fortmann'748 and had the lower heaters (e.g., twelfth heater) in the shelf contact the upper sheet (22) forming the planar surface (e.g., third planar surface) to be thermally coupled with the upper sheet's planar

surface and heat the food holding compartment above. EX1010: ¶¶[0019]-[0020]. Thus, it would have been obvious for the twelfth heater to be thermally coupled to the third planar surface to heat the third food holding compartment.



EX1010: Fig. 2 (modified, annotated).

783. Accordingly, each step and limitation of Claim 3 is either disclosed in Fortmann'748 or would have been obvious in view of the teachings and disclosures of the IRHS Documents, Jones, Fortmann'197, McMillan, Vaseloff,

Hartfelder, Shei'099, Stanger, Loy, and/or Veltrop. As such, the POSA would have found it obvious to arrive at the method of maintaining different temperatures within a multi-zone food holding bin as claimed in Claim 3.

E. Claim 4

4.a.1: the method of claim 3, wherein the multi-zone food holding bin comprises a first shelf disposed between the first side panel and the second side panel and between the first compartment and the second compartment

784. As discussed above, the POSA would have found it obvious to arrive at the claimed method of maintaining different temperatures within a multi-zone food holding bin of Claim 3.

785. As addressed above in Paragraphs 695-697 (claim limitation 1.a.4), the chassis (10a) of Fortmann'748's cabinet (10) has an interior volume (18) and includes a plurality of shelves (21) dividing the interior volume (18) into a plurality of food holding compartments. EX1010: ¶[0014], ¶[0015] ("a shelf 21 that is fixed to the right and left sides 14, 13 of the body 10 a, with the top surface 22 of the shelf 21 being spaced from a bottom surface 23 of a neighboring shelf 21 a distance to allow a conventional restaurant cooking pan 100 to be inserted therebetween"); Figs. 1 and 6.

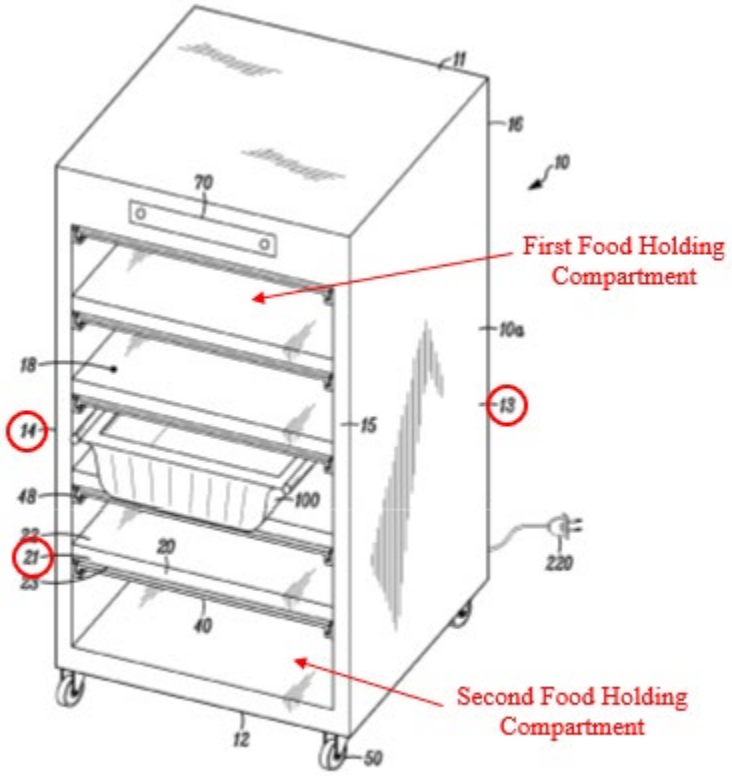

11
16
10
70
First Food Holding Compartment
10a
18
13
14
15
48
100
220
21
20
40
Second Food Holding Compartment
12
50

FIG. 1

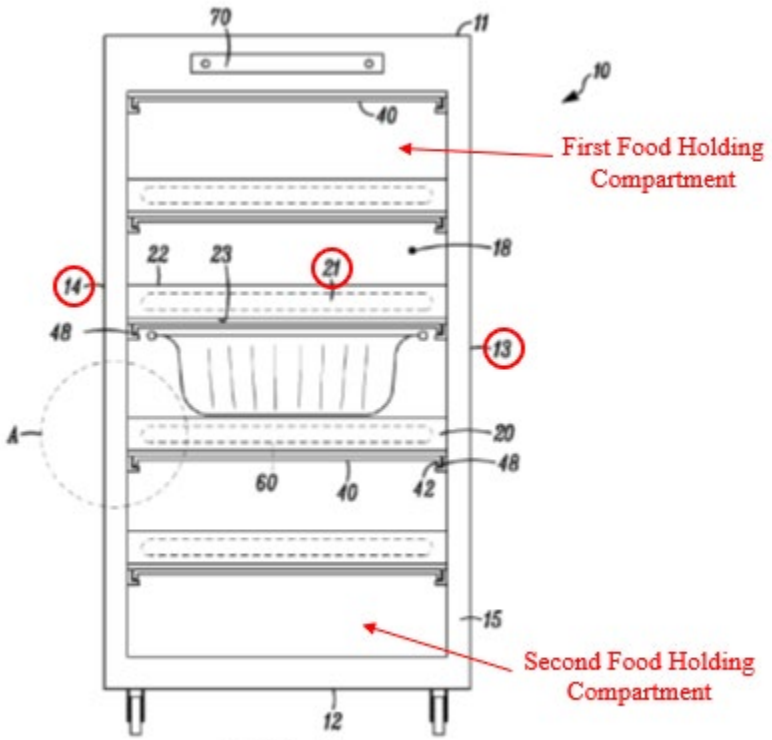
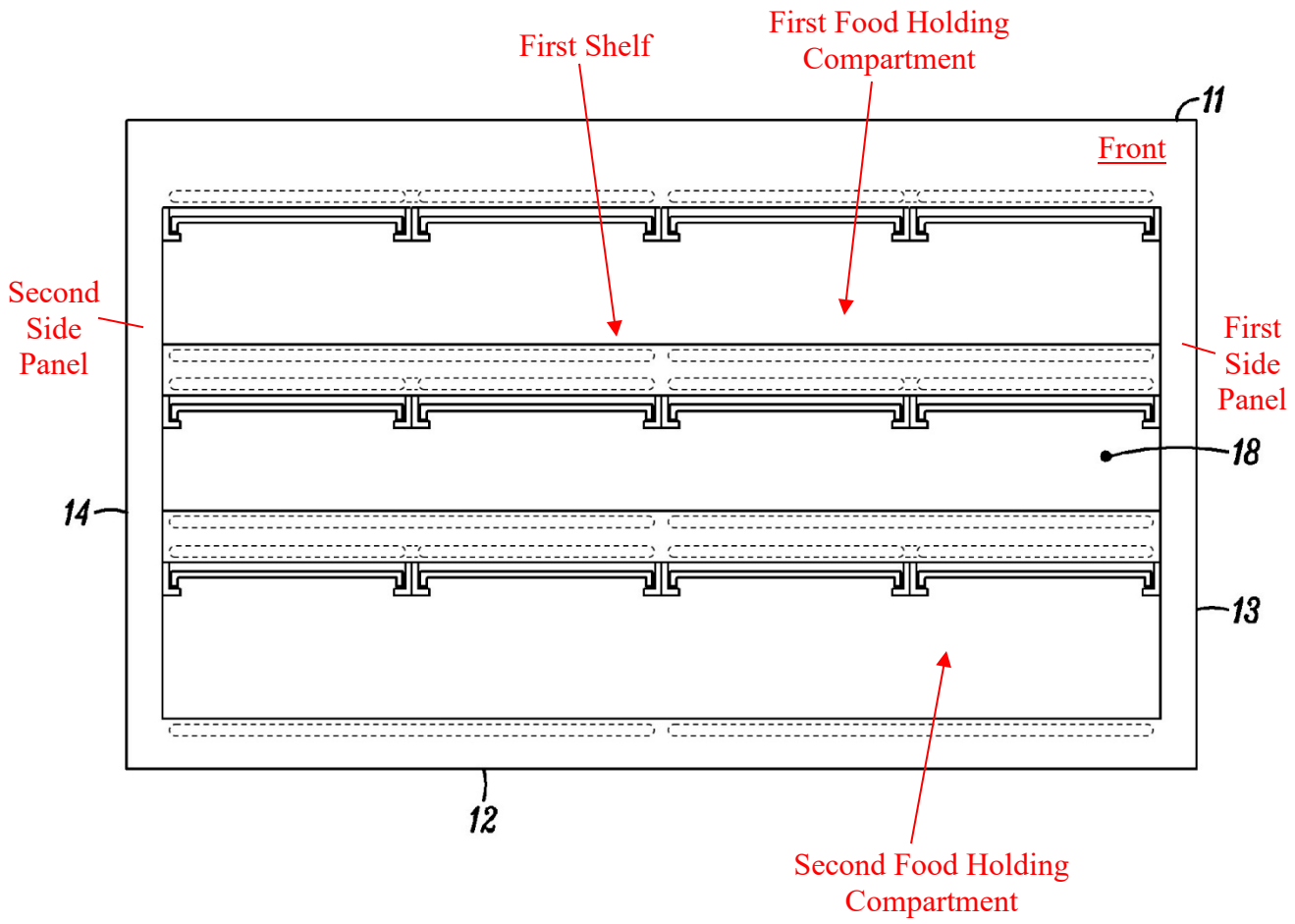


FIG. 2

EX1010: Figs. 1 and 2 (annotated).

786. In adapting the Fortmann'748 cabinet to a 3x4 configuration as discussed at Paragraphs 524-536 (Ground 10, Section XIII(A)(1)) above, the modified Fortmann'748's cabinet (10) would have two shelves (21)—i.e., a first shelf and a second shelf—disposed between the first and second side panels (13, 14) and between the first and second food holding compartments. EX1010: ¶¶[0014], [0015].



EX1010: Fig. 2 (modified, annotated).

4.a.2: wherein a first top surface of the first shelf provides the first substantially planar bottom surface and a first bottom surface of the first shelf provides the third top surface

787. Fortmann'748's shelves (21) are made of two planar sheets (22, 23).

EX1010: ¶[0019] ("the shelves 21 may include two planar sheets of thin material (such as stainless steel) that form an envelope for the heater 60 to be disposed

therebetween"). The upper sheet (22) forms the top surface of the shelf and the lower sheet (23) forms the bottom surface of the shelf. EX1010: ¶¶[0015], [0019].

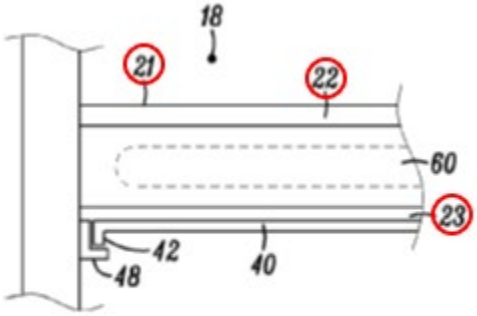
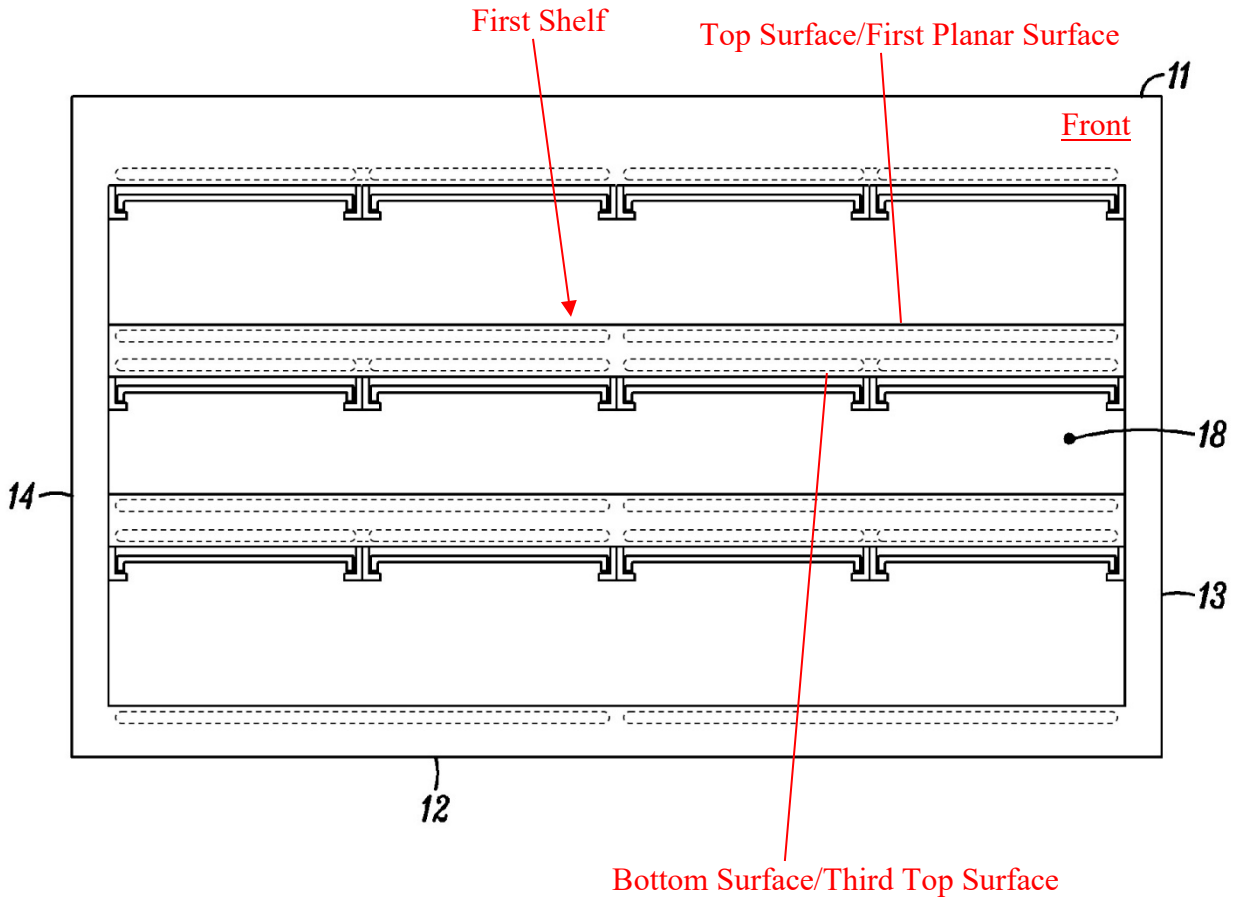


FIG. 3

EX1010: Fig. 3 (annotated).

788. Adapting the Fortmann'748 cabinet to a 3x4 configuration as discussed at Paragraphs 524-536 (Ground 10, Section XIII(A)(1)) above would result in a top surface of the first shelf providing the first planar surface and a bottom surface of the first shelf providing the third top surface.



EX1010: Fig. 2 (modified, annotated).

4.a.3: the multi-zone food holding bin further comprises a second shelf disposed between the first side panel and the second side panel and between the third compartment and the second compartment

789. As addressed above in Paragraphs 695-697 (claim limitation 1.a.4), the chassis (10a) of Fortmann'748's cabinet (10) has an interior volume (18) and includes a plurality of shelves (21) dividing the interior volume (18) into a plurality of food holding compartments. EX1010: ¶[0014], ¶[0015] ("a shelf 21 that is fixed

to the right and left sides 14, 13 of the body 10 a, with the top surface 22 of the shelf 21 being spaced from a bottom surface 23 of a neighboring shelf 21 a distance to allow a conventional restaurant cooking pan 100 to be inserted therebetween"); Figs. 1 and 6.

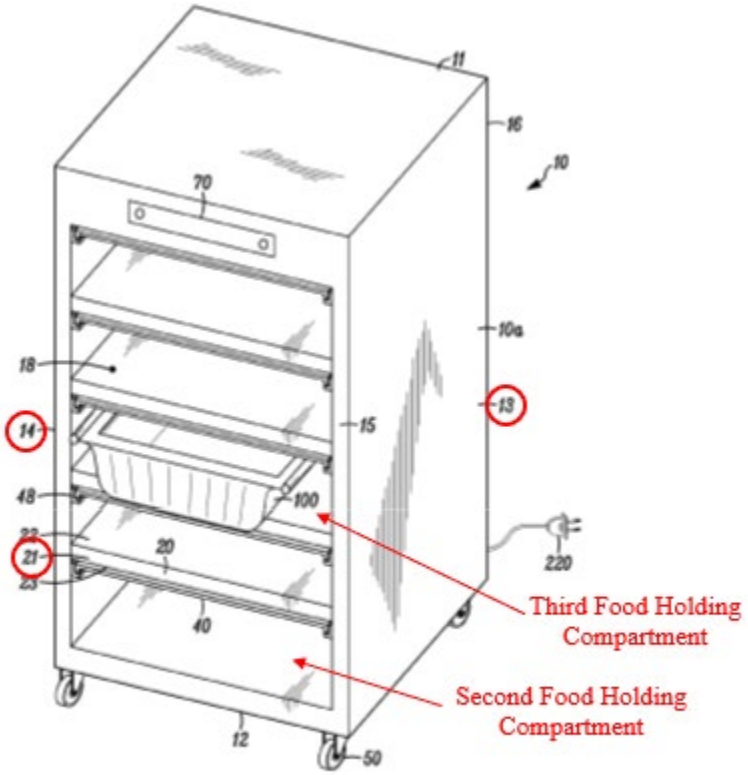


FIG. 1

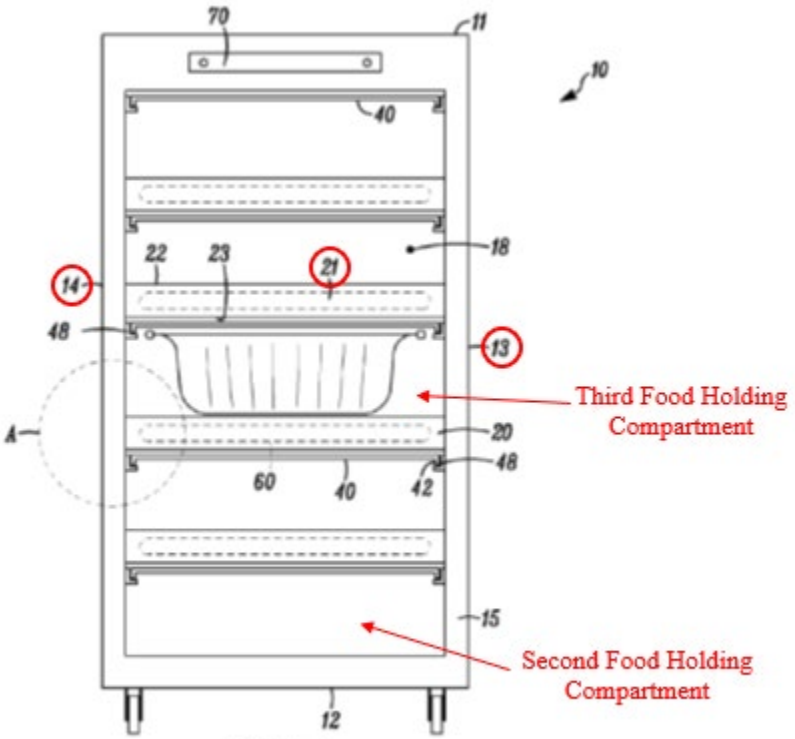
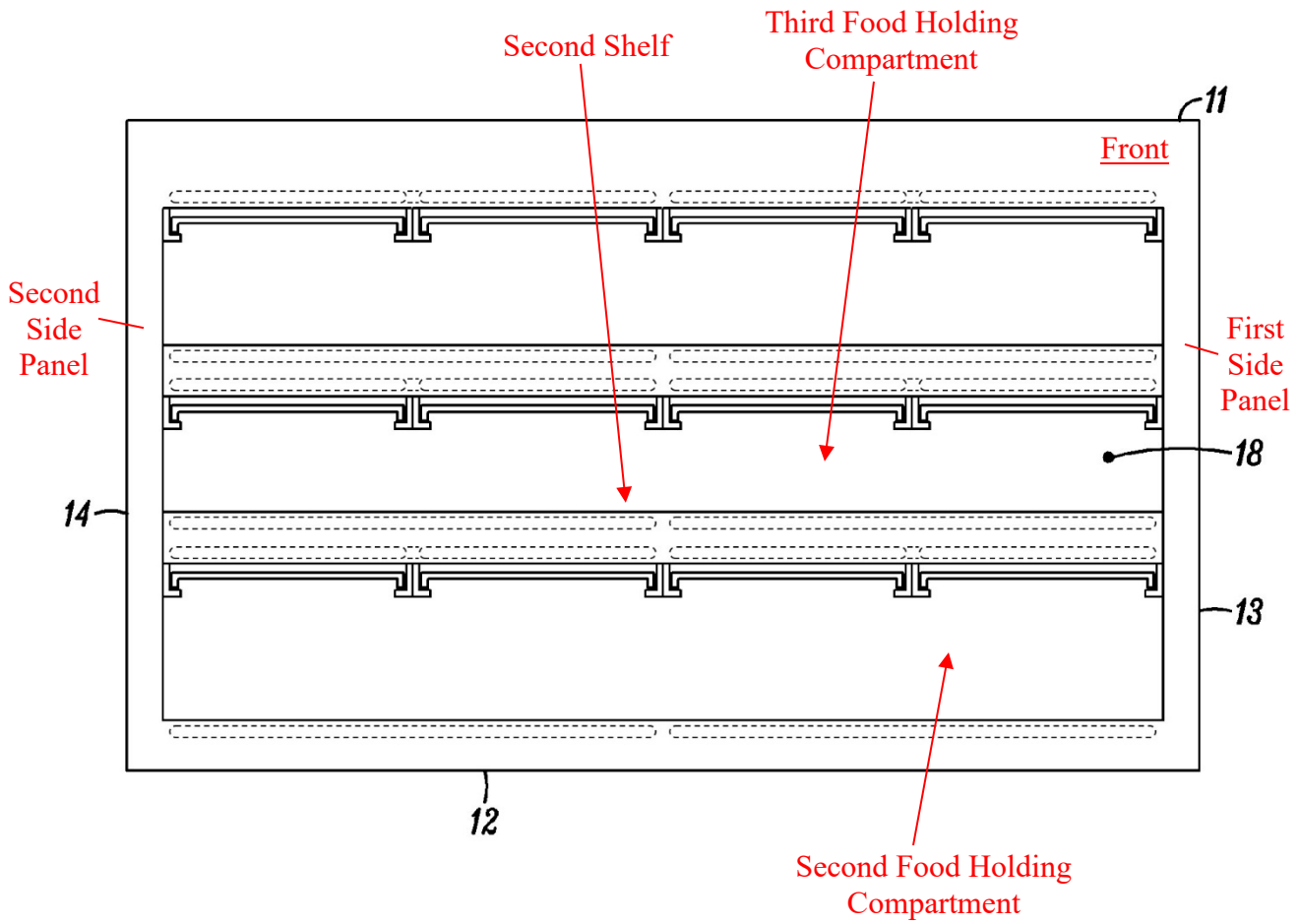


FIG. 2

EX1010: Figs. 1 and 2 (annotated).

790. In adapting the Fortmann'748 cabinet to a 3x4 configuration as discussed at Paragraphs 524-536 and 784-786 (Ground 10, Section XIII(A)(1)) and claim limitation 4.a.1) above, the modified Fortmann'748's cabinet (10) would have two shelves (21)—i.e., a first shelf and a second shelf—disposed between the first and second side panels (13, 14) and between the first and second food holding compartments. EX1010: ¶¶[0014], [0015].



EX1010: Fig. 2 (modified, annotated).

4.a.4: wherein a second top surface of the second shelf provides the third substantially planar bottom surface and a second bottom surface of the second shelf provides the second top surface

791. Fortmann'748's shelves (21) are made of two planar sheets (22, 23).

EX1010: ¶[0019] ("the shelves 21 may include two planar sheets of thin material (such as stainless steel) that form an envelope for the heater 60 to be disposed

therebetween"). The upper sheet (22) forms the top surface of the shelf and the lower sheet (23) forms the bottom surface of the shelf. EX1010: ¶¶[0015], [0019].

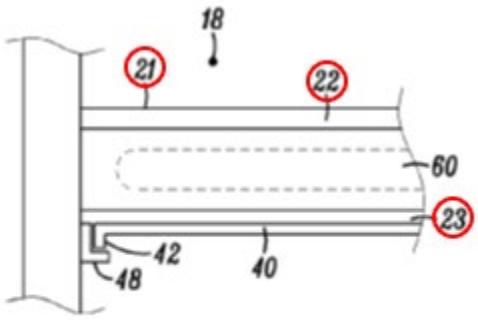
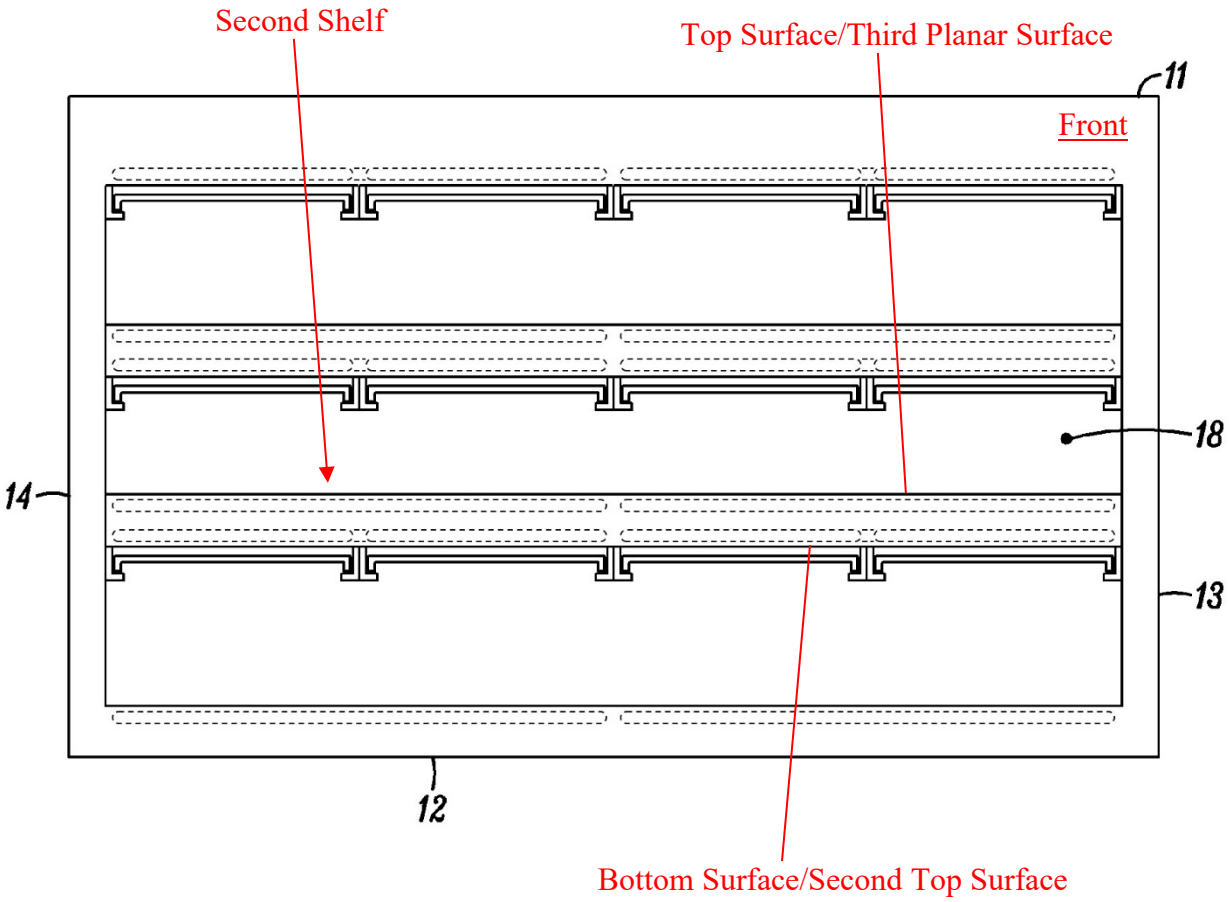


FIG. 3

EX1010: Fig. 3 (annotated).

792. Adapting the Fortmann'748 cabinet to a 3x4 configuration as discussed at Paragraphs 524-536 (Ground 10, Section XIII(A)(1)) above would results in a top surface of the second shelf providing the third planar surface and a bottom surface of the second shelf providing the second top surface.



EX1010: Fig. 2 (modified, annotated).

793. Accordingly, each step and limitation of Claim 4 is either disclosed in Fortmann'748 or would have been obvious in view of the teachings and disclosures of the IRHS Documents, Jones, Fortmann'197, McMillan, Vaseloff, Hartfelder, Shei'099, Stanger, Loy, and/or Veltrop. As such, the POSA would have found it obvious to arrive at the method of maintaining different temperatures within a multi-zone food holding bin as claimed in Claim 4.

F. Claim 5

5.a: the method of claim 1, further comprising: receiving a first tray of a first food product through the first opening into the first food holding zone

794. As discussed above, the POSA would have found it obvious to arrive at the claimed method of maintaining different temperatures within a multi-zone food holding bin of Claim 1.

795. Fortmann'748 explains that "[t]he warming cart 10 is configured with an open front side 15 … to allow one or more pans 100 to be quickly disposed within the cart 10 and the warming volume … without operation of doors or other barriers found on conventional warming carts". EX1010: ¶[0014] ("the front side 15 is open to allow pans 100, trays, pizza boxes and the like to slide through the open front side 15 and within the warming volume 18 of the cart"), ¶[0015] ("the top surface 22 of the shelf 21 [is] spaced from a bottom surface 23 of a neighboring shelf 21 a distance to allow a conventional restaurant cooking pan 100 to be inserted therebetween"), ¶[0017] ("pan 100 that is placed onto the shelf 21").

796. The pans (100) contain food product, which can be the same or different. EX1010: ¶[0017] ("food products disposed within the pan 100"), ¶[0020] ("the food product located within the pan 100"), ¶[0024] ("allow food products that require different warming temperatures to be simultaneously disposed within the cart").

797. Thus, Fortmann'748 teaches that each food holding compartment (e.g., the first food holding compartment) is intended to receive pans/trays of food products (i.e., a food product) through their respective openings (e.g., the first opening).

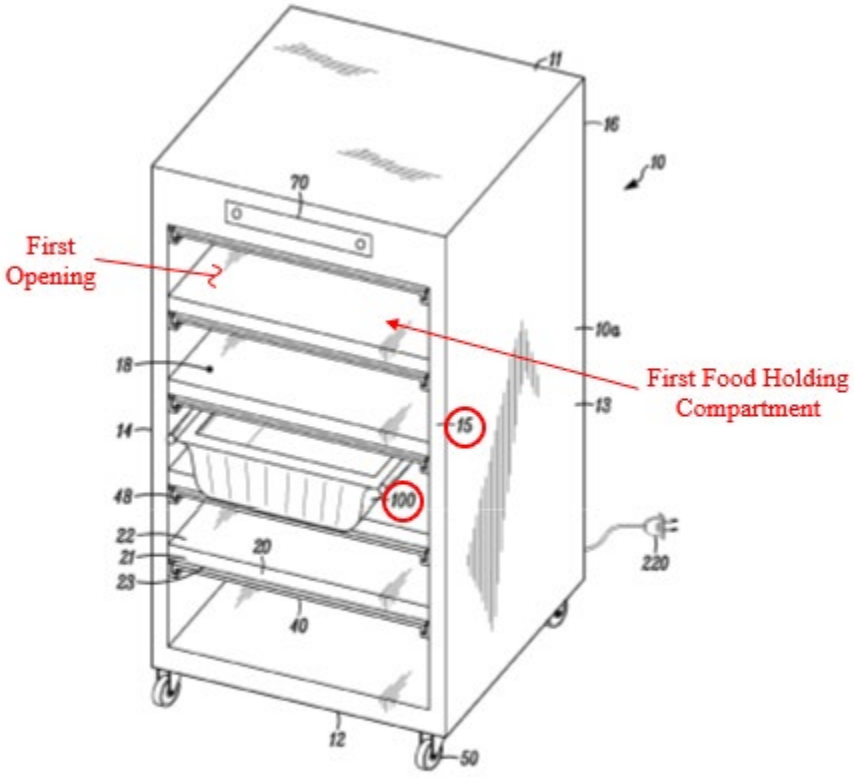


FIG. 1

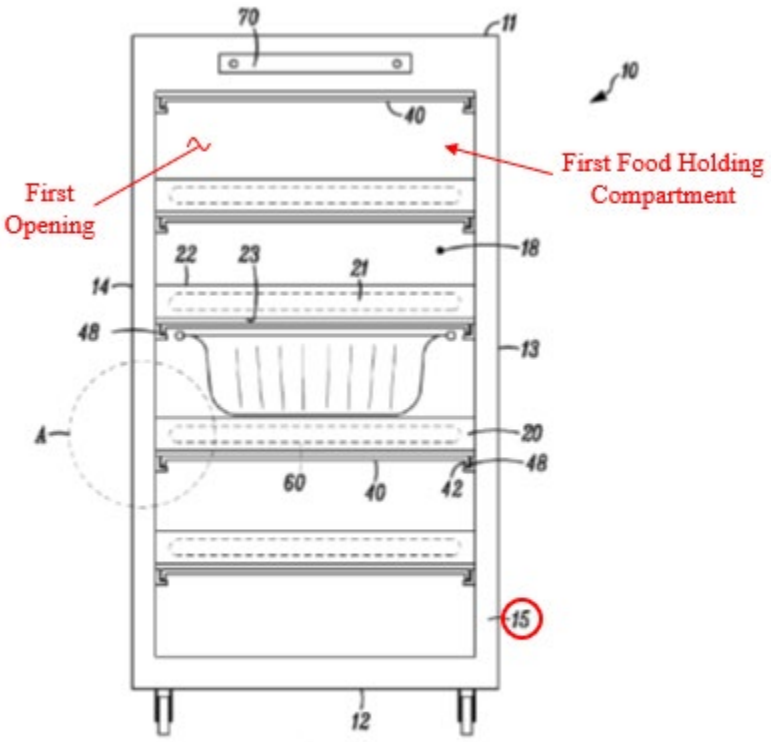


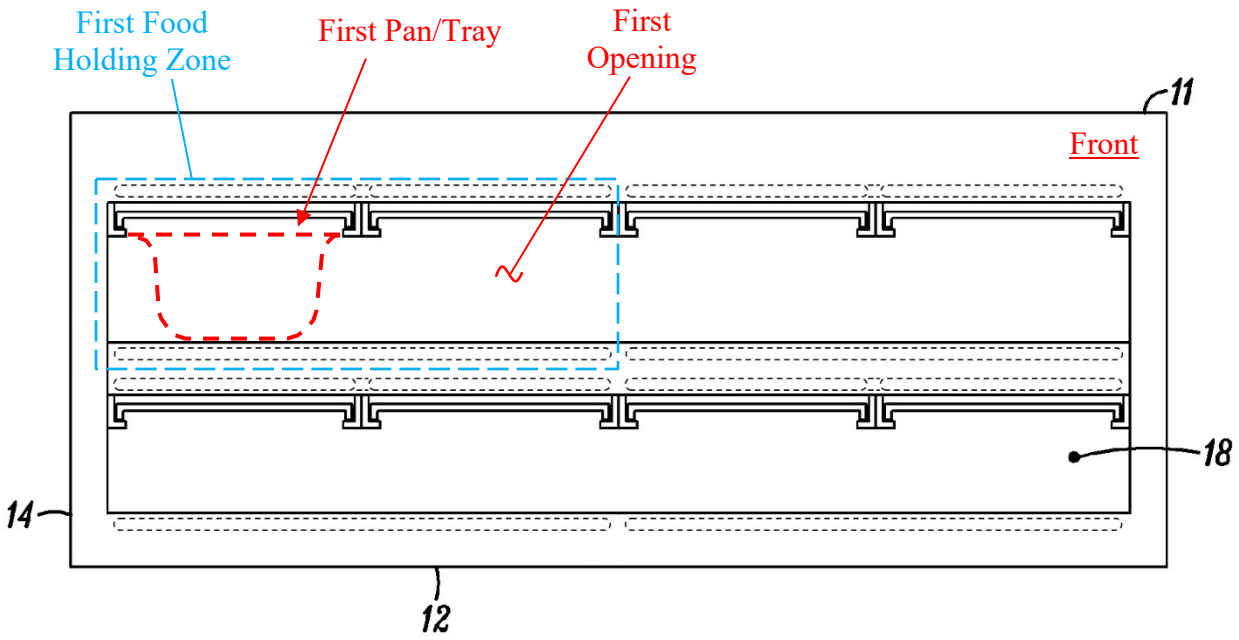
FIG. 2

EX1010: Figs. 1 and 2 (annotated).

798. As described in Paragraphs 537-586 and 688-690 (Ground 10, Section XIII(A)(2) and claim limitation 1.a.2), it would have been obvious for the first food holding compartment to have first and second food holding zones.

799. In view of the above, it would have further been obvious for Fortmann'748's cabinet as modified to receive a second pan/tray of a first food product through the first opening and into the first food holding zone in the first food holding compartment, such as when filling Fortmann'748's cabinet with food. EX1010: ¶[0002] ("subject disclosure relates to carts and cabinets that are configured to maintain a previously cooked food product warm during a delay time

between the cooking process and serving to the customer"), ¶[0024] ("food products that require different warming temperatures to be simultaneously disposed within the cart 10").



EX1010: Fig. 2 (modified, annotated).

5.b: receiving a second tray of a second food product through the first opening into the second food holding zone

800. For the reasons explained in Paragraphs 794-799 with respect to Claim limitation 5.a, Fortmann'748 teaches that each food holding compartment (e.g., the first food holding compartment) is intended to receive pans/trays of food products (i.e., a food product) through their respective openings (e.g., the first opening).

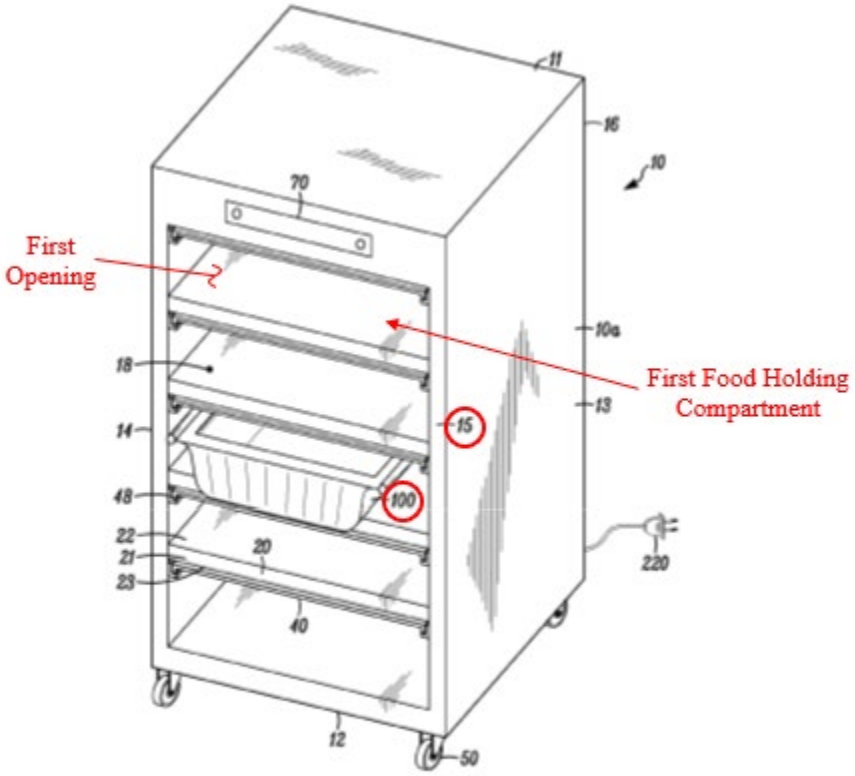

First
Opening
First Food Holding
Compartment
11
16
10
70
10a
18
13
14
15
48
100
22
21
23
20
40
220
12
50

FIG. 1

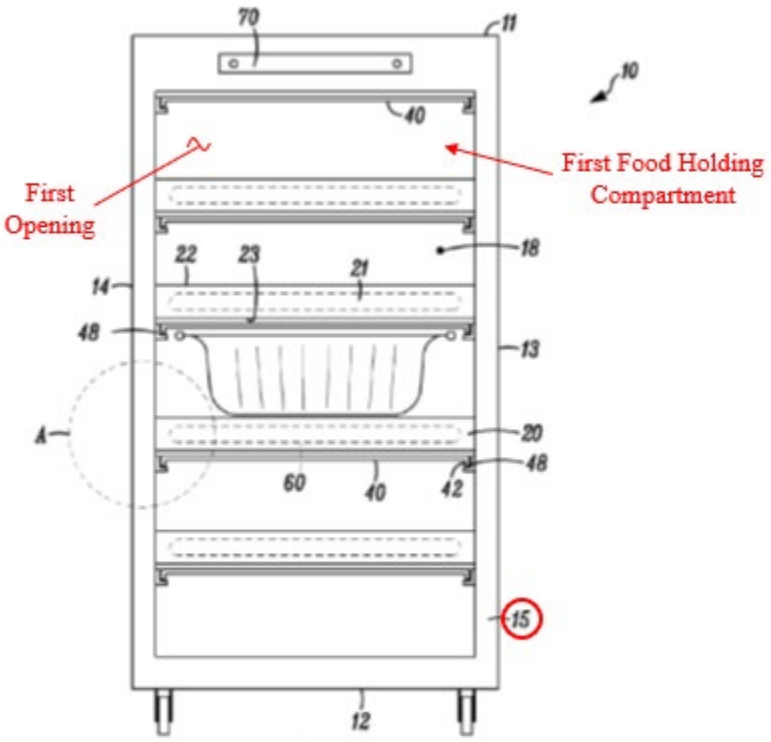


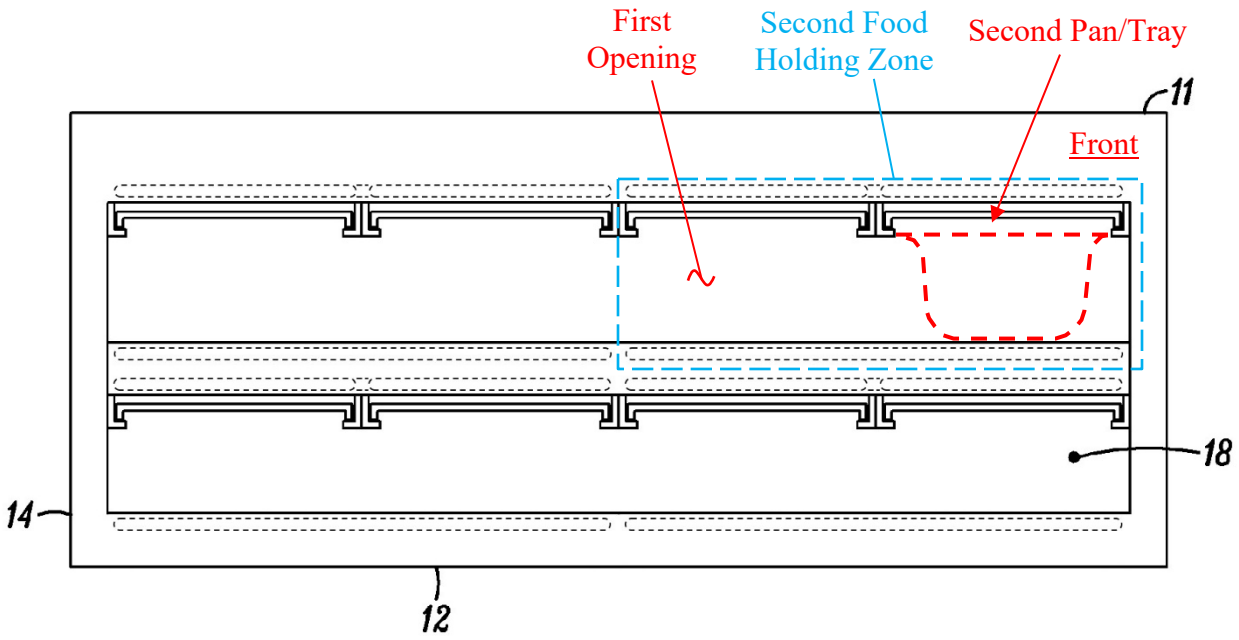
FIG. 2

EX1010: Figs. 1 and 2 (annotated).

801. As described in Paragraphs 537-586 and 688-690 (Ground 10, Section XIII(A)(2) and claim limitation 1.a.2), it would have been obvious for the first food holding compartment to have first and second food holding zones.

802. In view of the above, it would have further been obvious for Fortmann'748's cabinet as modified to receive a second pan/tray of a second food product through the first opening and into the second food holding zone in the first food holding compartment, such as when filling Fortmann'748's cabinet with food. EX1010: ¶[0002] ("subject disclosure relates to carts and cabinets that are configured to maintain a previously cooked food product warm during a delay time

between the cooking process and serving to the customer"), ¶[0024] ("food products that require different warming temperatures to be simultaneously disposed within the cart 10").



EX1010: Fig. 2 (modified, annotated).

5.c: receiving a third tray of a third food product through the second opening into the third food holding zone

803. For the reasons explained in Paragraphs 794-799 with respect to Claim limitation 5.a, Fortmann'748 teaches that each food holding compartment (e.g., the second food holding compartment) is intended to receive pans/trays of food products (i.e., a food product) through their respective openings (e.g., the second opening).

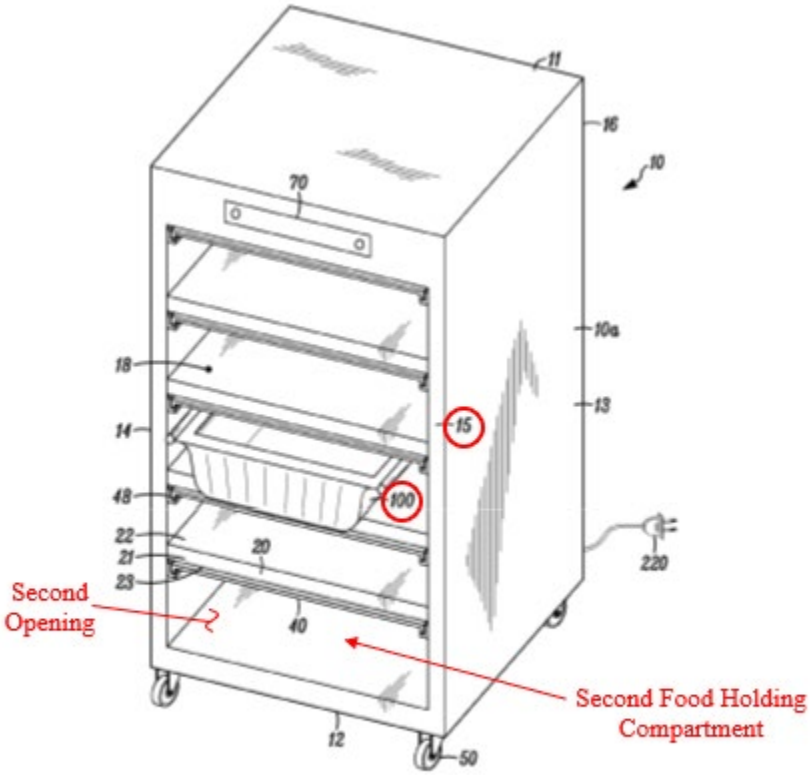

11
16
10
70
10a
18
13
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Second
Opening
40
Second Food Holding
Compartment
12
50

FIG. 1

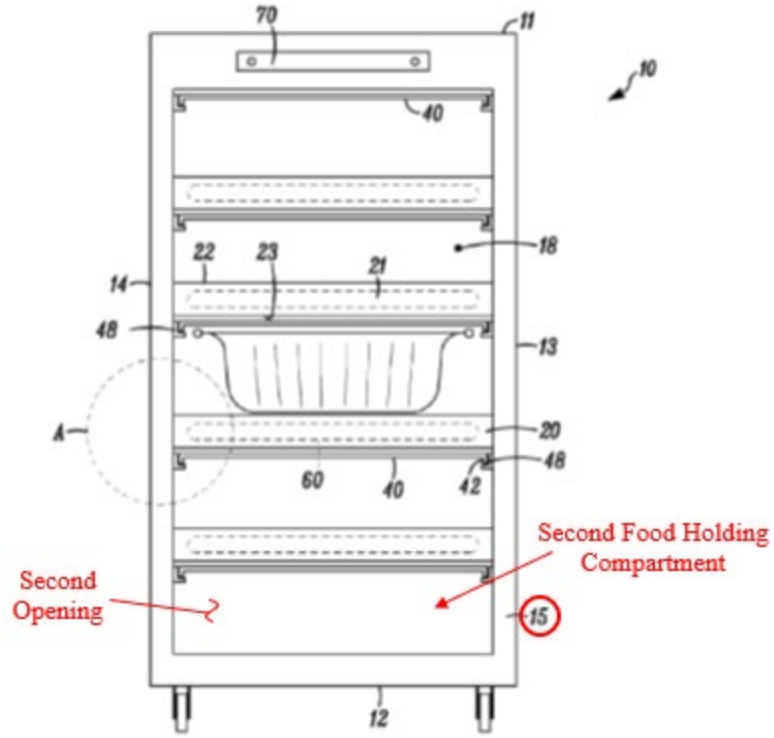


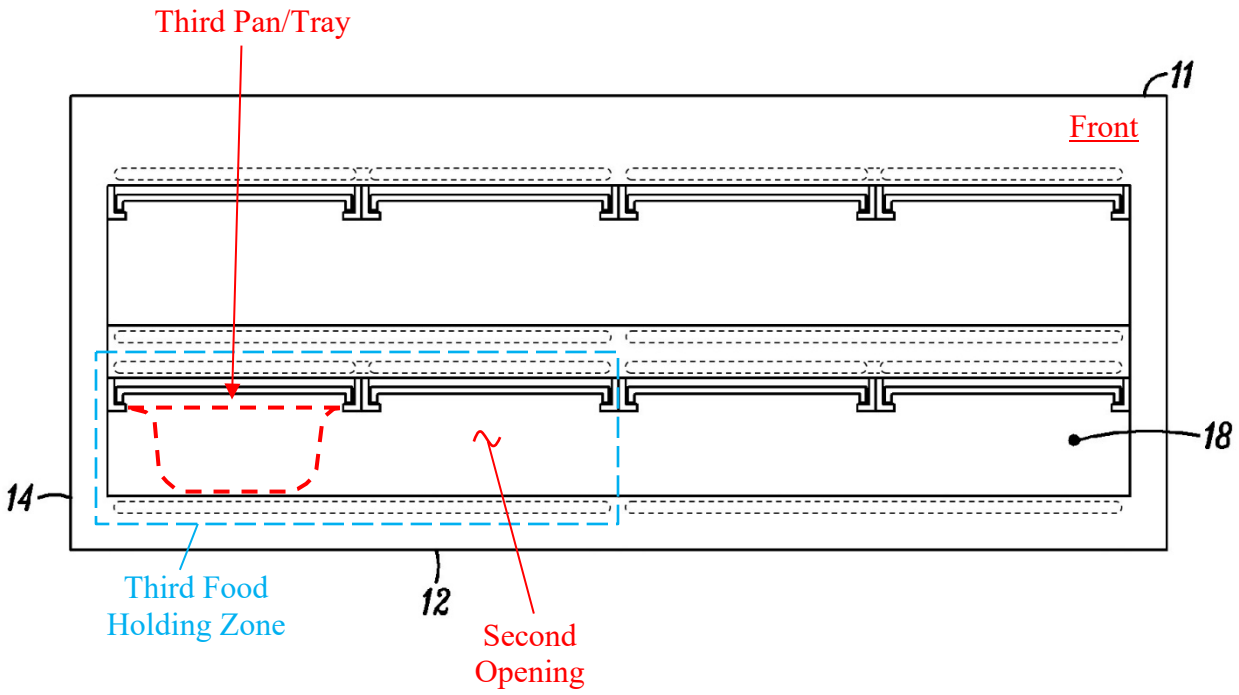
FIG. 2

EX1010: Figs. 1 and 2 (annotated).

804. As described in Paragraphs 537-586 and 698-700 (Ground 10, Section XIII(A)(2) and claim limitation 1.a.5), it would have been obvious for the second food holding compartment to have third and fourth food holding zones.

805. In view of the above, it would have further been obvious for Fortmann'748's cabinet as modified to receive a third pan/tray of a third food product through the second opening and into the third food holding zone in the second food holding compartment, such as when filling Fortmann'748's cabinet with food. EX1010: ¶[0002] ("subject disclosure relates to carts and cabinets that are configured to maintain a previously cooked food product warm during a delay

time between the cooking process and serving to the customer"), ¶[0024] ("food products that require different warming temperatures to be simultaneously disposed within the cart 10").



EX1010: Fig. 2 (modified, annotated).

5.d: receiving a fourth tray of a fourth food product through the second opening into the fourth food holding zone

806. For the reasons explained in Paragraphs 794-799 with respect to Claim limitation 5.a, Fortmann'748 teaches that each food holding compartment (e.g., the second food holding compartment) is intended to receive pans/trays of food products (i.e., a food product) through their respective openings (e.g., the second opening).

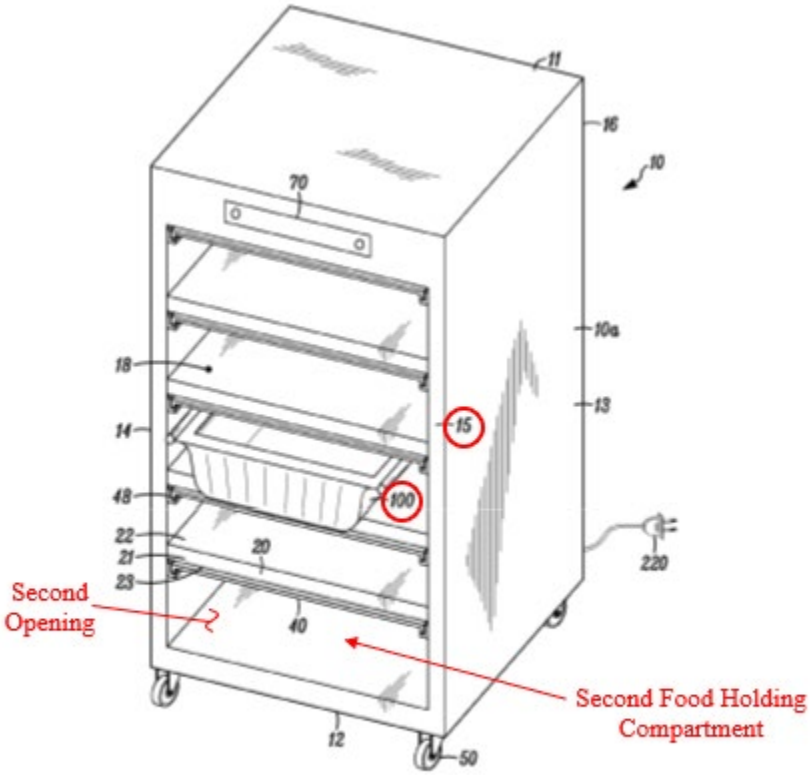

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Second
Opening
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Second Food Holding
Compartment
12
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FIG. 1

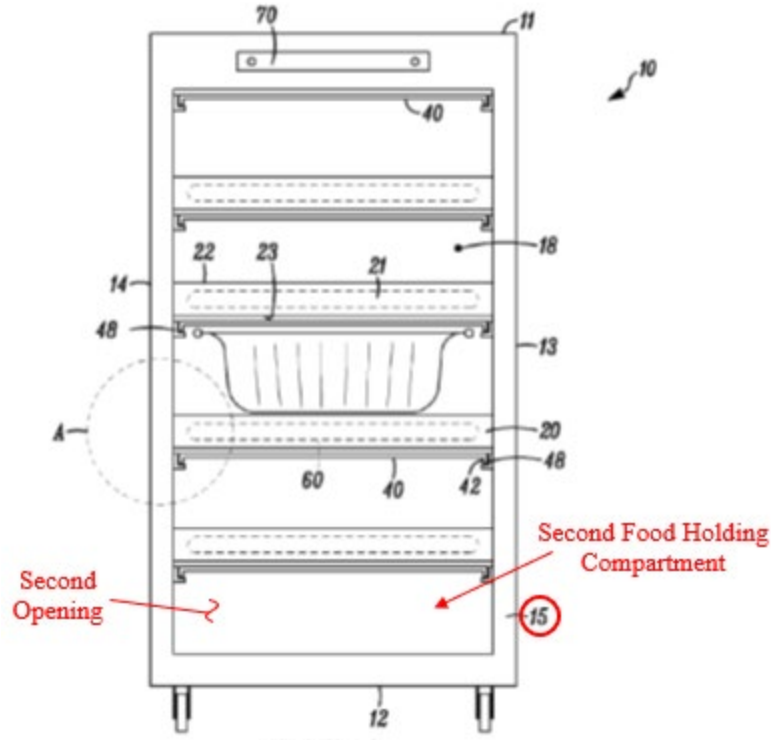


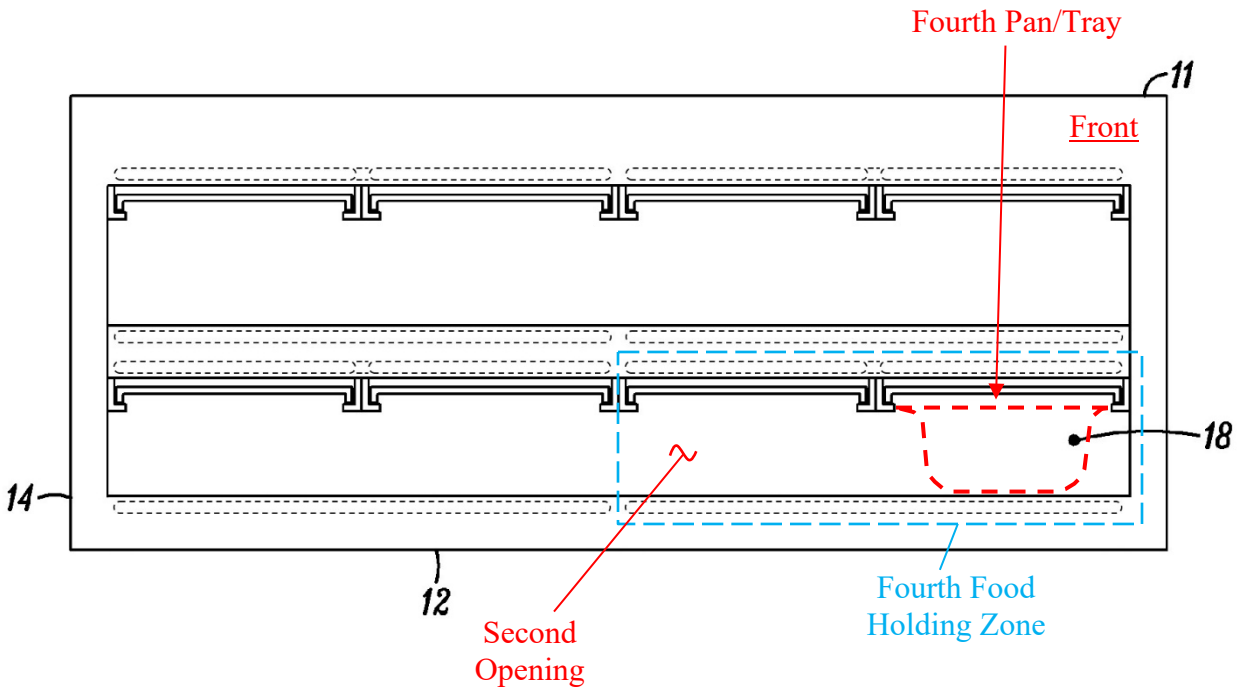
FIG. 2

EX1010: Figs. 1 and 2 (annotated).

807. As described in Paragraphs 537-586 and 698-700 (Ground 10, Section XIII(A)(2) and claim limitation 1.a.5), it would have been obvious for the second food holding compartment to have third and fourth food holding zones.

808. In view of the above, it would have further been obvious for Fortmann'748's cabinet as modified to receive a fourth pan/tray of a fourth food product through the second opening and into the fourth food holding zone in the second food holding compartment, such as when filling Fortmann'748's cabinet with food. EX1010: ¶[0002] ("subject disclosure relates to carts and cabinets that are configured to maintain a previously cooked food product warm during a delay

time between the cooking process and serving to the customer"), ¶[0024] ("food products that require different warming temperatures to be simultaneously disposed within the cart 10").



EX1010: Fig. 2 (modified, annotated).

809. Accordingly, each step and limitation of Claim 5 is either disclosed in Fortmann'748 or would have been obvious in view of the teachings and disclosures of the IRHS Documents, Jones, Fortmann'197, McMillan, Vaseloff, Hartfelder, Shei'099, Stanger, Loy, and/or Veltrop. As such, the POSA would have found it obvious to arrive at the method of maintaining different temperatures within a multi-zone food holding bin as claimed in Claim 5.

G. Claim 6

6.a: the method of claim 5 wherein the multi-zone food holding bin comprises a rear face

810. As discussed above, the POSA would have found it obvious to arrive at the claimed method of maintaining different temperatures within a multi-zone food holding bin of Claim 5.

811. Fortmann'748's warming cabinet (10) has a front face (15) and a rear face (16). EX1010: ¶[0014] ("warming cart 10 is configured with an open front side 15 and an open back side 16"), Figs. 1 and 6.

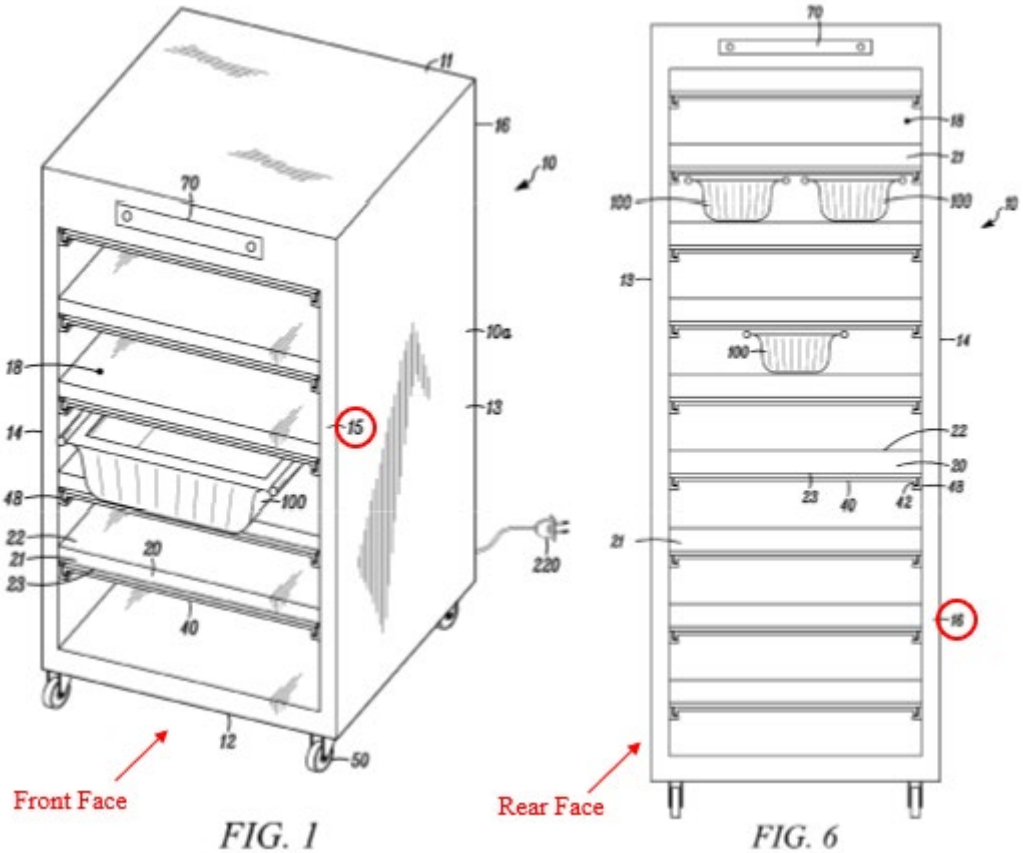
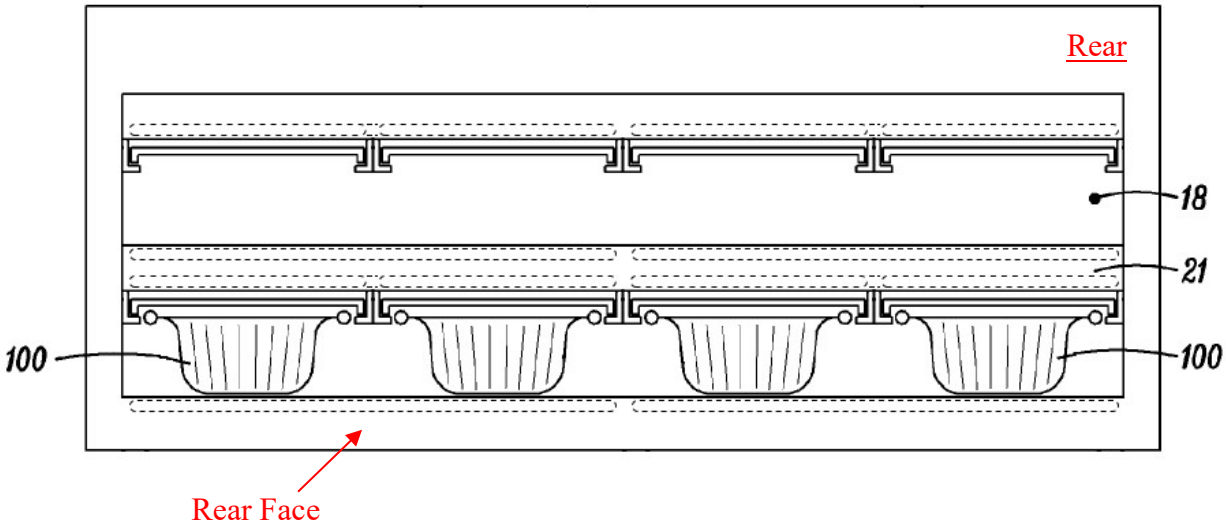


FIG. 1 FIG. 6

EX1010: Figs. 1 and 6 (annotated).

812. This teaching would likewise hold true for the Fortmann'748 cabinet as modified to have a 2x4 configuration according to Paragraphs 524-536 (Ground 10, Section XIII(A)(1)) above as shown in the modified renderings below.



EX1010: Fig. 6 (modified, annotated).

6.b: the method further comprises: providing a third opening through the rear face configured to allow the first or second tray to be passed through the third opening into the first food holding compartment and onto the first substantially planar surface

813. The Fortmann'748 cabinet (10) has an open back side (16) to allow pans (100) to pass into and out of the food holding compartments in the interior volume (18). EX1010: ¶[0014] ("[t]he warming cart 10 is configured with … an open back side 16 to allow one or more pans 100 to be quickly disposed within the cart 10 and the warming volume and removed from the cart 10 without operation of doors or other barriers found on conventional warming carts.… as shown in

FIG. 6 the back side 16 is also open to allow pans 100 and the like to slide through the back side 16 into the warming volume 18").

814. The rear face of Fortmann'748's cabinet thus has a third opening through the rear face for food pans (100) (e.g., the first and/or second pans/trays) to pass through the third opening into the first food holding compartment and onto the first substantially planar surface. EX1010: ¶[0015] ("the top surface 22 of the shelf 21 [is] spaced from a bottom surface 23 of a neighboring shelf 21 a distance to allow a conventional restaurant cooking pan 100 to be inserted therebetween"), ¶[0017] ("pan 100 that is placed onto the shelf 21").

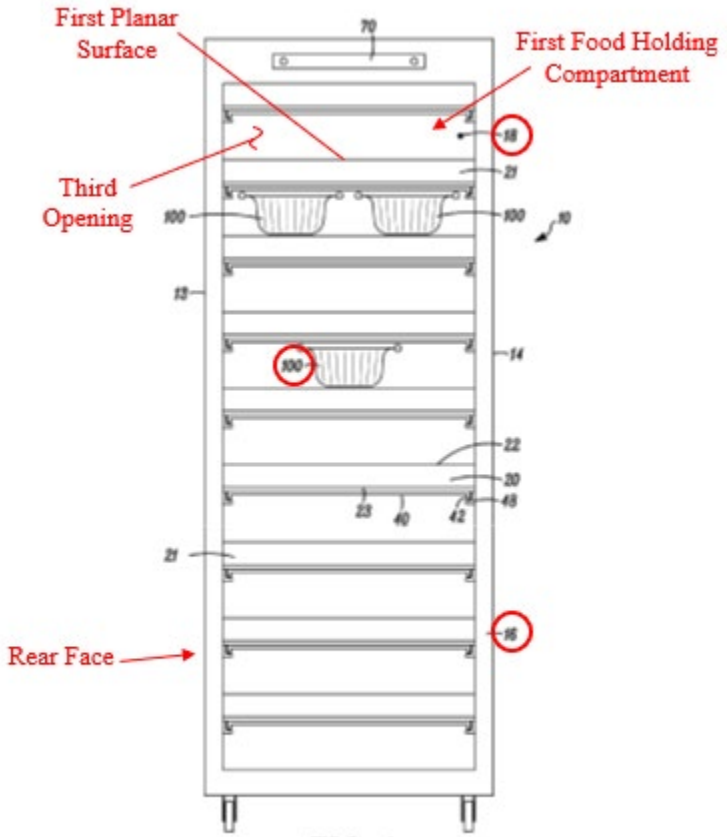
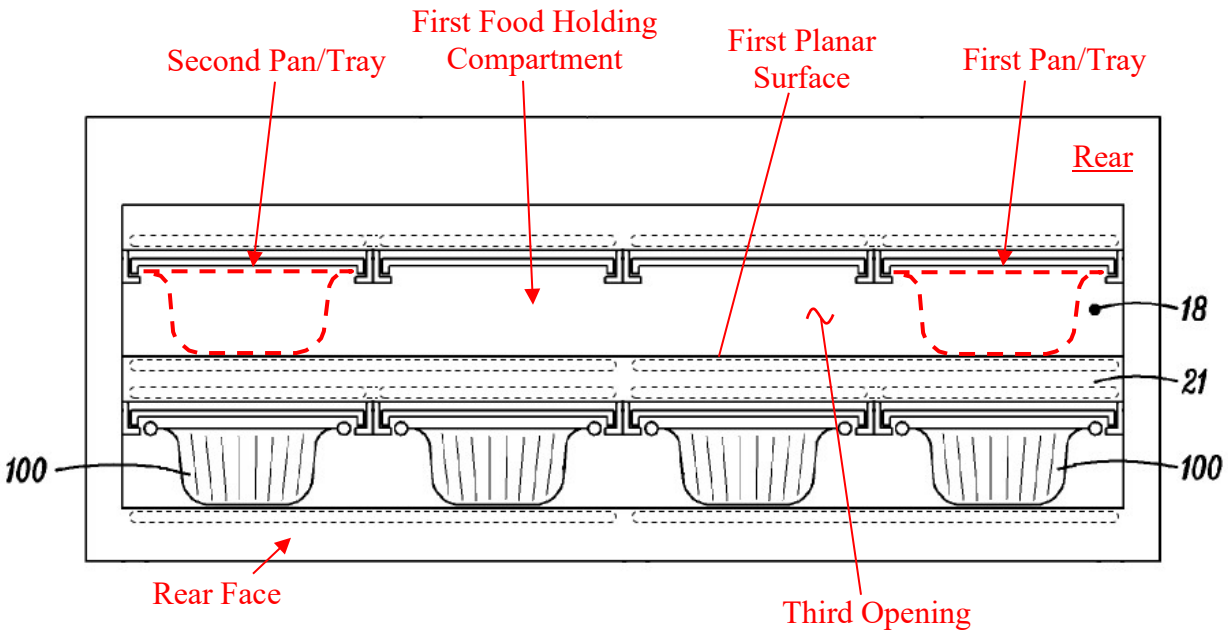


FIG. 6

EX1010: Fig. 6 (annotated).

815. This teaching would likewise hold true for the Fortmann'748 cabinet as modified to have a 2x4 configuration according to Paragraphs 524-536 (Ground 10, Section XIII(A)(1)) above as shown in the modified renderings below.



EX1010: Fig. 6 (modified, annotated).

6.c: providing a fourth opening through the rear face configured to allow the third or fourth tray to be passed through the fourth opening into the second food holding compartment and onto the second substantially planar surface

816. As explained above in Paragraphs 813-815 (claim limitation 6.b), the Fortmann'748 cabinet (10) has an open back side (16) to allow pans (100) to pass into and out of the food holding compartments in the interior volume (18).

EX1010: ¶[0014] ("[t]he warming cart 10 is configured with … an open back side 16 to allow one or more pans 100 to be quickly disposed within the cart 10 and the

warming volume and removed from the cart 10 without operation of doors or other barriers found on conventional warming carts.… as shown in FIG. 6 the back side 16 is also open to allow pans 100 and the like to slide through the back side 16 into the warming volume 18").

817. The rear face of Fortmann'748's cabinet thus has a fourth opening through the rear face for food pans (100) (e.g., the third and/or fourth pans/trays) to pass through the fourth opening into the second food holding compartment and onto the second substantially planar surface. EX1010: ¶[0015] ("the top surface 22 of the shelf 21 [is] spaced from a bottom surface 23 of a neighboring shelf 21 a distance to allow a conventional restaurant cooking pan 100 to be inserted therebetween"), ¶[0017] ("pan 100 that is placed onto the shelf 21").

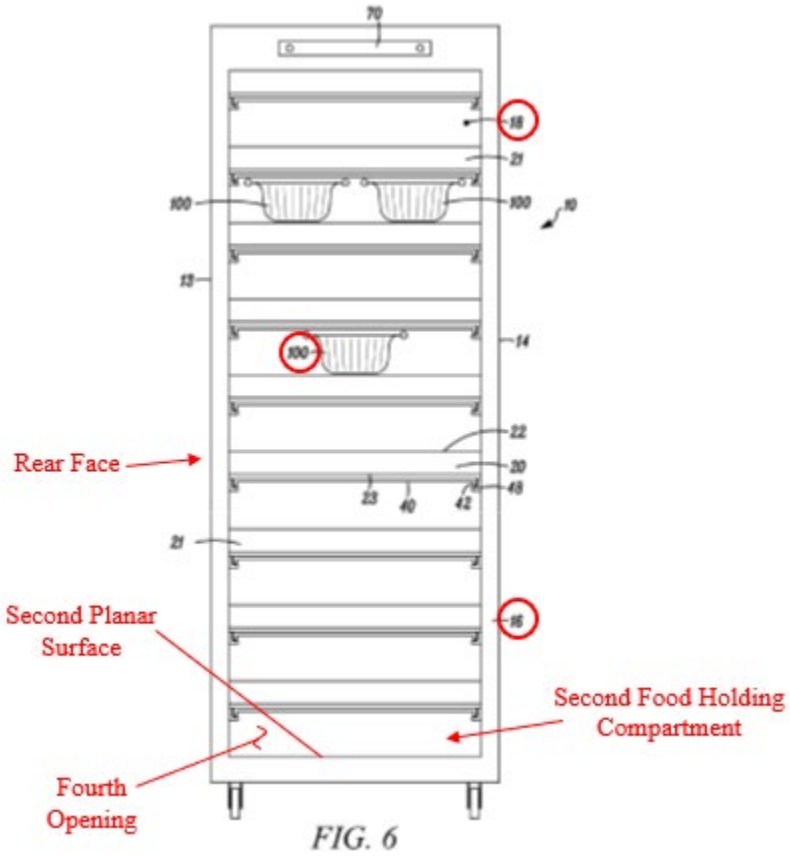
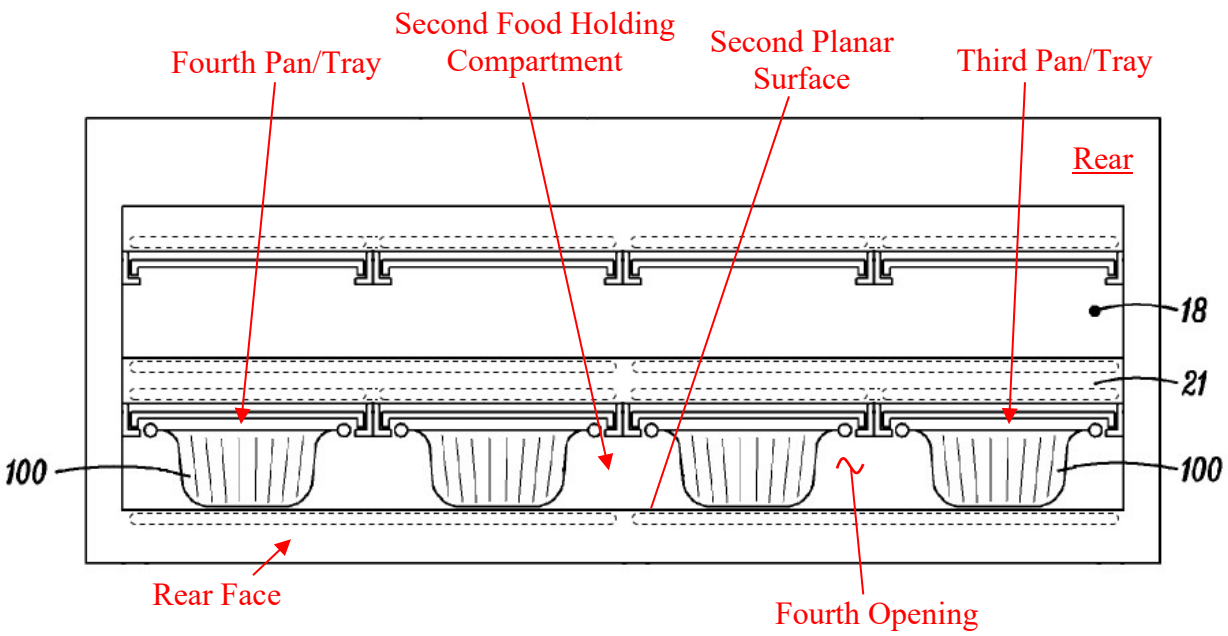


FIG. 6

EX1010: Fig. 6 (annotated).

818. This teaching would likewise hold true for the Fortmann'748 cabinet as modified to have a 2x4 configuration according to Paragraphs 524-536 (Ground 10, Section XIII(A)(1)) above as shown in the modified renderings below.



EX1010: Fig. 6 (modified, annotated).

819. Accordingly, each step and limitation of Claim 6 is either disclosed in Fortmann'748 or would have been obvious in view of the teachings and disclosures of the IRHS Documents, Jones, Fortmann'197, McMillan, Vaseloff, Hartfelder, Shei'099, Stanger, Loy, and/or Veltrop. As such, the POSA would have found it obvious to arrive at the method of maintaining different temperatures within a multi-zone food holding bin as claimed in Claim 6.

H. Claim 7: the method of claim 6, further comprising: receiving a tray of the first, second, third, and fourth trays, when said tray is filled with freshly cooked food product, through the respective third or fourth opening; and receiving the tray of the first, second, third, and fourth trays, when food product has been removed from said tray, through the respective first or second opening

820. As discussed above, the POSA would have found it obvious to arrive at the claimed method of maintaining different temperatures within a multi-zone food holding bin of Claim 6.

821. As explained above in Paragraphs 794-809 and 813-819 (Claim 5 and claim limitations 6.b and 6.c), it would have been obvious for the first and second pans/trays to be received through the first and third openings and the third and fourth pans/trays to be received through the second and fourth openings.

822. Fortmann'748 explains "[t]he warming cart 10 is configured with an open front side 15 and an open back side 16 to allow one or more pans 100 to be quickly disposed within the cart 10 and the warming volume … the front side 15 is open to allow pans 100, trays, pizza boxes and the like to slide through the open front side 15 and within the warming volume 18 of the cart, and as shown in FIG. 6 the back side 16 is also open to allow pans 100 and the like to slide through the back side 16 into the warming volume 18." EX1010: ¶[0014], ¶[0015] ("the top surface 22 of the shelf 21 [is] spaced from a bottom surface 23 of a neighboring shelf 21 a distance to allow a conventional restaurant cooking pan 100 to be inserted therebetween"), ¶[0017] ("pan 100 that is placed onto the shelf 21").

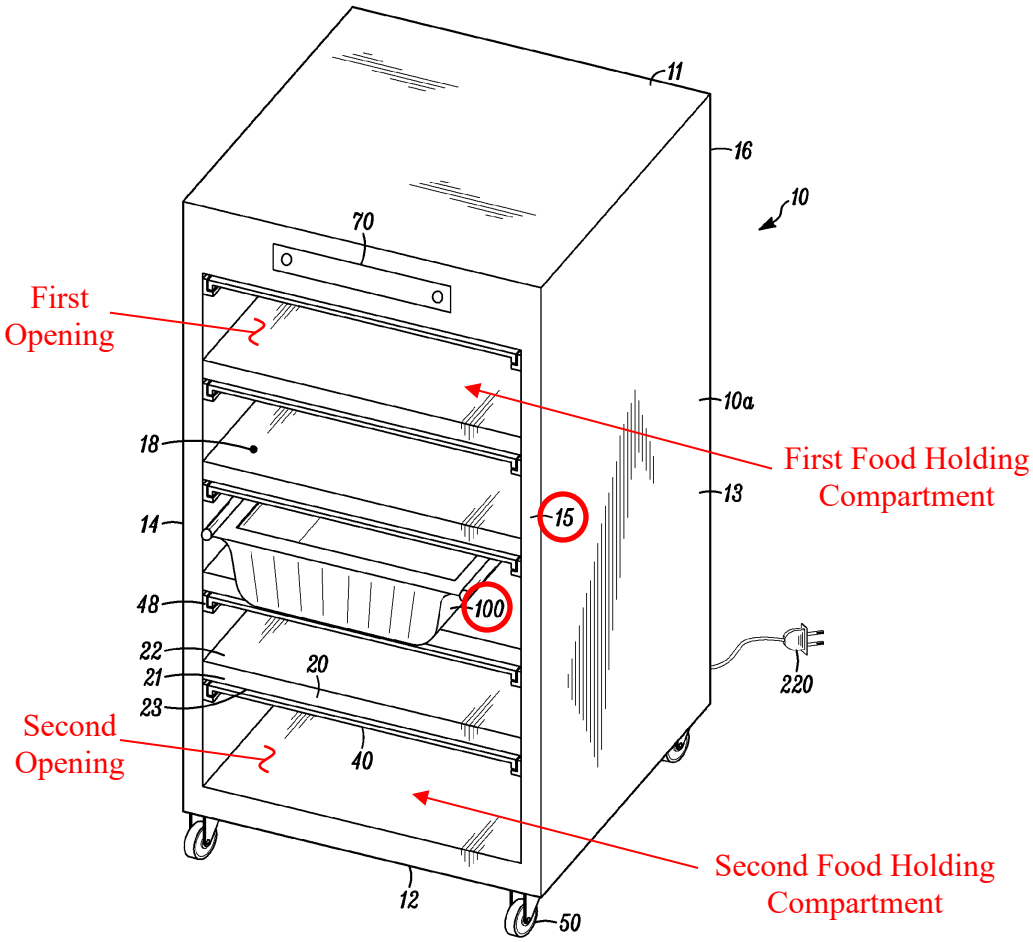

11
16
10
70
First
Opening
10a
18
First Food Holding
Compartment
13
14
15
48
100
22
20
21
23
220
Second
Opening
40
Second Food Holding
Compartment
12
50

FIG. 1

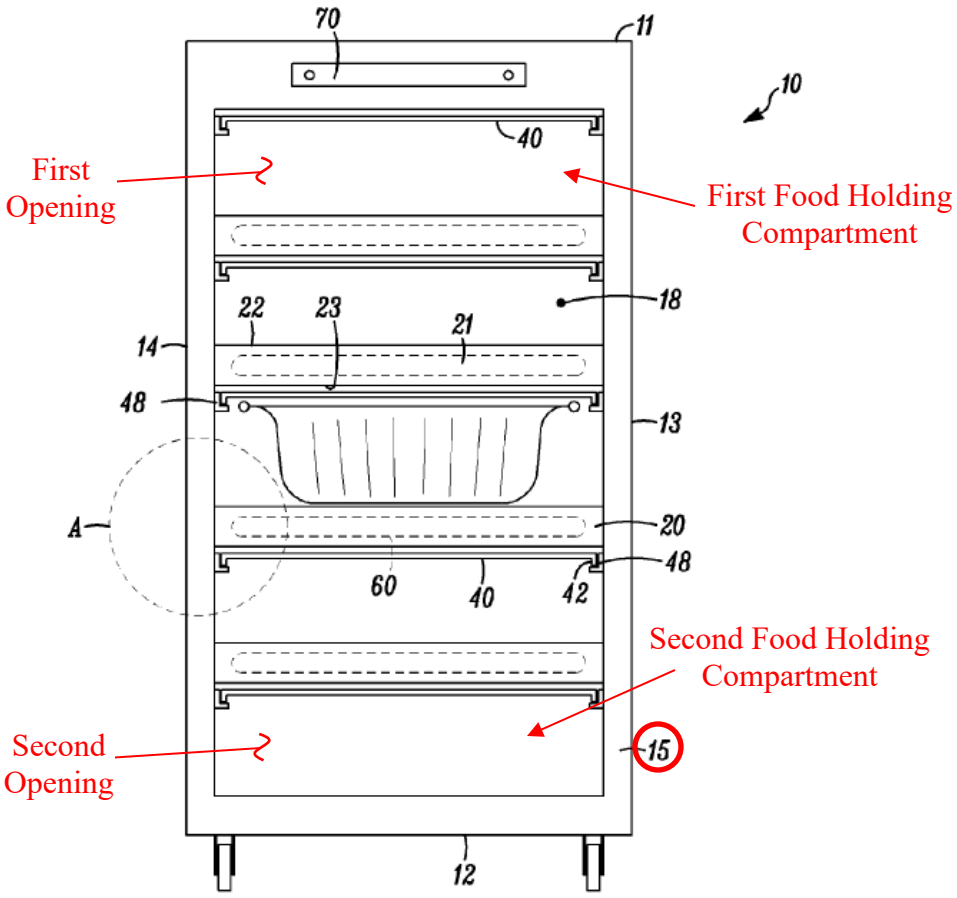

70
11
10
40
First
Opening
First Food Holding
Compartment
18
22
23
21
14
48
13
A
20
48
60
40
42
Second Food Holding
Compartment
Second
Opening
15
12

FIG. 2

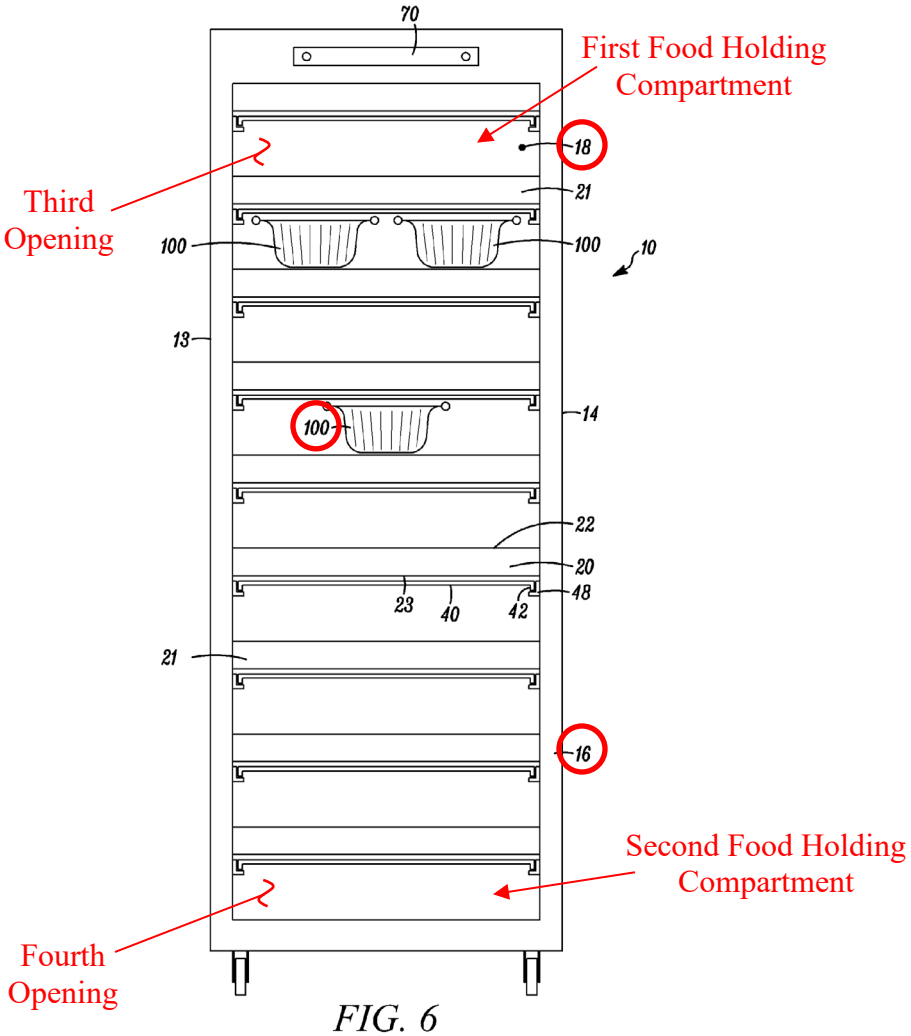
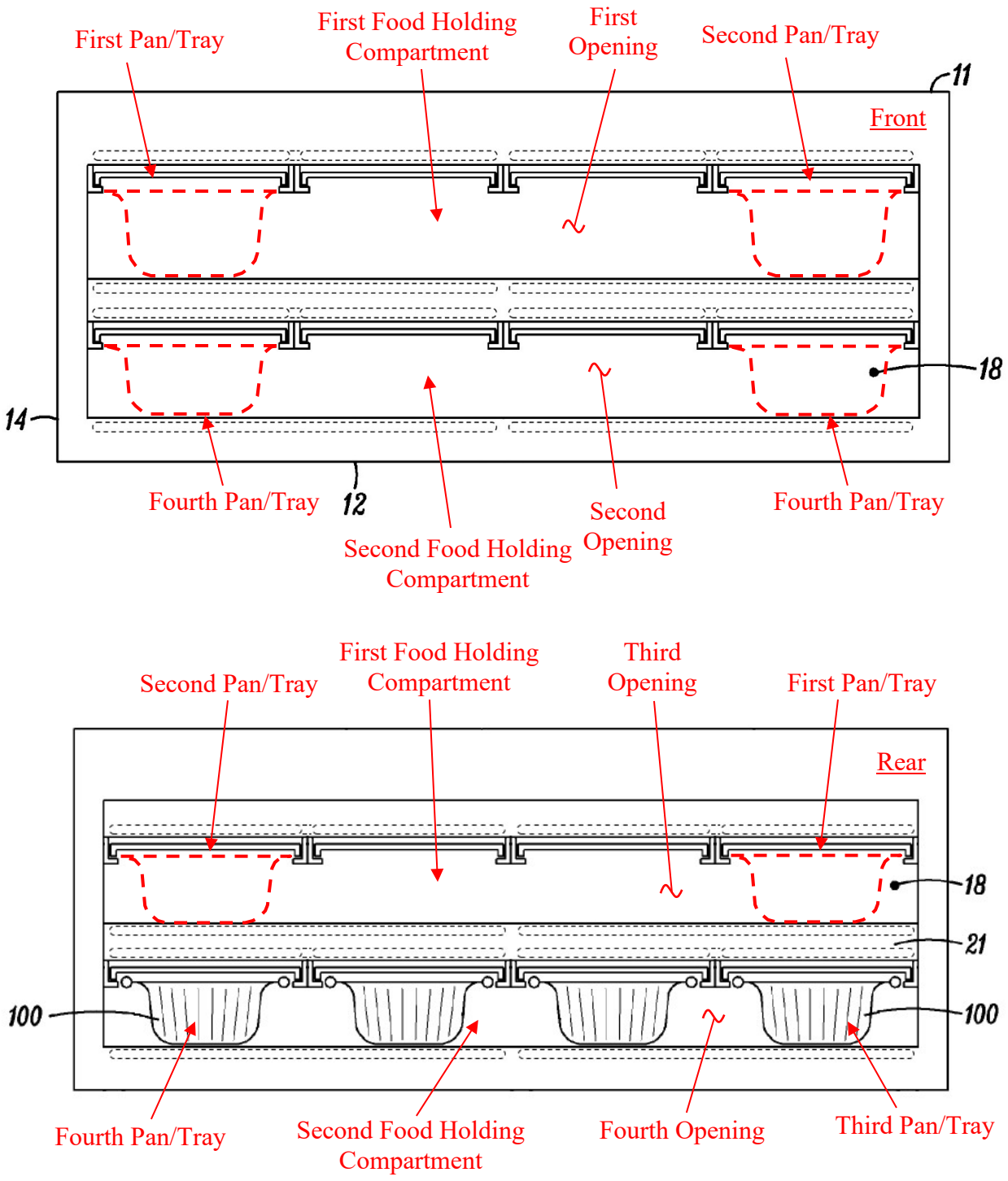


FIG. 6

EX1010: Figs. 1, 2, and 6 (annotated).

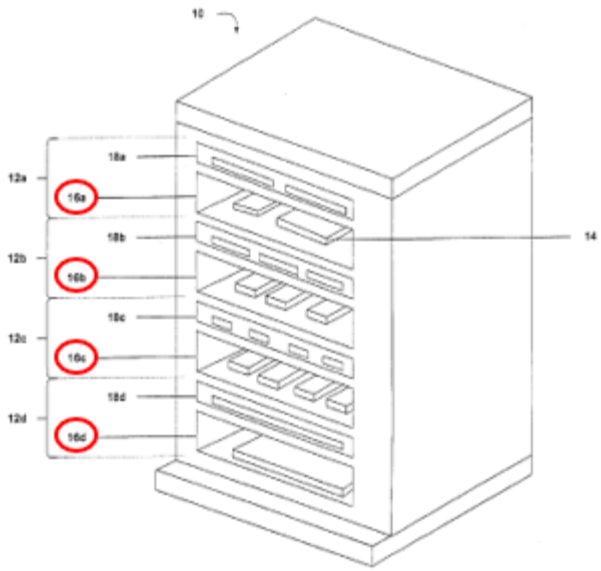
823. This teaching would likewise hold true for the Fortmann'748 cabinet as modified to have a 2x4 configuration according to Paragraphs 524-536 (Ground 10, Section XIII(A)(1)) above as shown in the modified renderings below.



EX1010: Fig. 6 (modified, annotated).

824. Fortmann'748 teaches that its cabinet's interior volume (18) is accessible via openings in both the front side (15) and back side (16). EX1010: ¶[0014] ("warming cart 10 is configured with an open front side 15 and an open back side 16"), Figs. 1 and 6. The POSA would understand that as the food holding compartments of the Fortmann'748 cabinet has openings from both the front and the rear that the cabinet is a pass-through unit. The POSA would have further understood that the intent behind pass-through design food holding cabinets is that the freshly cooked food product can be added to the pans/trays from one side of the food holding cabinet (e.g., through the respective third or fourth opening). The food product can then be retrieved from the other side (e.g., through the respective first or second opening).

825. Other prior art references explicitly disclose the operational use of pass-through food holding bins wherein users/employees fill the trays with fresh food from one side of the food holding bins and retrieve the food from the opposite side of the food holding bins. McMillan discloses a holding cabinet (10) for holding food products that are to be maintained in a temperature-controlled environment. EX1019: Fig. 1; 2:49-55. The food holding cabinet (10) includes several food passageways (16a-16d). EX1019: 2:49-52, 2:65-67. The food passageways (16a-d) are open at both ends. EX1019: 3:2-5.



EX1019: Fig. 1 (annotated).

826. McMillan expressly teaches that in one method of operation, one operator loads food products into the passageways from the one side and another operator removes food products from the passageways from the other side. EX1019: 3:7-11 ("a first operator may load food products 14 into the shelving units 12 a-d from the front of the holding cabinet 10, and a second operator may remove food products 14 out of the shelving units 12 a-d from the rear of the holding cabinet").

827. Similarly, Veltrop teaches a food holding cabinet (10) with food holding compartments (50). EX1022: ¶[0010]. The cabinet (10) has an open front face (40) and an open rear face (45) for inserting food into and/or removing food from the food holding compartments (50). EX1022: ¶¶[0012], [0016]. In one

method of operation, cooked food is inserted into one side of the cabinet (10) and removed from the other side of the cabinet. EX1022: ¶[0002] ("Holding ovens to keep food warm are well known. May such ovens allow a cooked food item to be put into the oven from one side of the oven and taken from the oven on the opposite side whereby food preparers add food to the oven and food servers take food from the oven.").

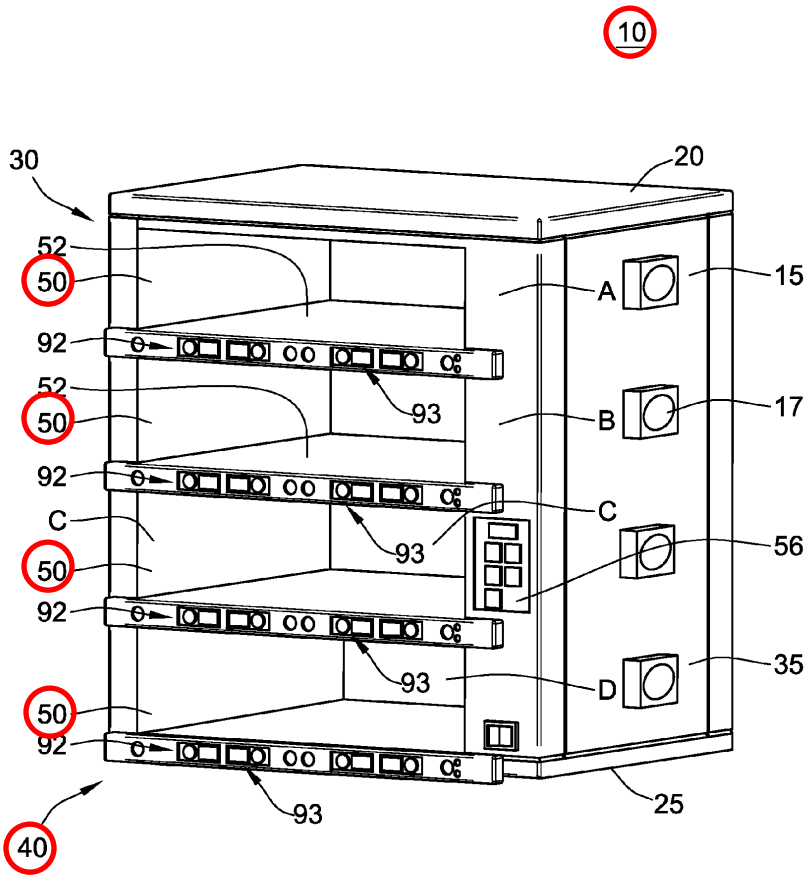
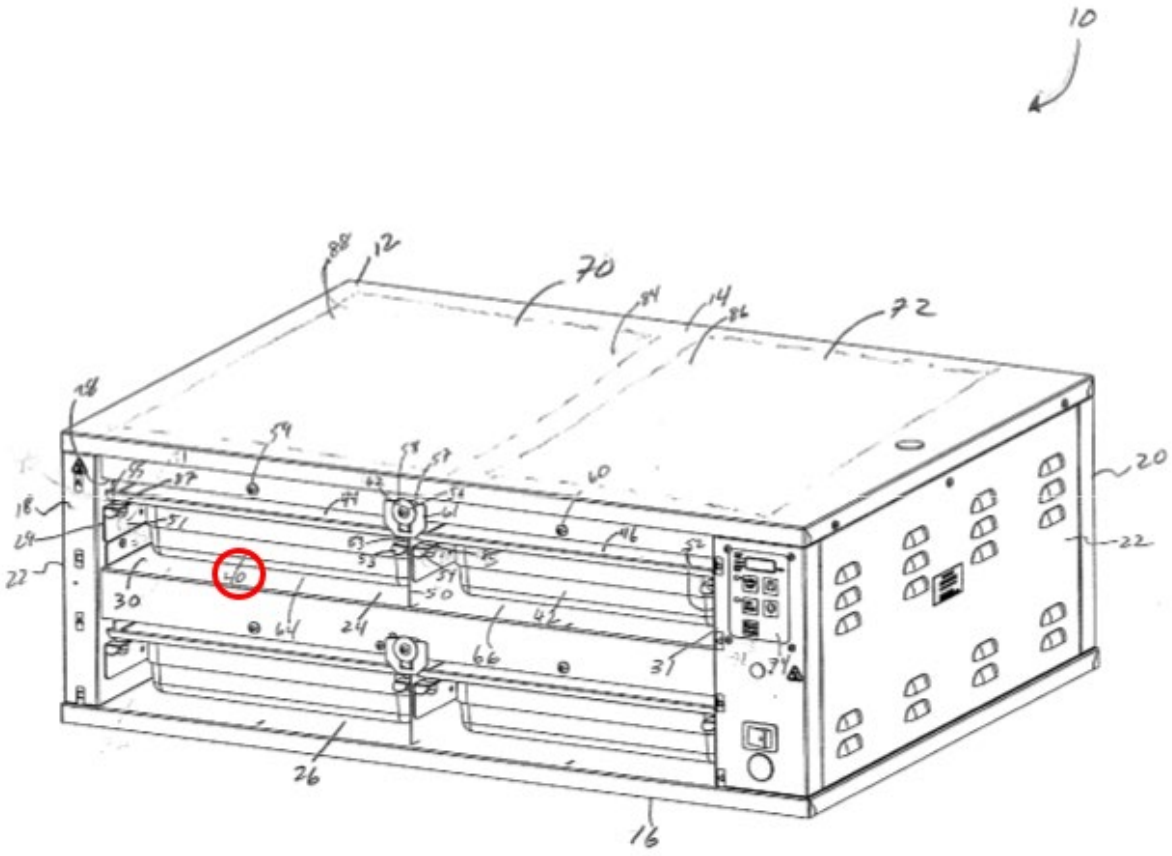


FIG. 1

EX1022: Fig. 1 (annotated).

828. Regarding a similar food holding unit, Hartfelder explains a user may pull out a food tray (40) to access cooked food therein, remove some cooked food from the tray, and then reinsert the tray back into the holding location. EX1013: ¶[0057] ("a user … may pull the tray out to access one or more previously cooked food portions in the tray and pus the tray back into place"), ¶[0062] ("A user may pull out tray 40 from first sub-compartment 64 to access tray 40, such as to … remove previously cooked food portions from tray 40. After accessing tray 40, the user may then insert tray 40 into first sub-compartment 64.").



EX1013: Fig. 1 (annotated).

829. It would have been obvious, in view of McMillan and/or Veltrop, to operate the pans of the Fortmann'748 cabinet so that freshly cooked food is loaded (via the first, second, third, and fourth pans) into the food holding compartments from one side (e.g., rear side) via the respective third and fourth openings and food is removed (from the pans) from the food holding compartments from the other side (e.g., front side) via the respective first or second openings, and, in view of

Hartfelder, to receive the pans back in the respective holding compartments from that other side via the respective first or second openings after food was removed.

830. Such operation would facilitate efficient use of kitchen space by positioning the holding unit intermediate the food cooking area and food assembly area, providing cooking and assembly personnel separate, simultaneous access, and reducing bottlenecks that may result from a cooking/assembly personnel shared access point. EX1007: 67 ("Pass through design allows crews to work both sides"); EX1047: 2:45-55 ("[t]he device also includes at least one inlet door on one side of the device for inserting the food portions into the compartments and one complementary outlet door on the opposite side of the device for removing therethrough food portions contained in the compartments. This pass-through configuration of the doors promotes an efficient use of space in the kitchen containing the device because, for example, the device can be positioned intermediate the food cooking area and the cooked food assembly area, thereby providing cooking and assembly restaurant personnel separate access to the device"), 8:57-9:16 ("Device 20 also promotes an efficient use of space within a kitchen containing device 20. A kitchen in a quick service restaurant is frequently divided into two or more work areas. For example, the food cooking area can include food cooking devices …. After being cooked, the food portions are transported to the sandwich assembly area for sandwich assembly….

Consequently, restaurant personnel in the food cooking area and in the sandwich assembly area handle the cooked food portions. Device 20 promotes an efficient use of space when device 20 is located within the kitchen intermediate the food cooking area and the sandwich assembly area. When so positioned, the restaurant personnel responsible for cooking can place a tray 54E containing the cooked food portions within compartment 40A through inlet door 32A of device 20 of inlet side 1, as shown in FIG. 3. Then, when the cooked food portions are needed for assembly into a sandwich, restaurant personnel remove tray 54E from compartment 40A through outlet door 33A of outlet side O of device 20"), 10:29-34 ("device 80 can be positioned within the kitchen of a quick service restaurant in an area intermediate the food cooking area and the food finishing area. The flow-through design of inlet doors 106 and 108A-F and outlet doors 110 and 112A-F thus promotes an efficient use of space within the kitchen"); EX1048: 5:44-57 ("arrangement facilitates efficient food handling by providing simultaneous access to device 52 for personnel working within food cooking area 22 and for personnel working within cooked-food assembly area"); EX1022: ¶[0002] ("Holding ovens to keep food warm are well known. Many such ovens allow a cooked food item to be put into the oven from one side of the oven and taken from the oven on the opposite side whereby food preparers add food to the oven and food servers take food from the oven"); EX1019: 3:2-11 ("In some implementations, each

passageway 16a-d may be open at both ends, providing each shelving unit 12a-d with a pass-through structure. In this way, operators may access the passageways 16a-d from the front and/or from the rear of the holding cabinet 10. Consequently, a first operator may load food products 14 into the shelving units 12a-d from the front of the holding cabinet 10, and a second operator may remove food products 14 out of the shelving units 12a-d from the rear of the holding cabinet 10.").

831. The background section of '264 Patent confirms that this is the known operation of food warming cabinets of this type. EX1001: 1:30-35 ("[k]nown holding bins can allow cooked food to be inserted from one side and taken from the opposite side whereby food preparers add food to the holding bin on one side and food servers on the opposite side take food from the holding bin").

832. When removing a food product from the food pan/tray, the food pan is received through the first or second opening when (1) the food pan/tray is removed from the food holding compartment, and/or (2) when the food pan/tray is reinserted back into the food holding compartment. Therefore, the POSA would have considered it obvious in standard operation of the Fortmann'748 cabinet for the first, second, third, and/or fourth pans/trays to be returned (i.e., received) through the first opening and/or second opening after removing the food from the respective pan/tray.

833. This would have been nothing more than operating Fortmann'748's cabinet according to the known operation (moving the pans into and out of the food holding compartments via the front and/or back openings of the compartments to load and retrieve food) of similar devices (McMillan, Veltrop, and/or Hartfelder). There would have been a reasonable expectation of success in making this modification given:

(1) Fortmann'748's, Veltrop's, McMillan's, and Hartfelder's holding cabinets are food warming apparatuses for pans/trays of food (e.g., all units with compartments for warming trays/pans of food),

(2) the food holding compartments of Fortmann'748's cabinet have front and rear openings for the pans ("Pass through design allows crews to work both sides"), and

(3) McMillan, Veltrop, and Hartfelder demonstrate this was a known way of operating pans in food warming apparatuses. EX1007: 67; EX1019: 3:7-11; EX1022: ¶[0002].

834. Accordingly, each step and limitation of Claim 7 is either disclosed in Fortmann'748 or would have been obvious in view of the teachings and disclosures of the IRHS Documents, Jones, Fortmann'197, McMillan, Vaseloff, Hartfelder, Shei'099, Stanger, Loy, and/or Veltrop. As such, the POSA would

have found it obvious to arrive at the method of maintaining different temperatures within a multi-zone food holding bin as claimed in Claim 7.

I. Claim 8

8.a: the method of claim 1, wherein the multi-zone food holding bin comprises a plurality of bays, the plurality of bays comprising a first bay and a second bay within the first food heating zone, a third bay and a fourth bay within the second food heating zone, a fifth bay and a sixth bay within the third food heating zone, and a seventh bay and an eighth bay within the fourth food heating zone

835. As discussed above, the POSA would have found it obvious to arrive at the claimed method of maintaining different temperatures within a multi-zone food holding bin of Claim 1.

836. The POSA would recognize that Fortmann'748 discloses food holding compartments having a singular food holding zone to be configured to receive multiple food holding trays. EX1010: ¶[0015] ("sufficient width to accept ***two or more*** standard 12 inch wide restaurant warming pans therewithin in a side by side relationship." (emphasis added).

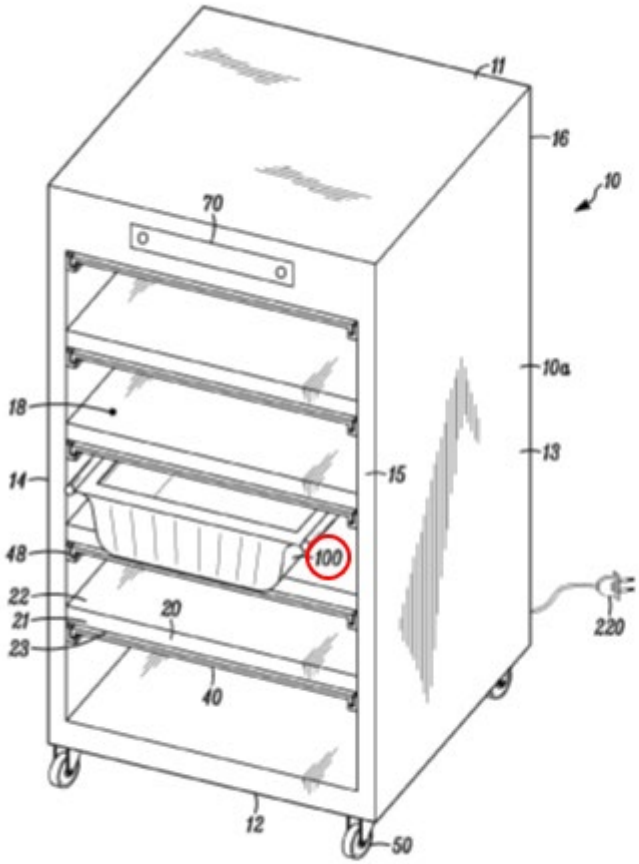


FIG. 1

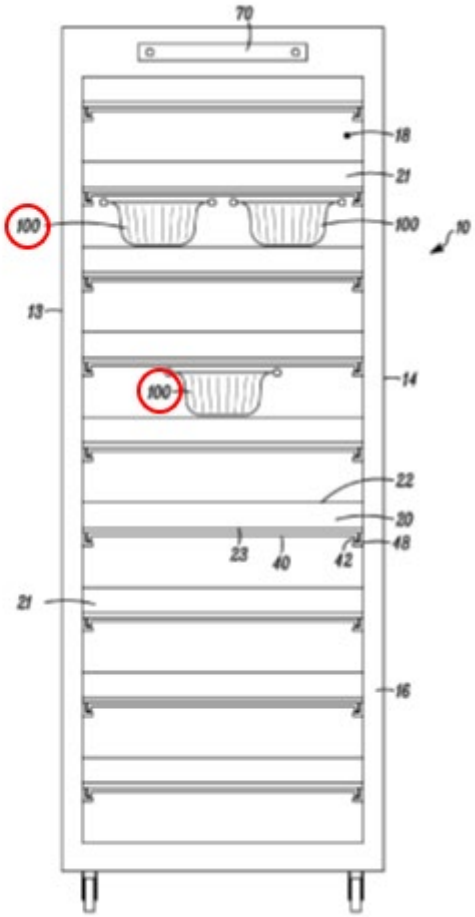


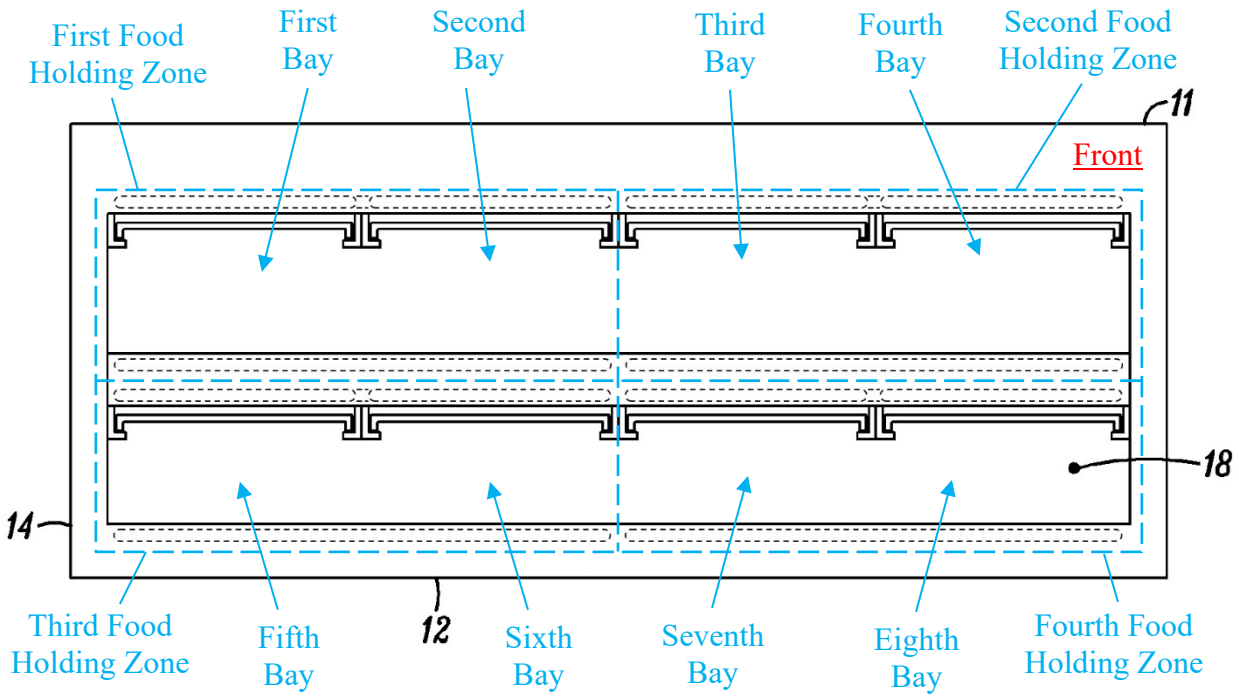
FIG. 6

EX1010: Figs. 1 and 6 (annotated).

837. In modifying the Fortmann'748 cabinet by expanding to the food holding compartment to have multiple food holding zones in view of Jones (EX1012), Hartfelder (EX1013), Stanger (EX1042), Loy (EX1043), and/or the IRHS Documents as discussed in Paragraphs 524-586 (Ground 10, Section XIII(A)(1)-(2)), it would have also been obvious for each of the food holding zones (e.g., first, second, third, and fourth food heating zones) to be further subdivided to include a two bays (e.g., first, second, third, fourth, fifth, sixth, seventh, and eighth

bays) with in each zone. EX1005: 8, 25; EX1006: 1; EX1007: 56; EX1010: ¶¶[0014]-[0015]; EX1012: ¶¶[0073], [0096]; EX1013: ¶[0037], Fig. 3; EX1042: ¶[0055]; EX1043: Fig. 17.

838. Pursuant to the modifications explained in Paragraphs 537-586 above (Ground 10, Section XIII(A)(2)), the first food heating zone would include a first bay and a second bay, the second food heating zone would include a third bay and a fourth bay, the third food heating zone would include a fifth bay and a sixth bay, and the fourth food heating zone would include a seventh bay and an eighth bay.



EX1010: Fig. 2 (modified, annotated).

8.b: wherein each bay of the plurality of bays is configured to receive a tray of food product

839. Fortmann'748 teaches that each food holding compartment is intended to receive pans/trays of food products through their respective openings. EX1010: ¶[0014] ("allow one or more pans 100 to be quickly disposed within the cart 10 and the warming volume"), ¶[0015] ("the top surface 22 of the shelf 21 [is] spaced from a bottom surface 23 of a neighboring shelf 21 a distance to allow a conventional restaurant cooking pan 100 to be inserted therebetween"), ¶[0017] ("pan 100 that is placed onto the shelf 21").

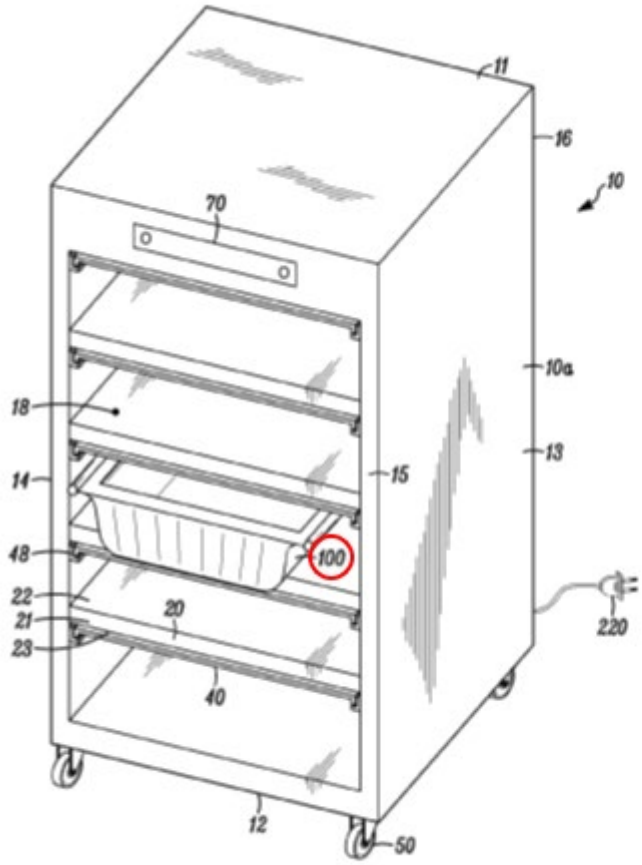


FIG. 1

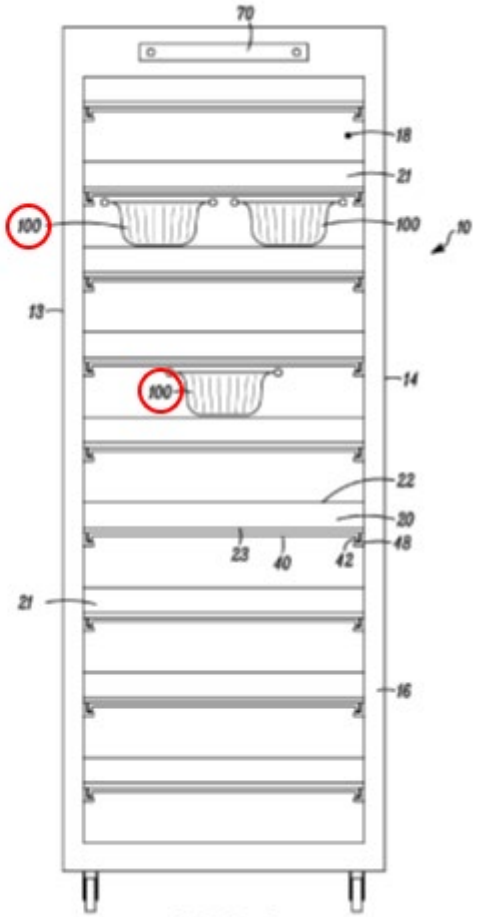
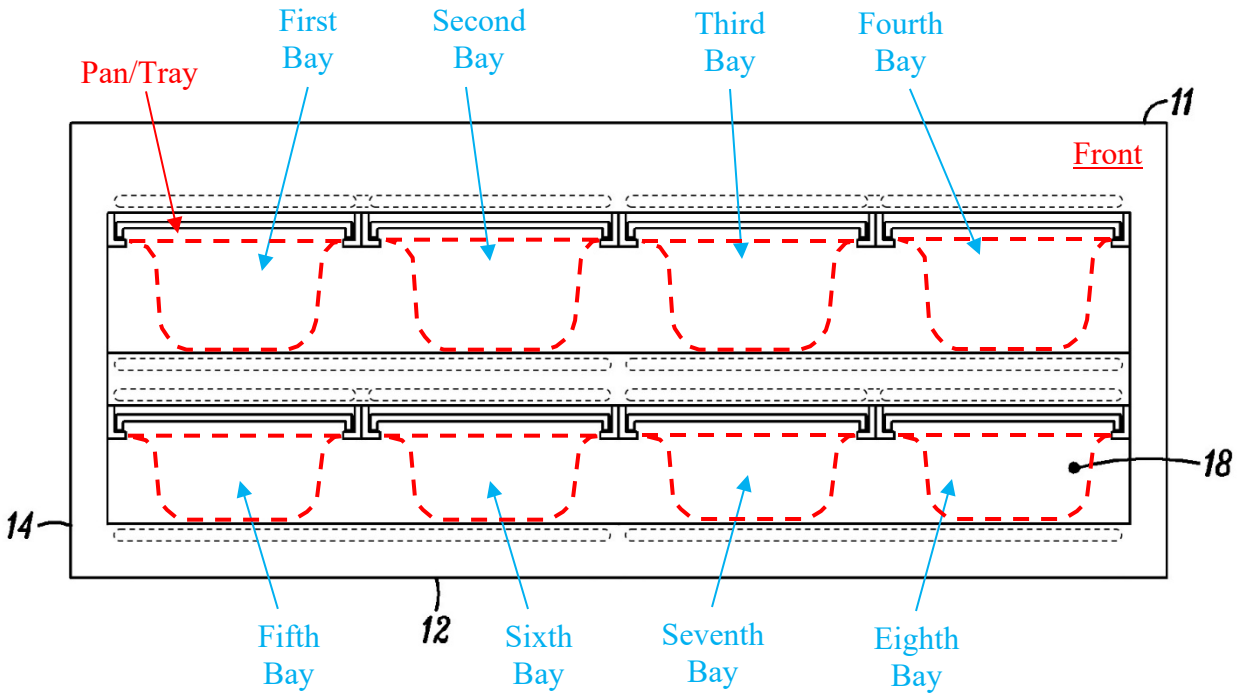


FIG. 6

EX1010: Figs. 1 and 6 (annotated).

840. In adapting the Fortmann'748 cabinet to a 2x4 configuration as discussed at Paragraphs 524-536 (Ground 10, Section XIII(A)(1)) above, it would have been obvious for each bay to receive as taught by Jones, Hartfelder, Stanger, Loy, and/or the IRHS Documents (disclosing or suggesting multiple bays per zone, each bay receiving a pan). EX1005: 8, 25; EX1006: 1; EX1007: 56; EX1010: ¶¶[0014]-[0015]; EX1012: ¶¶[0073], [0096]; EX1013: ¶[0037], Fig. 3; EX1042: ¶[0055]; EX1043: Fig. 17.



EX1010: Fig. 2 (modified, annotated).

841. Accordingly, each step and limitation of Claim 8 is either disclosed in Fortmann'748 or would have been obvious in view of the teachings and disclosures of the IRHS Documents, Jones, Fortmann'197, McMillan, Vaseloff, Hartfelder, Shei'099, Stanger, Loy, and/or Veltrop. As such, the POSA would have found it obvious to arrive at the method of maintaining different temperatures within a multi-zone food holding bin as claimed in Claim 8.

J. Claim 9: the method of claim 8, further comprising plurality of lid holding shelves, a lid holding shelf of the plurality of lid holding shelves associated with each bay of the plurality of bays, wherein each lid holding shelf is configured to receive a lid thereon

842. As discussed above, the POSA would have found it obvious to arrive at the claimed method of maintaining different temperatures within a multi-zone food holding bin of Claim 8.

843. The top panel (11) and each shelf (21) of Fortmann'748's cabinet (10) includes a cover or lid (40). EX1010: ¶[0017] ("[t]he plurality of shelves 21 may each include a removable and slidable cover 40 that is disposed in conjunction with and below each shelf 21 (with the exception of the bottom shelf 21, with a cover 40 also provided above the upper-most shelf)"), Figs. 1 and 6. The lids are for the food pans/trays (100). EX1010: ¶[0017] ("The cover 40 is configured to provide a lid to each restaurant or hotel pan 100 that is placed onto the shelf 21"). The lid (40) rests and slides along a track (48) above the planar surface. EX1010: ¶[0018] ("covers 40 are disposed onto the respective shelves 21 to be removable as necessary, by sliding the cover 40 from the shelf 21 by way of a track 48"), Fig. 3. Thus, the tracks (48) are lid holding shelves.

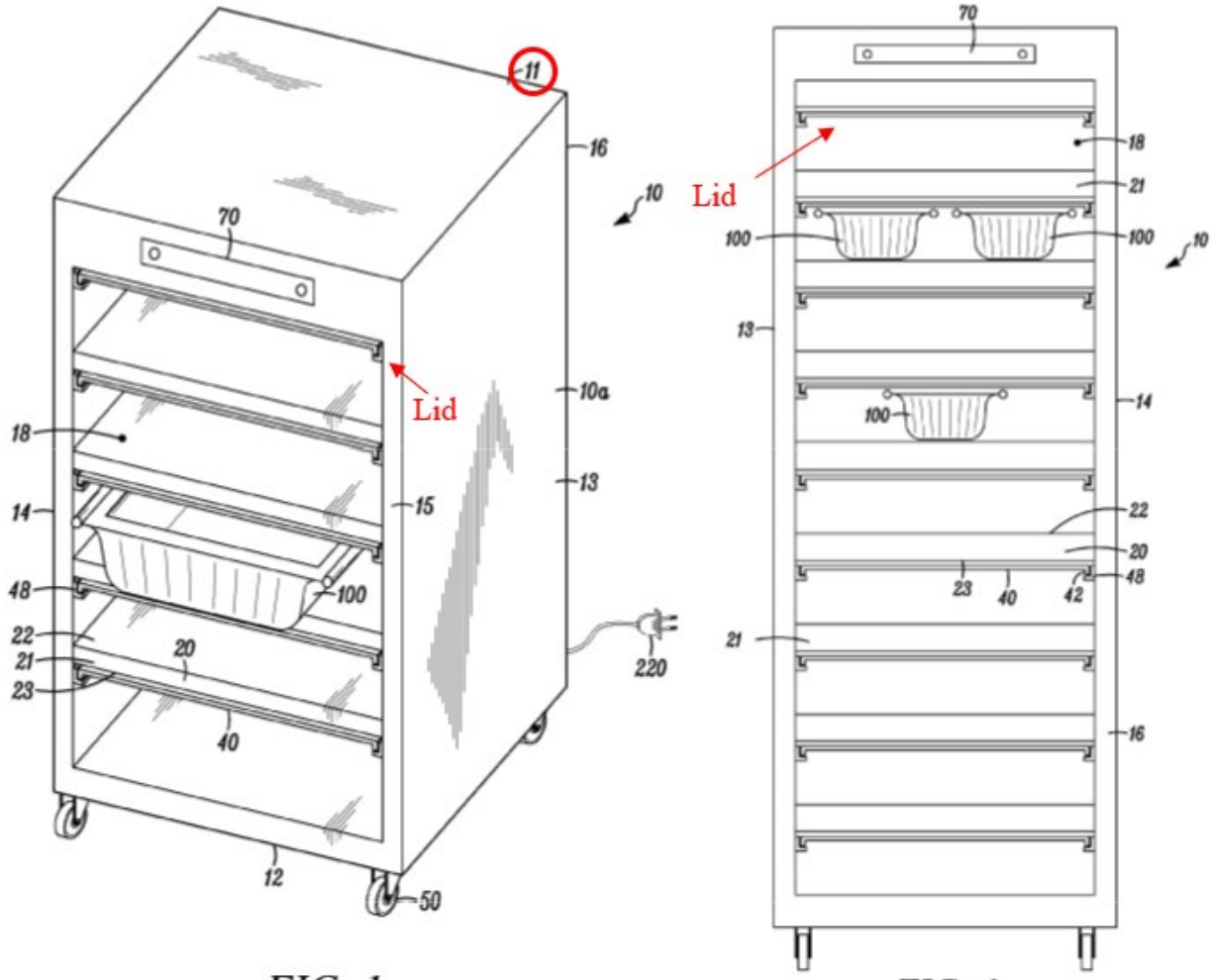


FIG. 1

FIG. 6

EX1010: Figs. 1 and 6 (annotated).

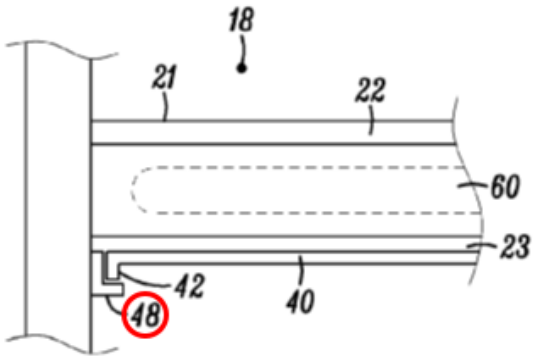


FIG. 3

EX1010: Fig. 3 (annotated).

844. As explained in Paragraphs 652-672 (Ground 10, Section XIII(A)(7)), it would have been obvious to modify the Fortmann'748 cabinet such that it would have discrete lids and associated tracks, for each pan holding location/bay—and therefore each food holding zone—as taught by Jones, Fortmann'197, and the IRHS Documents. EX1012: ¶[0072], Fig. 1B; EX1014: 4:50-53, 7:31-32, Figs. 1-4; EX1005: 8; EX1006: 1-2; EX1007: 53, 58.

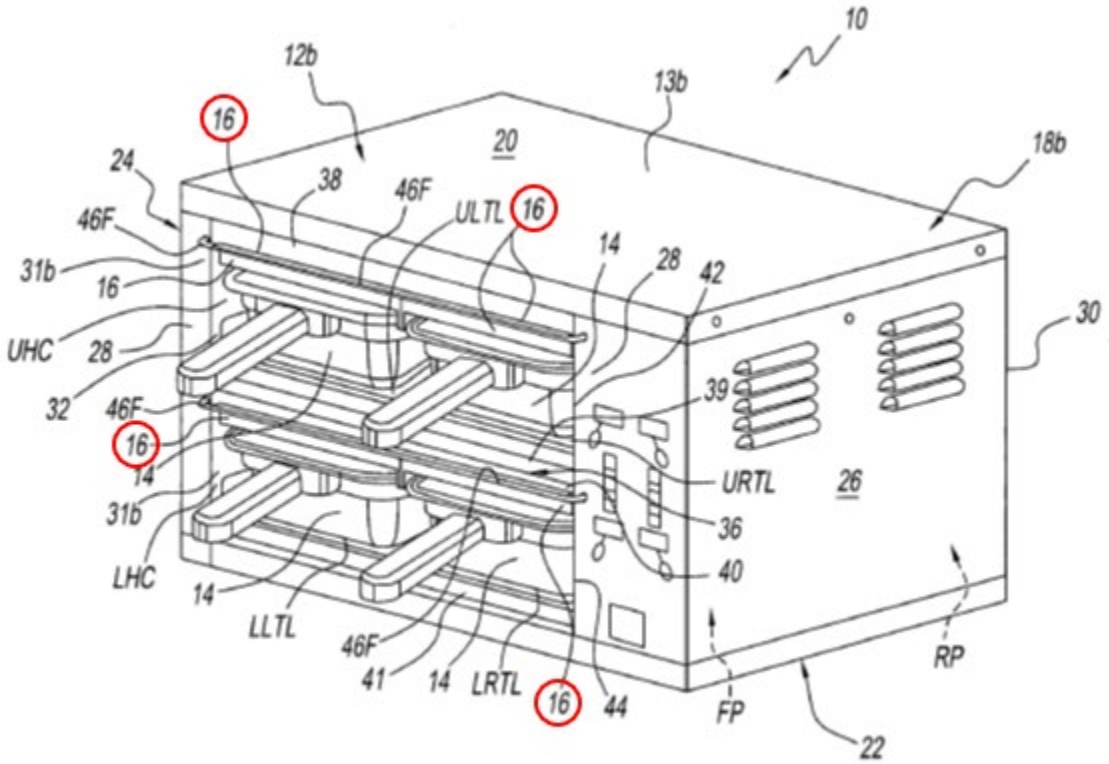
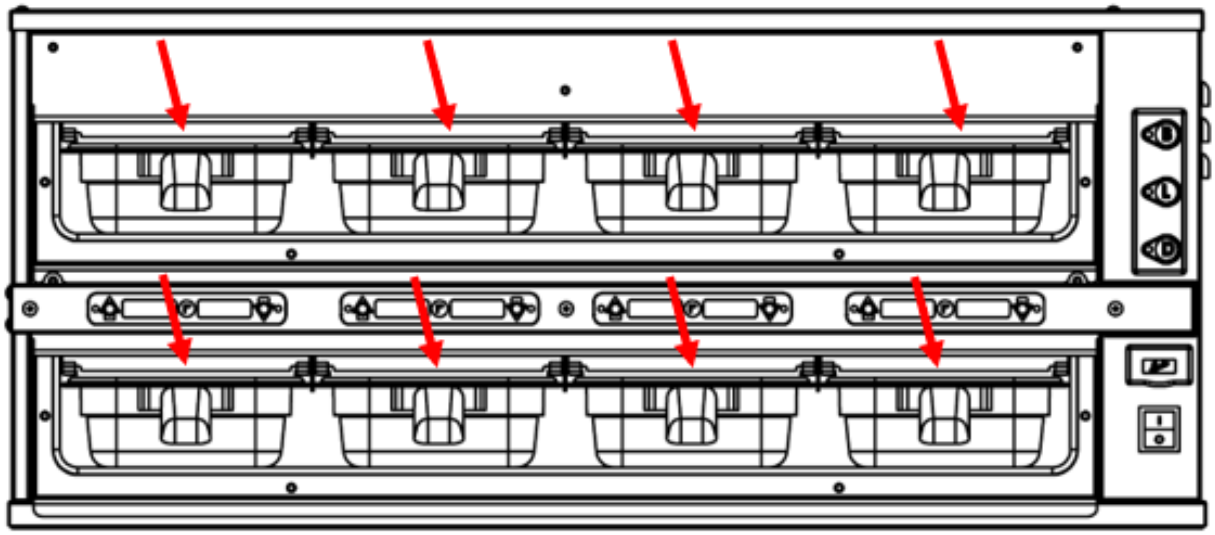


Fig. 1B

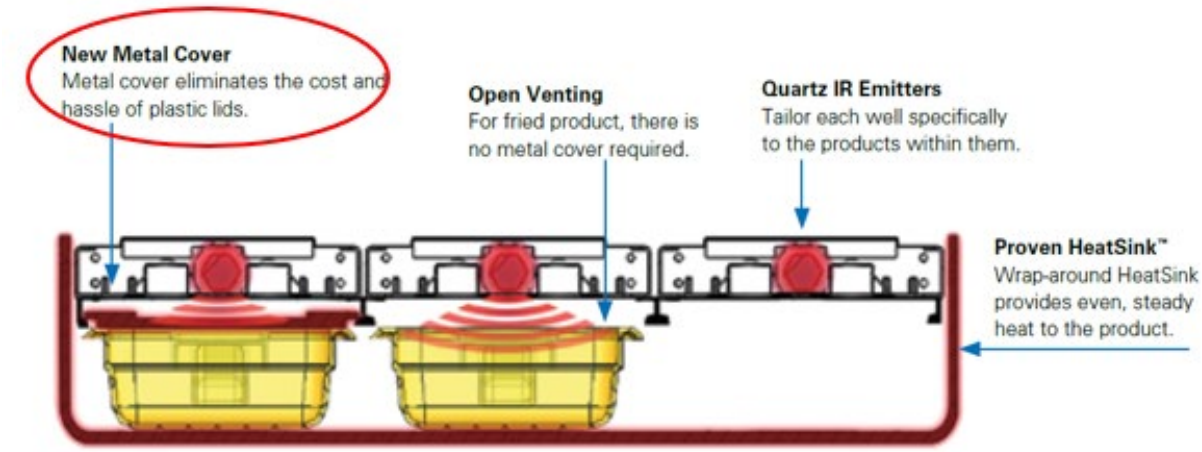
EX1012: Fig. 1B (annotated).



EX1005: 8 (annotated).

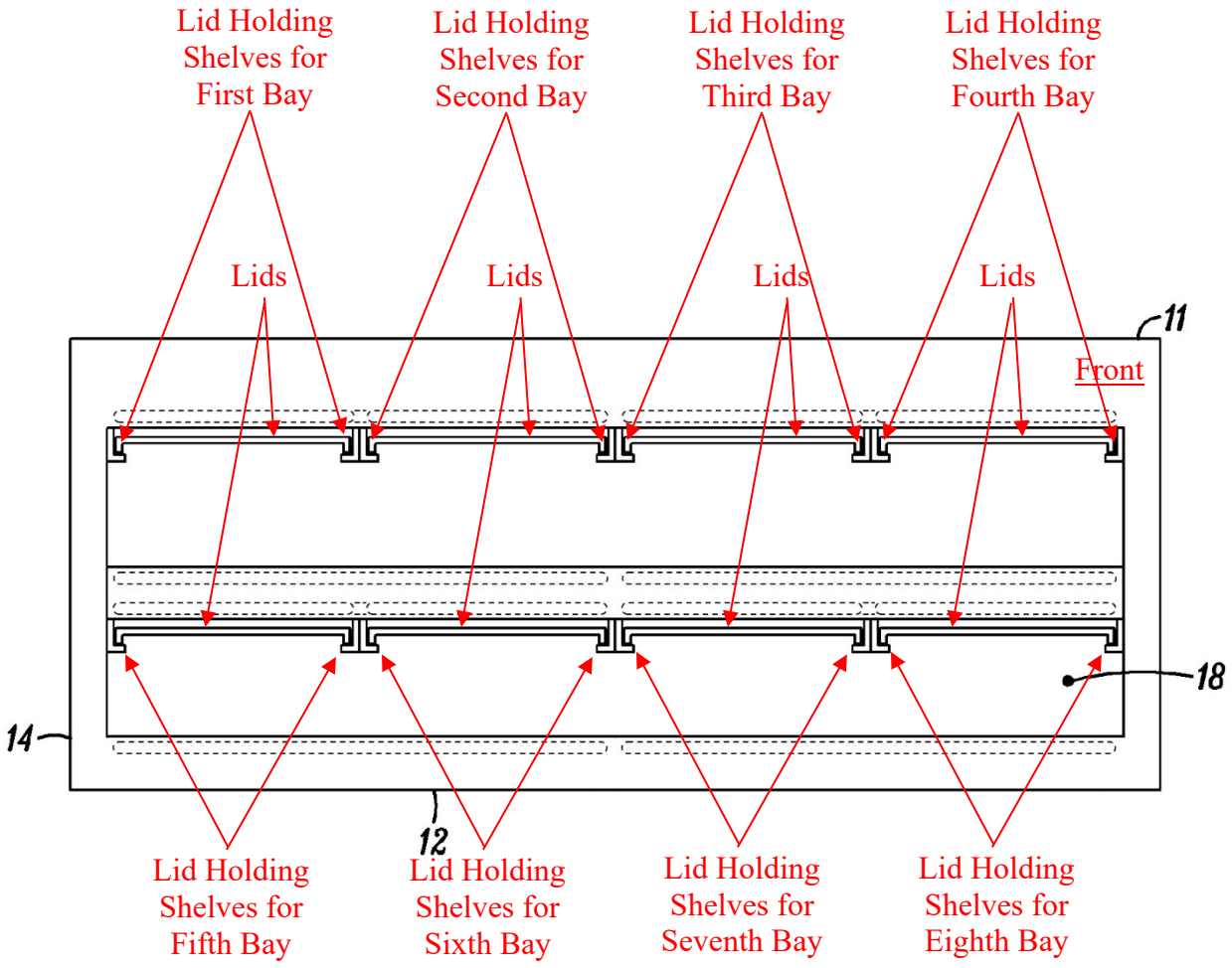


EX1006: 2 (annotated).



EX1007: 53 (annotated).

845. Accordingly, it would have been obvious to modify the Fortmann'748 cabinet to have dedicated tracks (lid holding shelves) for each food holding bay with each track receiving and storing a lid.



EX1010: Fig. 2 (modified, annotated).

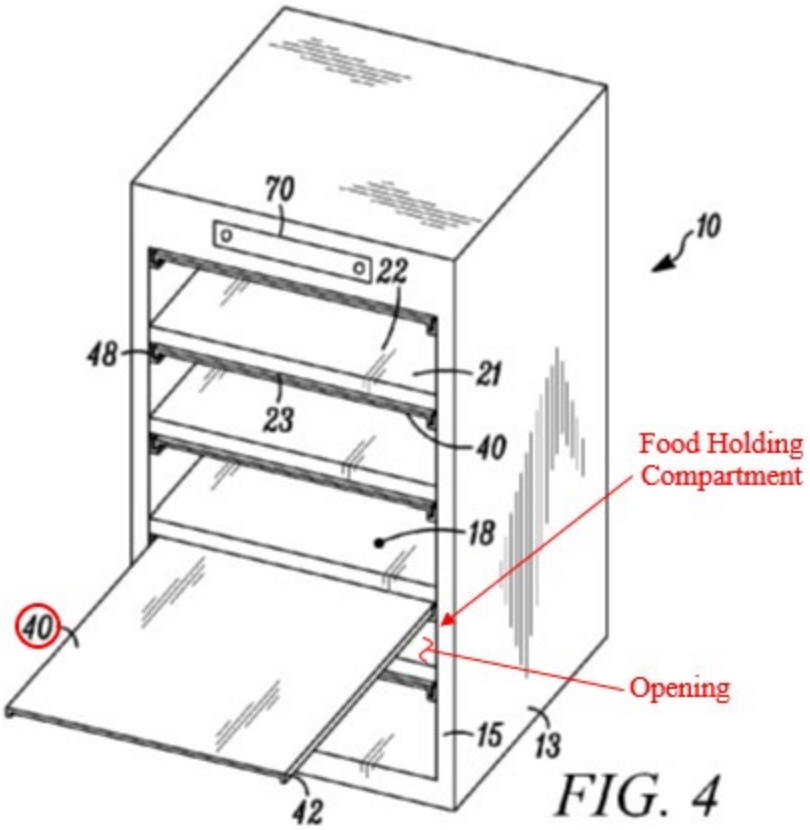
846. Accordingly, the POSA would have found it obvious to combine the teachings and disclosures of Fortmann'748, the IRHS Documents, Jones, Fortmann'197, McMillan, Vaseloff, Hartfelder, Shei'099, Stanger, Loy, and/or Veltrop to arrive at the method of maintaining different temperatures within a multi-zone food holding bin as claimed in Claim 9.

K. Claim 10

10.a: the method of claim 9, further comprising: receiving a first lid through the first opening into the first bay of the first food holding zone

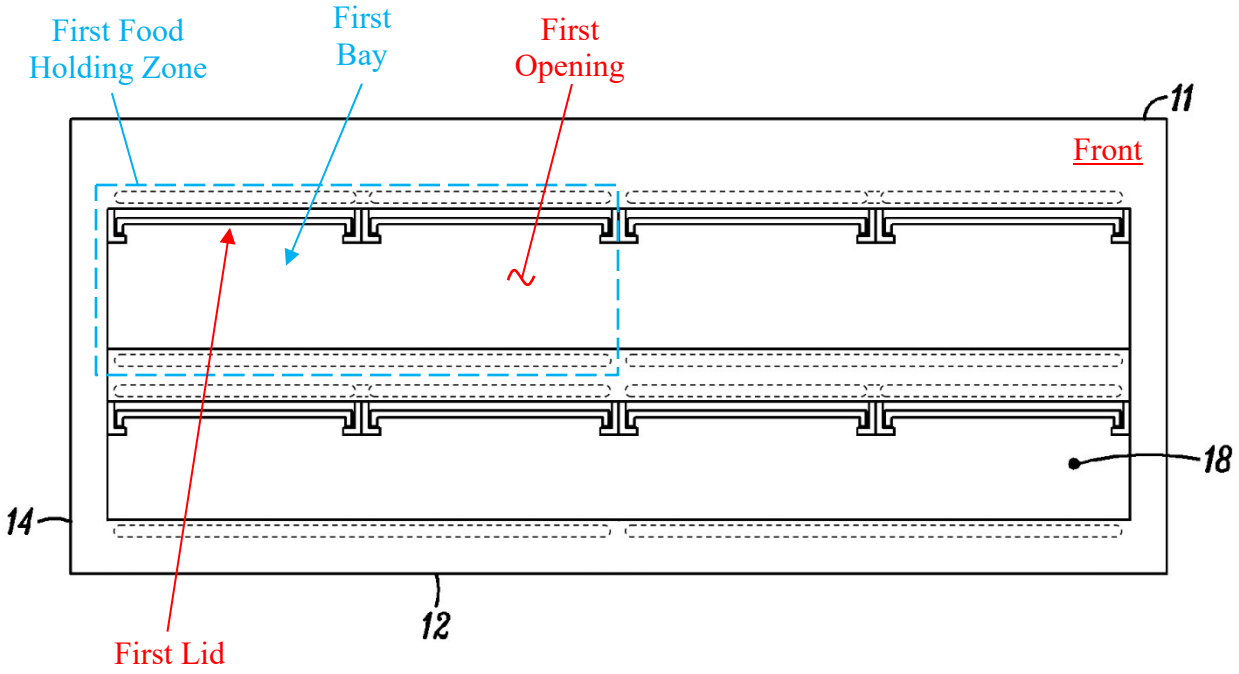
847. As discussed above, the POSA would have found it obvious to arrive at the claimed method of maintaining different temperatures within a multi-zone food holding bin of Claim 9.

848. As expalined in Paragraphs 652-672 and 842-846 (Ground 10, Section XIII(A)(7) and Claim 9), Jones, Fortmann'197, and the IRHS Documents disclsose each bay having a discrete lid and associated tracks such that it would have been obvious for each bay (e.g., first bay) of Fortmann'748's cabinet to have a lid (e.g., a first lid). EX1012: ¶[0072], Fig. 1B; EX1014: 4:50-53, 7:31-32, Figs. 1-4; EX1005: 8; EX1006: 1-2; EX1007: 53, 58. Fortmann'748 discloses that its lids (40) are insertable into and removeable from the food holding compartments via the compartments openings. EX1010: ¶[0017] ("a removable and slidable cover 40"), ¶[0018] ("[t]he covers 40 are disposed onto the respective shelves 21 to be removable as necessary, by sliding the cover 40 from the shelf 21 by way of a track").



EX1010: Fig. 4 (annotated).

849. This teaching would likewise hold true for the Fortmann'748 cabinet as modified to have a 2x4 configuration according to Paragraphs 524-536 (Ground 10, Section XIII(A)(1)) above as shown in the modified renderings below. Jones, Fortmann'197, and the IRHS Documents disclose each bay having a discrete lid such that it would have been obvious for Fortmann'748's first bay to have a first lid. EX1012: ¶[0072], Fig. 1B; EX1014: 4:50-53, 7:31-32, Figs. 1-4; EX1005: 8; EX1006: 1-2; EX1007: 53, 58



EX1010: Fig. 2 (modified, annotated).

850. Thus, it would have been obvious for Fortmann'748's cabinet to receive the first lid through the first opening into the first bay of the first food holding zone. The first lid would have been able to slide into and out of the first bay through the first opening.

10.b: retaining the first lid within the first bay on the lid holding shelf associated with the first bay

851. Notably, similar food holding units to the Fortmann'748's cabinet that include covers or lids further include latches to retain the lids in place. For example, Hartfelder teaches a food warming apparatus (10) that receives trays (40) in heating compartments (24, 26) with covers or lids (44, 46). EX1013: ¶¶[0028]

("food warming apparatus 10"), ¶[0030] ("[e]ach of heating compartments 24 and 26 is sized to accommodate a plurality of trays, as exemplified in FIG. 1 by trays 40 and 42 in heating compartment 24. Each of trays 40 and 42 are covered by covers 44 and 46, respectively.").

852. To prevent the lids (44, 46) from moving with the trays (40, 42) when the trays are removed from the heating compartment (24, 26), the apparatus (10) includes stop members (61) which retain the lids. EX1013: ¶[0058] ("[a]s best shown in FIG. 9, when tray 40 is withdrawn from sub-compartment 64 of heating compartment 24, front turned-up edge 90 of cover 44, acting as an engagement edge, engages stop member 61. The engagement of engagement edge 90 with stop member 61 arrests the movement of cover 44. As the movement of cover 44 is arrested, cover 44 is retained upon within sub-compartment 64 while tray 40 is withdrawn"), Fig. 9.

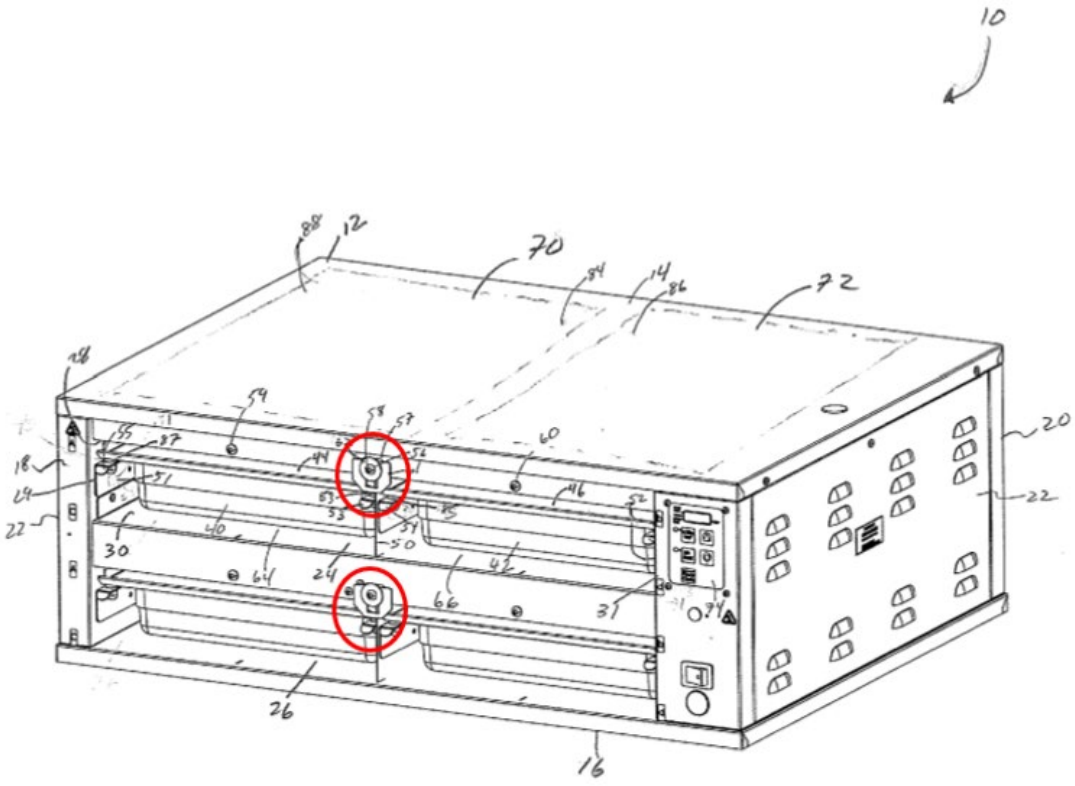

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FIGURE 1

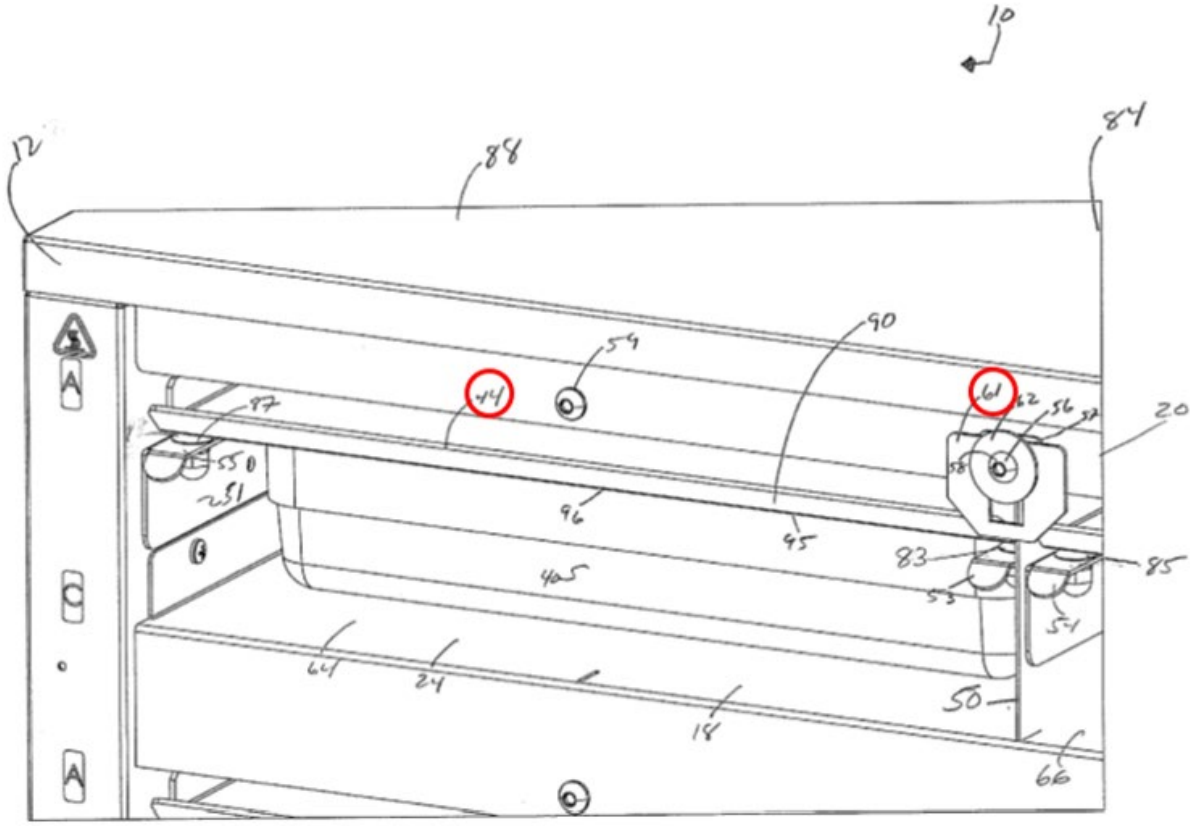


FIGURE 9

EX1013: Figs. 1, 3, and 9 (annotated).

853. Shei'099 discloses similar stops (88) between pairs of covers (80) where the stops are biased by gravity to a cover-retaining position (to retain both covers) and pivotable to the left or right to selectively permit insertion/removal of either of the covers. EX1017: 6:9-32.

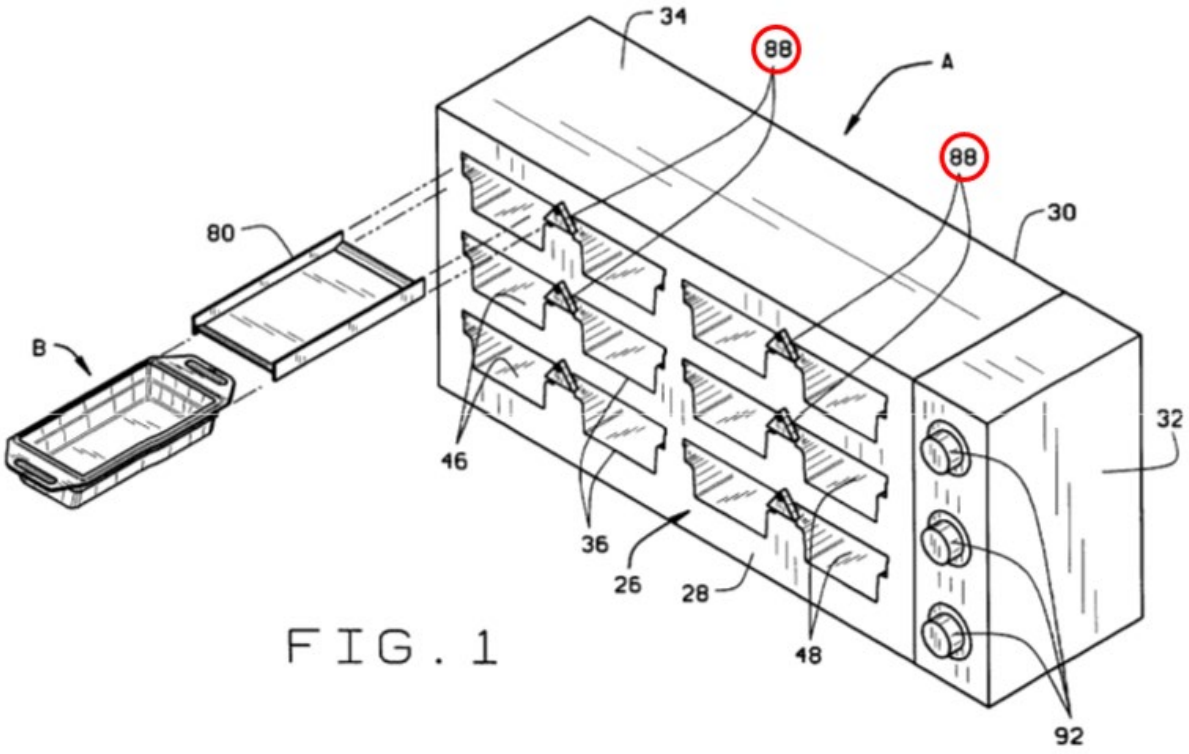
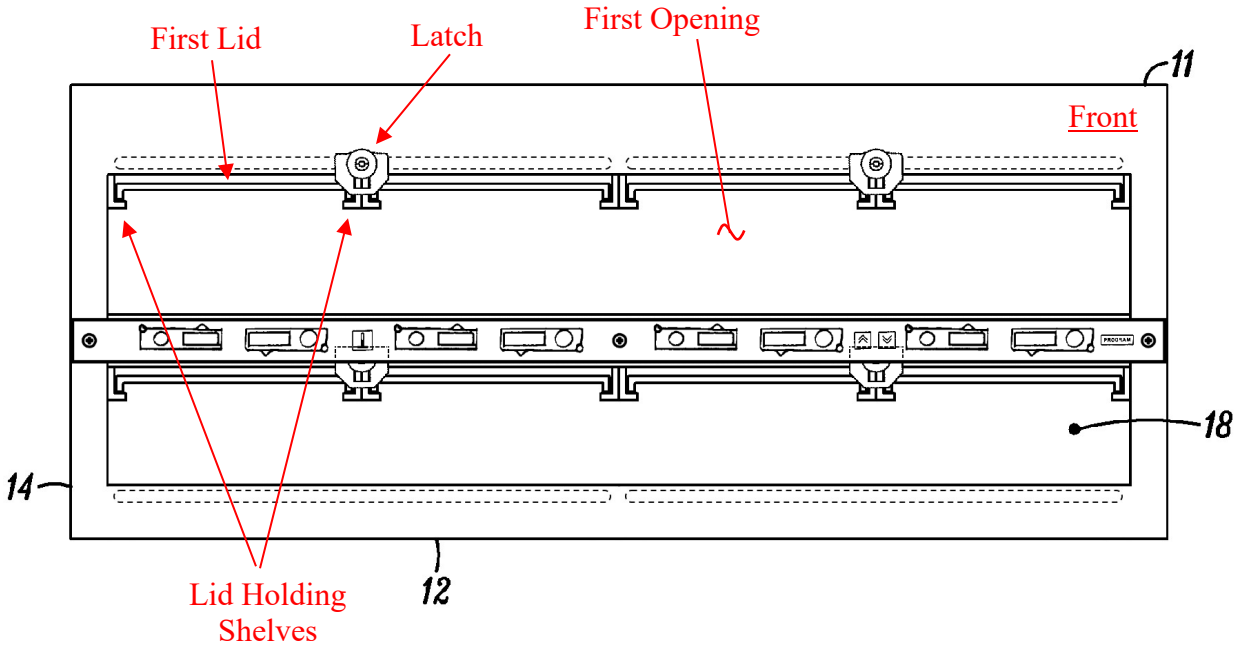


FIG. 1

EX1017: Fig. 1 (annotated).

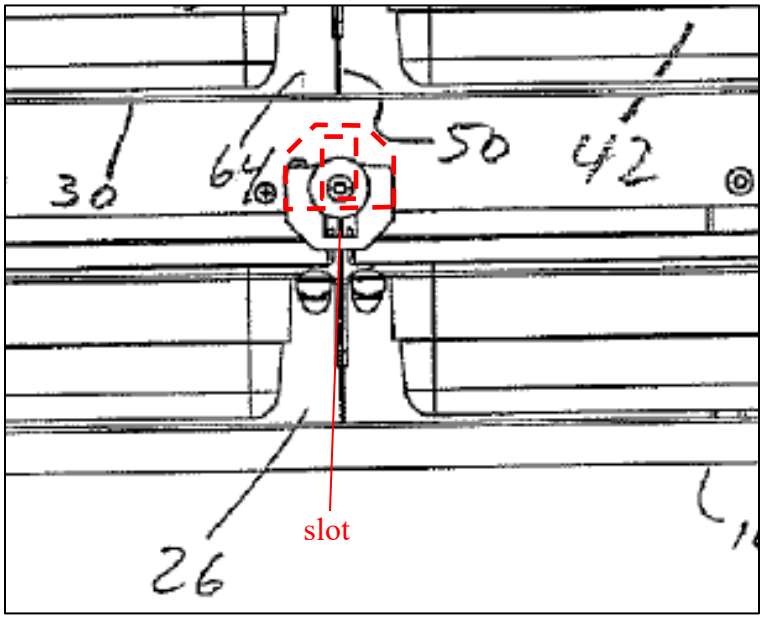
854. As discussed in Paragraphs 673-682 above (Ground 10, Section XIII(A)(8)), it would have been obvious to modify Fortmann'748's cabinet to incorporate Hartfelder's stop members (61) or Shei'099's stops (88) (*i.e.*, latches).

855. In adding the latches (stops) of Hartfelder and Shei'099, the POSA would recognize adding the latches such that one of the latches would have retained the first lid within the first bay on the lid holding shelves, as shown below.

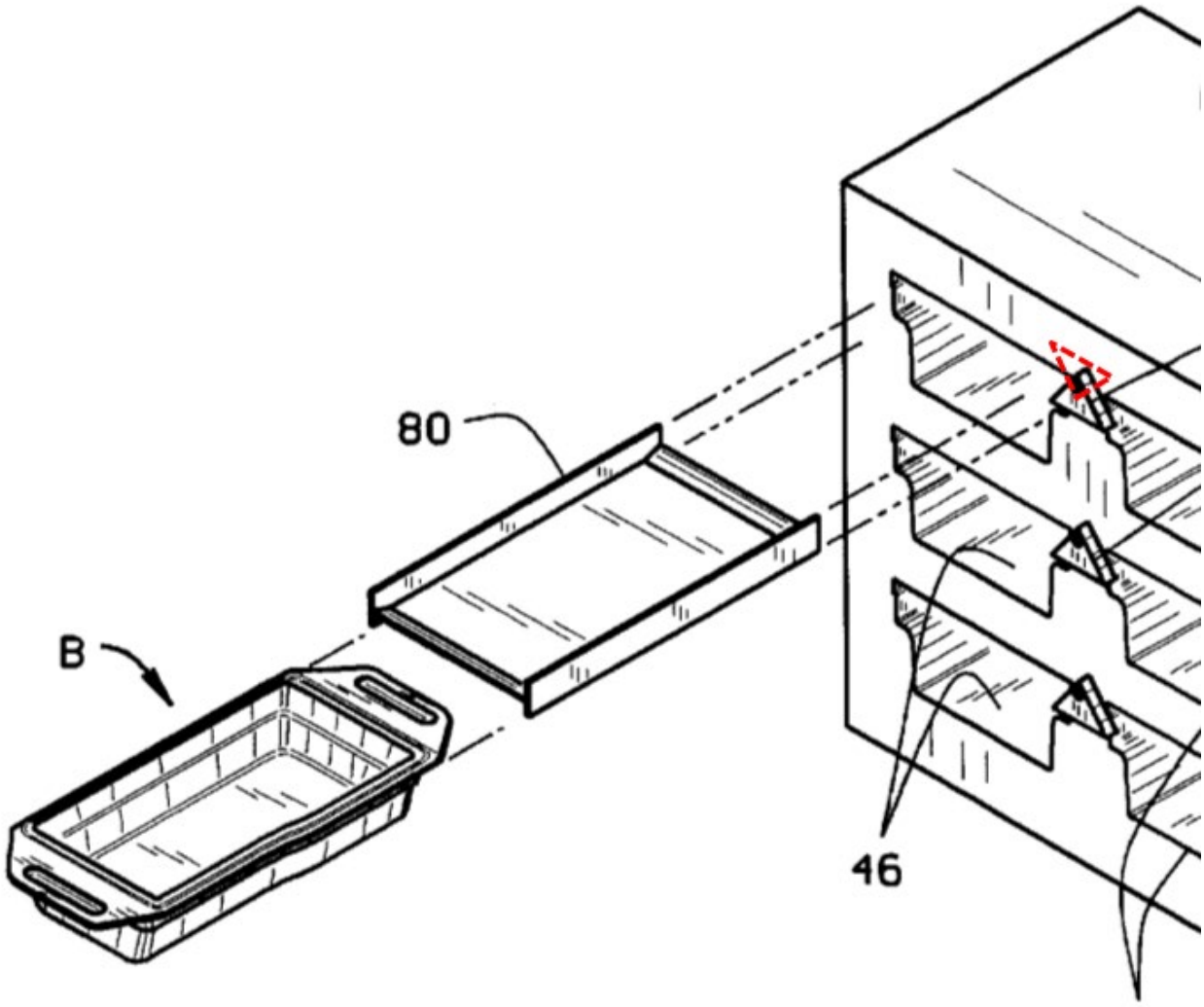


EX1010: Fig. 2 (modified, annotated).

856. As taught by Hartfelder and Shei'099, the latch would be rotatable between a locked position and unlocked position. EX1013: Fig. 2; EX1017: 6:9-32, Fig. 1; EX1016: ¶[0043], Fig. 1.



EX1013: Fig. 2 (enlarged, annotated to show rotation of Hartfelder's stop member).



EX1017: Fig. 1 (enlarged, annotated).

857. In the locked position, the latch would prevent removal of the lid, thereby retaining the lid on the lid holding shelves. EX1013: ¶[0058] ("[a]s best shown in FIG. 9, when tray 40 is withdrawn from sub-compartment 64 of heating

compartment 24, front turned-up edge 90 of cover 64, acting as an engagement edge, engages stop member 61. The engagement of engagement edge 90 with stop member 61 arrests the movement of cover 44. As the movement of cover 44 is arrested, cover 44 is retained upon within sub-compartment 64 while tray 40 is withdrawn"); EX1017: 6:19-21 ("[t]he free apices of the stops 88 lie beyond the ends of the vertical legs 82 for the covers 80 and retain the covers 80 in the upper regions of the heat sinks 46").

858. Accordingly, each step and limitation of Claim 10 is either disclosed in Fortmann'748 or would have been obvious in view of the teachings and disclosures of the IRHS Documents, Jones, Fortmann'197, McMillan, Vaseloff, Hartfelder, Shei'099, Stanger, Loy, and/or Veltrop. As such, the POSA would have found it obvious to arrive at the method of maintaining different temperatures within a multi-zone food holding bin as claimed in Claim 10.

L. Claim 12: the method of claim 9, wherein at least some of the lid holding shelves of the plurality of lid holding shelves downwardly depend from the first top surface towards the first substantially planar bottom surface, leaving the first substantially planar bottom surface substantially unobstructed between the first side panel and the second side panel

859. As discussed above, the POSA would have found it obvious to arrive at the claimed method of maintaining different temperatures within a multi-zone food holding bin of Claim 9.

860. Fortmann'748' discloses that a cover or lid (40) for the food tray(s)/pan(s) is disposed below the top panel (11) of the cabinet (10). EX1010: ¶[0017] ("[t]he plurality of shelves 21 may each include a removable and slidable cover 40 that is disposed in conjunction with and below each shelf 21 (with the exception of the bottom shelf 21, with a cover 40 also provided above the upper-most shelf)"), Figs. 1 and 6. The lid (40) rests and slides along a track (48). EX1010: ¶[0018] ("covers 40 are disposed onto the respective shelves 21 to be removable as necessary, by sliding the cover 40 from the shelf 21 by way of a track 48"), Fig. 3. Fortmann'748 teaches further teaches an embodiment in which the track (48) is "***fixed directly to the respective shelf 21*** and is disposed beneath each of the right and left sides of the shelf 21." EX1010: ¶[0018].

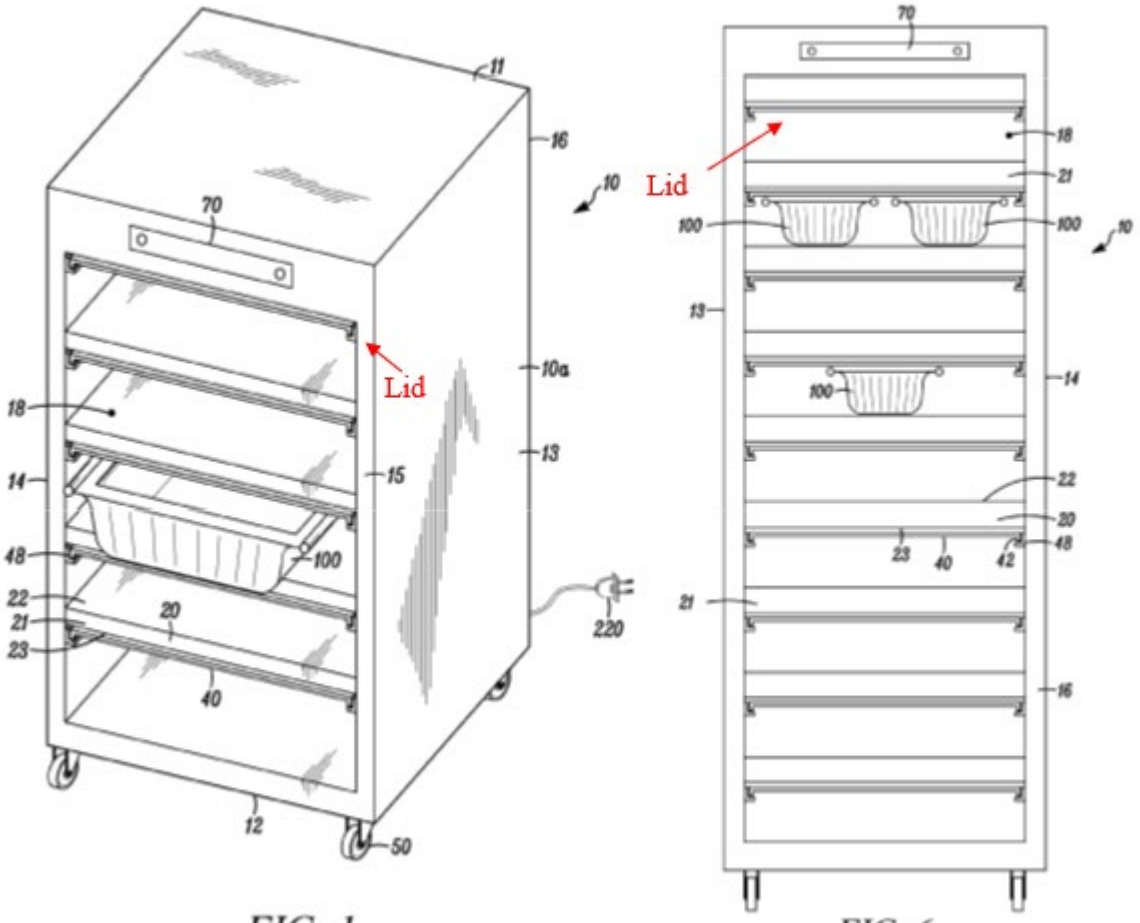


FIG. 1

FIG. 6

EX1010: Figs. 1 and 6 (annotated).

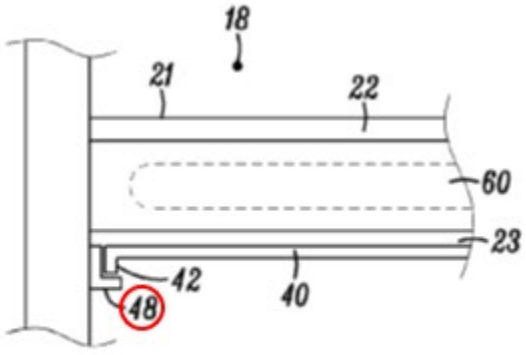


FIG. 3

EX1010: Fig. 3 (annotated).

861. As explained in Paragraphs 652-672 (Ground 10, Section XIII(A)(7)), when modifying Fortmann'748 to have discrete lids in view of Jones, Fortmann'197, and the IRHS Documents, it would have been obvious to duplicate Fortmann'748's tracks (e.g., lid holding shelves) that support the lids. EX1010: ¶[0018]. It would have been further obvious for the tracks to downwardly depend from the first top surface of the holding compartments, as the top surfaces would be the only available surface of the holding compartments from which to attach the tracks in the middle of the food holding compartment.

862. As a result, Fortmann'748's cabinet would have had tracks (e.g., lid holding shelves) that downwardly depend from the first top surface, which is formed by the top panel, toward the first substantially planar surface. As explained in Paragraphs 691-694 (claim limitation 1.a.3), the first substantially planar bottom surface is substantially unobstructed between the first and second side panels.

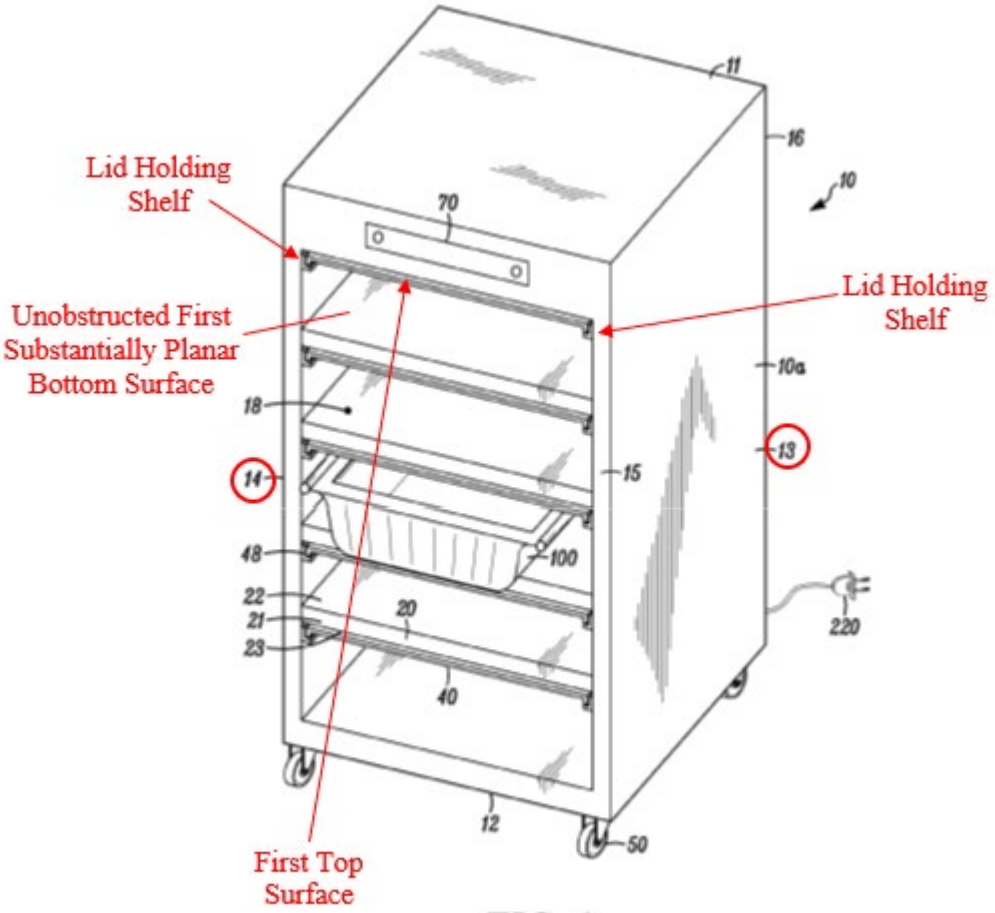

Lid Holding Shelf
Unobstructed First Substantially Planar Bottom Surface
First Top Surface
Lid Holding Shelf
11
16
10
70
10a
13
15
14
18
48
22
21
23
20
40
100
220
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FIG. 1

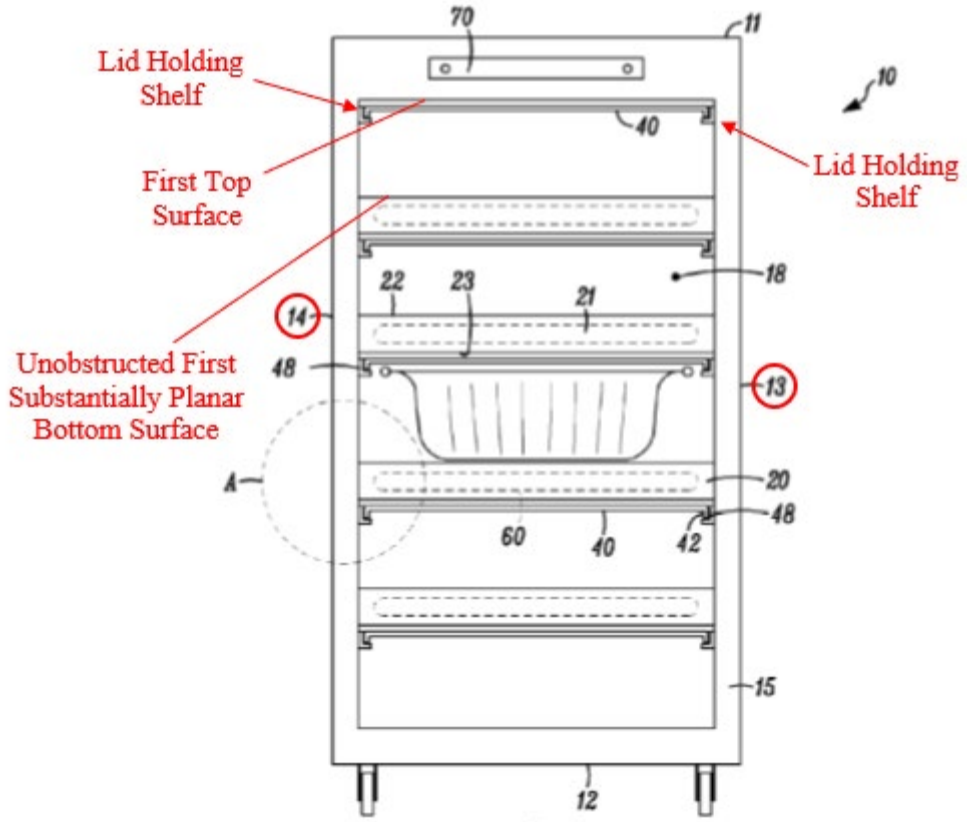
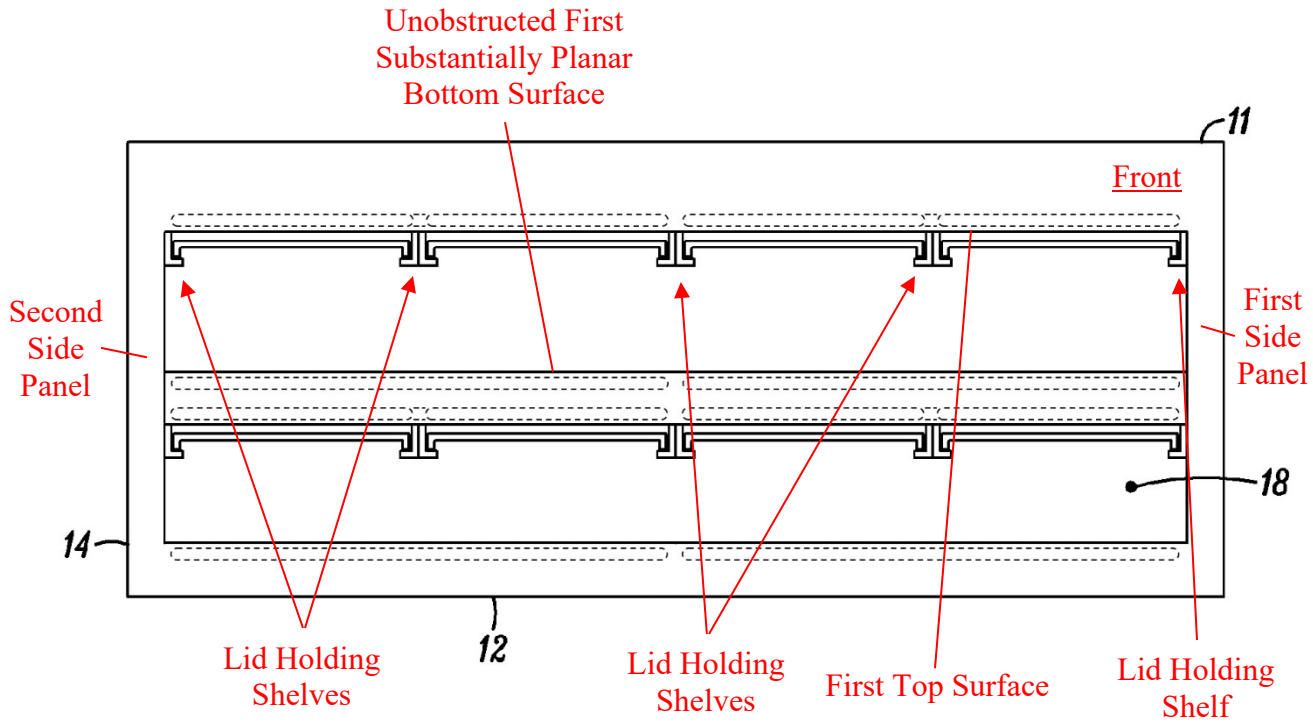


FIG. 2

EX1010: Figs. 1 and 2 (annotated).

863. Accordingly, when modifying Fortmann'748 to have discrete lids according to Paragraphs 652-672 (Ground 10, Section XIII(A)(7)) it would have been obvious to adopt lid-holding shelves downwardly depending from the first top surface toward the first substantially planar bottom surface.



EX1010: Figs. 2 and 6 (modified, annotated).

864. Accordingly, the POSA would have found it obvious to combine the teachings and disclosures of Fortmann'748, the IRHS Documents, Jones, Fortmann'197, McMillan, Vaseloff, Hartfelder, Shei'099, Stanger, Loy, and/or Veltrop to arrive at the method of maintaining different temperatures within a multi-zone food holding bin as claimed in Claim 12.

M. Claim 13

13.a: the method of claim 12, further comprising providing a latch associated with at least one of the lid holding shelves

865. As discussed above, the POSA would have found it obvious to arrive at the claimed method of maintaining different temperatures within a multi-zone food holding bin of Claim 12.

866. Hartfelder and Shei'099 disclose latches (stops) such that it would have been obvious to modify Fortmann'748's cabinet to have latches for the reasons explained in Paragraphs 673-682 (Ground 10, Section XIII(A)(8)). EX1013: ¶[0058] ("An engagement edge of a cover may engage a stop member when a tray is removed from a sub-compartment of a heating compartment. By engaging the engagement edge, a stop member may to arrest the movement of the cover caused by removal of a tray from the sub-compartment. By arresting the motion of the cover while a tray is withdrawn, the cover may be retained inside the sub-compartment"); EX1017: 6:20-21 ("The free apices of the stops 88 lie beyond the ends of the vertical legs 82 for the covers 80 and retain the covers 80 in the upper regions of the heat sinks 46").

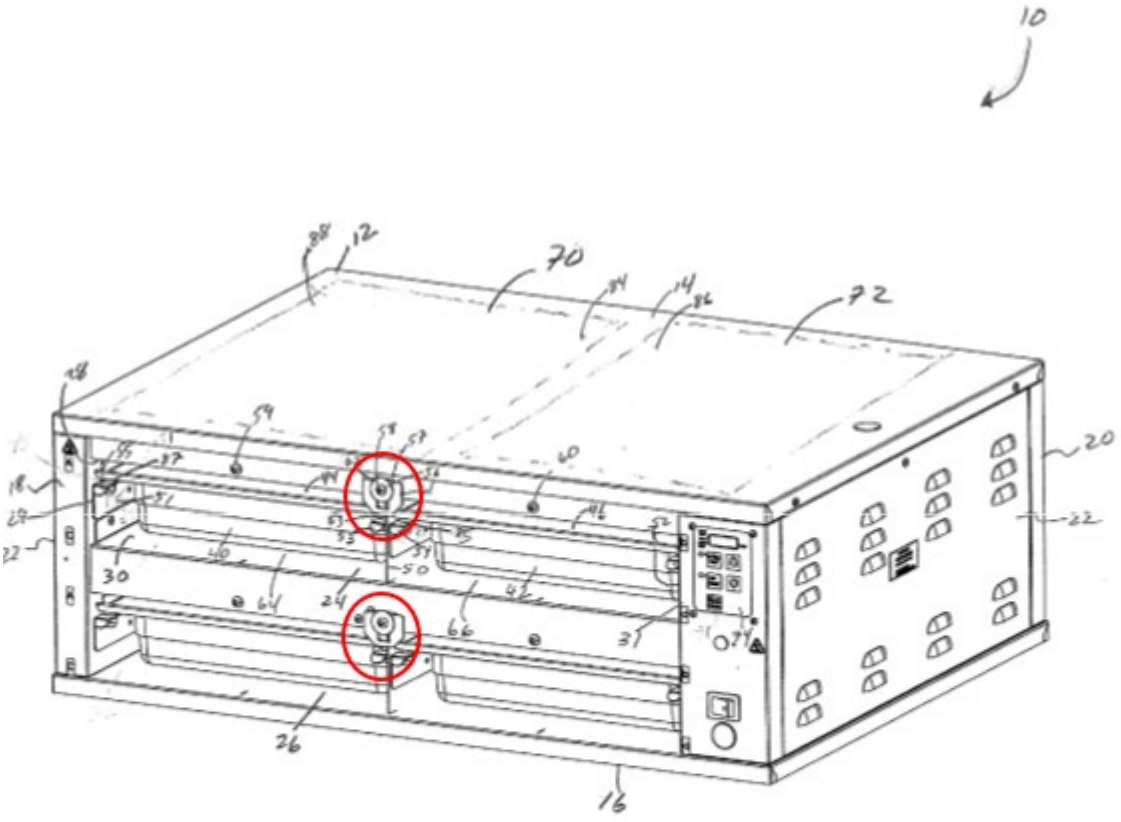


FIGURE 1

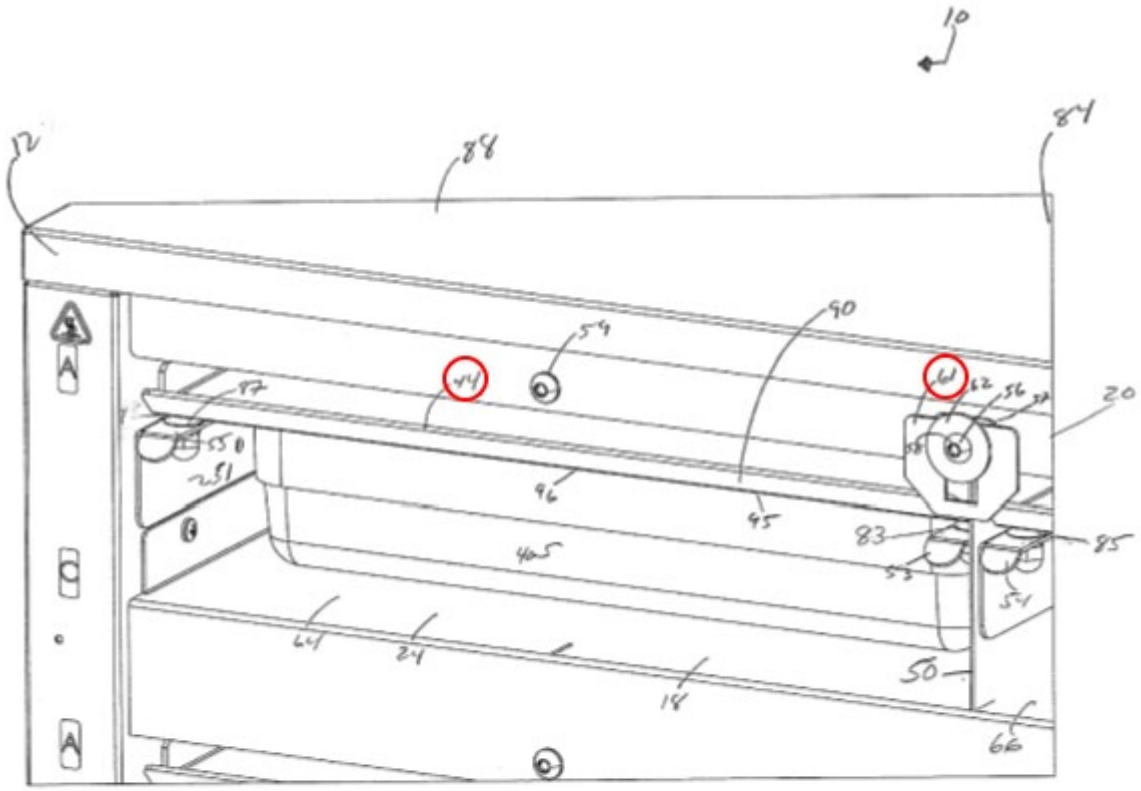


FIGURE 9

EX1013: Figs. 1 and 9 (annotated).

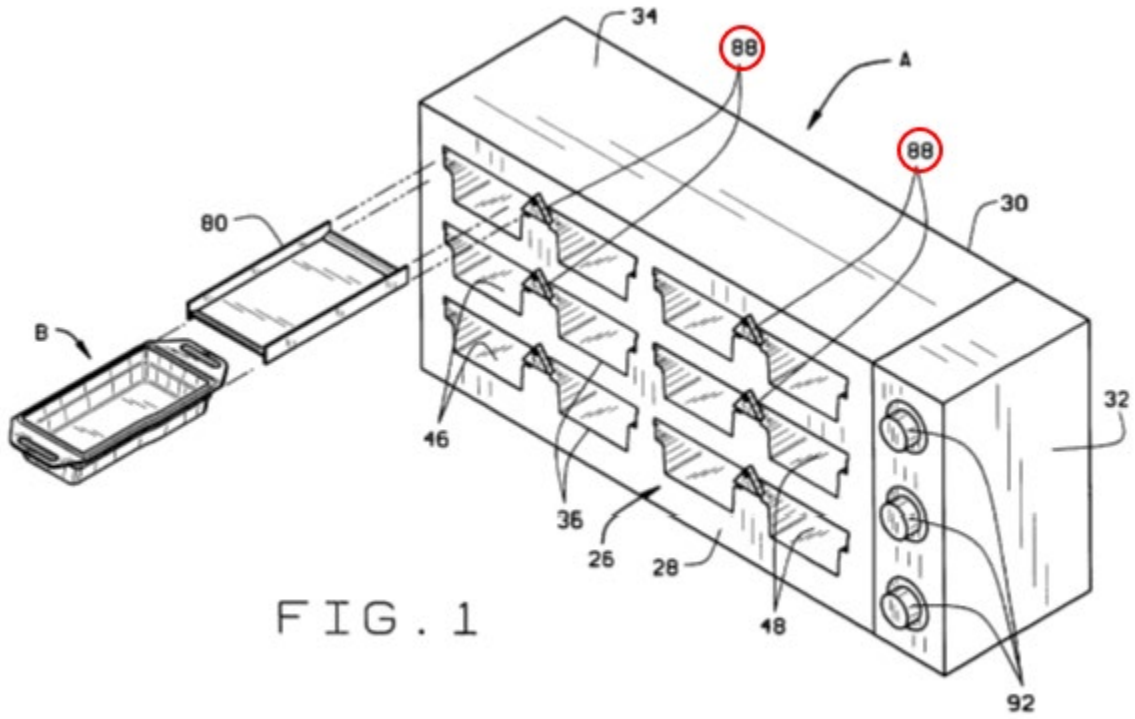
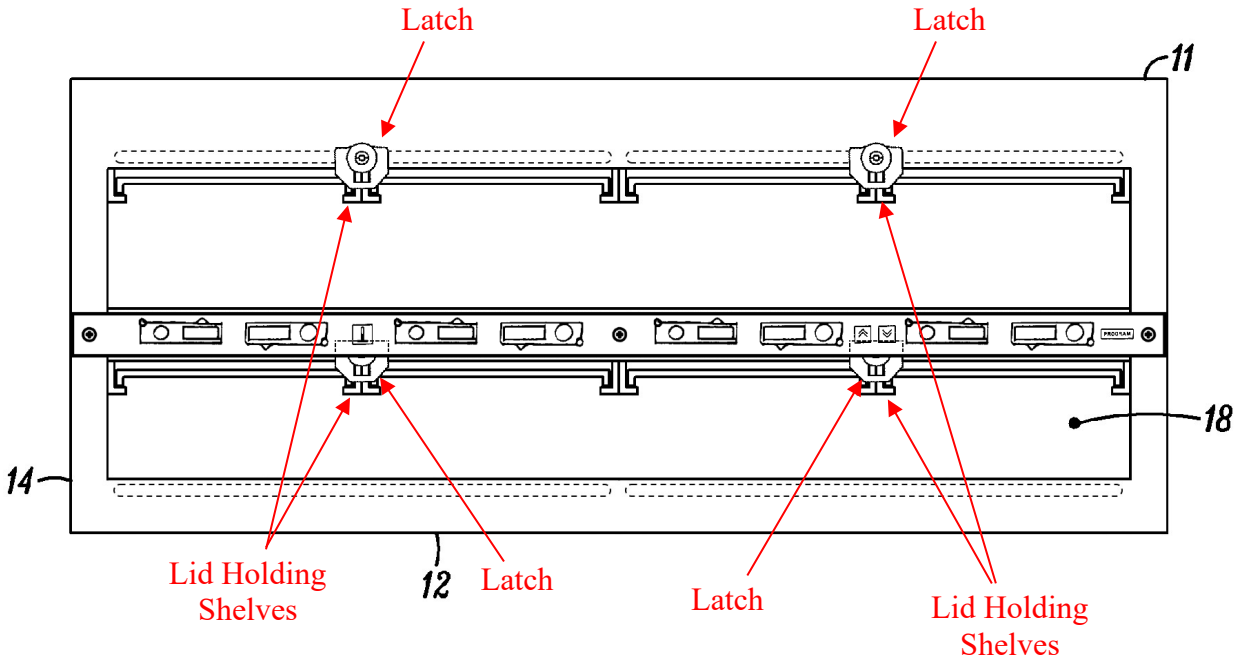


FIG. 1

EX1017: Fig. 1 (annotated)

867. It would have been obvious to position the latches in the locations as taught by Hartfelder and/or Shei'099—positioned adjacent the openings and lids—so that they are positioned where they can engage and retain the lids. EX1013: Figs. 1, 2, and 9; EX1017: Figs. 1 and 2, 6:9-14 ("Each triangular stop 88 serves two openings 36. It pivots at one of its apices, with the pivot axis being slightly above, but otherwise between, the two openings 36 that the stop 88 serves").

868. Accordingly, in view of the teachings of Hartfelder and/or Shei'099, the latches would be aligned with the lid holding shelves to retain the lids and thus associated with the lid holding shelves.

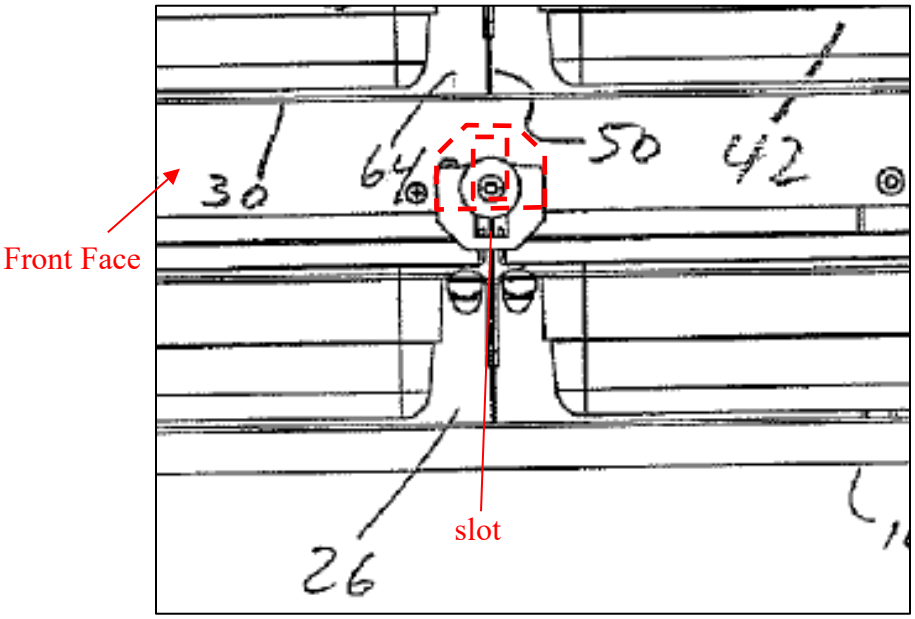


EX1010: Fig. 2 (modified, annotated).

13.b: the latch movably secured to the front face

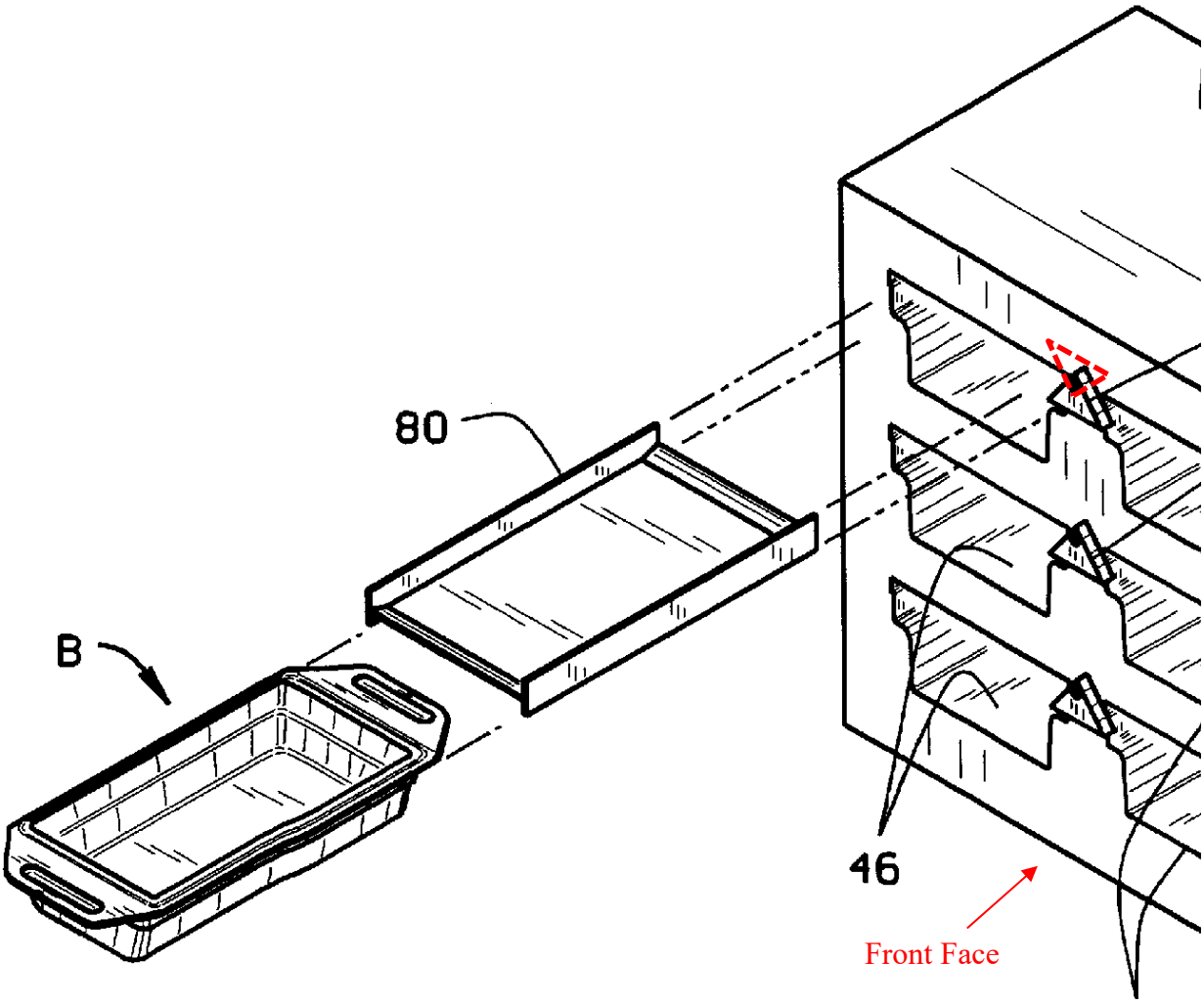
869. The POSA would understand that Hartfelder's stop members (61) are secured to the front face and are moveable between locked and unlocked positions. Specifically, the stop members (61) have a vertical slot, through which the fastener (56) extends to connect the stop member to the cabinet (12). The cutout is larger than the fastener (56), thereby allowing the stop member (61) to rotate between the locked position shown in Fig. 2 (in which the stop member is positioned to engage the lid if the lid moves out of the compartment) and an unlocked position shown by the broken lines (in which the stop member is positioned to permit the lids to be

removed from the compartment). Stop members (61) of this type rotate between locked and unlocked positions. EX1017: 6:9-32, Fig. 1; EX1016: ¶[0043], Fig. 1.



EX1013: Fig. 2 (enlarged, annotated to show rotation of Hartfelder's stop member).

870. Likewise, Shei'099's stops (88) are secured to the front face and rotate between locked and unlocked positions. EX1017: 6:9-32.

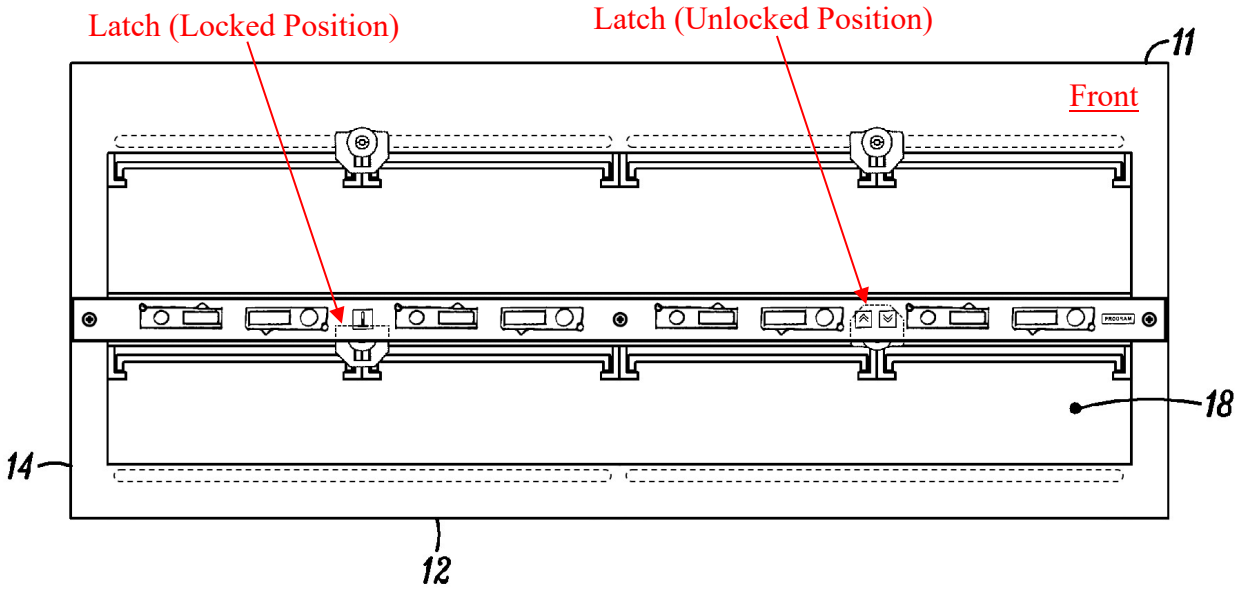


EX1017: Fig. 1 (enlarged, annotated).

871. While the above annotated images of Hartfelder and Shei'099 show the stops (latches) rotated 180-degrees from an at-rest position, the POSA understands the user/operator would pivot the stops in Hartfelder and Shei'099 as needed (e.g., 45-degrees) left or right to release the desired lid.

872. In view of the teachings of Hartfelder and/or Shei'099, the latches added to Fortmann'748's cabinet would have been moveably mounted to the front face of the chassis. *See* Paragraphs 673-682 (Ground 10, Section XIII(A)(8)).

873. Each latch would have been moveable (rotatable) between a locked position and unlocked position (shown in broken lines). EX1013: Fig. 2; EX1017: 6:9-32, Fig. 1; EX1016: ¶[0043], Fig. 1. In the locked position, the latch would have been positioned (via gravity in an at-rest position) to block/prevents removal of the lid. EX1013: ¶[0058] ("[a]s best shown in FIG. 9, when tray 40 is withdrawn from sub-compartment 64 of heating compartment 24, front turned-up edge 90 of cover 64, acting as an engagement edge, engages stop member 61. The engagement of engagement edge 90 with stop member 61 arrests the movement of cover 44. As the movement of cover 44 is arrested, cover 44 is retained upon within sub-compartment 64 while tray 40 is withdrawn"); EX1017: 6:19-21 ("[t]he free apices of the stops 88 lie beyond the ends of the vertical legs 82 for the covers 80 and retain the covers 80 in the upper regions of the heat sinks 46"). In the unlocked position, the latch would have been rotated (e.g., 45-degrees, 180-degrees (as annotated below)) to allow removal of the lid from the lid holding shelf. EX1013: Fig. 2; EX1017: 6:9-32 ("the stop 88 … is pivoted away from the opening 36 at that heat sink 46 so as to no longer block the opening 36. While the stop 88 is held away from the opening 36, the cover 80 is removed"), Fig. 1; EX1016: ¶[0043], Fig. 1.



EX1010: Fig. 2 (modified, annotated).

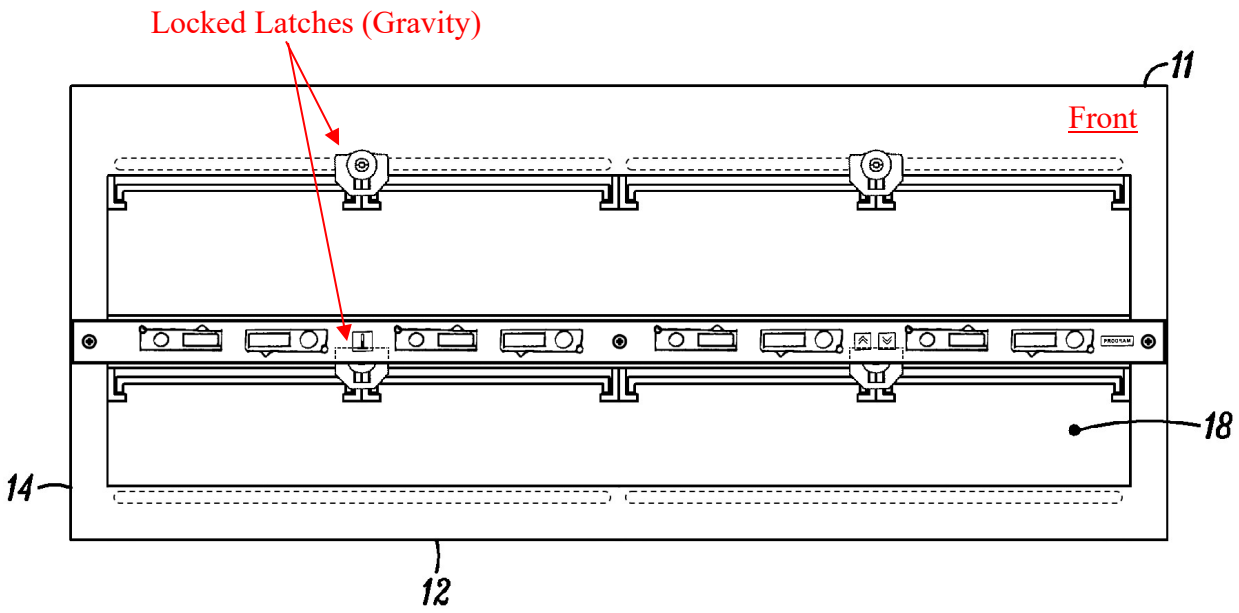
874. Accordingly, each step and limitation of Claim 13 is either disclosed in Fortmann'748 or would have been obvious in view of the teachings and disclosures of the IRHS Documents, Jones, Fortmann'197, McMillan, Vaseloff, Hartfelder, Shei'099, Stanger, Loy, and/or Veltrop. As such, the POSA would have found it obvious to arrive at the method of maintaining different temperatures within a multi-zone food holding bin as claimed in Claim 13.

N. Claim 14: The method of claim 13, further comprising biasing the latch into a position that retains a lid on the associated lid holding shelf with gravity.

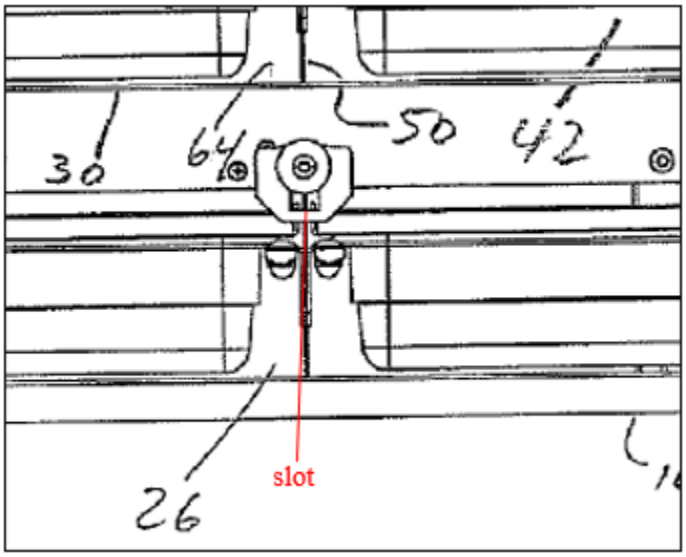
875. As discussed above, the POSA would have found it obvious to arrive at the claimed method of maintaining different temperatures within a multi-zone food holding bin of Claim 13.

876. As explained in Paragraphs 865-874 (Claim 13), it would have been obvious to modify Fortmann'748's cabinet to have latches as taught by Hartfelder and Shei'099. In incorporating the latches of Hartfelder or Shei'099, the latch would have been rotatable between a locked position and unlocked position. EX1013: Fig. 2; EX1017: 6:9-32, Fig. 1; EX1016: ¶[0043], Fig. 1.

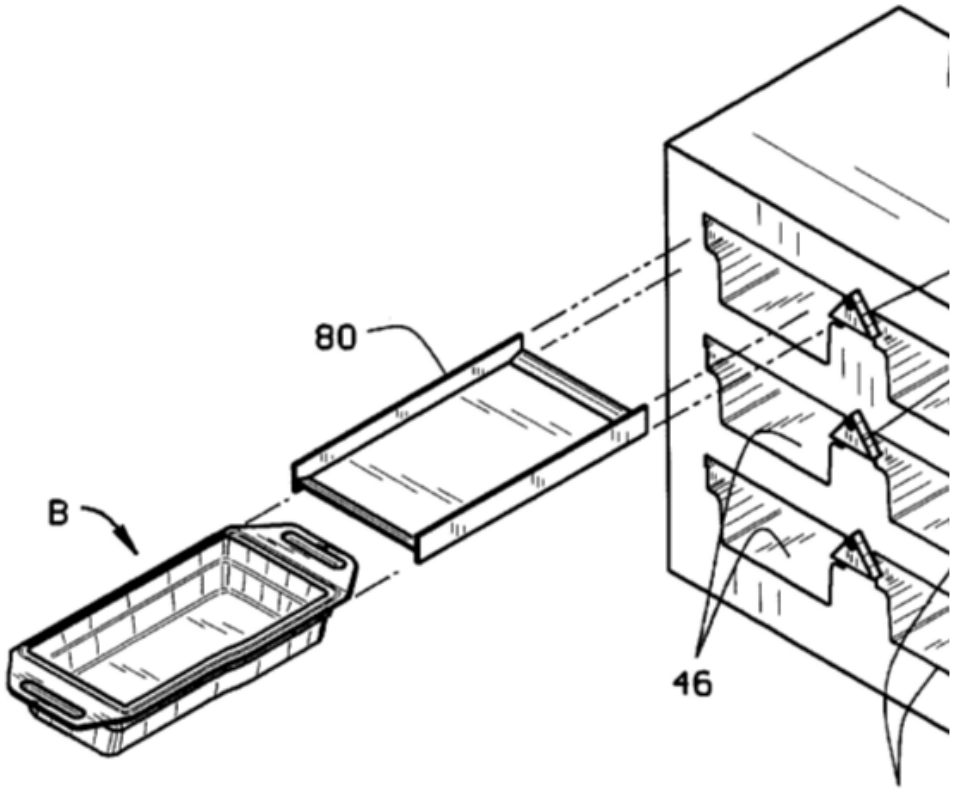
877. Gravity would bias the latch into the locked position (where the latch is positioned to retain the lid on the lid holding shelves) by pulling and/or rotating the latch until the latch's center of gravity is disposed below the fastener. EX1013: Fig. 9; EX1017: 6:9-32 ("Once the cover 80 is fully within the heat sink 44, the stop 88 is released, and it assumes its normal position, blocking the end of the opening 36 and thereby retaining the cover 80 in the heat sink 46"), Fig. 1; EX1016: ¶[0043], Fig. 1.



EX1005: 8 (modified, annotated).



EX1013: Fig. 2 (enlarged, annotated).



EX1017: Fig. 1 (enlarged).

878. Accordingly, the POSA would have found it obvious to combine the teachings and disclosures of Fortmann'748, the IRHS Documents, Jones, Fortmann'197, McMillan, Vaseloff, Hartfelder, Shei'099, Stanger, Loy, and/or Veltrop to arrive at the method of maintaining different temperatures within a multi-zone food holding bin as claimed in Claim 14.

O. Claim 15

15.a: The method of claim 14, further comprising providing a bezel set forward of the front face to form a gap between the front face and the bezel,

879. As discussed above, the POSA would have found it obvious to arrive at the claimed method of maintaining different temperatures within a multi-zone food holding bin of Claim 14.

880. The POSA would recognize that the prior art discloses food holding bins comprising time bars or bezels set forward of the front face of the holding bin's chassis. For example, Fortmann'197's holding cabinet (10) has control bars (60) spaced forward of the shelves (40) and control bars (70) spaced rearward of the shelves with an "air gap" (80, 90) established between each control bar (60) and its corresponding shelf . EX1014: 2:58-59, 3:28-30, 3:55-56, 4:18-37, Figs. 1-3 and 5.

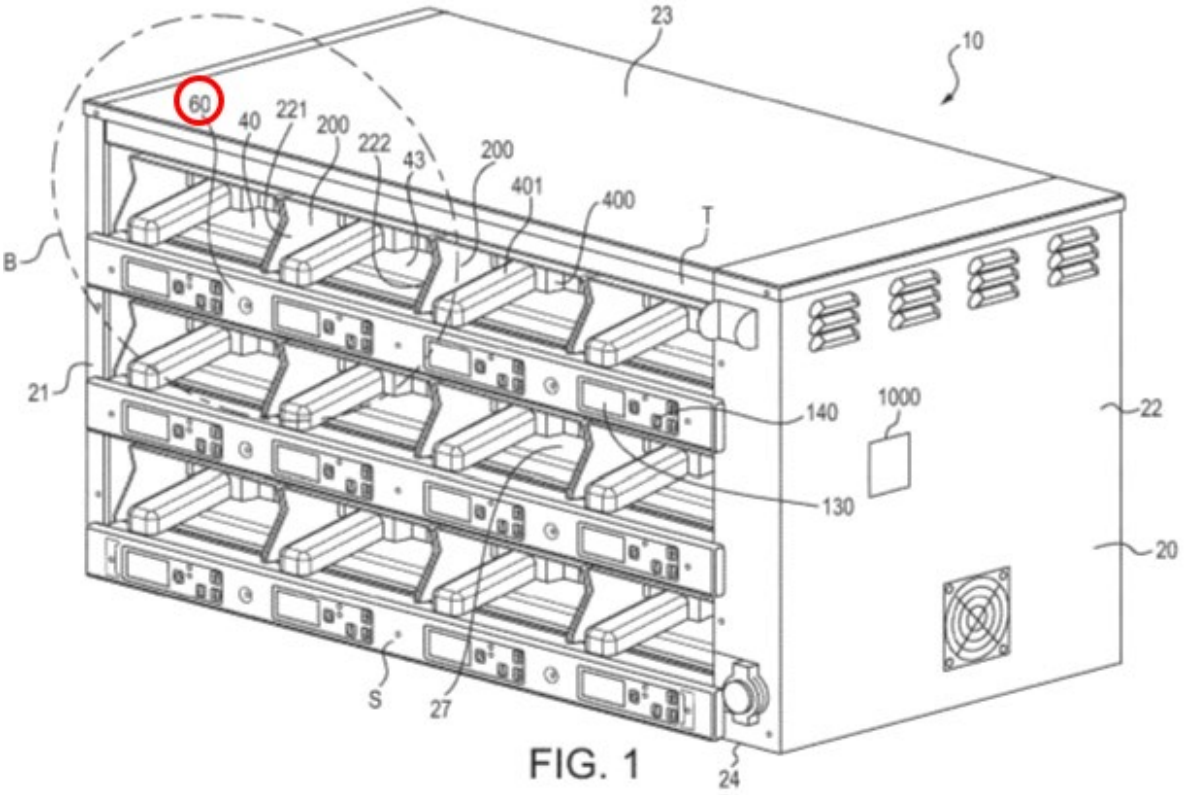


FIG. 1

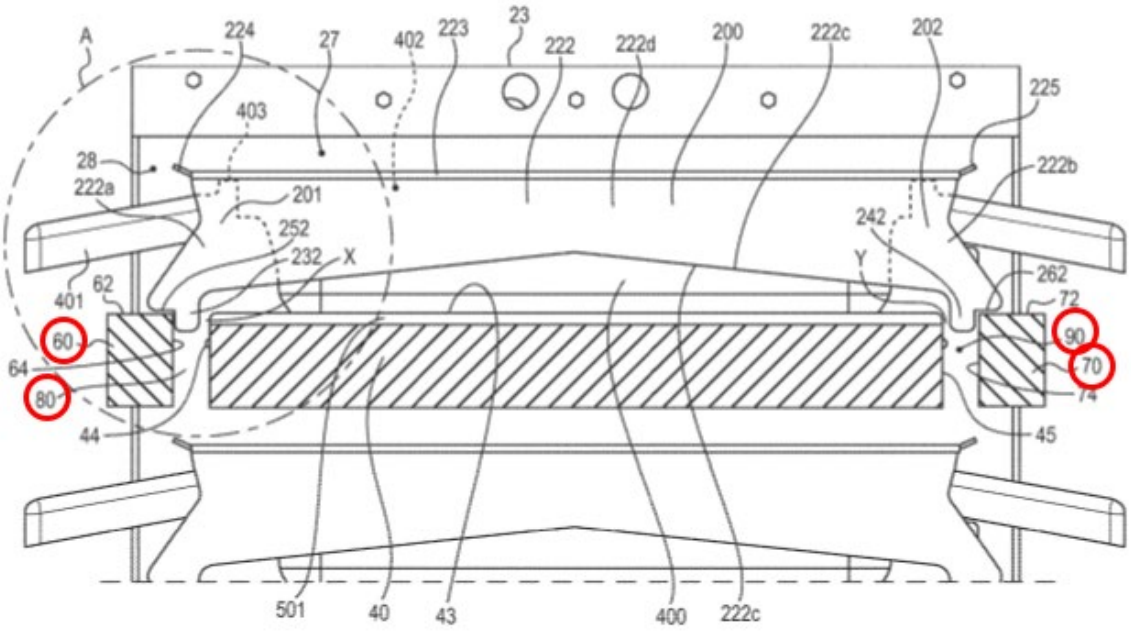
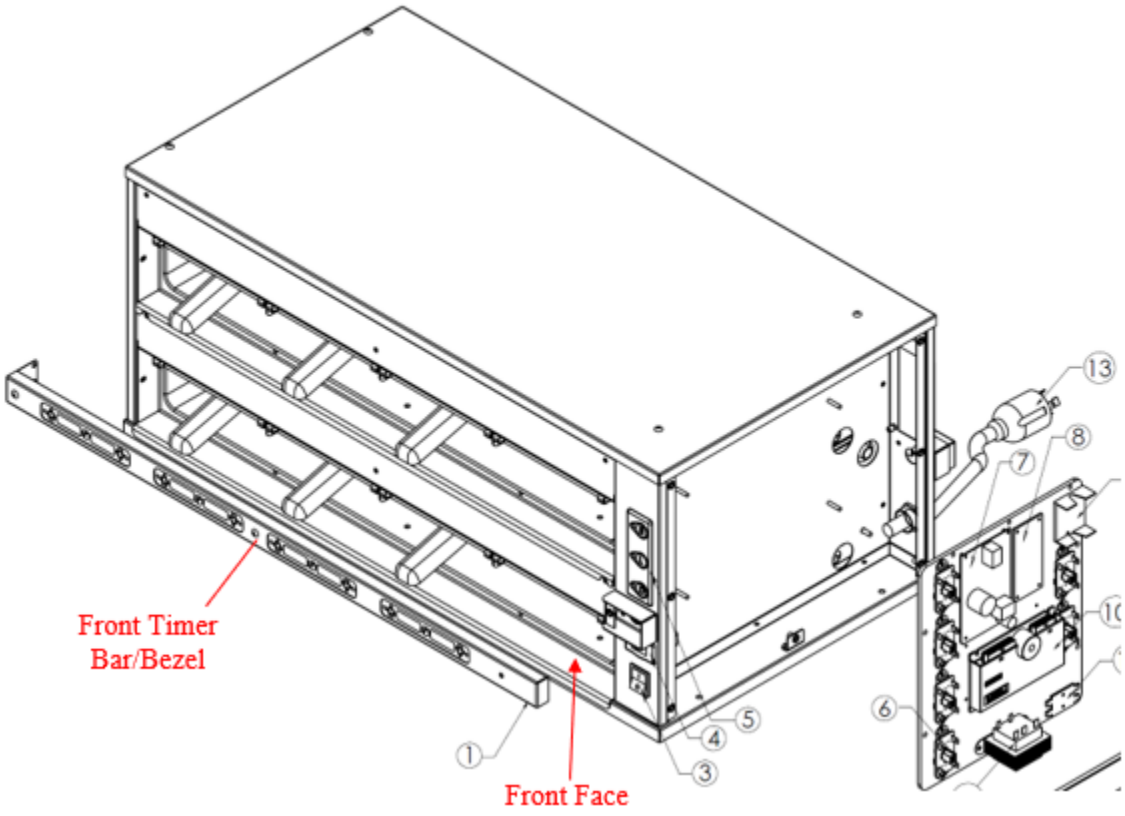


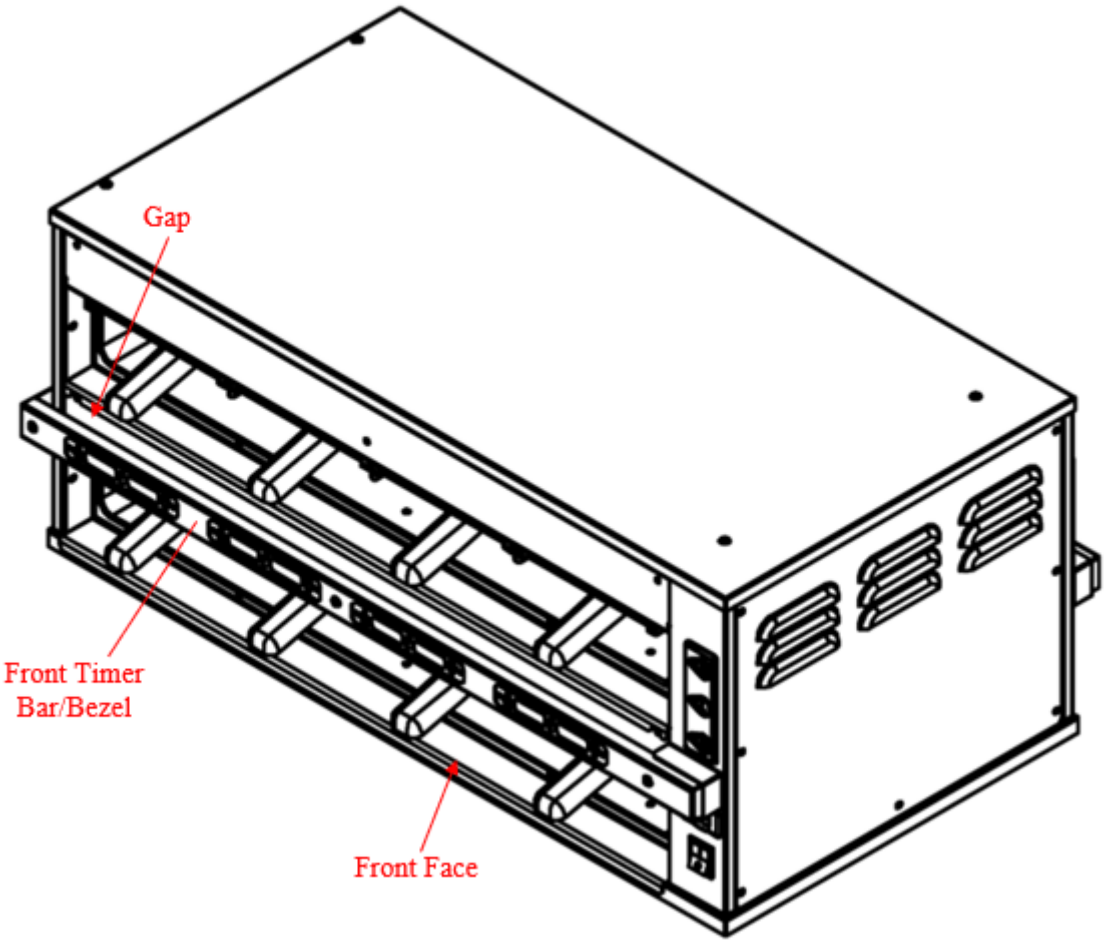
FIG. 5

EX1014: Figs. 1 and 5 (annotated).

881. As disclosed by the IRHS Documents, a front timer bar/bezel of the IRHS24 Holding Unit is set forward from the front face of the chassis with a gap is defined between the front timer bar/bezel and the front face of the chassis. EX1005: 8, 19.

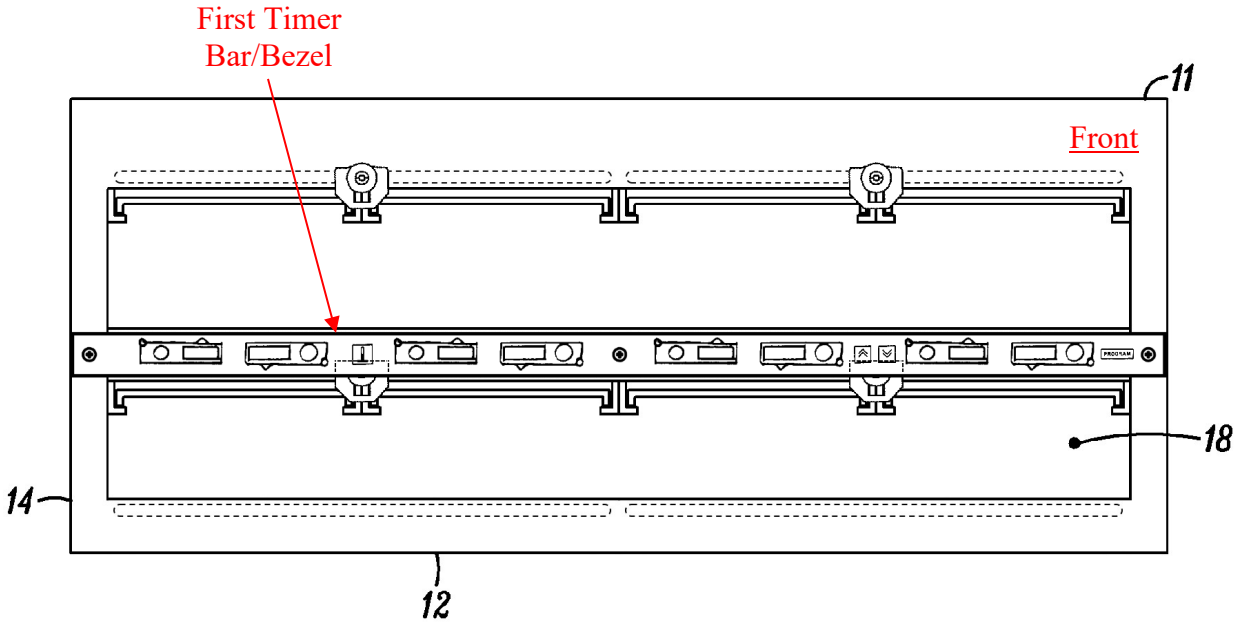


EX1005: 19 (annotated)



EX1005: 8 (annotated).

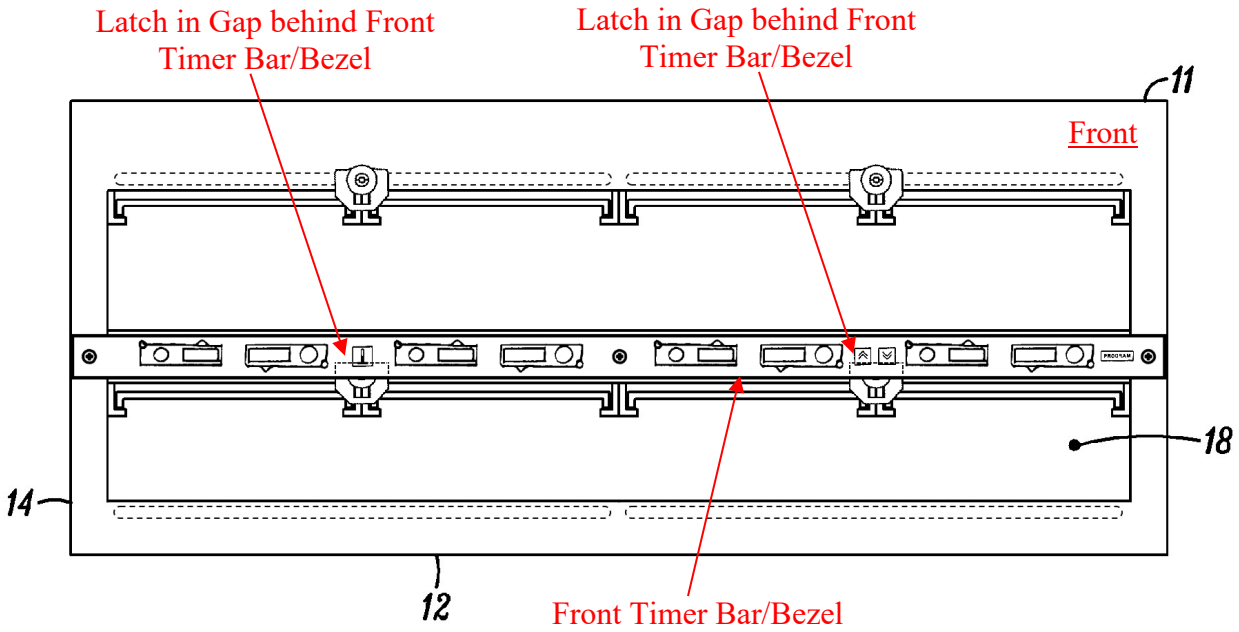
882. As explained in Paragraphs 638-651 (Ground 10, Section XIII(A)(6)), Fortmann'197, the IRHS Documents, and Hartfelder disclose timer bars/bezels spaced forward of a shelf such that it would have been obvious to incorporate a front timer bar/bezel. In adding such a timer bar/bezel to Fortmann'748's cabinet, it would have been obvious for the timer bar/bezel to have been spaced forward of the shelf, thus defining a gap between the front timer bar/bezel and the front face (e.g., the portion of the front face formed by the shelf).



EX1010: Fig. 2 (modified, annotated).

15.b: wherein the latch moves within the gap

883. As discussed in Paragraphs 865-868 (claim limitation 13.a), in incorporating the latches of Hartfelder and/or Shei'099 it would have been obvious to secure the latches to the front face of the chassis and position adjacent the openings and lids.



EX1010: Fig. 2 (modified, annotated).

884. Because the lids of the second food holding unit are located immediately under the shelf of the 2x4 configuration of the Fortmann'748's cabinet, in order for the latches to be adjacent the openings and lids the latches would necessarily be located in the gap between the front timer bar/bezel and the front face of the chassis.

885. It would have been obvious to position the latches here as taught by Hartfelder and/or Shei'099—positioned adjacent the openings and lids, and thus engage and retain the lids. EX1013: Figs. 1 and 9. Notably, this is consistent with the teachings of Hartfelder. Specifically, Hartfelder teaches this position of the stop members (61) in the presence of a control bar (76). EX1013: ¶[0039]

("controls and indicators may be arranged in on interface bar 76"), Figs. 3-5. While Hartfelder does not depict the stop members (61) within the same figures as the control bar (76), the fact that both features were addressed in the same reference suggests that such arrangements would be both compatible and desirable.

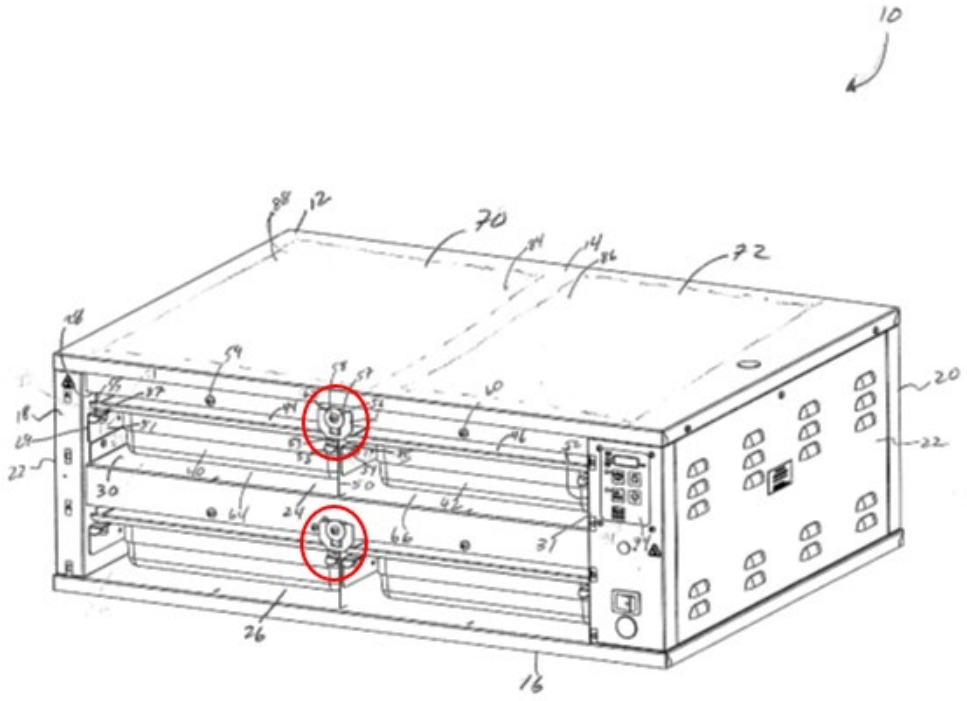


FIGURE 1

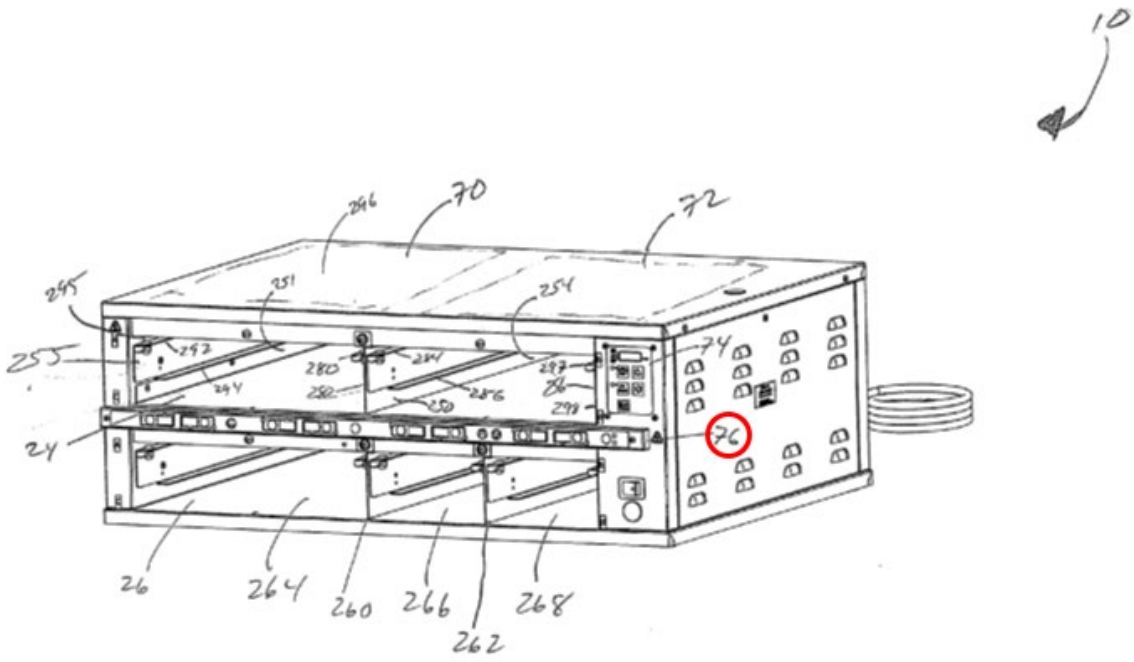

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FIGURE 3

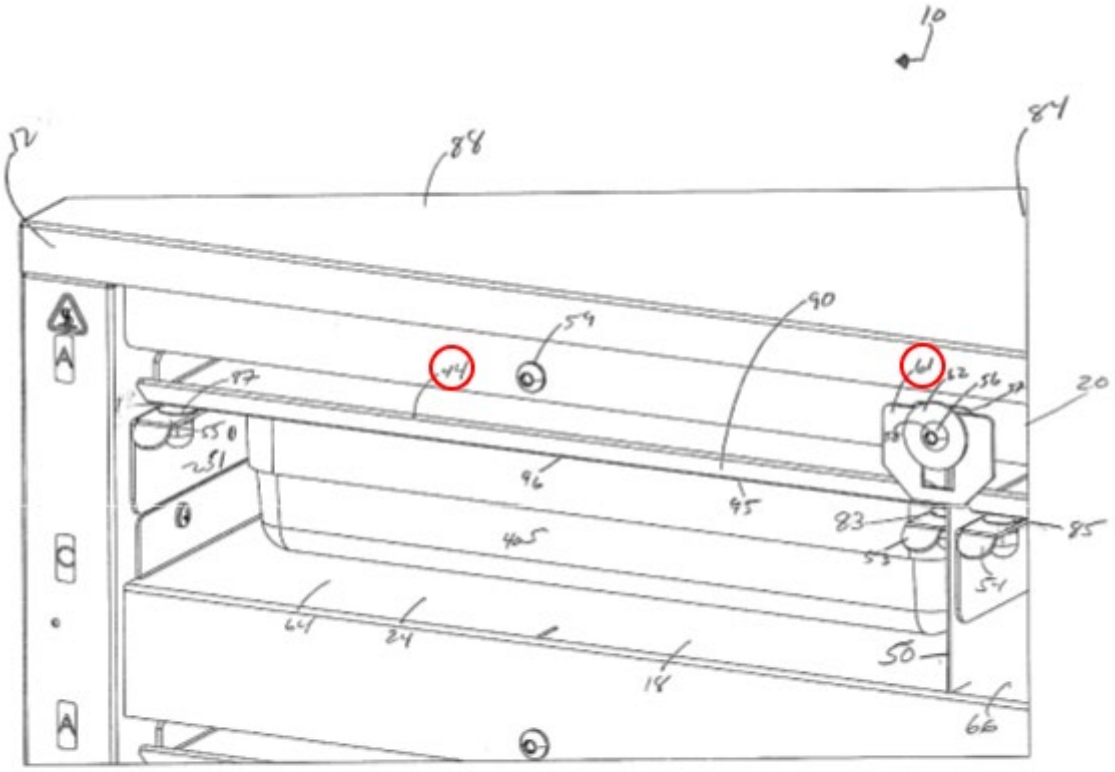


FIGURE 9

EX1013: Figs. 1, 3, and 9 (annotated).

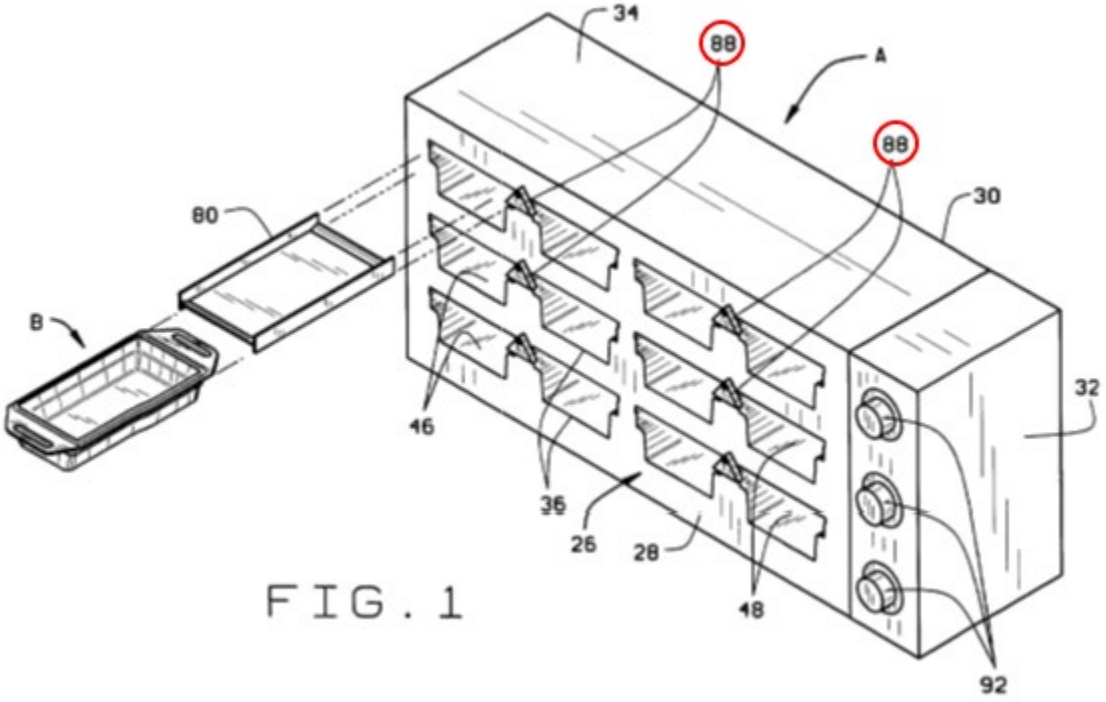
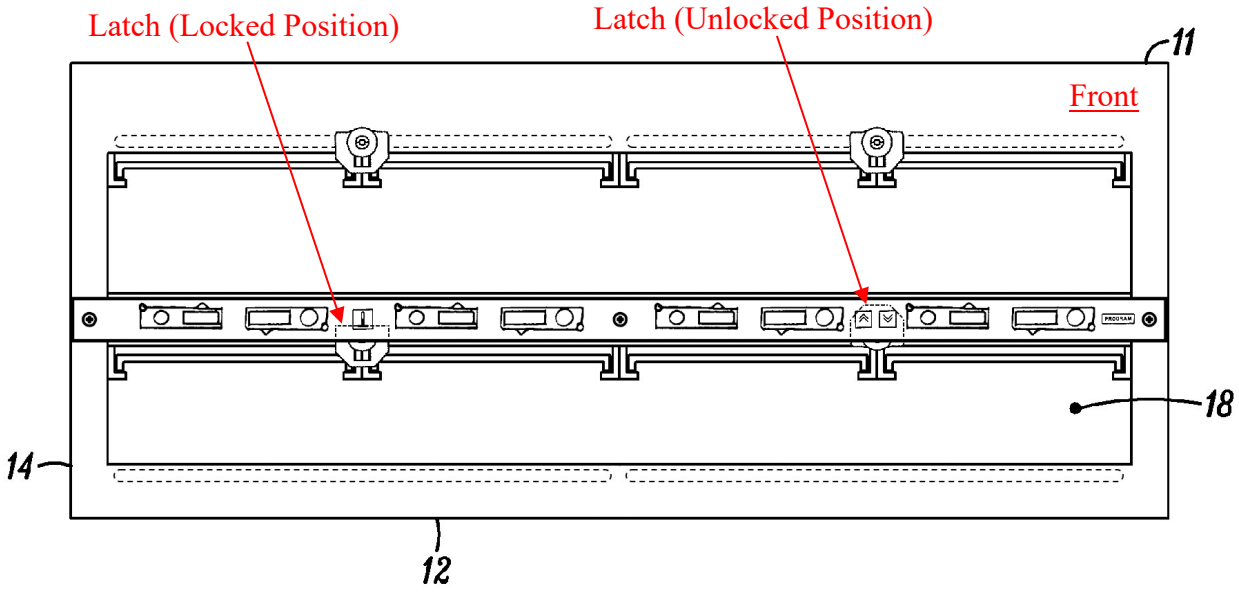


FIG. 1

EX1017: Fig. 1 (annotated).

886. As explained in Paragraphs 865-878 (Claims 13 and 14), the latches added to Fortmann'748's cabinet would have been moveable (rotatable) between a locked position and unlocked position (shown in broken lines). EX1013: Fig. 2; EX1017: 6:9-32, Fig. 1; EX1016: ¶[0043], Fig. 1. As the lower latches are disposed in the gap between the front timer bar and the front face, these lower latches would have moved (rotated) in the gap between their respective locked and unlocked positions.



EX1010: Fig. 2 (modified, annotated).

887. Accordingly, each step and limitation of Claim 15 is either disclosed in Fortmann'748 or would have been obvious in view of the teachings and disclosures of the IRHS Documents, Jones, Fortmann'197, McMillan, Vaseloff, Hartfelder, Shei'099, Stanger, Loy, and/or Veltrop. As such, the POSA would have found it obvious to arrive at the method of maintaining different temperatures within a multi-zone food holding bin as claimed in Claim 15.

P. Claim 16: The method of claim 1, further comprising receiving a user input of the first temperature setpoint

888. As discussed above, the POSA would have found it obvious to arrive at the claimed method of maintaining different temperatures within a multi-zone food holding bin of Claim 1.

889. Fortmann'748's control system is disclosed as having a generic "input device for the user to select the desired temperature [] within the heating zone." EX1010: ¶[0027]. The POSA would expect and understand that the users of the Fortmann'748 cabinet would be able to input temperature setpoints, but in only describing its control system generically, Fortmann'748 fails to describe the method of inputting input temperature setpoints. As explained in Paragraphs 604-620 (Ground 10, Section XIII(A)(4)), other prior art references provide more specific descriptions of their input devices/displays and their methods for allowing users to input temperature setpoints that would have been recognized as compatible with and improving upon Fortmann'748.

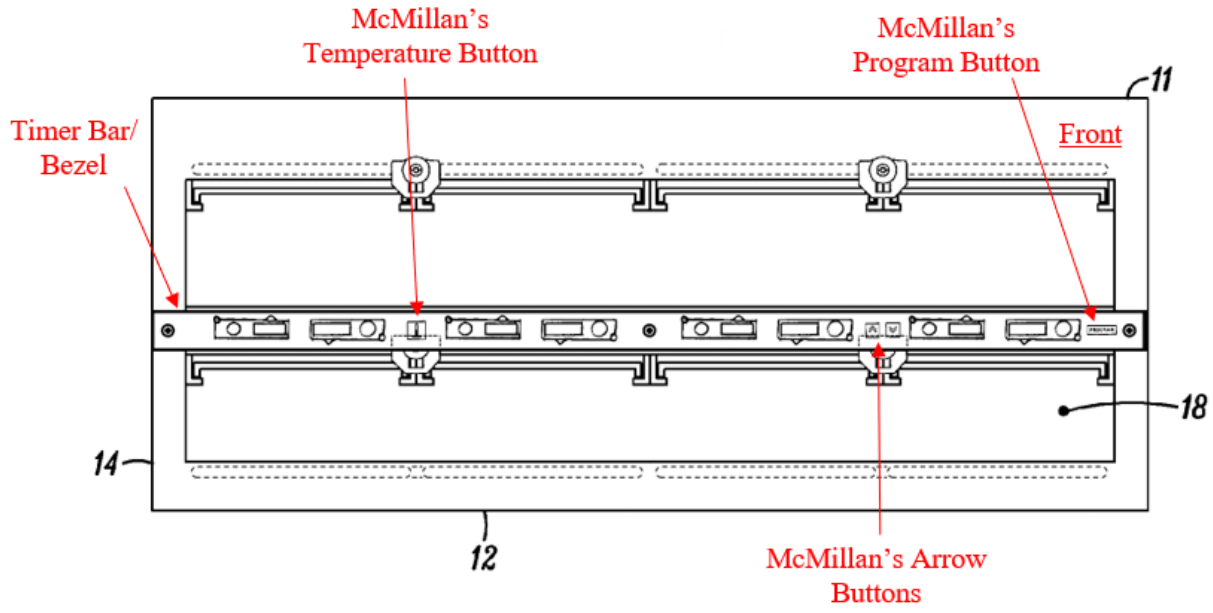
890. For example, Vaseloff discloses the use of display/control groups (e.g., display devices, timer status indicators, and timer buttons) for each bay. EX1026: 2:60-63, 3:48-49, 4:5-6, 4:20-22, 4:26-33, 4:48-49, 6:51-52, Figs. 3, 4, 10.

891. McMillan likewise discloses controls (e.g., temperature button, program button, arrow buttons) to change the setpoint temperatures. EX1019: 10:43-58 ("allow an operator to change or select … holding temperatures").

892. Accordingly, it would have been obvious to modify Fortmann'748's cabinet to incorporate Vaseloff's display devices, modified to the extent necessary

to incorporate McMillan's controls to change the setpoint temperatures as explained in Paragraphs 604-637 (Ground 10, Section XIII(A)(4)-(5)).

893. This modification would allow users to input temperature setpoints (e.g., a first temperature setpoint) via McMillan's controls to change the setpoint temperatures of the zones (e.g., first food holding zone). EX1010: ¶[0027] ("input device for the user to select the desired temperature [] within the heating zone").



EX1010: Fig. 2 (modified, annotated).

894. Accordingly, the POSA would have found it obvious to combine the teachings and disclosures of Fortmann'748, the IRHS Documents, Jones, Fortmann'197, McMillan, Vaseloff, Hartfelder, Shei'099, Stanger, Loy, and/or Veltrop to arrive at the method of maintaining different temperatures within a multi-zone food holding bin as claimed in Claim 16.

Q. Claim 17: the method of claim 16, wherein the user input is a user selection of a food item for the first food holding zone, wherein the user selection of the food item is associated with independent operation and control of the first heating element and the second heating element, wherein the user selection of the food item is associated with independent operation and control of the first heating element and the second heating element

895. As discussed above, the POSA would have found it obvious to arrive at the claimed method of maintaining different temperatures within a multi-zone food holding bin of Claim 16.

896. Fortmann'748 describes its control system as having a generic "input device for the user to select the desired temperature [] within the heating zone" and "a display that provides an indication of a temperature upon or proximate to each of the plurality of shelves 21 (or representative shelves within a specific heat zone)." EX1010: ¶[0027]. As explained in Paragraphs 604-637 (Ground 10, Section XIII(A)(4)-(5)), Vaseloff and McMillan disclose display/control groups (i.e., a user interfaces) for providing temperature control that would have been obvious to include in Fortmann'748's cabinet in place of the generically disclosed input device and display. EX1026: 4:5-6, 4:20-22, 4:26-33, 4:48-49, 6:51-52; EX1019: 4:36-52.

897. It would have been obvious to further modify the Fortmann'748's cabinet (having Vaseloff's display/control groups and McMillan's controls) in view of Jones to incorporate the capability of receiving user inputs to change or

select a food holding bay's settings by selecting a food item to be held within the bay.

898. Jones teaches a food holding cabinet (12b) having heated compartments (UHC, LHC) for receiving food trays (14). EX1012: ¶¶[0069], [0072], Fig. 1B.

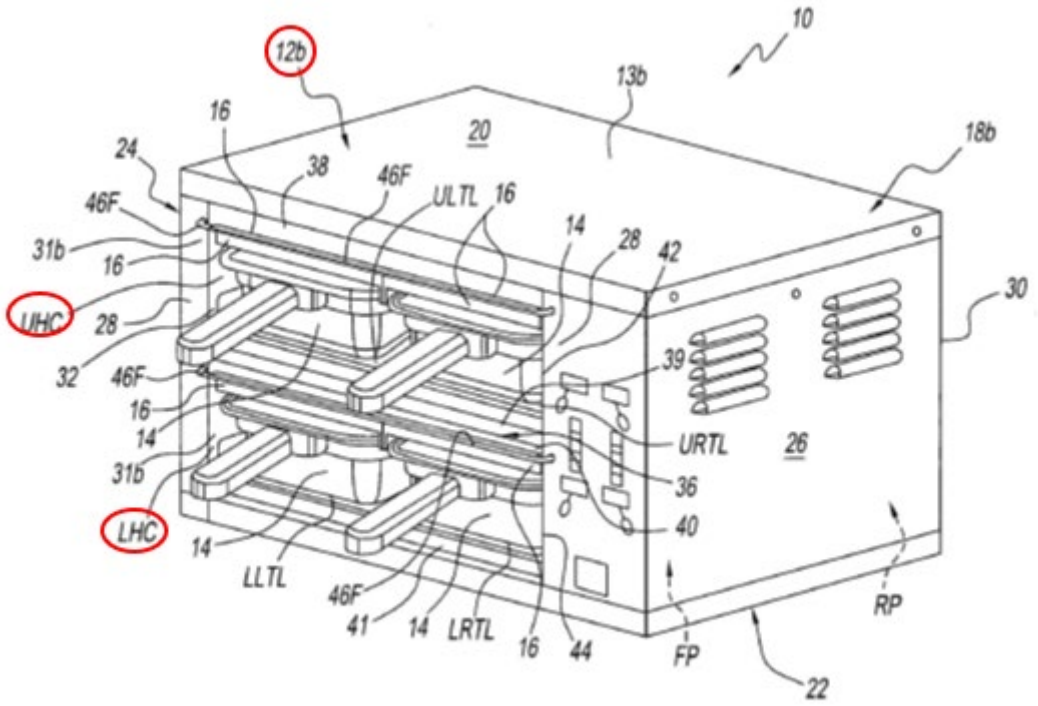


Fig. 1B

EX1012: Fig. 1B.

899. The Jones's control system is programmed so that "food product holding parameters are assigned to and follow the name of the food product, not the tray or bin location." EX1012: ¶[0098]. Such parameters include the top and bottom temperature settings. EX1012: ¶[0098].

900. Jones's control system operates the cabinet (e.g., heating elements) for each particular holding location/bay based on the food product name assigned to that particular holding location/bay. EX1012: ¶[0098] ("assigns the holding parameters, top and bottom temperature and count down timings to the product name, so wherever the product name is displayed, the holding parameters follow"). To set the food product name for each holding location/bay, Jones includes program button (82) "for accessing a given list of food items to be held in [the] holding cabinet." EX1012: ¶¶[0097], [0112]-[0115]. Jones also has temperature and arrow buttons (85, 86, 88) for setting the temperature. EX1012: ¶¶[0097], [0124]-[0125].

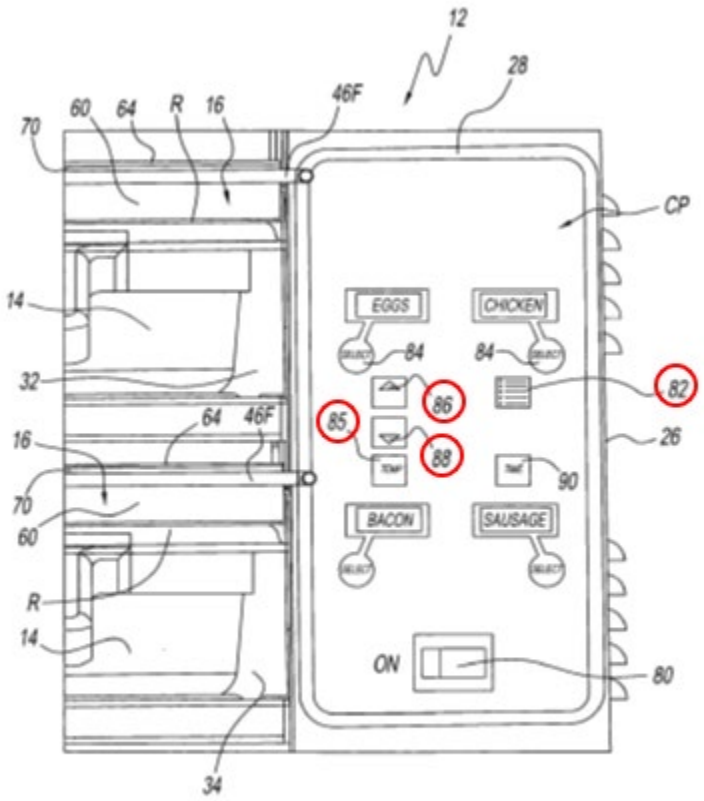


Fig. 17

EX1012: Fig. 17 (annotated).

901. It would have been obvious to modify Fortmann'748's control system to include the ability to set temperature setpoints by assigning food product names to each pan holding location/bay as taught by Jones.

902. Changing food product names per Jones would provide an easy, fast, and intuitive way for a user to change setpoint temperatures for the pan holding locations/bays by simply changing the name of the food product assigned to any given pan holding location/bay. EX1012: ¶¶[0112]-[0115]; EX1016: ¶[0060] ("the control mechanism 140 can be programmed so that the operator need only select

the type of food to be placed in the compartment and the control mechanism 140 automatically uses preselected settings for that type of food").

903. This would also allow the user to change the food product names, and thereby the holding temperatures, in real time as needed, such as to accommodate real time changes in the types of food being held.

904. This would also allow the change of the food product name displayed and the temperature settings together, instead of separately, making it easier and faster to change the configuration of the unit in real time. EX1016: ¶[0060] ("the operator need only select the type of food to be placed in the compartment"), ¶[0080] ("the control mechanism 251 is programmed for different types of food, so that after food has been placed in a particular compartment 207, an operator simply selects that type of food from a suitable menu on a display (not shown) on the cabinet. The control mechanism then automatically selects the appropriate heating protocol for the food selected, including one or more of the following: the ideal holding temperature for the food selected").

905. This modification is compatible with the addition of McMillan's controls as described above. For example, to change the temperature setpoints associated with the food product names, as taught by Jones. EX1012: ¶¶[0097], [0124]-[0125].

906. As modified, Fortmann'748's cabinet would have included McMillan's temperature button (187), program button (188), and/or arrow buttons (184, 185). The POSA would have used McMillan's temperature button (187), program button (188), and/or arrow buttons (184, 185) (described as being used to change parameters such as temperature and change food products (EX1019: 10:43-58)) to allow the operator to change the food product names assigned to each pan holding location/bay as taught by Jones. EX1012: ¶¶[0097], [0112]-[0115].

907. The added display devices (60) from Vaseloff are already able to display food product names (e.g., "EGGS" for eggs and "BISC" for biscuits). EX1026: 4:5-15 ("Each display device 60 is associated with a holding compartment 34 and displays information about the food therein. The display devices 60 display the identity of the food that is held in the holding compartments 34 …. The display devices 60 are capable of displaying alphanumeric information, graphic information, or both about the food. Displaying the identity of a food product can be accomplished by alphanumerically displaying the name of the food product or an abbreviation thereof, such as "EGGS" for eggs, or "BISC" for biscuits").

908. The POSA would program Fortmann'748's controller and McMillan's controls to change the food product name for individual pan locations/bays by use of the up-arrow and down-arrow buttons (184, 185), the temperature button (187),

and/or the program button (188), similar to the teachings of Jones. EX1012: ¶¶[0097], [0112]-[0115], [0124]-[0125]. For example, in one method of implementation, a press and hold of the program button (188) would cause each pan display to display a current food product name of its associated pan location/bay, the user can select the desired pan location/bay to change the food product name of by pressing the Vaseloff timer button (64) associated with the desired pan location/bay, and the arrow buttons (184, 185) can be used to switch between available food product names. EX1012: ¶¶[0112]-[0115].

909. This would have been nothing more than the application of a known technique (associating temperature setpoints with food product names per Jones) to improve a similar device (Fortmann'748's cabinet) in the same way (display and change food product names for each pan holding location/bay to provide the ability for the user to change the temperature setpoints).

910. There would have been a reasonable expectation of success in modifying the Fortmann'748's cabinet in this manner because Vaseloff's display/control groups and McMillan's controls already include displays for displaying various parameters and controls for scrolling or incrementing/decrementing parameters similar to Jones's arrow and program keys, the functions would be incorporated as taught in Jones, and Jones showed it was possible. EX1012: ¶¶[0097], [0112]-[0115], [0124]-[0125].

911. The POSA would have been able to make any changes to Fortmann'748's controller and software to implement these features. EX1019: 6:15-19 ("The main controller 34 may interface with the memory 32 and execute the control program. Under the direction of the control program, the main controller 34 may control the operation of the shelving unit 12a.").

912. Thus, in view of Jones, it would have been obvious for the received user input to be a selection of a food item for a food holding zone (e.g., first food holding zone), with the selection of the food item being associated with the operation and control of the heating elements (e.g., first and second heating elements) associated with the zone.

913. For example, in view of Jones, the user would have selected via McMillan's buttons (e.g., program button, arrow buttons) the food product name for the first food holding zone (displayed in Vaseloff's display device for the first food holding zone), and Fortmann'748's controller would independently operate and control the first and second heating elements based on the setpoint temperatures associated with the selected food product name.

914. Accordingly, the POSA would have found it obvious to combine the teachings and disclosures of Fortmann'748, the IRHS Documents, Jones, Fortmann'197, McMillan, Vaseloff, Hartfelder, Shei'099, Stanger, Loy, and/or

Veltrop to arrive at the method of maintaining different temperatures within a multi-zone food holding bin as claimed in Claim 17.

R. Claim 20:

20.a: the method of claim 16, further comprising: providing a bezel set forward of the front face, the bezel comprising a user interface

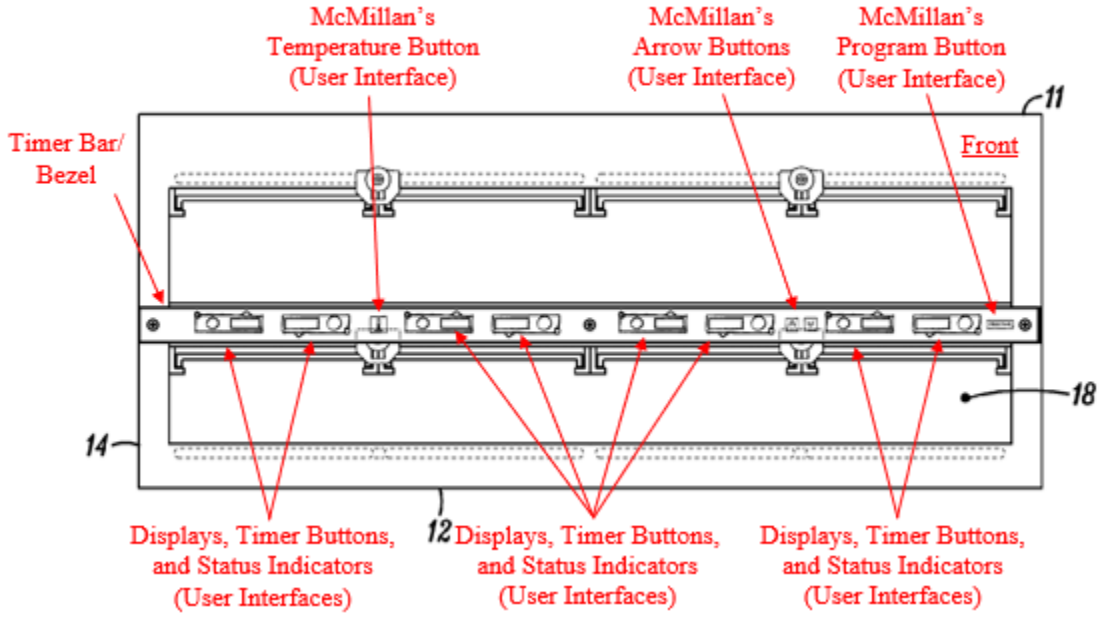
915. As discussed above, the POSA would have found it obvious to arrive at the claimed method of maintaining different temperatures within a multi-zone food holding bin of Claim 16.

916. Fortmann'748 describes its control system as having a generic "input device for the user to select the desired temperature [] within the heating zone" and "a display that provides an indication of a temperature upon or proximate to each of the plurality of shelves 21 (or representative shelves within a specific heat zone)." EX1010: ¶[0027].

917. As explained in Paragraphs 604-637 (Ground 10, Section XIII(A)(4)-(5)), Vaseloff and McMillan disclose display/control groups (i.e., a user interfaces) for providing temperature control that would have been obvious to include in Fortmann'748's cabinet in place of the generically disclosed input device and display. EX1026: 4:5-6, 4:20-22, 4:26-33, 4:48-49, 6:51-52; EX1019: 4:36-52.

918. As explained in Paragraphs 638-651 (Ground 10, Section XIII(A)(6)), Fortmann'197, the IRHS Documents, and Hartfelder each disclose a timer bar/bezel

with user interfaces that are set forward of a front face of the cabinets such that it would have been obvious to add a front timer bar/bezel set forward of the front face of Fortmann'748's cabinet to house the displays and controls (user interface(s)) as adapted from Vaseloff and McMillan. EX1005: 8, 19; EX1014: 2:58-59, 3:28-30, 3:55-56, 4:18-37, Figs. 1-3 and 5; EX1013: Figs. 3, 4, and 9.



EX1010: Fig. 2 (modified, annotated).

20.b: operating the user interface to receive the user input

919. Fortmann'748 describes its control system as having a generic "input device for the user to select the desired temperature [] within the heating zone" and "a display that provides an indication of a temperature upon or proximate to each of the plurality of shelves 21 (or representative shelves within a specific heat zone)." EX1010: ¶[0027].

920. McMillan discloses controls (e.g., temperature button, program button, arrow buttons) to change the setpoint temperatures. EX1019: 10:43-58 ("allow an operator to change or select … holding temperatures").

921. As explained in Paragraphs 621-637 (Ground 10, Section XIII(A)(5)), it would have been obvious to adopt McMillan's controls in the Fortmann'748's cabinet to change the setpoint temperatures in place of the generically disclosed controller as disclosed in Fortmann'748.

922. Accordingly, it would have been obvious for Fortmann'748's cabinet to have McMillan's controls (user interface) and to operate these controls to receive the user input of temperature setpoints (e.g., the first temperature setpoint) to change the setpoint temperatures of the zones (e.g., first food holding zone) as explained in Paragraphs 888-894 (Claim 16). EX1010: ¶[0027] ("input device for the user to select the desired temperature [] within the heating zone.")

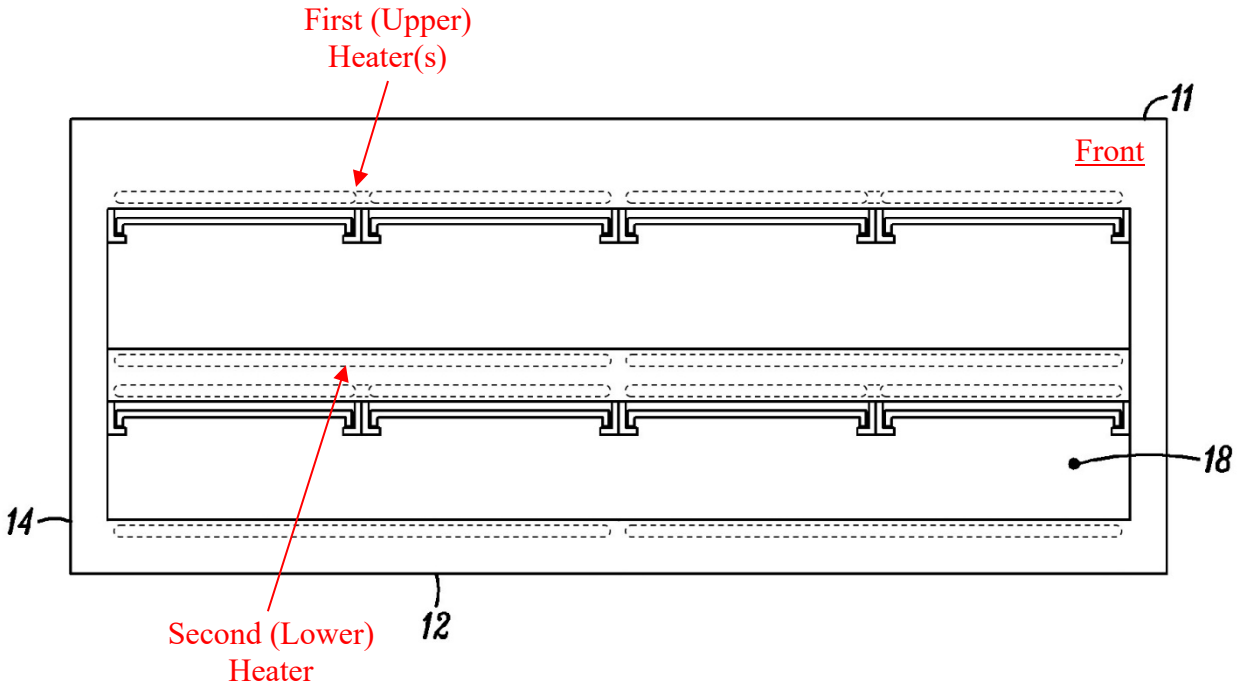
923. Accordingly, each step and limitation of Claim 20 is either disclosed in Fortmann'748 or would have been obvious in view of the teachings and disclosures of the IRHS Documents, Jones, Fortmann'197, McMillan, Vaseloff, Hartfelder, Shei'099, Stanger, Loy, and/or Veltrop. As such, the POSA would have found it obvious to arrive at the method of maintaining different temperatures within a multi-zone food holding bin as claimed in Claim 20.

XIV. GROUND 11: Claim 18 Would Have Been Obvious Over Fortmann'748 in view of the IRHS Documents, Jones, Fortmann'197, McMillan, Vaseloff, Hartfelder, Shei'099, Stanger, Loy, Veltrop, and/or Prince Castle

A. Claim 18: the method of claim 17, further comprising operating the first heating element to output more heat than the second heating element

924. As discussed above, the POSA would have found it obvious to arrive at the claimed method of maintaining different temperatures within a multi-zone food holding bin of Claim 17.

925. As explained in Paragraphs 716-730 (Ground 10, claim limitation 1.b), it would have been further obvious to modify the Fortmann'748 cabinet in view of Jones (EX1012), Fortmann'197 (EX1014), the IRHS Documents (EX1005-1008), and McMillan (EX1019) as discussed in Paragraphs 537-603 (Ground 10, Section XIII(A)(2)-(3)) such that it would have the first/upper heater(s) and the second/lower heater at respective top and bottom portions of the first food holding zone and for these heaters to have been independently controllable from one another and from the heaters of other zones.

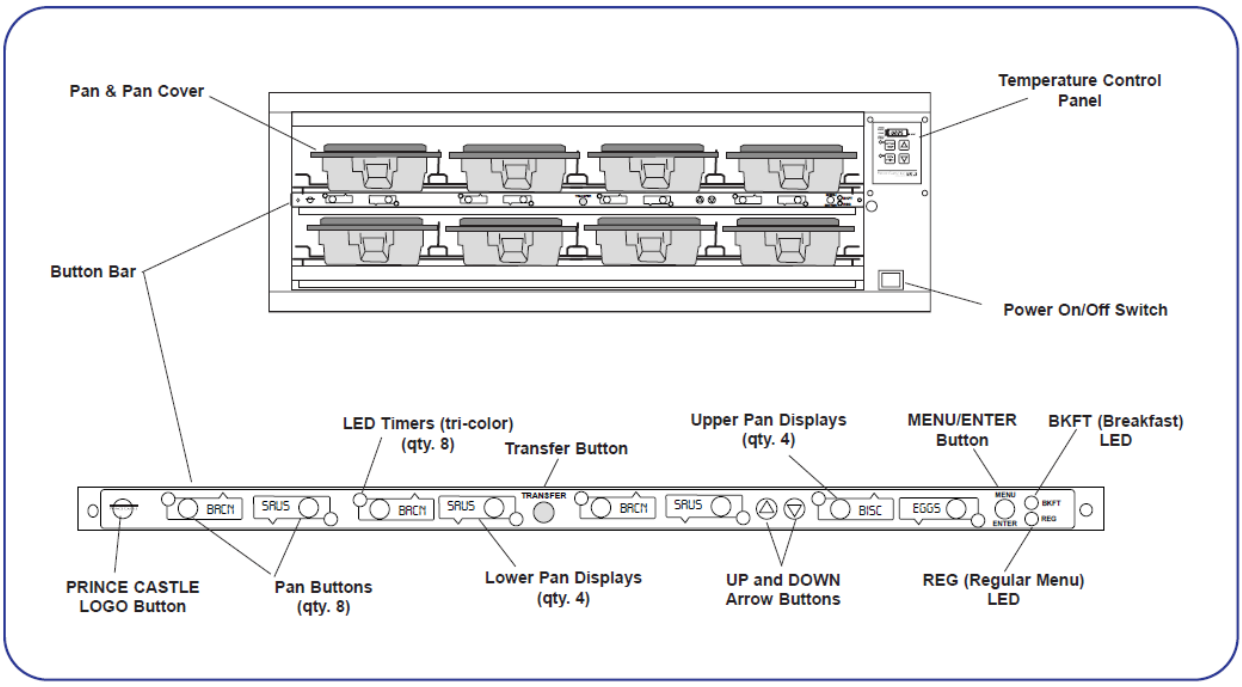


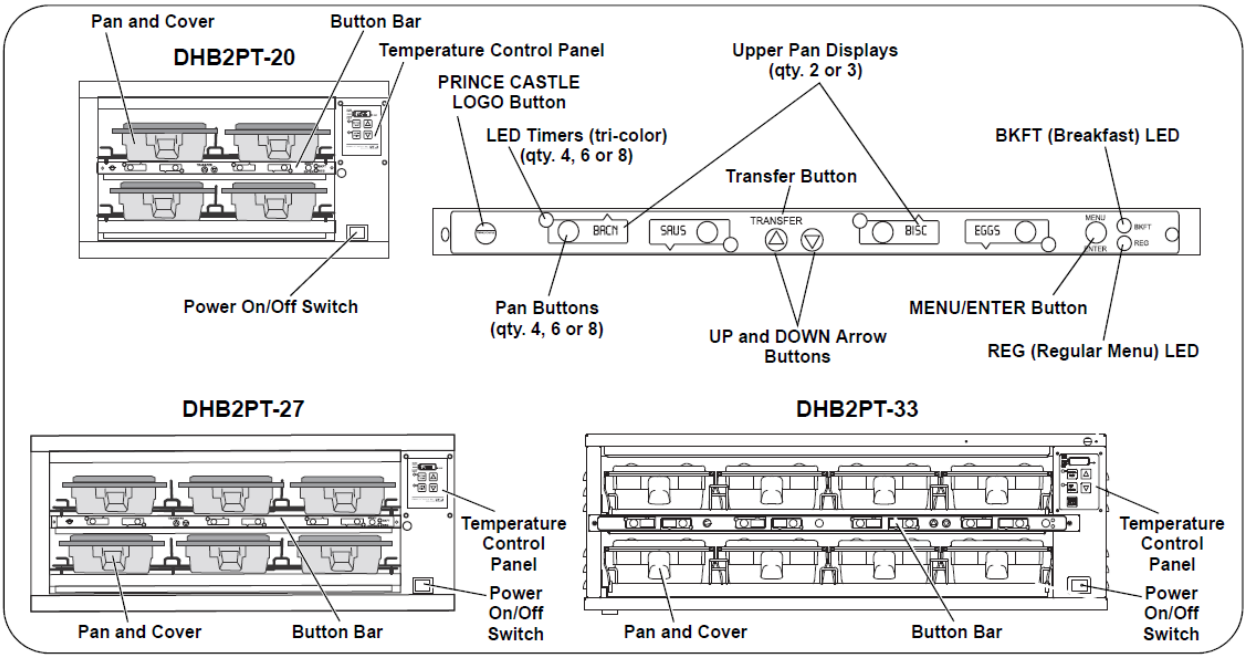
EX1010: Fig. 2 (modified, annotated).

926. Given that the upper and lower heaters of each zone of the Fortmann'748 cabinet are independently controllable, it would have been understood to customize upper and lower heating for each food product as discussed in Paragraphs 587-603 (Ground 10, Section XIII(A)(3)).

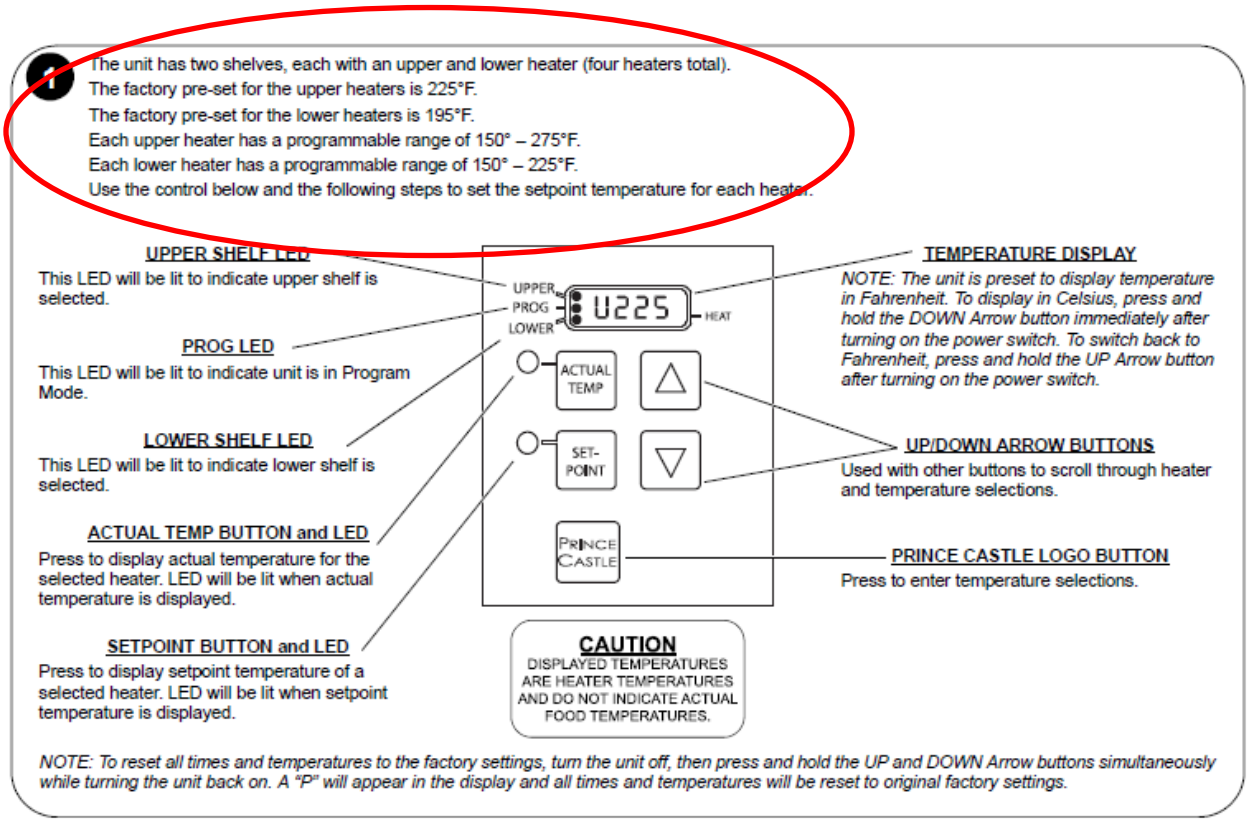
927. Accordingly, there was a finite and predictable set of options with respect to the choice of whether to operate the upper and lower heaters at the same temperatures or to have one or the other heaters output more energy than the other heater (upper heat greater than lower heat, upper heat equal to lower heat, or upper heat less than lower heat), such that each option would have been obvious.

928. In modifying the Fortmann'748 cabinet, the resulting cabinet would be similar to the cabinet disclosed in Prince Castle (EX1009). Prince Castle discloses a Product Holding Bin where each compartment has "an upper and lower heater." EX1009: 22, 40. Prince Castle expressly teaches adapting the heaters disposed at the top portion of the food holding compartments to output more heat energy than the heaters disposed at the bottom portion of the food holding compartments. Specifically, the 2006 and 2010 Operation Manuals of Prince Castle both explain that "[t]he factory pre-set for the upper heaters is 225°F" (with a max setting of 275°F) and "[t]he factory pre-set for the lower heaters is 195°F" (with a max setting of 225°F). EX1009: 22, 40. Prince Castle thus teaches that having the upper heaters outputting more heat energy was recommended as a factory preset. EX1009: 22, 40.




Pan and Cover
Button Bar
DHB2PT-20
Temperature Control Panel
PRINCE CASTLE LOGO Button
LED Timers (tri-color) (qty. 4, 6 or 8)
Upper Pan Displays (qty. 2 or 3)
Transfer Button
BKFT (Breakfast) LED
Power On/Off Switch
Pan Buttons (qty. 4, 6 or 8)
UP and DOWN Arrow Buttons
MENU/ENTER Button
REG (Regular Menu) LED
BACN
SAUS
TRANSFER
BISC
EGGS
DHB2PT-27
DHB2PT-33
Temperature Control Panel
Power On/Off Switch
Pan and Cover
Button Bar

EX1009: 19, 36.


The unit has two shelves, each with an upper and lower heater (four heaters total).
The factory pre-set for the upper heaters is 225°F.
The factory pre-set for the lower heaters is 195°F.
Each upper heater has a programmable range of 150° – 275°F.
Each lower heater has a programmable range of 150° – 225°F.
Use the control below and the following steps to set the setpoint temperature for each heater.
UPPER SHELF LED
This LED will be lit to indicate upper shelf is selected.
PROG LED
This LED will be lit to indicate unit is in Program Mode.
LOWER SHELF LED
This LED will be lit to indicate lower shelf is selected.
ACTUAL TEMP BUTTON and LED
Press to display actual temperature for the selected heater. LED will be lit when actual temperature is displayed.
SETPOINT BUTTON and LED
Press to display setpoint temperature of a selected heater. LED will be lit when setpoint temperature is displayed.
UPPER
PROG
LOWER
U225
HEAT
ACTUAL TEMP
SET-POINT
PRINCE CASTLE
TEMPERATURE DISPLAY
NOTE: The unit is preset to display temperature in Fahrenheit. To display in Celsius, press and hold the DOWN Arrow button immediately after turning on the power switch. To switch back to Fahrenheit, press and hold the UP Arrow button after turning on the power switch.
UP/DOWN ARROW BUTTONS
Used with other buttons to scroll through heater and temperature selections.
PRINCE CASTLE LOGO BUTTON
Press to enter temperature selections.
CAUTION
DISPLAYED TEMPERATURES ARE HEATER TEMPERATURES AND DO NOT INDICATE ACTUAL FOOD TEMPERATURES.
NOTE: To reset all times and temperatures to the factory settings, turn the unit off, then press and hold the UP and DOWN Arrow buttons simultaneously while turning the unit back on. A "P" will appear in the display and all times and temperatures will be reset to original factory settings.

EX1009: 40 (annotated).

929. Accordingly, it would have been obvious to have each upper heater (e.g., first heater(s)) of the Fortmann'748 modified cabinet output more heat energy than each lower heater (e.g., second heater) of Fortmann'748's modified cabinet (higher setpoint temperature, higher maximum temperature setting, and/or higher wattage rating) in view of Prince Castle. These higher temperatures mean more heat energy. Having the upper radiant heaters operate at a higher preset temperature than the lower heaters means the upper radiant heaters are outputting more heat energy to maintain the higher temperature than the lower heaters.

930. Moreover, the POSA would have desired the upper heaters output more heat energy than the lower heaters to overcome the distance between the heaters and the food, counteract evaporative cooling, maintain food surface temperature and texture, compensate for the radiant heat energy radiating in all directions, and/or "to re-crisp breaded (fried) food, to melt cheese on fries, to melt cheese on burger patties, to brown grilled food products, and/or to brown burger patties" with the upper heaters. EX1027: ¶[0021]; EX1006: 1 ("Upper IR emitters provide optimum environment for holding of all fried foods resulting in extended hold time, moist protein, and crispy breading."). This would also create more direct heat on the top of the food to "provide optimum environment" while "minimiz[ing] temperature distribution from top to bottom." EX1006: 1 ("[d]ual

technology heating to reduce temperature variance from top to bottom"); EX1007: 10 ("Tailor each well specifically to the products within them, providing unlimited flexibility per well"), 51 ("deliver a consistently hot pan of product, from top to bottom").

931. Further, when modifying Fortmann'748 to have independently controllable upper and lower heaters, the POSA would have recognized that it would have been desirable for the upper heaters for the food holding zone to be adapted to output more heat energy than the lower heaters to overcome several issues.

932. Each upper (*e.g.*, first) heater of Fortmann'748 is in surface contact with the sheet/plate at the top of the compartment. EX1010: ¶[0019] ("the heater 60 may contact the lower sheet 23"). These heaters thus heat the sheet/plate at the top of the compartment, which in turn heats the food in the pans via radiation. EX1010: ¶[0020] ("the pan 100 and the food product located within the pan 100 may receive heat from the shelf 21 disposed above the pan 100 due to radiation"). The upper (*e.g.*, first) heaters are spaced apart from the food.

933. Because radiant energy intensity drops significantly as distance increases (even over a few inches), the upper (*e.g.*, first) heaters must output much more heat energy than the lower (*e.g.*, second) heaters (with nearly 100% of the

heat energy being transferred by direct conduction) to ensure enough radiant energy "hits" the food.

934. In addition, as food sits, moisture evaporates from the surface, which creates a cooling effect. The upper (*e.g.*, first) heaters have to provide enough energy to counteract this surface cooling and keep the top of the food at a warm temperature. Moreover, the bottom heat would be kept lower just to maintain internal temperature, while the upper (*e.g.*, first) heaters do the heavy lifting of maintaining surface temperature and texture (keeping fried foods crispy, for example).

935. Additionally, upper radiant heat energy radiates in all directions. As such, a portion of that heat energy is lost to the surrounding air and the structure of the holding unit. This loss of energy is compensated for by operating the upper (*e.g.*, first) heaters at higher heat energy output levels.

936. This would have been nothing more than the application of a known technique (upper heaters outputting more heat energy than lower heaters per Prince Castle) to improve a similar device (Fortmann'748's cabinet) in the same way (higher setpoint temperatures for upper heaters relative to lower heaters).

937. The POSA would have had a reasonable expectation of success given Fortmann'748's radiant upper heaters operate independently of the lower heaters.

938. Accordingly, each step and limitation of Claim 18 is either disclosed in Fortmann'748 or would have been obvious in view of the teachings and disclosures of the IRHS Documents, Jones, Fortmann'197, McMillan, Vaseloff, Hartfelder, Shei'099, Stanger, Loy, Veltrop, and/or Prince Castle. As such, the POSA would have found it obvious to arrive at the method of maintaining different temperatures within a multi-zone food holding bin as claimed in Claim 18.

XV. GROUND 12: Claims 11 and 19 Would Have Been Obvious Over Fortmann'748 in view of the IRHS Documents, Jones, Fortmann'197, McMillan, Vaseloff, Hartfelder, Shei'099, Stanger, Loy, Veltrop, and/or Merco

A. Claim 11

11.a: the method of claim 10, further comprising: receiving a first tray of a first food product through the first opening into the first bay of the first food holding zone onto the first substantially planar bottom surface below the first lid

939. As discussed above, the POSA would have found it obvious to arrive at the claimed method of maintaining different temperatures within a multi-zone food holding bin of Claim 10.

940. For the reasons described in Paragraphs 652-672, 695-697, 716-730, 794-799, and 835-841 (Ground 10, Section XIII(A)(7) and claim limitations 1.a.4, 1.b and 5.a and Claim 8), the POSA would understand that the pans/trays holding food products (e.g. first tray of a first food product such as regular burger patties) would be receivable through the openings (e.g. first opening) corresponding to the food holding compartments/zones (e.g. the first food holding compartment).

941. Likewise, for the reasons described in Paragraphs 835-841 (Ground 10, Claim 8), the POSA would understand that the pans/trays holding food products (e.g. first tray of a first food product) would be receivable in the food holding compartments/zones (e.g. the first food holding compartment) onto the corresponding substantially planar bottom surface (e.g. the first substantially planar bottom surface). As disclosed in Fortmann'748, the POSA would recognize that the first substantially planar bottom surface and the pans are below the first lid.

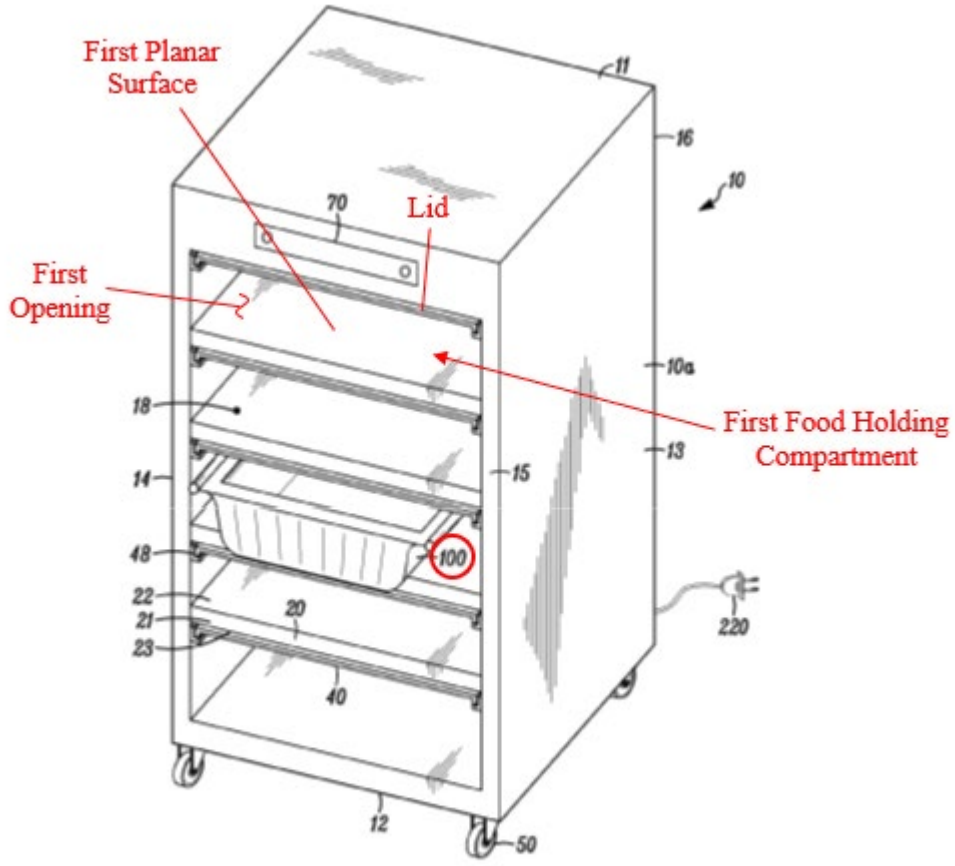


FIG. 1

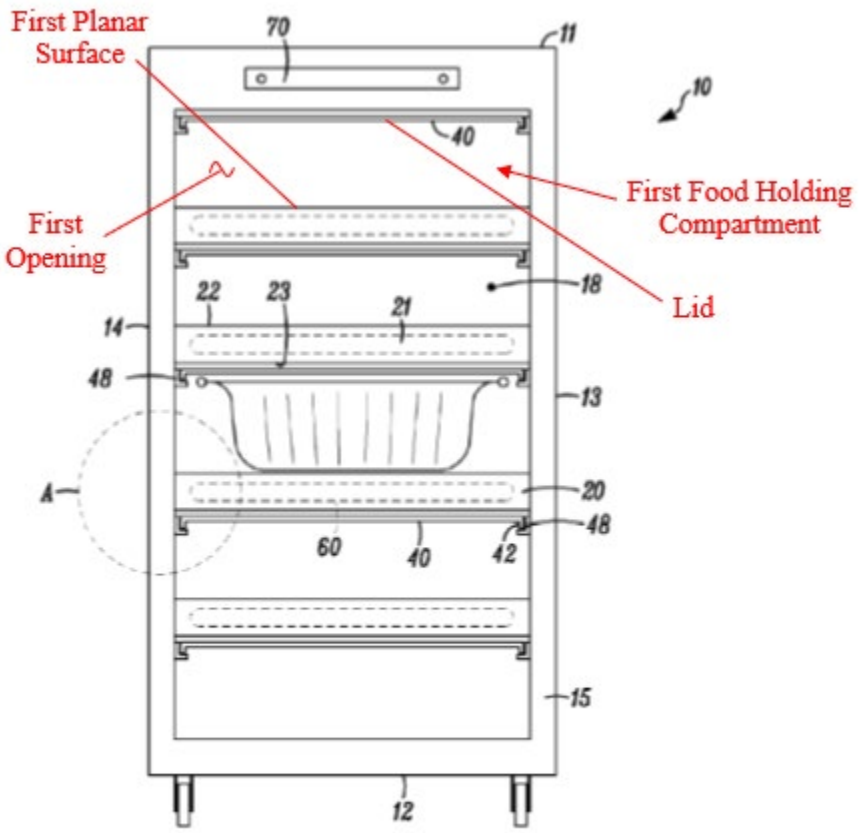
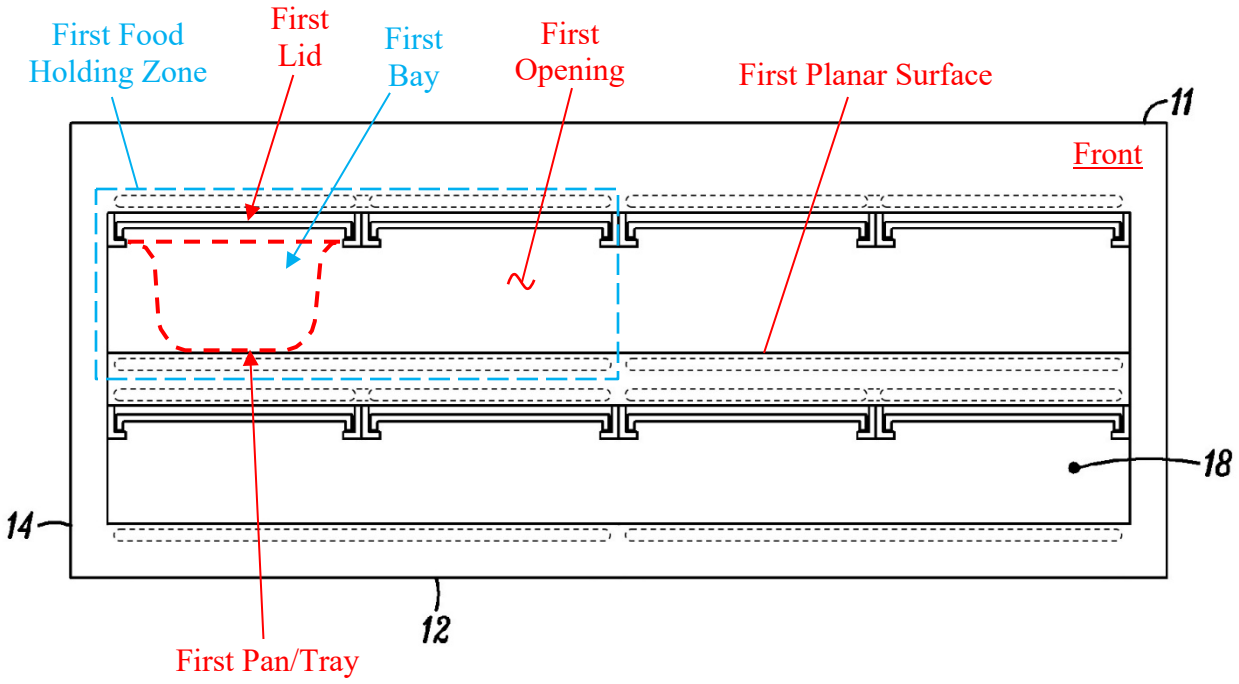


FIG. 2

EX1010: Figs. 1 and 2 (annotated).

942. This teaching would likewise hold true for the Fortmann'748 cabinet as modified to have a 2x4 configuration according to Paragraphs 524-536 (Ground 10, Section XIII(A)(1)) above, such that it would have been obvious for the first tray of a first food product to be received through the first opening into the first bay of the first food holding zone and onto the first substantially planar bottom surface below the first lid.



EX1010: Fig. 2 (modified, annotated).

11.b: receiving a second tray of a second food product through the first opening into the second bay of the first food holding zone onto the first substantially planar bottom surface

943. For the reasons described in Paragraphs 716-730 and 794-799 (Ground 10, claim limitation 1.b and 5.a), the POSA would understand that the pans/trays holding food products (e.g. second tray of a second food product such as breaded (fried) chicken) would be receivable through the openings (e.g. first opening) corresponding to the food holding compartments/zones (e.g. the first food holding compartment).

944. Likewise, for the reasons described in Paragraph 835-841 (Ground 10, Claim 8), the POSA would understand that the pans/trays holding food products

(e.g. second tray of a second food product) would be receivable in the food holding compartments/zones (e.g. the first food holding compartment) onto the corresponding substantially planar bottom surface (e.g. the first substantially planar bottom surface).

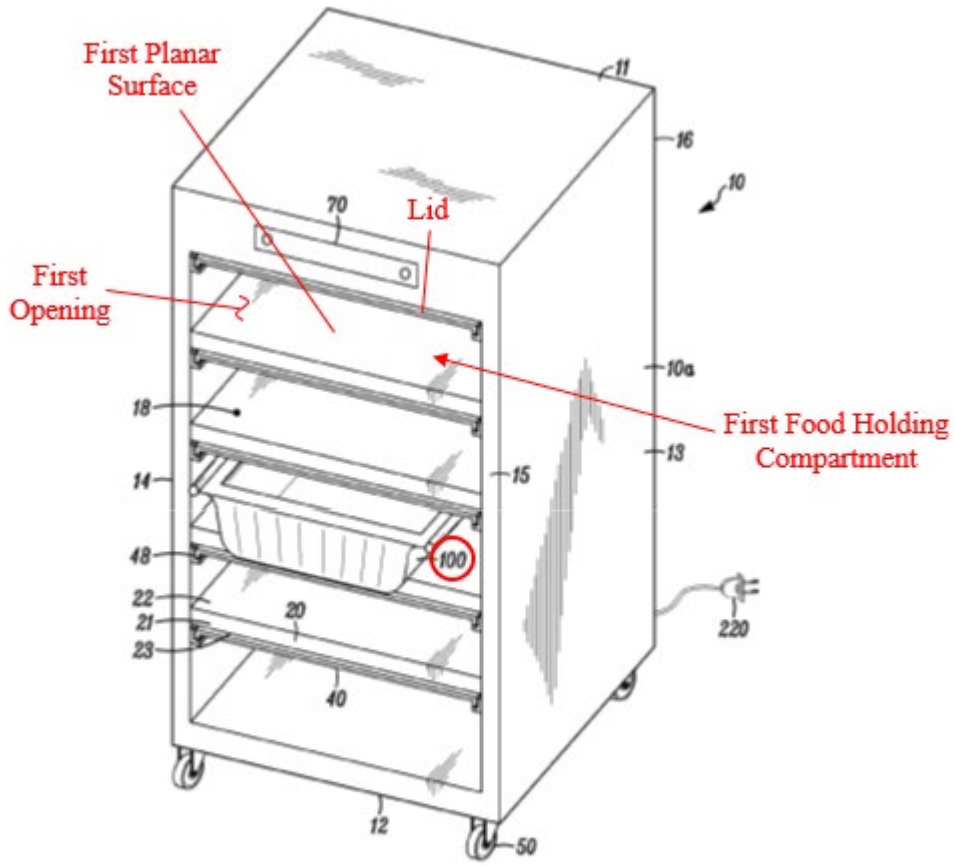


FIG. 1

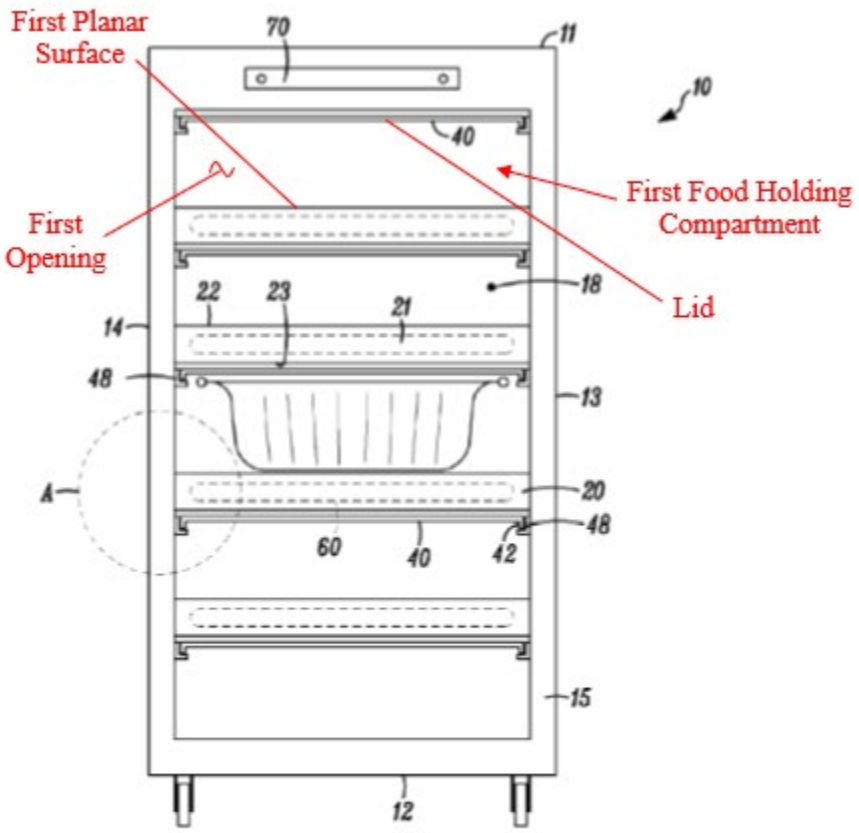
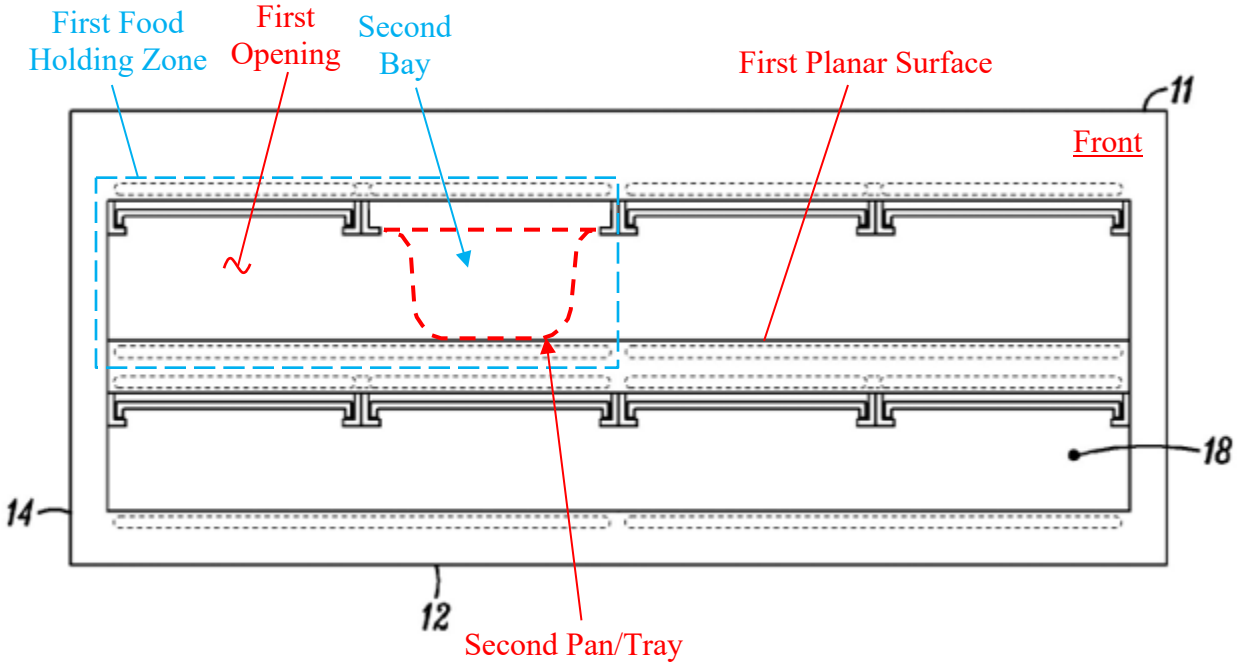


FIG. 2

EX1010: Figs. 1 and 2 (annotated).

945. This teaching would likewise hold true for the Fortmann'748 cabinet as modified to have a 2x4 configuration according to Paragraphs 524-536 (Ground 10, Section XIII(A)(1)) above, such that it would have been obvious for the second tray of a food product (e.g., breaded (fried) chicken) to be received through the first opening into the second bay of the first food holding zone and onto the first substantially planar bottom surface.



EX1010: Fig. 2 (modified, annotated).

946. Further, it would have been obvious for the second pan/tray to contain a second type of food product (e.g., fried chicken). The IRHS Documents teach an arrangement where a holding zone having two bays holds burger patties in the first/left bay and fried chicken (tendercrisp) in the second/right bay. *See* Paragraphs 148-149, 336-337, and 352-355 (Ground 1, claim limitations 1.a.2 and 11.b and Claim 8); EX1005: 8, 25; EX1007: 12.



EX1007: 12 (annotated).

947. In addition, Merco teaches burger patties and fried chicken patties may use the same temperature settings (200°F). EX1028: 30, 39.

948. Per the IRHS Documents and/or Merco, it would have been obvious for modified Fortmann'748 to hold burger patties and fried chicken patties (capable of same-zone holding) in the first zone's first and second bays, respectively. EX1007: 12; EX1028: 39.

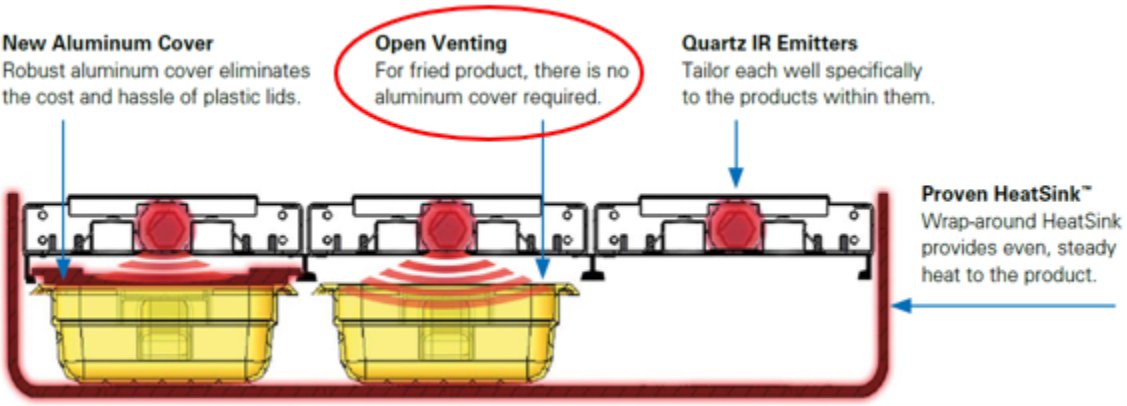
949. For similar reasons in Paragraphs 695-697, 716-730, 794-809, and 835-841 (Ground 10, claim limitations 1.a.4 and 1.b and Claims 5 and 8), it would have been obvious to receive a pan/tray (second) of the chicken patties (second product) through the first opening into the second bay onto the first planar surface to locate the fried chicken patties in the second bay to warm the food before serving. EX1010: ¶[0002].

11.c: maintaining, with the first lid, an increased moisture within the first tray compared to a moisture within the second tray, while operating the first bay and the second bay of the first food holding zone to the first temperature setpoint by independently operating the first heating element and the second heating element

950. Fortmann'748 explains the lids (40) retain moisture in the pans/trays (100). EX1010: ¶[0017] ("[t]he cover 40 additionally substantially encloses the one or more pans 100 disposed upon the shelf 21 therebelow, which maintains any moisture or water vapor within the pan 100 to prevent the warmed food disposed within the pan 100 from drying"). Fortmann'748 also explains the lids (40) can be selectively removed. EX1010: Abstract ("[a] cover is disposed directly below at least some of the plurality of shelves, and configured to be slidably connected with respect to the shelf for selective placement into the enclosure or removal from the shelf"), ¶[0004] (same), ¶[0017] ("a removable and slidable cover"), ¶[0018] ("covers 40 are disposed onto the respective shelves 21 to be removable as necessary").

951. The IRHS Documents expressly teach operating a food holding cabinet where at least one food pan/tray is heated with a lid (broiled foods), while at least one other food pan/tray is heated without a lid (fried foods), depending on the different types of food (e.g., broiled and fried foods) being heated and if moisture retention or venting is desired for the food type. EX1005: 16 ("Ensure

proper heat sink covers are inserted into the correct location (broiled and moisture sensitive products only").



EX1007: 53 (annotated).



EX1007: 12 (annotated).

952. Similarly, Hartfelder teaches different food pans/trays receiving different types of food (e.g., fried and non-fried food) and different types of food being heated with and without lids depending if moisture retention or venting is desired. EX1013: ¶[0006] ("One commonly used way to protect previously cooked food items for which drying out is a concern, is to place the food items in a

container, such as a tray, and to provide a cover for the container. The cover restricts evaporation of moisture from the previously cooked food items. With a reduced amount of moisture vapor being able to escape from the covered container, the previously cooked food items contained therein do not dry out as rapidly."), ¶[0044] ("food portions, such as fried foods or breads like biscuits, [] are maintained uncovered to prevent the previously cooked food portions from becoming soggy").

953. Likewise, Fortmann'197 likewise teaches different food pans/trays receiving different types of food (e.g., fried and non-fried food) and different types of food being heated with and without lids depending if moisture retention or venting is desired. EX1014: 7:45-67 ("the covers 200 are readily removable and replaceable within the internal volume 27 of the housing 20, and the device 10 may be operated with some covers 200 enclosing some discrete heating zones 100 and other discrete heating zones 100 free of covers (but including pans 400). For example, when it is desired to heatingly store food products in a moist environment, the cover 200 may be installed in the discrete heating zone such to enclose (or only leave a small space above) the opening 402 into the pan 400 and to prevent moisture from the food products within the pan 400 from leaving the pan 400. … Conversely, where a relatively dry environment is desired, the cover 200 may be removed from the discrete heating zone 100 to allow any moisture

within the food product disposed within the opening 402 of the pan 400 to travel away from the pan").

954. Lastly, Shie'099 teaches different food pans/trays receiving different types of food (e.g., fried and non-fried food) and different types of food being heated in a manner where moisture is retained or vented with lids. EX1017: 6:45-53 ("Some of these foods, such as hamburger patties, loose their taste and texture with loss of moisture. Others, such as fried chicken fillets, biscuits, and eggs become soggy if stored in an abundance of moisture. The trays B which contain foods that must remain moist are placed in heat sinks 44 having their covers 80 in the closing position (FIG. 3-left). The trays B containing foods which must remain crisp are placed in heat sinks 44 in which the covers 80 are in the venting position").

955. Thus, the POSA would have understood and recognized that lids are used for non-fried foods (like burger patties) to keep food moist and that lids are omitted with fried foods (like fried chicken) to allow moisture to vent or escape to prevent the fried food from becoming soggy. EX1005: 16 ("Ensure proper heat sink covers are inserted into the correct location (broiled and moisture sensitive products only"); EX1013: ¶[0006] ("One commonly used way to protect previously cooked food items for which drying out is a concern, is to place the food items in a container, such as a tray, and to provide a cover for the container.

The cover restricts evaporation of moisture from the previously cooked food items. With a reduced amount of moisture vapor being able to escape from the covered container, the previously cooked food items contained therein do not dry out as rapidly."), ¶[0044] ("food portions, such as fried foods or breads like biscuits, [] are maintained uncovered to prevent the previously cooked food portions from becoming soggy"); EX1014: 7:45-67 ("the covers 200 are readily removable and replaceable within the internal volume 27 of the housing 20, and the device 10 may be operated with some covers 200 enclosing some discrete heating zones 100 and other discrete heating zones 100 free of covers (but including pans 400). For example, when it is desired to heatingly store food products in a moist environment, the cover 200 may be installed in the discrete heating zone such to enclose (or only leave a small space above) the opening 402 into the pan 400 and to prevent moisture from the food products within the pan 400 from leaving the pan 400. … Conversely, where a relatively dry environment is desired, the cover 200 may be removed from the discrete heating zone 100 to allow any moisture within the food product disposed within the opening 402 of the pan 400 to travel away from the pan"); EX1017: 6:45-53 ("Some of these foods, such as hamburger patties, loose their taste and texture with loss of moisture. Others, such as fried chicken fillets, biscuits, and eggs become soggy if stored in an abundance of moisture. The trays B which contain foods that must remain moist are placed in

heat sinks 44 having their covers 80 in the closing position (FIG. 3-left). The trays B containing foods which must remain crisp are placed in heat sinks 44 in which the covers 80 are in the venting position").

956. In view of the IRHS Documents, Hartfelder, Fortmann'197, and/or Shei'099, it would have been obvious for the first pan/tray to receive a non-fried food (e.g., burger patties) to keep the food moist. EX1005: 16; EX1013: ¶[0006]; EX1014: 7:45-67; EX1017: 6:45-53.

957. Likewise, in view the IRHS Documents, Hartfelder, Fortmann'197, and/or Shei'099, it would have been obvious for the second pan/tray to receive a fried food (e.g., fried chicken) and not be used with the lid to allow the moisture to vent, preventing the fried food from becoming soggy. EX1005: 16; EX1013: ¶[0044]; EX1014: 7:45-67; EX1017: 6:45-53.

958. This would have been nothing more than the application of a known technique (using lids with non-fried foods and removing lids for fried foods) used with similar devices to the Fortmann'748 cabinet (the cabinets from the IRHS Documents, Hartfelder, Fortmann'197, and/or Shei'099) in the same way (insert/remove lids as needed based on the food).

959. The POSA would have had a reasonable expectation of success as Fortmann'748's lids are already selectively removeable. EX1010: ¶¶[0017], [0018]. Such foods—burger patties and breaded (fried) chicken—can be placed in

the same zone because they have identical recommended holding temperatures. EX1028: 39.

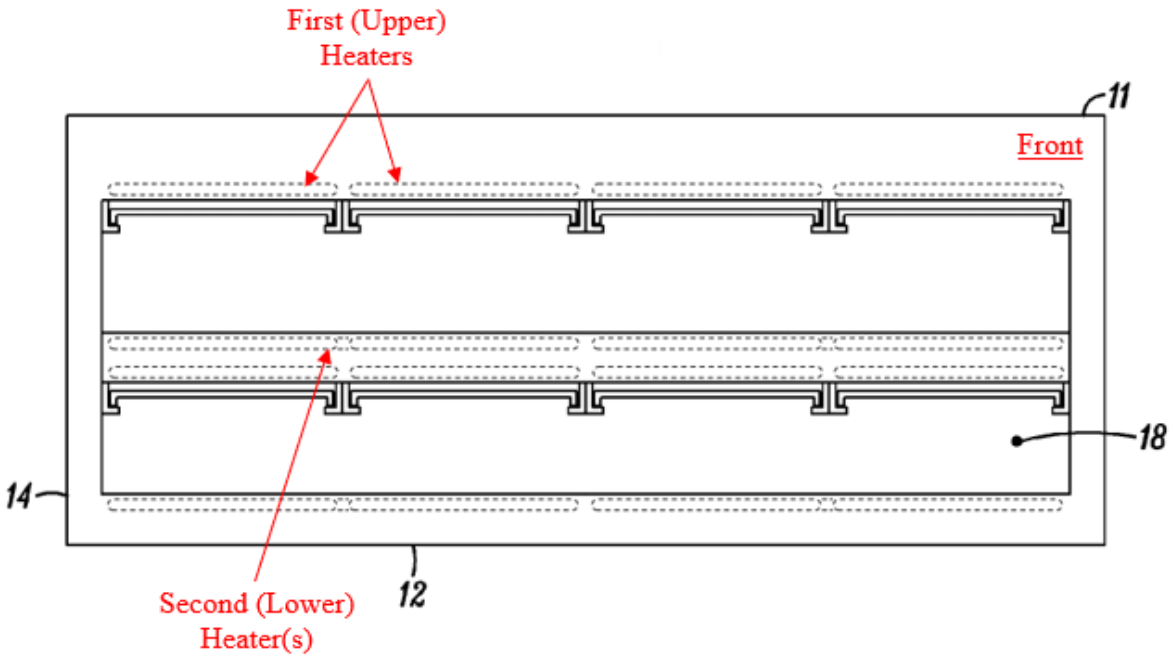
960. Therefore, it would have been obvious for Fortmann'748's cabinet to maintain an increased moisture content with the first lid within the first pan/tray compared the moisture in the second tray (which would have been allowed to vent with the lid for the second tray omitted/removed) while the first and second bays are being heated. As the first and second bays are part of the first food holding zone, both the first and second bays would be operated to the first temperature setpoint of the first food holding zone by the first and second heating elements as explained in Paragraphs 716-730 (Ground 10, claim limitation 1.b).

961. Accordingly, each step and limitation of Claim 11 is either disclosed in Fortmann'748 or would have been obvious in view of the teachings and disclosures of the IRHS Documents, Jones, Fortmann'197, McMillan, Vaseloff, Hartfelder, Shei'099, Stanger, Loy, and/or Veltrop. As such, the POSA would have found it obvious to arrive at the method of maintaining different temperatures within a multi-zone food holding bin as claimed in Claim 11.

B. Claim 19: the method of claim 17, further comprising operating the second heating element to output more heat than the first heating element

962. As discussed above, the POSA would have found it obvious to arrive at the claimed method of maintaining different temperatures within a multi-zone food holding bin of Claim 17.

963. As explained in Paragraphs 716-730 (Ground 10, claim limitation 1.b), it would have been further obvious to modify the Fortmann'748 cabinet in view of Jones (EX1012), Fortmann'197 (EX1014), the IRHS Documents (EX1005-1008), and McMillan (EX1019) as discussed in Paragraphs 537-603 (Ground 10, Section XIII(A)(2)-(3)) such that it would have the first/upper heater(s) and the second/lower heater at respective top and bottom portions of the first food holding zone and for these heaters to have been independently controllable from one another and from the heaters of other zones.



EX1010: Figs. 2 (modified, annotated).

964. Given that the upper and lower heaters of each zone of the Fortmann'748 cabinet are independently controllable, it would have been understood to customize upper and lower heating for each food product as discussed in Paragraphs 587-603 (Ground 10, Section XIII(A)(3)).

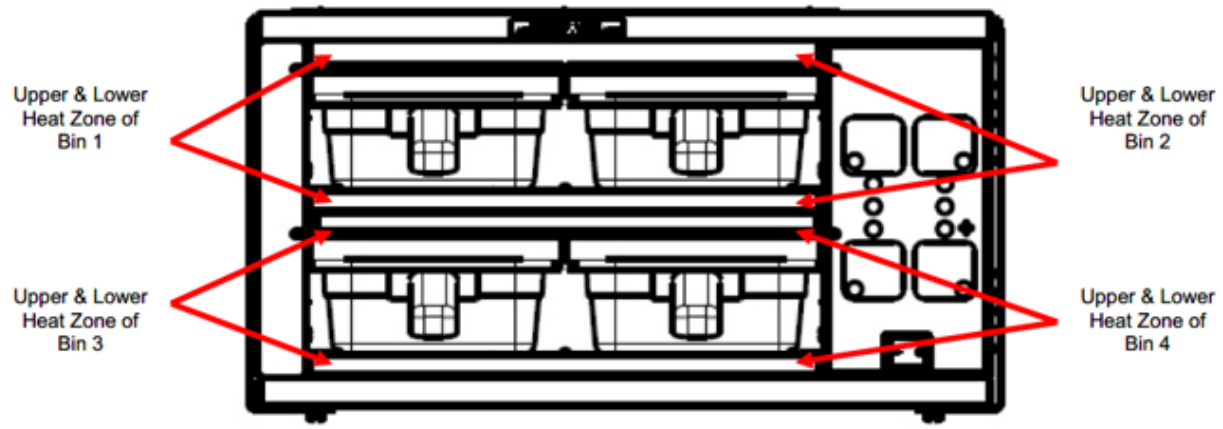
965. Accordingly, there was a finite and predictable set of options with respect to the choice of whether to operate the upper and lower heaters at the same temperatures or to have one or the other heaters output more energy than the other heater (upper heat greater than lower heat, upper heat equal to lower heat, or upper heat less than lower heat), such that each option would have been obvious.

966. The POSA understands different food items require different temperatures, and therefore would have selected an operation of the holding unit to apply more heat applied from the bottom than from the top to hold food products (e.g., eggs) that benefit would benefit from such settings. EX1028: 31.

967. Merco includes a manual for Merco's Holding Cabinets which the POSA would recognize to be similar to Fortmann'748's cabinet. EX1028: 14 ("Keep Food Hot, Fresh, and Ready for Assembly."), 21. As explained by Merco, "[e]ach product 'bin' has upper and lower heating elements that provide the heat necessary to hold your food product. It is critically important that each of these 'heat zones' be set to the appropriate temperature for each type of food product you wish to store in the bins." EX1028: 30. To this end, the upper and lower temperature settings for each heat zone in Merco's Holding Cabinet can be separately set. EX1028: 31 ("Press 'Up Arrow' button or 'Down Arrow' to set the lower temperature," "Press 'Up Arrow' button or 'Down Arrow' to set the upper temperature").



EX1028: 21.



EX1028: 30.

968. Moreover, Merco discloses pre-set upper and lower temperatures for particular food items. For example, for "eggs" the upper temperature is set to 160ºF and the lower temperature is set to 180ºF. EX1028: 39 (top row). Thus, as pre-set for eggs, the lower heater heating the eggs will output more heat than the upper heater heating the eggs.

969. It would have been obvious to have each lower heater (e.g., second heater) of Fortmann'748's modified cabinet output more heat than each upper heater (e.g., first heater) of Fortmann'748's modified cabinet for each food holding zone in view of Merco in order to hold food products (e.g., eggs) requiring a higher lower temperature compared to an upper temperature. EX1028: 39.

970. This would have been nothing more than the use of a known technique (lower heaters outputting more heat than upper heaters as taught by Merco) to improve a similar device (Fortmann'748's modified cabinet with independently controllable upper and lower heaters) in the same way (having the target temperatures for the lower heaters be greater than the target temperature for the upper heaters).

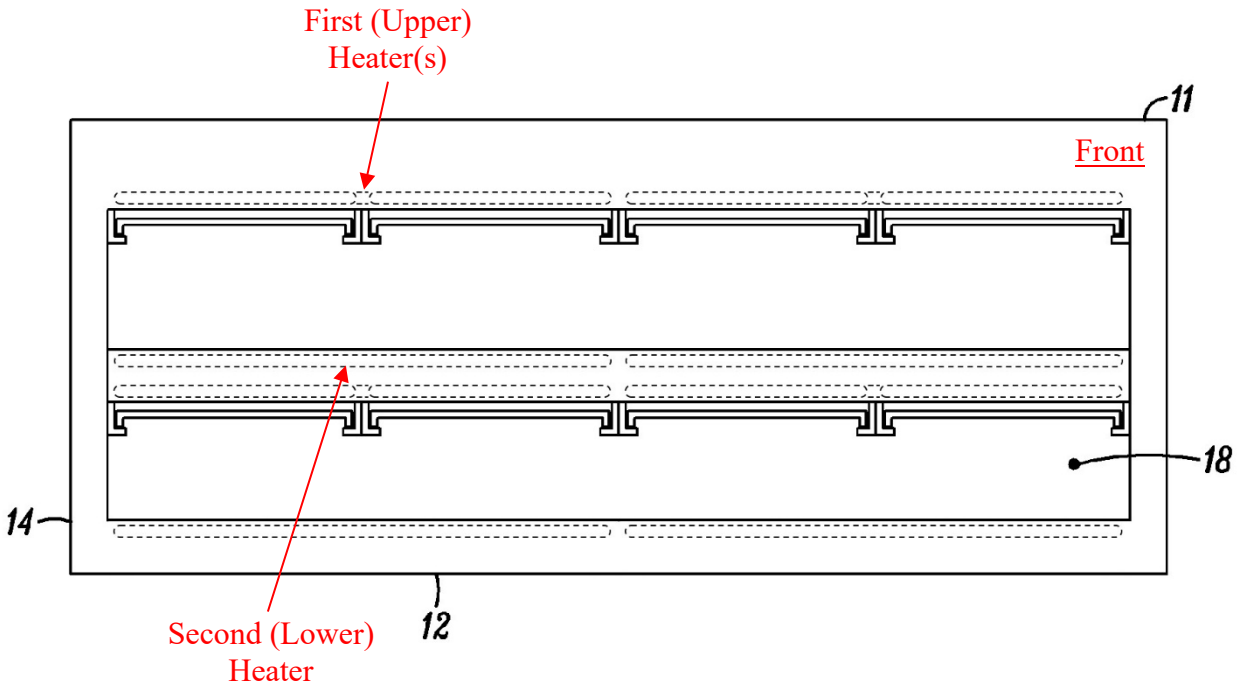
971. There would have been a reasonable expectation of success in making this modification given

(1) both Fortmann'748's cabinet and Merco's Holding Cabinet are food warming apparatuses (e.g., all units with compartments for warming trays/pans of food),

(2) the upper and lower heaters of Fortmann'748's modified cabinet are independently controllable and can therefore have different target temperatures, and

(3) Merco demonstrates this was a preferred heat setting for certain foods (e.g., eggs). EX1028: 31.

972. In view of this modification, it would have been obvious to operate the second heater to output more heat than the first heater(s) via having a higher target temperature.



EX1010: Fig. 2 (modified, annotated).

973. Accordingly, each step and limitation of Claim 19 is either disclosed in Fortmann'748 or would have been obvious in view of the teachings and disclosures of the IRHS Documents, Jones, Fortmann'197, McMillan, Vaseloff, Hartfelder, Shei'099, Stanger, Loy, Veltrop, and/or Merco. As such, the POSA

would have found it obvious to arrive at the method of maintaining different temperatures within a multi-zone food holding bin as claimed in Claim 19.

XVI. Fortmann'197 is Supported by its Provisional Application

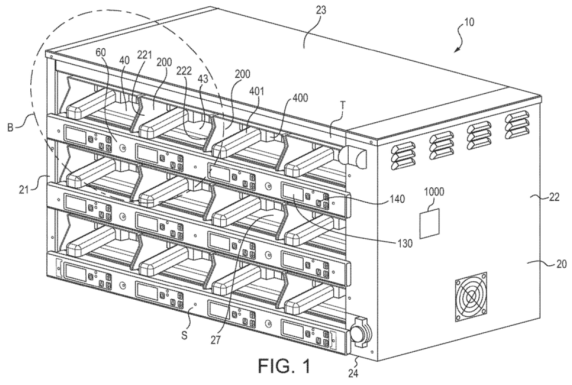
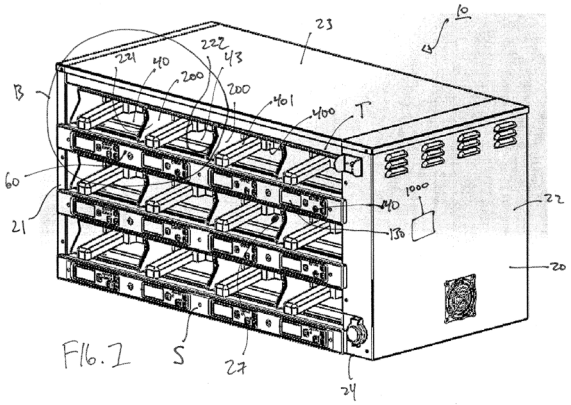
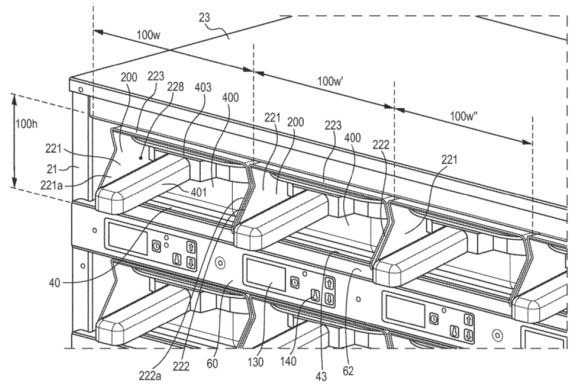
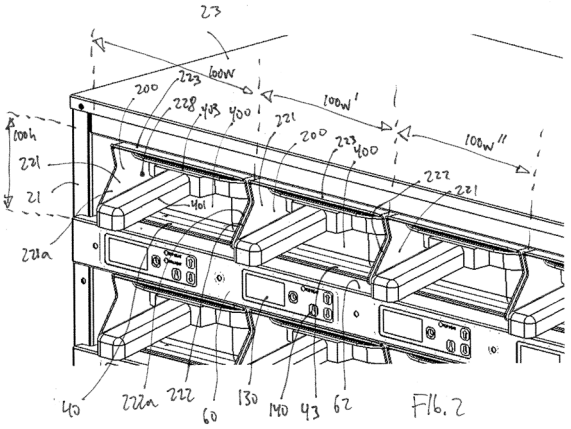
974. I understand that the non-provisional application that issued as Fortmann'197 was filed after the earliest priority date of the '264 Patent. I also understand that Fortmann'197 claims priority to U.S. Provisional App. No. 62/193,992 ("the '992 Provisional"; EX1023), filed July 17, 2015, before the earliest priority date of the '264 Patent.

975. I have been informed that because Fortmann'197 is relying on the filing date of its provisional application (the '992 Provisional) to qualify as prior art against the '264 Patent, the provisional application must describe the subject matter in Fortmann'197 used in the invalidity positions herein.

976. In my opinion, the '992 Provisional describes the subject matter in Fortmann'197 forming the prior art invalidity positions described herein. Fortmann'197's written description is essentially identical to the written description of the '992 Provisional. *compare* EX1014: 1:13-10:9 with EX1023: ¶¶[0001]-[0055].

977. In addition, the figures between Fortmann'197 and the '992 Provisional are generally identical. *compare* EX1014: Figs. 1-10 with EX1023: Figs. 1-10. A select sampling of these corresponding figures is provided below,

which shows the figures being nearly identical (the main difference being the use of hand drawn reference numbers in the ’992 Provisional):

Fortmann’197 Figures	**‘992 Provisional Figures**
 FIG. 1	 Fig. 1
 FIG. 2	 Fig. 2

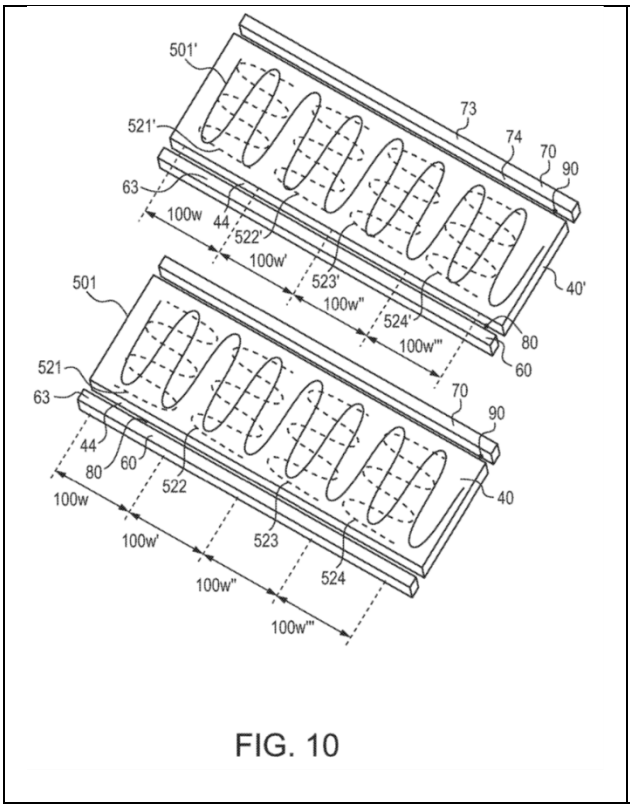


FIG. 10

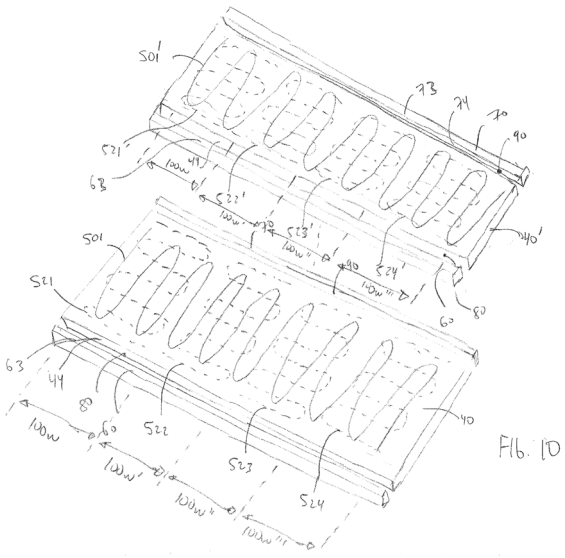


FIG. 10

978. Therefore, in my opinion, the ’992 Provisional describes the subject matter relied upon in Fortmann’197 establishing the invalidity positions described herein.

979. In signing this declaration, I recognize that the declaration will be filed as evidence in a contested case before the Patent Trial and Appeal Board of the United States Patent and Trademark Office. I also recognize that I may be subject to cross examination in this proceeding and that cross examination will take place within the United States. If cross examination is required of me, I will be available for any such cross examination.

I declare under penalty of perjury that the foregoing is true and correct.

Executed this 2nd day of October, 2026.

By Glenn Vallee: 