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: IPR2026-00483
Patent No. 10,512,363

DECLARATION OF GLENN VALLEE

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IV. GROUND 1: Claims 1-5, 7-11, 15-23, 26, 28-33, 35-37 Would Have Been Obvious Over the IRHS Documents 96

A. Combination of the IRHS Documents 96

B. Independent Claim 1 106

1.P: a multi-zone food holding bin comprising 106

1.a: 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 108
1.b.1: a first food holding compartment within the chassis, the first food holding compartment being defined by the first side panel, the second side panel, the top panel and a shelf..... 110
1.b.2: the top panel including at least one downwardly depending lid holding shelf..... 111
1.b.3: the first food holding compartment being substantially unobstructed between the first side panel and the second side panel and below the downwardly depending lid holding shelf 114
1.c.1: a second food holding compartment disposed below the first food holding compartment within the chassis, the second food holding compartment being defined by the first side panel, the second side panel, the bottom panel and the shelf..... 115
1.c.2: the shelf including at least one downwardly depending lid holding shelf..... 116
1.c.3: the second food holding compartment being substantially unobstructed between the first side panel and the second side panel and below the downwardly depending lid holding shelf 120
1.d.1: wherein the shelf is located between the first and second food holding compartments and comprises a first side and a second side, the first side facing into the first food holding compartment, the second side facing into the second food holding compartment 121
1.d.2: the first side defining a first substantially planar surface comprising a thermally conductive material forming a top surface of the shelf and forming a bottom surface of the first food holding compartment..... 123
1.d.3: the first substantially planar surface adapted to receive a tray for food items..... 125
1.e.1: and wherein the bottom panel includes a second substantially planar surface comprising a thermally conductive material forming a bottom surface of the second food holding compartment..... 126
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1.f.2: the first opening configured to allow the tray for food items to be passed through the first opening and onto the first substantially planar surface 130

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1.h.1: a first food holding zone formed in the first food holding compartment 137
1.h.2: the first food holding zone having at least one independently controllable heating element disposed at a top portion of the first food holding compartment, and at least one independently controllable heating element disposed at a bottom portion of the first food holding compartment 138
1.h.3: the first food holding zone having a controllable first food holding temperature 157
1.h.4: the first food holding zone including a first food holding bay and a second food holding bay, each of the first and second food holding bays being configured to receive a food holding tray 161
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1.i.2: the second food holding zone having at least one independently controllable heating element disposed at the top portion of the first food holding compartment and at least one independently controllable heating element disposed at the bottom portion of the first food holding compartment 164
1.i.3: the second food holding zone having a controllable second food holding temperature 166
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1.j: wherein the first food holding zone and the second food holding zone are adjacent one another across the substantially planar surface 170
1.k.1: a third food holding zone formed in the second food holding compartment 171
1.k.2: the third food holding zone having at least one independently controllable heating element disposed at a top portion of the second food holding compartment, and at least one independently controllable heating element disposed at a bottom portion of the second food holding compartment 172

1.k.3: the third food holding zone having a controllable third food holding temperature..... 175
1.k.4: the third food holding zone including a fifth food holding bay and a sixth food holding bay, each of the fifth and sixth food holding bays being configured to receive a food holding tray..... 176
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1.l.3: the fourth food holding zone having a controllable fourth food holding temperature..... 181
1.l.4: the fourth food holding zone including a seventh food holding bay and a eighth food holding bay, each of the seventh and eighth food holding bays being configured to receive a food holding tray 183
1.m: wherein the third food holding zone and the fourth food holding zone are adjacent one another across the second substantially planar surface..... 185
1.n: at least one user interface for controlling the food holding temperature of each food holding bay..... 186
1.o: a controller operatively coupled to the user interface and each heating element, the controller configured to independently operate each heating element such that each food holding zone has an independently controlled food holding temperature..... 191

C. Claim 2 195

2.a.1: the food holding bin of claim 1, further comprising: a third opening in the rear face of the chassis defined by the first substantially planar surface, the first side panel, the second side panel and the top panel 195
2.a.2: the third opening configured to allow the tray for food items to be passed through the third opening from the first substantially planar surface..... 202
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2.b.2: the fourth opening configured to allow the tray for food items to be passed through the fourth opening from the second substantially planar surface 210

D. Claim 3: the food holding bin of claim 1 wherein each interface is a graphical interface that displays the food holding temperature of each food holding bay.....212

E. Claim 4: the food holding bin of claim 1, further comprising a first bezel attached to the chassis, the first bezel providing at least one user interface comprising dedicated controls and/or dedicated displays for each of the first, second, third, and fourth food holding bays 215

F. Claim 5: the food holding bin of claim 3, wherein the first bezel is set forward from the shelf and defining a space between the first bezel and the front face.....219

G. Claim 7: the food holding bin of claim 4, wherein the first bezel provides at least one graphical interface comprising at least one dedicated display and the dedicated display displays a temperature setting for a corresponding food holding zone.....223

H. Claims 8 and 9: the food holding bin of claim [4, 7], wherein the dedicated display displays additional information about a food item stored in the corresponding food holding bay.....228

I. Claim 10: the food holding bin of claim 4, wherein the first bezel provides two user interfaces arranged horizontally beneath the first food holding zone and the second food holding zone, respectively .231

J. Claim 11 233

11.a.1: the food holding bin of claim 2, further comprising at least two bezels attached to the chassis 233
11.a.2: a first bezel providing at least one user interface comprising dedicated controls and/or dedicated displays for each of the first, second, third, fourth, fifth, sixth, seventh, and eighth food holding bays, the first bezel located proximate the front face of the chassis 236
11.a.3: a second bezel attached to the chassis, the second bezel providing at least one user interface comprising dedicated controls and/or dedicated displays for each of the first, second, third, fourth, fifth, sixth, seventh, and eighth food holding bays, the second bezel located proximate the opposing rear face of the chassis. 240

K. Claim 15: the food holding bin of claim 1, further comprising at least one food holding tray resting on at least one substantially planar surface within one food holding bay.....247

L. Claim 16: the food holding bin of claim 15, wherein the independently controllable heating elements disposed at the bottom portion of the first and second food holding compartments provide heat energy to at least one food holding tray through conduction.....248

M. Claim 17: The food holding bin of claim 15, wherein the independently controllable heating elements disposed at the top portion of the first and second food holding compartments provide radiant heat to at least one food holding tray. 251

N. Claim 18: the food holding bin of claim 15, wherein the independently controllable heating elements disposed at the top portion of the first and second food holding compartments provide radiant heat energy to at least one food holding tray and the independently controllable heating elements disposed at the bottom portion of the first and second food holding compartments provide heat energy through conduction to at least one holding tray. 255

O. Claim 19: the food holding bin of claim 1, wherein the independently controllable heating elements comprise a resistive wire.....256

P. Claim 20: the food holding bin of claim 1, wherein at least one of the substantially planar surfaces is a continuous surface.....260

Q. Claim 21: the food holding bin of claim 20, wherein at least one of the substantially planar surfaces is substantially free of any dividing walls or other structure between the first, second, third, and fourth food holding bays 261

R. Claim 22: the food holding bin of claim 20, wherein at least one of the substantially planar surfaces is substantially free of any dividing walls or other structure between the fifth, sixth, seventh, and eighth food holding bays 263

S. Claim 23: the food holding bin of claim 15, wherein each food holding bay further comprises a lid holding shelf elevated above the substantially planar bottom surface in the first food holding compartment and the second food holding compartment, each lid holding shelf being configured to receive and store a lid for the food holding tray.....264

T. Claim 26: the food holding bin of claim 23, wherein the lid holding shelf comprises sheet metal.....267

U. Claim 28: the food holding bin of claim 1, wherein each independently controllable heating element disposed at the top portion of the first and second food holding compartments is adapted to output more heat energy than the independently controllable heating elements disposed at the bottom portion of the first and second food holding compartments.....269

V. Claim 29: the food holding bin of claim 1, wherein at least one substantially planar surface comprises aluminum 272

W. Claim 30: the food holding bin of claim 1, wherein each of the food holding zones are each heated to different temperatures 272

X. Claim 31: the food holding bin of claim 1, wherein two or more of the food holding zones are each heated to different temperatures.....276

Y. Claim 32: the food holding bin of claim 1, wherein two or more of the food holding zones are each heated to the same temperature.....277

Z. Claim 33 279

33.a.1: the food holding bin of claim 1, wherein the shelf comprises an upper thermally conductive plate disposed in the shelf and in thermal communication with the first side, a lower thermally conductive plate disposed in the shelf and in thermal communication with the second side 279

33.a.2: a first set of independently controllable heating elements in thermal communication with the upper thermally conductive plate, and a second set of independently controllable heating elements in thermal communication with the lower thermally conductive plate 286

33.b: wherein the first set of independently controllable heating elements are capable of providing different amounts of heat energy into the first and second food holding zones of the first food holding compartment..... 292

33.c: wherein the second set of independently controllable heating elements are capable of providing different amounts of heat energy into the third and fourth food holding zones of the second food holding compartment..... 293

AA. Claim 35: The food holding bin of claim 33, wherein each of the first and second sets of independently controllable heating elements comprise two heating elements. 297

BB. Claim 36: The holding bin of claim 1, wherein the at least one user interface is configured to set the food holding temperature of each food holding zone, and the first food holding zone is maintained at first set food holding temperature, the second food holding zone is maintained at a second set food holding temperature, the third food holding zone is maintained at a third set food holding temperature, and the fourth food holding zone is maintained at a fourth food set holding temperature.....300

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V. GROUND 2: Claims 6, 12-14, 24, and 25 Would Have Been Obvious Over the IRHS Documents in view of Hartfelder and/or Shei'099 304

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B. Claim 6: the food holding bin of claim 5, further comprising a latch moveable from a locked position to an unlocked position within the space between the first bezel and the front face.....313

C. Claim 12: the food holding bin of claim 1, further comprising a latch disposed adjacent the first opening 321

D. Claim 13: the food holding bin of claim 12, wherein the latch is located between the first food holding bay and the second food holding bay 325

E. Claim 14: the food holding bin of claim 12, wherein the latch is rotatable or translatable from a first position to a second position. ..326

F. Claim 24: the food holding bin of claim 23, wherein a latch is disposed adjacent the first opening and is moveable between a locked position in which the latch prevents a lid from being removed from the lid holding shelf, and an unlocked position in which the latch allows removal of a lid from the lid holding shelf.....329

G. Claim 25: The food holding bin of claim 24, wherein the latch is rotatable and is biased into the locked position by gravity. 334

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A. Claim 19: the food holding bin of claim 1, wherein the independently controllable heating elements comprise a resistive wire 338

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A. Claim 26: the food holding bin of claim 23, wherein the lid holding shelf comprises sheet metal 343

VIII. GROUND 5: Claim 34 Would Have Been Obvious Over the IRHS Documents in view of Fortmann'967 and/or Fortmann'197 350

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X. GROUND 7: Claims 1-26 and 28-37 Would Have Been Obvious as Addressed in Grounds 1-6 Above in Further View of Veltrop and Shei'155 (If Necessary) Even to the Extent the IRHS Documents Are Found Not to Sufficiently Teach the Claim Limitations Concerning the Material of Construction of the Heatsink or its Conductivity 368

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B. Claim 32: the food holding bin of claim 1, wherein two or more of the food holding zones are each heated to the same temperature 412

XIII. GROUND 10: Claims 1-18, 20-25, and 30-37 Would Have Been Obvious Over Fortmann'748 in view of the IRHS Documents, Jones, Stanger, Loy, Fortmann'197, Fortmann'967, McMillan, Vaseloff, Hartfelder, and/or Shei'099 414

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3. Independently Controllable Top and Bottom Heaters per Zone. 454
4. Modified Controls 462
5. Temperature Control 471
6. Timer Bar/Bezel 479
7. Discrete Lids for Each Pan Holding Location 496
8. Latches 511
9. Insulation 520

B. Independent Claim 1 528

1.P: A multi-zone food holding bin comprising: 528
1.a: 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 530
1.b.1: a first food holding compartment within the chassis, the first food holding compartment being defined by the first side panel, the second side panel, the top panel and a shelf 533

1.b.2: the top panel including at least one downwardly depending lid holding shelf 536
1.b.3: the first food holding compartment being substantially unobstructed between the first side panel and the second side panel and below the downwardly depending lid holding shelf 543
1.c.1: a second food holding compartment disposed below the first food holding compartment within the chassis, the second food holding compartment being defined by the first side panel, the second side panel, the bottom panel and the shelf 546
1.c.2: the shelf including at least one downwardly depending lid holding shelf 549
1.c.3: the second food holding compartment being substantially unobstructed between the first side panel and the second side panel and below the downwardly depending lid holding shelf 552
1.d.1: wherein the shelf is located between the first and second food holding compartments and comprises a first side and a second side, the first side facing into the first food holding compartment, the second side facing into the second food holding compartment 555
1.d.2: the first side defining a first substantially planar surface comprising a thermally conductive material forming a top surface of the shelf and forming a bottom surface of the first food holding compartment 558
1.d.3: the first substantially planar surface adapted to receive a tray for food items 561
1.e.1: and wherein the bottom panel includes a second substantially planar surface comprising a thermally conductive material forming a bottom surface of the second food holding compartment 564
1.e.2: the second substantially planar surface adapted to receive a tray for food items 569
1.f.1: a first opening in the front face of the chassis defined by the first substantially planar surface, the first side panel, the second side panel and the top panel 572
1.f.2: the first opening configured to allow the tray for food items to be passed through the first opening and onto the first substantially planar surface 574
1.g.1: a second opening in the front face of the chassis defined by the second substantially planar surface, the first side panel, the second side panel and the shelf 577

1.g.2: the second opening configured to allow the tray for food items to be passed through the second opening and onto the second substantially planar surface 579
1.h.1: a first food holding zone formed in the first food holding compartment 582
1.h.2: the first food holding zone having at least one independently controllable heating element disposed at a top portion of the first food holding compartment, and at least one independently controllable heating element disposed at a bottom portion of the first food holding compartment 584
1.h.3: the first food holding zone having a controllable first food holding temperature 587
1.h.4: the first food holding zone including a first food holding bay and a second food holding bay, each of the first and second food holding bays being configured to receive a food holding tray 589
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1.i.2: the second food holding zone having at least one independently controllable heating element disposed at the top portion of the first food holding compartment and at least one independently controllable heating element disposed at the bottom portion of the first food holding compartment 595
1.i.3: the second food holding zone having a controllable second food holding temperature 597
1.i.4: the second food holding zone including a third food holding bay and a fourth food holding bay, each of the third and fourth food holding bays being configured to receive a food holding tray 600
1.j: wherein the first food holding zone and the second food holding zone are adjacent one another across the substantially planar surface 603
1.k.1: a third food holding zone formed in the second food holding compartment 606
1.k.2: the third food holding zone having at least one independently controllable heating element disposed at a top portion of the second food holding compartment, and at least one independently controllable heating element disposed at a bottom portion of the second food holding compartment 607
1.k.3: the third food holding zone having a controllable third food holding temperature 610

1.k.4: the third food holding zone including a fifth food holding bay and a sixth food holding bay, each of the third and fourth food holding bays being configured to receive a food holding tray 613
1.l.1: a fourth food holding zone formed in the second food holding compartment 616
1.l.2: the fourth food holding zone having at least one independently controllable heating element disposed at the top portion of the second food holding compartment and at least one independently controllable heating element disposed at the bottom portion of the second food holding compartment 618
1.l.3: the fourth food holding zone having a controllable fourth food holding temperature 620
1.l.4: the fourth food holding zone including a seventh food holding bay and a eighth food holding bay, each of the seventh and eighth food holding bays being configured to receive a food holding tray 623
1.m: wherein the third food holding zone and the fourth food holding zone are adjacent one another across the second substantially planar surface 626
1.n: at least one user interface for controlling the food holding temperature of each food holding bay 629
1.o: a controller operatively coupled to the user interface and each heating element, the controller configured to independently operate each heating element such that each food holding zone has an independently controlled food holding temperature 633

C. Claim 2 637

2.a.1: the food holding bin of claim 1, further comprising: a third opening in the rear face of the chassis defined by the first substantially planar surface, the first side panel, the second side panel and the top panel 637
2.a.2: the third opening configured to allow the tray for food items to be passed through the third opening from the first substantially planar surface 640
2.b.1: a fourth opening in the rear face of the chassis defined by the second substantially planar surface, the first side panel, the second side panel and the shelf 642
2.b.2: the fourth opening configured to allow the tray for food items to be passed through the fourth opening from the second substantially planar surface 644

D. Claim 3: the food holding bin of claim 1 wherein each interface is a graphical interface that displays the food holding temperature of each food holding bay.....647

E. Claim 4: the food holding bin of claim 1, further comprising a first bezel attached to the chassis, the first bezel providing at least one user interface comprising dedicated controls and/or dedicated displays for each of the first, second, third, and fourth food holding bays 650

F. Claim 5: the food holding bin of claim 3, wherein the first bezel is set forward from the shelf and defining a space between the first bezel and the front face.....653

G. Claim 6: the food holding bin of claim 5, further comprising a latch moveable from a locked position to an unlocked position within the space between the first bezel and the front face.....654

H. Claim 7: the food holding bin of claim 4, wherein the first bezel provides at least one graphical interface comprising at least one dedicated display and the dedicated display displays a temperature setting for a corresponding food holding bay 664

I. Claims 8 and 9: the food holding bin of claim [4, 7], wherein the dedicated display displays additional information about a food item stored in the corresponding food holding bay.....665

J. Claim 10: the food holding bin of claim 4, wherein the first bezel provides two user interfaces arranged horizontally beneath the first food holding zone and the second food holding zone, respectively .668

K. Claim 11 669

11.a.1: the food holding bin of claim 2, further comprising at least two bezels attached to the chassis 669
11.a.2: a first bezel providing at least one user interface comprising dedicated controls and/or dedicated displays for each of the first, second, third, fourth, fifth, sixth, seventh, and eighth food holding bays, the first bezel located proximate the front face of the chassis 675
11.a.3: a second bezel attached to the chassis, the second bezel providing at least one user interface comprising dedicated controls and/or dedicated displays for each of the first, second, third, fourth, fifth, sixth, seventh, and eighth food holding bays, the second bezel located proximate the opposing rear face of the chassis..... 676

L. Claim 12: the food holding bin of claim 1, further comprising a latch disposed adjacent the first opening 677

M. Claim 13: the food holding bin of claim 12, wherein the latch is located between the first food holding bay and the second food holding bay 681

N. Claim 14: the food holding bin of claim 12, wherein the latch is rotatable or translatable from a first position to a second position ...685

O. Claim 15: the food holding bin of claim 1, further comprising at least one food holding tray resting on at least one substantially planar surface within one food holding bay 688

P. Claim 16: the food holding bin of claim 15, wherein the independently controllable heating elements disposed at the bottom portion of the first and second food holding compartments provide heat energy to at least one food holding tray through conduction.....691

Q. Claim 17: the food holding bin of claim 15, wherein the independently controllable heating elements disposed at the top portion of the first and second food holding compartments provide radiant heat to at least one food holding tray 694

R. Claim 18: the food holding bin of claim 15, wherein the independently controllable heating elements disposed at the top portion of the first and second food holding compartments provide radiant heat energy to at least one food holding tray and the independently controllable heating elements disposed at the bottom portion of the first and second food holding compartments provide heat energy through conduction to at least one holding tray 697

S. Claim 20: the food holding bin of claim 1, wherein at least one of the substantially planar surfaces is a continuous surface.....698

T. Claim 21: the food holding bin of claim 20, wherein at least one of the substantially planar surfaces is substantially free of any dividing walls or other structure between the first, second, third, and fourth food holding bays 701

U. Claim 22: the food holding bin of claim 20, wherein at least one of the substantially planar surfaces is substantially free of any dividing walls or other structure between the fifth, sixth, seventh and eighth food holding bays 704

V. Claim 23: the food holding bin of claim 15, wherein each food holding bay further comprises a lid holding shelf elevated above the substantially planar bottom surface in the first food holding compartment and the second food holding compartment, each lid holding shelf being configured to receive and store a lid for the food holding tray.....708

W. Claim 24: the food holding bin of claim 23, wherein a latch is disposed adjacent the first opening and is moveable between a locked position in which the latch prevents a lid from being removed from the lid holding shelf, and an unlocked position in which the latch allows removal of a lid from the lid holding shelf.....713

X. Claim 25: the food holding bin of claim 24, wherein the latch is rotatable and is biased into the locked position by gravity.....718

Y. Claim 30: the food holding bin of claim 1, wherein each of the food holding zones are heated to different temperatures 722

Z. Claim 31: the food holding bin of claim 1, wherein two or more of the food holding zones are each heated to different temperatures.....729

AA. Claim 32: the food holding bin of claim 1, wherein two or more of the food holding zones are each heated to the same temperature.....730

BB. Claim 33 734

33.a.1: the food holding bin of claim 1, wherein the shelf comprises an upper thermally conductive plate disposed in the shelf and in thermal communication with the first side, a lower thermally conductive plate disposed in the shelf and in thermal communication with the second side 734

33.a.2: a first set of independently controllable heating elements in thermal communication with the upper thermally conductive plate, and a second set of independently controllable heating elements in thermal communication with the lower thermally conductive plate 737

33.b: wherein the first set of independently controllable heating elements are capable of providing different amounts of heat energy into the first and second food holding zones of the first food holding compartment..... 740

33.c: wherein the second set of independently controllable heating elements are capable of providing different amounts of heat energy into the third and fourth food holding zones of the second food holding compartment..... 743

CC. Claim 34: the food holding bin of claim 33, wherein an insulating material is provided between the first and second sets of independently controllable heating elements 745

DD. Claim 35: the food holding bin of claim 33, wherein each of the first and second sets of independently controllable heating elements comprise two heating elements 751

EE. Claim 36: the holding bin of claim 1, wherein the at least one user interface is configured to set the food holding temperature of each food holding zone, and the first food holding zone is maintained at first set food holding temperature, the second food holding zone is maintained at a second set food holding temperature, the third food holding zone is maintained at a third set food holding temperature, and the fourth food holding zone is maintained at a fourth food set holding temperature.....754

FF. Claim 37: the holding bin of claim 1, wherein the at least one user interface is configured to set the food holding temperature of each food holding zone and the controller independently operates each heating element such that each food holding zone is maintained at an independently set food holding temperature 758

XIV. GROUND 11: Claims 19 and 29 Would Have Been Obvious Over Fortmann'748 in view of the IRHS Documents, Jones, Stanger, Loy, Fortmann'197, Fortmann'967, McMillan, Vaseloff, Hartfelder, Shei'099, Veltrop, and/or Shei'155 762

A. Claim 19: the food holding bin of claim 1, wherein the independently controllable heating elements comprise a resistive wire.....762

B. Claim 29: the food holding bin of claim 1, wherein at least one substantially planar surface comprises aluminum 766

XV. GROUND 12: Claim 26 Would Have Been Obvious Over Fortmann'748 in view of IRHS Documents, Jones, Stanger, Loy, Fortmann'197, Fortmann'967, McMillan, Vaseloff, Hartfelder, Shei'099, Shei'821, and/or Shei'155 774

A. Claim 26: the food holding bin of claim 23, wherein the lid holding shelf comprises sheet metal.....774

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A. Claim 28: the food holding bin of claim 1, wherein each independently controllable heating element disposed at the top portion of the first and second food holding compartments is adapted to output more heat energy than the independently controllable heating elements disposed at the bottom portion of the first and second food holding compartments 782

XVII. Fortmann'197 is Supported by its Provisional Application 789

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. 10,512,363 ("the '363 Patent").

5. I am an inventor on nine patents, including an electrical power strip, water purification, 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 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, 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 trackers 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 '363 Patent and the file history of the '363 Patent. I have also reviewed the following documents:

Exhibit No.	Description
1001	U.S. Patent No. 10,512,363
1002	Prosecution History of the '363 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")

Exhibit No.	Description
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”)
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”)

Exhibit No.	Description
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 – 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 1-13 assert that the claims of the ’363 Patent should be invalidated 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 of 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 '363 Patent as they would have been understood by those of ordinary skill in the art as of the effective filing date of the '363 Patent in view of the claim language itself, the specification and figures of the '363 Patent, the prosecution history of the '363 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 '363 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 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 '363 Patent

31. The '363 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, 1:61-62.

32. The food holding bin (10) has two food holding compartments (50), with each food holding compartment having two or more food holding zones (51a-d). EX1001: 1:61-2:4. Each food holding zone (51a-d) can receive a food tray (27) containing food. EX1001: 4:52-54.

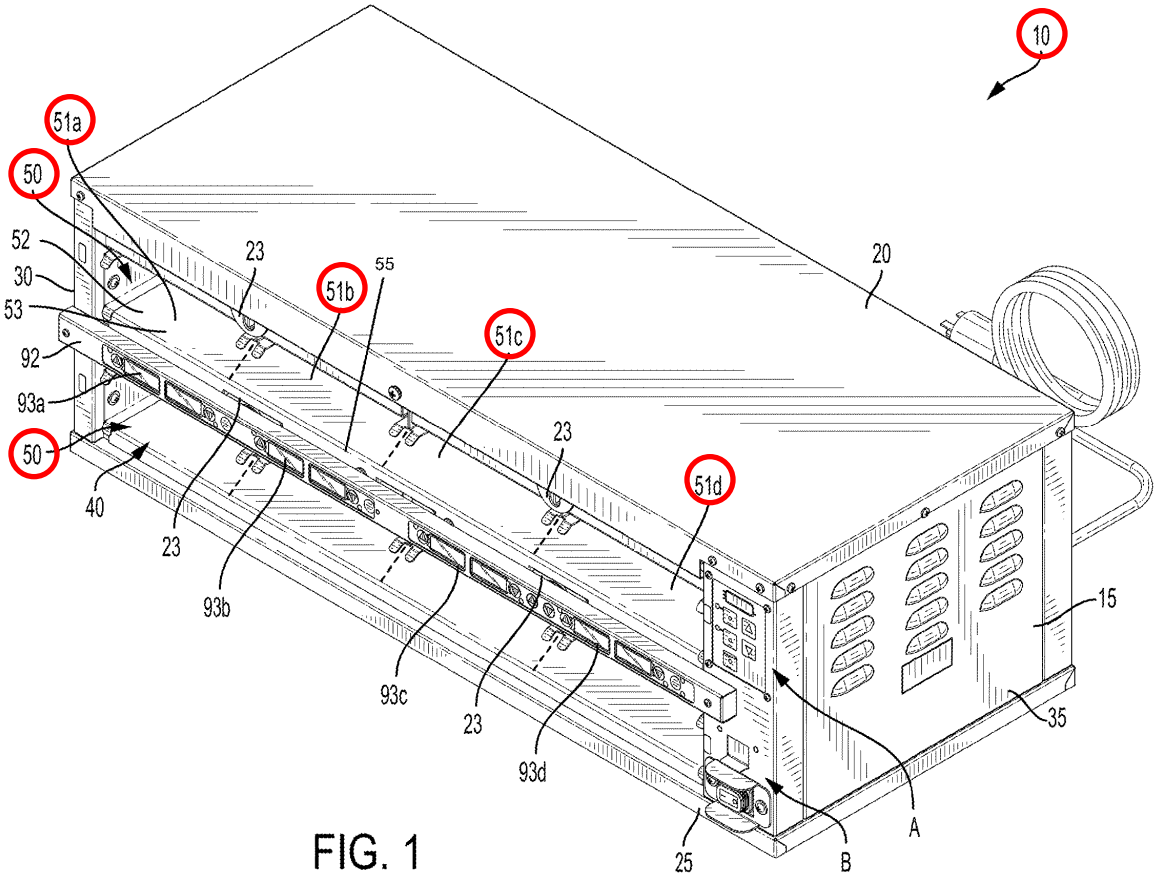


FIG. 1

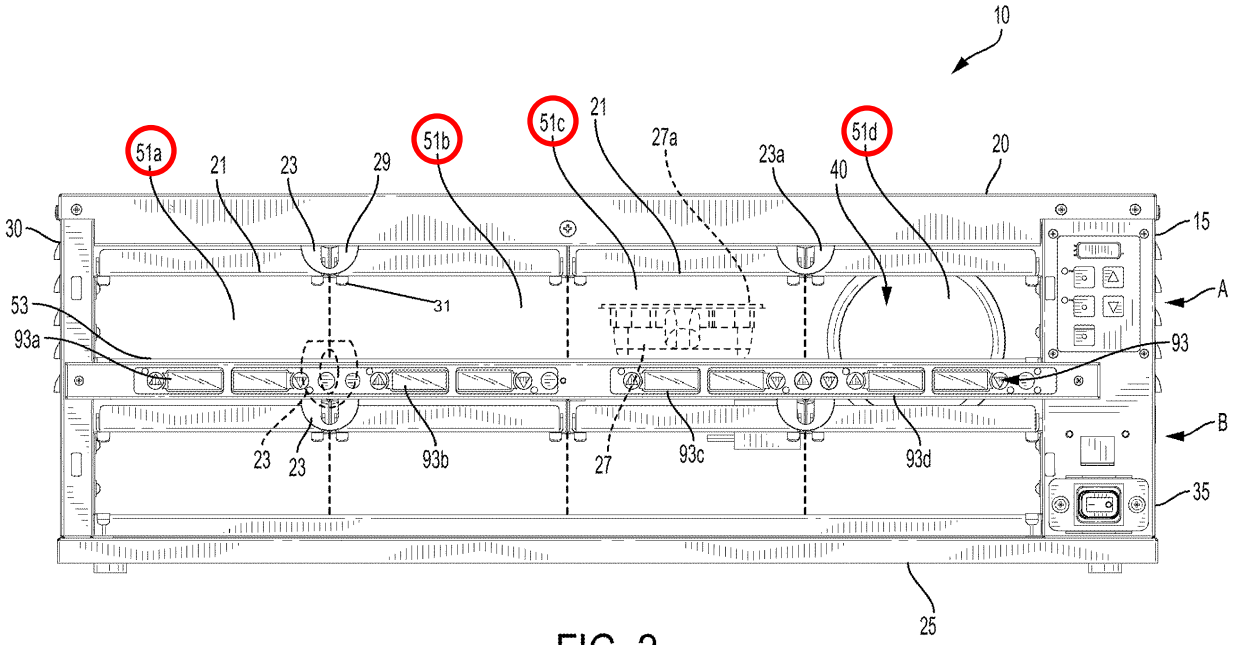


FIG. 2

EX1001: Figs. 1 and 2 (annotated).

33. The food holding zone (51a-d) can be set at different temperatures. EX1001: 6:33-34. To this end, the food holding bin (10) includes dedicated independently controllable heating elements (67, 65) for each food holding zone (51a-d). EX1001: 7:34-66. Each food holding zone is heated from below by a dedicated lower heating element (67) and heated from above by a dedicated upper heating element (65). EX1001: 7:34-66.

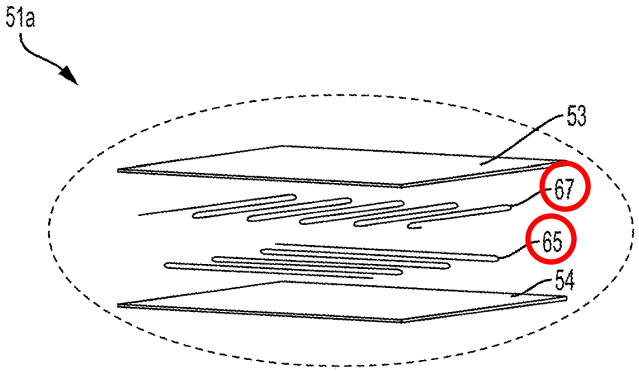


FIG. 4B

EX1001: Fig. 4B (annotated).

34. Other features recited by the claims of the ’363 Patent include front and rear bezels (92) that have dedicated displays and controls (93) for each food holding zone (51a-d), shelves (31) for supporting lids (21) that cover the food tray (27) in the food holding zone, and latches (23) for retaining the lids on the shelves. EX1001: 3:59-4:6, 4:52-60, 5:3-8.

35. In general, and in my opinion, the claims of the ’363 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 compartments, 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 of the heating elements). These features are combined according to their established functions and yield predictable results.

A. Prosecution History of the ’363 Patent

36. I understand that the application that turned into the ’363 Patent was filed on May 21, 2018. EX1002: 117. A first preliminary amendment was filed on August 31, 2018, which cancelled all the original claims and added new claims. EX1002: 106-113. A second preliminary amendment was filed on May 3, 2019, which cancelled all the claims from the first preliminary amendment and added new claims. EX1002: 95-103. The Examiner issued an Office Action on June 28, 2019, only rejecting the claims on the ground of nonstatutory double patenting. EX1002: 58-64. No prior art was applied against any of the claims. EX1002. 58-64. A terminal disclaimer was submitted in response. EX1002: 37-38, 56-57. Subsequently, a Notice of Allowance was issued on October 28, 2019. EX1002: 15-19.

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 ’363 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 ’363 Patent. EX1001: 1:61-2:52; 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]; 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 '363 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

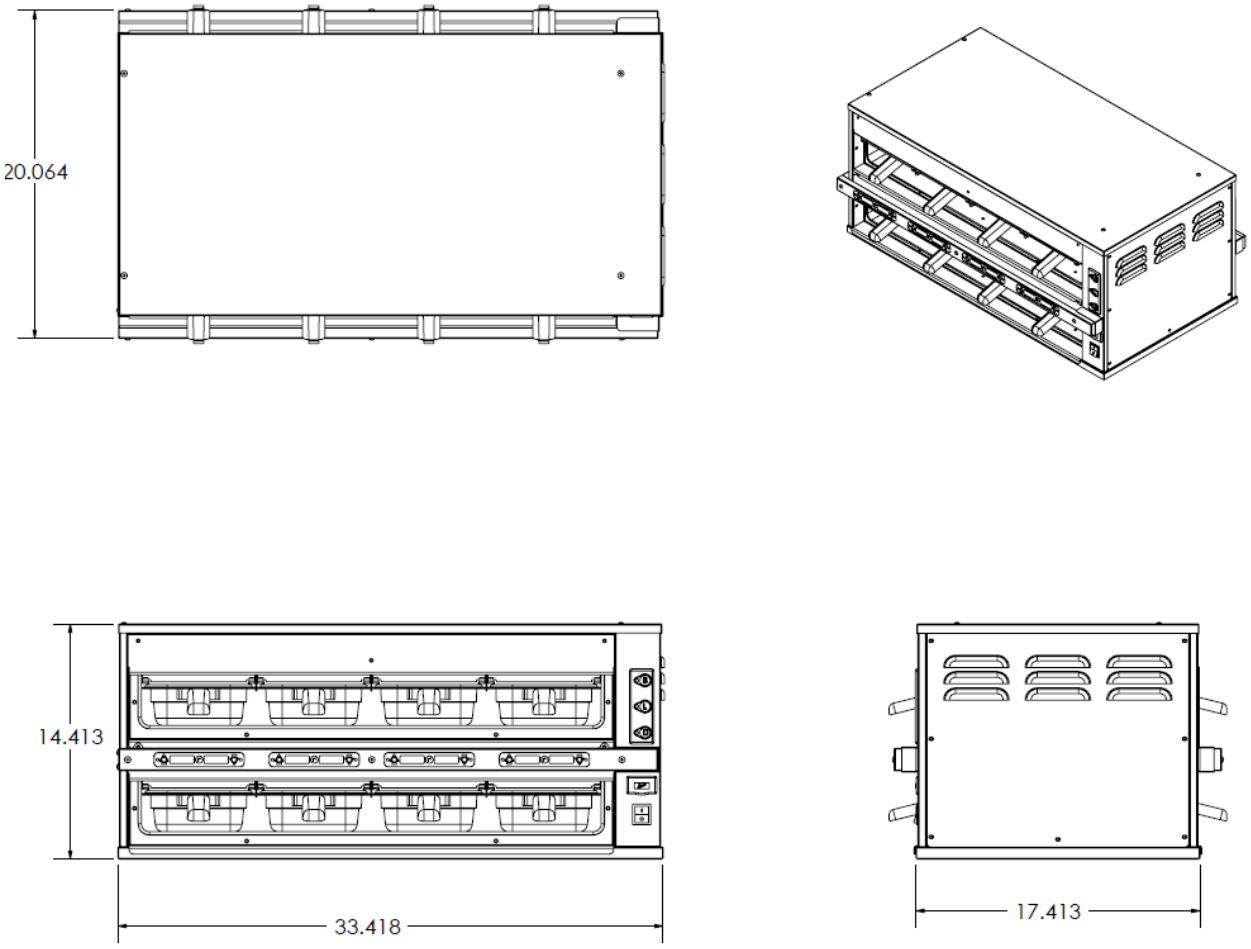
Document") each describe the same family of food holding units manufactured by Duke referred to as the Infrared Heatsink (IRHS) Holding Unit.

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 and its 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 latter 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 shown below:



EX1005: 8.

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.

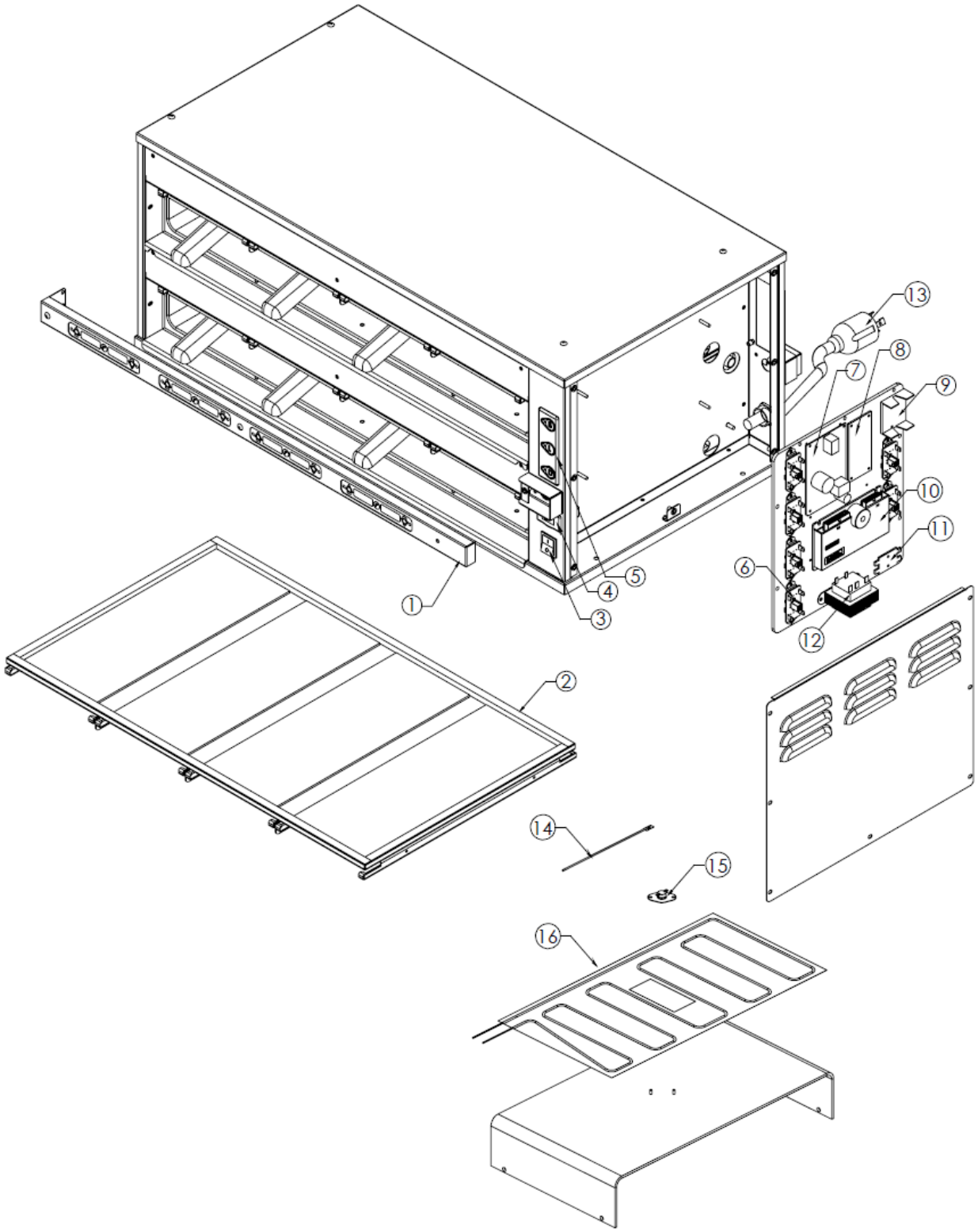
47. The IRHS Manual further states:

> "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.

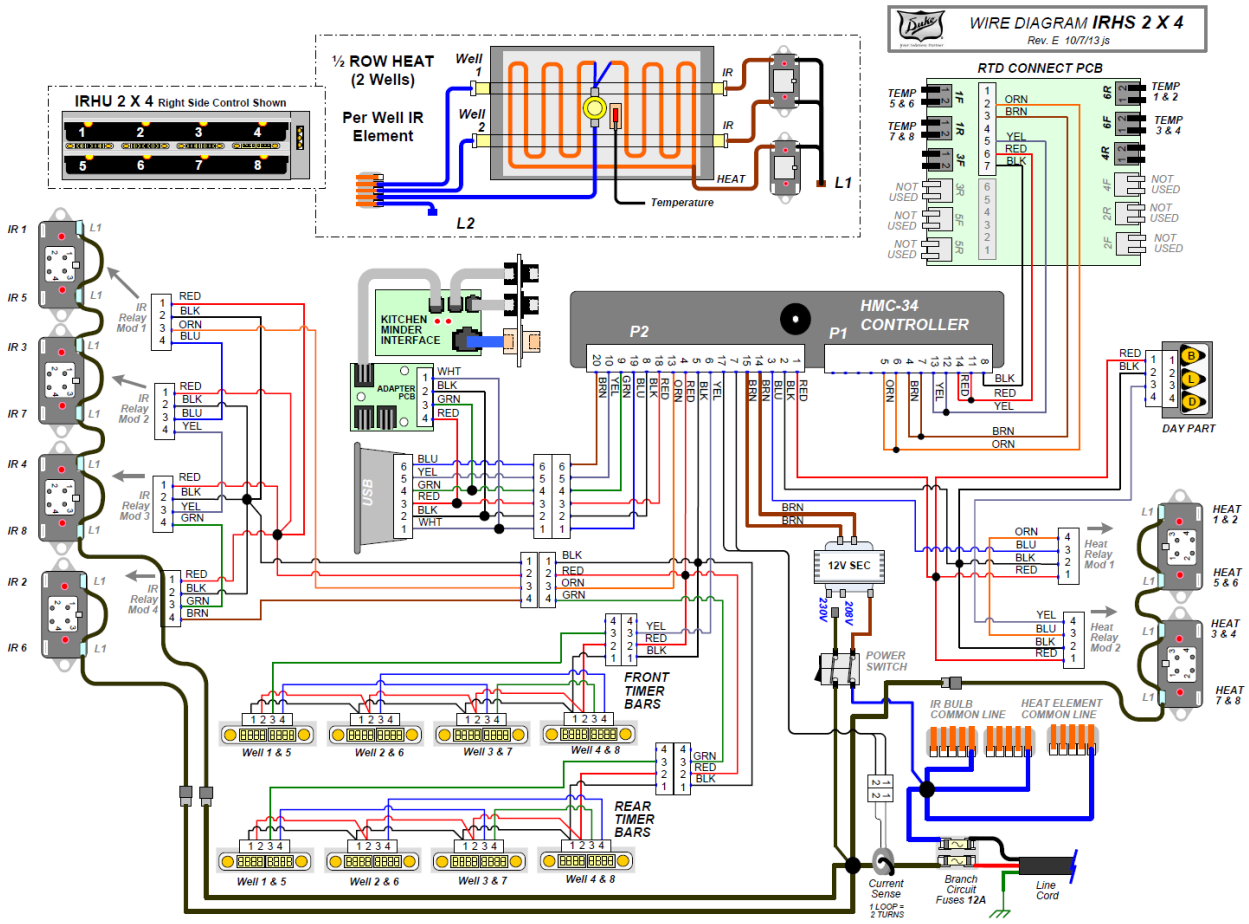
49. The IRHS Manual also provides an exploded view of the 2x4 IRHS Holding Unit and a parts list. EX1005: 19-20.

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

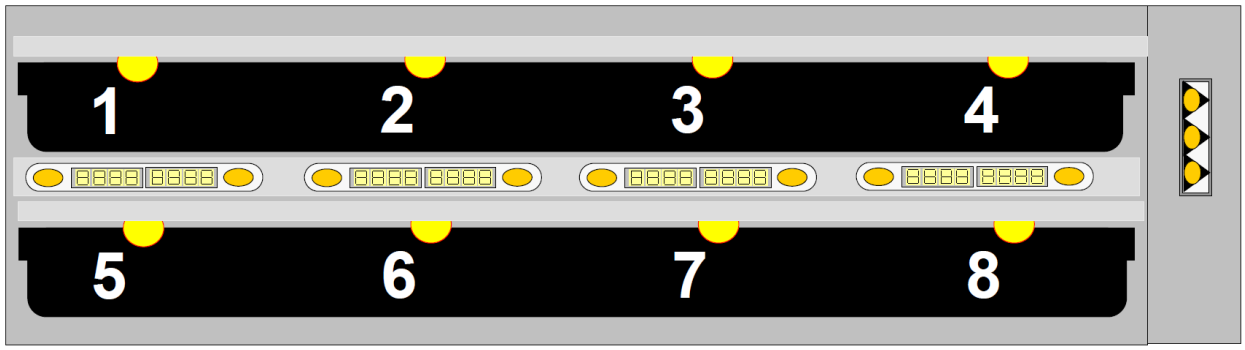


EX1005: 25.

51. 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

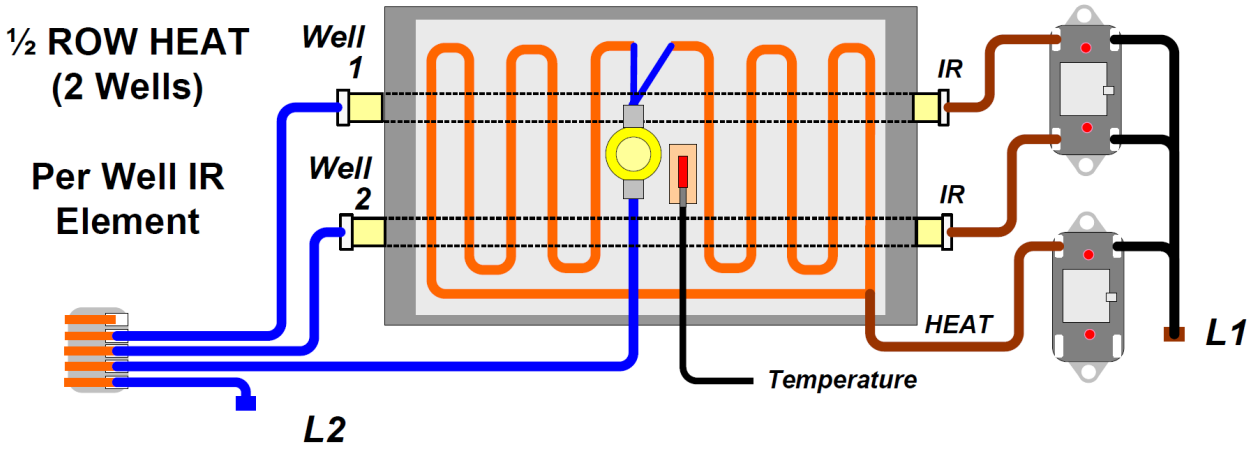
demonstrates that the controller is in communication with the displays and buttons of the timer bars for transmitting and receiving signals therebetween. EX1005: 25.

52. 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.

53. 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.

54. 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.

ii. IRHS Specifications (EX1006)

55. 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 discloses 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);

- "Annodized 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 hat element provides gentle heat to minimize temperature distribution from top to bottom of pan";
- "Programmable via website & USB with daypart switch to facilitate global recipe changes."

EX1006: 1.

iii. Duke Website (EX1007)

56. 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 including details about the IRHS Holding Unit (EX1007: 26-73).

57. 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.

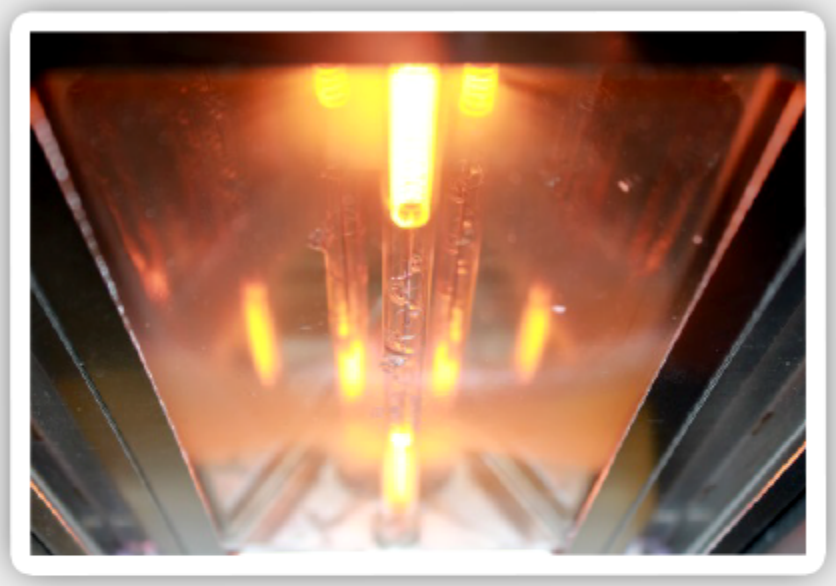


More Product Information at Each Well

(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.

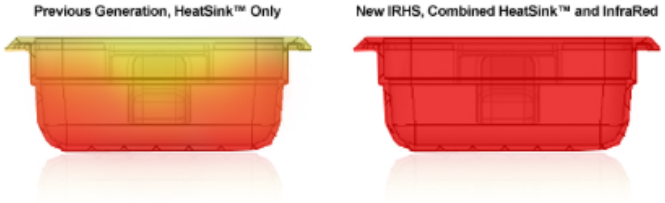
58. The Expedite Webpage likewise includes additional illustrations, details, and information about the IRHS:

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

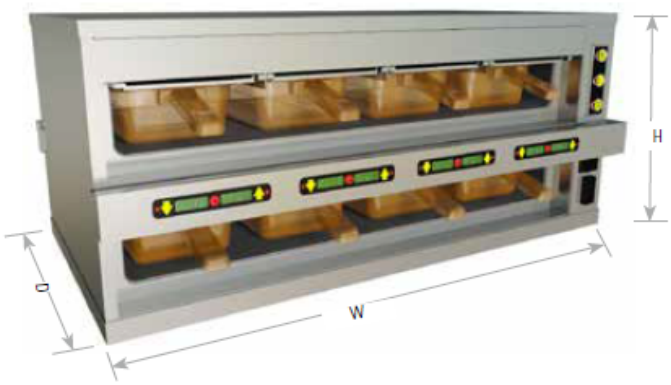
Learn more about the InfraRed HeatSink™ Holding Unit





EX1007: 21-22.

59. 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 configuration 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

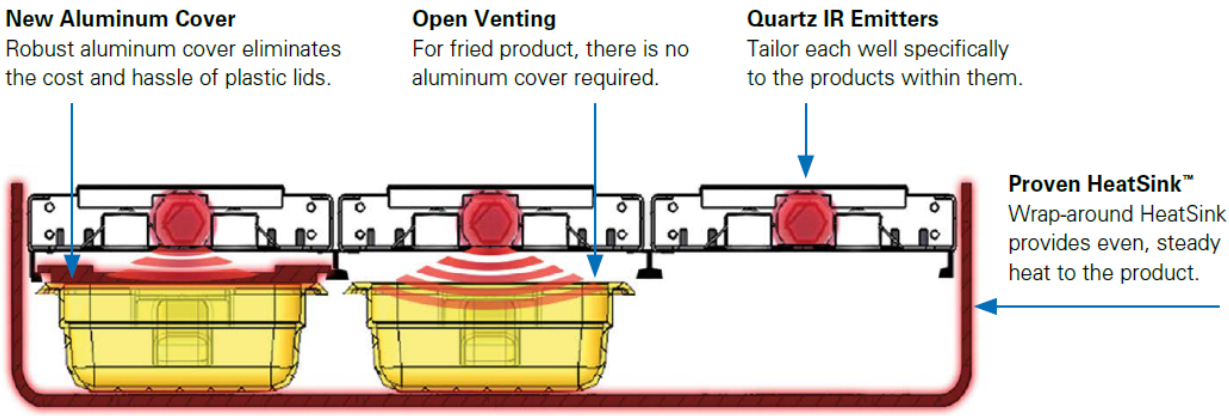
Part #'s	Controls	Stand-Alone/ Master/Satellite	Electrical Requirements			
			Voltage	Hz	Amps	NEMA
IRHS24-**XXX**4T1R	Single	Stand-Alone	208 / 230 / 240	50/60	12	6-15P (208V/240V)
IRHS24-**XXX**4T2R	Double	Stand-Alone	208 / 230 / 240	50/60	12	6-15P (208V/240V)
IRHS24-**XXX**4T1S	Single	Satellite	208 / 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 VISORenabled IRHS – no timer bar unit

EX1007: 56.

60. 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.

61. 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 programing updates for your [] IRHS holding unit[]" (EX1007: 58).

iv. IRHS Service Manual (EX1008)

62. The IRHS Service Manual is 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)

63. 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.

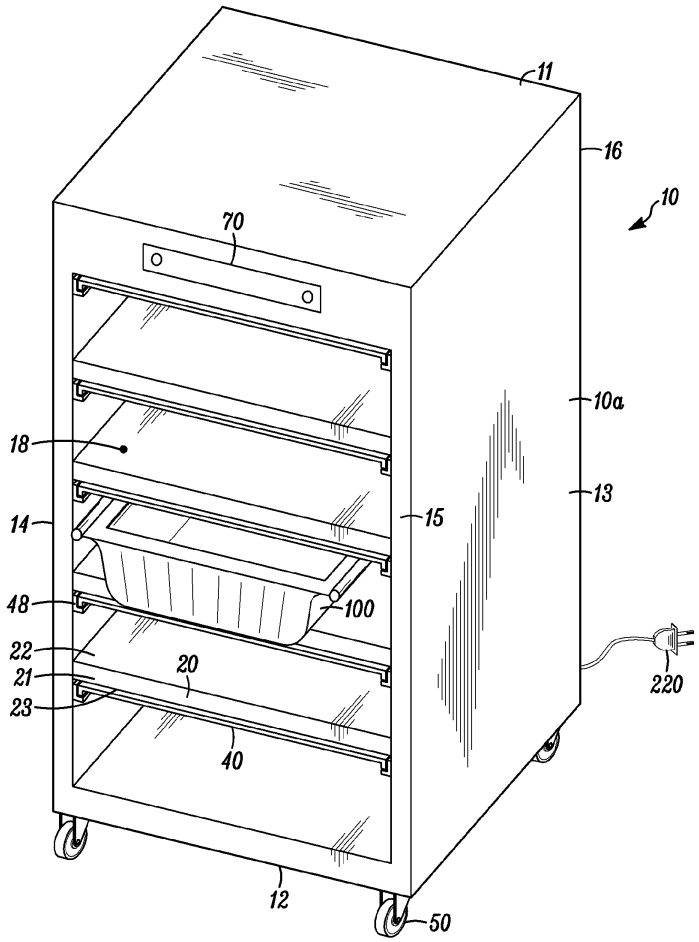


FIG. 1

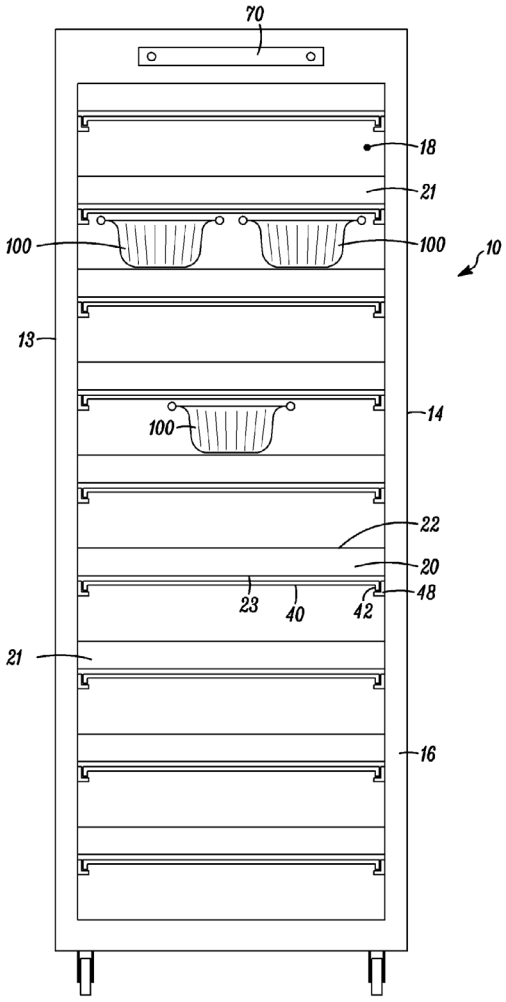


FIG. 6

EX1010: Figs. 1 and 6.

64. 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].

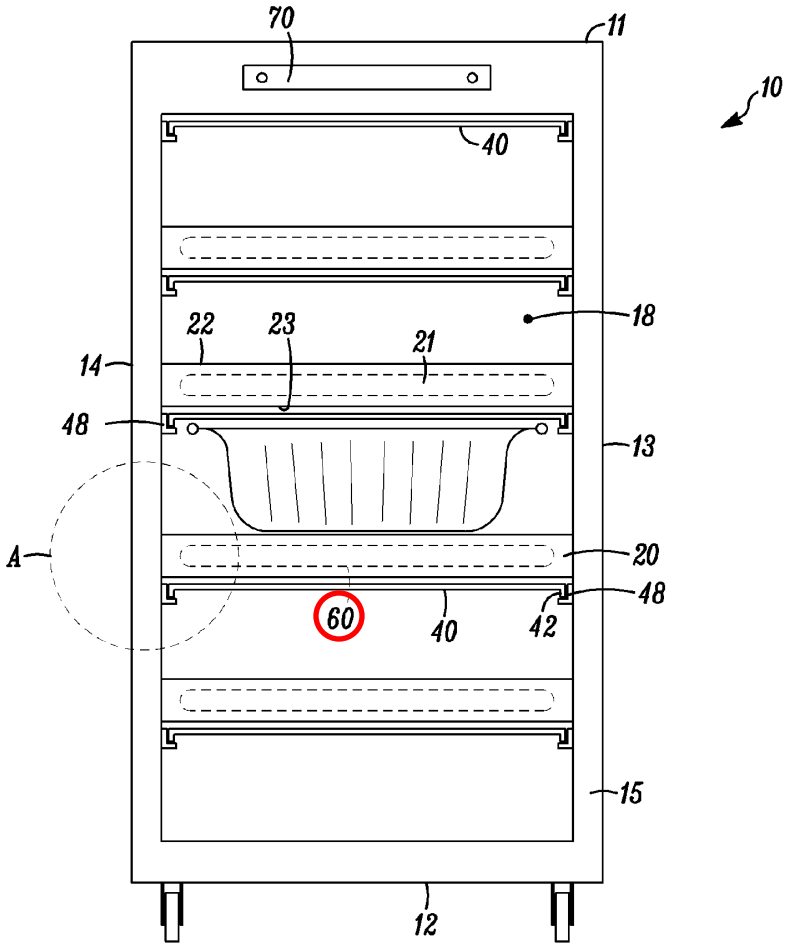


FIG. 2

EX1010: Fig. 2 (annotated).

65. 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.

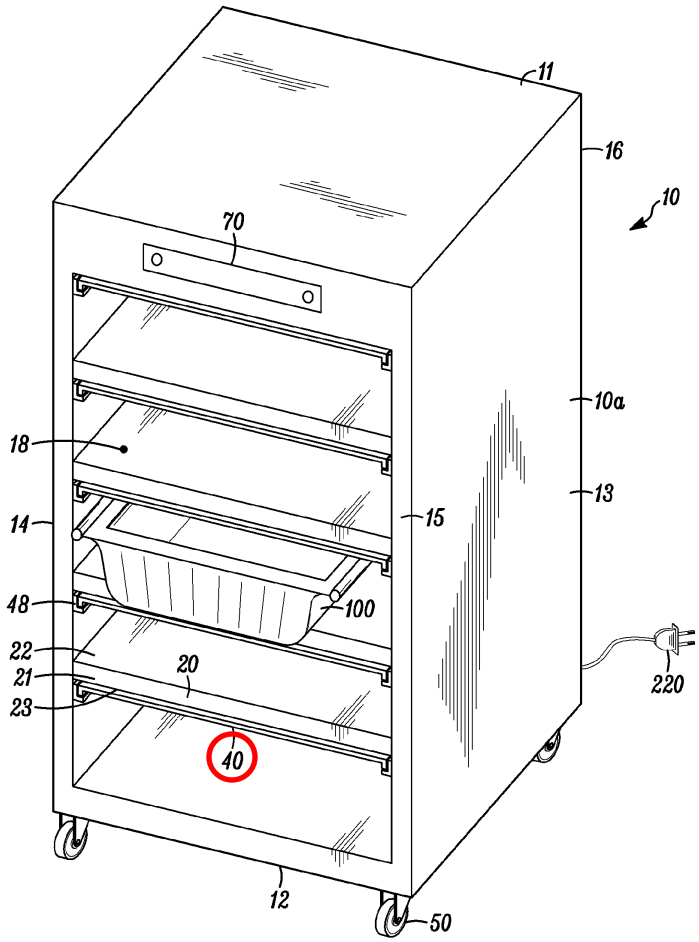


FIG. 1

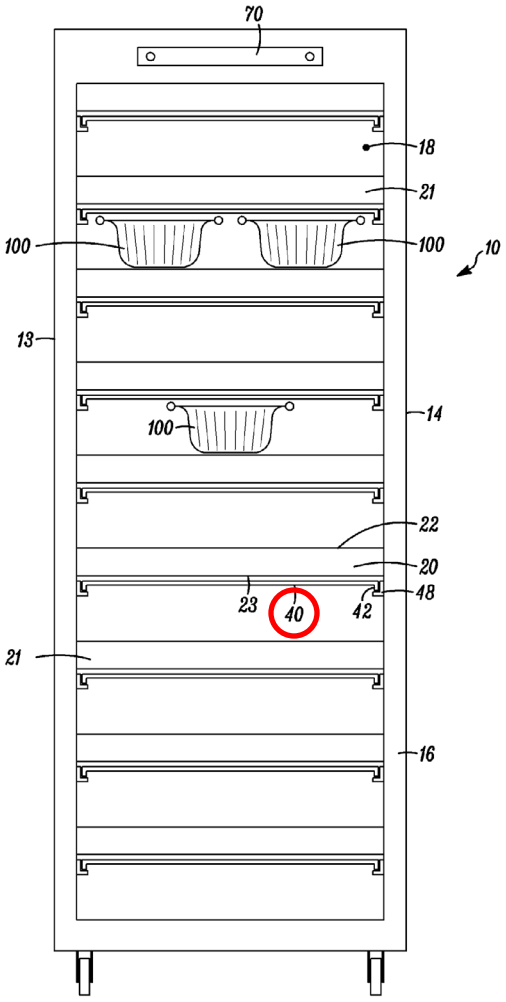


FIG. 6

EX1010: Figs. 1 and 6 (annotated).

66. 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)

67. 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.

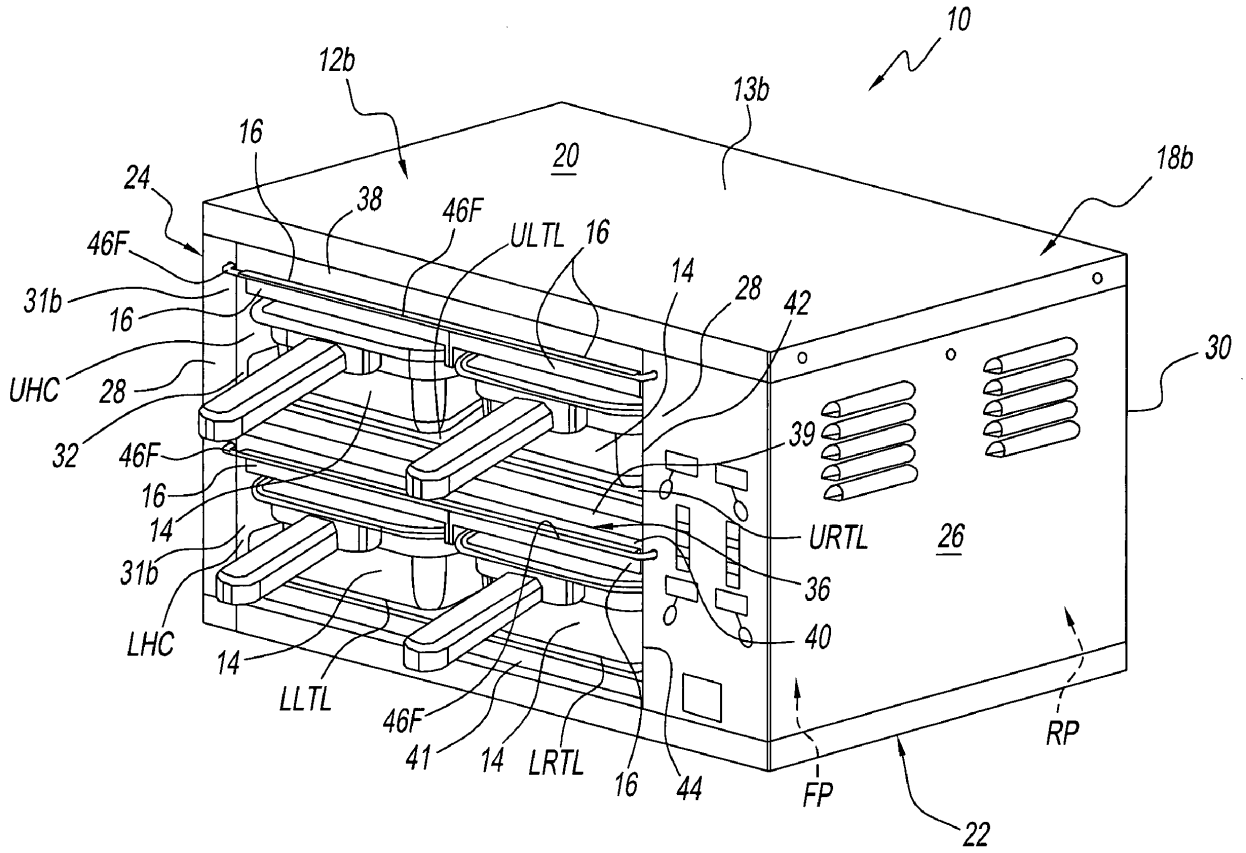
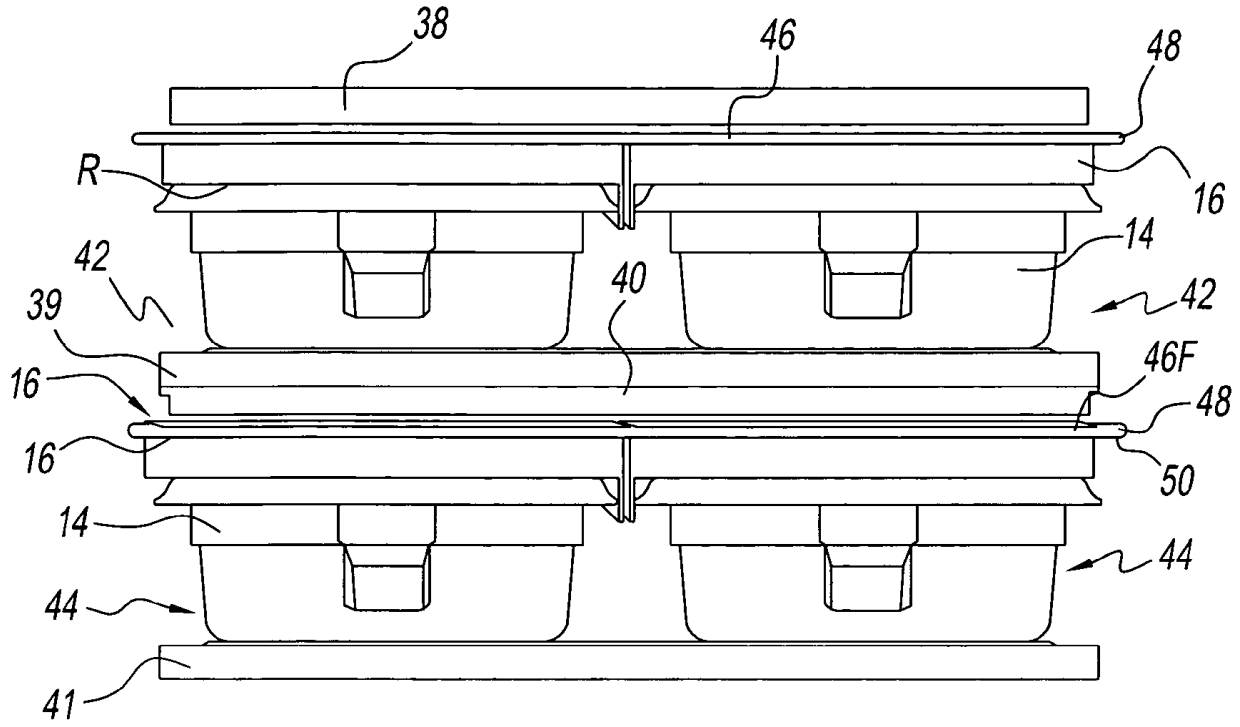


Fig. 1B

EX1012: Fig. 1B.

68. 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.

69. 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.

70. 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].

71. 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].

72. 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.

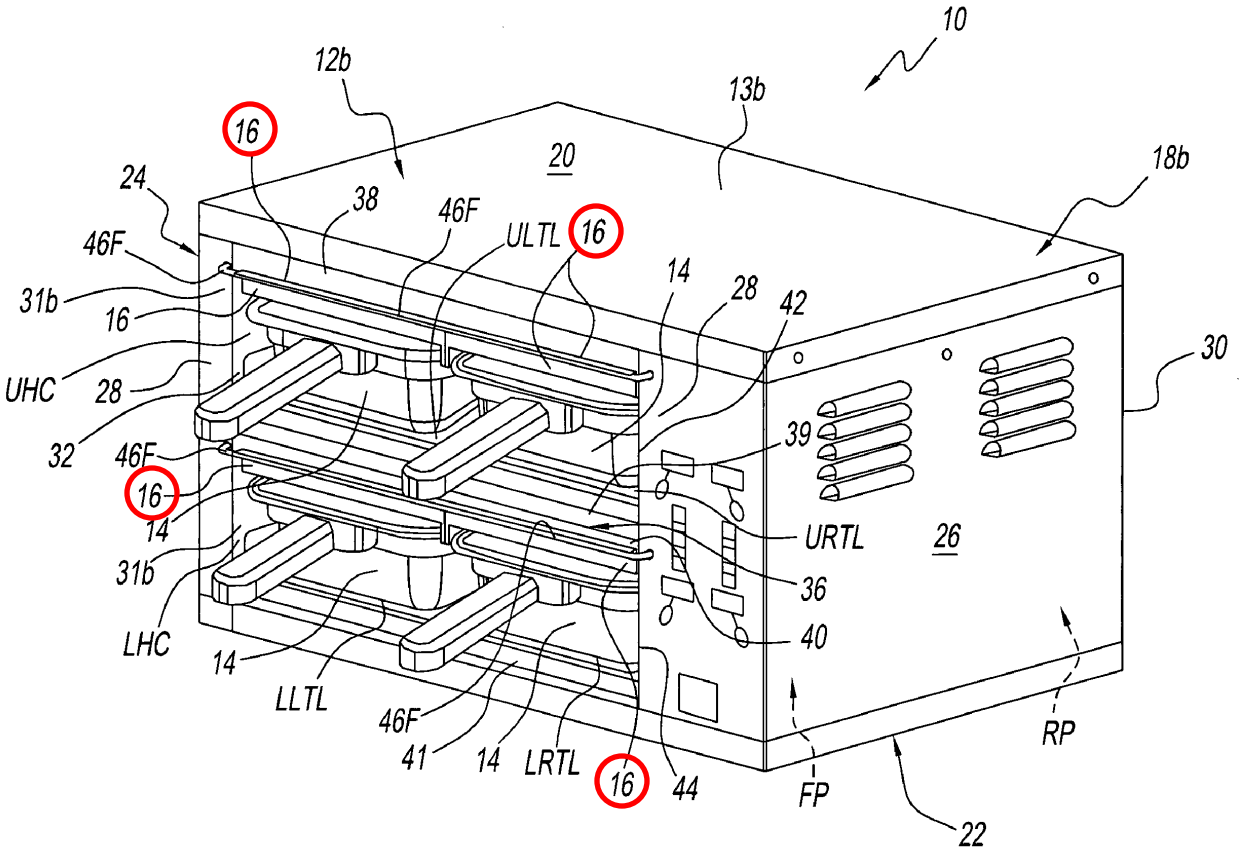


Fig. 1B

EX1012: Fig. 1B (annotated).

4. Fortmann'197 (EX1014)

73. 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.

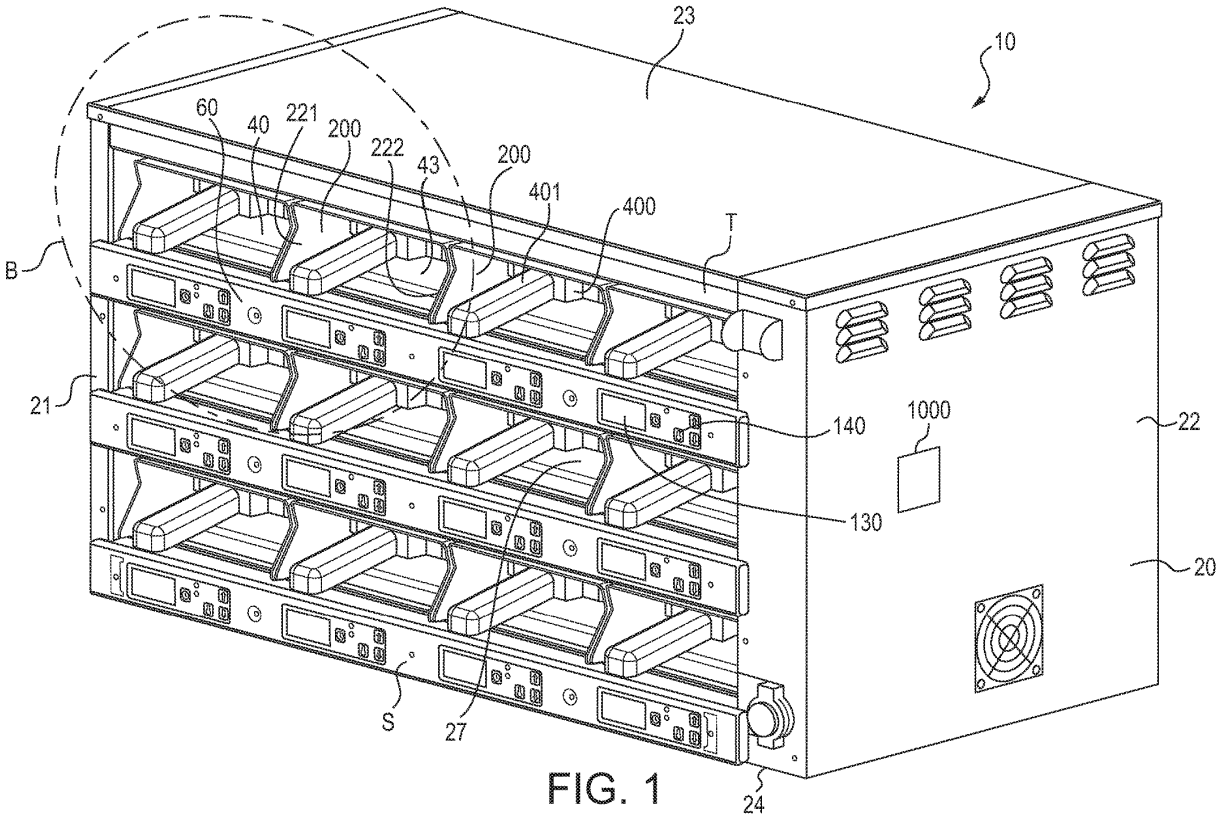


FIG. 1

EX1014: Fig. 1.

74. 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.

75. 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.

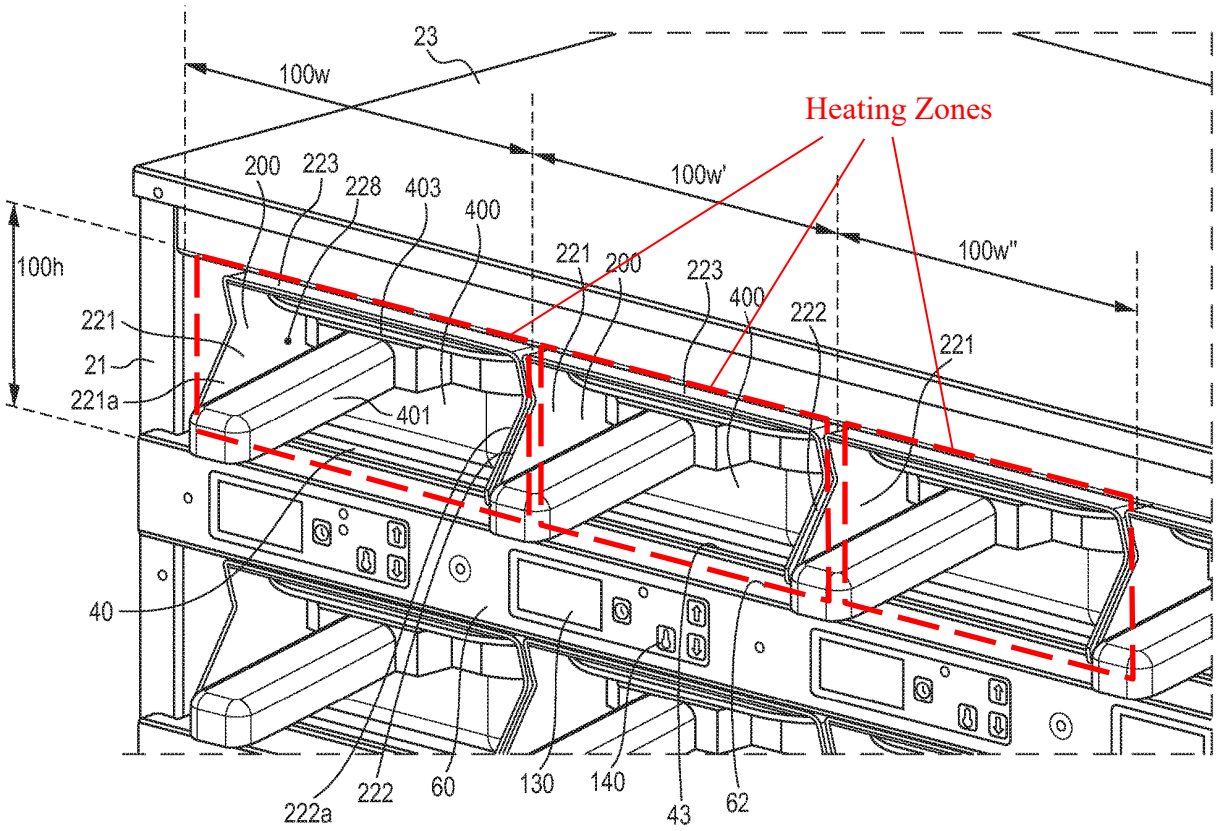

23
100w
Heating Zones
100w'
100w"
100h
200
223
228
403
400
221
200
223
400
222
221
21
221a
401
40
222a
222
60
130
140
43
62

FIG. 2

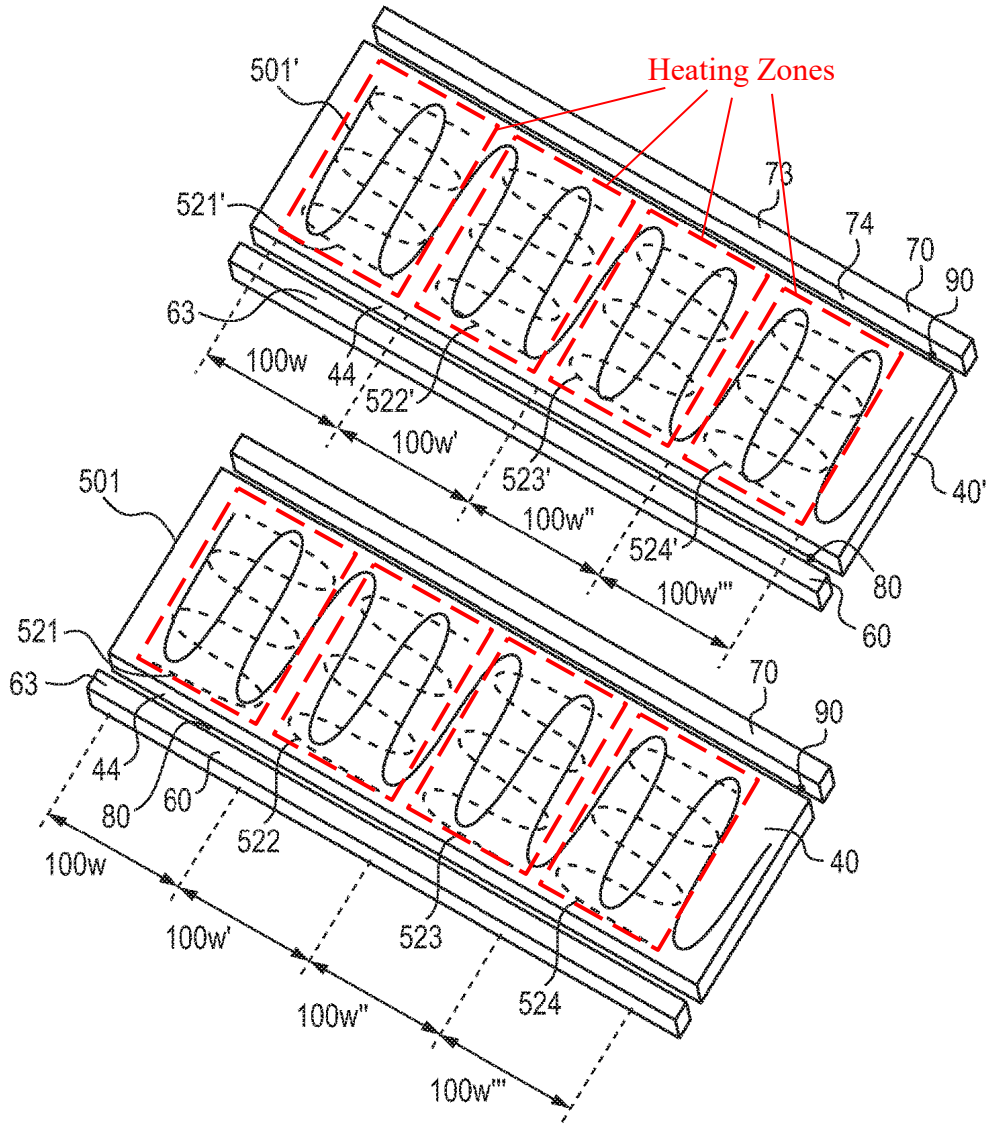


FIG. 10

EX1014: Figs. 2 and 10 (annotated).

76. 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.

77. 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)").

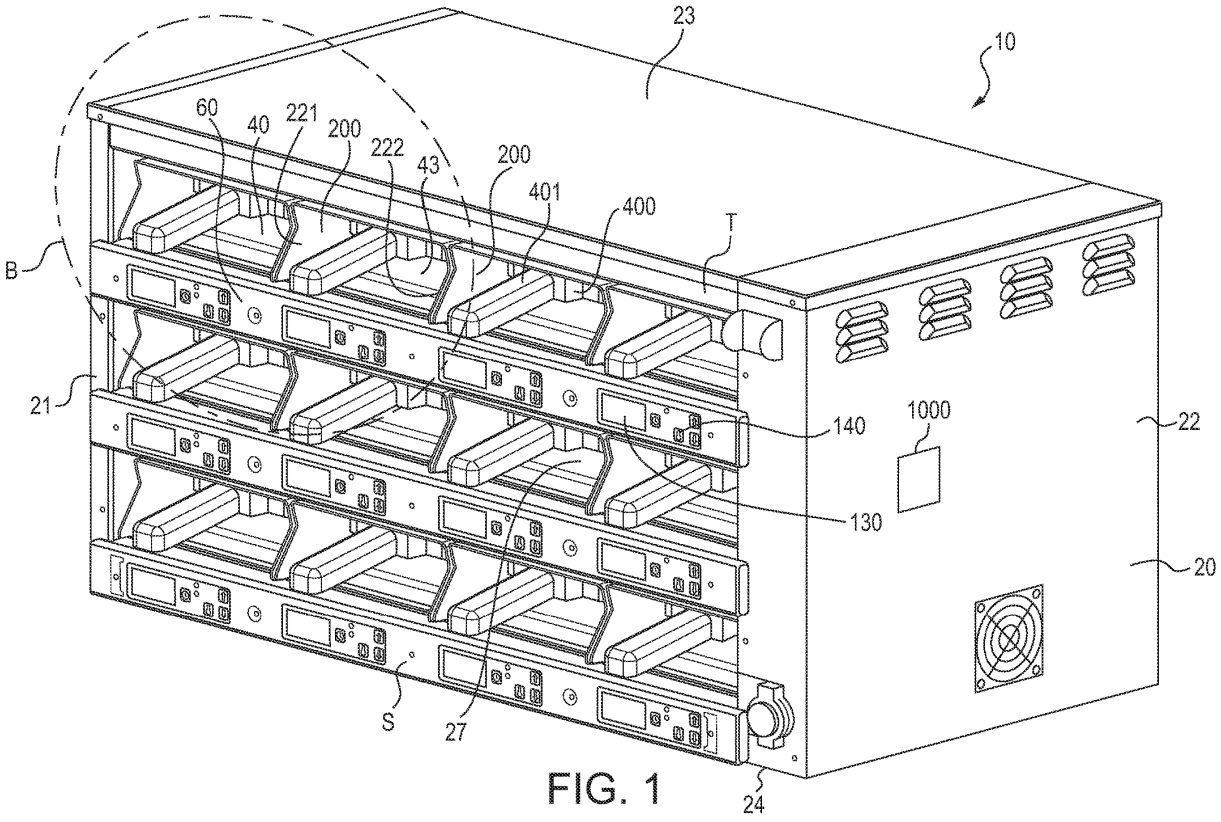


FIG. 1

EX1014: Fig. 1.

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

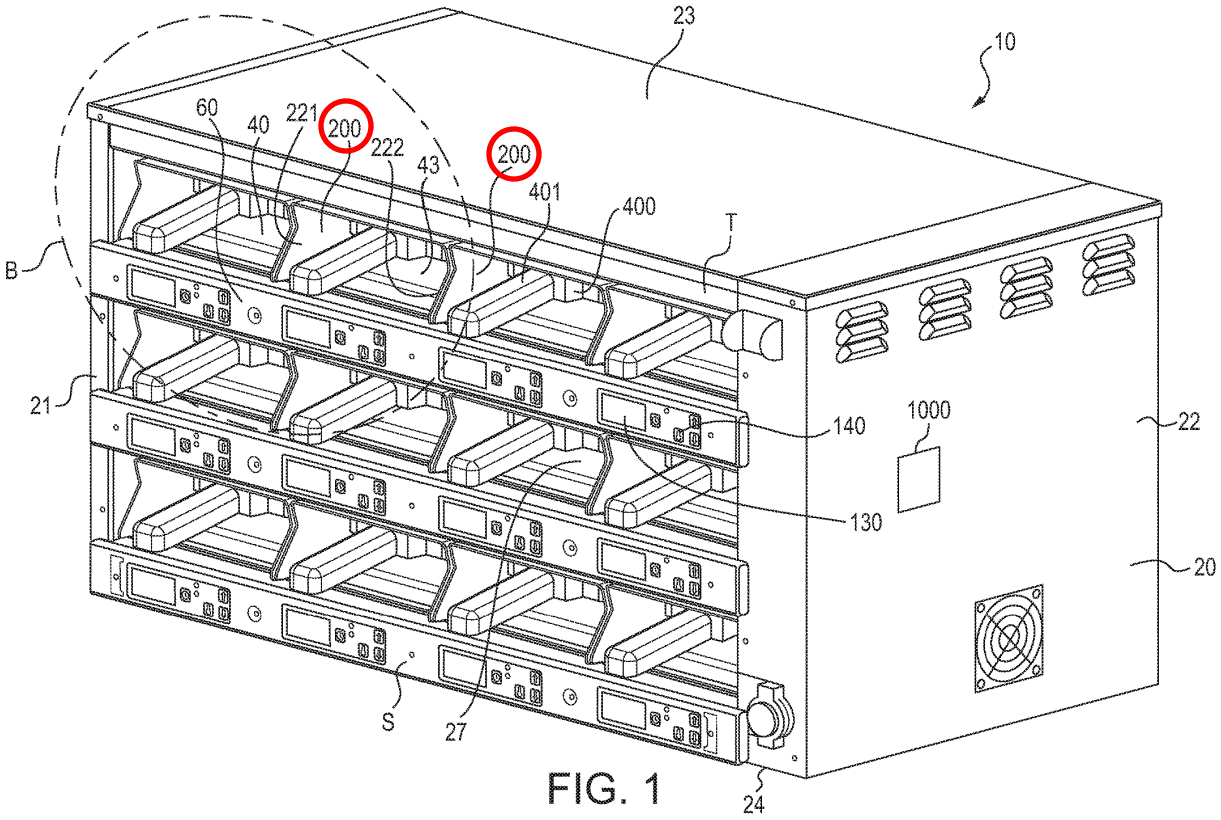


FIG. 1

EX1014: Fig. 1 (annotated).

79. 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.

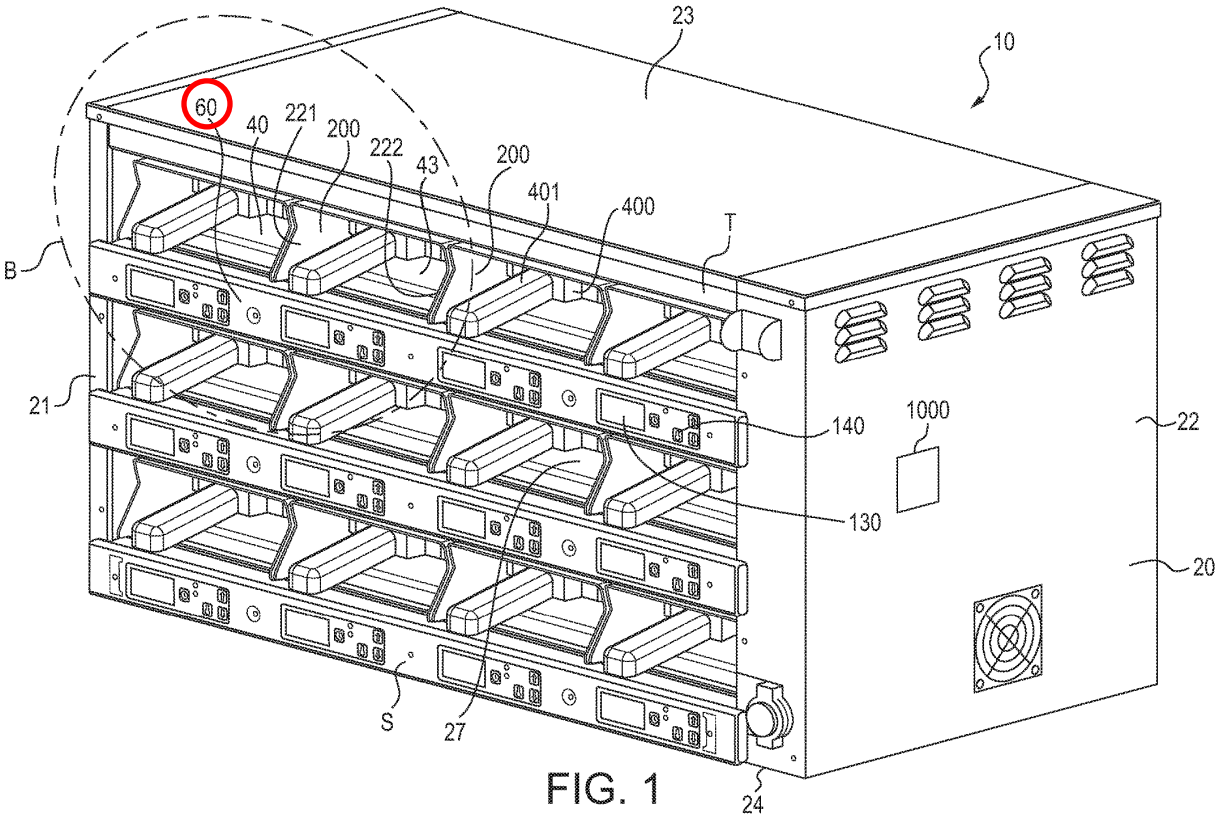

23
10
60
40
221
200
222
43
200
401
400
T
B
21
140
1000
22
130
20
S
27
24

FIG. 1

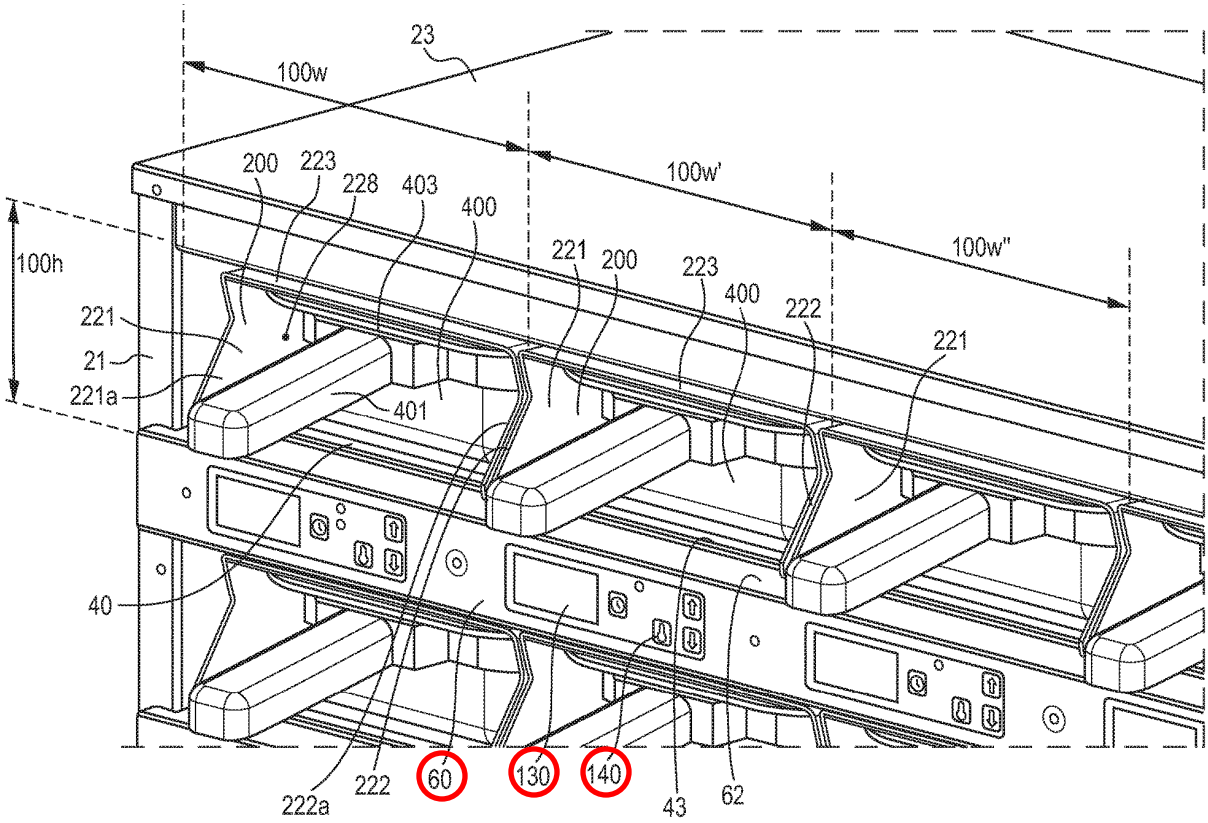

23
100w
100w'
100w"
100h
200
223
228
403
400
221
200
223
400
222
221
221
21
221a
401
40
222a
222
60
130
140
43
62

FIG. 2

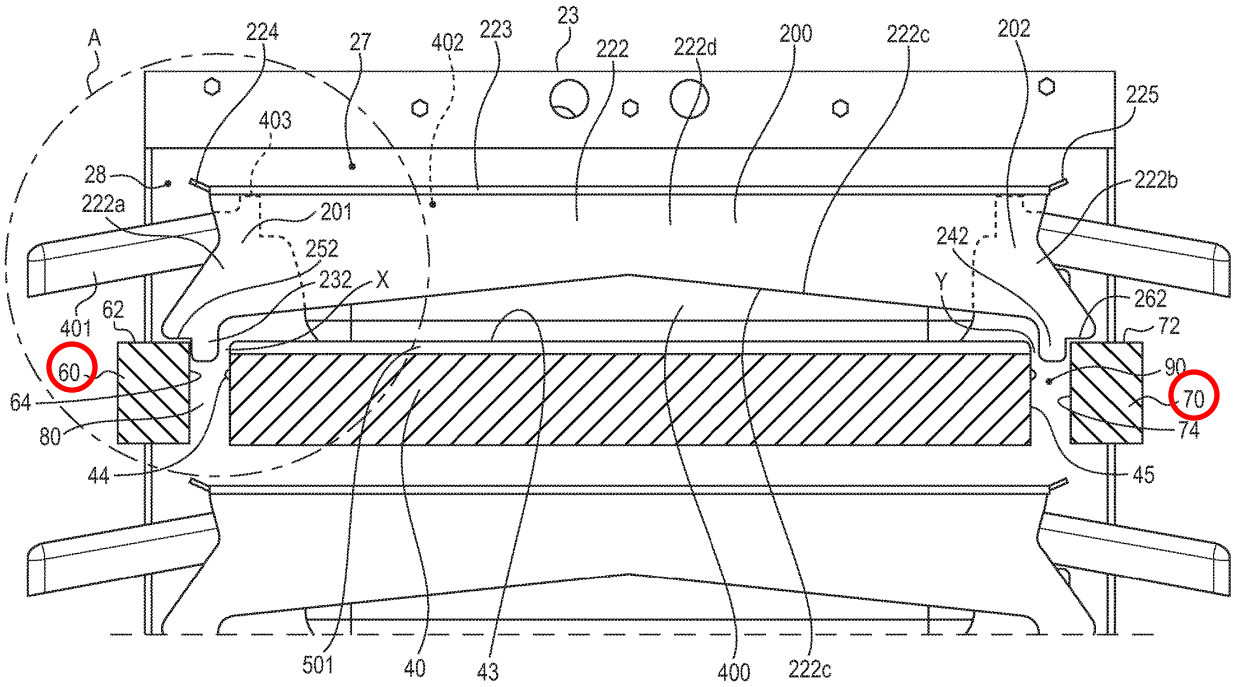

A
224
27
402
223
23
222
222d
200
222c
202
225
403
28
222a
201
252
232
X
222b
242
Y
262
72
401
62
60
64
80
44
90
70
74
45
501
40
43
400
222c

FIG. 5

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

80. 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. Fortmann'967 (EX1018)

81. U.S. Patent No. 5,852,967 ("Fortmann'967") teaches a food holding system or cabinet (10) for keeping food warm. EX1018: 1:5-7 ("[t]his invention relates to a system that defines a conditioned environment, as for treating and/or maintaining the treated state of food items"), 4:19-26, Fig. 1.

82. The system (10) has a plurality of vertically stacked food treatment spaces (16, 18, 20, 22) that receive a receptacle or tray (32) of food. EX1018: 3:64-65, 4:4-11, Fig. 2. Each food treatment space (16, 18, 20, 22) has two heaters (44, 48) which heat the top and bottoms of the receptacle (32). EX1018: 4:22-26 ("a heater 44, which conducts heat through a heat sink 46 to the bottom wall 24, and a separate heater 48 which conducts heat through a heat sink 50 to the top wall 26"), Fig. 2.

Fig. 1

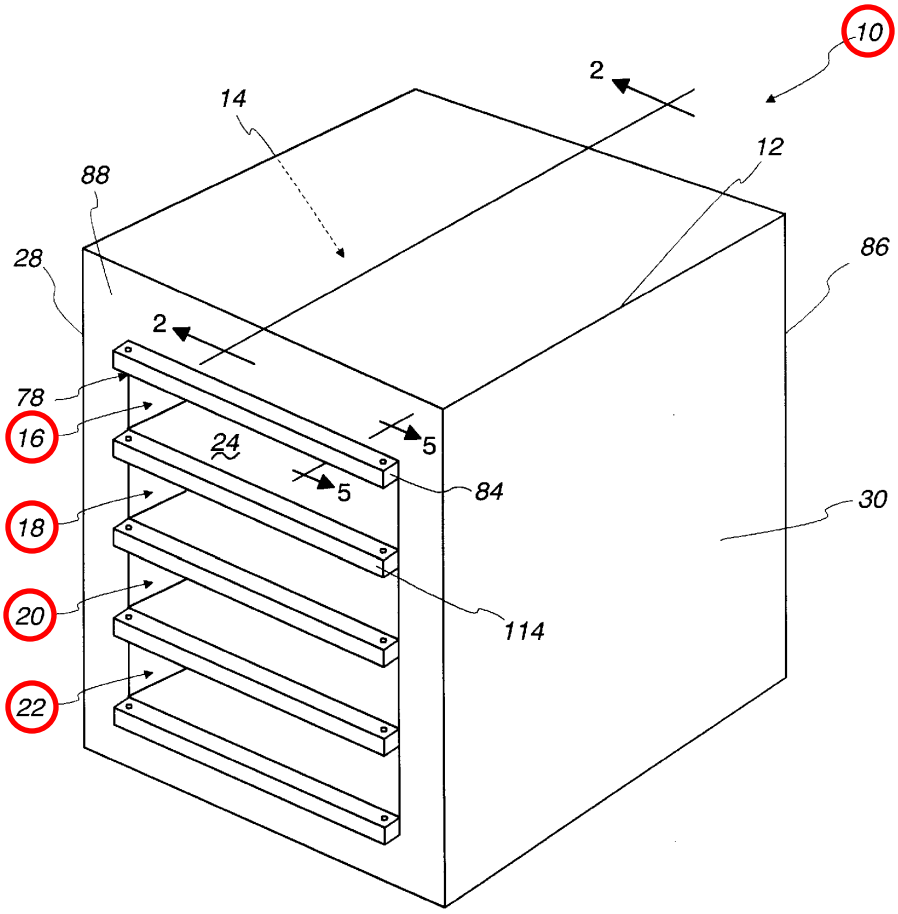
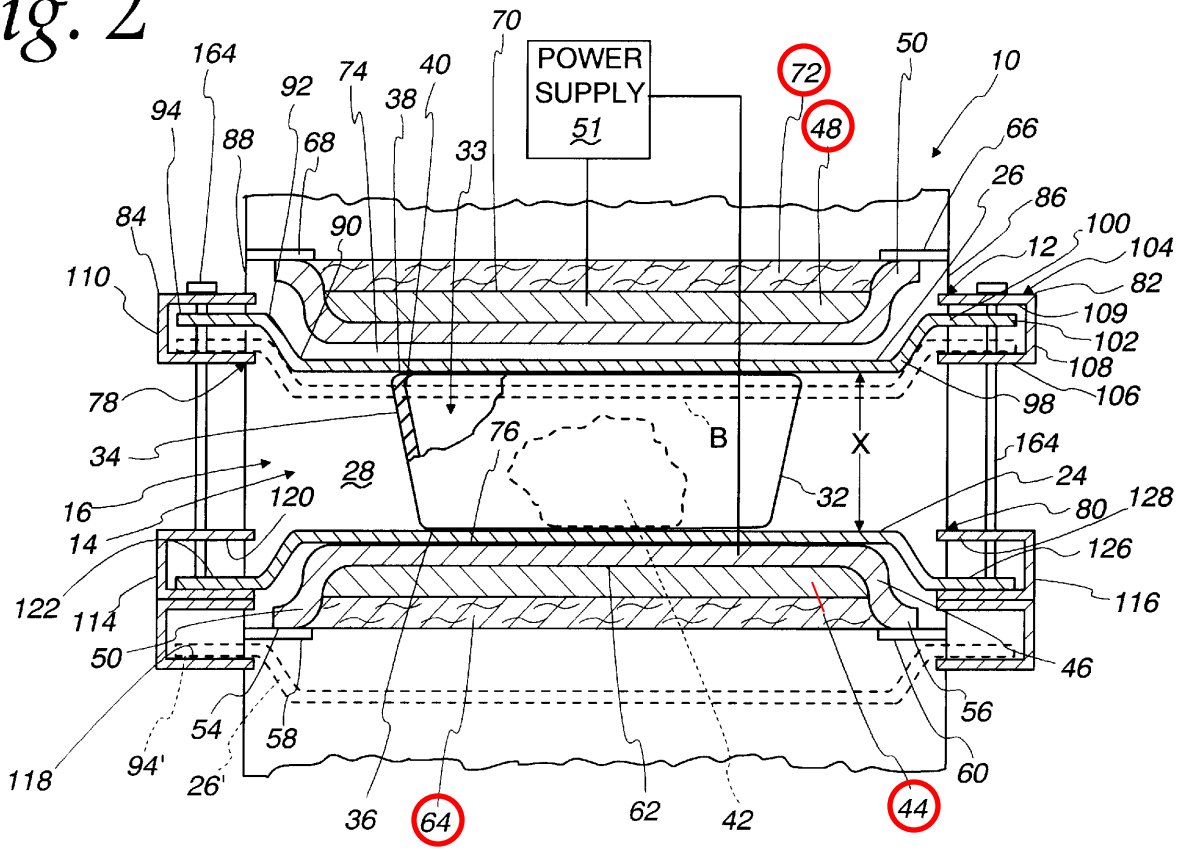


Fig. 2



EX1018: Figs. 1 and 2 (annotated).

83. Each heater (44, 48) is backed by insulation (64, 72), which directs the heat from the heaters into the food treatment space (16, 18, 20, 22). EX1018: 4:33-38 ("An insulation layer 64 fills the space 62 beneath the heater 44.… The heater 48 is nested in a space 70 defined by the heat sink 50 and covered by an insulation layer 72."), Fig. 2.

6. Hartfelder (EX1013)

84. 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.").

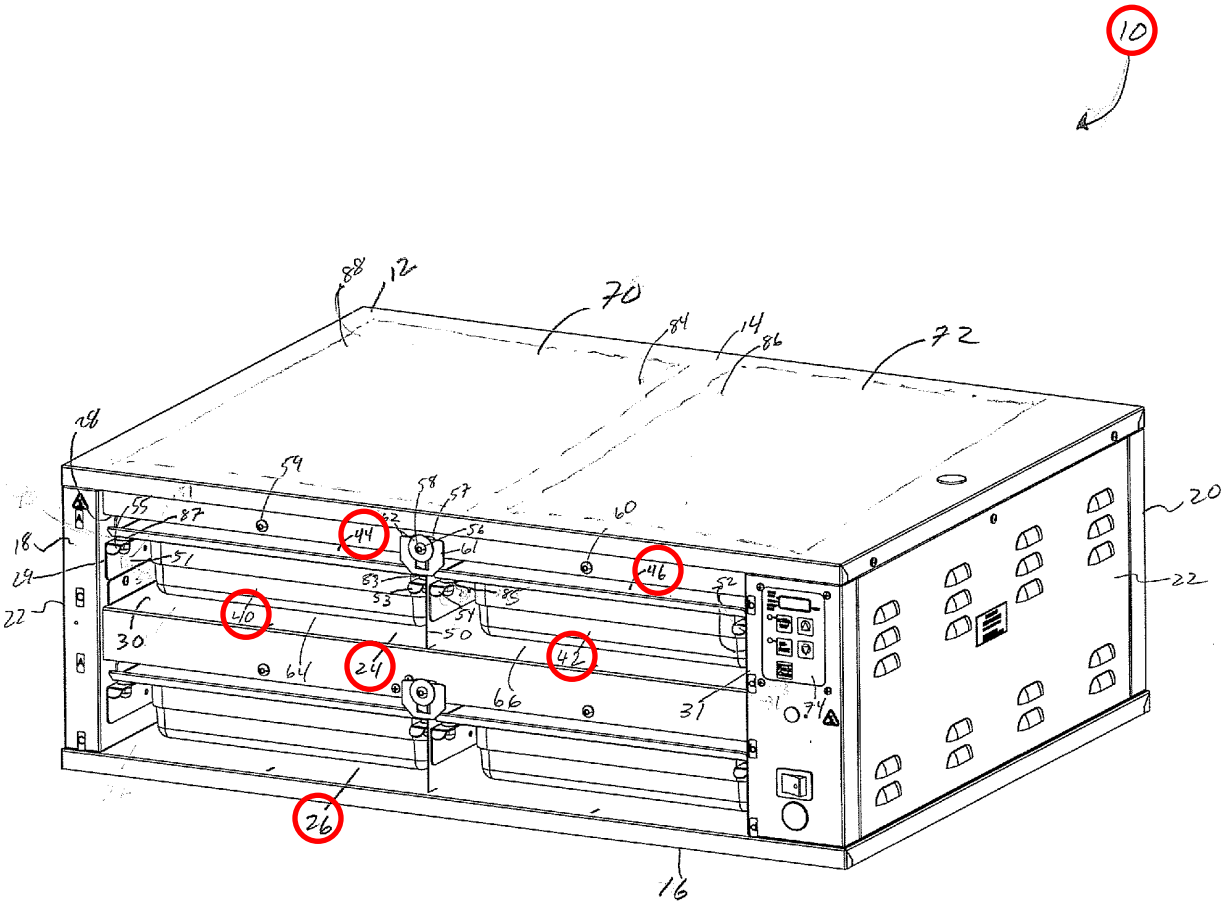


FIGURE 1

EX1013: Fig. 1 (annotated).

85. 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 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.

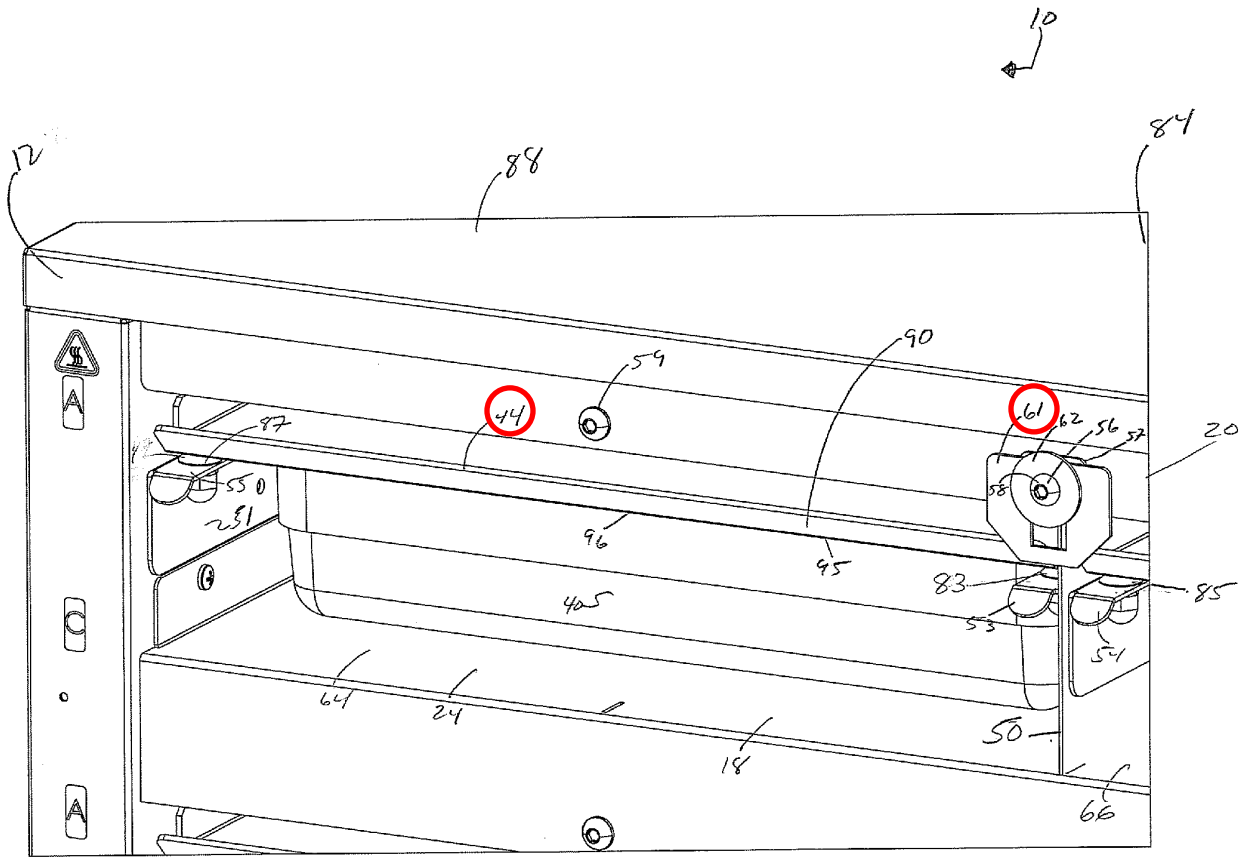


FIGURE 9

EX1013: Fig. 9 (annotated).

7. Veltrop (EX1022)

86. 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.

87. 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.

88. 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.").

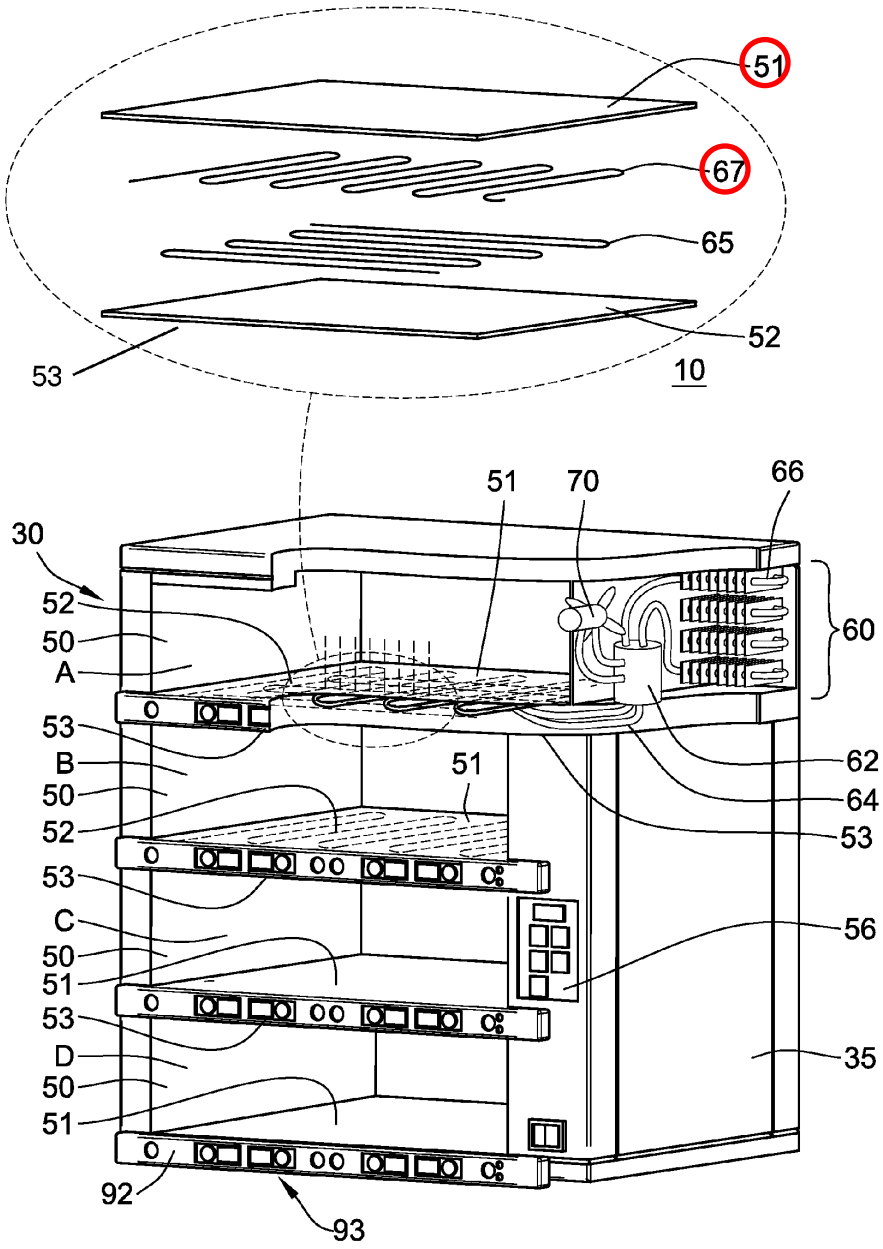


FIG. 2

EX1022: Fig. 2 (annotated).

8. Shei'821 (EX1011)

89. 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").

90. 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

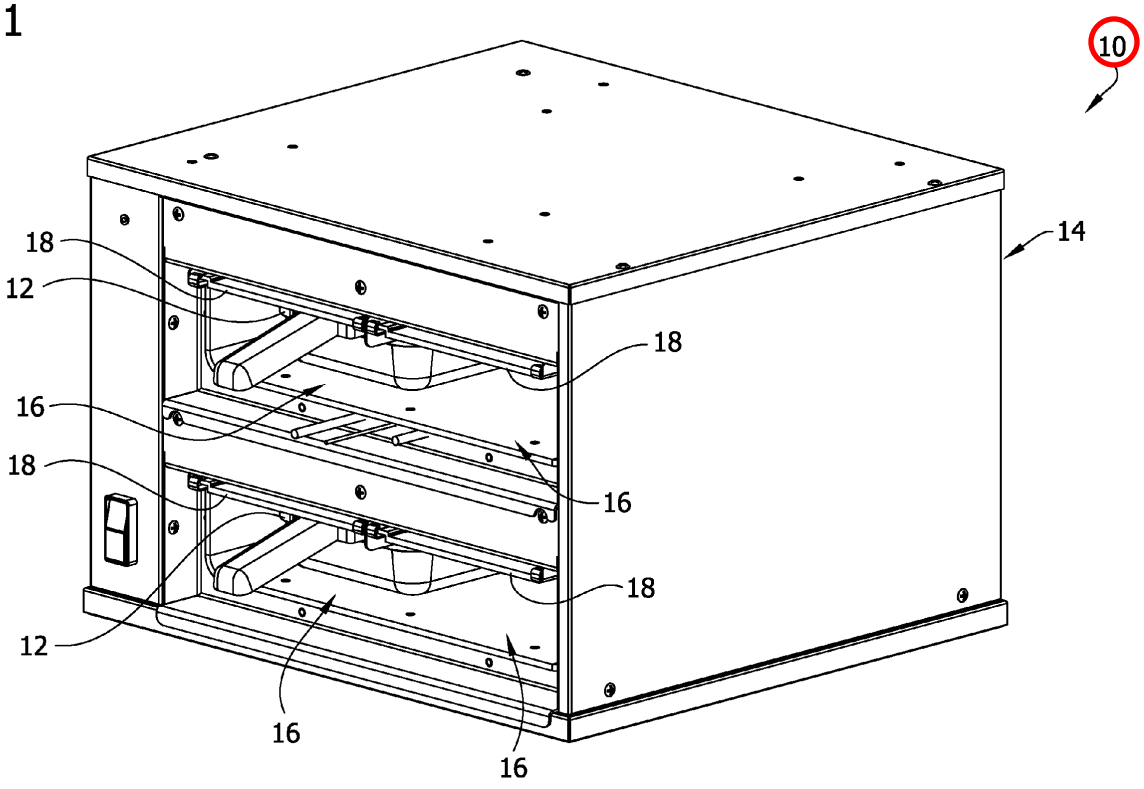


FIG. 7

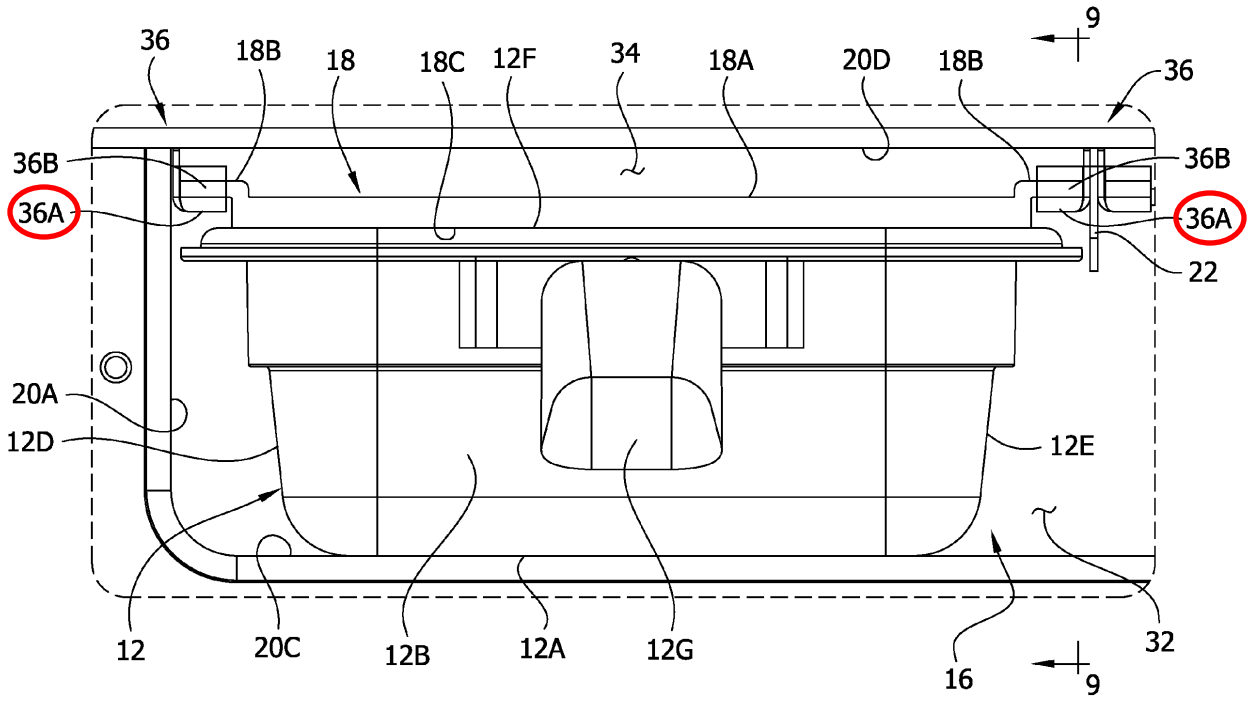
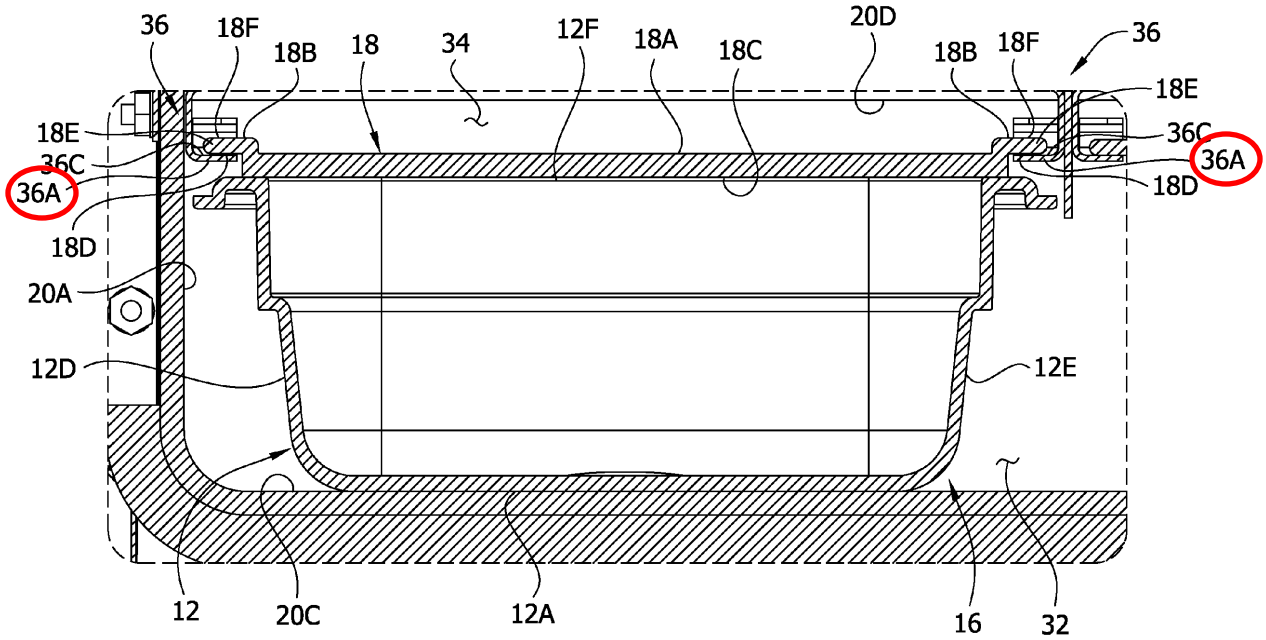


FIG. 8



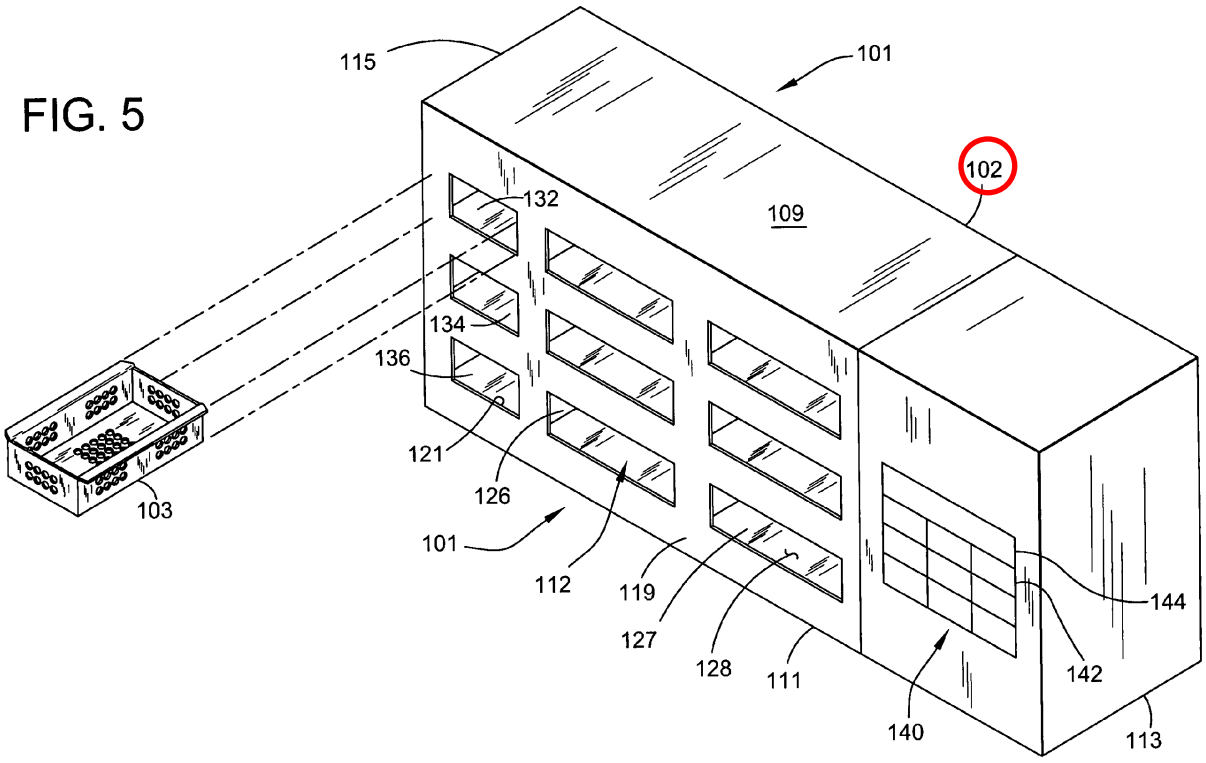
EX1011: Figs. 1 (annotated).

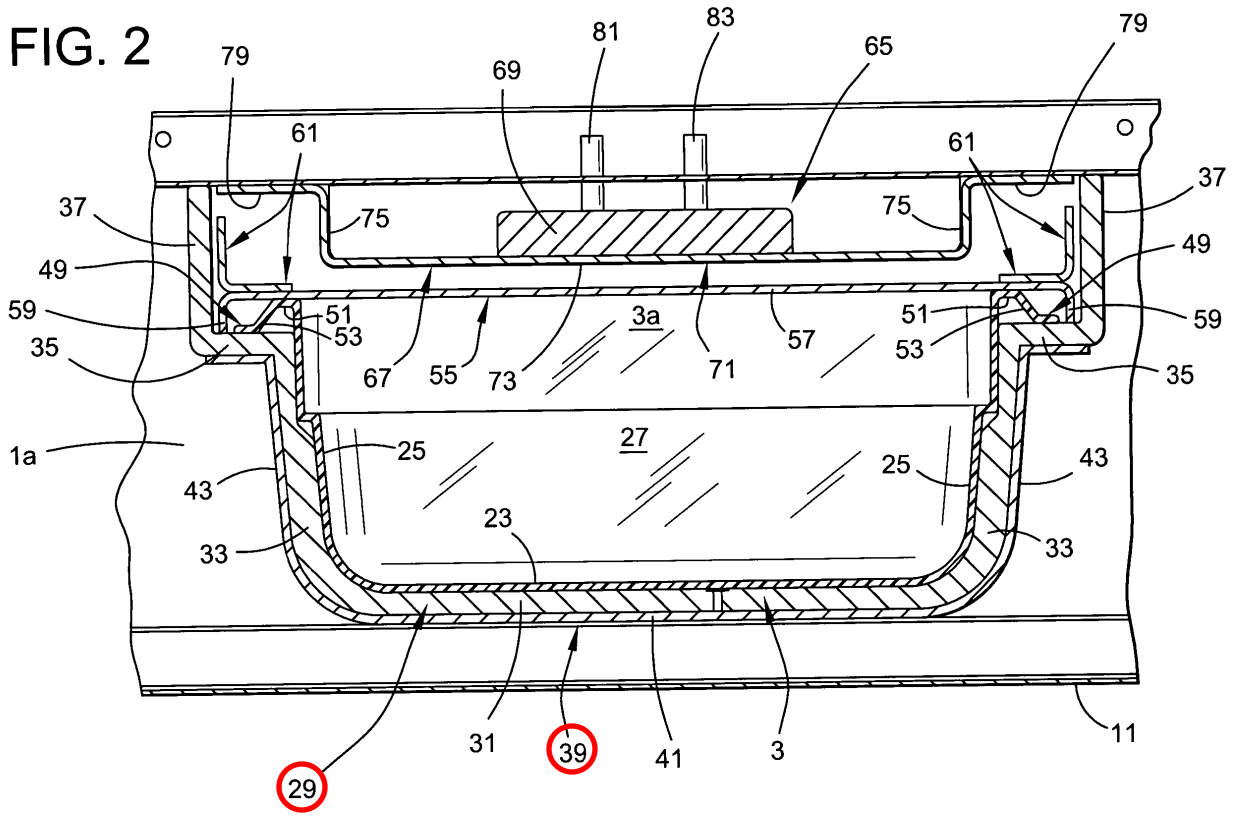
9. Shei'155 (EX1016)

91. 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").

92. 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"). 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

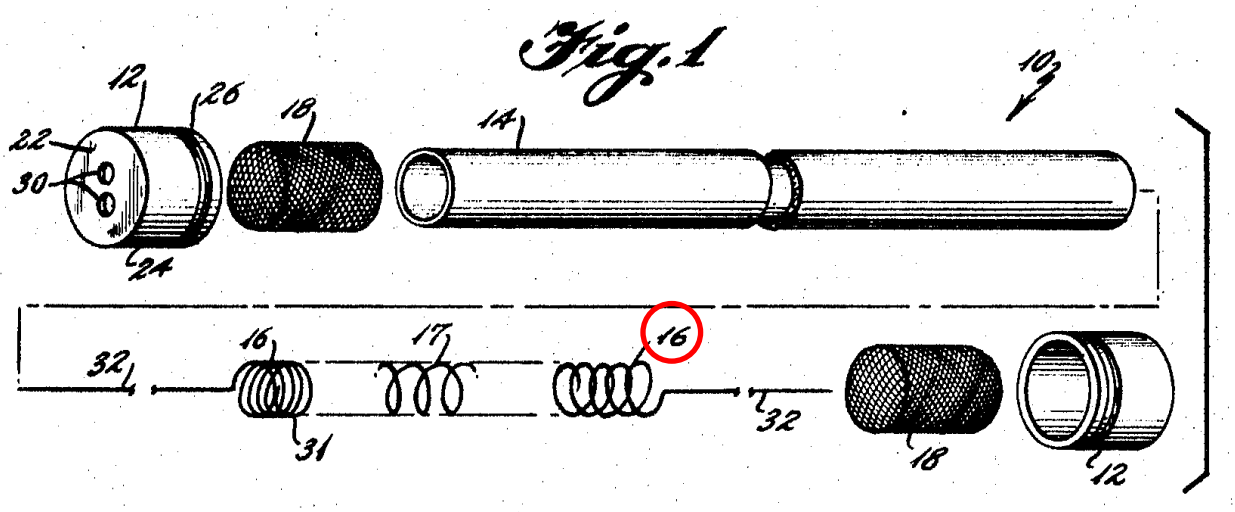




EX1016: Figs. 2 and 5 (annotated).

10. Poole (EX1025)

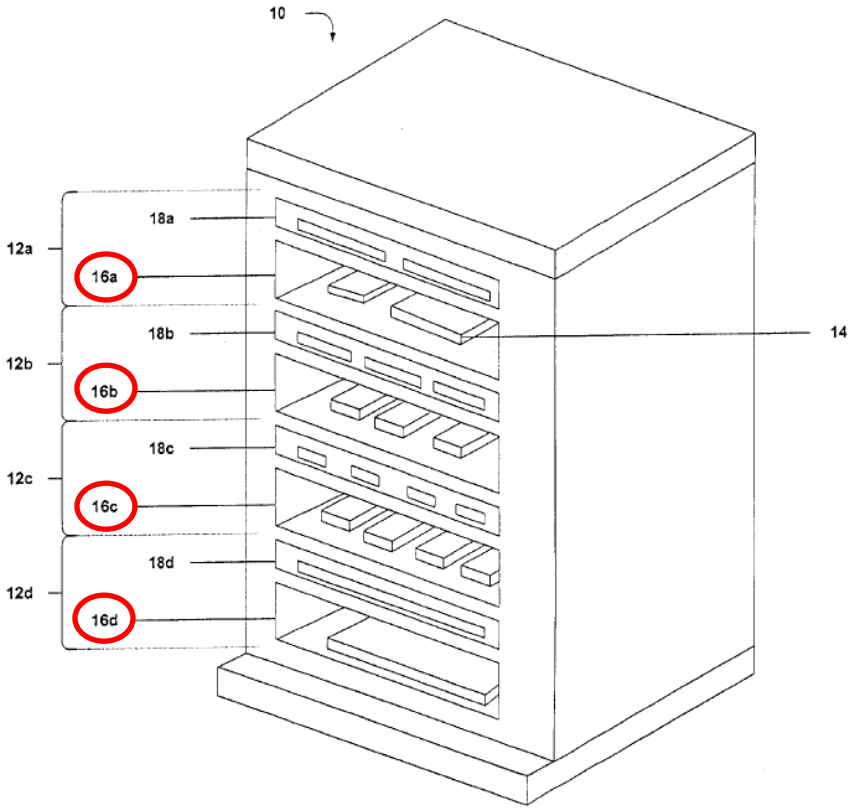
93. U.S. Patent No. 3,461,275 ("Poole") discloses an "infrared quartz heater" with a resistance wire (16) for generating heat. EX1025: Title ("Infrared Quartz Heater"), 1:29-30 ("[t]he usual quartz infrared heater consists essentially of a resistance wire heating element", 2:6-7 ("a heater element 16 in the form of a coiled resistance wire").



EX1025: Fig. 1 (annotated).

11. McMillan (EX1019)

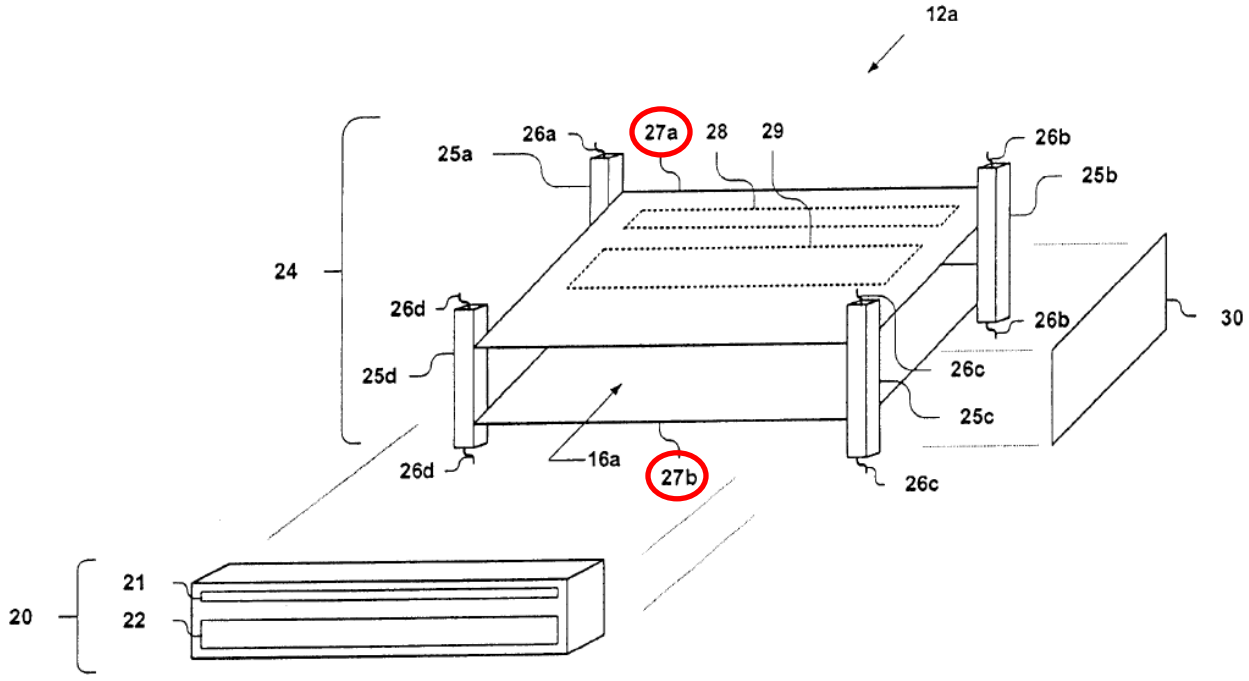
94. U.S. Patent No. 6,658,994 ("McMillan") teaches a food holding cabinet (10) including several food passageways (16a-16d). EX1019: 2:49-52, 2:65-67.



EX1019: Fig. 1 (annotated).

95. Each passageway includes upper and lower heater plates (27a, 27b).

EX1019: 4:36-52.



EX1019: Fig. 2 (annotated).

96. 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.

97. 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.").

98. 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.").

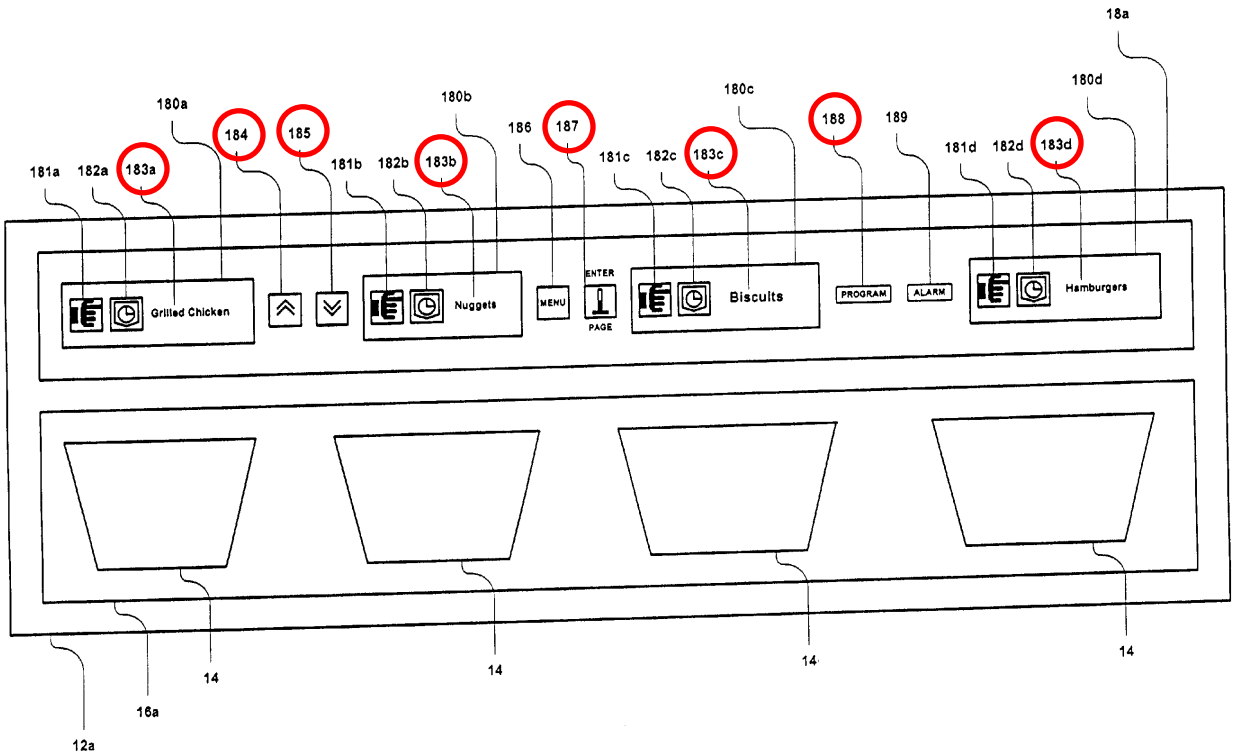


Fig. 5a

EX1019: Fig. 5a (annotated).

12. Shei'099 (EX1017)

99. 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.

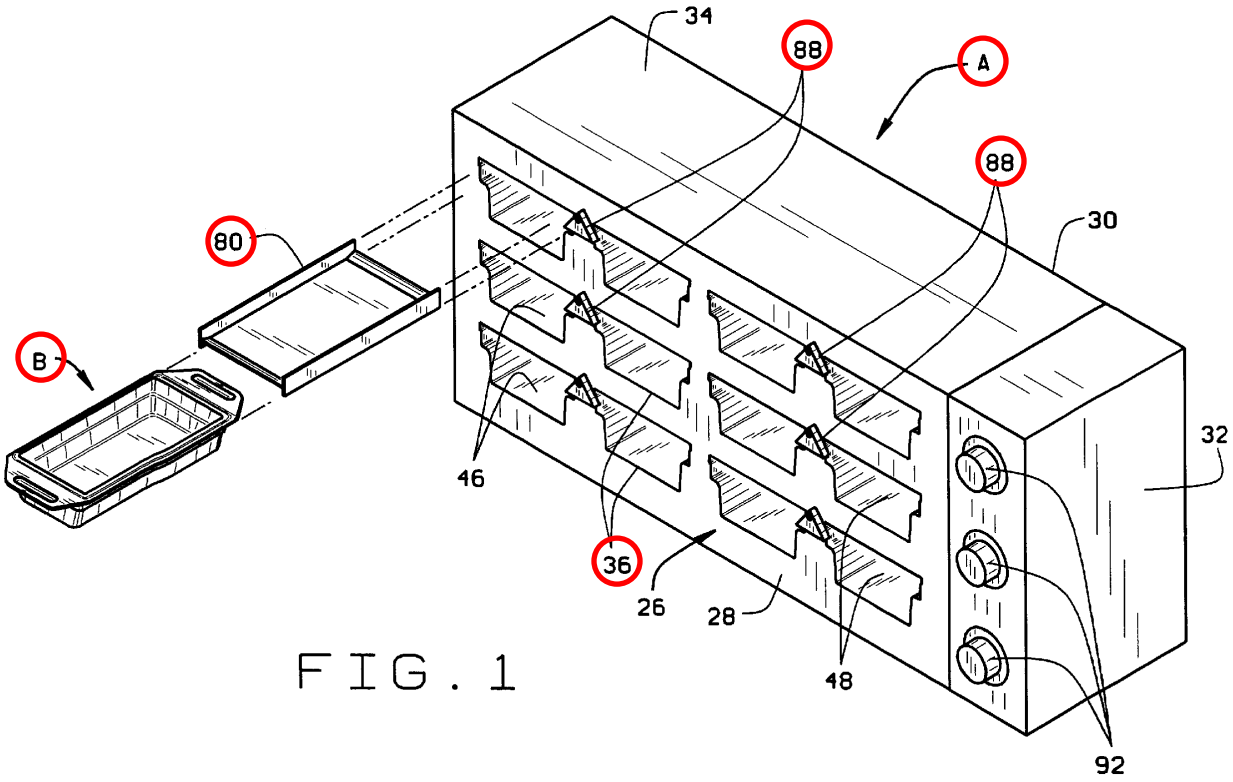
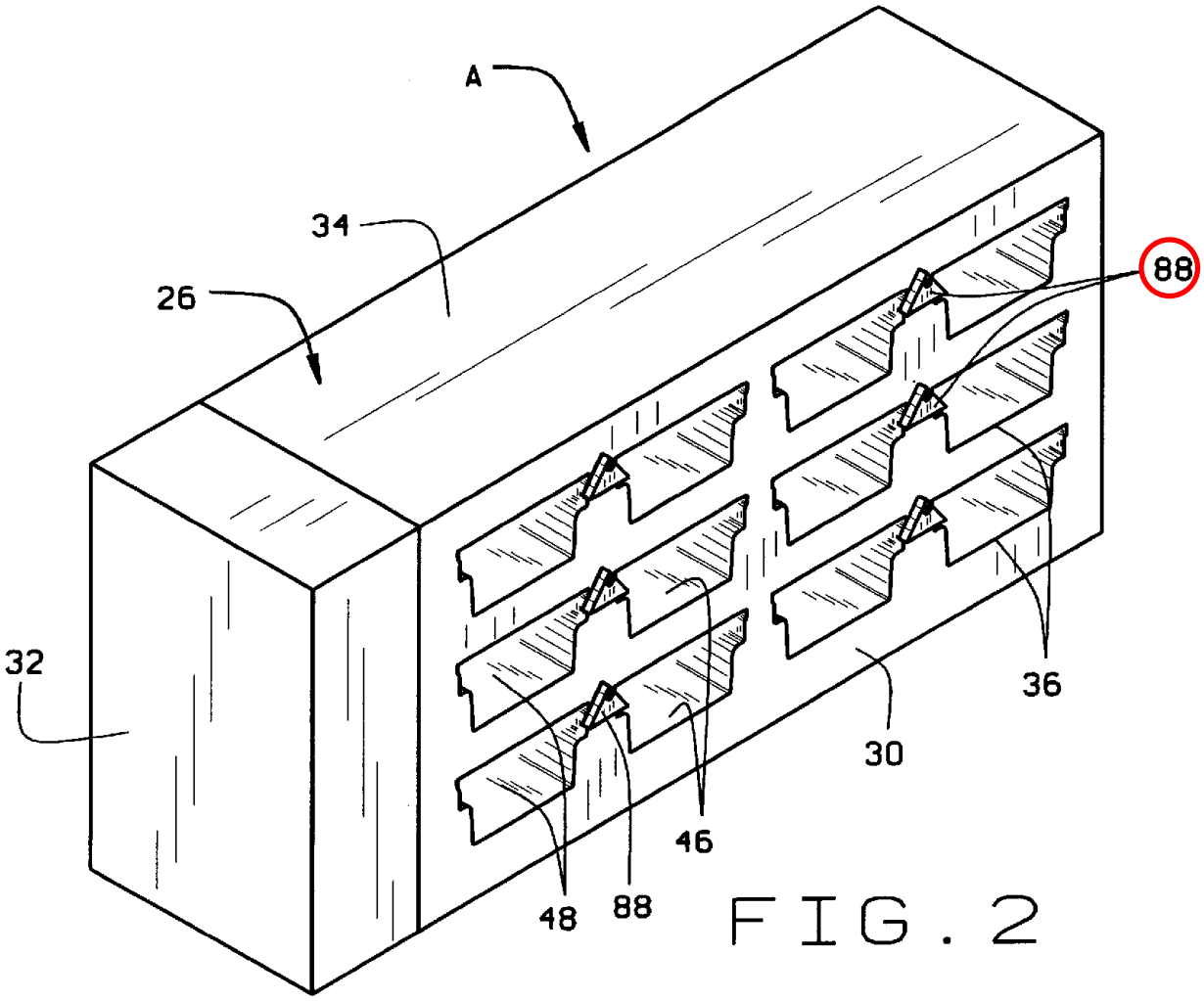


FIG. 1

EX1017: Fig. 1 (annotated).

100. 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").



EX1017: Fig. 2 (annotated).

13. Vaseloff (EX1026)

101. 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.

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

103. 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.

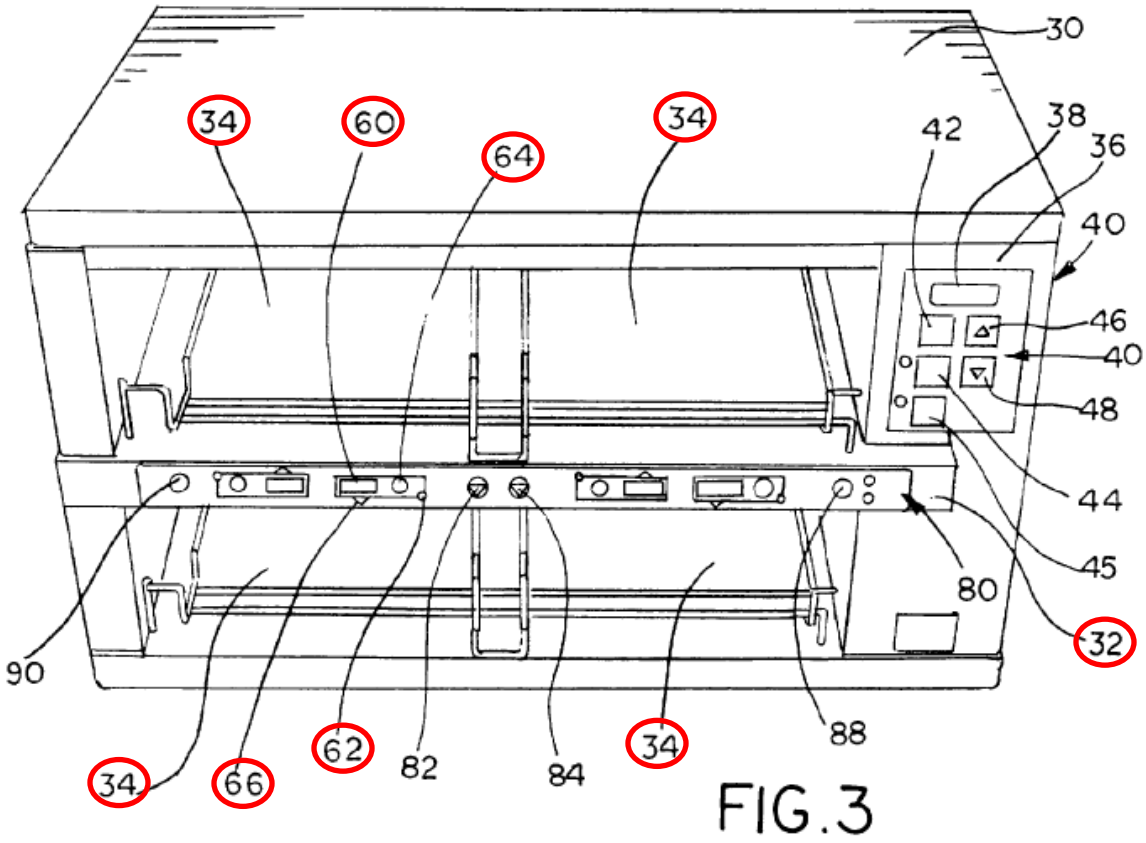


FIG.3

EX1026: FIG. 3 (annotated).

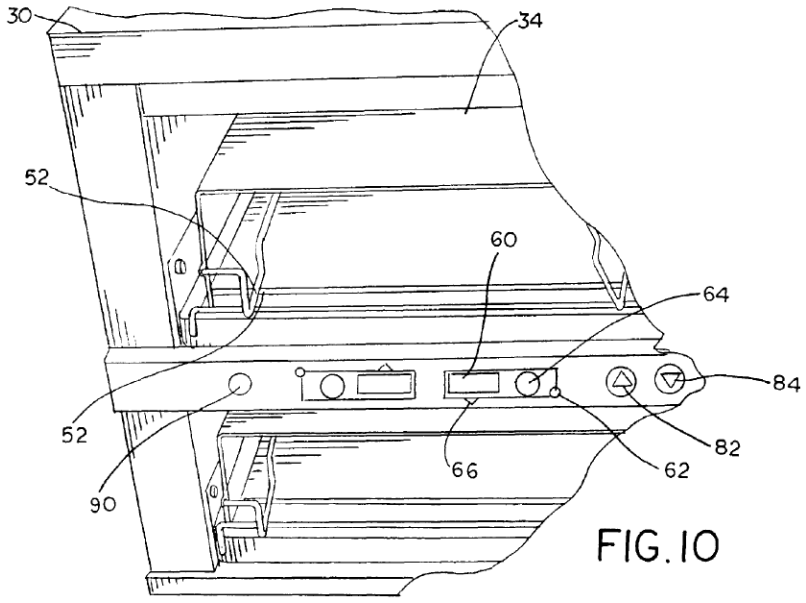


FIG. 10

EX1026: Fig. 10.

104. 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.

105. 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.

106. 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.

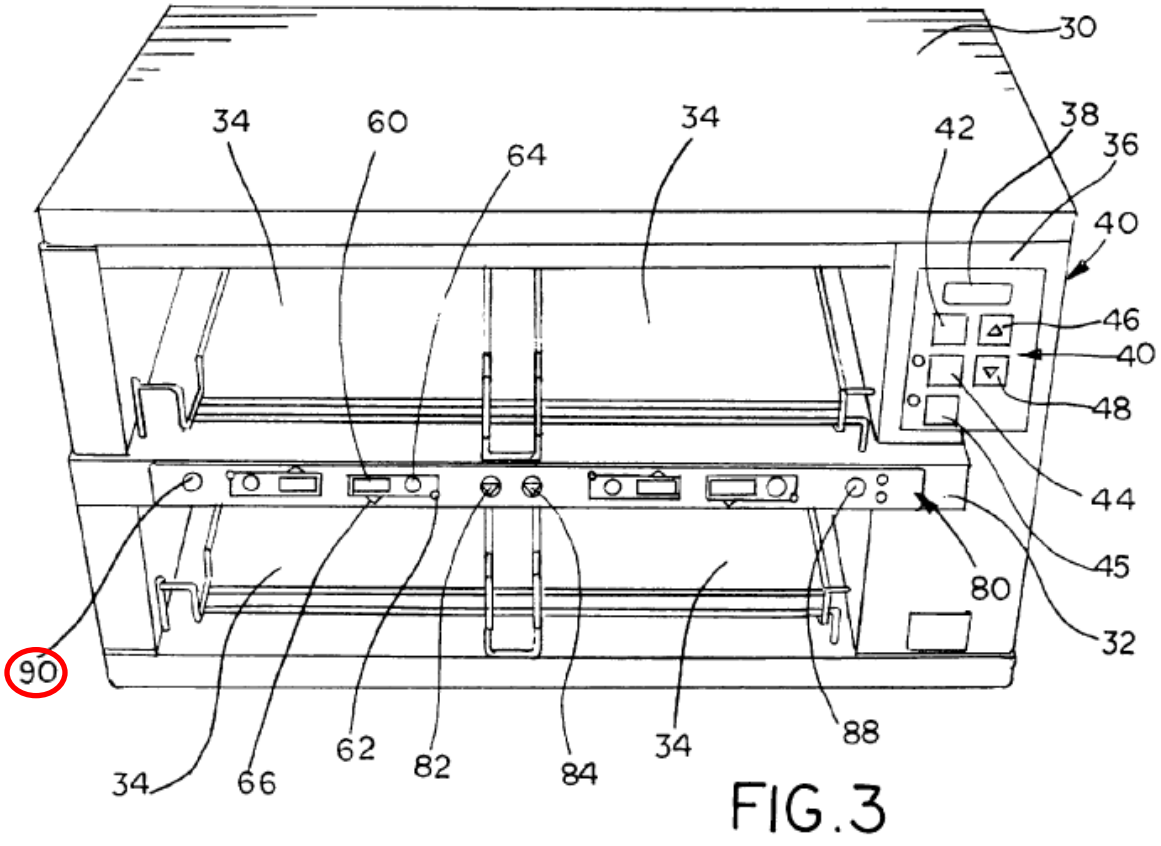


FIG.3

EX1026: FIG. 3 (annotated).

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

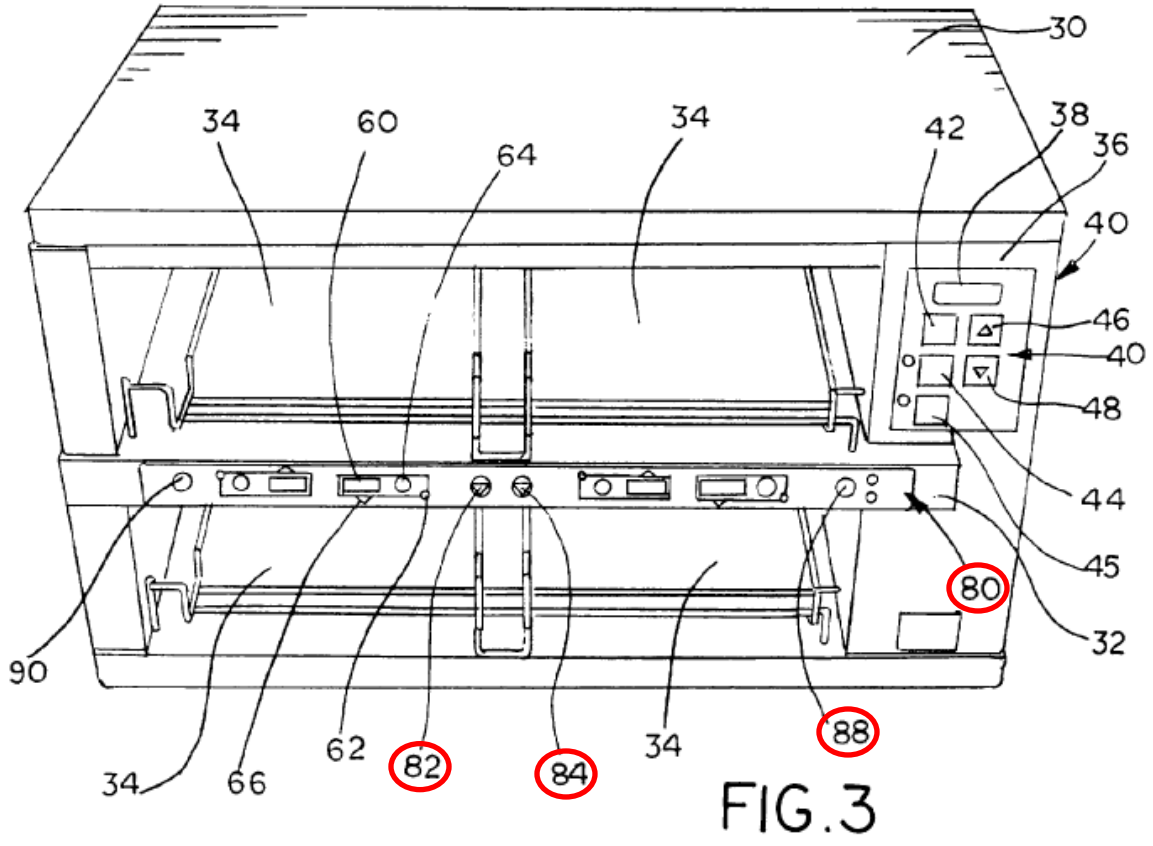


FIG.3

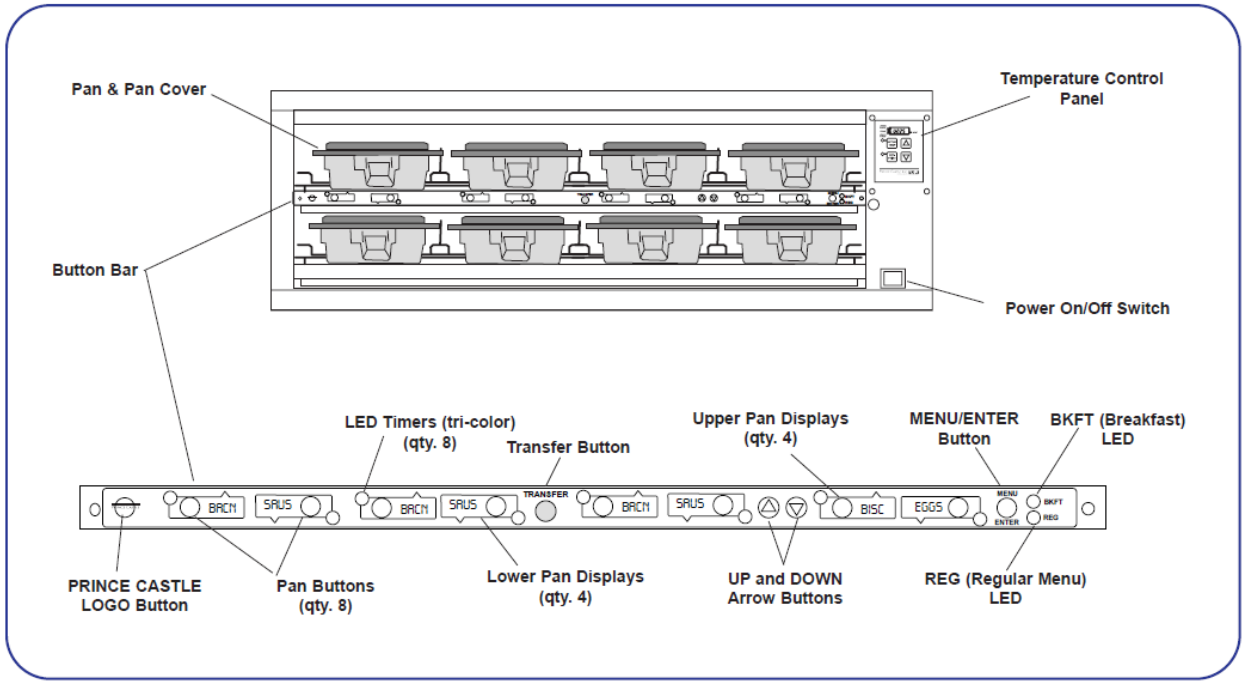
EX1026: FIG. 3 (annotated).

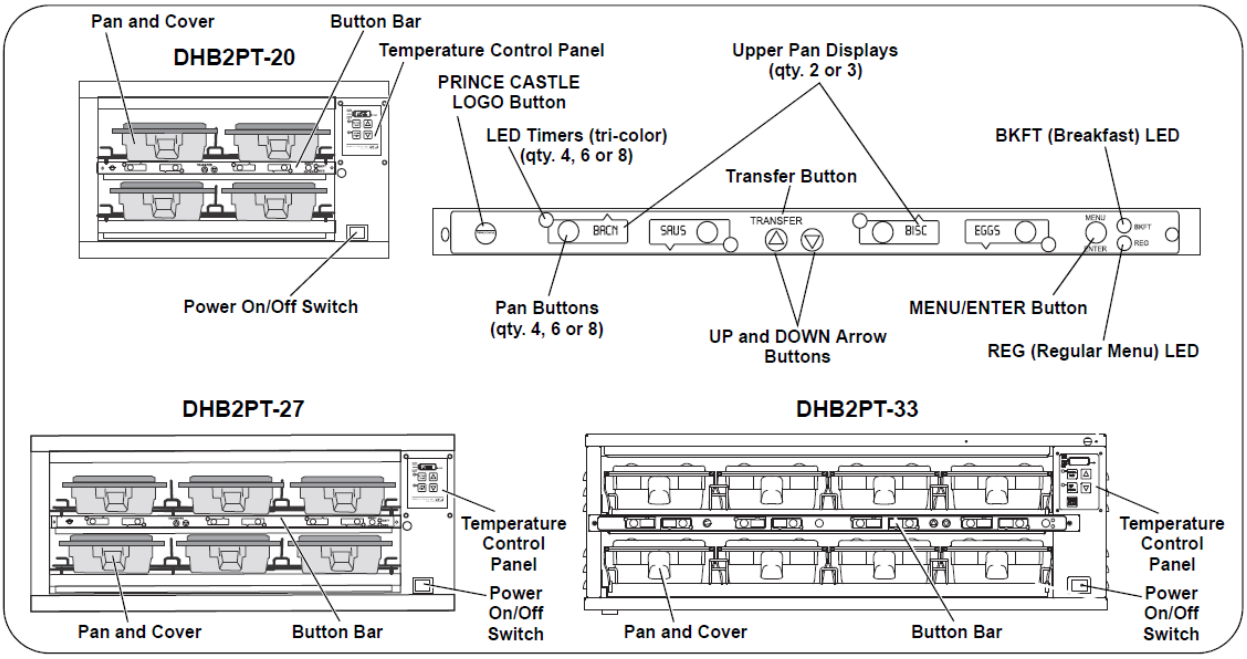
14. Prince Castle (EX1009)

108. 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 publicly 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). 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).

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



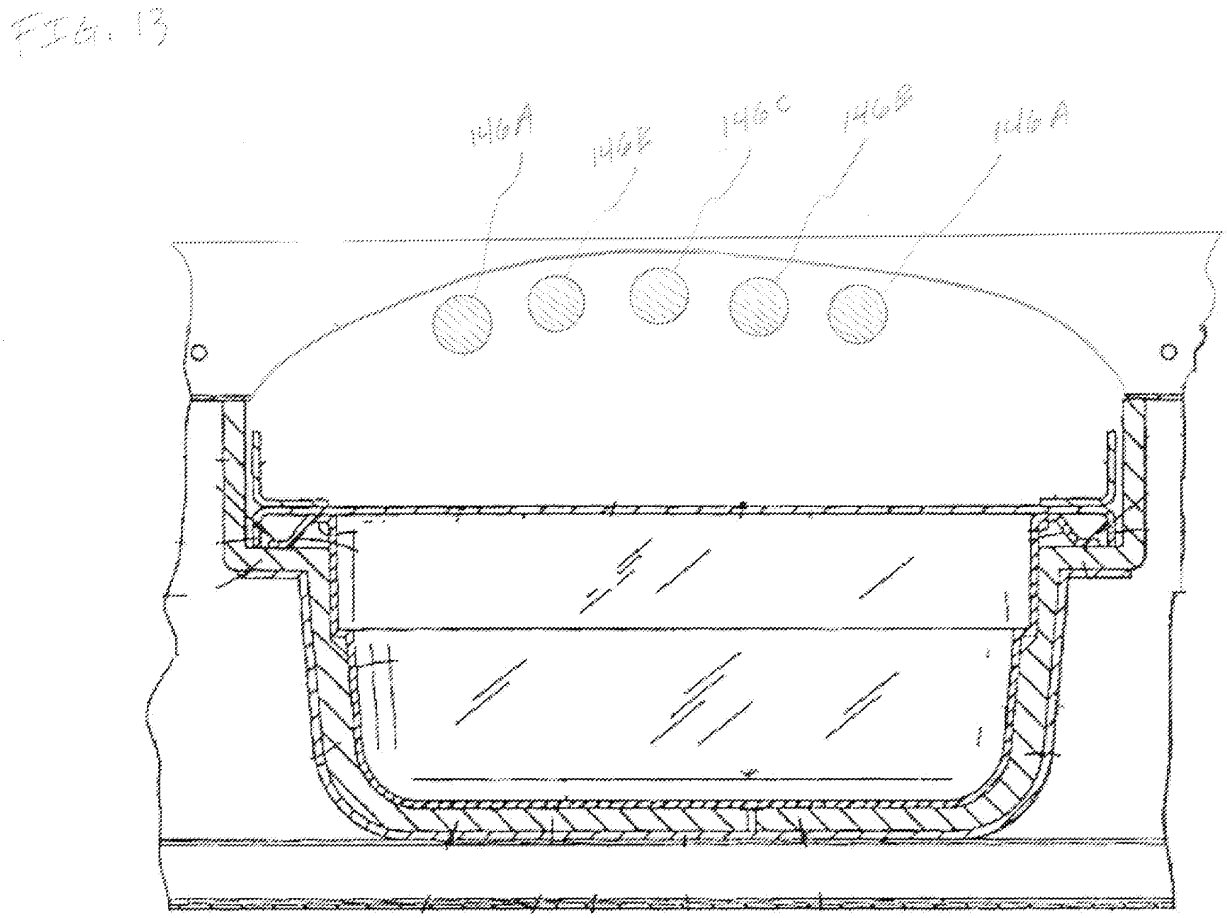


EX1009: 19, 36.

110. 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. 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.

15. Reese (EX1027)

111. 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.

112. 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].

16. Merco (EX1028)

113. 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 a Merco to advertise its commercial kitchen equipment, including Modular Holding Cabinets. The Merco website and linked brochure, manuals, and specification sheet includes 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 it Modular Holding Cabinets (EX1028: 12-19), an Operators Manual on Merco's Modular Holding Cabinets (EX1028: 21-44), a Parts and Service Manual on Merco's Modular Holding Cabinets (EX1028: 45-57), and a specification sheet on Merco's Modular Holding Cabinets (EX1028: 59-60).

114. 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.

17. Stanger (EX1042)

115. 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.

116. 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.").

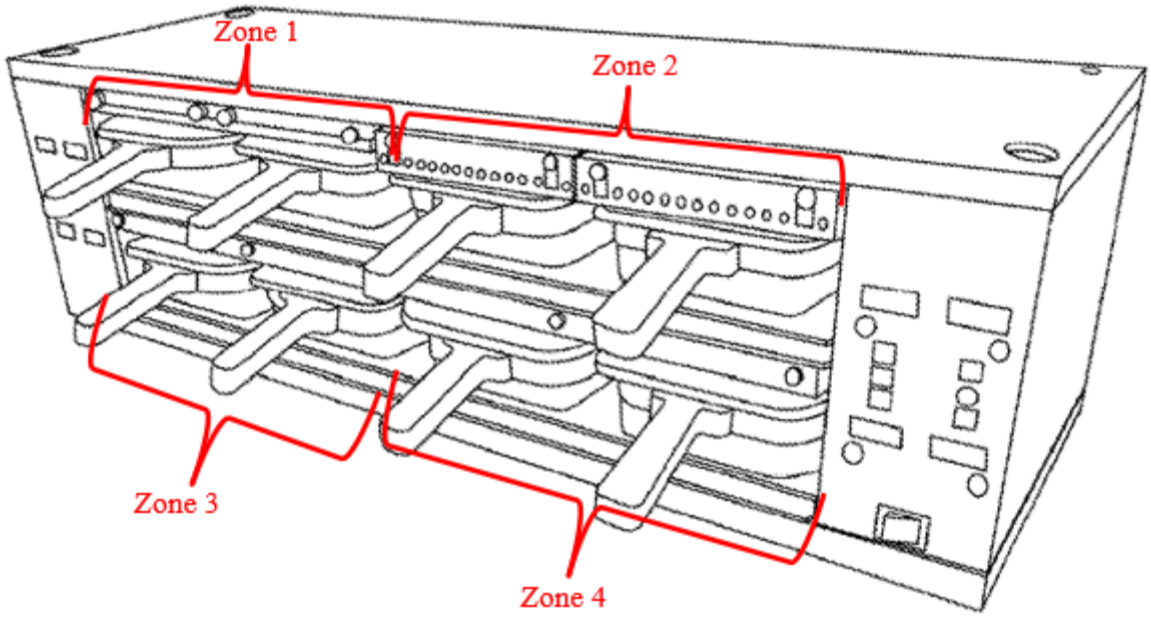


FIG. 14

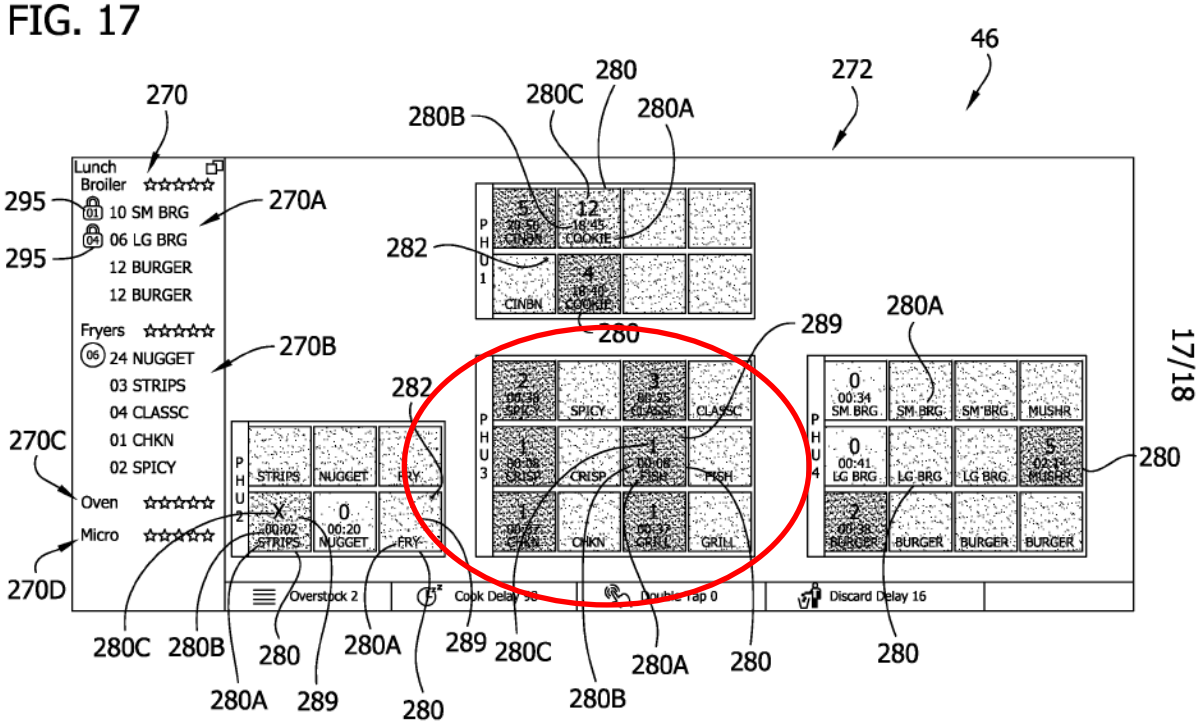
EX1042: Fig. 14 (annotated).

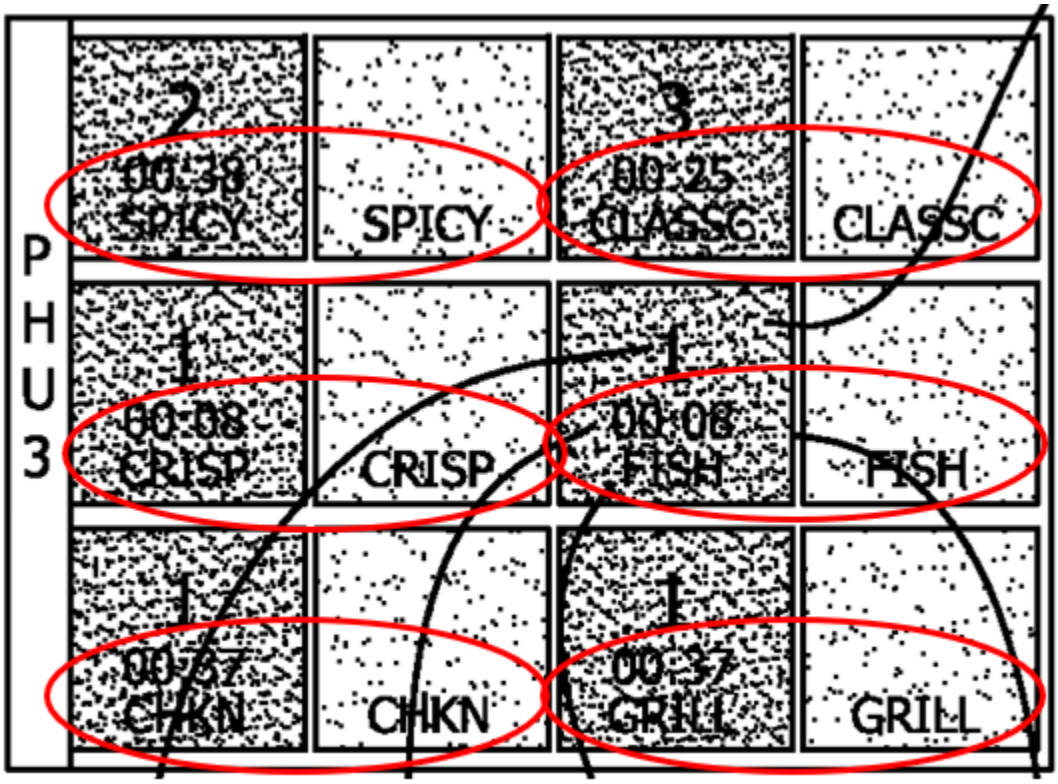
18. Loy (EX1043)

117. 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.

118. 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).

119. 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 1-5, 7-11, 15-23, 26, 28-33, 35-37 Would Have Been Obvious Over the IRHS Documents

A. Combination of the IRHS Documents

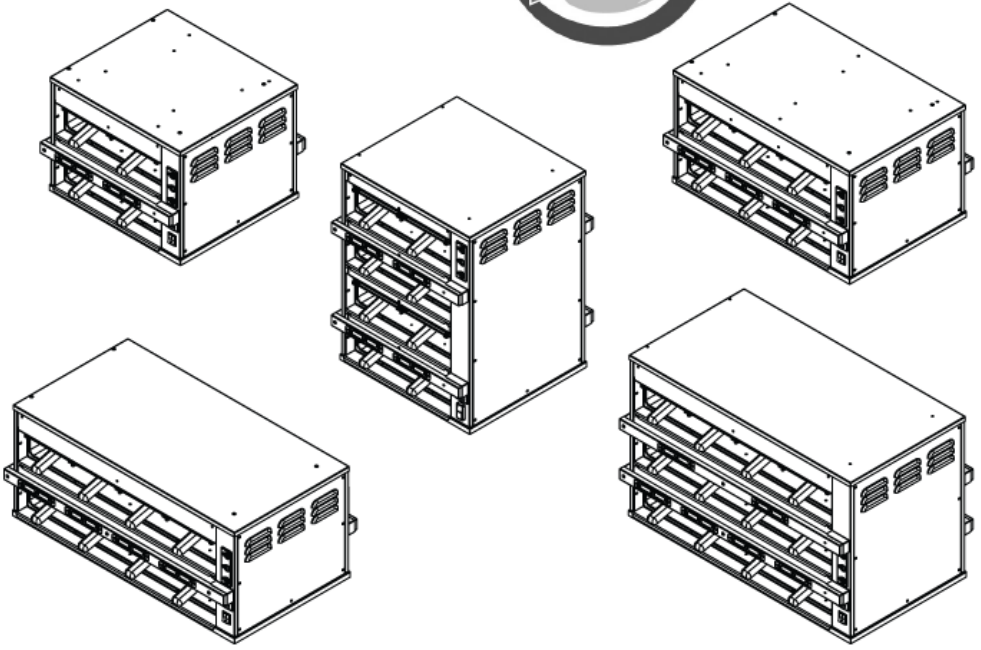
120. While I understand that for the purposes of this IPR proceeding, each of the IRHS Documents must be treated as a separate prior art reference, it would have been obvious to the POSA to combine the teachings and disclosures of the IRHS Documents as it would have been apparent that each of the IRHS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

121. As described in Paragraphs 41-62 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.

This manual is Copyright © 2014 Duke Manufacturing Company. All rights reserved. Reproduction without written permission is prohibited. Duke is a registered trademark of the Duke Manufacturing Company.

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

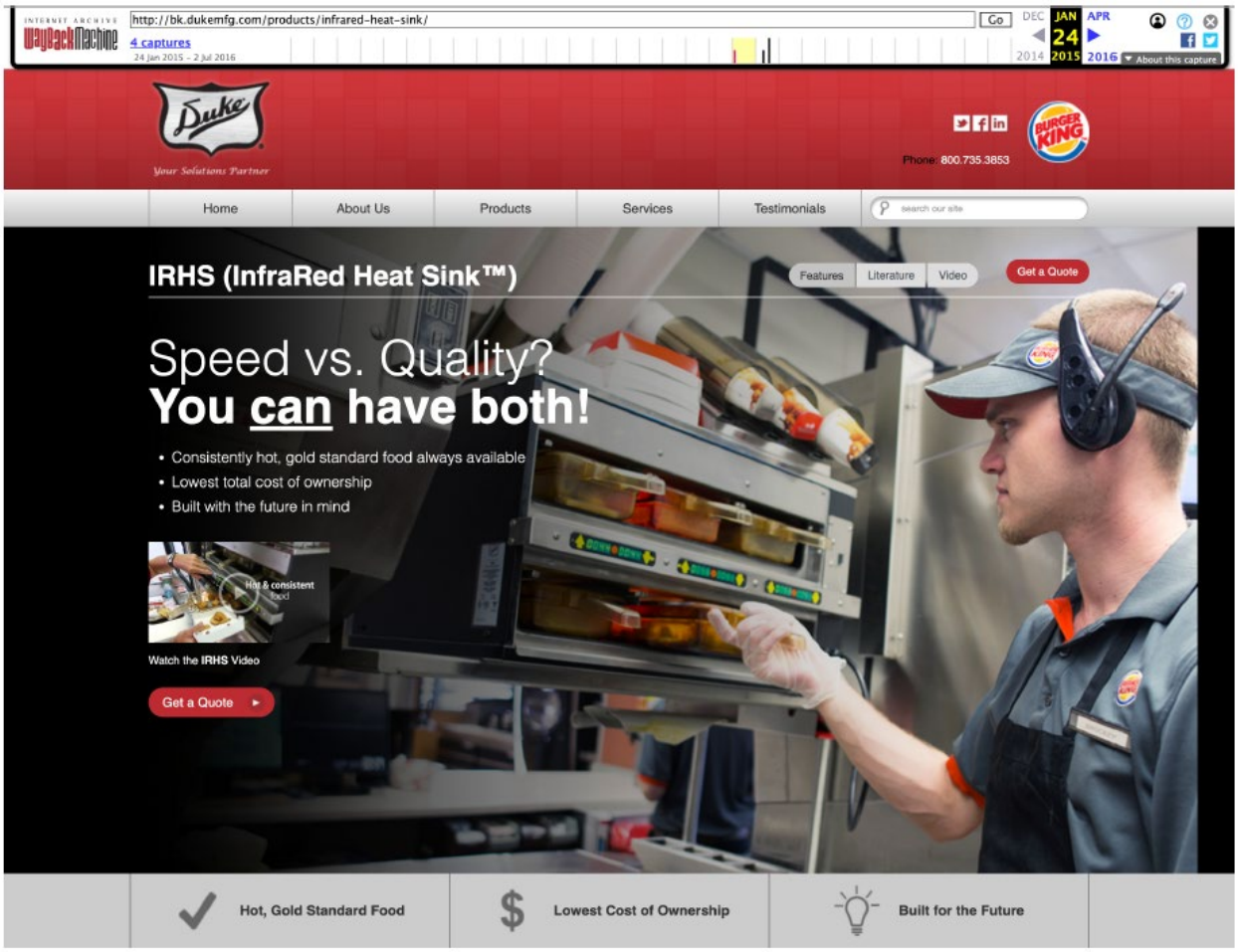
CONTROLS

- 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.

EX1006: 1.


http://bk.dukemfg.com/products/infrared-heat-sink/
4 captures
24 Jan 2015 - 2 Jul 2016
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.

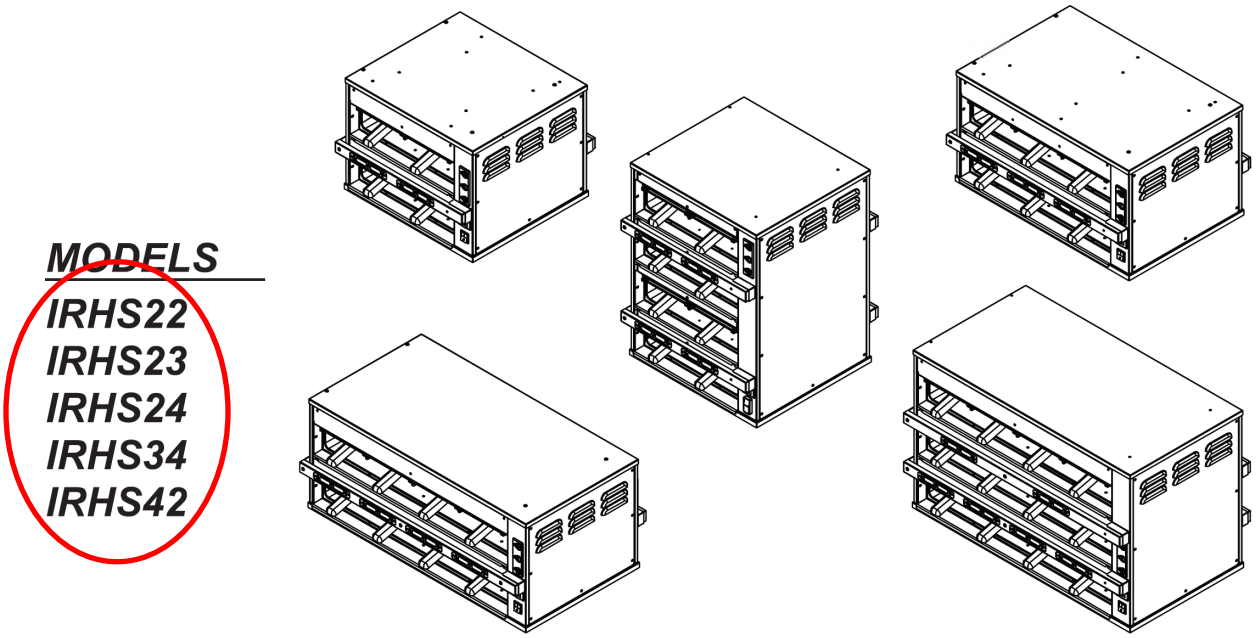
By combining the technologies of InfraRed and HeatSink, we are able to hold food with superior flavor and temperature consistency. Previous generations of the Duke holding units contained only HeatSink, heating from below and wrapping around the sides of each pan. By adding the top-down InfraRed heat, 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.



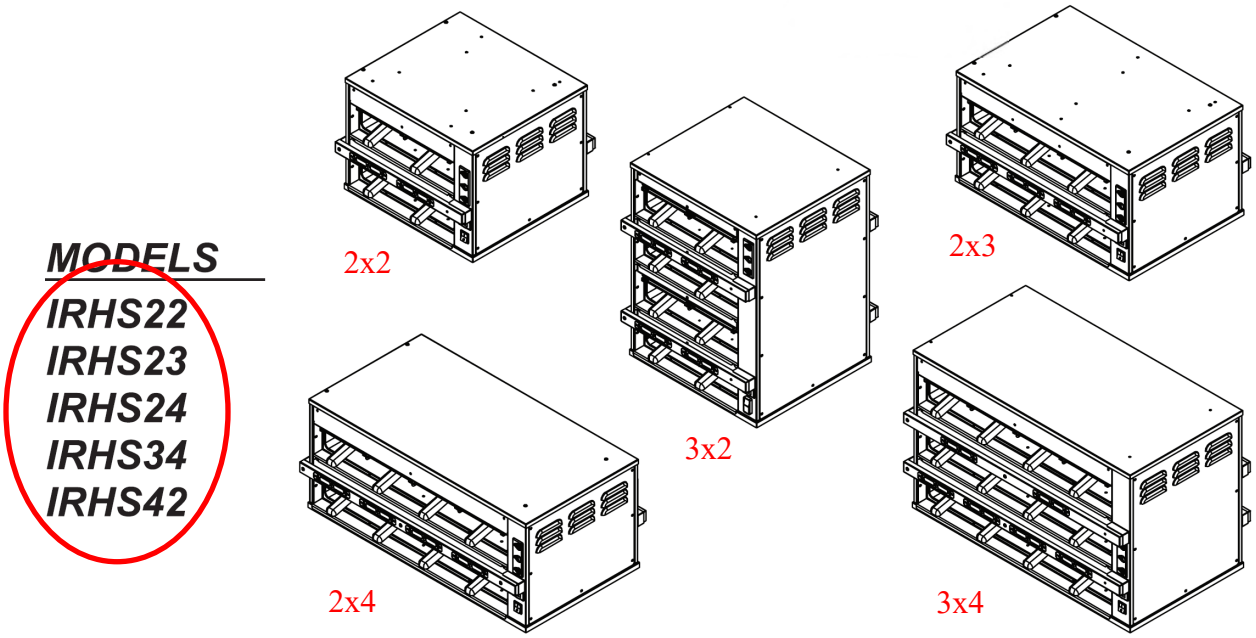
EX1008: 1.

122. Beyond being directed to the same family of food holding, the IRHS Documents more specifically describe the same model 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).

123. 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/bays arranged in a 2x2 grid; IRHS**23** has six pan holding locations/bays arranged in a 3x2 grid; IRHS**24** has eight pan holding locations/bays arranged in a 2x4 grid; IRHS**34** has twelve pan holding locations/bays arranged in a 3x4 grid; and IRHS**42** has eight pan holding locations/bays 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).

124. 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.

125. 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.

126. 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.

127. 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 of the IRHS products as having all the capabilities and features the

IRHS Documents 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").

128. 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 a feature or capability of the IRHS products is

not clearly described in one IRHS Document, the POSA would look to another IRHS Document to supplement his or her understanding of the IRHS products.

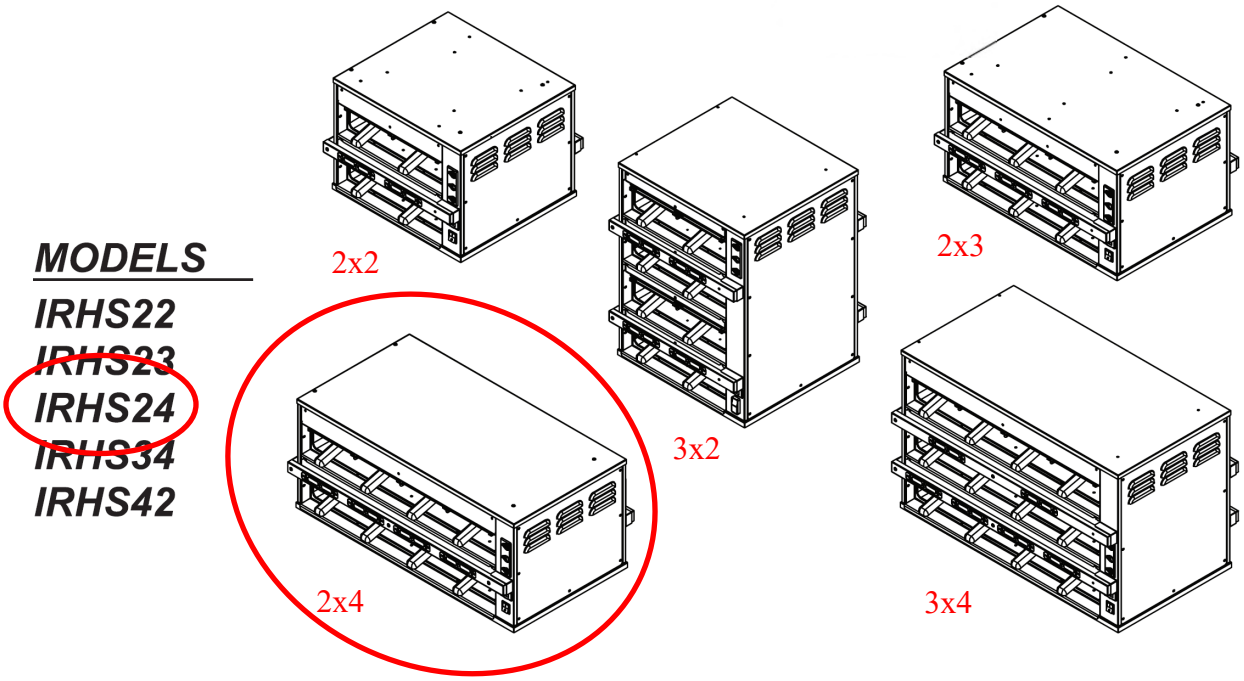
129. Further, because the IRHS Documents would have been recognized as describing the same/related IRHS products, the POSA would have expected that the teachings of the IRHS Documents could have been readily combined.

B. Independent Claim 1

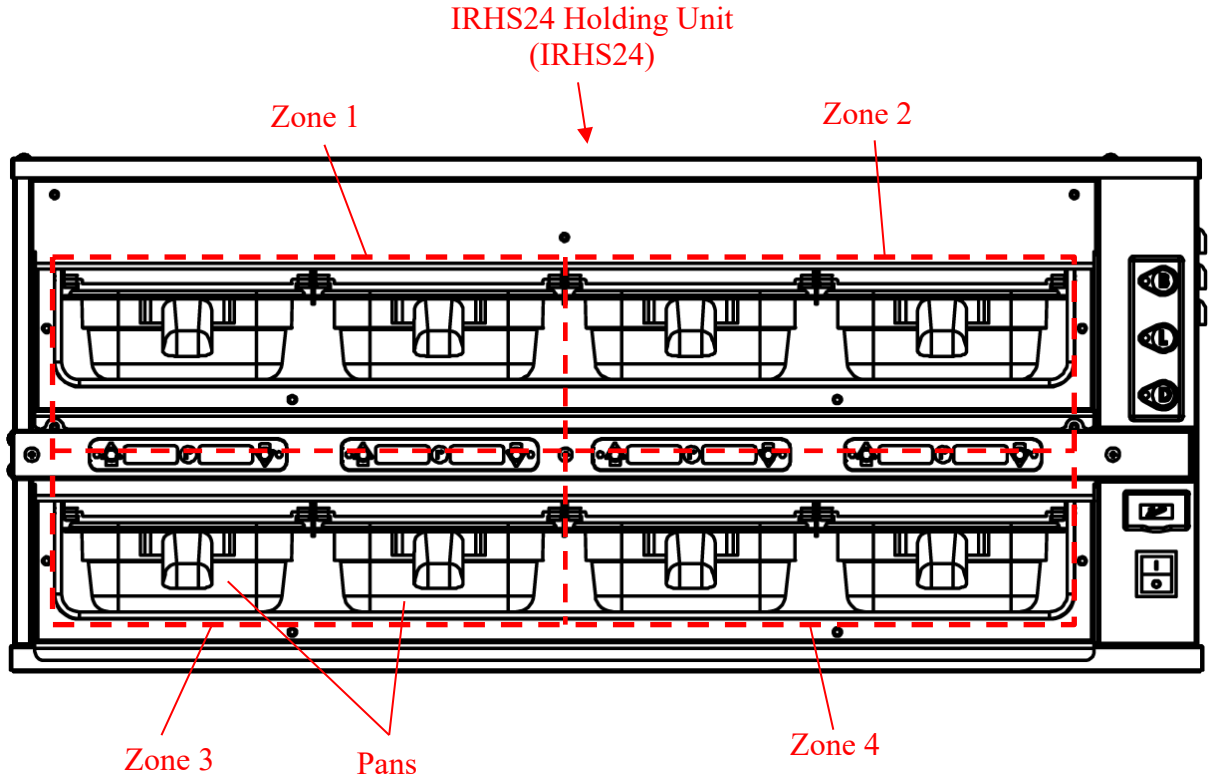
1.P: a multi-zone food holding bin comprising

130. The POSA would recognize that the IRHS Documents disclose "a multi-zone food holding bin."

131. For example, each of the IRHS Documents disclose a 2x4 IRHS Holding Unit, model number IRHS24, (the "IRHS24 Holding Unit" or "IRHS24") having multiple zones for receiving and heating a plurality of food pans. EX1005: 4, 8; EX1006: 1; EX1007: 51, 56; EX1008: 1. As used herein, "IRHS" and "IRHS24" refer to IRHS Documents' disclosure not a commercial IRHS product itself.



EX1005: 1 (annotated).



EX1005: 8 (annotated).

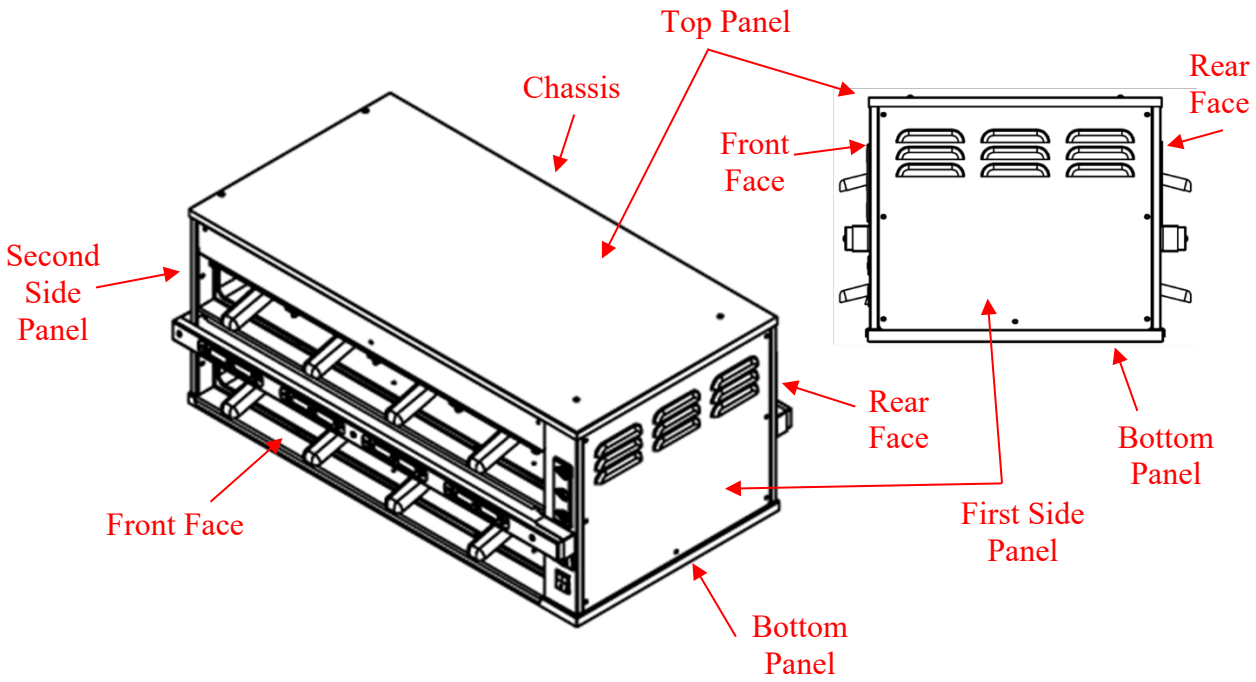


EX1007: 56.

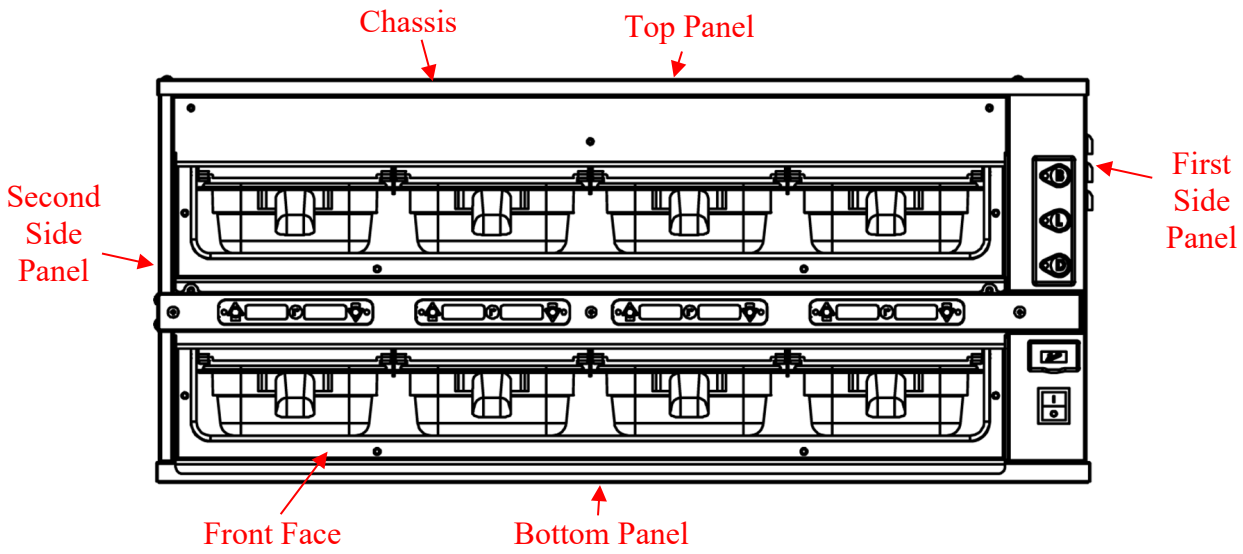
1.a: a chassis having a top panel, a first side panel, a second side panel, a bottom panel, a front face, and an opposing rear face

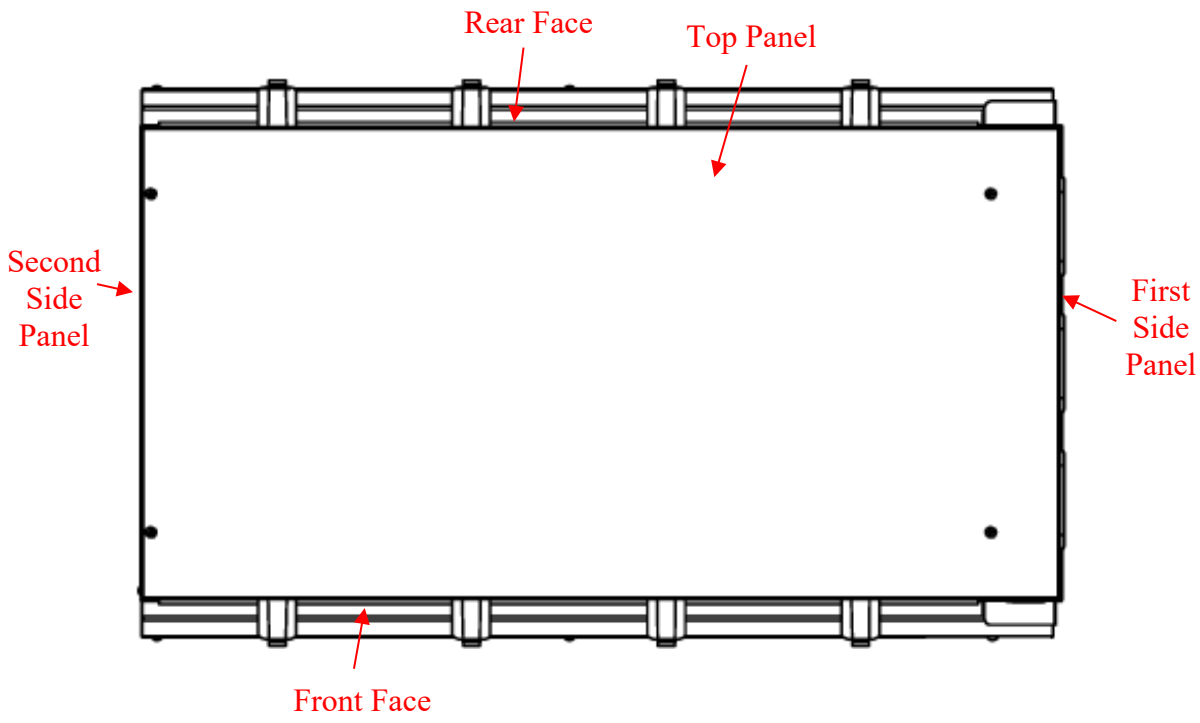
132. The POSA would recognize that the IRHS Documents disclose the multi-zone food holding bins as having "a chassis having a top panel, a first side panel, a second side panel, a bottom panel, a front face, and an opposing rear face."

133. For example, the IRHS24 Holding Unit has a chassis. EX1006: 1 ("[b]ody" has a "[s]tainless steel exterior"). The chassis has a top panel, a first side panel, a second side panel, a bottom panel, a front face, and a rear face opposite the front face. EX1007: 51 ("[s]tainless steel faceplate protects internal components").



EX1005: 8 (annotated).





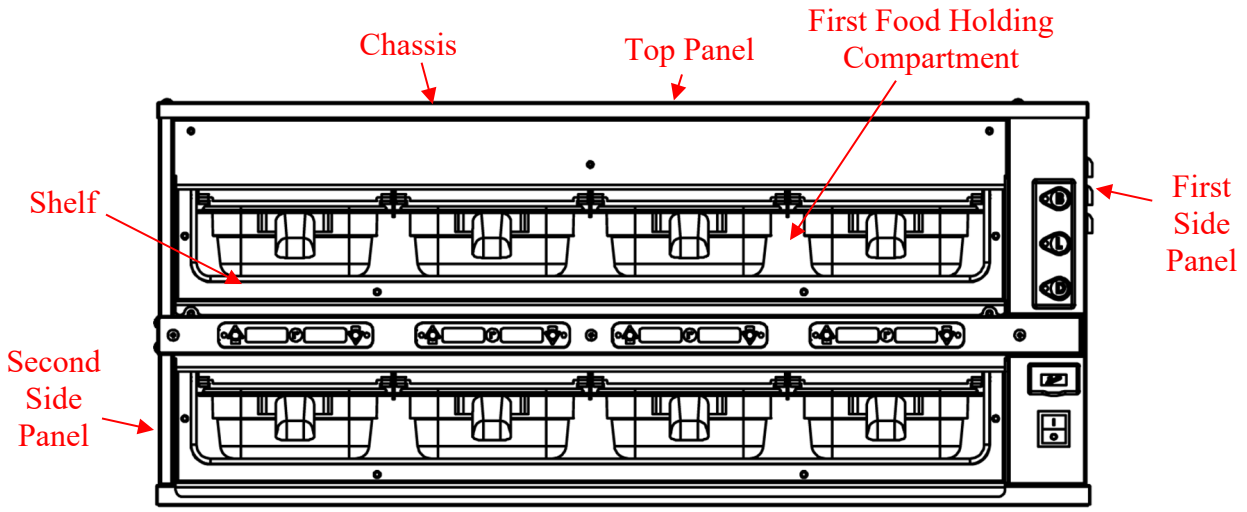
EX1005: 8 (annotated).

1.b.1: a first food holding compartment within the chassis, the first food holding compartment being defined by the first side panel, the second side panel, the top panel and a shelf

134. The POSA would recognize that the IRHS Documents disclose the multi-zone food holding bins as having "a first food holding compartment within the chassis, the first food holding compartment being defined by the first side panel, the second side panel, the top panel and a shelf."

135. For example, the chassis of the IRHS24 Holding Unit has a shelf extending between the first and second side panels. The compartment located above the shelf meets the first food holding compartment as claimed, as it is within

the chassis and is defined by the first side panel, the second side panel, the top panel, and the shelf.



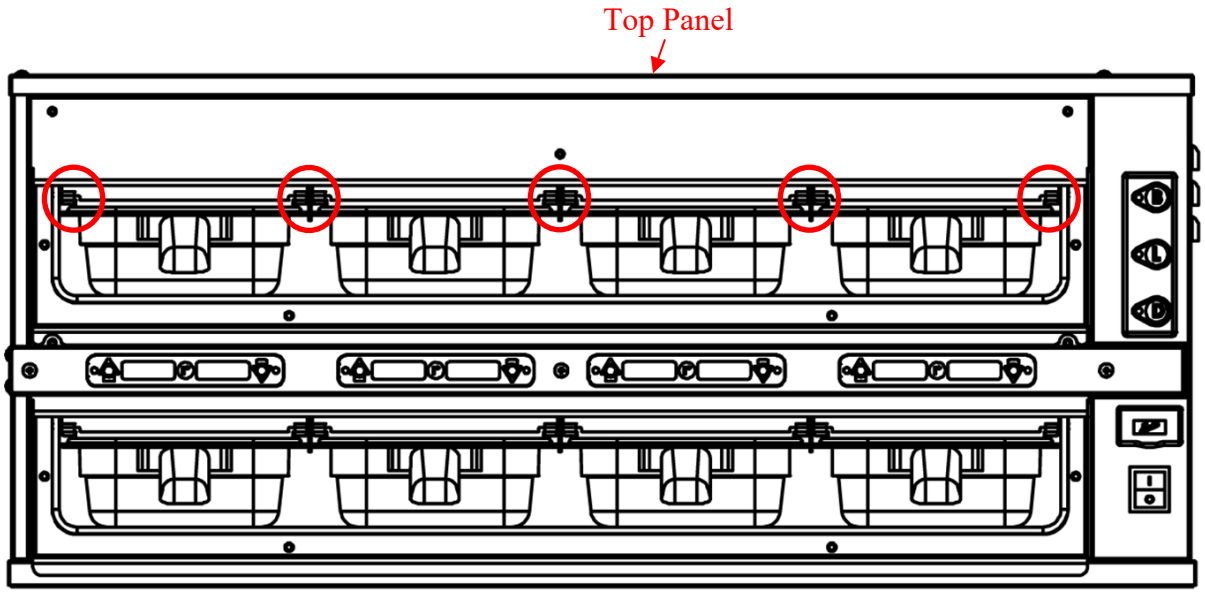
EX1005: 8 (annotated).

1.b.2: the top panel including at least one downwardly depending lid holding shelf

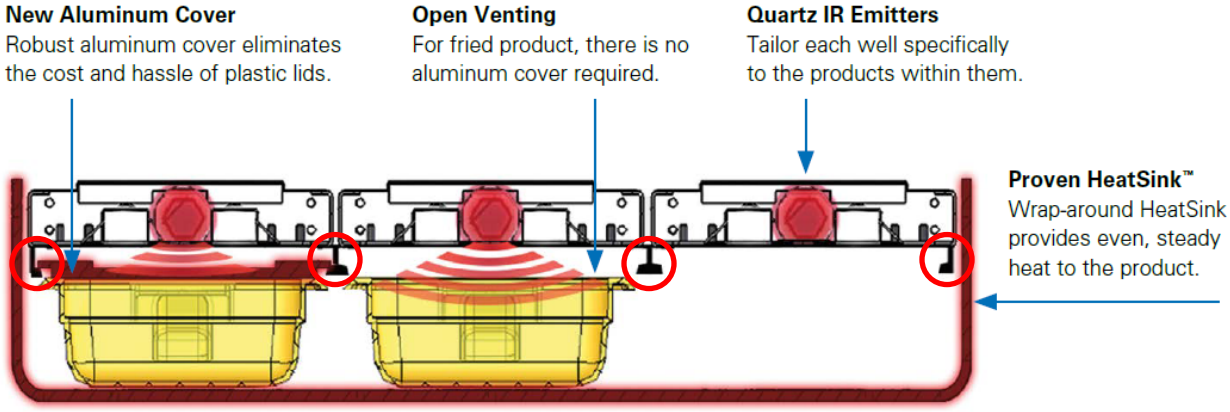
136. The POSA would recognize that the IRHS Documents disclose the top panel of the multi-zone food holding bins as "including at least one downwardly depending lid holding shelf."

137. For example, the IRHS24 Holding Unit includes 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 Unit further has lid-holding shelves for suspending the covers above the pan holding locations. As annotated below, these lid-holding shelves downwardly depend from the top panel.



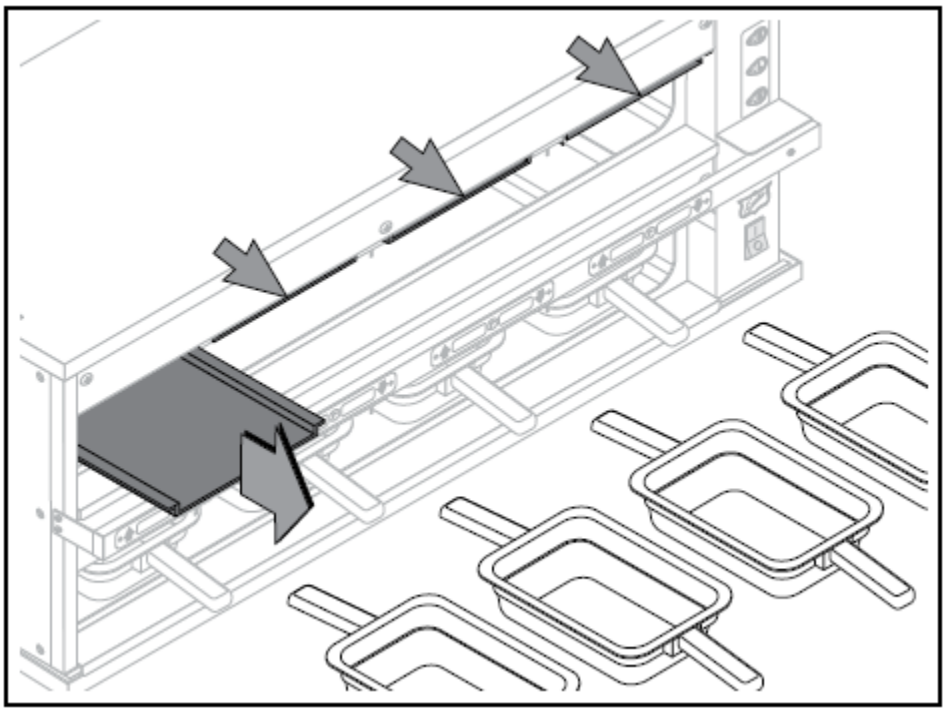
EX1005: 8 (annotated).



EX1007: 53 (annotated).



EX1007: 36 (annotated).

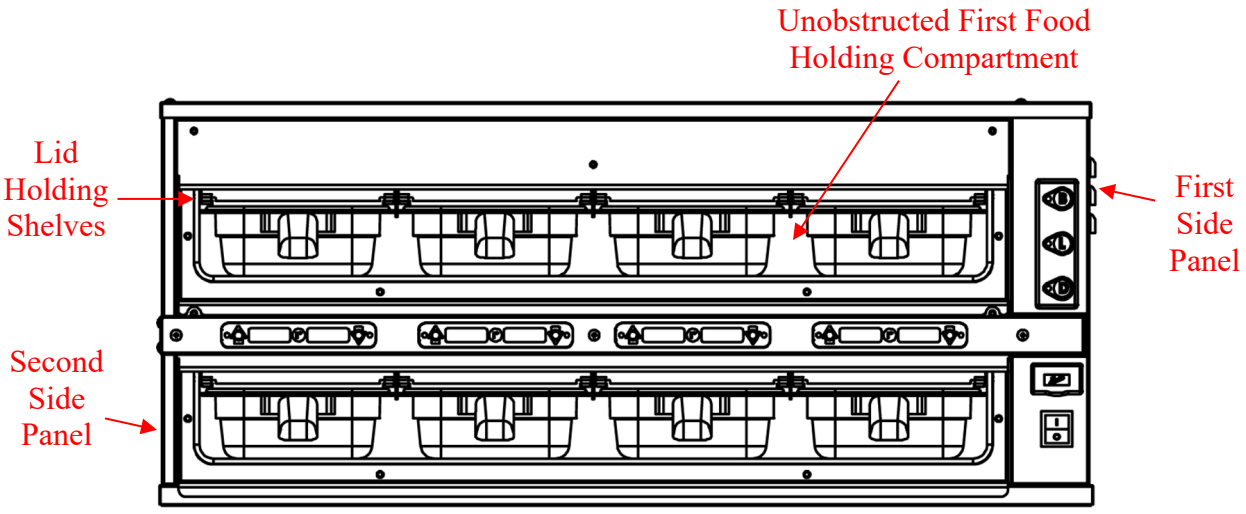


EX1008:16.

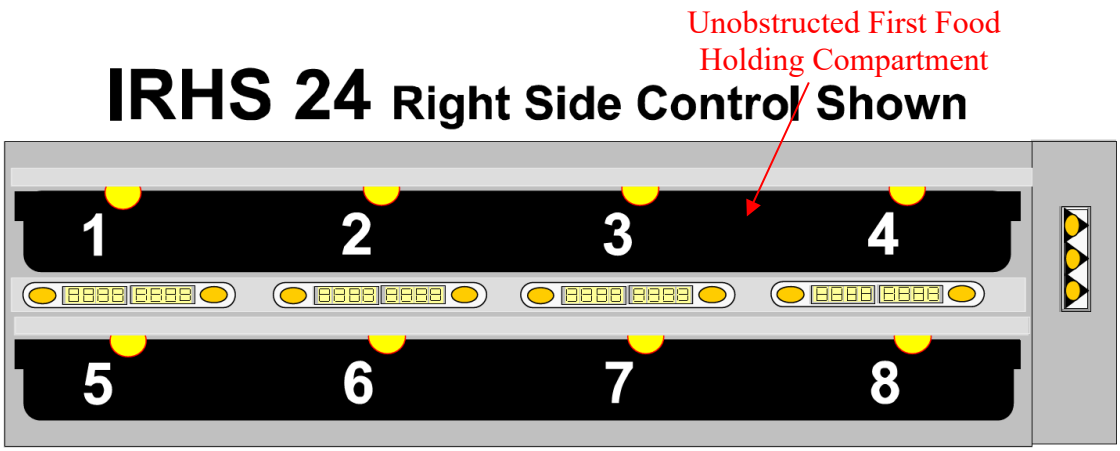
1.b.3: the first food holding compartment being substantially unobstructed between the first side panel and the second side panel and below the downwardly depending lid holding shelf

138. The POSA would recognize that the IRHS Documents disclose "the first food holding compartment being substantially unobstructed between the first side panel and the second side panel and below the downwardly depending lid holding shelf."

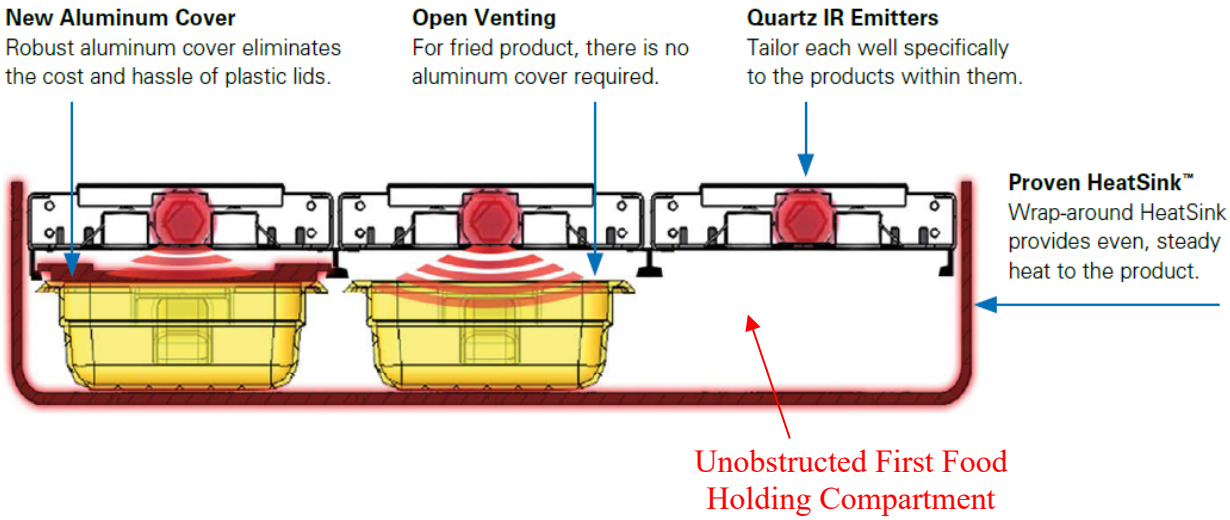
139. As annotated below, the first food holding compartment is depicted as substantially unobstructed between the first and second side panels below the lid-holding shelves. Specifically, the only objects shown within this space in any of the IRHS Documents are the food pans themselves.



EX1005: 8 (annotated).



EX1005: 25 (annotated).



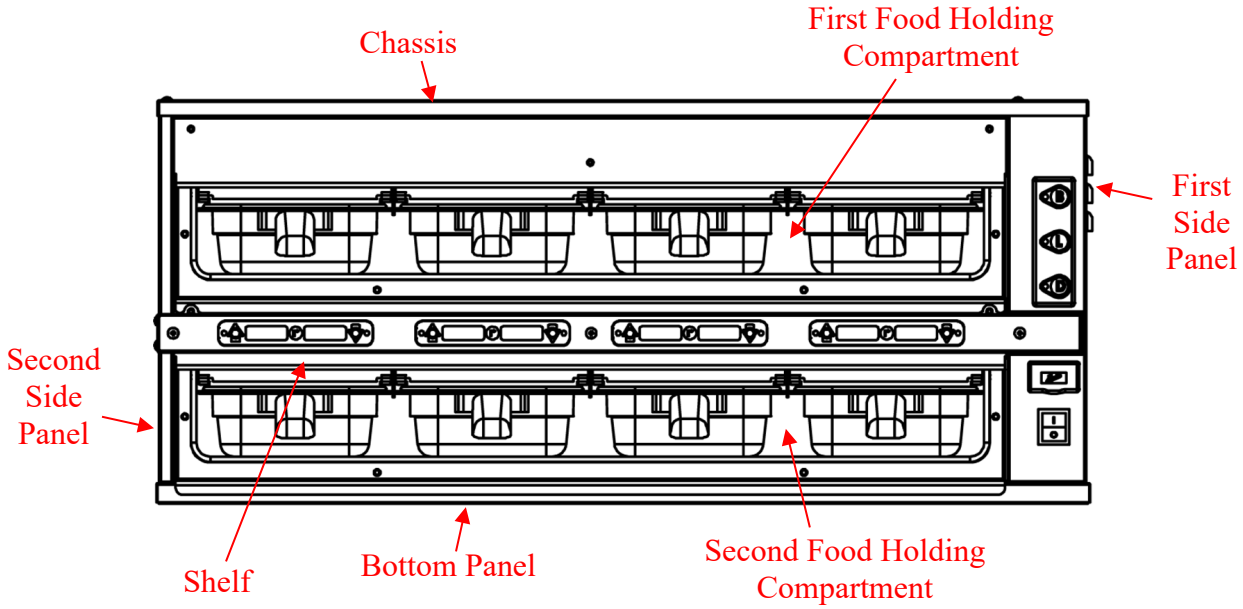
EX1007: 53 (annotated).

1.c.1: a second food holding compartment disposed below the first food holding compartment within the chassis, the second food holding compartment being defined by the first side panel, the second side panel, the bottom panel and the shelf

140. The POSA would recognize that the IRHS Documents disclose "a second food holding compartment disposed below the first food holding compartment within the chassis, the second food holding compartment being

defined by the first side panel, the second side panel, the bottom panel and the shelf."

141. As shown in the annotated figures, the chassis of the two shelf IRHS units (the IRHS22, IRHS23, and IRHS24), each have a second food holding compartment within the chassis below the first food holding compartment. As annotated below, this second food holding compartment is defined by the first side panel, the second side panel, the bottom panel, and the shelf.

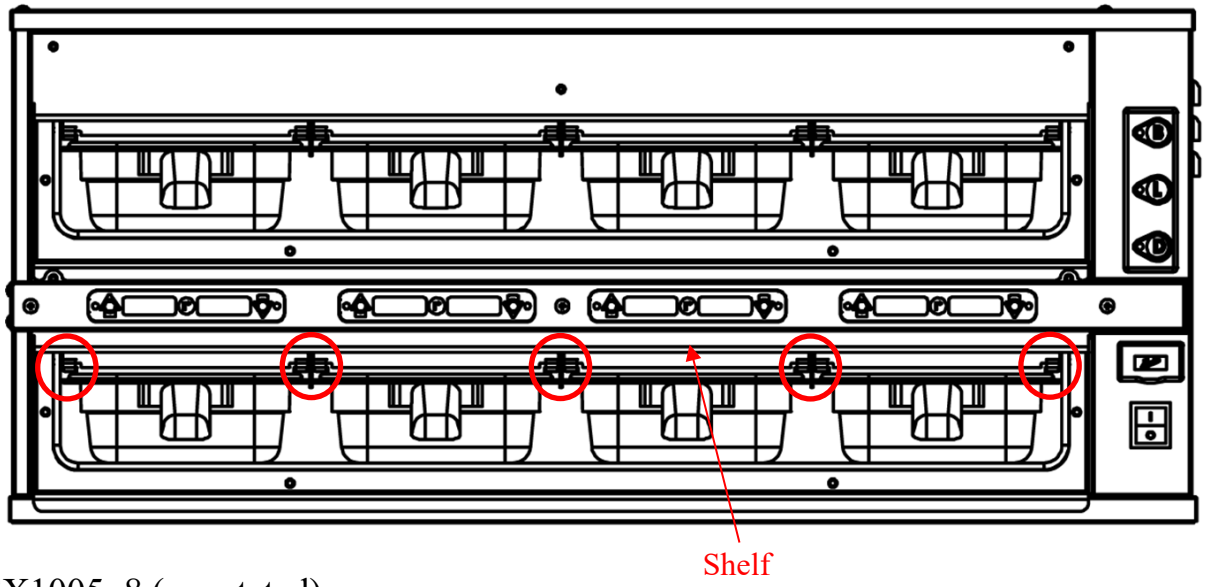


EX1005: 8 (annotated).

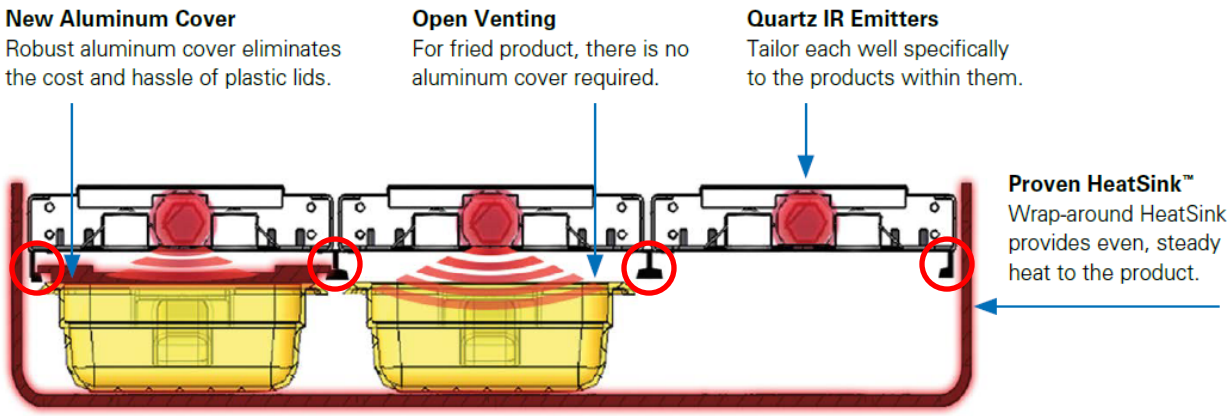
1.c.2: the shelf including at least one downwardly depending lid holding shelf

142. The POSA would recognize that the IRHS Documents disclose that "the shelf include[es] at least one downwardly depending lid holding shelf."

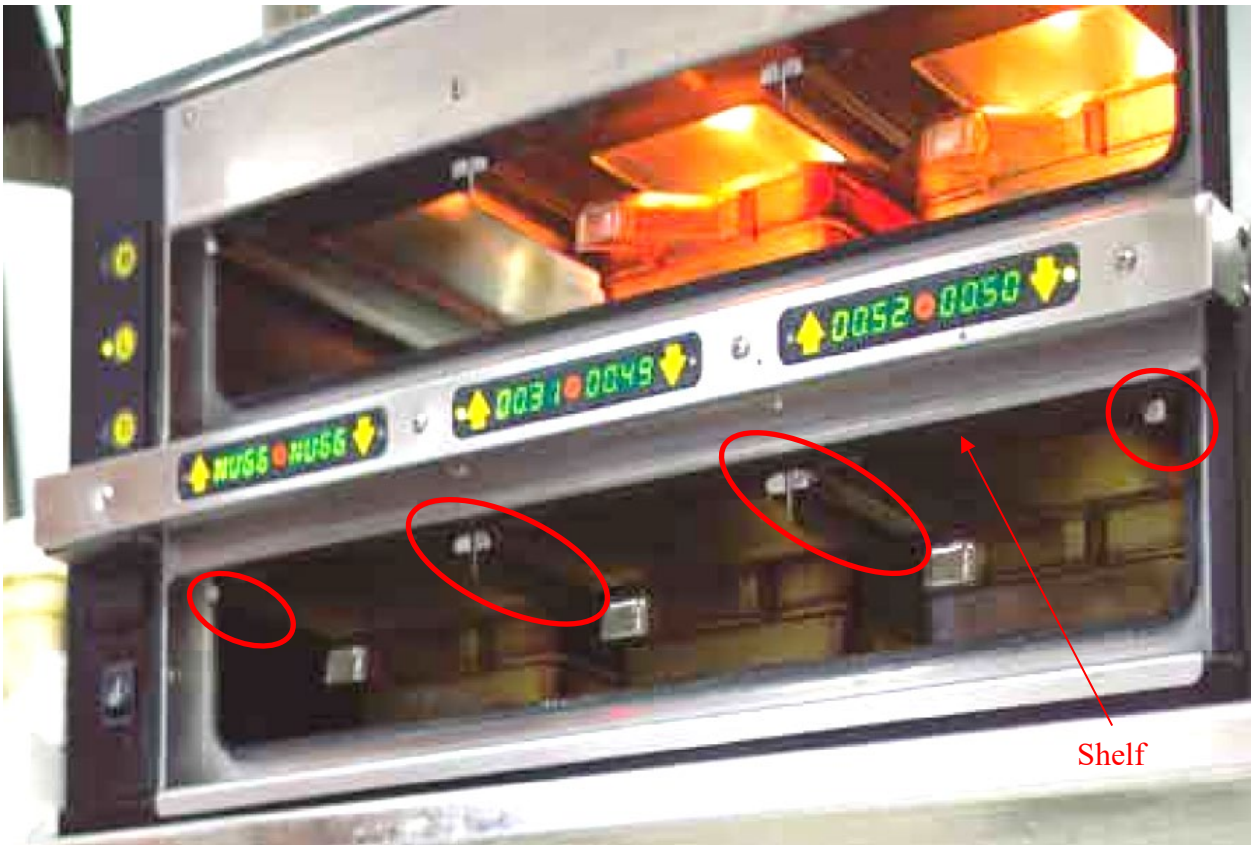
143. For example, the IRHS24 Holding Unit includes covers or lids suspended above each pan holding location. EX1005: 4 ("robust aluminum Heat Sink Cover for broiled foods"), 8, 20-21 (ref. no. 18); EX1007: 53 ("[m]etal cover eliminates the cost and hassle of plastic lids"), 56, 58 ("[c]over allows better heat transfer and greater seal assurance; critical to maintaining food quality with extended hold times"). As annotated below, the IRHS24 Holding Unit further includes lid-holding shelves for suspending the covers above the pan holding locations. This includes lid-holding shelves that downwardly depend from the shelf.



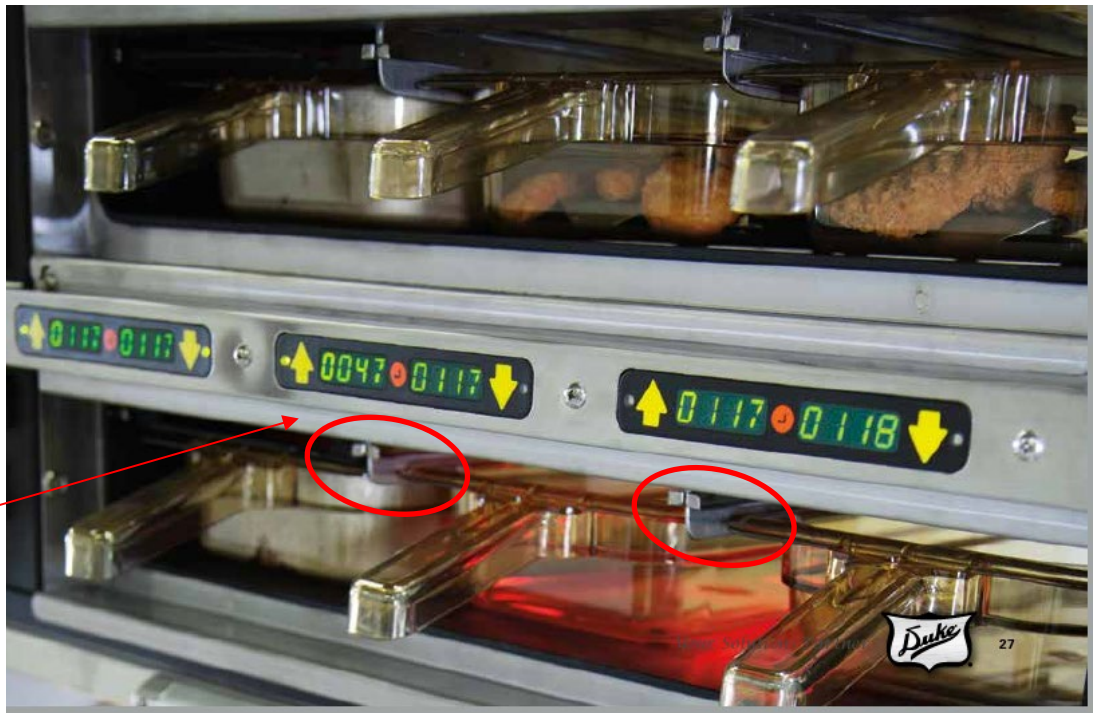
EX1005: 8 (annotated).



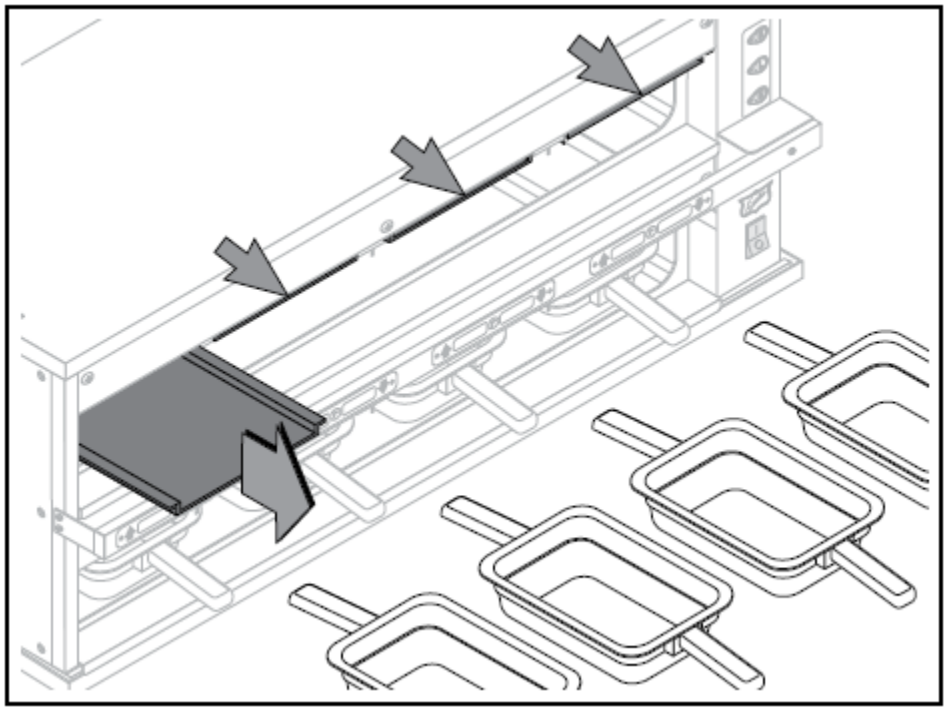
EX1007: 53 (annotated).



EX1007: 36 (annotated).



EX1007: 52 (annotated).

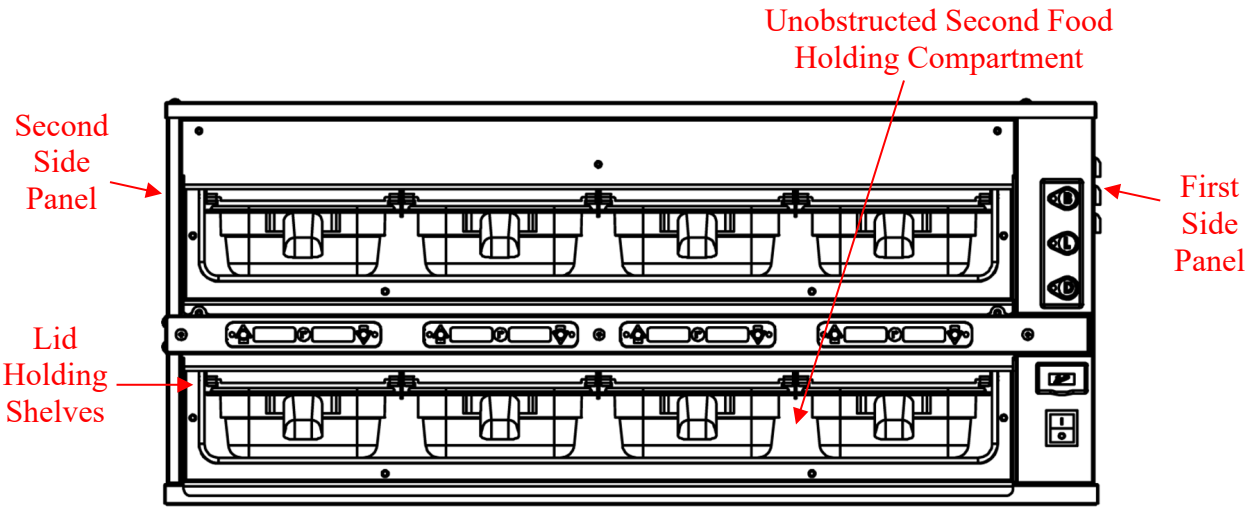


EX1008:16.

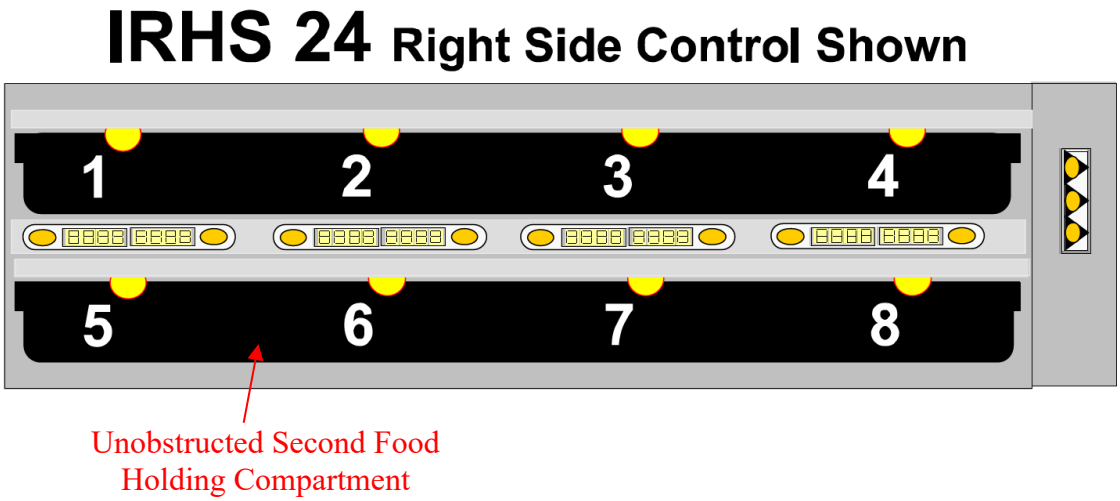
1.c.3: the second food holding compartment being substantially unobstructed between the first side panel and the second side panel and below the downwardly depending lid holding shelf

144. The POSA would recognize that the IRHS Documents disclose "the second food holding compartment being substantially unobstructed between the first side panel and the second side panel and below the downwardly depending lid holding shelf."

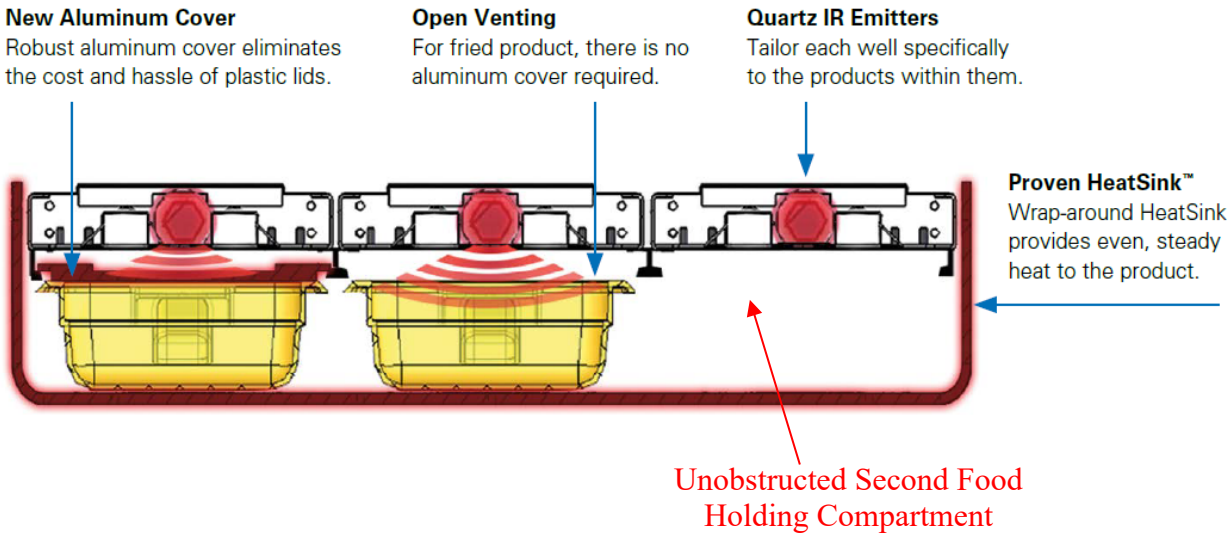
145. As annotated below, the second food holding compartment is substantially unobstructed between the first and second side panels below the lid-holding shelves. Specifically, the only objects shown within this space in any of the IRHS Documents are the food pans themselves.



EX1005: 8 (annotated).



EX1005: 25 (annotated).



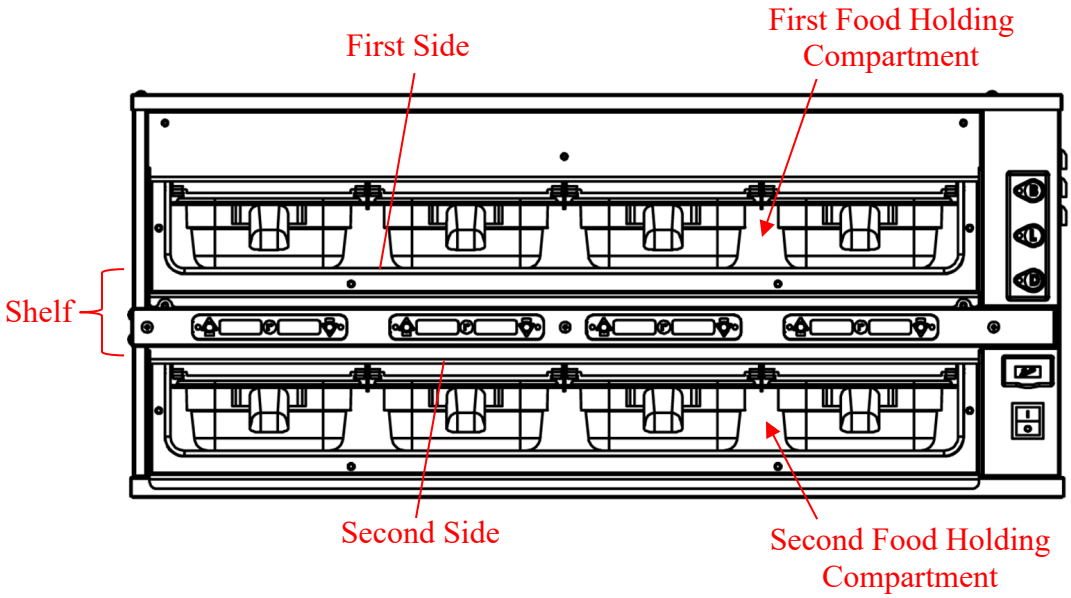
EX1007: 53 (annotated).

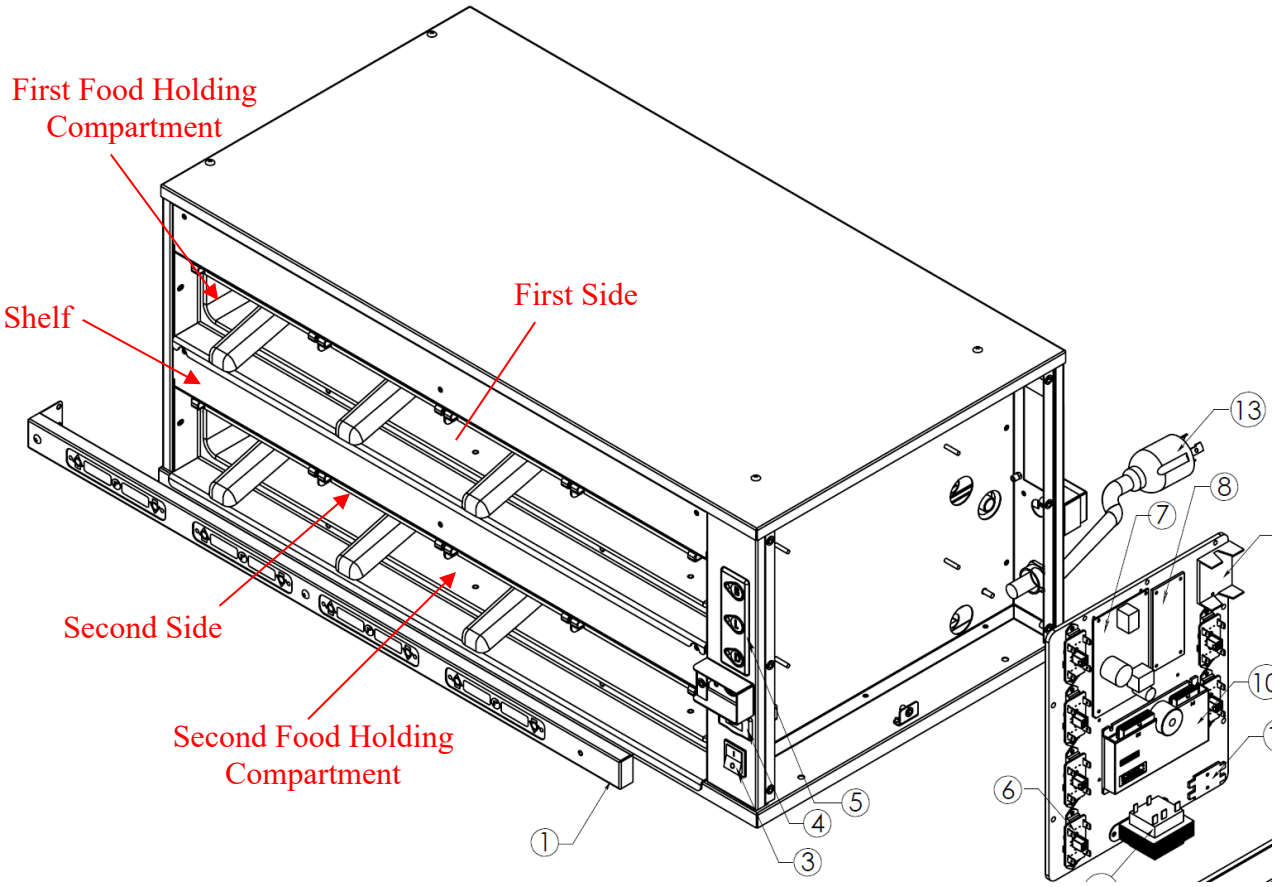
1.d.1: wherein the shelf is located between the first and second food holding compartments and comprises a first side and a second side, the first side facing into the first food holding compartment, the second side facing into the second food holding compartment

146. The POSA would recognize that the IRHS Documents disclose that "the shelf is located between the first and second food holding compartments and comprises a first side and a second side, the first side facing into the first food

holding compartment, the second side facing into the second food holding compartment."

147. As annotated below, the shelf is located between the first and second food holding compartments. Further, the shelf has a first side that faces into the first food holding compartment and a second side that faces into the second food holding compartment.





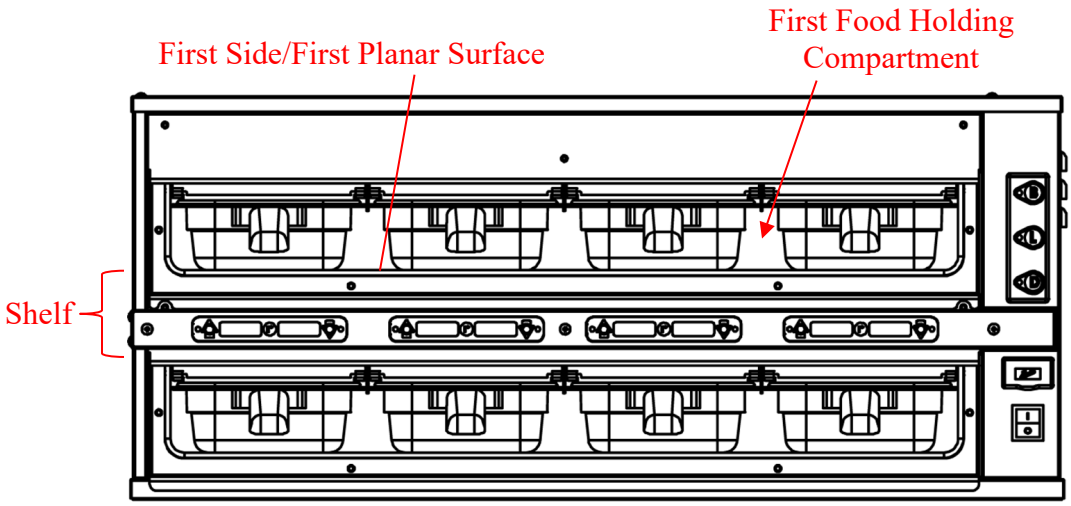
EX1005: 8, 20 (annotated).

1.d.2: the first side defining a first substantially planar surface comprising a thermally conductive material forming a top surface of the shelf and forming a bottom surface of the first food holding compartment

148. The POSA would recognize that the IRHS Documents disclose that the first side of the shelf defines "first substantially planar surface comprising a thermally conductive material forming a top surface of the shelf and forming a bottom surface of the first food holding compartment."

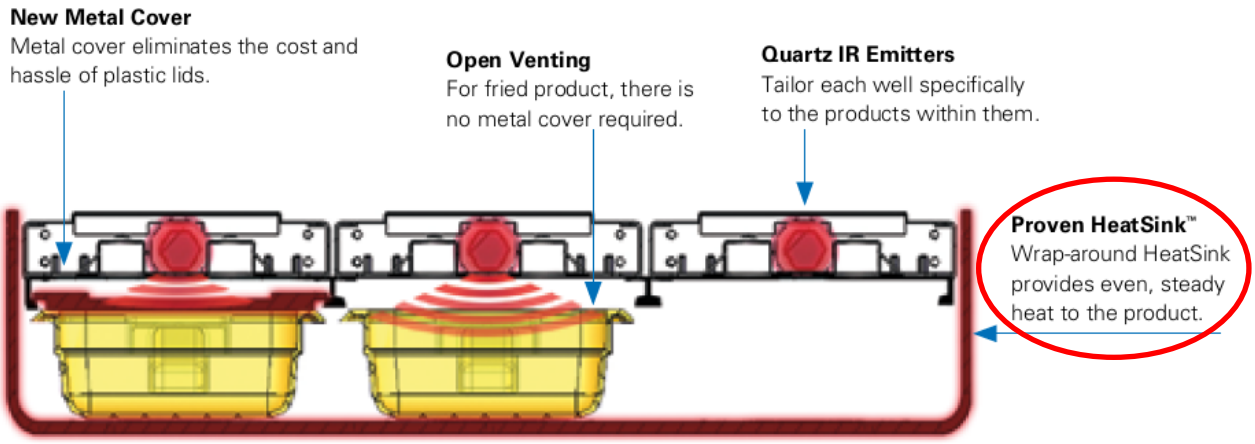
149. This claim limitation is demonstrated in the annotated figure below in which the first side of the shelf includes a substantially planar surface that forms

the top surface of the shelf and the bottom surface of the first food holding compartment.



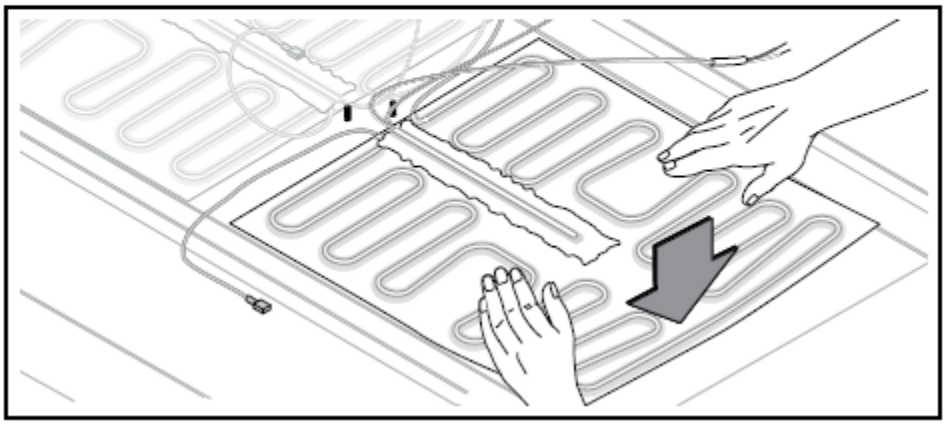
EX1005: 8 (annotated).

150. The IRHS Documents suggests the first planar surface—which is identified as being part of the Heatsink—is composed of anodized aluminum. Anodized aluminum is recognized a thermally conductive material and thus meets the claim limitation requiring the planar surface to comprise a thermally conductive material. EX1006: 1 ("[a]nodized aluminum HeatSink").



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.

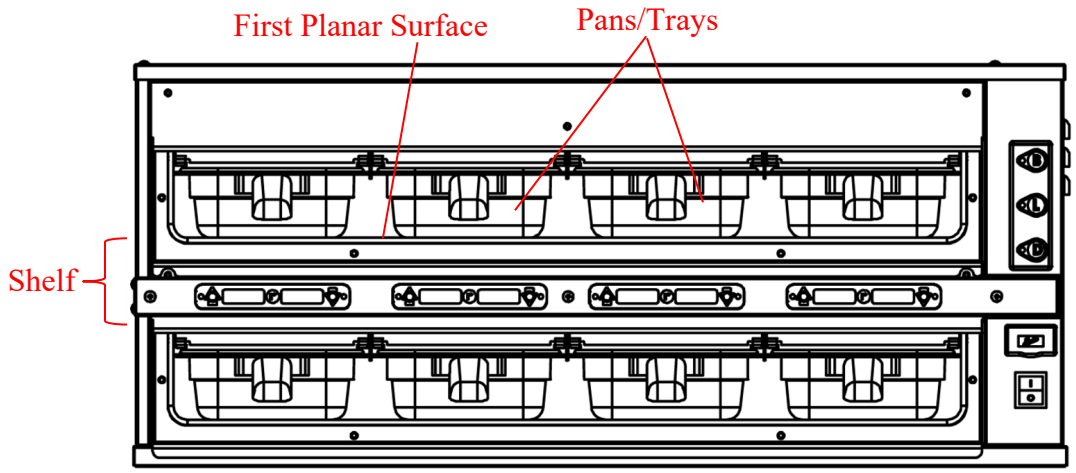


EX1008: 23.

1.d.3: the first substantially planar surface adapted to receive a tray for food items

151. The POSA would recognize that the IRHS Documents disclose the first substantially planar surface (*i.e.*, the first side of the shelf) is "adapted to receive a tray for food items."

152. Specifically, the IRHS Documents disclose that the first planar surface receives food pans, which in turn holds the food items. EX1005: 16 ("control the environment in each pan, allowing customized settings for each food product"); EX1006: 1 ("[b]ottom zoned heat element provides gentle heat to minimize temperature distribution from top to bottom of pan"); EX1007: 51 ("hold food"), 56.

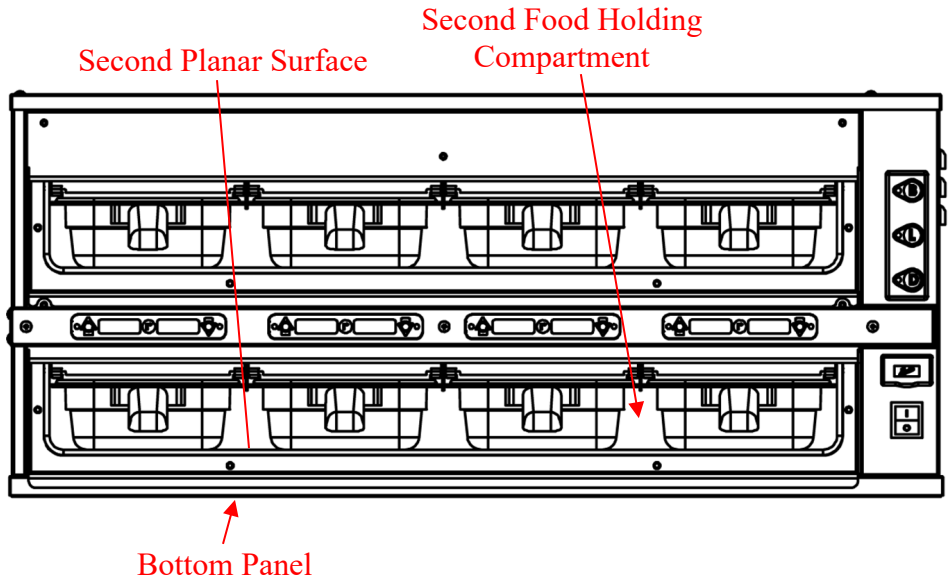


EX1005: 8 (annotated).

1.e.1: and wherein the bottom panel includes a second substantially planar surface comprising a thermally conductive material forming a bottom surface of the second food holding compartment

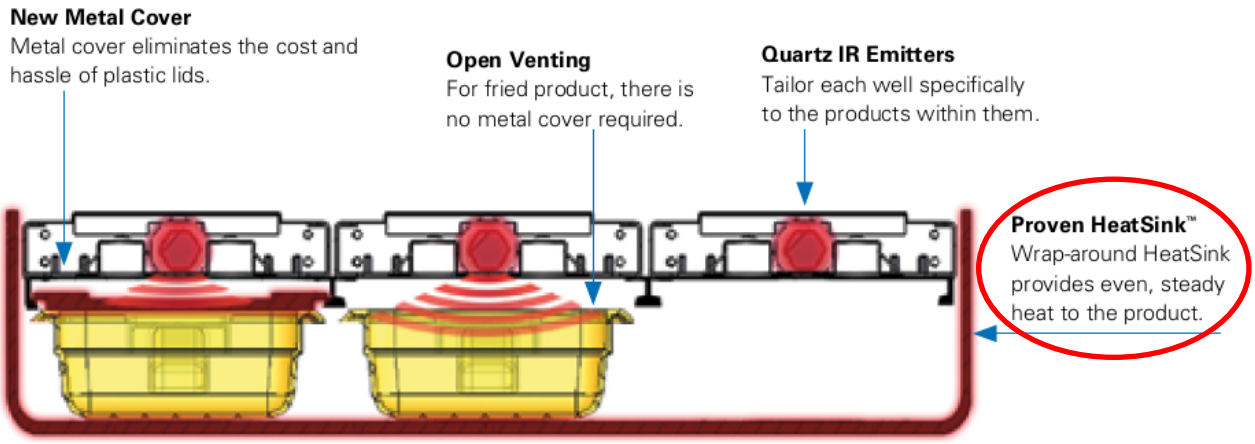
153. The POSA would recognize that the IRHS Documents disclose that "the bottom panel includes a second substantially planar surface comprising a thermally conductive material forming a bottom surface of the second food holding compartment."

154. As annotated in the figure below, the bottom panel is disclosed as having a substantially planar surface—which would be the second planar surface when accounting for the first side of the shelf as discussed above—and that this substantially planar surface forms a bottom surface of the second food holding compartment.



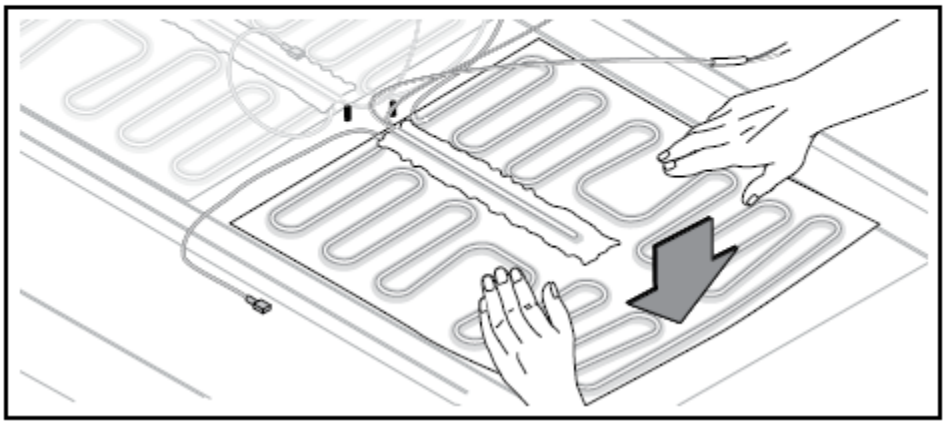
EX1005: 8 (annotated).

155. Similar to the first planar surface (*i.e.*, the first side of the shelf) as discussed in Paragraphs 148-150 (claim limitation 1.d.1) above, the POSA would understand the IRHS Documents to disclose that the second planar surface is composed of anodized aluminum, a thermally conductive material. EX1006: 1 ("[a]nodized aluminum HeatSink").



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.

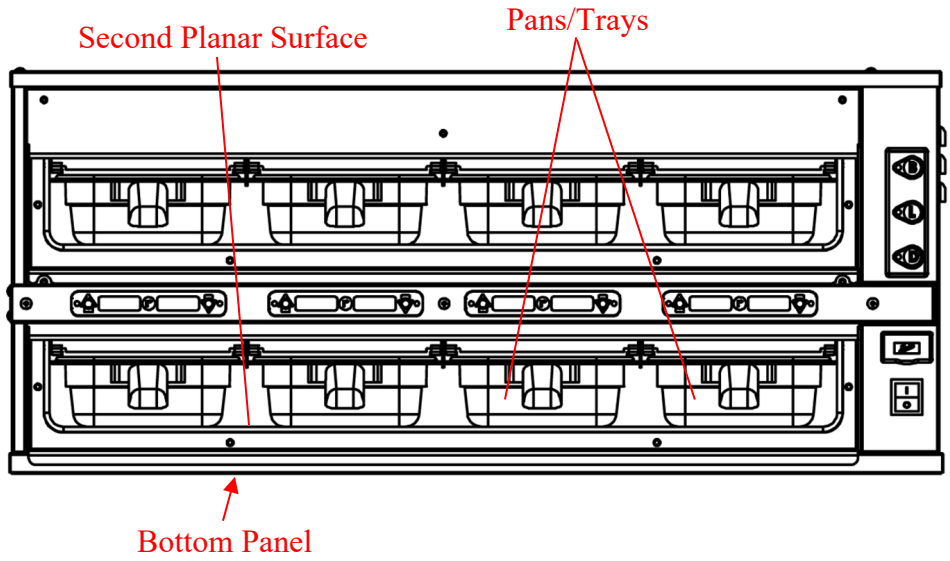


EX1008: 23.

1.e.2: the second substantially planar surface adapted to receive a tray for food items

156. The POSA would recognize that the IRHS Documents disclose that second substantially planar surface (*i.e.*, the bottom panel) is "adapted to receive a tray for food items."

157. Specifically, the IRHS Documents disclose that the second planar surface receives food pans, which in turn holds the food items. EX1005: 16 ("control the environment in each pan, allowing customized settings for each food product"); EX1006: 1 ("[b]ottom zoned heat element provides gentle heat to minimize temperature distribution from top to bottom of pan"); EX1007: 51 ("hold food"), 56.

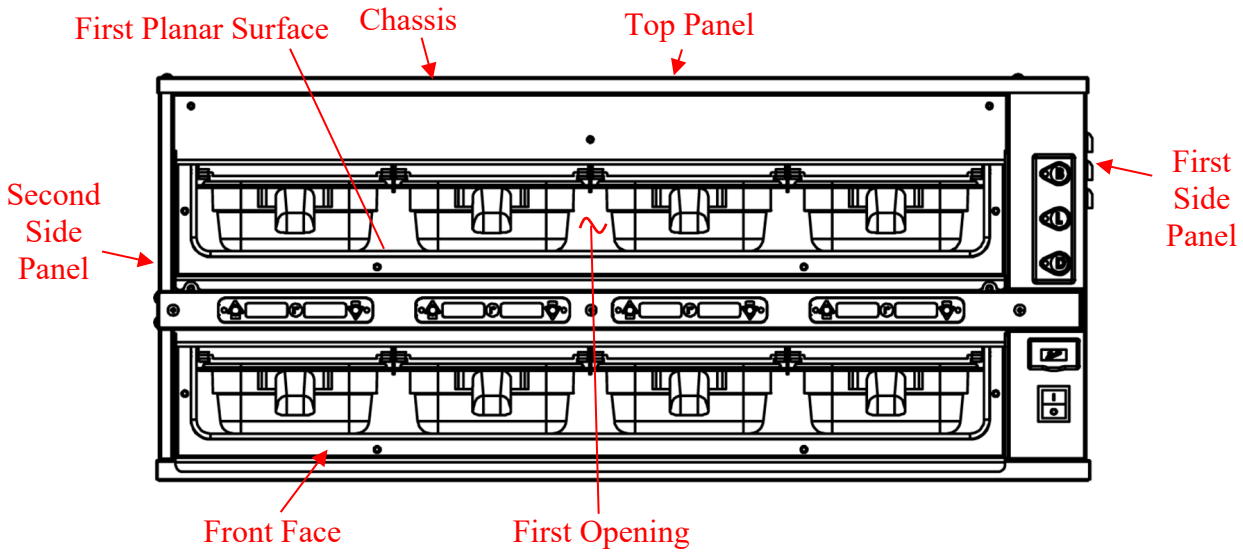


EX1005: 8 (annotated).

1.f.1: a first opening in the front face of the chassis defined by the first substantially planar surface, the first side panel, the second side panel and the top panel

158. The POSA would recognize that the IRHS Documents disclose the multi-zone food holding bins as having "a first opening in the front face of the chassis defined by the first substantially planar surface, the first side panel, the second side panel and the top panel."

159. As annotated in the figure below, the front face of the chassis has a first opening defined by the first planar surface (*i.e.*, the first side of the shelf), the first and second side panels, and the top panel.

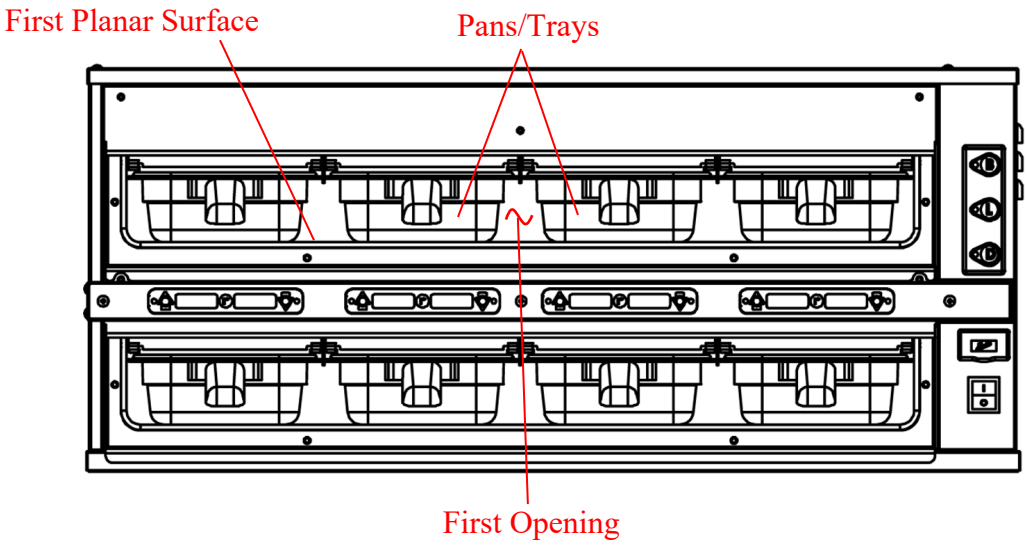


EX1005: 8 (annotated).

1.f.2: the first opening configured to allow the tray for food items to be passed through the first opening and onto the first substantially planar surface

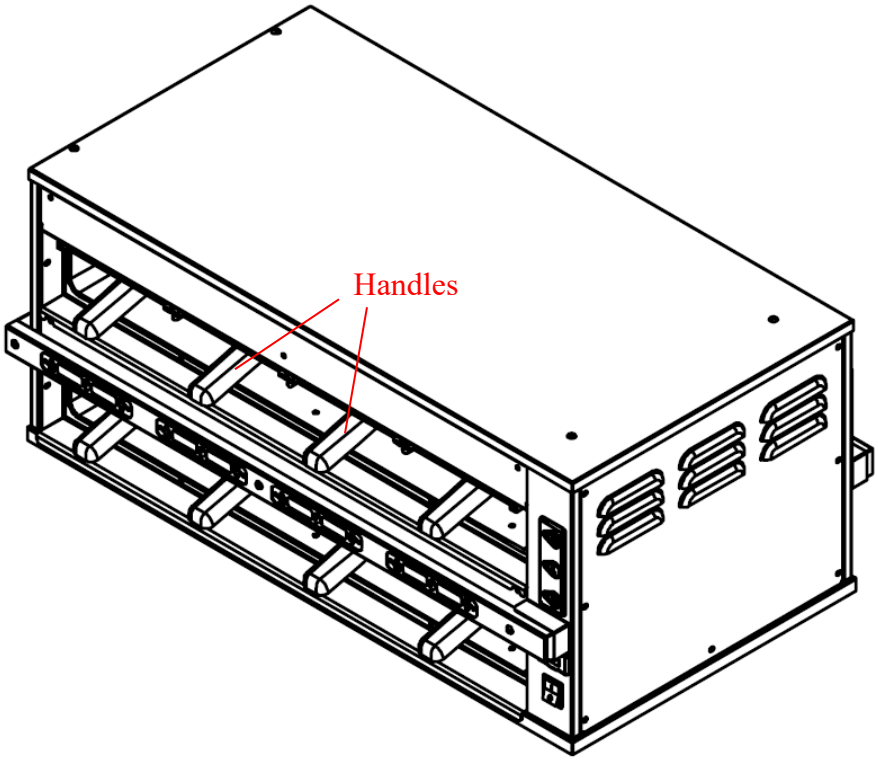
160. The POSA would recognize that the IRHS Documents disclose that the first opening of the multi-zone food holding bins is "the first opening configured to allow the tray for food items to be passed through the first opening and onto the first substantially planar surface."

161. Specifically, the IRHS Documents depict the first opening as being larger than the food pans which allows the food pans to pass therethrough onto the first planar surface.



EX1005: 8 (annotated).

162. Additionally, the handles of the food pans are depicted as projecting out of the first opening in the front face of the chassis. EX1007: 52 (upper image). The POSA would recognize that this was intended to allow the operator to insert and remove pans through the first opening.



EX1005: 8 (annotated).



EX1007: 58 (annotated).

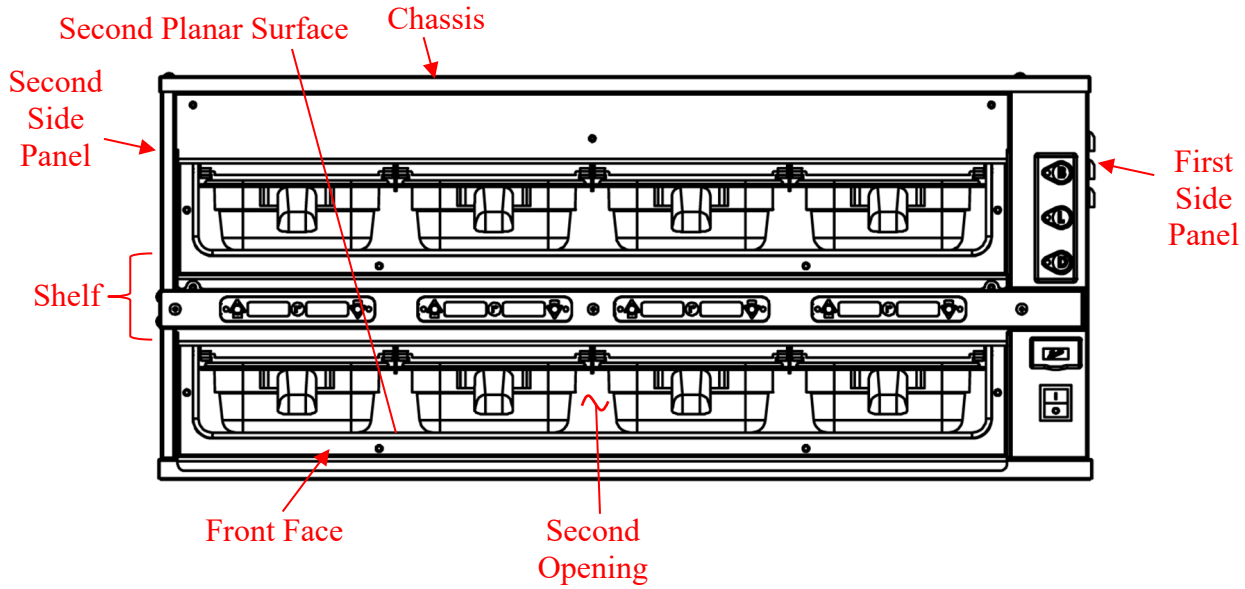


EX1007: 52.

1.g.1: a second opening in the front face of the chassis defined by the second substantially planar surface, the first side panel, the second side panel and the shelf

163. The POSA would recognize that the IRHS Documents disclose the multi-zone food holding bins as having "a second opening in the front face of the chassis defined by the second substantially planar surface, the first side panel, the second side panel and the shelf."

164. As annotated in the figure below, the front face of the chassis has an opening—making it the second opening after the first opening discussed above—which is defined by the second planar surface, the first and second side panels, and the shelf.

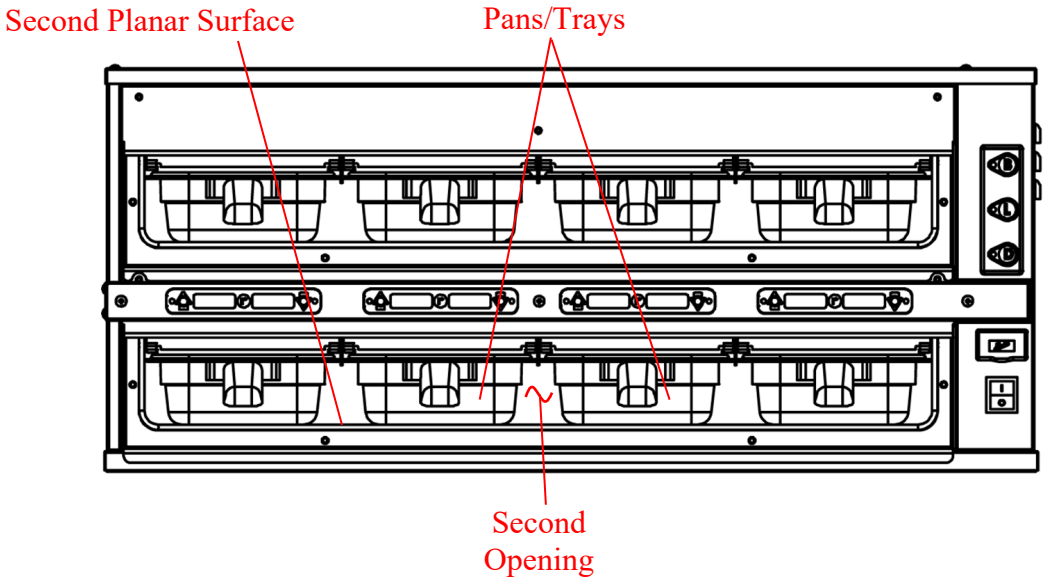


EX1005: 8 (annotated).

1.g.2: the second opening configured to allow the tray for food items to be passed through the second opening and onto the second substantially planar surface

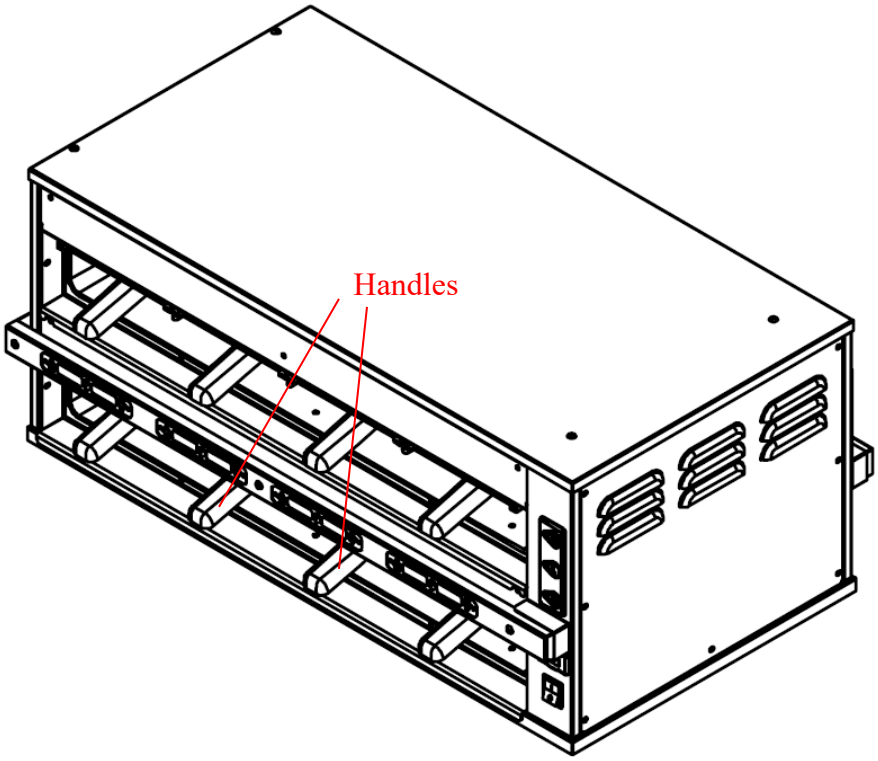
165. The POSA would recognize that the IRHS Documents disclose that the second opening of the multi-zone food holding bins is "configured to allow the tray for food items to be passed through the second opening and onto the second substantially planar surface."

166. Specifically, the IRHS Documents depict the second opening as being larger than the food pans, thus allowing the food pans to pass therethrough onto the second planar surface.



EX1005: 8 (annotated).

167. As shown below, handles of the food pans are depicted as projecting out of the second opening in the front face of the chassis. EX1007: 52 (upper image). The POSA would recognize that this was intended to allow the operator to insert and remove pans through the first opening.



EX1005: 8 (annotated).



EX1007: 58 (annotated).

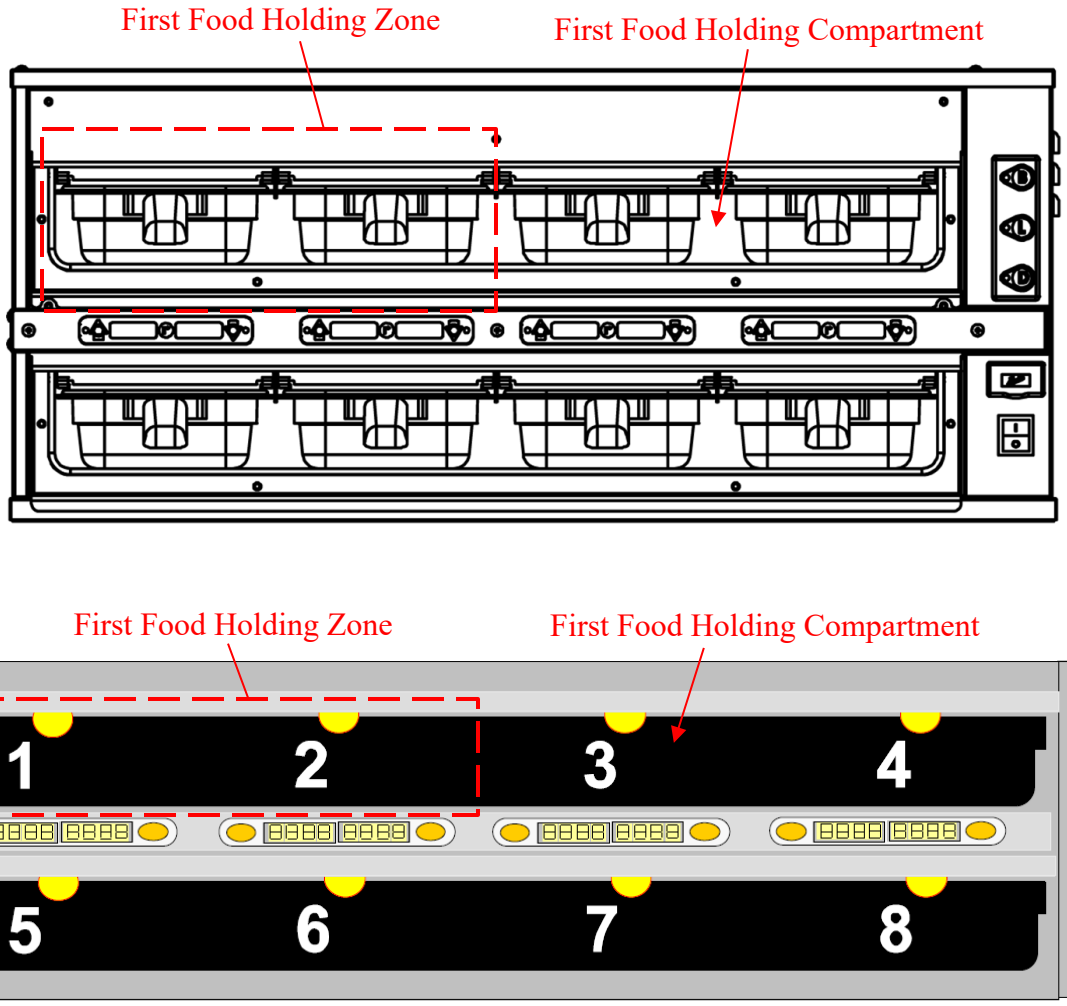


EX1007: 52.

1.h.1: a first food holding zone formed in the first food holding compartment

168. The POSA would recognize that the IRHS Documents disclose the multi-zone food holding bins as having "a first food holding zone formed in the first food holding compartment."

169. For example, the annotations below demonstrate the IRHS24 Holding Unit as having a first food holding zone in the first food holding compartment.



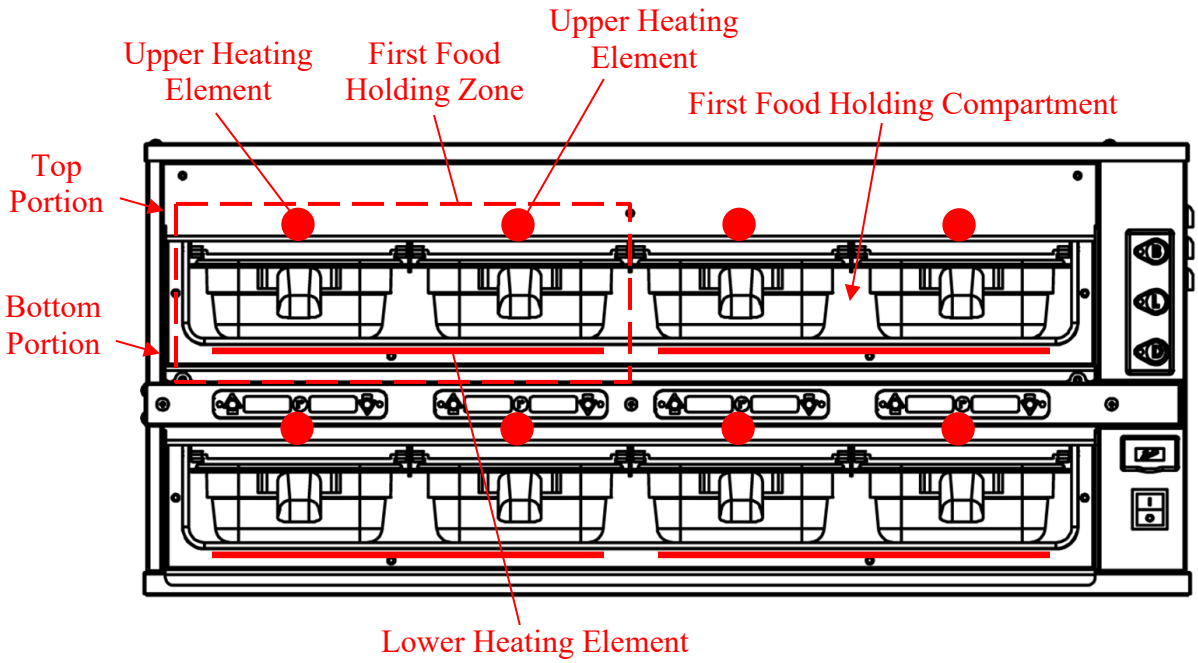
EX1005: 8, 25 (annotated).

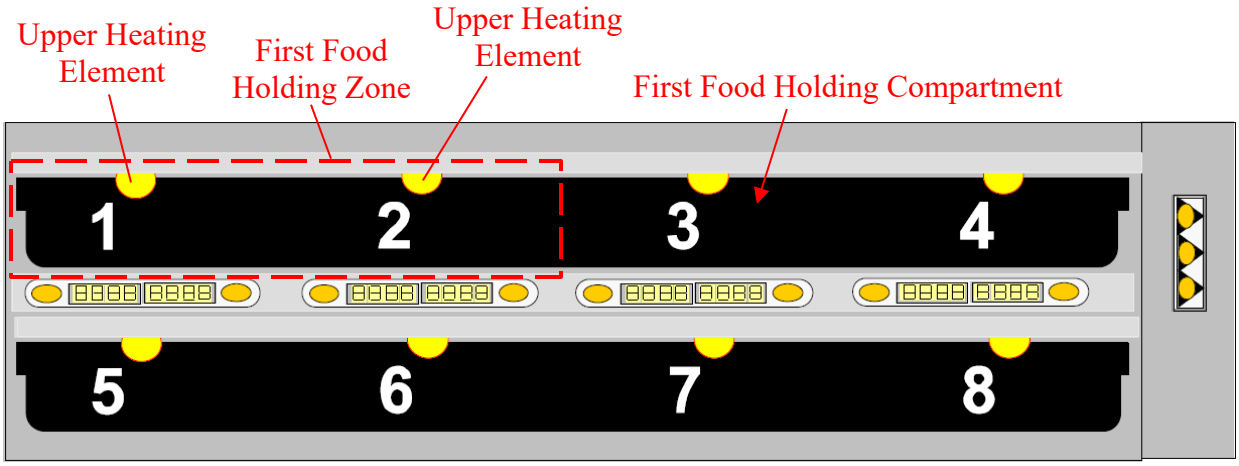
1.h.2: the first food holding zone having at least one independently controllable heating element disposed at a top portion of the first food holding compartment, and at least one independently controllable heating element disposed at a bottom portion of the first food holding compartment

170. POSA would recognize that the IRHS Documents disclose the first food holding zone as having at "at least one independently controllable heating element disposed at a top portion of the first food holding compartment, and at

least one independently controllable heating element disposed at a bottom portion of the first food holding compartment."

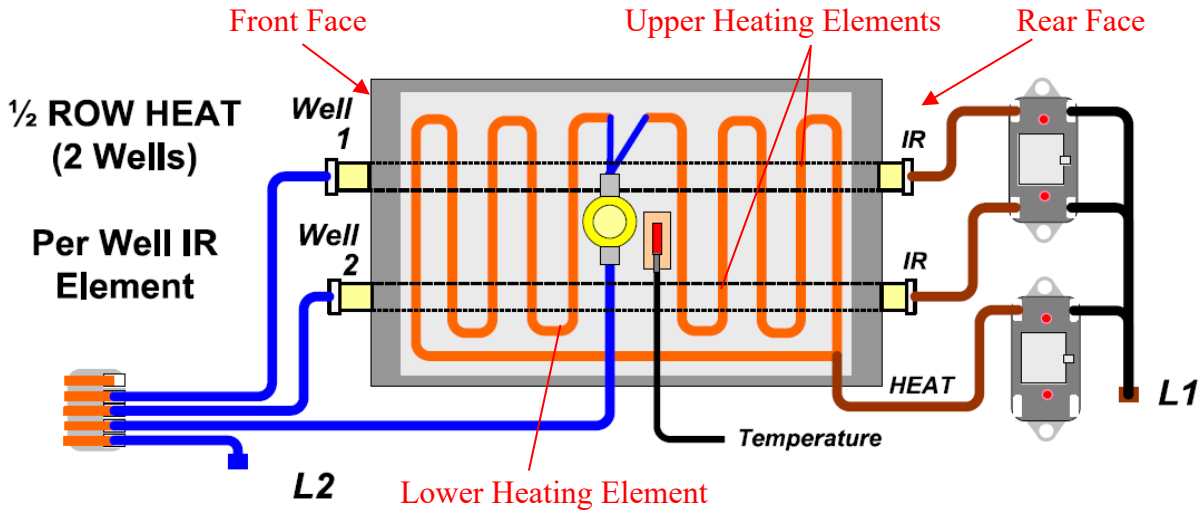
171. Specifically, the first food holding zone of the IRHS24 Holding Unit is disclosed as having two independently controllable upper heating elements (IR bulbs) and one independently controllable lower heating element (electrical heating element) at respective top and bottom portions of the first food holding compartment as illustrated.





EX1005: 8, 25 (annotated).

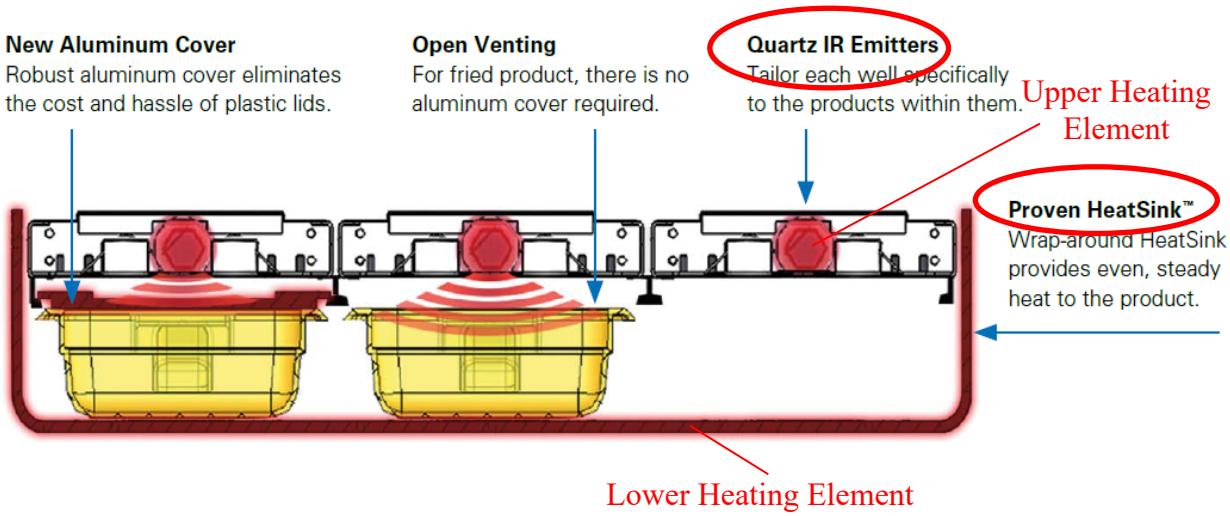
172. More specifically, the POSA would recognize that as disclosed in the IRHS Documents, the IRHS24 Holding Unit has four heating zones. Each heating zone corresponds to one of the food holding zones. The schematic image below shows the upper and lower heating elements for one heating zone in the IRHS24 Holding Unit. EX1005: 21 (elements 16 and 17), 25; EX1007: 53.



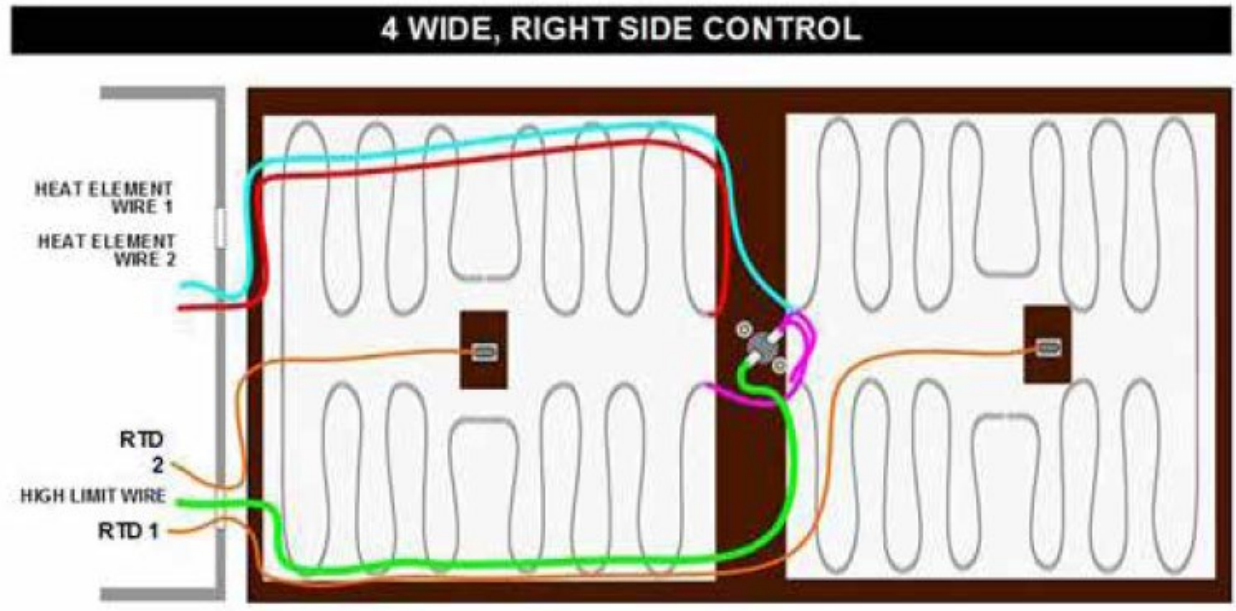
EX1005: 25 (annotated).

173. The IRHS24 Holding Unit is depicted as having two IR upper heating elements for each heating/holding zone (one for each pan location (labeled "well" in the figure replicated above)), and a single lower heating element for the two pan locations in the heating/holding zone.

174. The two IR upper heating elements are disposed at a top portion of the first food holding compartment, and the lower heating element is located at a bottom portion of the first food holding compartment. EX1006: 1 ("Upper IR emitters" and "Bottom zoned heat element"); EX1007: 53.



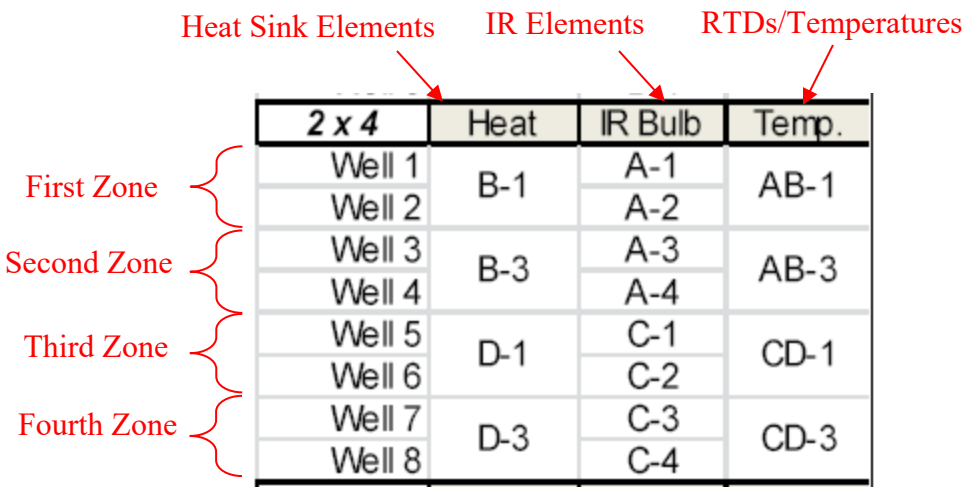
EX1007: 53 (annotated).



EX1008: 58.

175. The chart for interfacing Duke's Visor control system[1] with the IRHS24 Holding Unit from the IRHS Service Manual (included and annotated below) further informs the POSA on the layout of the IRHS24 Holding Unit's upper and lower heating elements. This chart would confirm to the POSA 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 or each heating/holding zone (one for each pan/well location).

[1] Duke's Visor control system is described in the IRHS Service Manual as being an optional control system for the IRHS, but the POSA would understand that the load connections would be the same for both the Visor control system and the standard control system.



2 x 4	Heat	IR Bulb	Temp.
Well 1	B-1	A-1	AB-1
Well 2		A-2	
Well 3	B-3	A-3	AB-3
Well 4		A-4	
Well 5	D-1	C-1	CD-1
Well 6		C-2	
Well 7	D-3	C-3	CD-3
Well 8		C-4	

EX1008: 64 (annotated).

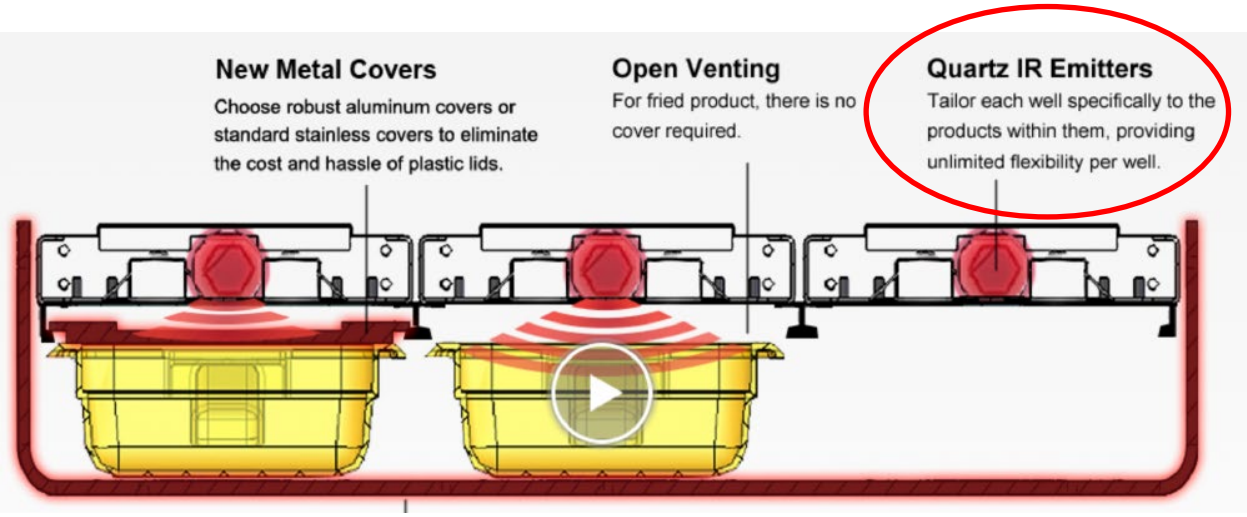
176. For example, the first zone has a lower heating element indicated by "B-1" for pan locations "Well 1" and "Well 2", the second zone has another lower heating element indicated by "B-3" for pan locations "Well 3" and "Well 4", and so one. Likewise, the first zone has an upper heating element (IR 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.

177. IRHS Documents further disclose that the food holding zone's upper heating elements and lower heating element are independently controllable from each other and from the heating elements of the other food holding zones. 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”).

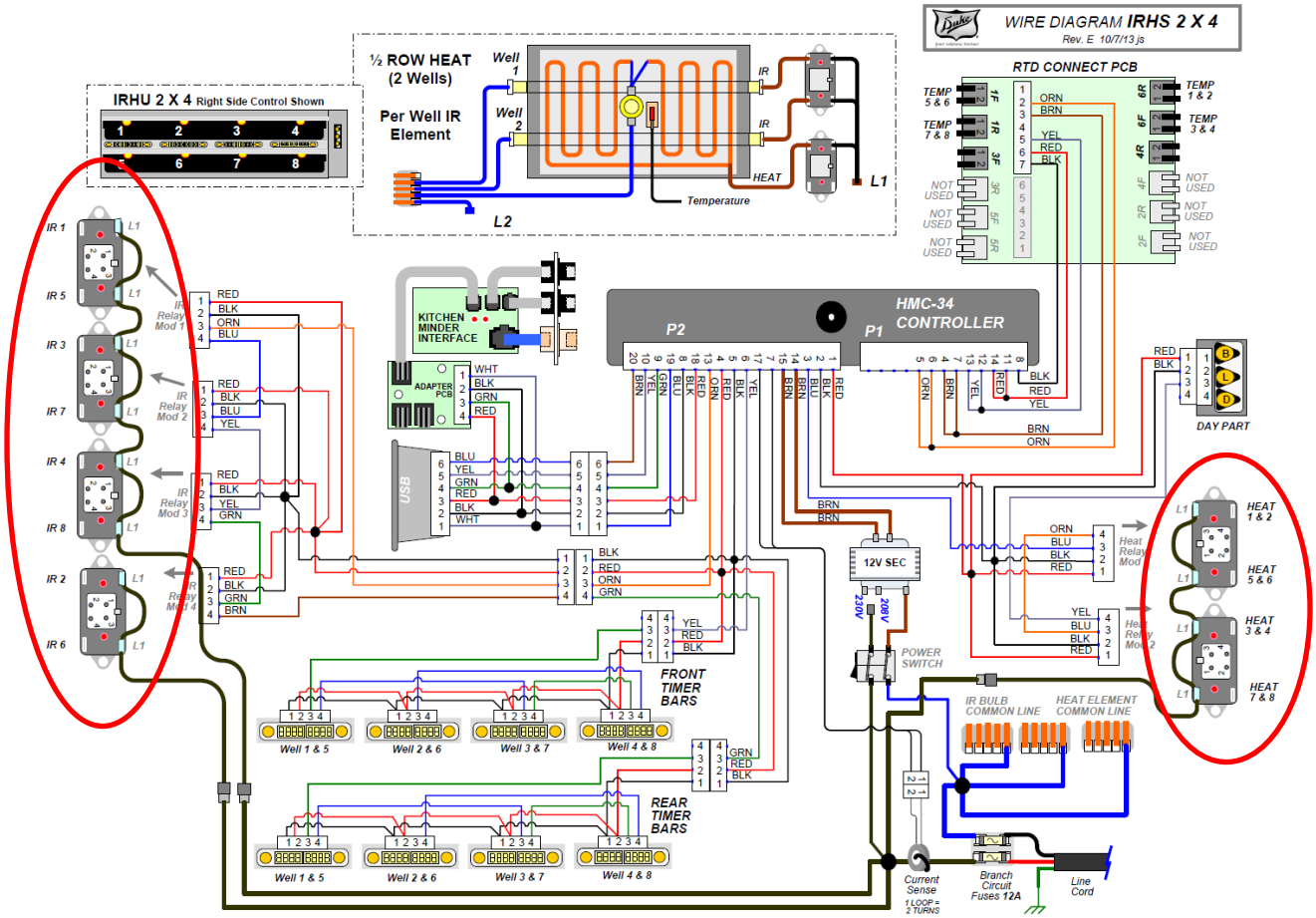
178. The IRHS Documents explain the holding unit has “[z]oned bottom heat” and “individually controlled IR emitters” for top heat. EX1006: 1; EX1007: 53 (“dual holding technologies, InfraRed and HeatSink”); EX1007: 10 (“Quartz IR Emitters” that “[t]ailor each well specifically to the products within 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”).

179. 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”).



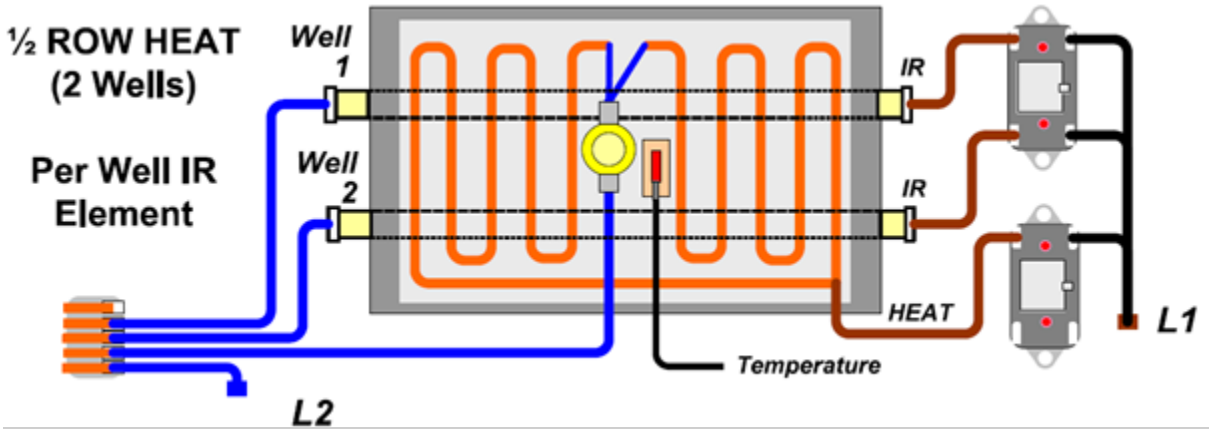
EX1007: 10 (annotated).

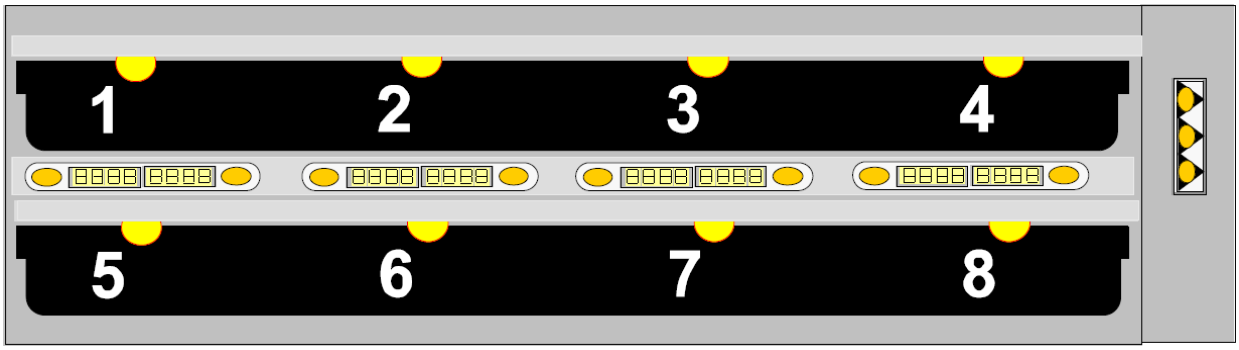
180. Moreover, the wiring diagram below shows independent control for each IR bulb for the upper heating and for each zone of heating elements for the lower heating in the IRHS24 Holding Unit.



EX1005: 25 (annotated).

181. The diagram for the IRHS24 Holding Unit above includes a schematic (enlarged below) labeled "1/2 Row Heat (2 Wells)." EX1005: 25.





EX1005: 25.

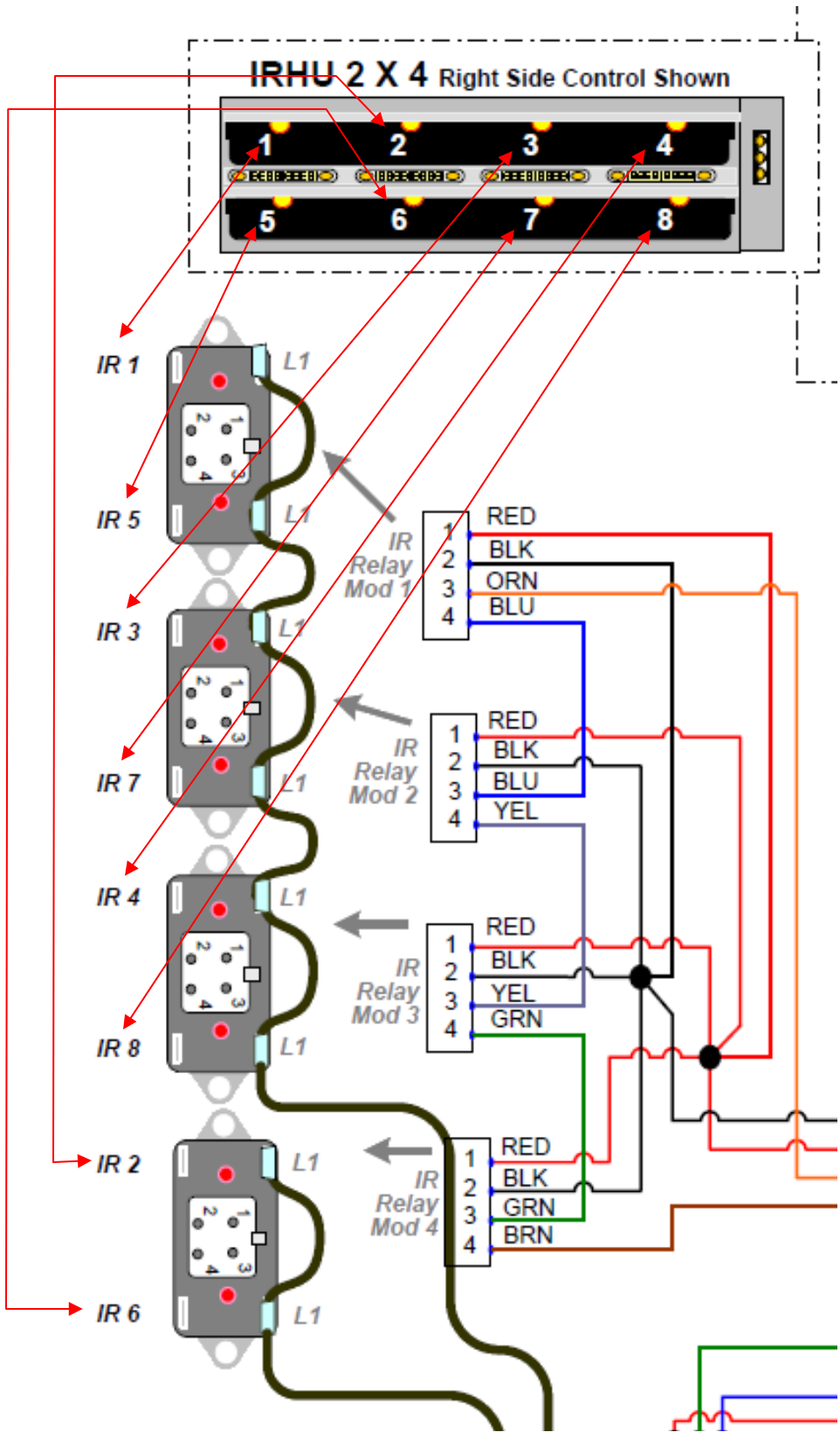
182. It would be understood by the POSA that schematic for the 2x4 IRHS Holding Unit being labeled "***1/2 Row*** Heat (2 Wells)" is providing the schematic for a single zone of heating (wells 1 and 2) and would be repeated for each of the three other zones.

183. For example, the POSA would understand that each row of the 2x4 IRHS Holding Unit has zoned bottom heating, *e.g.*, a first electrical resistance heating element for pan holding bays (wells) 1 and 2 and a second electrical resistance heating element for pan holding bays (wells) 3 and 4. Because the 2x4 IRHS Holding Unit has two rows total (*e.g.*, an upper row containing pan holding bays (wells) 1-4 and a lower row container pan holding bays (wells) 5-6), the POSA understands 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 bays (wells) 1 and 2, a second lower heating element for pan holding bays (wells) 3 and 4, a third lower heating element for pan holding bays (wells) 5 and 6, and a fourth lower heating element for pan holding bays (wells) 7 and 8.

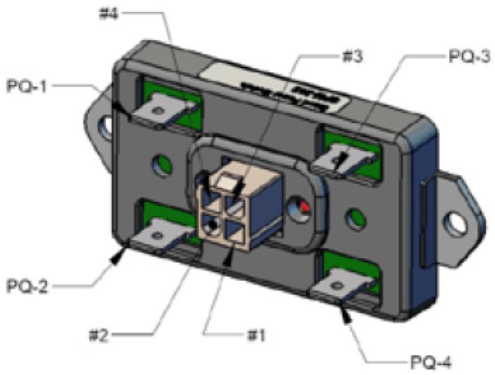
184. The POSA understands from the wiring diagram that the controller is able to independently operate each heating element. The controller in the wiring diagram is communicatively connected to relays (*e.g.*, dual output relays). As known to a POSA, a relay is an electrically operated switch that is 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).

185. As indicated by the wiring diagram, a first IR relay labeled "IR Relay Mod 1" selectively connects the upper IR heating element (labeled "IR 1") for the first pan holding bay (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 bay (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 bay (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 bay (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 bay (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 bay (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 bay (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 bay (well) to the higher-powered current carrying line L1.



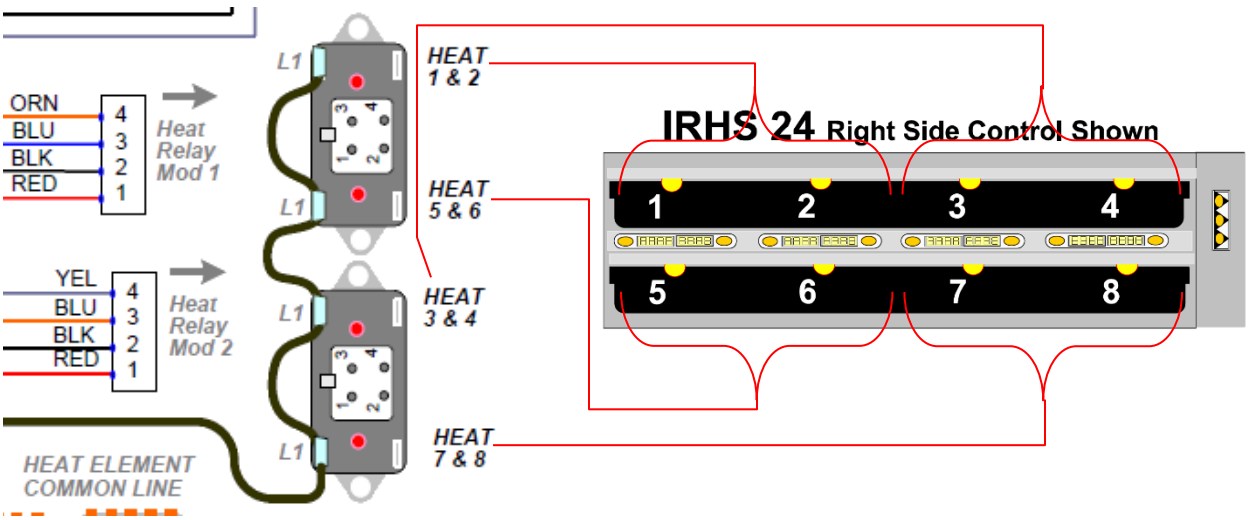
EX1005: 25 (enlarged, annotated).

Relay, Smart Power Module	• Max. Load Current: 20 Arms. Heat sinking required. • Operating Voltage: 24-250 Vrms • Input : 5V TTL  Connector PIN Data PQ-1 LOAD1-1 PQ-2 LOAD1-2 PQ-3 LOAD2-1 PQ-4 LOAD2-2 #1 +5V DC #2 GND #3 1-wire network IN #4 1-wire network OUT

EX1008: 45.

186. 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 bays (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 bays (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 bays (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 bays (wells) to the higher-powered current carrying line L1.



EX1005: 25 (enlarged, annotated).

187. The POSA understands the upper IR heating elements and the zoned lower heating elements operate independently of one another because the upper IR heating elements and the zoned lower heating elements are operated by different relays (*e.g.*, IR Relay Mod 1-4 and Heat Relay Mod 1-2). 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").

188. Each of the relays discussed above would be recognized as a dual output relay, meaning that each relay has two outputs for connecting to two different heating elements. Each relay is connected to one heating element for the upper compartment and one heating element for the lower compartment. For example, one output of the first IR relay ("IR Relay Mod 1") is connected to the upper IR heating element ("IR 1") for the first pan holding bay (well) in the upper compartment, and the other output is connected to the upper IR heating element ("IR 5") for the fifth pan holding bay (well) in the lower compartment. Similarly, one output of the first heat relay ("Heat Relay Mod 1") is connected to the first zoned lower heating element ("HEAT 1 & 2") for the first and second pan holding bays (wells) in the upper compartment, and the other output is connected to the third zoned lower heating element (labeled "HEAT 5 & 6") for the fifth and sixth pan holding bays (wells) in the lower compartment.

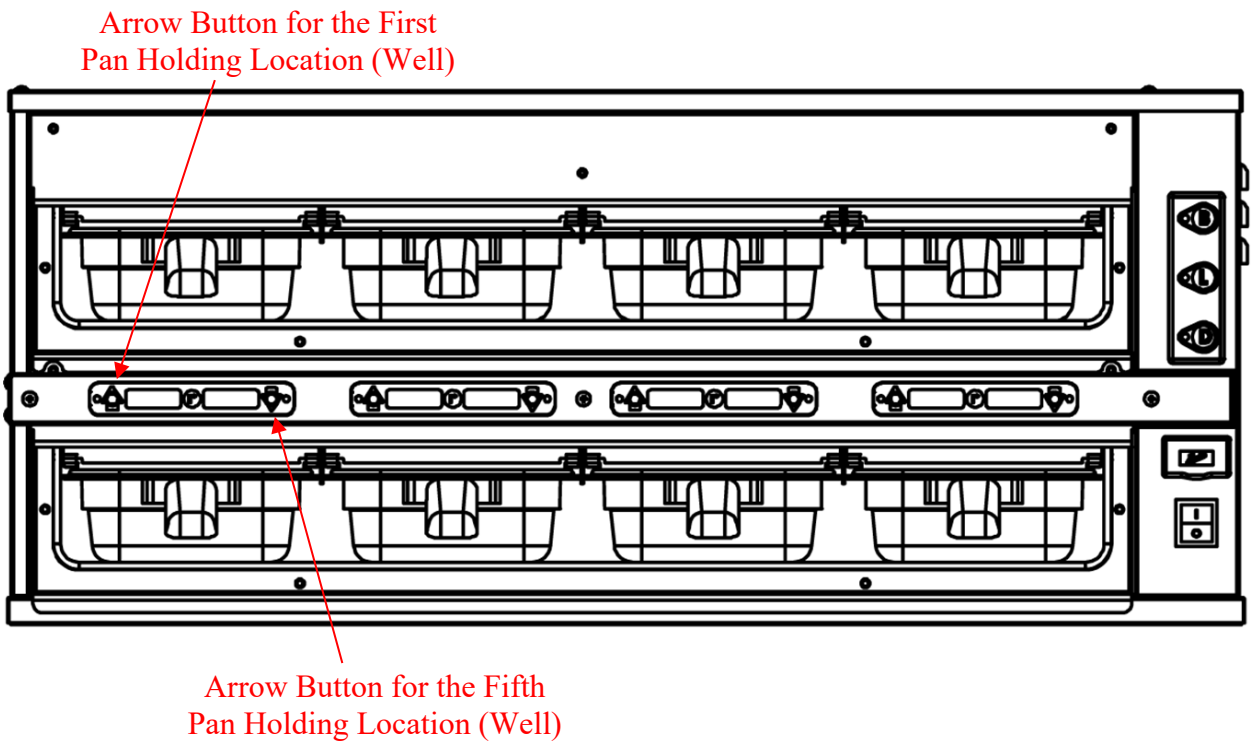
189. The POSA understands that the two outputs of each relay are independent from one another (*e.g.*, each dual output relay includes two independent electrical switches, one for each output). This means each relay can connect one of its heating elements to the higher-powered current carrying line L1 independent of whether or not its other heating element is connected to the higher-

powered current carrying line L1. 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.

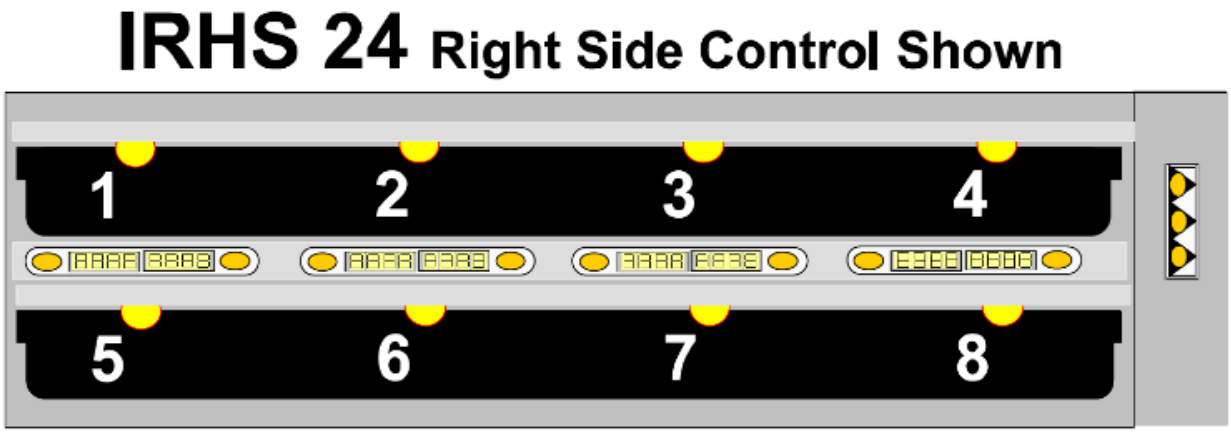
190. The other IRHS Documents further confirm the two outputs of each relay are independent from one another. The IRHS Specifications state the IRHS Holding Unit has "individually controlled IR emitters." EX1006: 1. As each IR relay is connected to two upper IR heating elements, the only way for these two heating elements to be "individually controlled" from one another as specified is if the two outputs of each relay are independent from one another. The IRHS Specifications also states that "[e]ach compartment individually controlled." EX1006: 1. As mentioned in Paragraphs 185-188 above, each relay is connected to a heating element of the upper compartment and a heating element of the lower compartment. For these heating elements of the upper and lower compartments that are connected to the same relay to be "individually controlled," the two outputs of the relay must be controlled independent of one another. The Duke Website makes similar statements that inform the POSA the two outputs of each relay operate independently, such as "[t]otal well independence" and "IR is pulsed only when needed." EX1007: 53.

191. Beyond the wiring schematics, the IRHS Manual emphasizes that the independent control of the heating elements by stating that the IRHS Holding Unit "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." EX1005: 16.

192. Further, the IRHS Manual explains the countdown timer and IR pulse rate for each pan holding bay (well) are started by pressing the up or down arrow button corresponding to the pan holding bay. EX1005: 16 ("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"). As shown in the wiring diagram and explained in Paragraph 185 above, the upper IR heating elements for the first and fifth pan holding bays (wells) are connected to the same relay ("IR Relay Mod 1"). The two outputs of this relay ("IR Relay Mod 1") are necessarily independent of one another, so that pressing the up arrow button activates the IR pulse rate for the upper IR heating element for the first pan holding bay (well) and pressing the down arrow button activates the IR pulse rate for the upper IR heating element for the fifth pan holding bay (well). Otherwise, if the two outputs of the relay were not independent of one another, the pressing of one of these arrow buttons would activate the IR pulse rate for the upper IR heating elements for both the first and fifth pan holding bays (wells).



EX1005: 8 (annotated).



EX1005: 25.

193. Thus, the POSA understands that each and every heating element (*i.e.*, the eight upper IR heating elements and the four zoned lower heating elements) of the IRHS24 Holding Unit is independently controllable relative to one another.

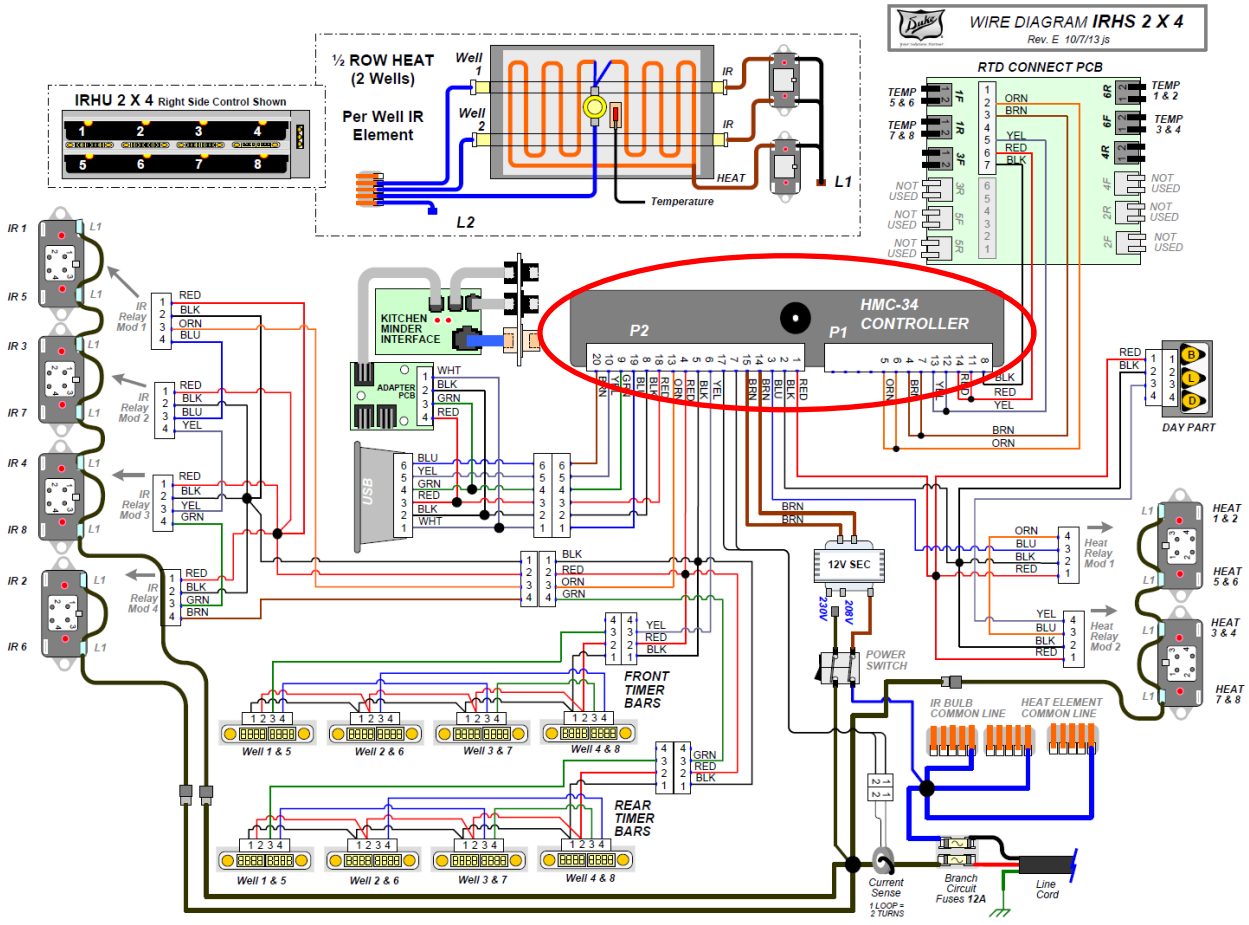
1.h.3: the first food holding zone having a controllable first food holding temperature

194. POSA would recognize that the IRHS Documents disclose the first food holding zone as having at "having a controllable first food holding temperature."

195. Specifically, the IRHS Documents disclose the first food holding zone (heating zone) of the IRHS24 Holding Unit as having a controllable first food holding temperature. EX1006: 1 ("[c]ustom heat settings for food product"); EX1005: 4 ("[t]his new technology allows you to precisely control the environment in each pan, allowing customized settings for each food product"), 16 ("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").

196. For each food holding zone (*e.g.*, first holding zone), a vertical temperature profile (including temperatures from top to bottom of each food holding zone) is disclosed as being controllable by the IRHS24 Holding Unit's controller (disclosed as being an HMC-34 Controller) based on independent control of the upper and lower heating elements. The controller of the IRHS24 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).

197. For example, the IRHS24 has a controllable food holding temperature at a bottom of the food holding zone based on a heat sink temperature setting for the type of food and with the temperature being monitored and maintained via feedback from a heat sink temperature sensor. 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").



EX1005: 17.

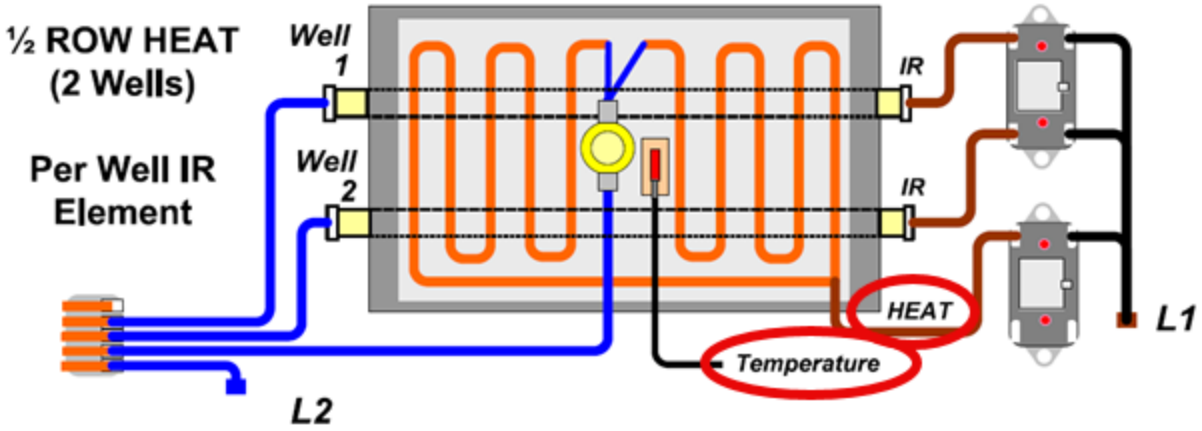
SENS – SENSOR FAULT

- 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

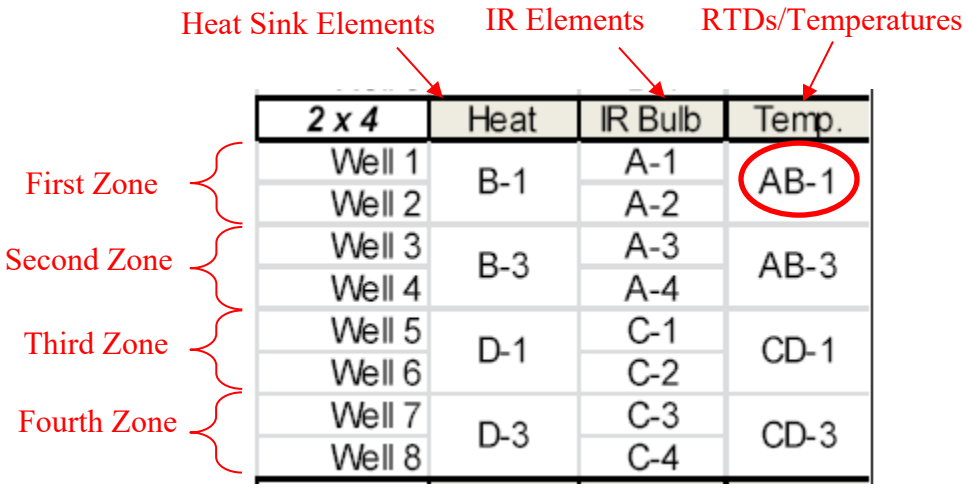
TEMPERATURE CHECK PROCEDURE

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).

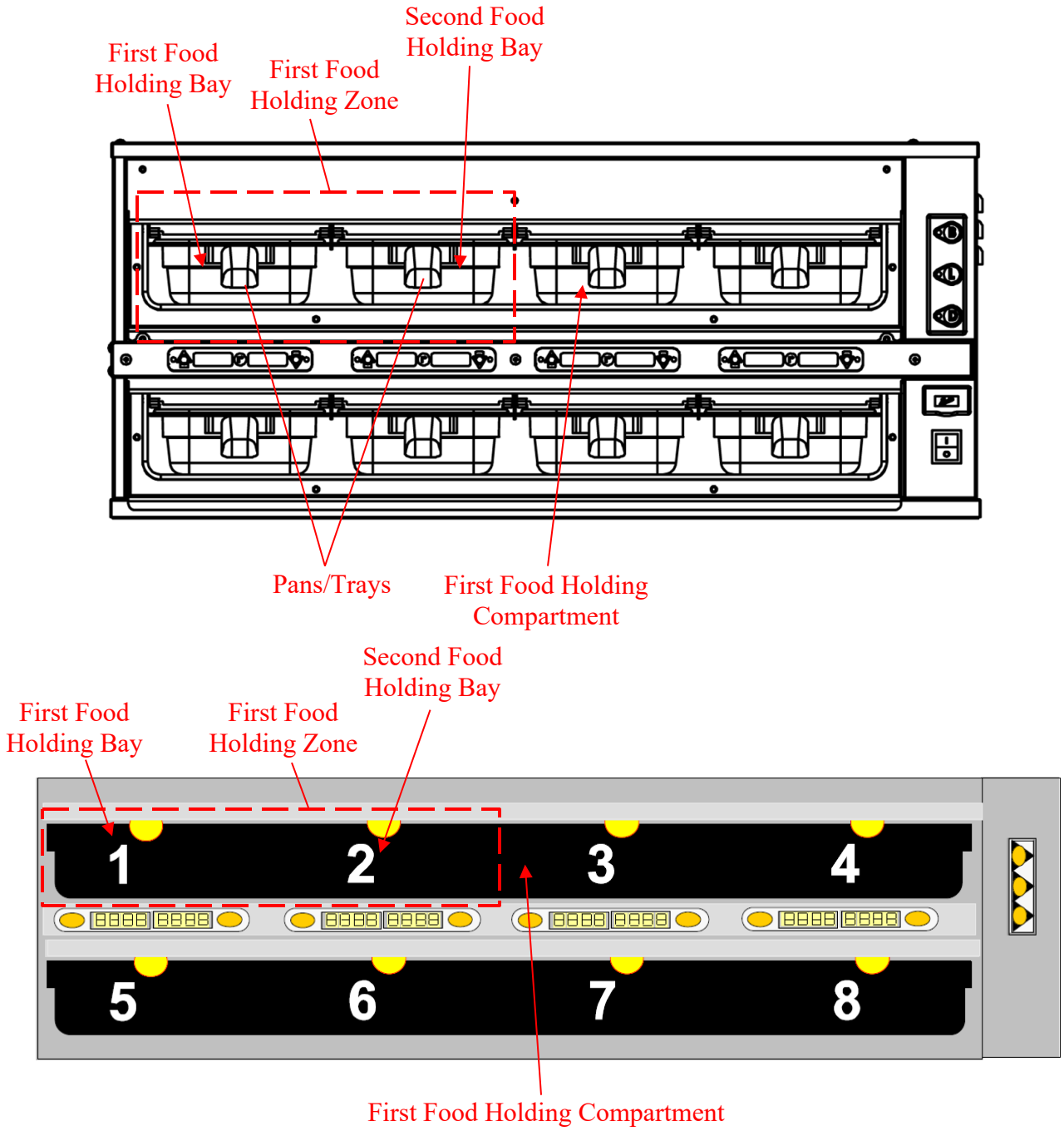


2 x 4	Heat	IR Bulb	Temp.
Well 1	B-1	A-1	AB-1
Well 2		A-2	
Well 3	B-3	A-3	AB-3
Well 4		A-4	
Well 5	D-1	C-1	CD-1
Well 6		C-2	
Well 7	D-3	C-3	CD-3
Well 8		C-4	

EX1008: 64 (annotated).

1.h.4: the first food holding zone including a first food holding bay and a second food holding bay, each of the first and second food holding bays being configured to receive a food holding tray

198. The POSA would recognize that the IRHS Documents disclose that the first food holding zone the IRHS24 Holding Unit includes a first food holding bay and a second food holding bay, with each holding bay being configured to receive a food pan/tray.

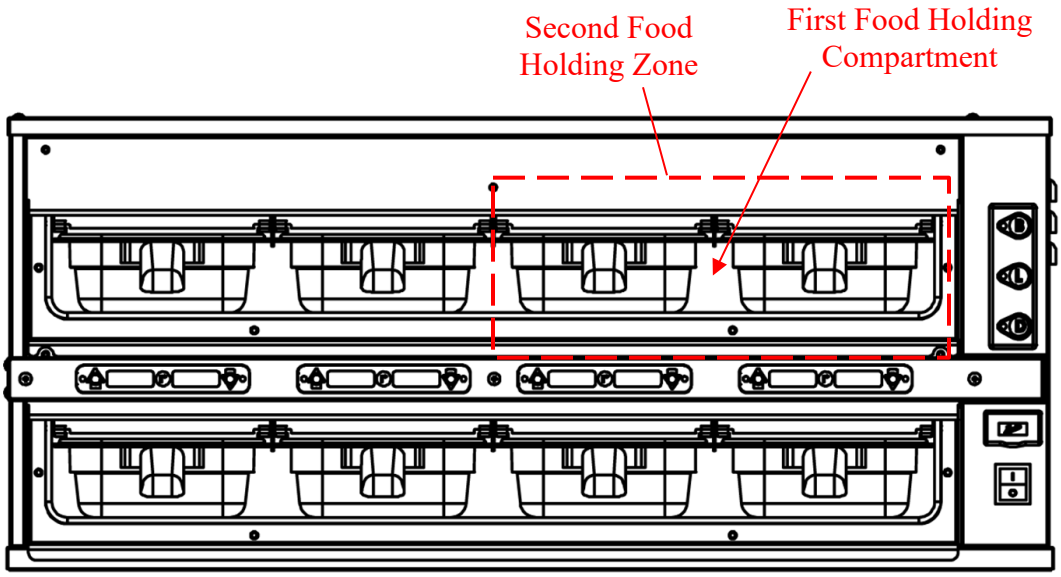


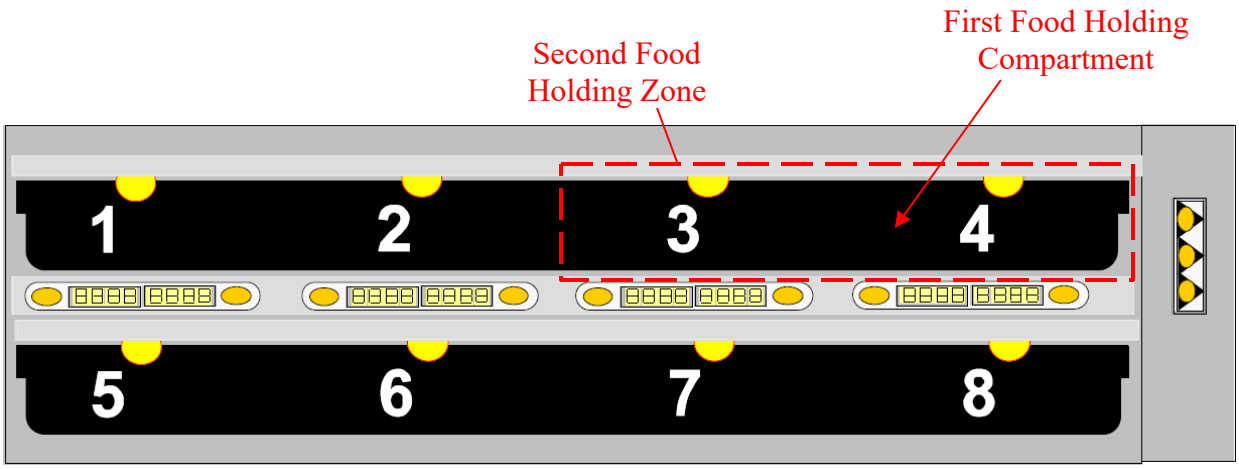
EX1005: 8, 25 (annotated).

1.i.1: a second food holding zone formed in the first food holding compartment

199. The POSA would recognize that the IRHS Documents disclose that the IRHS24 Holding Unit has a second food holding zone in the first food holding compartment.

200. Specifically, the IRHS Documents disclose the IRHS24 Holding Unit as having a second food holding zone in the first food holding compartment.



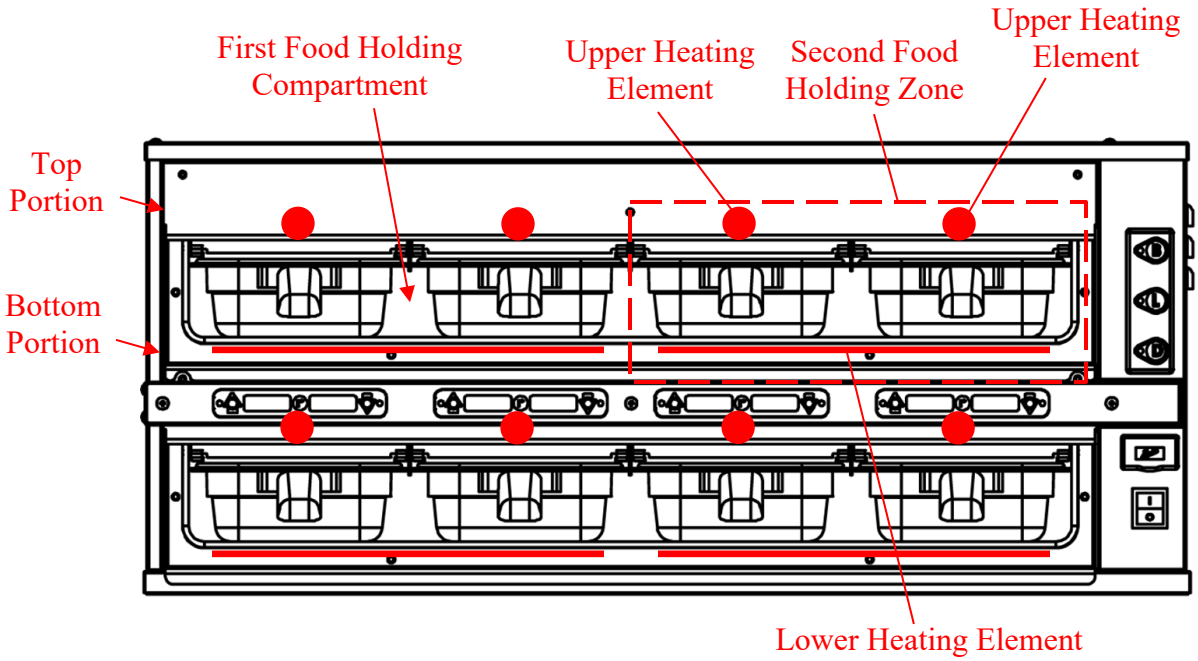


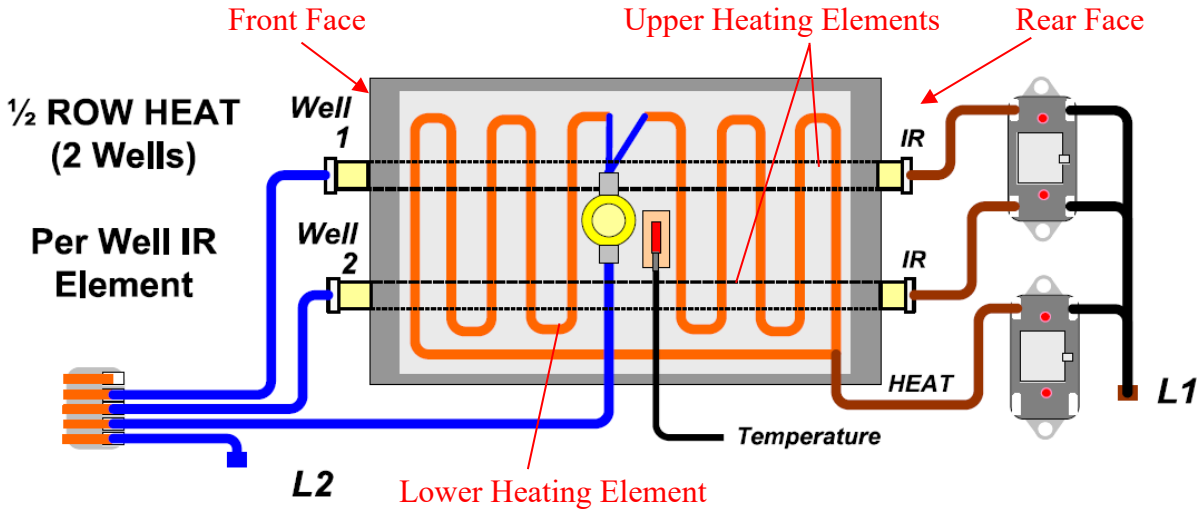
EX1005: 8, 25 (annotated)

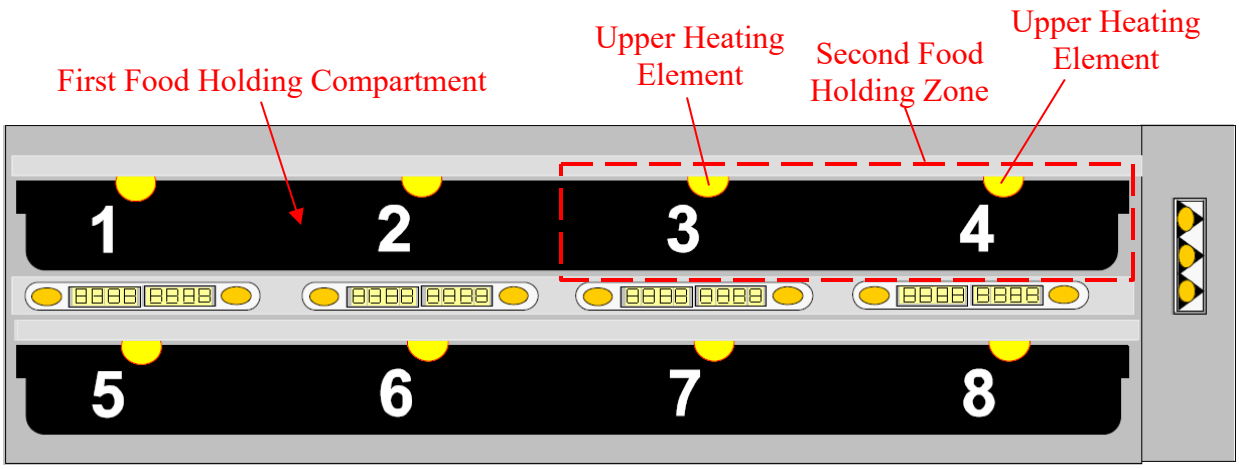
1.i.2: the second food holding zone having at least one independently controllable heating element disposed at the top portion of the first food holding compartment and at least one independently controllable heating element disposed at the bottom portion of the first food holding compartment

201. POSA would recognize that the IRHS Documents disclose the second food holding zone as having at "at least one independently controllable heating element disposed at a top portion of the first food holding compartment, and at least one independently controllable heating element disposed at a bottom portion of the first food holding compartment."

202. Specifically, the second food holding zone of the IRHS24 Holding Unit is disclosed as having at two independently controllable upper heating elements (IR bulbs) and one independently controllable lower heating element (electrical heating element) at respective top and bottom portions of the first food holding compartment.


First Food Holding Compartment
Upper Heating Element
Second Food Holding Zone
Upper Heating Element
Top Portion
Bottom Portion
Lower Heating Element


Front Face
Upper Heating Elements
Rear Face
½ ROW HEAT (2 Wells)
Per Well IR Element
Well 1
Well 2
IR
IR
HEAT
L1
L2
Temperature
Lower Heating Element



EX1005: 8, 25 (annotated).

203. The second food holding zone's upper and lower heating elements are independently controllable from one another and from the heating elements of the other food holding zones, for the reasons explained above in Paragraphs 170-193 (claim limitation 1.h.2) with respect to the first food holding zone.

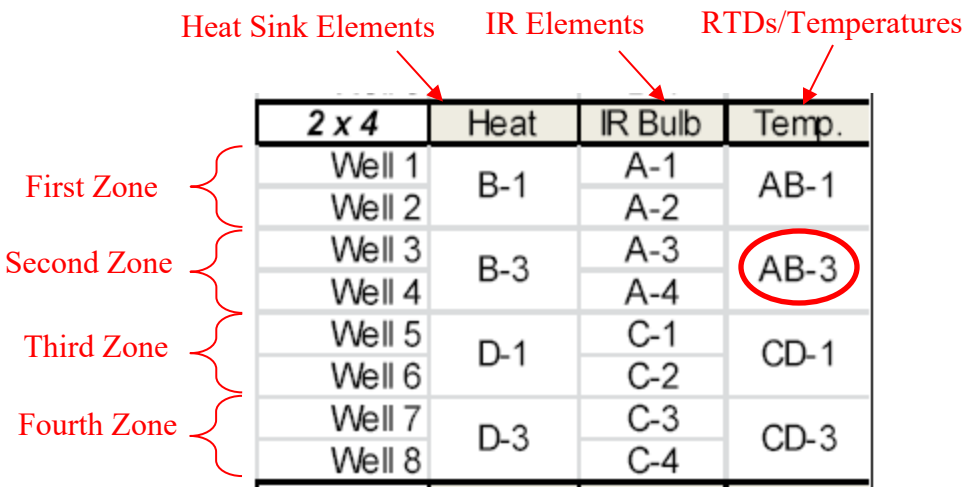
1.i.3: the second food holding zone having a controllable second food holding temperature

204. The POSA would recognize that the IRHS Documents disclose the second food holding zone as having at "having a controllable second food holding temperature."

205. Specifically, the IRHS Documents disclose the second food holding zone (heating zone) of the IRHS24 Holding Unit as having a controllable second food holding temperature. EX1006: 1 ("[c]ustom heat settings for food product"); EX1005: 4 ("[t]his new technology allows you to precisely control the

environment in each pan, allowing customized settings for each food product"), 16 ("each food product has a tailored HeatSink temperature and InfraRed pulse rate"); EX1006: 1 ("[c]ustom heat settings for food product"); EX1007: 10 ("Quartz IR Emitters" that "[t]ailor each well specifically to the products within them, providing unlimited flexibility per well"), 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").

206. For each food holding zone (*e.g.*, second holding zone), a vertical temperature profile (including temperatures from top to bottom of each food holding zone) is controllable by the IRHS24's controller based on independent control of the upper and lower heating elements. For example, as discussed in Paragraphs 194-197 (claim limitation 1.h.3) above, the IRHS24 has a controllable food holding temperature at a bottom of the food holding zone based on a heat sink temperature setting for the type of food and with the temperature being monitored and maintained via feedback from a heat sink temperature sensor.

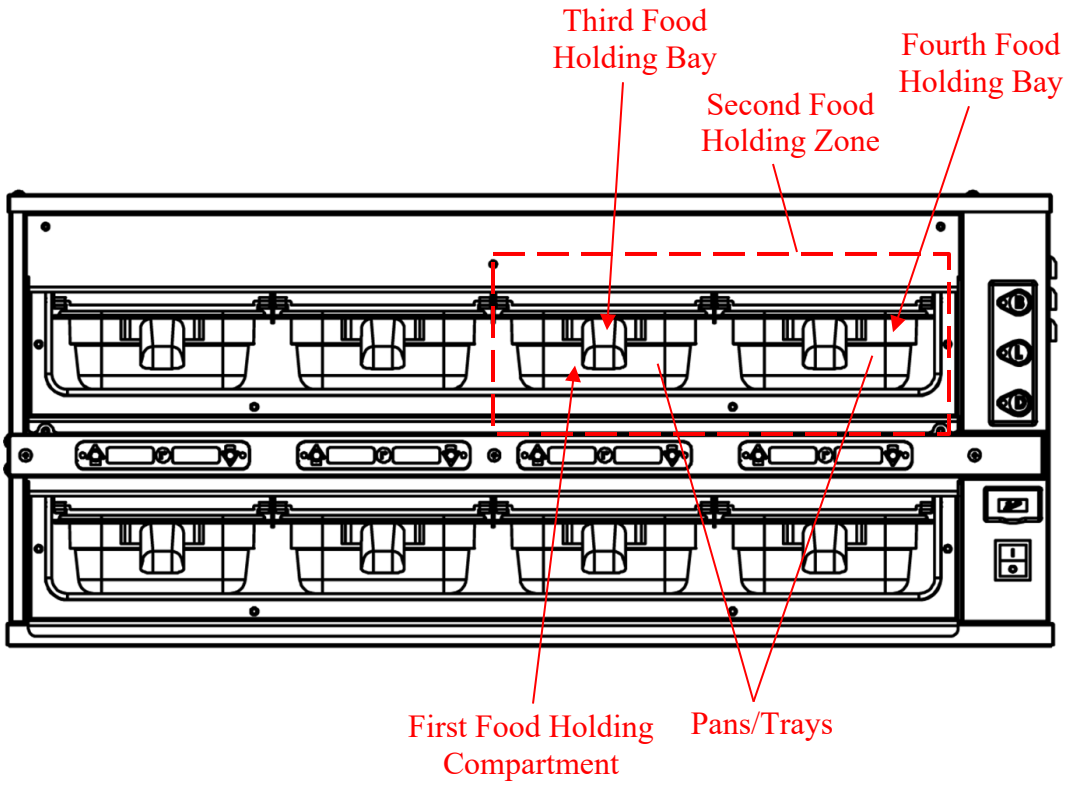


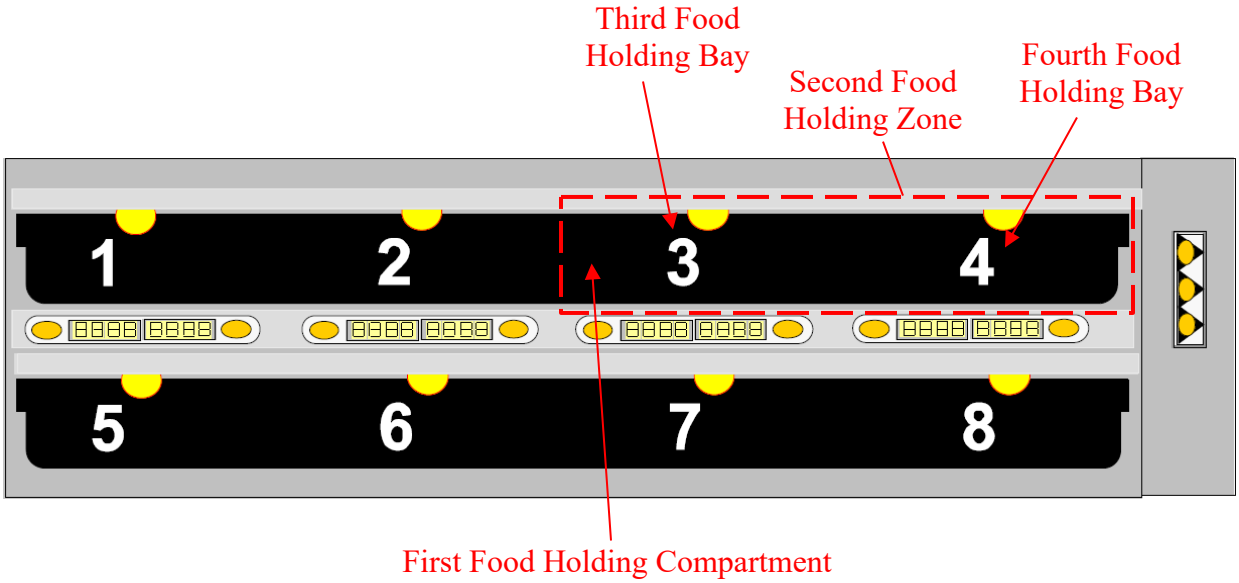
2 x 4	Heat	IR Bulb	Temp.
Well 1	B-1	A-1	AB-1
Well 2		A-2	
Well 3	B-3	A-3	AB-3
Well 4		A-4	
Well 5	D-1	C-1	CD-1
Well 6		C-2	
Well 7	D-3	C-3	CD-3
Well 8		C-4	

EX1008: 64 (annotated).

1.i.4: the second food holding zone including a third food holding bay and a fourth food holding bay, each of the third and fourth food holding bays being configured to receive a food holding tray

207. The POSA would recognize that the IRHS Documents disclose that the third food holding zone includes a third food holding bay and a fourth food holding bay, with each holding bay being configured to receive a food pan/tray.

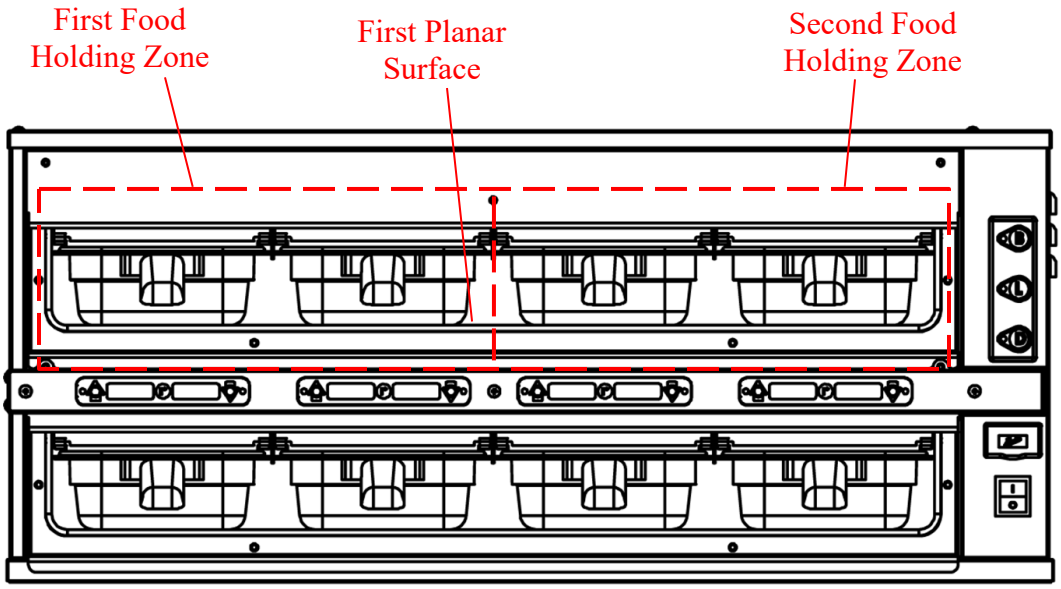


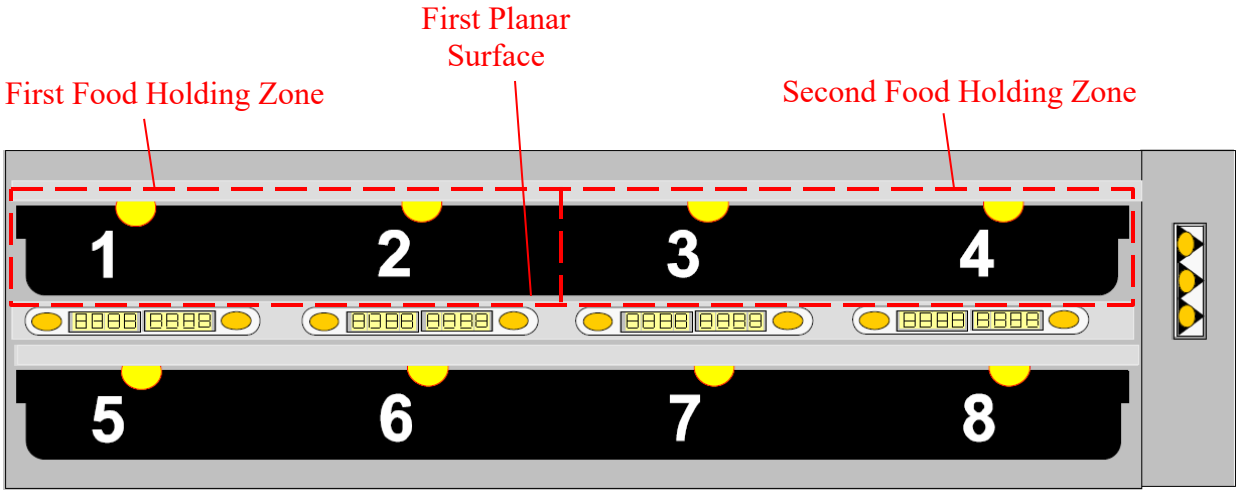


EX1005: 8, 25 (annotated).

1.j: wherein the first food holding zone and the second food holding zone are adjacent one another across the substantially planar surface

208. The POSA would recognize that the IRHS Documents disclose "that first food holding zone and the second food holding zone are adjacent one another across the substantially planar surface."



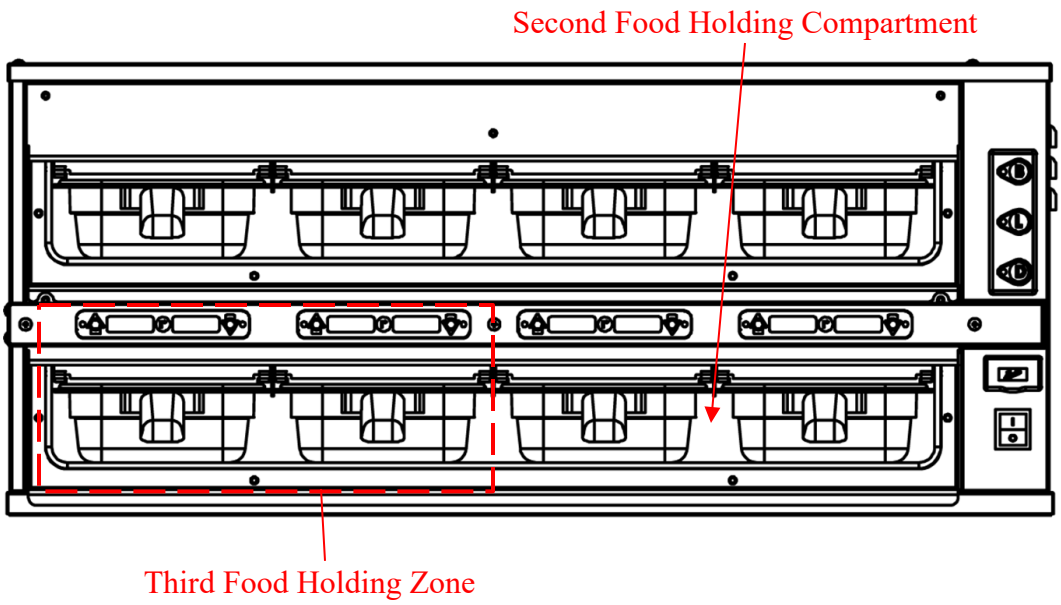


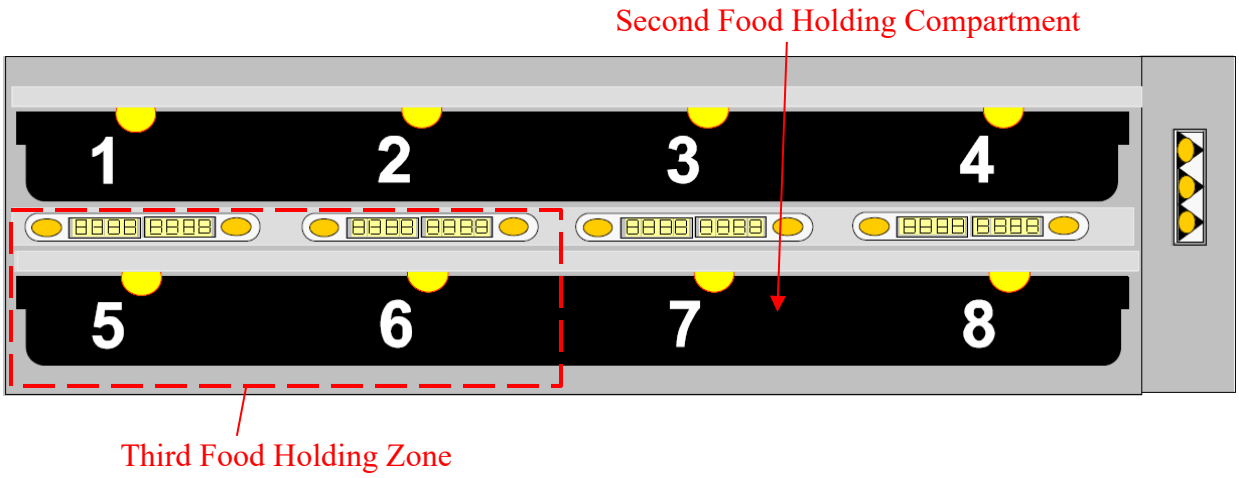
EX1005: 8 (annotated).

1.k.1: a third food holding zone formed in the second food holding compartment

209. The POSA would recognize that the IRHS Documents disclose the multi-zone food holding bins as having "a third food holding zone formed in the second food holding compartment."

210. Specifically, the IRHS Documents disclose the IRHS24 Holding Unit as having a third food holding zone (heating zone) in the second food holding compartment.





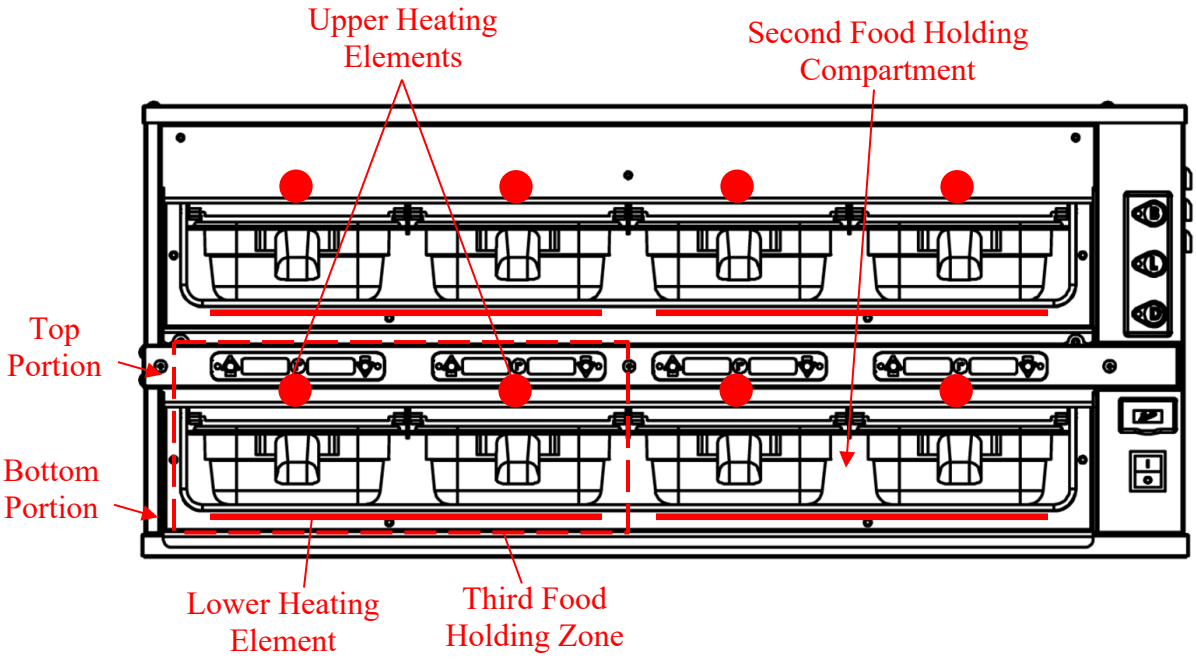
EX1005: 8, 25 (annotated).

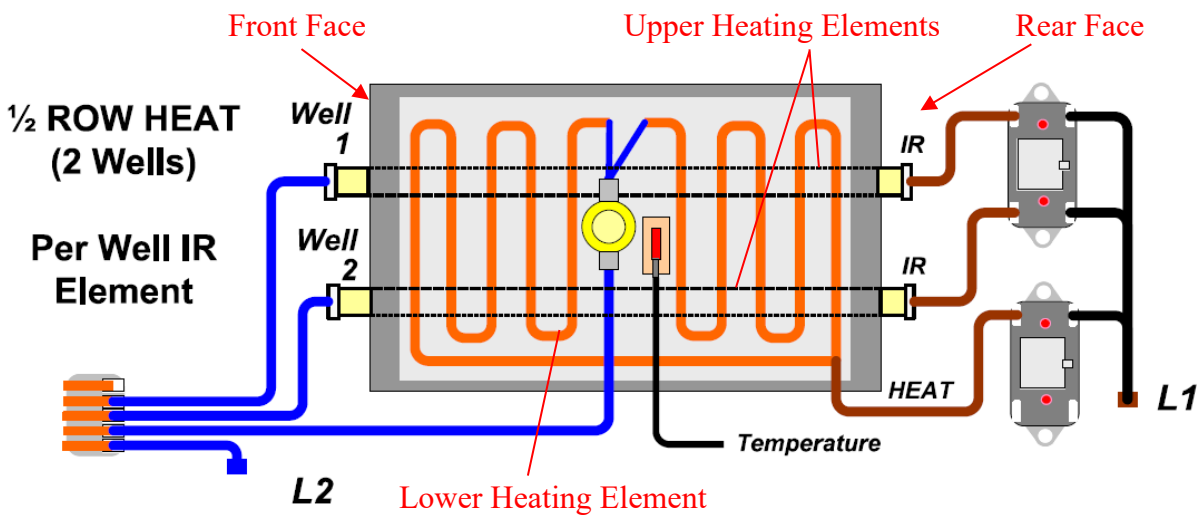
1.k.2: the third food holding zone having at least one independently controllable heating element disposed at a top portion of the second food holding compartment, and at least one independently controllable heating element disposed at a bottom portion of the second food holding compartment

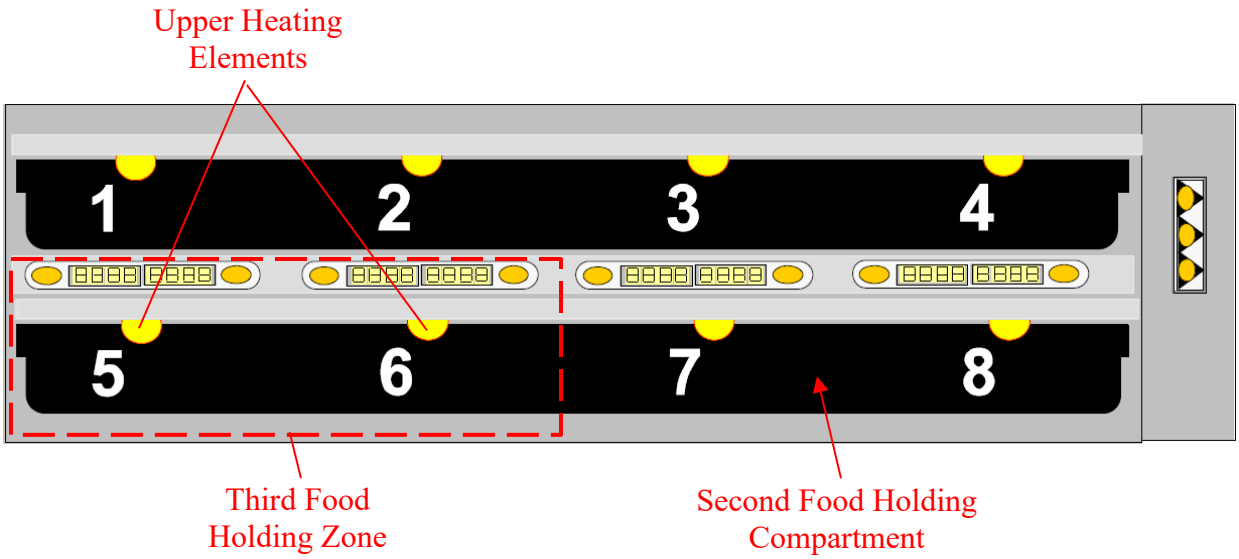
211. POSA would recognize that the IRHS Documents disclose the third food holding zone as having at "at least one independently controllable heating

element disposed at a top portion of the second food holding compartment, and at least one independently controllable heating element disposed at a bottom portion of the second food holding compartment."

212. Specifically, the third food holding zone of the IRHS24 Holding Unit is disclosed as having two independently controllable upper heating elements (IR bulbs) and one independently controllable lower heating element (electrical heating element) at respective top and bottom portions of the second food holding compartment.







EX1005: 8, 25 (annotated).

213. The third food holding zone's upper and lower heating elements are independently controllable from one another and from the heating elements of the other food holding zones, for the reasons explained in Paragraphs 170-193 (claim limitation 1.h.2) above.

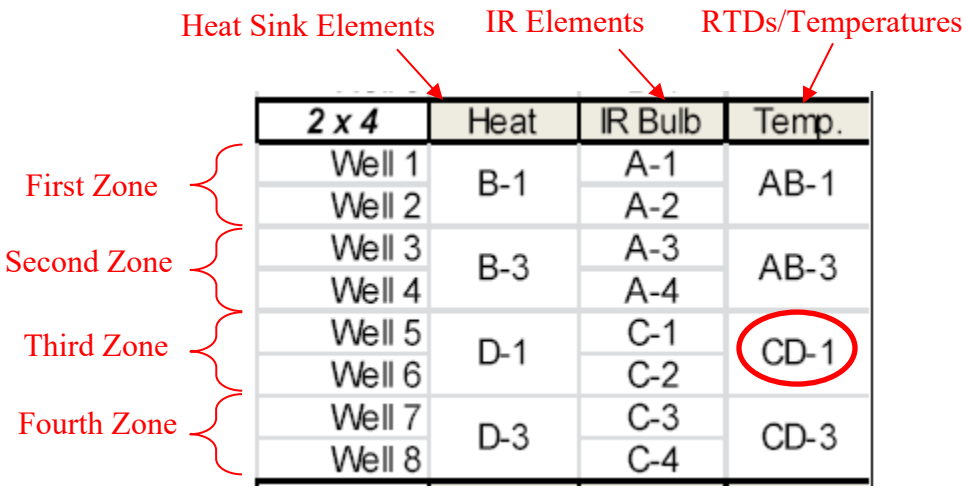
1.k.3: the third food holding zone having a controllable third food holding temperature

214. The POSA would recognize that the IRHS Documents disclose the third food holding zone as having at "having a controllable third food holding temperature."

215. Specifically, the IRHS Documents disclose the third food holding zone (heating zone) of the IRHS24 holding unit as having a controllable third food holding temperature. EX1006: 1 ("[c]ustom heat settings for food product"); EX1005: 4 ("[t]his new technology allows you to precisely control the environment in each pan, allowing customized settings for each food product"), 16 ("each food product has a tailored HeatSink temperature and InfraRed pulse rate"); EX1006: 1 ("[c]ustom heat settings for food product"); EX1007: 10 ("Quartz IR Emitters" that "[t]ailor each well specifically to the products within them, providing unlimited flexibility per well"), 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").

216. For each food holding zone (*e.g.*, third holding zone), a vertical temperature profile (including temperatures from top to bottom of each food holding zone) is controllable by the IRHS24's controller based on independent control of the upper and lower heating elements. For example, as discussed in

Paragraphs 194-197 (claim limitation 1.h.3) above, the IRHS24 has a controllable food holding temperature at a bottom of the food holding zone based on a heat sink temperature setting for the type of food and with the temperature being monitored and maintained via feedback from a heat sink temperature sensor.

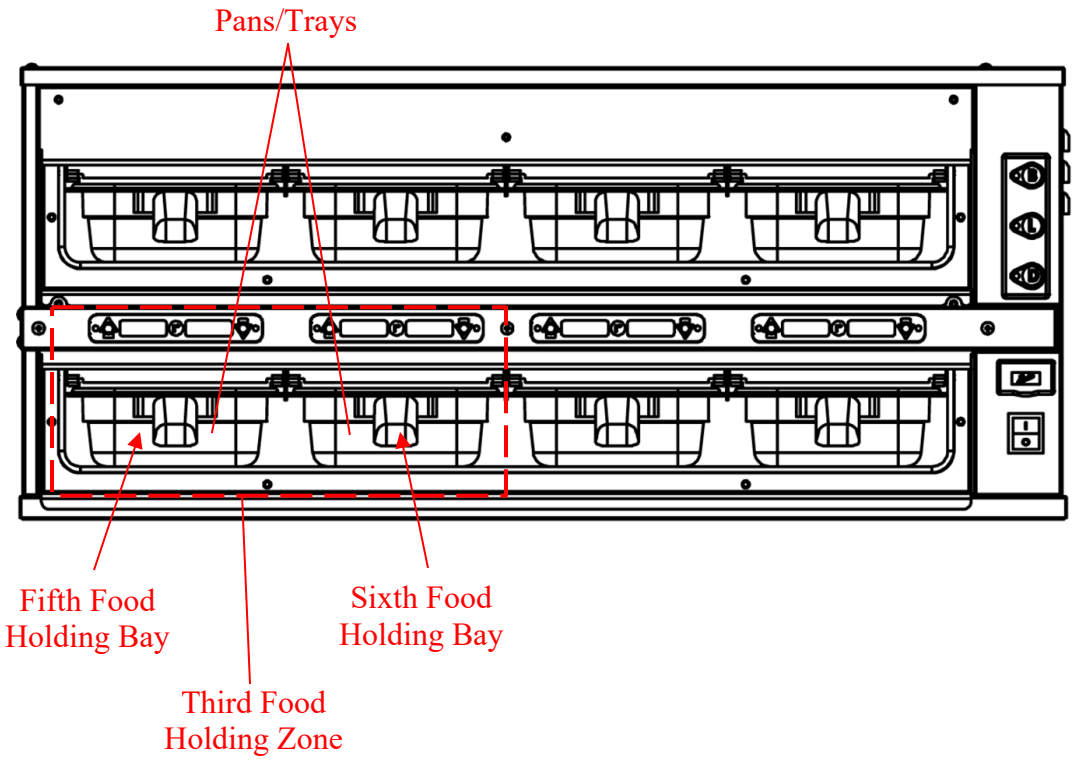


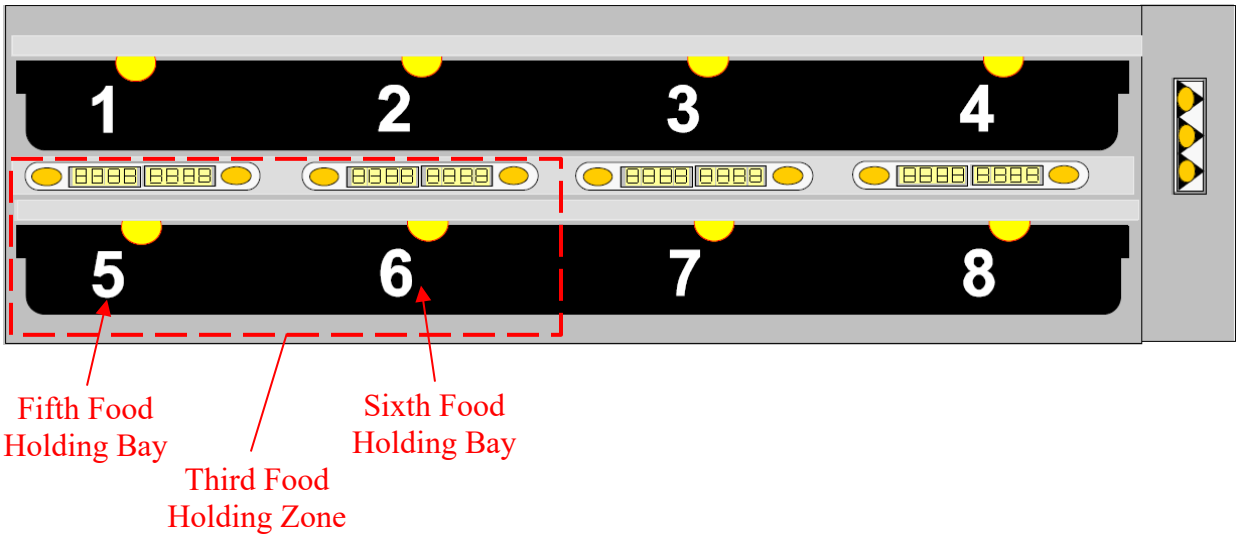
2 x 4	Heat	IR Bulb	Temp.
Well 1	B-1	A-1	AB-1
Well 2		A-2	
Well 3	B-3	A-3	AB-3
Well 4		A-4	
Well 5	D-1	C-1	CD-1
Well 6		C-2	
Well 7	D-3	C-3	CD-3
Well 8		C-4	

EX1008: 64 (annotated).

1.k.4: the third food holding zone including a fifth food holding bay and a sixth food holding bay, each of the fifth and sixth food holding bays being configured to receive a food holding tray

217. The POSA would recognize that the IRHS Documents disclose that the third food holding zone the IRHS24 Holding Unit includes a fifth food holding bay and a sixth food holding bay, with each holding bay being configured to receive a food pan/tray.



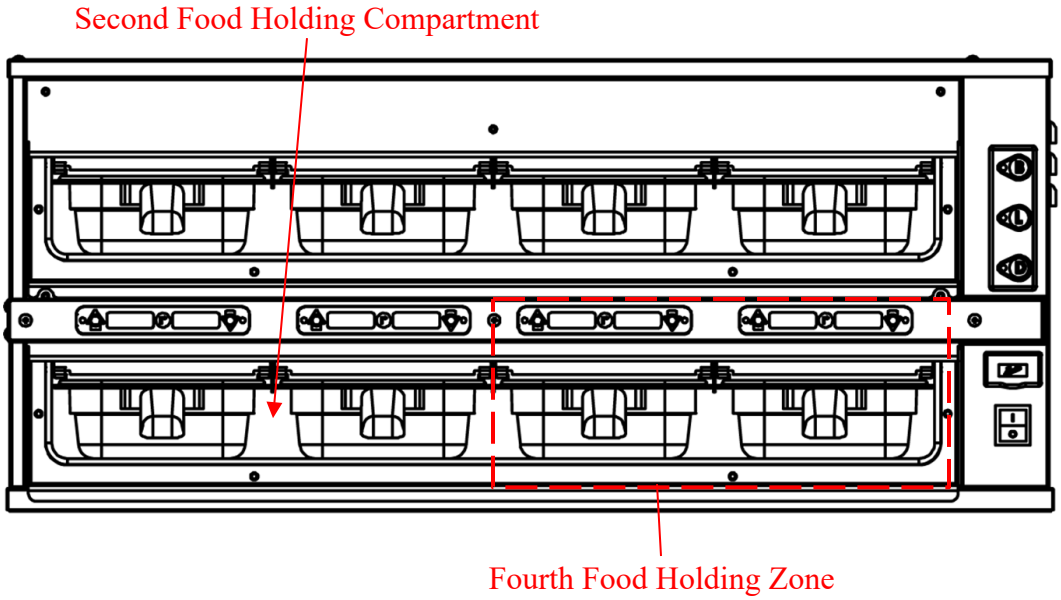


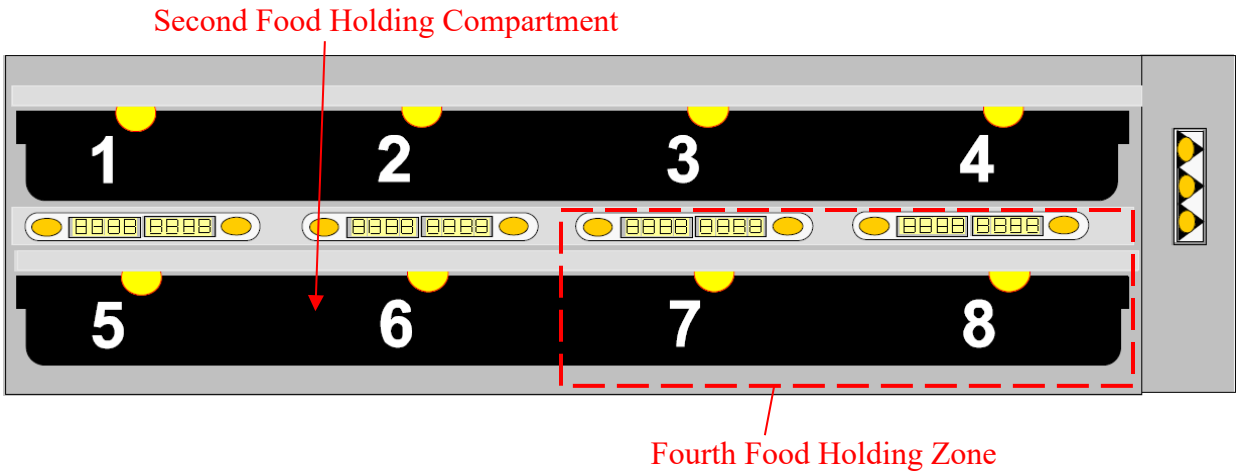
EX1005: 8, 25 (annotated).

1.l.1: a fourth food holding zone formed in the second food holding compartment

218. The POSA would recognize that the IRHS Documents disclose the multi-zone food holding bins as having "a fourth food holding zone formed in the second food holding compartment."

219. Specifically, the IRHS Documents disclose the IRHS24 Holding Unit as having a fourth food holding zone in the second food holding compartment.



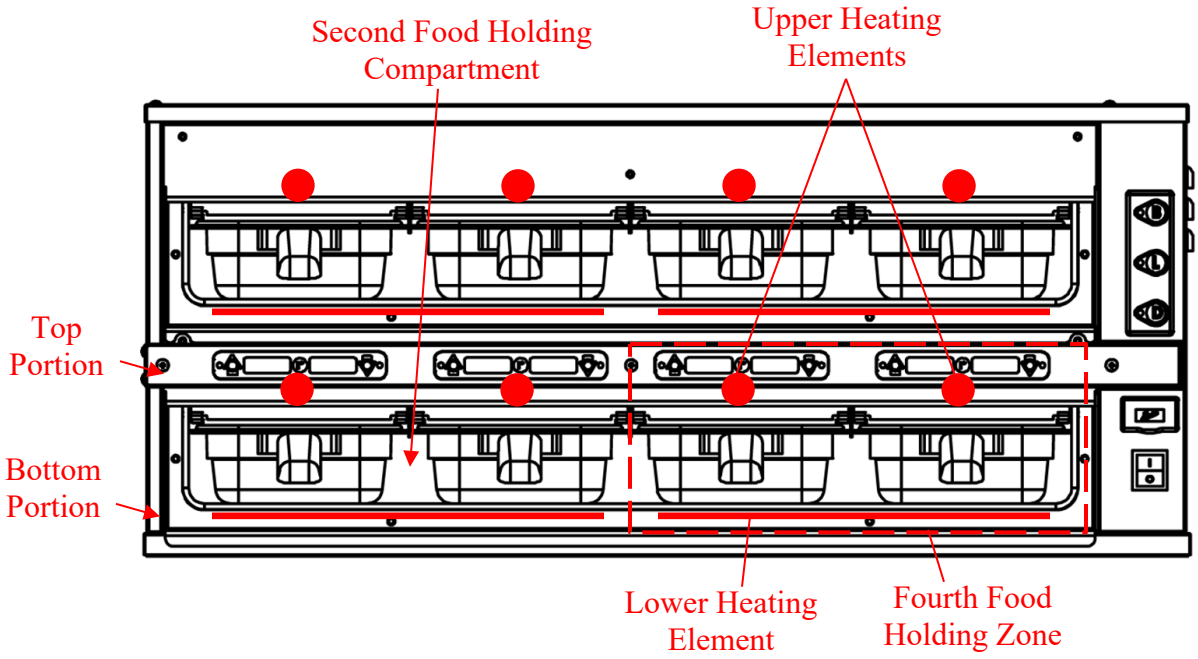


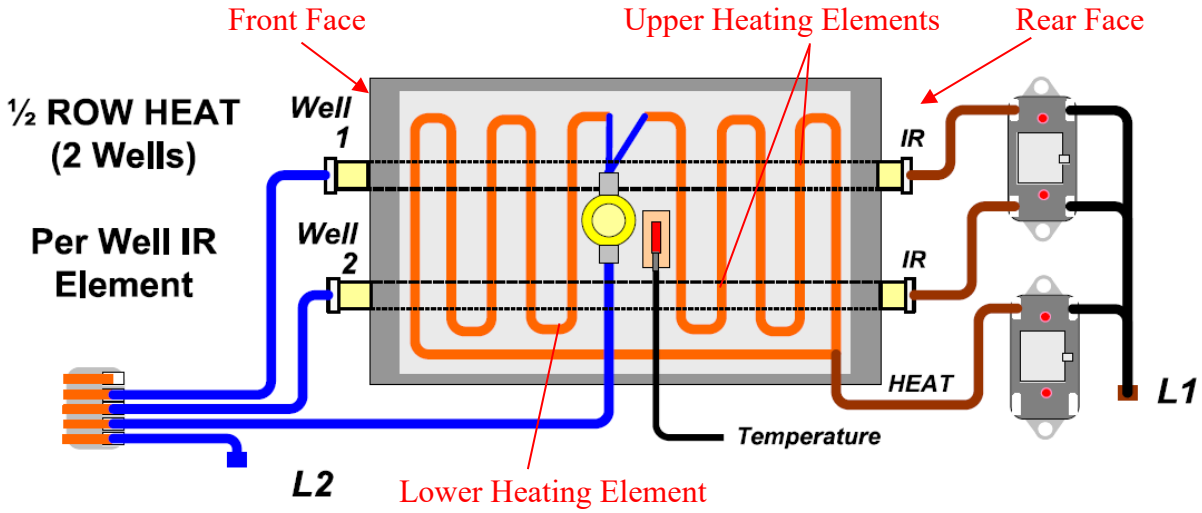
EX1005: 8, 25 (annotated).

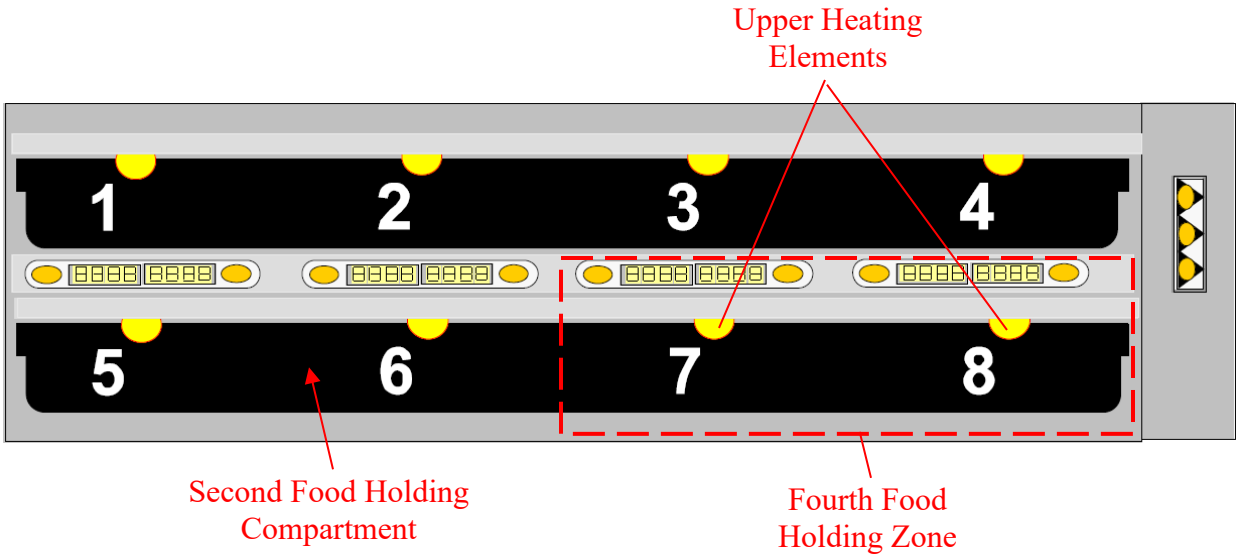
1.l.2: the fourth food holding zone having at least one independently controllable heating element disposed at the top portion of the second food holding compartment and at least one independently controllable heating element disposed at the bottom portion of the second food holding compartment

220. POSA would recognize that the IRHS Documents disclose the third food holding zone as having at "at least one independently controllable heating element disposed at a top portion of the second food holding compartment, and at least one independently controllable heating element disposed at a bottom portion of the second food holding compartment."

221. The fourth food holding zone of the IRHS24 holding unit, as disclosed in the IRHS Documents, has two independently controllable upper heating elements (IR bulbs) and one independently controllable lower heating element (electrical heating element) at respective top and bottom portions of the second/lower food holding compartment.


Second Food Holding Compartment
Upper Heating Elements
Top Portion
Bottom Portion
Lower Heating Element
Fourth Food Holding Zone


Front Face
Upper Heating Elements
Rear Face
½ ROW HEAT (2 Wells)
Per Well IR Element
Well 1
Well 2
IR
IR
HEAT
Temperature
L1
L2
Lower Heating Element



EX1005: 8, 25 (annotated).

222. The fourth food holding zone's upper and lower heating elements are independently controllable from one another and from the heating elements of the other food holding zones, for the reasons explained above in Paragraphs 170-193 (claim limitation 1.h.2).

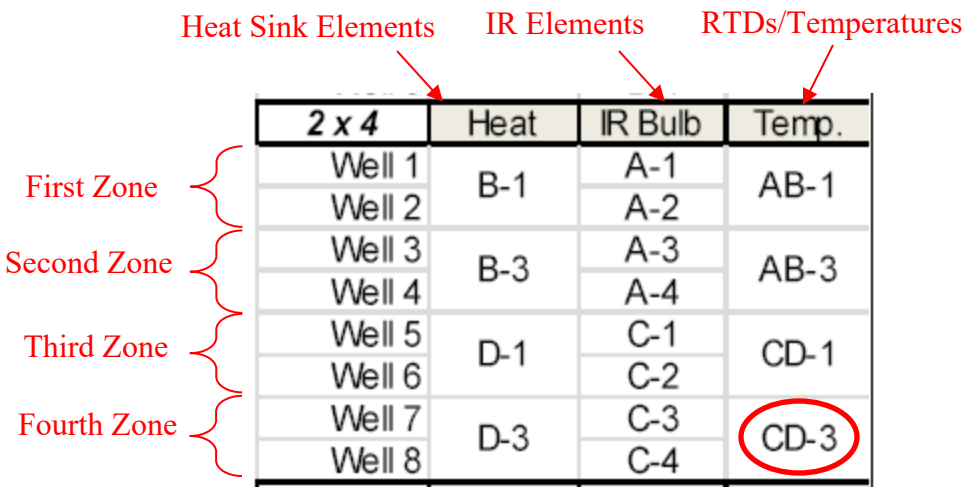
1.l.3: the fourth food holding zone having a controllable fourth food holding temperature

223. POSA would recognize that the IRHS Documents disclose the third food holding zone as having at "having a controllable third food holding temperature."

224. Specifically, the IRHS Documents disclose the fourth food holding zone (heating zone) of the IRHS24 Holding Unit as having a controllable fourth food holding temperature. EX1006: 1 ("[c]ustom heat settings for food product");

EX1005: 4 (“[t]his new technology allows you to precisely control the environment in each pan, allowing customized settings for each food product”), 16 (“each food product has a tailored HeatSink temperature and InfraRed pulse rate”); EX1006: 1 (“[c]ustom heat settings for food product”); 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”).

225. For each food holding zone (*e.g.*, fourth holding zone), a vertical temperature profile (including temperatures from top to bottom of each food holding zone) is controllable by the IRHS24’s controller based on independent control of the upper and lower heating elements. For example, as discussed in Paragraphs 194-197 (claim limitation 1.h.3) above, the IRHS24 has a controllable food holding temperature at a bottom of the food holding zone based on a heat sink temperature setting for the type of food and with the temperature being monitored and maintained via feedback from a heat sink temperature sensor.

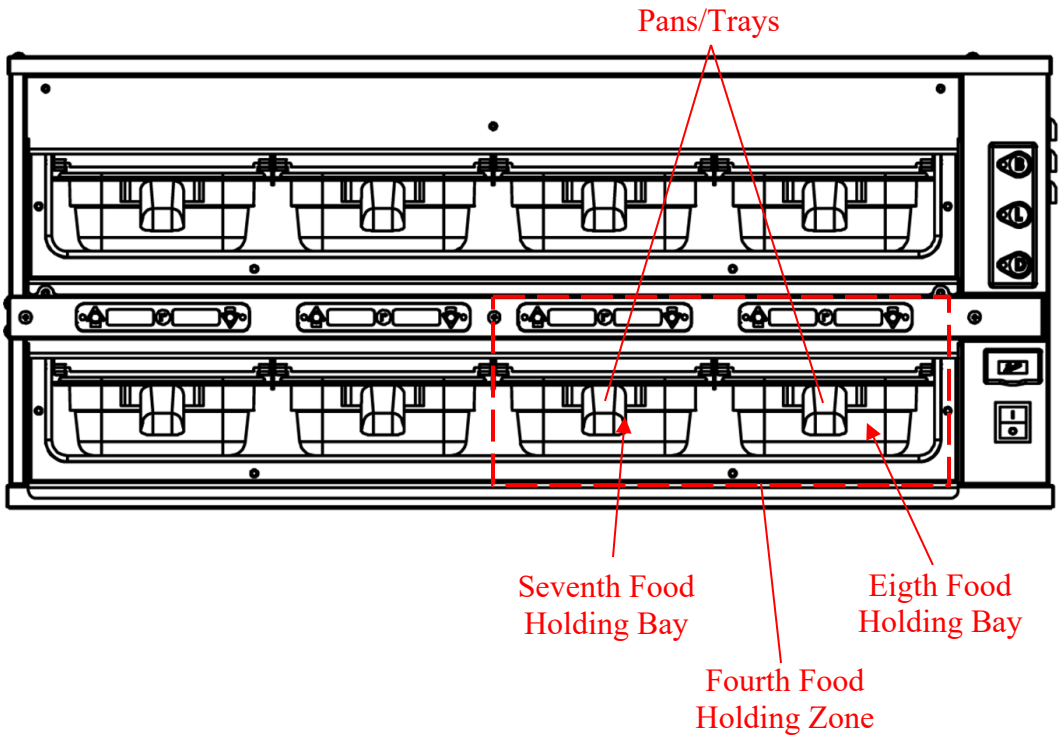


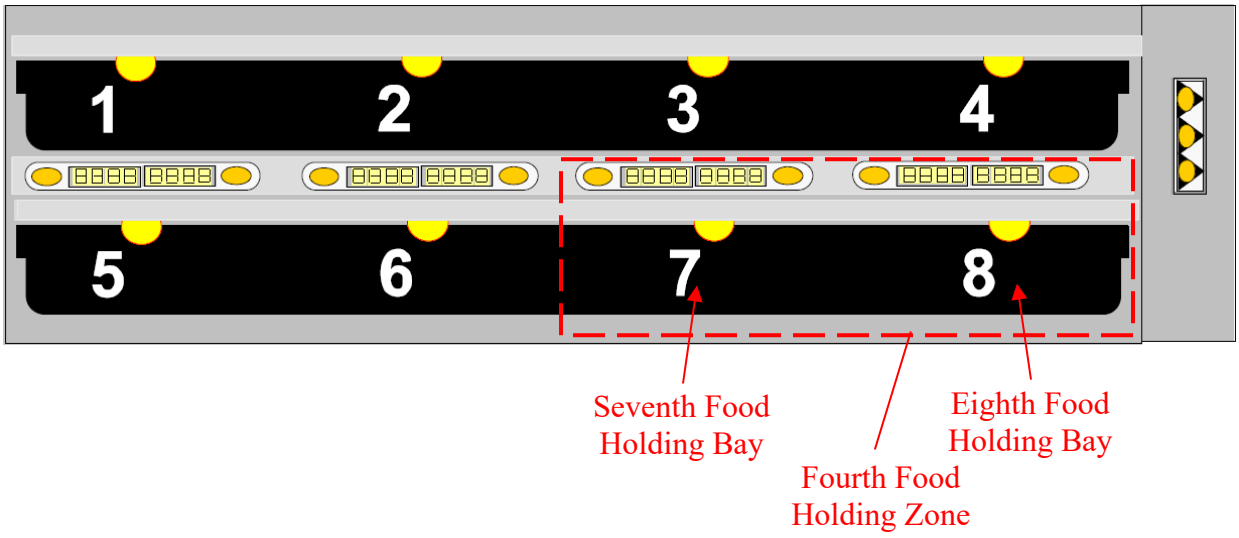
2 x 4	Heat	IR Bulb	Temp.
Well 1	B-1	A-1	AB-1
Well 2		A-2	
Well 3	B-3	A-3	AB-3
Well 4		A-4	
Well 5	D-1	C-1	CD-1
Well 6		C-2	
Well 7	D-3	C-3	CD-3
Well 8		C-4	

EX1008: 64 (annotated).

1.l.4: the fourth food holding zone including a seventh food holding bay and a eighth food holding bay, each of the seventh and eighth food holding bays being configured to receive a food holding tray

226. The POSA would recognize that the IRHS Documents disclose that the fourth food holding zone the IRHS24 Holding Unit includes a seventh food holding bay and an eighth food holding bay, with each holding bay being configured to receive a food pan/tray.

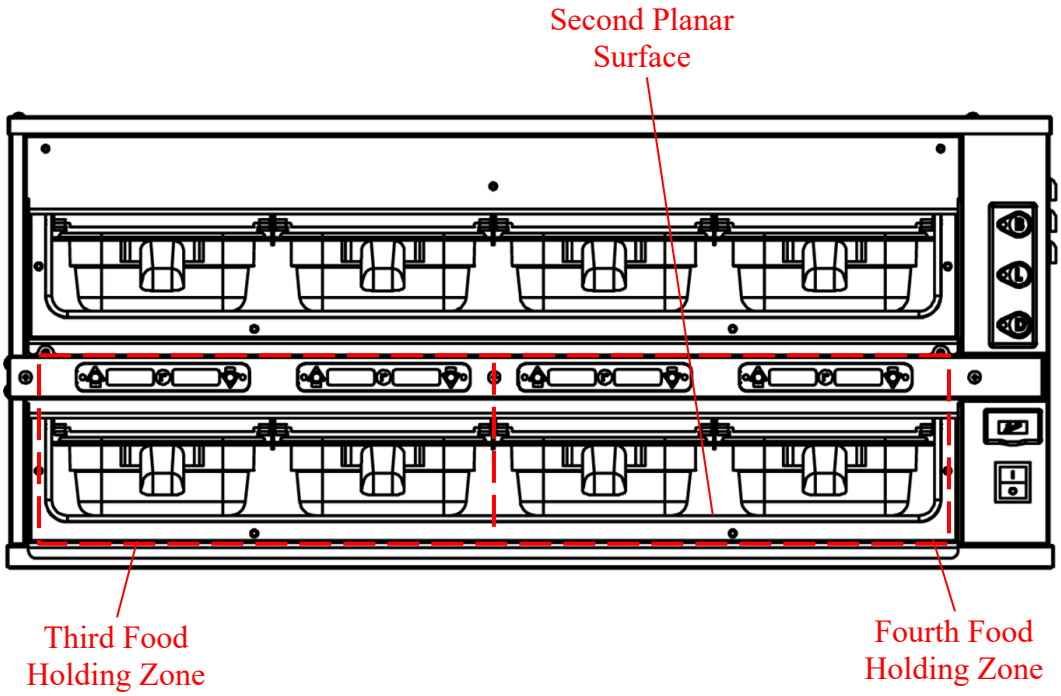


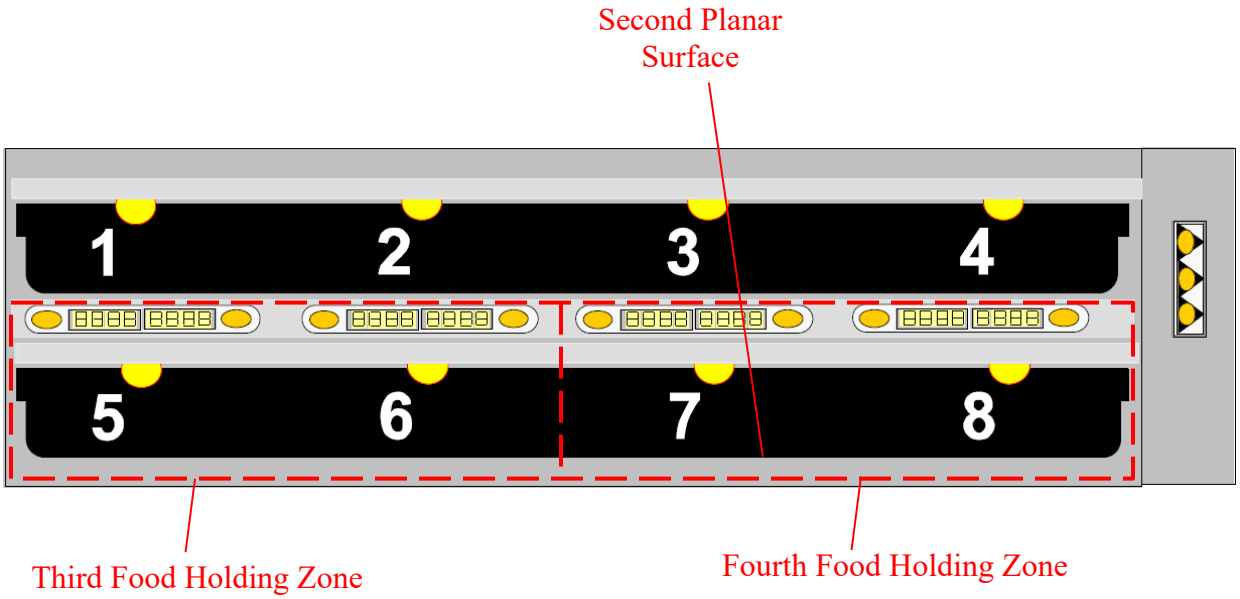


EX1005: 8, 25 (annotated).

1.m: wherein the third food holding zone and the fourth food holding zone are adjacent one another across the second substantially planar surface

227. The POSA would recognize that the IRHS Documents disclose "that third food holding zone and the fourth food holding zone are adjacent one another across the second substantially planar surface."



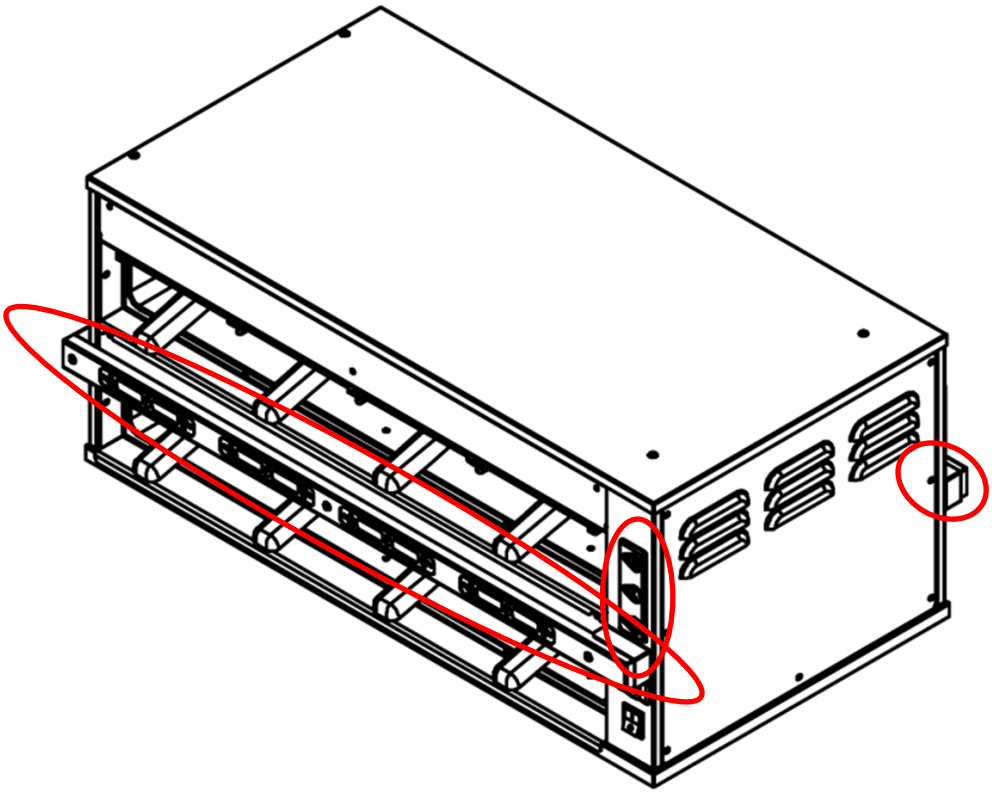


EX1005: 8 (annotated).

1.n: at least one user interface for controlling the food holding temperature of each food holding bay

228. POSA would recognize that the IRHS Documents disclose "at least one user interface for controlling the food holding temperature of each food holding bay."

229. For example, the IRHS Documents disclose the IRHS24 Holding Unit as having a user interface that includes timer bars, a USB interface, and a daypart interface for allowing a user to control the food holding temperature of each food holding zone/bay.

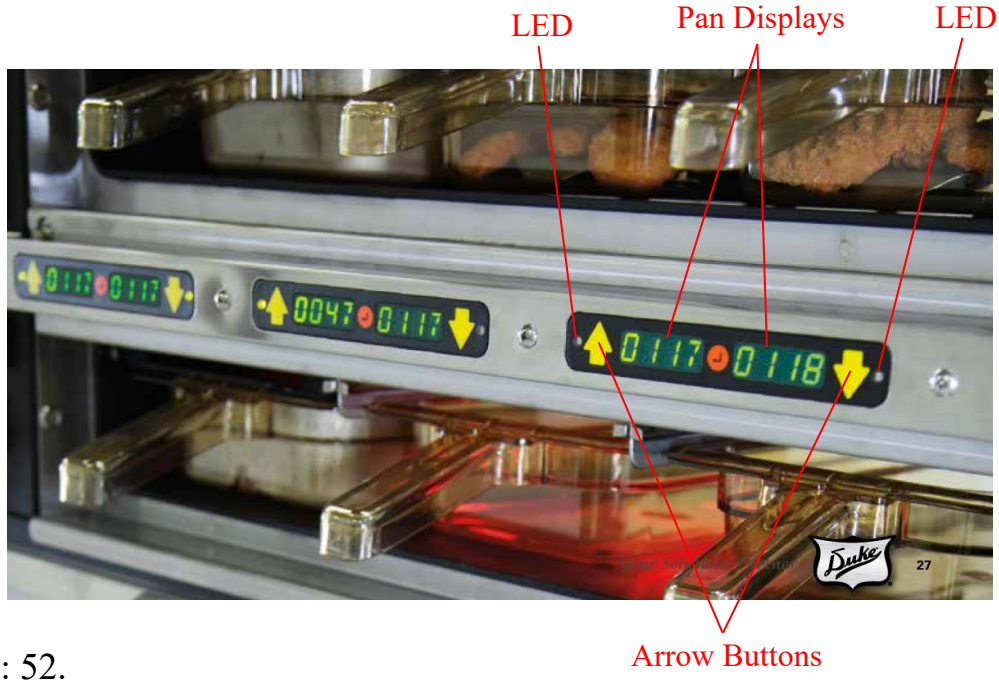


EX1005: 8 (annotated).



EX1007: 28 (annotated).

230. The timer bar is disclosed as including "arrow buttons," "pan displays," and "LEDs" that would allow the user to control the temperature of each zone/bay by starting a hold cycle and activating the heating elements. EX1005: 16 ("[p]ress 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").



EX1007: 52.

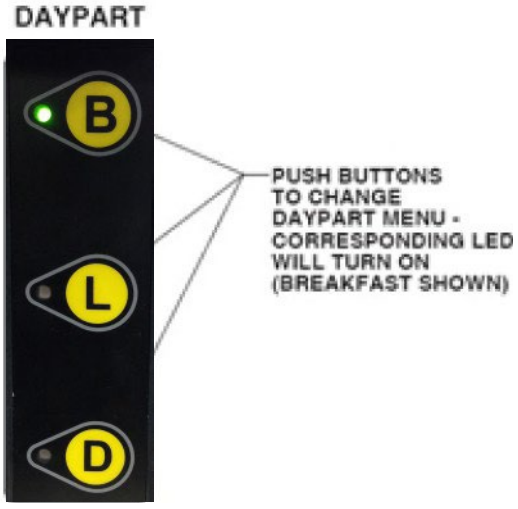
KEYPAD DISPLAYS

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.

231. The USB interface is disclosed as allowing the user to control the temperature of each zone/bay by programing the holding temperatures for each food item. EX1005: 19 ("Able to program via USB Port"); EX1006: 1 ("Custom heat settings for food product," "Web based programming via USB," "Programmable via website & USB"); EX1007: 58 ("USB Drive: Allows for web programing updates for your [] IRHS holding unit[]").

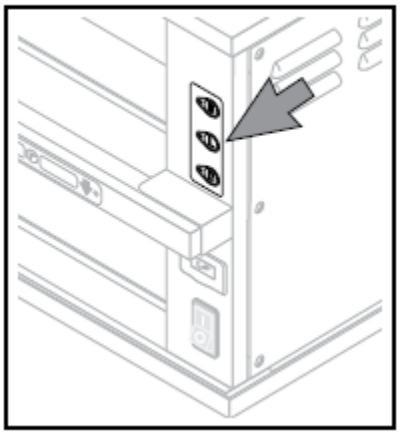
232. The global daypart interface is disclosed as allowing the user to control the temperature of each zone/bay by selecting between "Breakfast, Lunch, and Dinner menus" to change the food type and corresponding temperature settings for each pan location. EX1005: 16; EX1006: 1 ("Day part switch for global recipe changes (B, L, D)").



EX1005: 16.

DAYPART SWITCH

The Daypart Switch is used to control the temperatures of various food products, up to three different time periods a day. It is located on the Control Panel and is accessed from inside the control compartment.



EX1008: 29.

233. The timer bars are disclosed as also permitting the user to manually change a daypart (meal set) thus changing the food type and corresponding temperature settings. EX1005: 17.

MENU MODE – MANUAL ALTERNATIVE TO CHANGE DAYPART

1. Status LED stops flashing and "MEAL SET1" appears on the Display.



2. Press the ENTER Button again. Status LED FLASHES indicating Edit Mode.



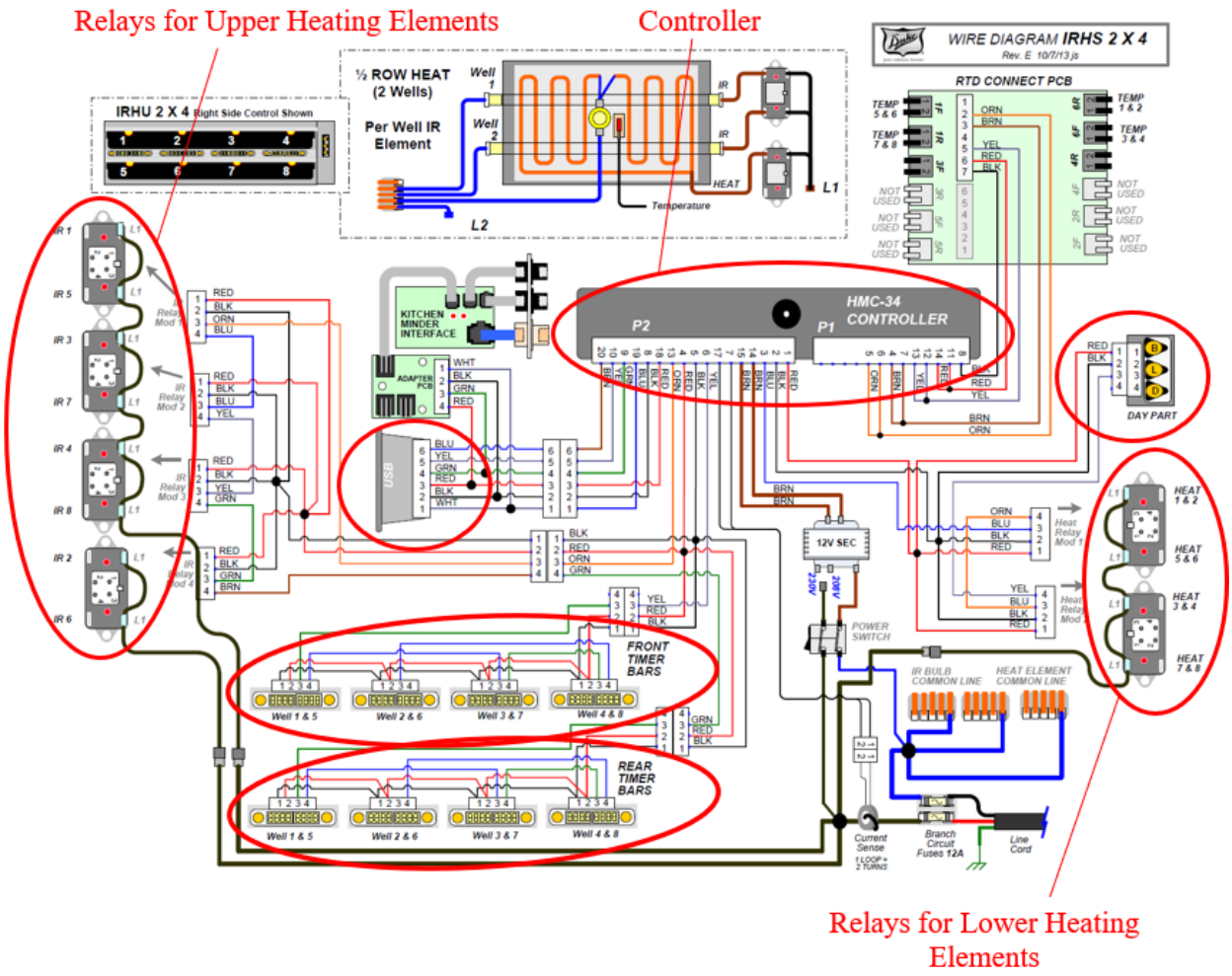
3. Use the Arrow Buttons to scroll to desired Daypart (i.e. "MEAL SET2", MEAL SET3") and press the ENTER Button to accept.
4. Status LED stops flashing, "UPDATING" is displayed for a few seconds, and then the desired Daypart ("MEAL SET") is displayed.

EX1005: 17.

1.o: a controller operatively coupled to the user interface and each heating element, the controller configured to independently operate each heating element such that each food holding zone has an independently controlled food holding temperature

234. POSA would recognize that the IRHS Documents disclose "a controller operatively coupled to the user interface and each heating element, the controller configured to independently operate each heating element such that each food holding zone has an independently controlled food holding temperature."

235. For example, the IRHS Documents disclose the IRHS24 Holding Unit as having an HMC-34 Controller operatively connected to the upper and lower heating elements and the user interface (front and rear timer bars, USB interface, daypart interface). EX1005: 25 ("HMC-34 Controller").



EX1005: 25 (annotated).

CONTROLLER

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

EX1008: 30.

236. As explained in Paragraphs 170-193 (claim limitation 1.h.2) above, upper and lower heating elements are independently controllable from each other. The controller operates the heating elements of the different food holding zones

independently, so each food holding zone has an independently controlled food holding temperature. 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"). Further as shown in the wiring diagram, the controller is connected to each heating element, enabling the controller to independently operate each heating element.

237. The controller is further disclosed as individually controlling 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"). The bottom heat is zoned "to provide additional holding environment customization." EX1006: 1; EX1005: 25 ("1/2 Row Heat (2 Wells)"); *see also* Paragraphs 172-176.

238. 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: 4 ("[t]his new technology allows you to precisely control the

environment in each pan, allowing customized settings for each food product"), 16 ("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"). The controller is described as controlling each of the four food holding zones to provide a different food holding temperature based on the food product types assigned to the pan locations in the different zones, such that the food holding temperature corresponds to the food product held in the respective zone.

239. For example, as discussed in Paragraphs 194-197 (claim limitation 1.h.3) above, each food holding zone of the IRHS24 would have an independently controlled food holding temperature at a bottom of the food holding zone based on a heat sink temperature setting for the type of food and with the temperature being monitored and maintained via feedback from a heat sink temperature sensor.

240. Accordingly, each limitation of Claim 1 is disclosed within the IRHS Documents. Because the IRHS Documents would have been understood to be describing the same family of IRHS Holding Units, the POSA would have found it obvious to combine the teachings and disclosures of the IRHS Documents—which collectively disclosed each limitation of Claim 1—to arrive at the food holding bin as claimed in Claim 1.

C. Claim 2

2.a.1: the food holding bin of claim 1, further comprising: a third opening in the rear face of the chassis defined by the first substantially planar surface, the first side panel, the second side panel and the top panel

241. 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 food holding bin of Claim 1. The POSA would recognize that the IRHS Documents inherently discloses the multi-zone food holding bins as having "a third opening in the rear face of the chassis defined by the first substantially planar surface, the first side panel, the second side panel and the top panel."

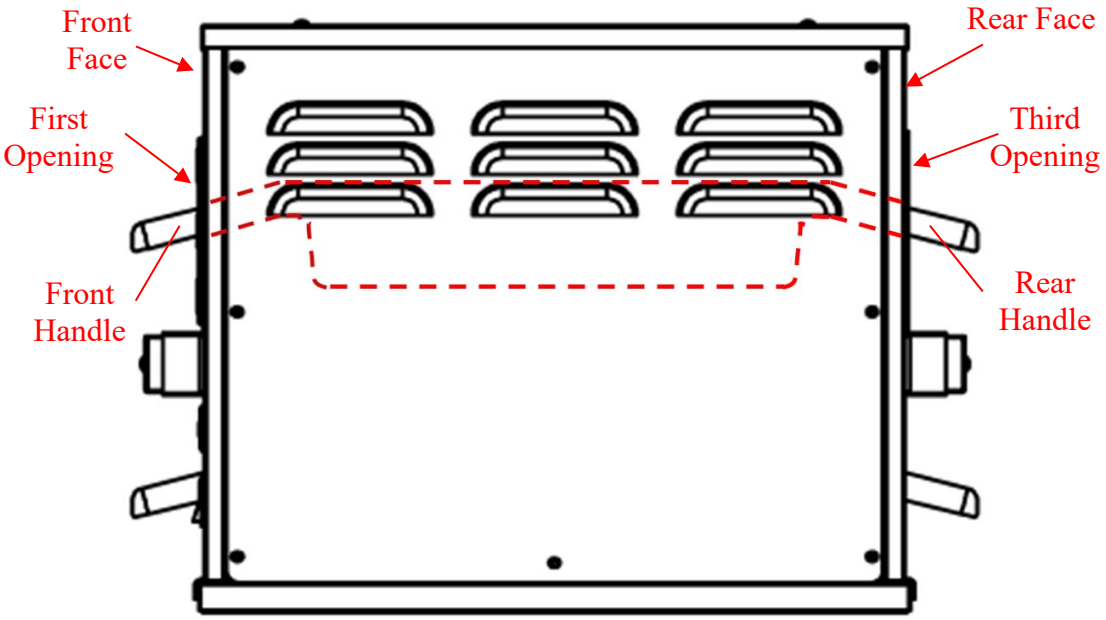
242. The POSA would understand the rear face of the chassis of the IRHS Holding Units are generally a mirror image of the front face of the chassis. EX1008: 12 ("The Menu Bars … are located on the front and back faces of the unit.").

243. 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:

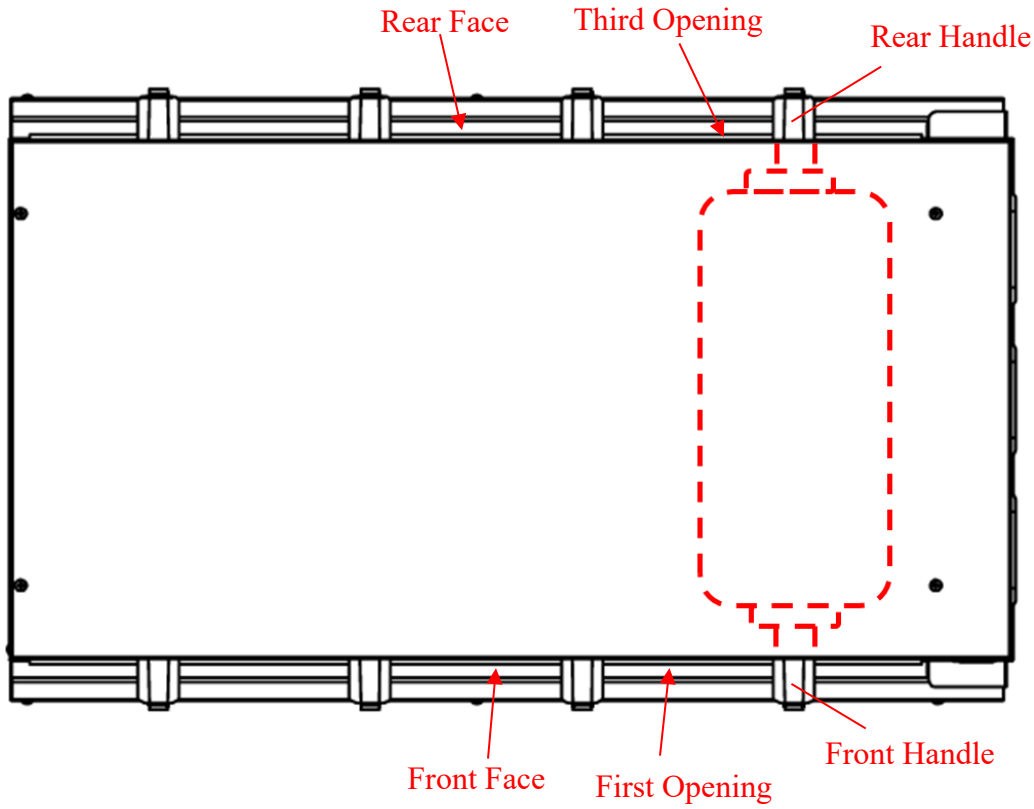


EX1007: 58 (annotated).

244. 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).

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

246. This makes the IRHS Holding Unit what is known in the art as a pass-through unit allowing crews to work from both sides of the IRHS Holding Unit. EX1007: 67 ("Pass through design allows crews to work both sides"). As known

in the art, the front and rear faces of pass-through units are generally mirror images of one another with respect to their openings. EX1010: Figs. 1 and 6, ¶[0014]; EX1011: Figs. 1 and 2; EX1014: Figs. 5 and 8.

247. 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.

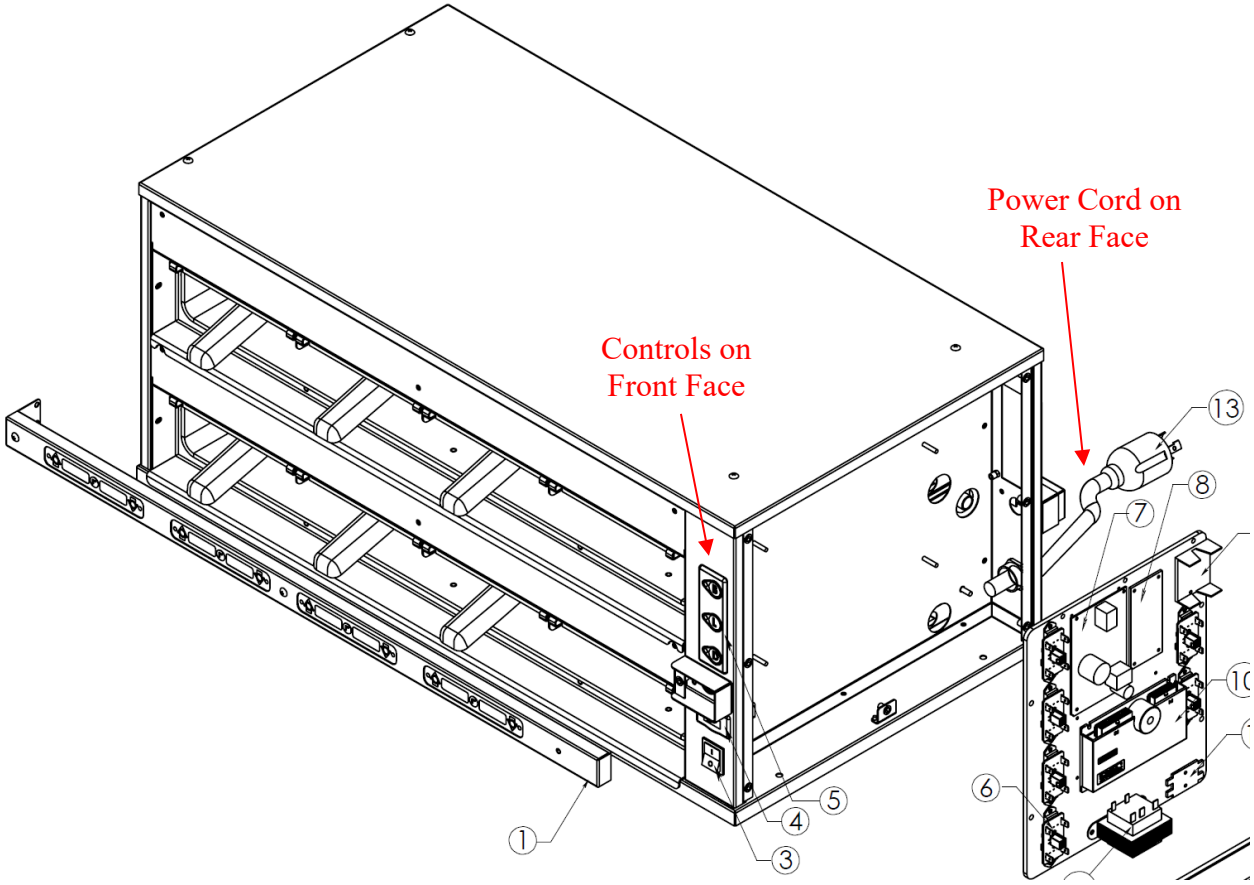


248. The IRHS Documents also includes images of an IRHS Unit without any controls on its face and a power cord extending from it. The POSA would recognize that these images are actually showing the rear face of the IRHS Unit.



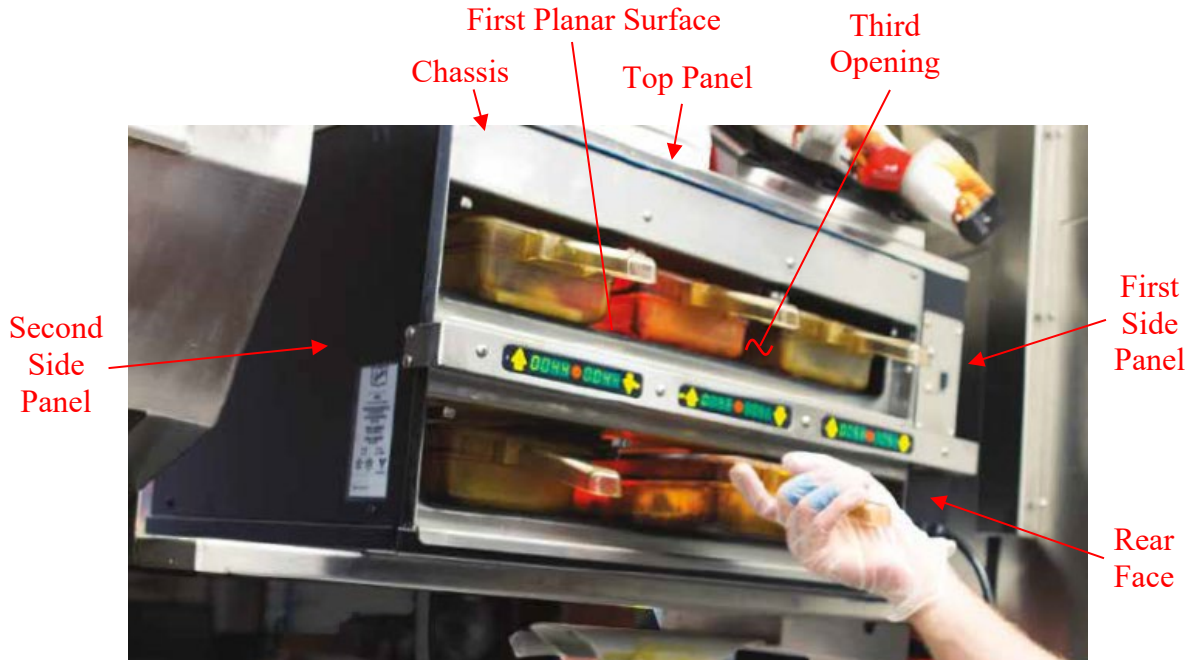


EX1007: 28, 51, 52 (annotated).



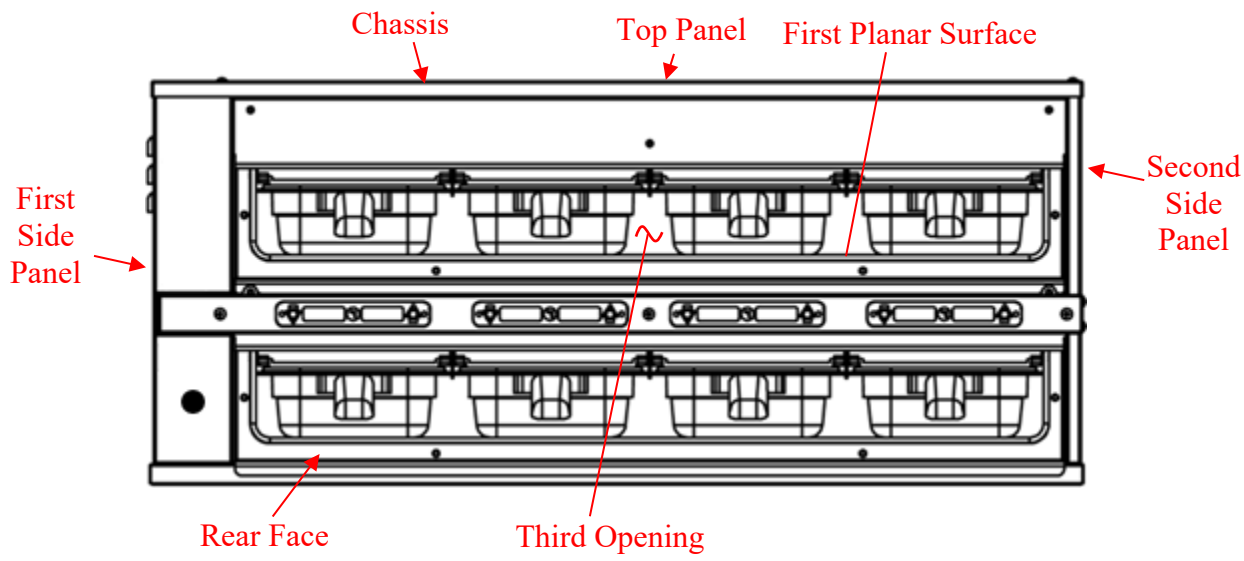
EX1005: 19 (annotated).

249. As annotated below, the illustrated rear face of the chassis has a third opening defined by the first planar surface, the first and second side panels, and the top panel.



EX1007: 52 (annotated).

250. The POSA would understand this construction applies to all of the IRHS units, including the IRHS24 Holding Unit. A representative illustration of the rear face of the IRHS24 Holding Unit is shown below. As illustrated, the rear face of the chassis would be understood to have a third opening defined by the first planar surface, the first and second side panels, and the top panel.

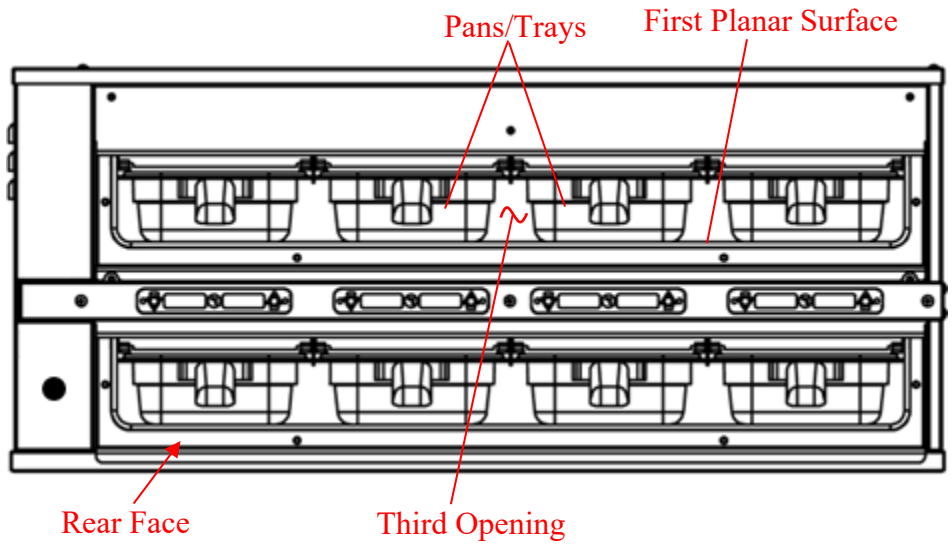


EX1005: 8 (modified to represent the rear view of the IRHS24 Holding Unit).

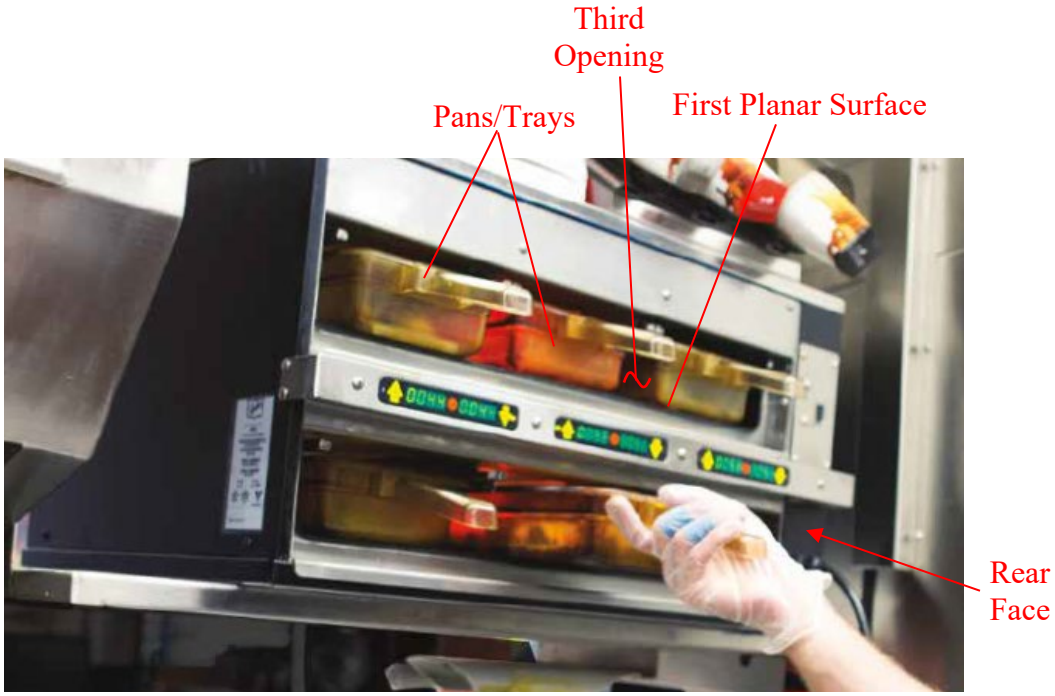
2.a.2: the third opening configured to allow the tray for food items to be passed through the third opening from the first substantially planar surface

251. The POSA would recognize that the IRHS Documents disclose that the third opening of the multi-zone food holding bins is "configured to allow the tray for food items to be passed through the third opening and onto the first substantially planar surface."

252. The POSA would understand that the third opening–which would be understood to mirror the first opening—is larger than the food pans and allows the food pans to pass therethrough onto the first planar surface.



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



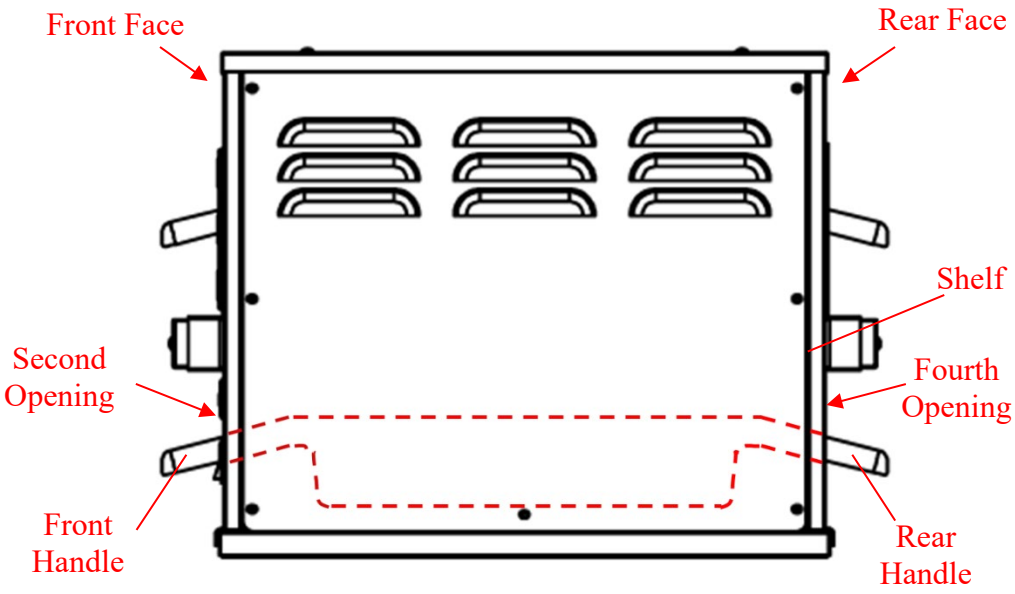
EX1007: 52 (annotated).

2.b.1: a fourth opening in the rear face of the chassis defined by the second substantially planar surface, the first side panel, the second side panel and the shelf

253. The POSA would recognize that the IRHS Documents inherently discloses the multi-zone food holding bins as having "a fourth opening in the rear face of the chassis defined by the second substantially planar surface, the first side panel, the second side panel and the shelf."

254. As explained in Paragraphs 241-250 (claim limitation 2.a.1) above with respect to the third opening, the POSA understands the rear face of the chassis of the IRHS Holding Unit is generally a mirror image of the front face of the chassis in terms of the openings.

255. As discussed in Paragraphs 243-245 above, 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 as shown below:



EX1005: 8 (annotated).

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

257. As discussed with respect to the third opening above, 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.

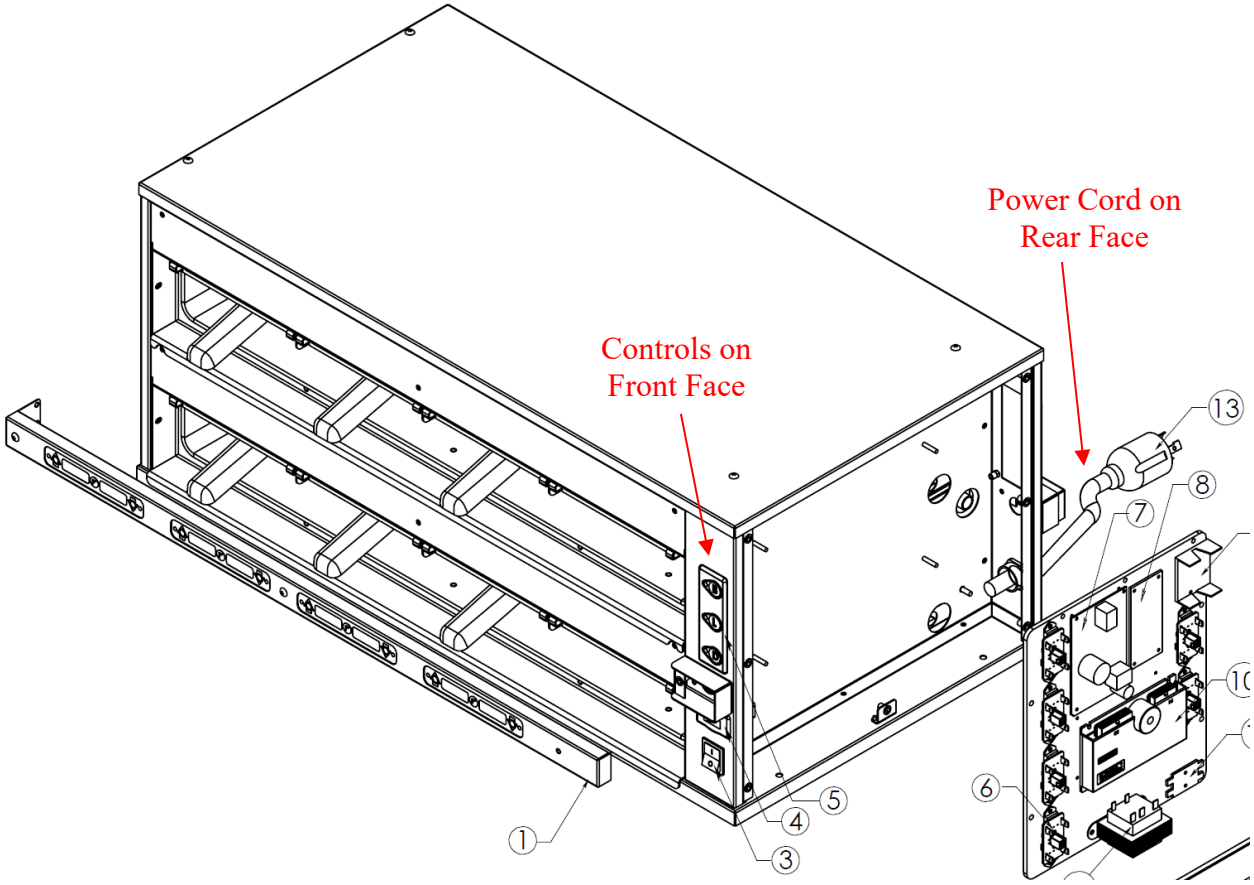


258. The IRHS Documents also includes images of an IRHS Unit without any controls on its face and a power cord extending from it. The POSA would recognize that these images are actually showing the rear face of the IRHS Unit.



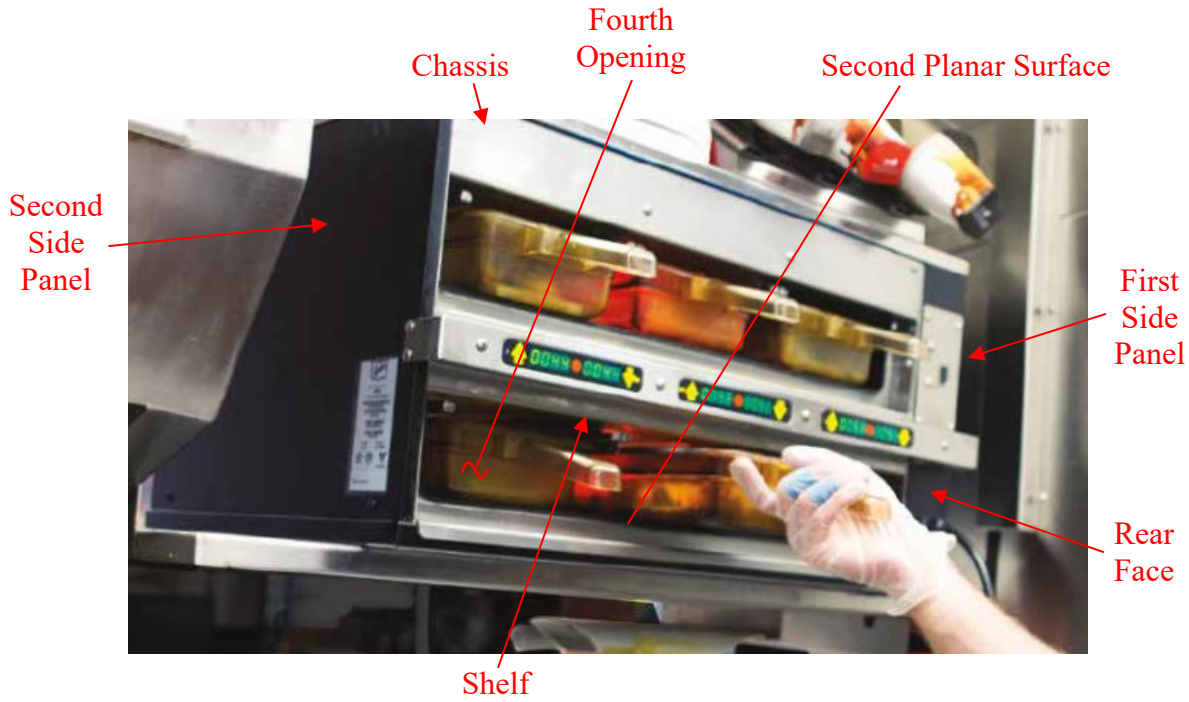


EX1007: 28, 51, 52 (annotated).



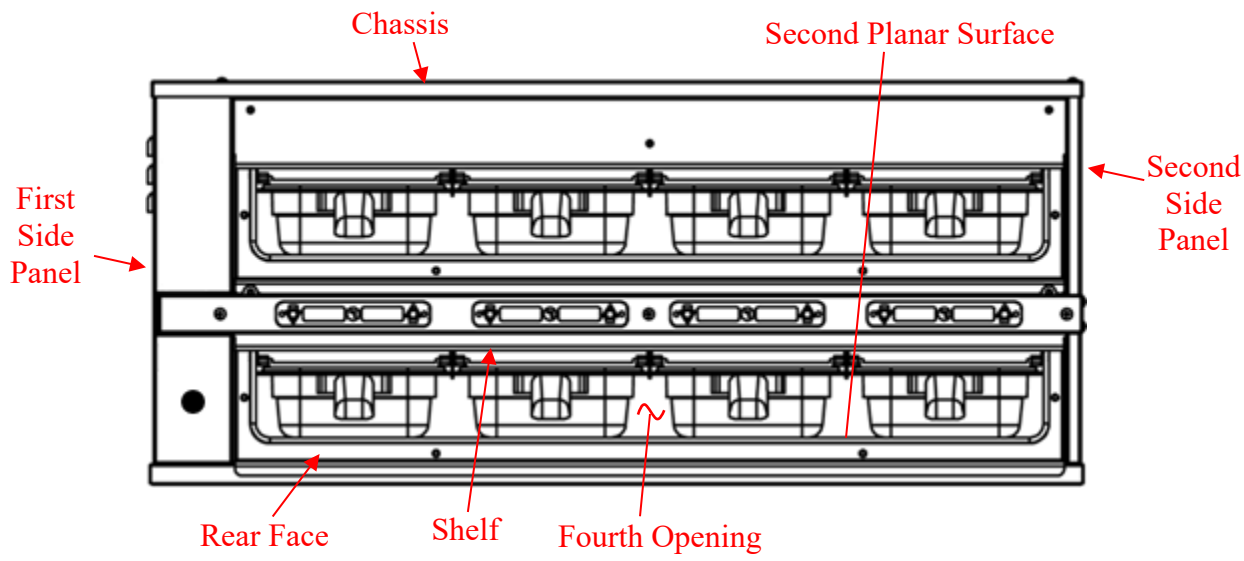
EX1005: 19 (annotated).

259. As annotated below, the illustrated rear face of the chassis would be understood to have a fourth opening defined by the second planar surface, the first and second side panels, and the shelf.



EX1007: 52 (annotated).

260. The POSA would understand this construction applies to all of the IRHS units, including the IRHS24 Holding Unit. A representative illustration of the rear face of the IRHS24 Holding Unit is shown below. As illustrated, the rear face of the chassis would be understood to have a fourth opening defined by the second planar surface, the first and second side panels, and the shelf.

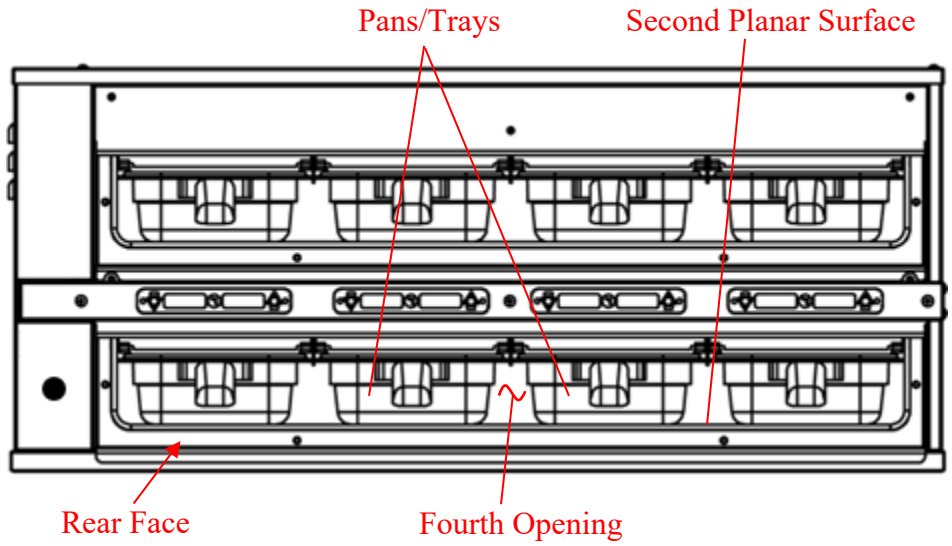


EX1005: 8 (modified to represent the rear view of the IRHS24 Holding Unit).

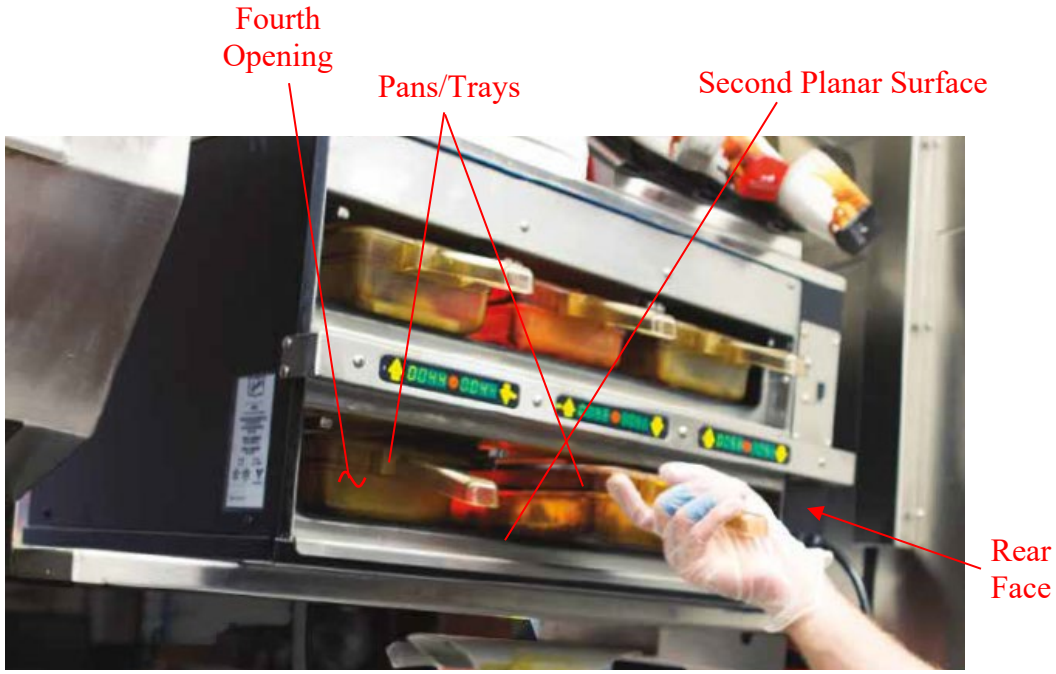
2.b.2: the fourth opening configured to allow the tray for food items to be passed through the fourth opening from the second substantially planar surface

261. The POSA would recognize that the IRHS Documents disclose that the fourth opening of the multi-zone food holding bins is "configured to allow the tray for food items to be passed through the fourth opening and onto the second substantially planar surface."

262. The POSA would understand that the fourth opening–which would be understood to mirror the second opening—is larger than the food pans and allows the food pans to pass therethrough onto the second planar surface.



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



EX1007: 52 (annotated).

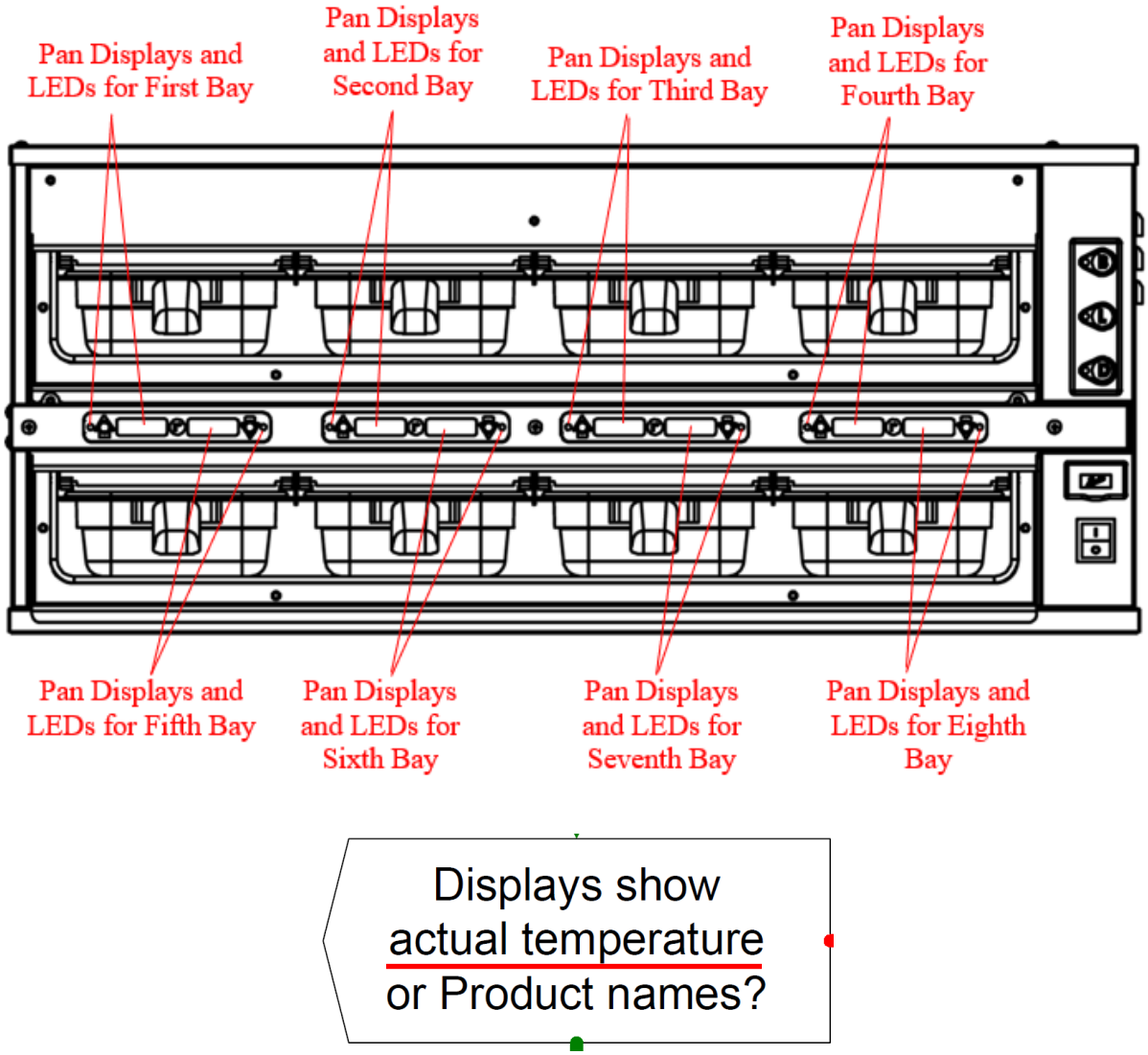
263. Accordingly, each limitation of Claim 2 is disclosed within the IRHS Documents. As each limitation of Claim 2 is disclosed within the IRHS

Documents, the POSA would have found it obvious to combine the teachings and disclosures of the IRHS Documents to arrive at the food holding bin as claimed in Claim 2.

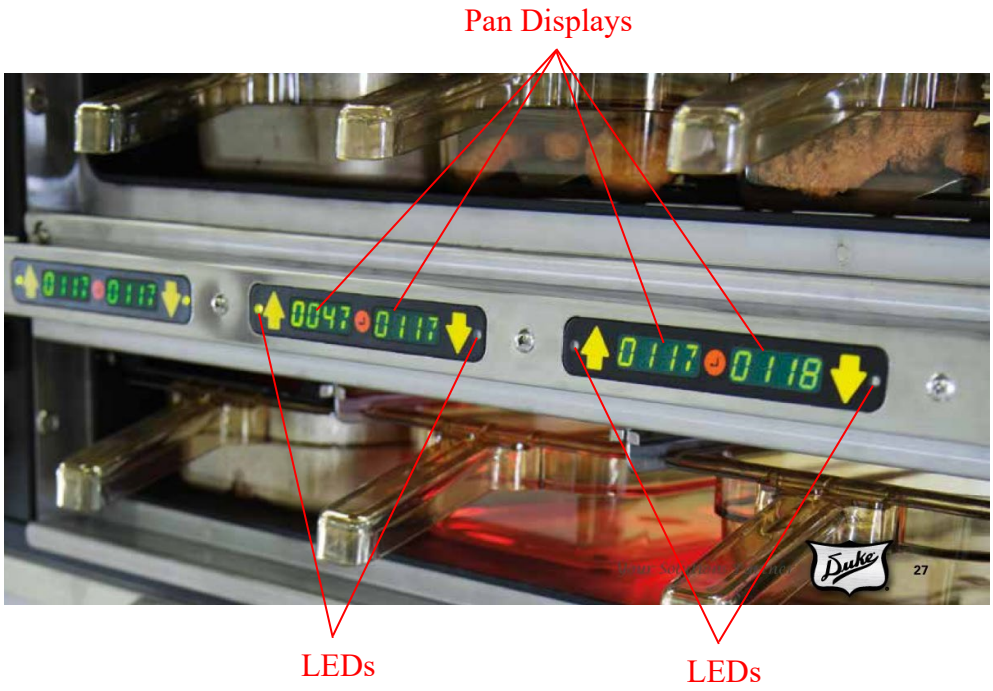
D. Claim 3: the food holding bin of claim 1 wherein each interface is a graphical interface that displays the food holding temperature of each food holding bay

264. 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 food holding bin of Claim 1. The POSA would additionally recognize that the IRHS Documents disclose the additional limitation added in Claim 3 requiring that "each interface is a graphical interface that displays the food holding temperature of each food holding bay."

265. As explained by the '363 Patent, a user interface that has displays is a graphical interface. EX1001: 7:11-14 ("[t]he displays and/or controls 93a, 93b can provide a graphical user interface to one or more controllers (not shown) for the cabinet"). The IRHS Documents disclose the front and rear timer bars of the IRHS24 Holding Unit's user interface as having pan displays and LEDs for each pan holding location/bay, thereby making the IRHS24 Holding Unit's user interface a graphical interface.



EX1005: 8, 21 (annotated).



EX1007: 52 (annotated).

266. The pan displays are shown in the IRHS Documents displaying information about the pan holding locations/bays, including the food holding temperature of each pan holding location/bay. EX1005: 21 ("Displays show actual temperature"); EX1006: 1 ("[a]lphanumeric displays to indicate product description, temp and hold time remaining"); EX1008: 42 ("Displays show actual temperature").



More Product Information at Each Well

(Product, Hold Time Remaining, Temperature)

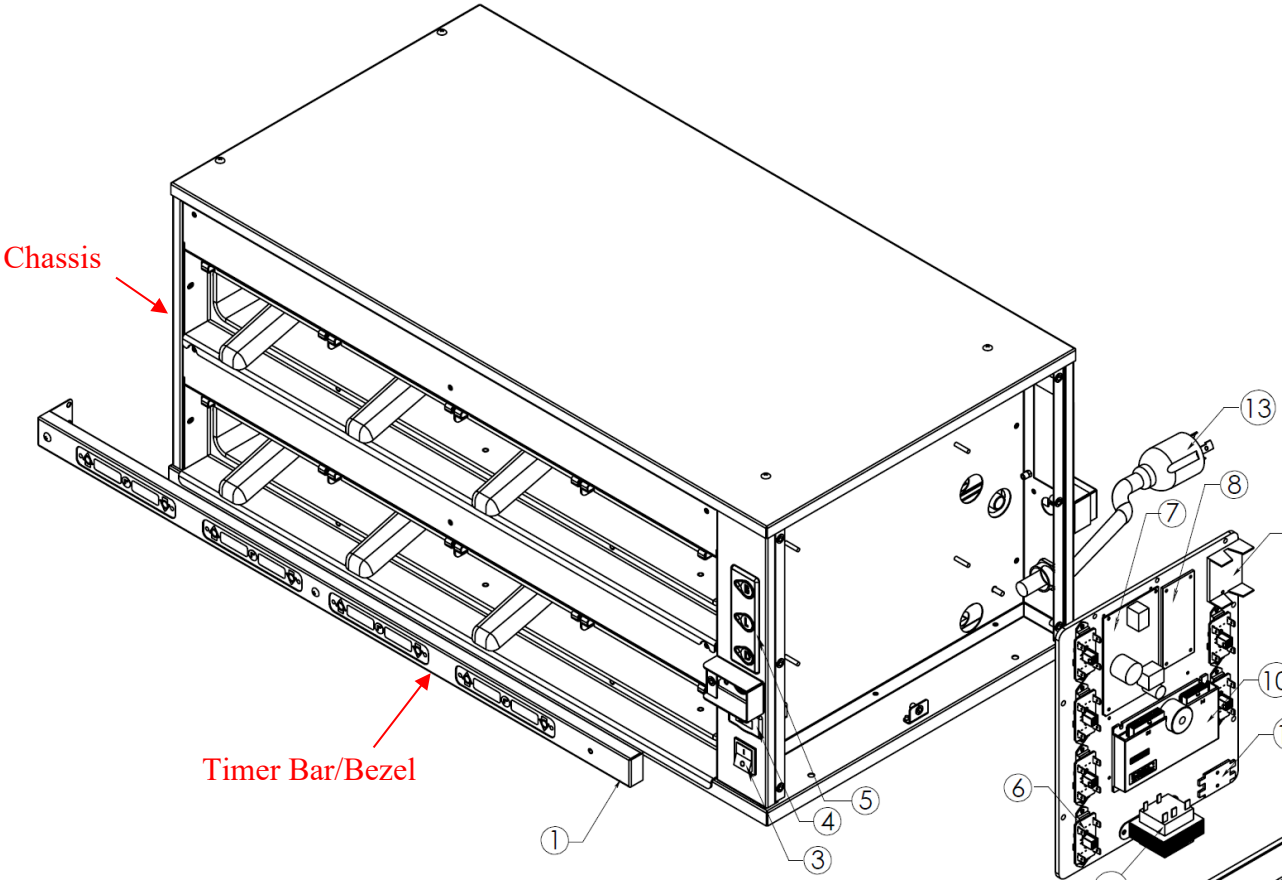
EX1007: 10-11.

267. Accordingly, the POSA would have found it obvious to combine the teachings and disclosures of the IRHS Documents to arrive at the food holding bin as claimed in Claim 3.

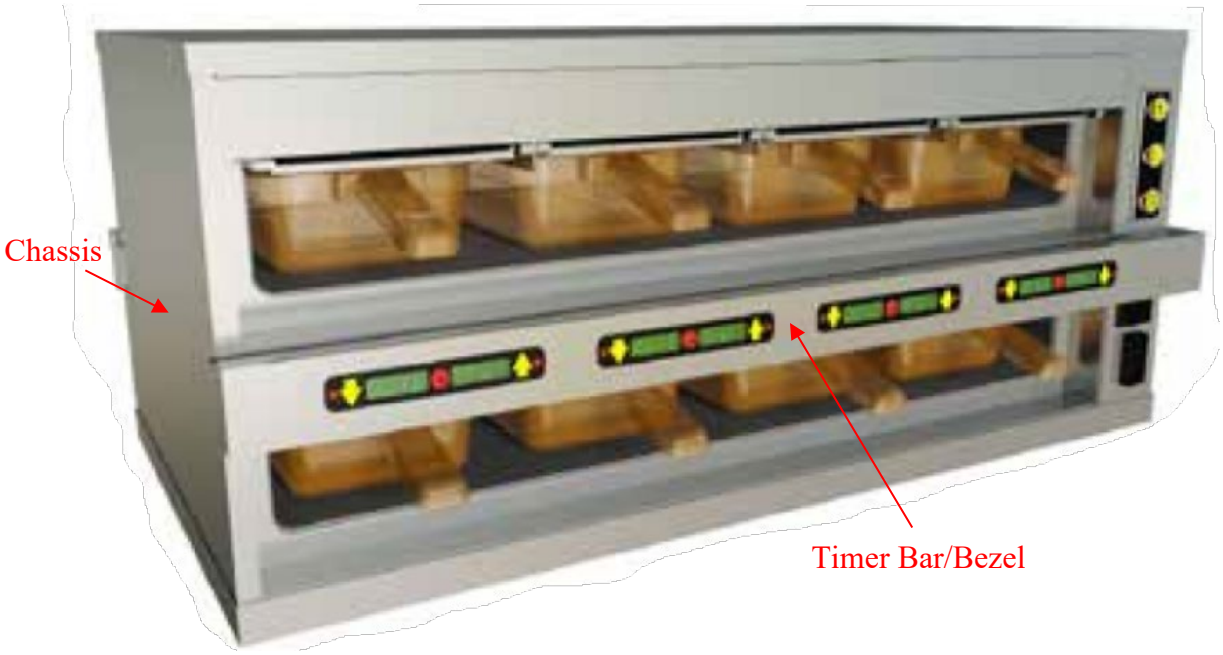
E. Claim 4: the food holding bin of claim 1, further comprising a first bezel attached to the chassis, the first bezel providing at least one user interface comprising dedicated controls and/or dedicated displays for each of the first, second, third, and fourth food holding bays

268. 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 food holding bin of Claim 1. The POSA would additionally recognize that the IRHS Documents disclose the additional limitation added in Claim 4 requiring the food holding bin to further comprise "a first bezel attached to the chassis, the first bezel providing at least one user interface comprising dedicated controls and/or dedicated displays for each of the first, second, third, and fourth food holding bays."

269. As disclosed in the IRHS Documents, the IRHS24 Holding Unit has a first bezel in the form of the front timer bar that is attached to the chassis.

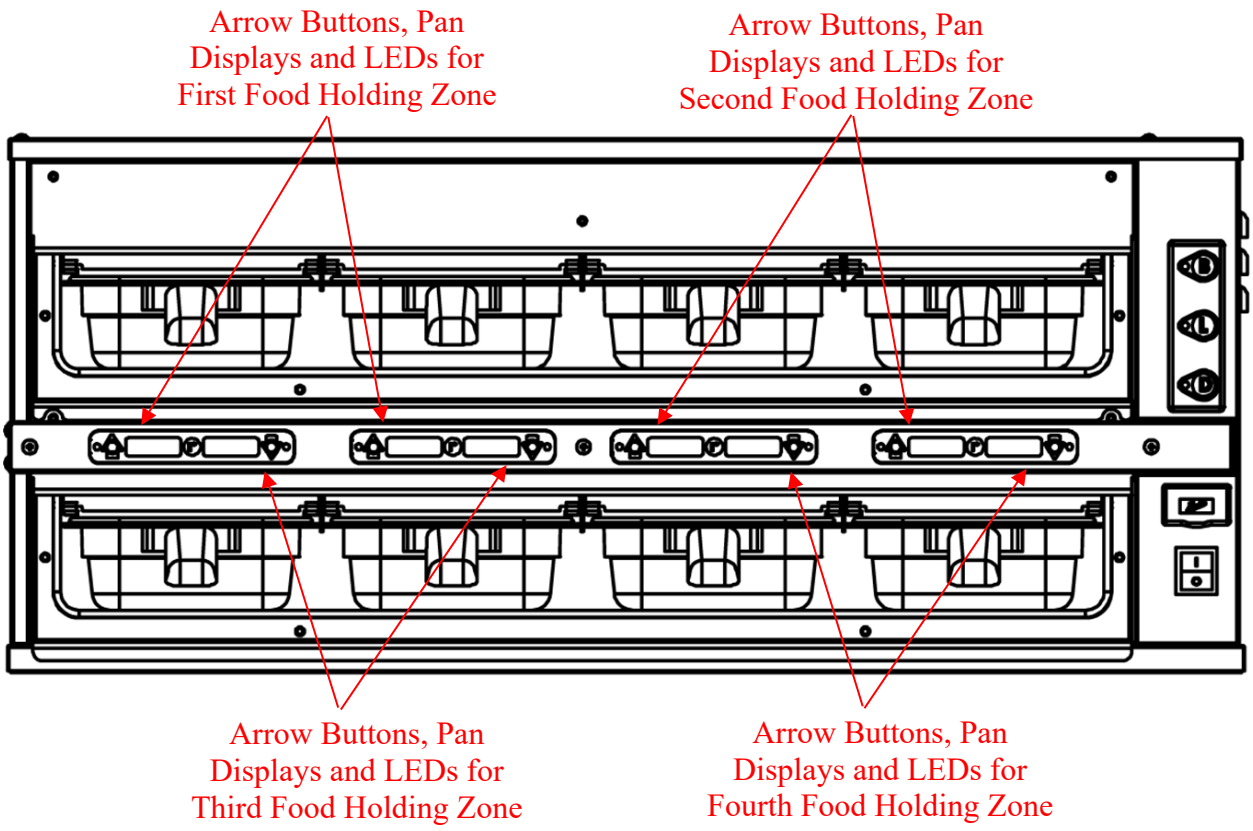


EX1005: 19 (annotated).



EX1007: 56 (annotated).

270. The front timer bar is disclosed as providing user interfaces comprising dedicated controls (arrow buttons) and dedicated displays (LEDs and pan displays) for each pan holding location/bay in the food holding zones. 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.

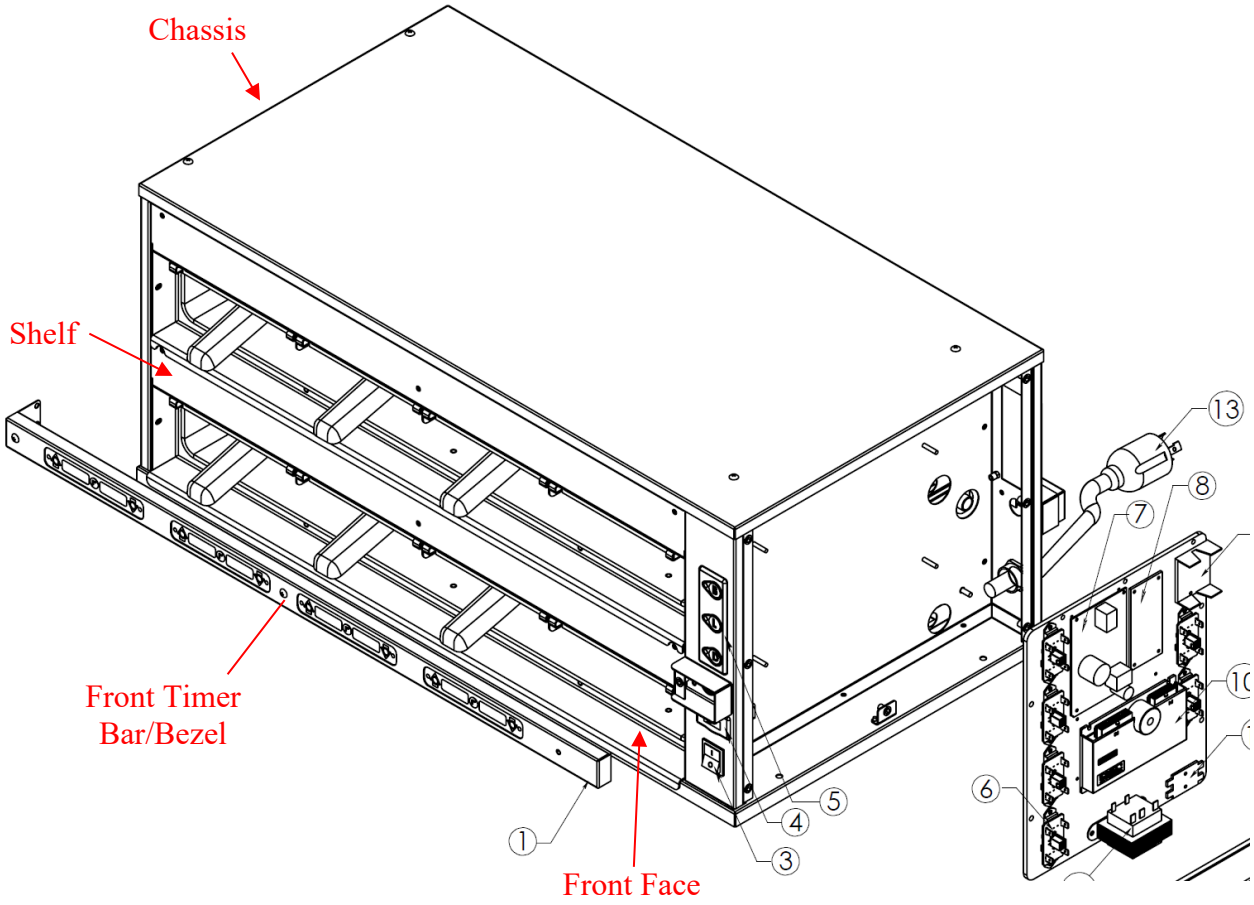
EX1005: 16 (annotated).

271. Accordingly, the POSA would have found it obvious to combine the teachings and disclosures of the IRHS Documents to arrive at the food holding bin as claimed in Claim 4.

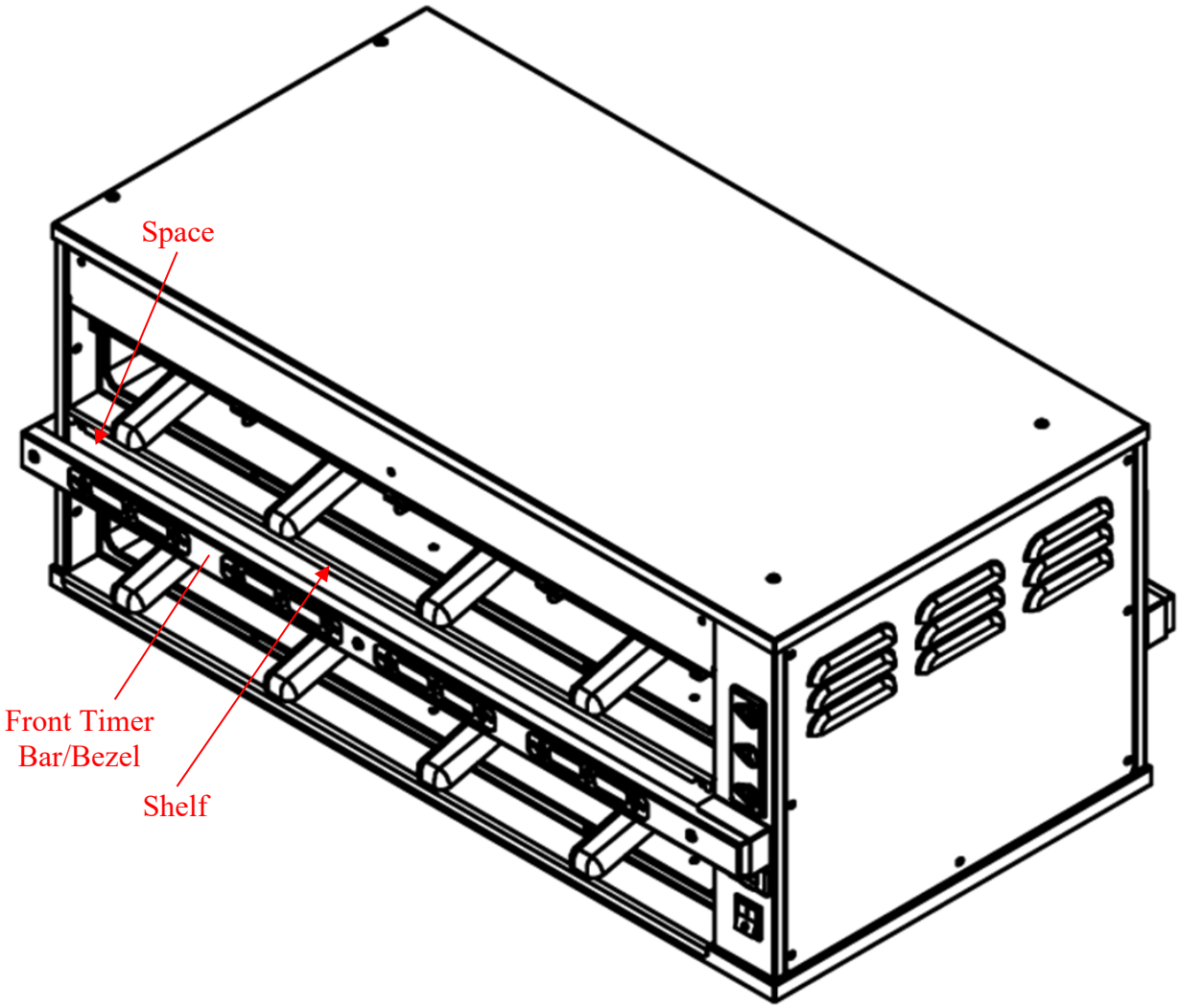
F. Claim 5: the food holding bin of claim 3, wherein the first bezel is set forward from the shelf and defining a space between the first bezel and the front face

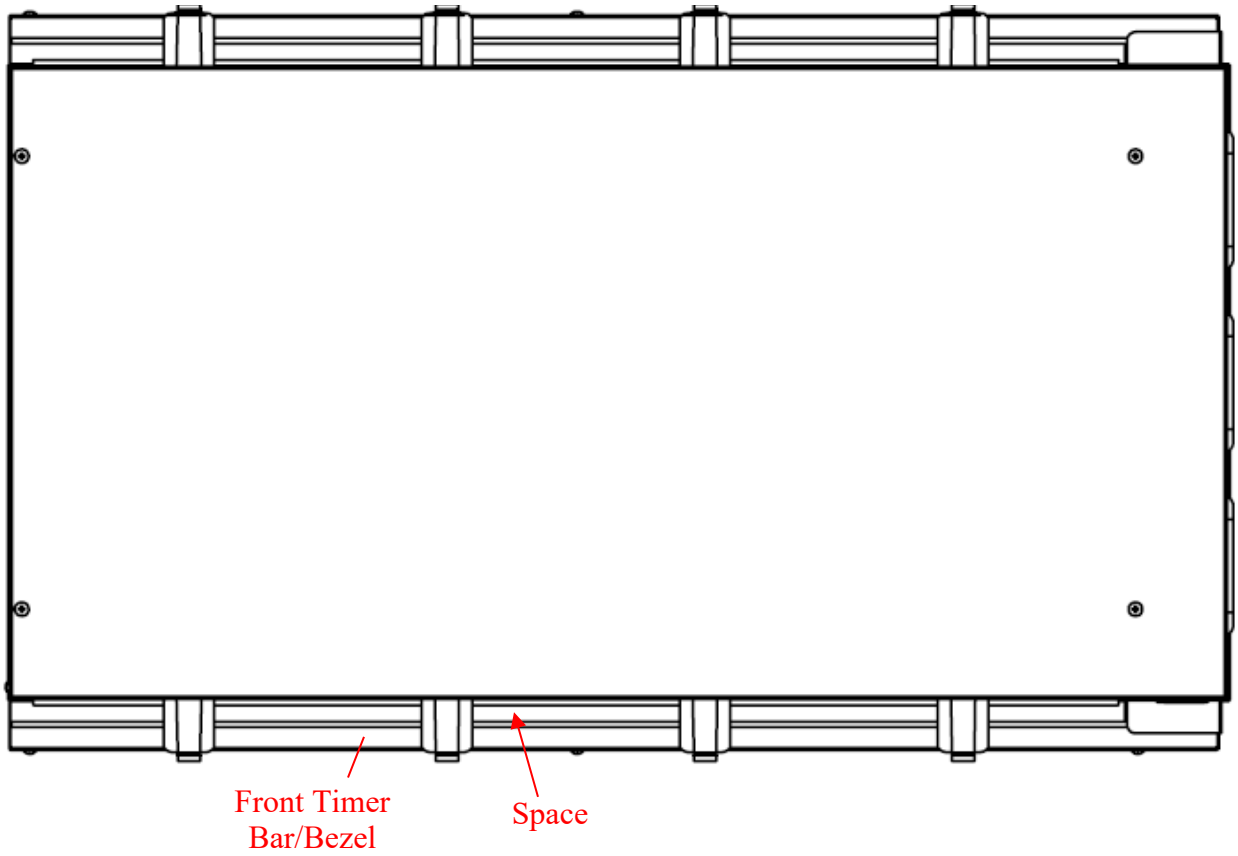
272. As discussed above, the POSA would have found it obvious to combine the teachings and disclosures of the IRHS Documents to arrive at the claimed food holding bin of Claim 3. The POSA would additionally recognize that the IRHS Documents disclose the additional limitation added in Claim 5 requiring that "the first bezel is set forward from the shelf and defin[es] a space between the first bezel and the front face."

273. As disclosed in the IRHS Documents, the front timer bar (first bezel) is set forward from the shelf thus defining a space between the front timer bar and the front face of the chassis.

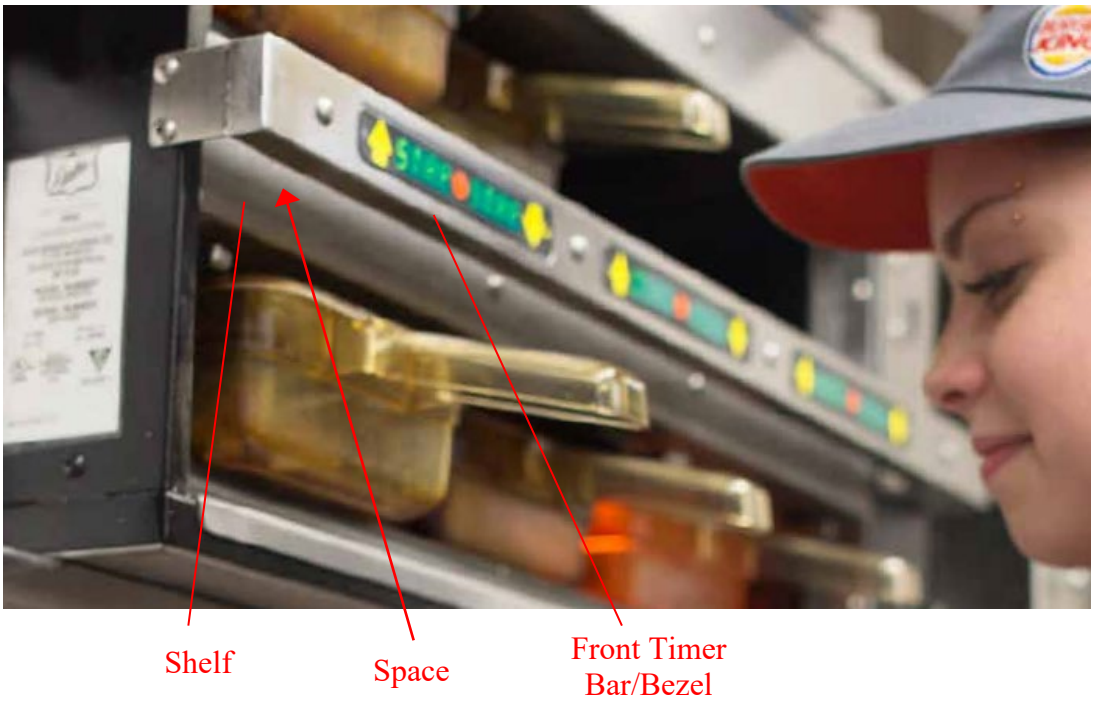


EX1005: 19 (annotated).


Space
Front Timer
Bar/Bezel
Shelf



EX1005: 8 (annotated).



EX1007: 28 (annotated).

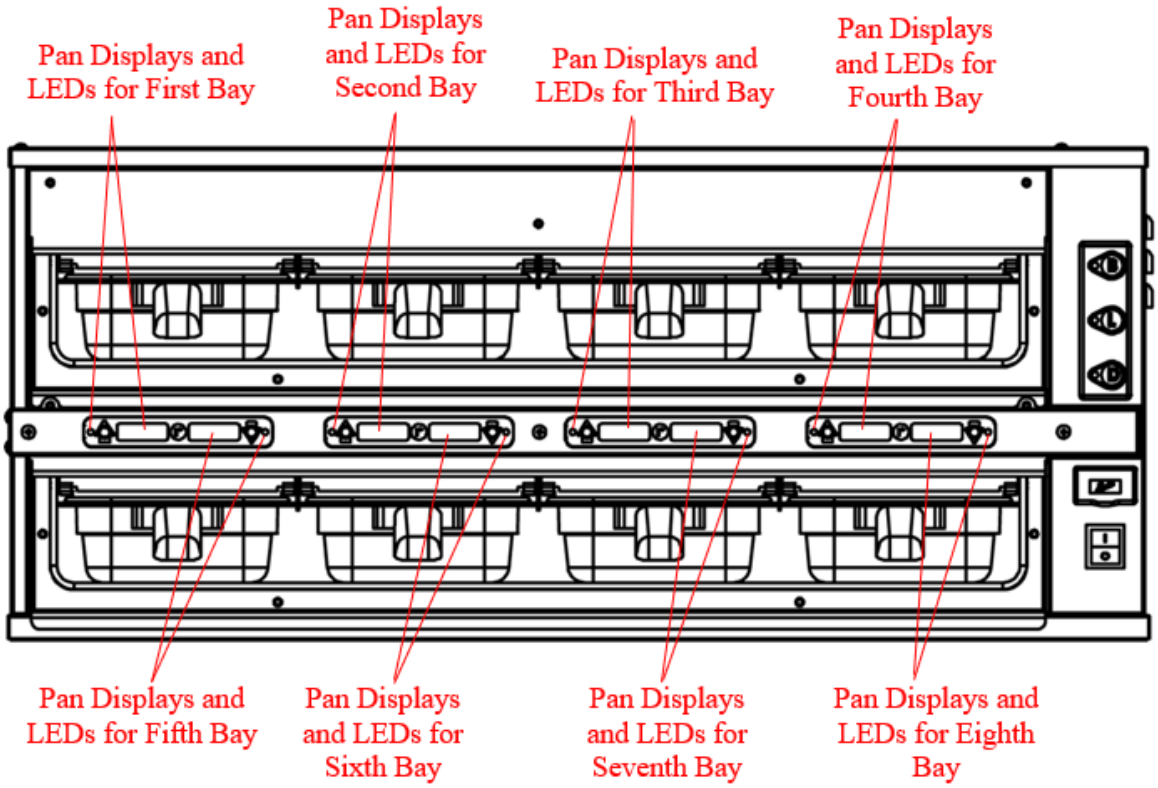
274. Accordingly, the POSA would have found it obvious to combine the teachings and disclosures of the IRHS Documents to arrive at the food holding bin as claimed in Claim 5.

G. Claim 7: the food holding bin of claim 4, wherein the first bezel provides at least one graphical interface comprising at least one dedicated display and the dedicated display displays a temperature setting for a corresponding food holding zone

275. 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 food holding bin of Claim 4. The POSA would additionally recognize that the IRHS Documents disclose the additional limitation added in Claim 7 requiring "the first bezel provide[] at least one graphical interface comprising at least one dedicated display and the dedicated display display[] a temperature setting for a corresponding food holding zone."

276. As explained by the '363 Patent, a user interface that has displays is a graphical interface. EX1001: 7:11-14 ("[t]he displays and/or controls 93a, 93b can provide a graphical user interface to one or more controllers (not shown) for the cabinet").

277. As described in Paragraphs 264-271 (Claims 3 and 4) above, the disclosed front timer bar (first bezel) provides graphical interfaces comprising dedicated displays (pan displays and LEDs) for each pan holding location/bay.

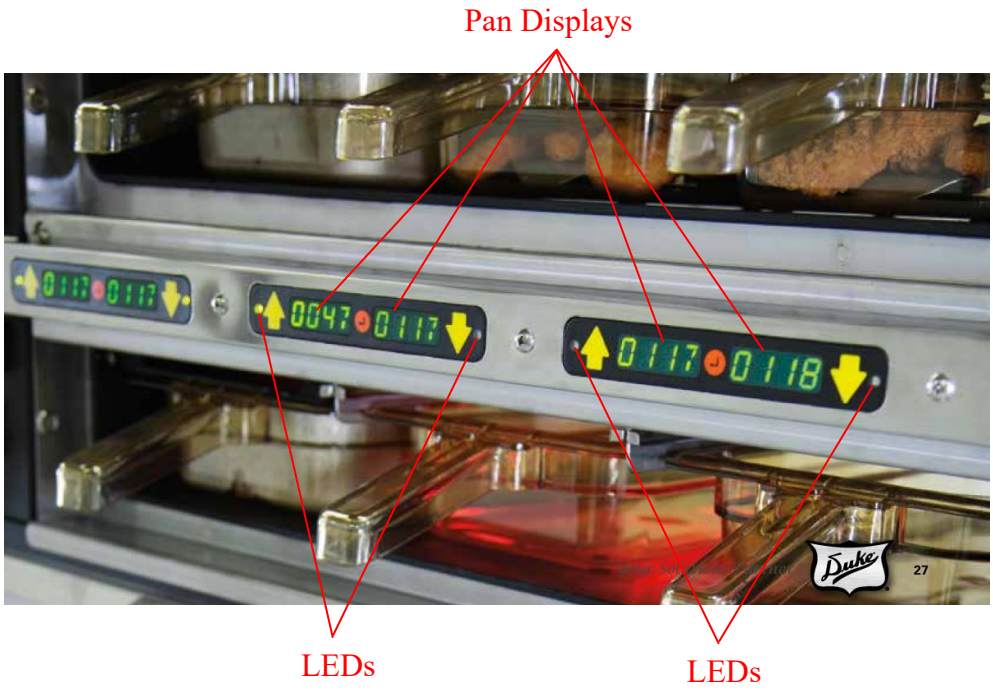

Pan Displays and LEDs for First Bay
Pan Displays and LEDs for Second Bay
Pan Displays and LEDs for Third Bay
Pan Displays and LEDs for Fourth Bay
Pan Displays and LEDs for Fifth Bay
Pan Displays and LEDs for Sixth Bay
Pan Displays and LEDs for Seventh Bay
Pan Displays and LEDs for Eighth Bay

OPERATION – TIMER BAR FUNCTIONALITY



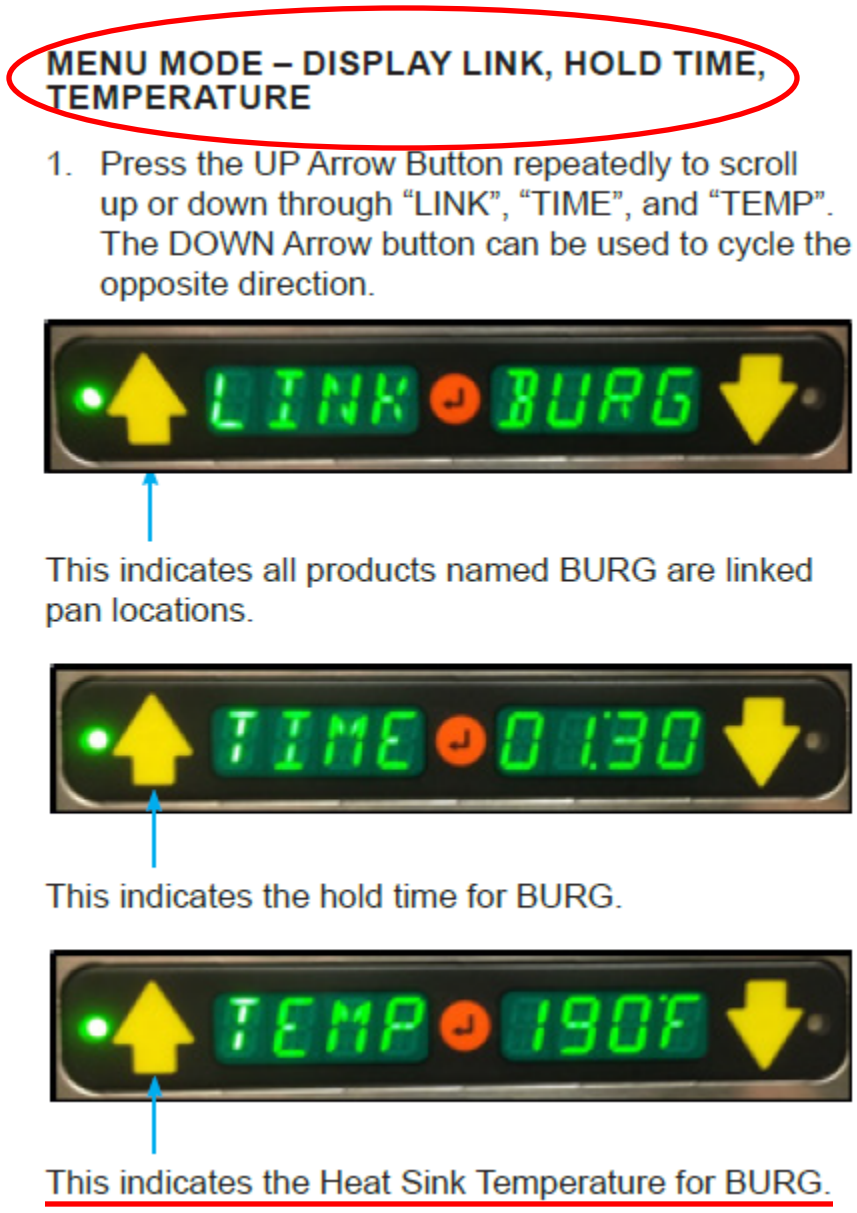
2. Arrow Buttons
   a. Used for Starting / Stopping / Resetting Timer.
   b. Used to access MENU MODE.
   c. Indicate which pan the adjacent Status LED and Pan Display are linked to.
3. Pan Display
   a. Displays Product Name and Hold Time Remaining (alternates between the two when Timer is active).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

EX1005: 8, 16 (annotated).



EX1007: 52 (annotated).

278. The pan displays are disclosed as displaying information about the pan holding locations/bays (and therefore the food holding zones), including the temperature setting for each pan holding location/bay. EX1006: 1 ("[a]lphanumeric displays to indicate product description, temp and hold time remaining"); EX1005: 16 ("[o]nce to temperature, product names can be viewed on the displays. Additional settings such as LINK, TIME, and TEMP can be viewed two different ways"), 17; EX1008: 47 ("Additional settings such as "LINK", "TIME", and "TEMP" can be viewed").



EX1005: 17 (annotated).

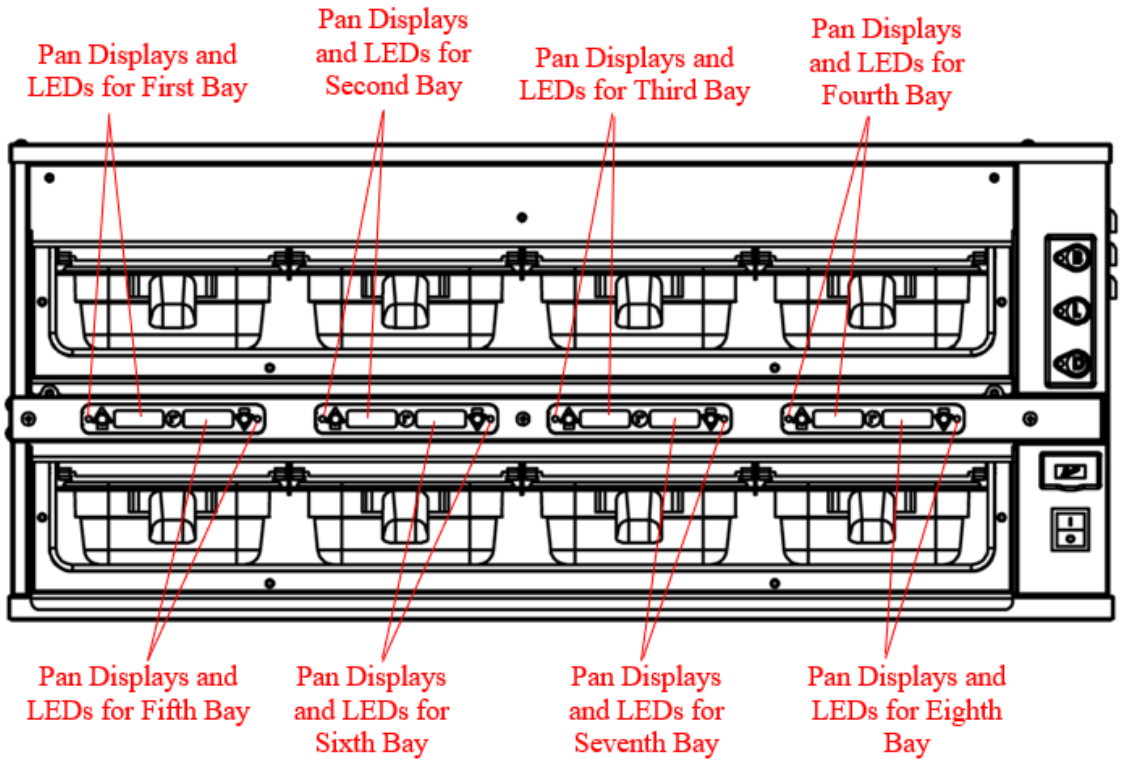
279. Accordingly, the POSA would have found it obvious to combine the teachings and disclosures of the IRHS Documents to arrive at the food holding bin as claimed in Claim 7.

H. Claims 8 and 9: the food holding bin of claim [4, 7], wherein the dedicated display displays additional information about a food item stored in the corresponding food holding bay

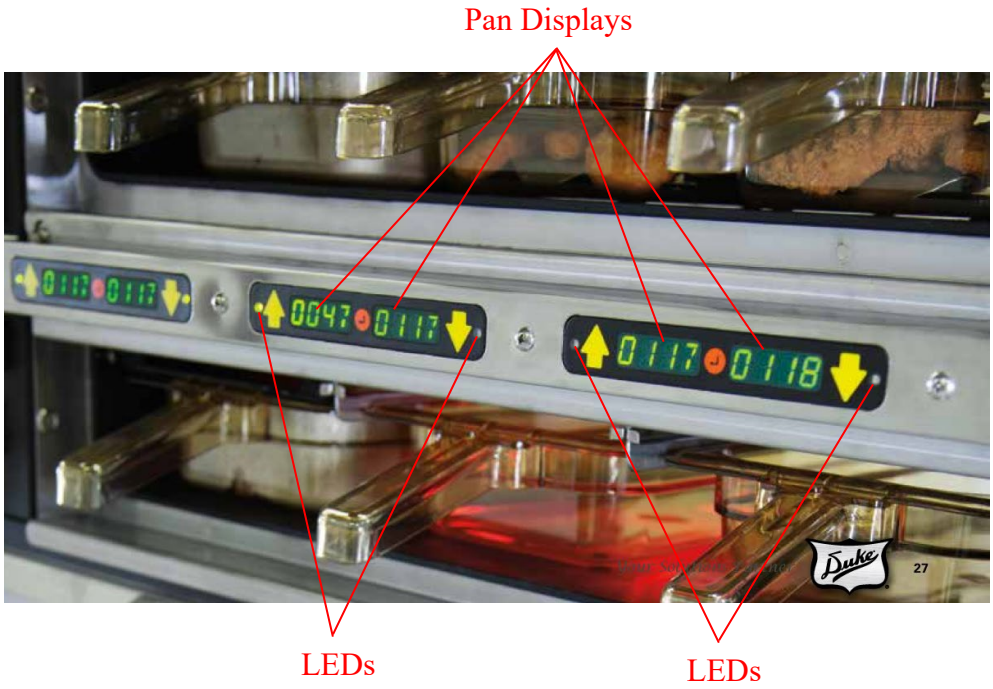
280. Claims 8 and 9 are nearly identical, except that Claim 8 depends from Claim 4, while Claim 9 depends from Claim 7. As discussed above, the POSA would have found it obvious to combine the teachings and disclosures of the IRHS Documents to arrive at the claimed food holding bin of Claim 4. Also as discussed above, the POSA would have found it obvious to combine the teachings and disclosures of the IRHS Documents to arrive at the claimed food holding bin of Claim 7.

281. The POSA would additionally recognize that the IRHS Documents disclose the additional limitation added in Claims 8 and 9 requiring that "the dedicated display displays additional information about a food item stored in the corresponding food holding bay."

282. As described in Paragraphs 264-271 (Claims 3 and 4) above, the front timer bar (first bezel) has dedicated displays (pan displays and LEDs) for each pan holding location/bay.



EX1005: 8 (annotated).



EX1007: 52 (annotated).

283. The LEDs and pan displays are disclosed as displaying additional information about the food in the pan holding locations/bays, such as whether there is an active timer, the food name (e.g., BURG), and hold time. 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.



More Product Information at Each Well

(Product, Hold Time Remaining, Temperature)

EX1007: 10-11, 52.

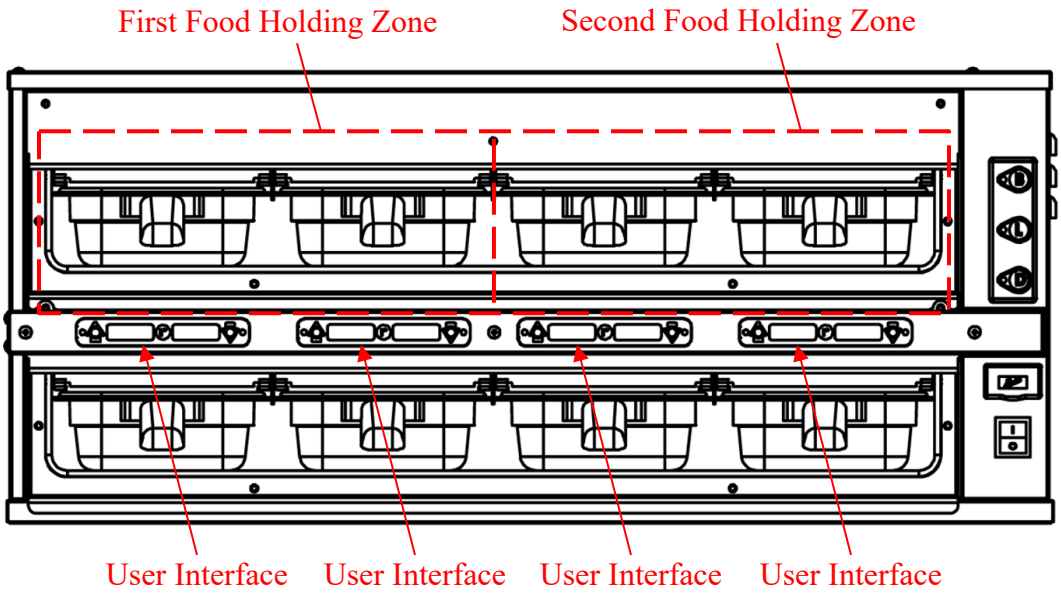
284. Accordingly, the POSA would have found it obvious to combine the teachings and disclosures of the IRHS Documents to arrive at the food holding bin as claimed in Claims 8 and 9.

I. Claim 10: the food holding bin of claim 4, wherein the first bezel provides two user interfaces arranged horizontally beneath the first food holding zone and the second food holding zone, respectively

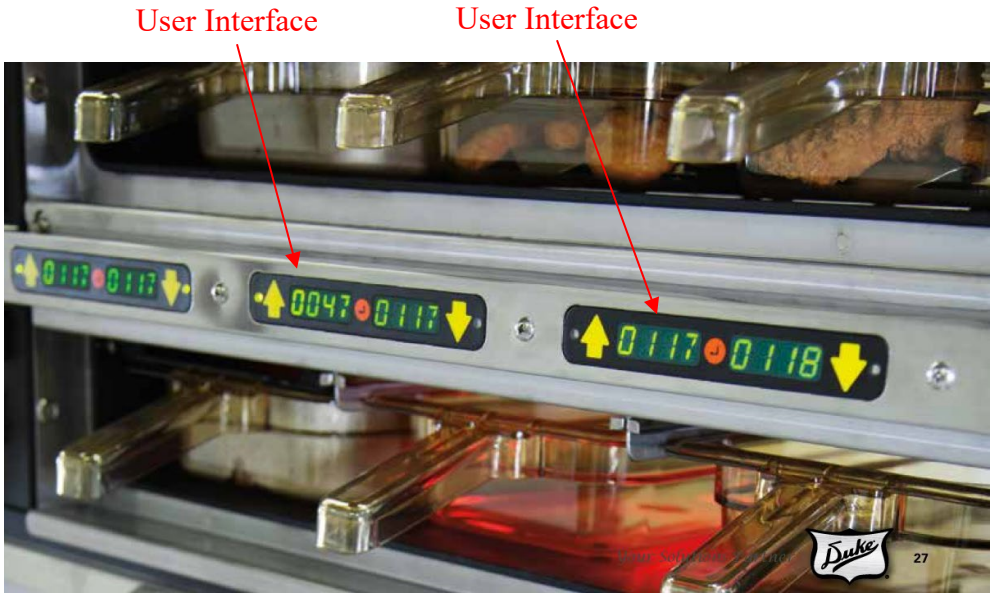
285. As discussed above, the POSA would have found it obvious to combine the teachings and disclosures of the IRHS Documents to arrive at the claimed food holding bin of Claim 4. The POSA would additionally recognize that the IRHS Documents disclose the additional limitation added in Claim 10 requiring "the first bezel provides two user interfaces arranged horizontally beneath the first food holding zone and the second food holding zone, respectively."

286. Claim 10 depends from Claim 4, which in turn depends from Claim 1. Claim 1 uses the "comprising" transitional language. Accordingly, I understand that under patent law principles the claim would be considered open-ended and allow for additional features beyond those recited—including additional user interfaces beyond the two user interfaces recited in the claim.

287. The front timer bar (first bezel) of the IRHS24 in the IRHS documents is depicted as having four user interfaces which are arranged horizontally below the first and second food holding zones with at least one of the user interfaces under each of the first and second food holding zones.



EX1005: 8 (annotated).



EX1007: 52 (annotated).

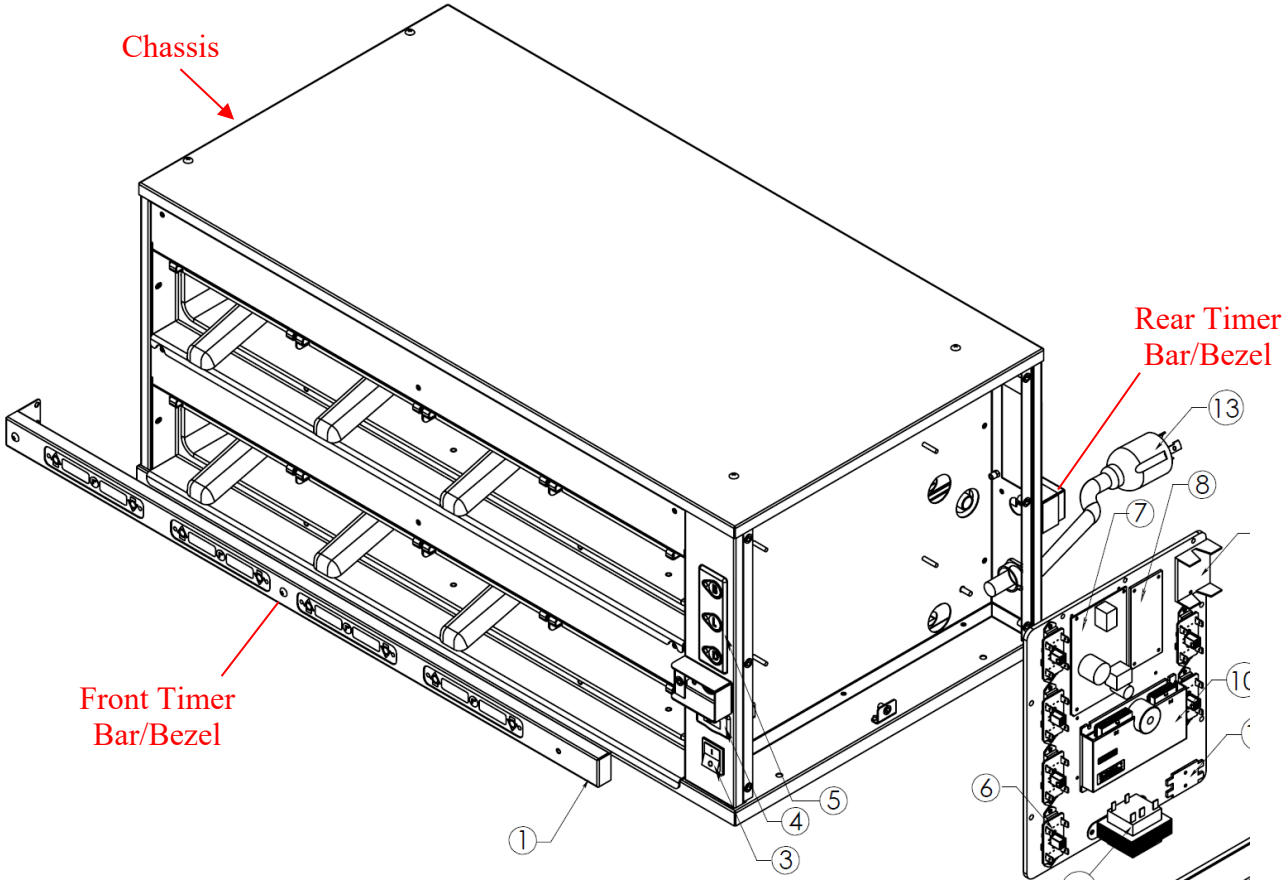
288. Accordingly, the POSA would have found it obvious to combine the teachings and disclosures of the IRHS Documents to arrive at the food holding bin as claimed in Claim 10.

J. Claim 11

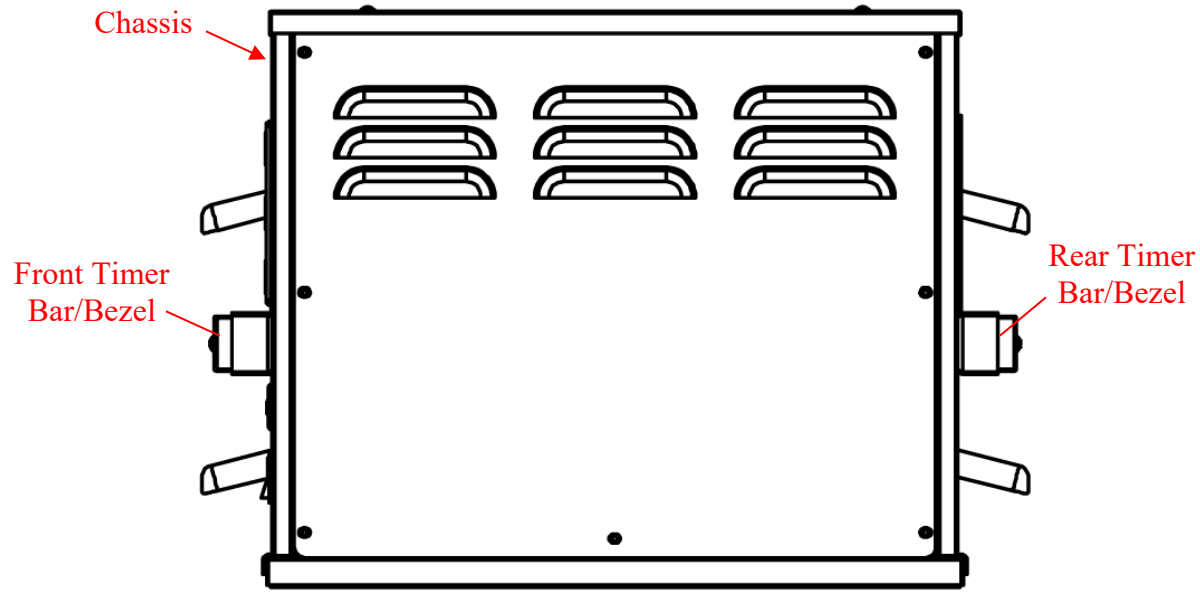
11.a.1: the food holding bin of claim 2, further comprising at least two bezels attached to the chassis

289. 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 food holding bin of Claim 2. The POSA would recognize that the IRHS Documents disclose the multi-zone food holding bins as having "at least two bezels attached to the chassis."

290. The IRHS24 Holding Unit's front and rear timer bars are two bezels that are attached to the chassis.



EX1005: 19 (annotated).



EX1005: 8 (annotated).



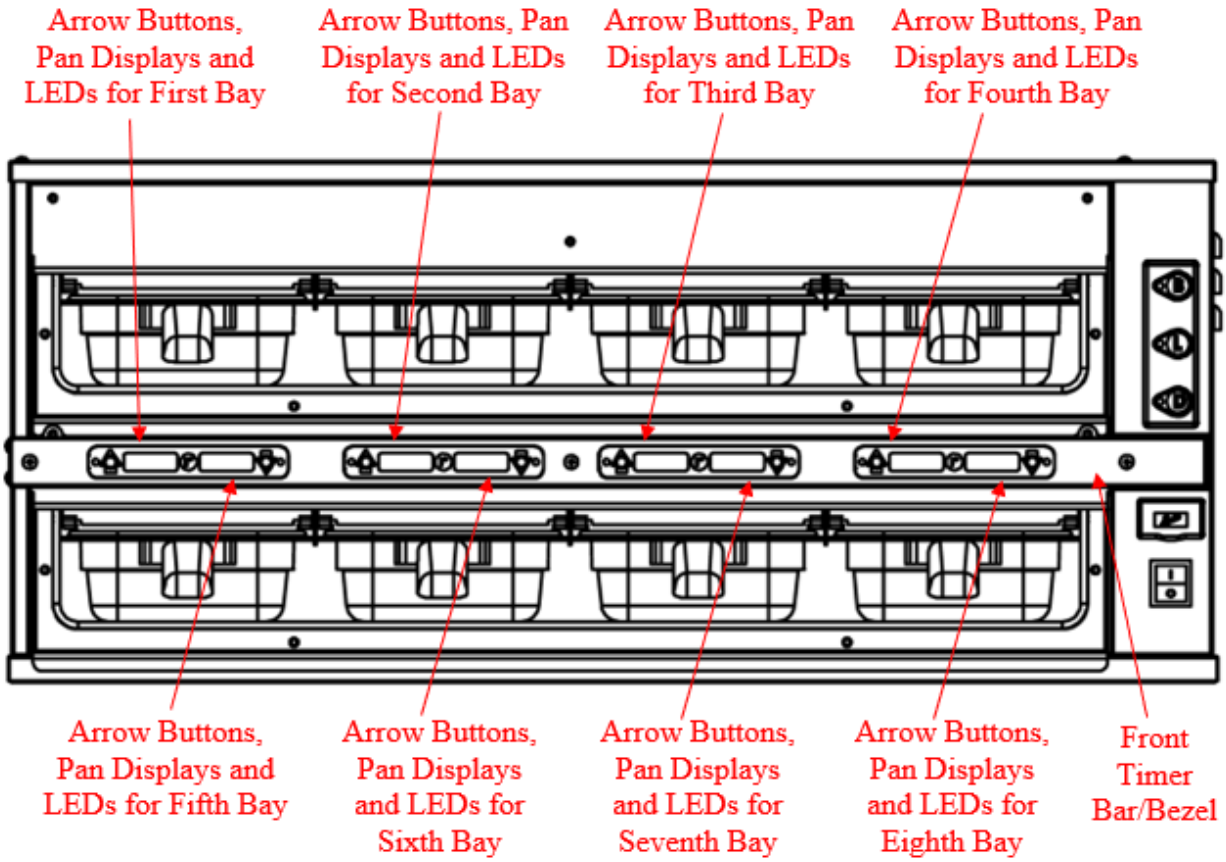


EX1007: 51, 52 (annotated).

11.a.2: a first bezel providing at least one user interface comprising dedicated controls and/or dedicated displays for each of the first, second, third, fourth, fifth, sixth, seventh, and eighth food holding bays, the first bezel located proximate the front face of the chassis

291. The POSA would recognize that the IRHS Documents disclose that the fourth opening of the multi-zone food holding bins is first bezel providing at least one user interface comprising dedicated controls and/or dedicated displays for each of the first, second, third, fourth, fifth, sixth, seventh, and eighth food holding bays" and that "the first bezel [is] located proximate the front face of the chassis."

292. The front timer bar (first bezel) provides user interfaces comprising dedicated controls (arrow buttons) and dedicated 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).

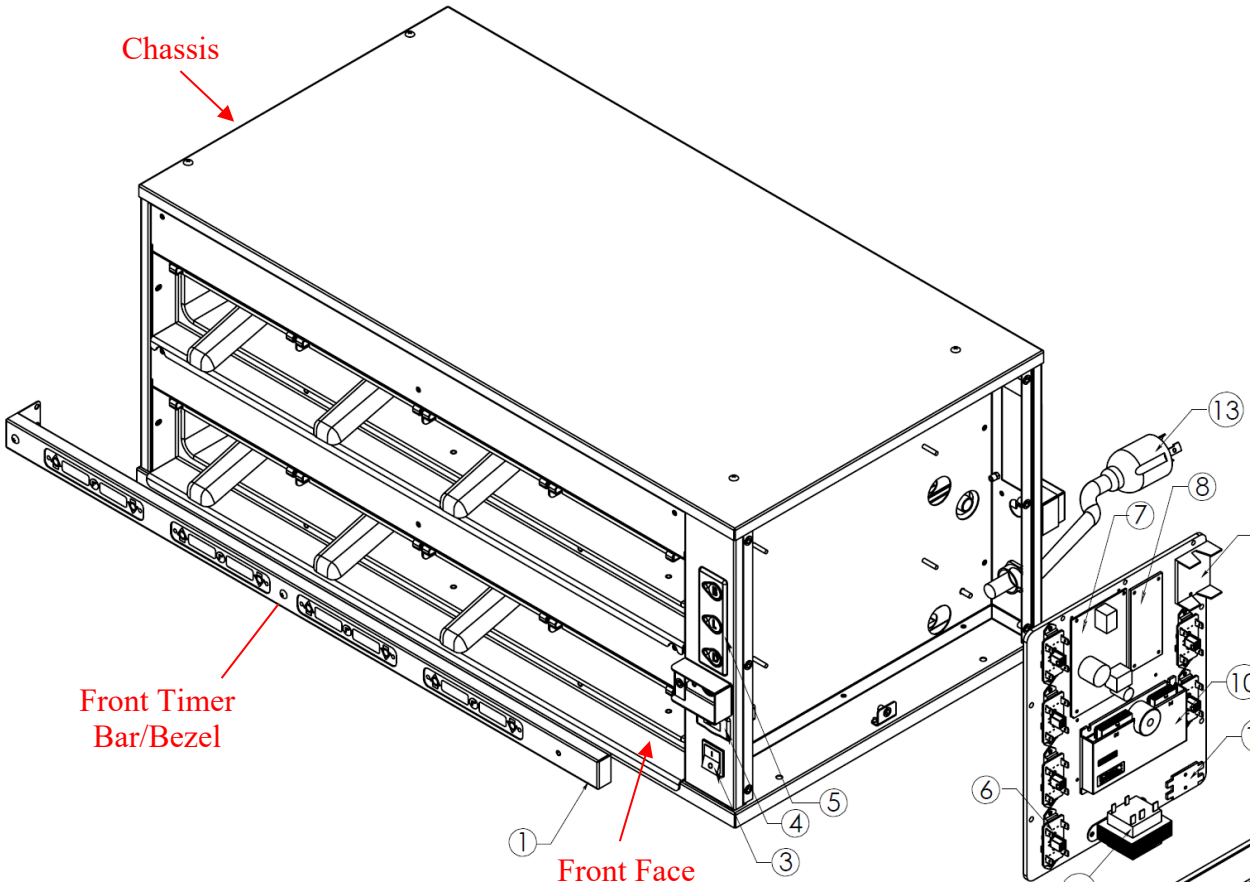


EX1005: 16.

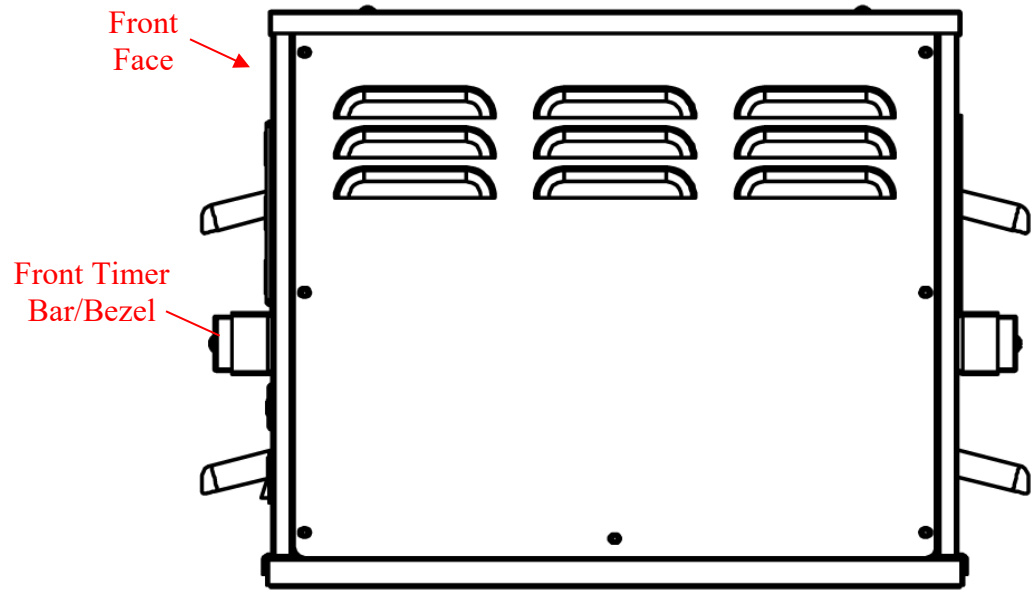
2. Arrow Buttons
   a. Used for Starting / Stopping / Resetting Timer.
   b. Used to access MENU MODE.
   c. Indicate which pan the adjacent Status LED and Pan Display are linked to.
3. Pan Display
   a. Displays Product Name and Hold Time Remaining (alternates between the two when Timer is active).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

EX1005: 16 (annotated).

293. The front timer bar (first bezel) is located proximate to the front face of the chassis.



EX1005: 19 (annotated).



EX1005: 8 (annotated).



MENU BA RS

The Menu Bars hold the Keypad Displays that control and monitor the performance of each heating well. The quantity varies (depending on model) and are located on the front and back faces of the unit.

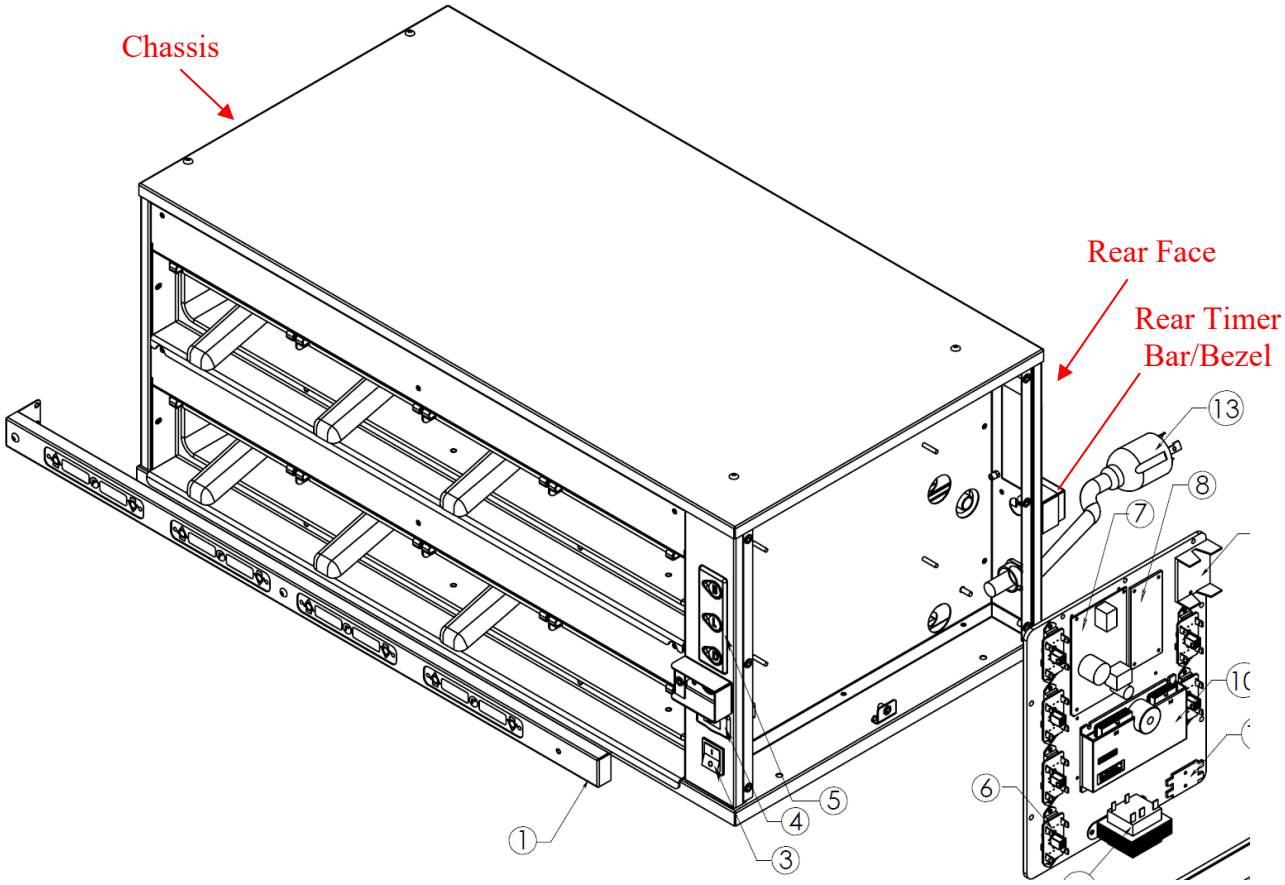
EX1008: 12.

11.a.3: a second bezel attached to the chassis, the second bezel providing at least one user interface comprising dedicated controls and/or dedicated displays for each of the first, second, third, fourth, fifth, sixth, seventh, and eighth food holding bays, the second bezel located proximate the opposing rear face of the chassis.

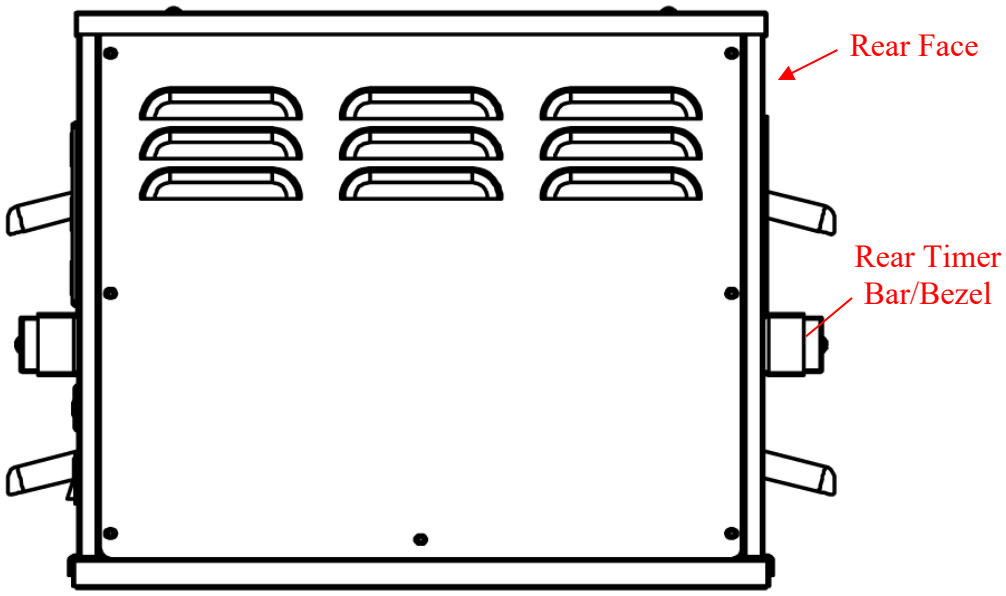
294. The POSA would recognize that the IRHS Documents disclose that the fourth opening of the multi-zone food holding bins is first bezel providing at least one user interface comprising dedicated controls and/or dedicated displays for

each of the first, second, third, fourth, fifth, sixth, seventh, and eighth food holding bays" and that "the first bezel [is] located proximate the front face of the chassis."

295. As explained in Paragraphs 291-293 above (claim limitation 11.a.2), the rear timer bar (second bezel) is attached to the chassis. The rear timer bar (second bezel) is located proximate to the rear face of the chassis.



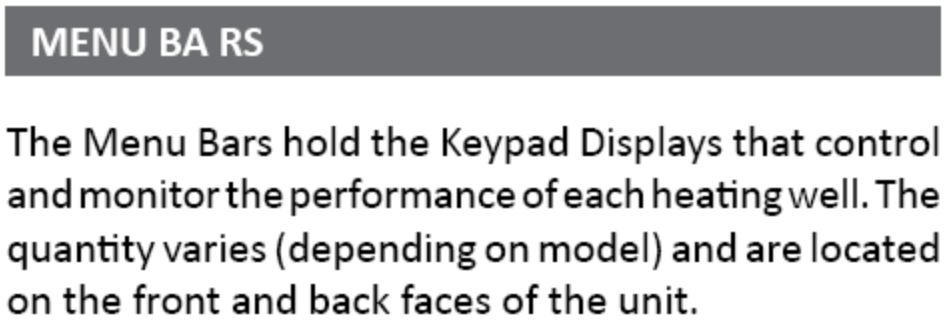
EX1005: 19 (annotated).



EX1005: 8 (annotated).

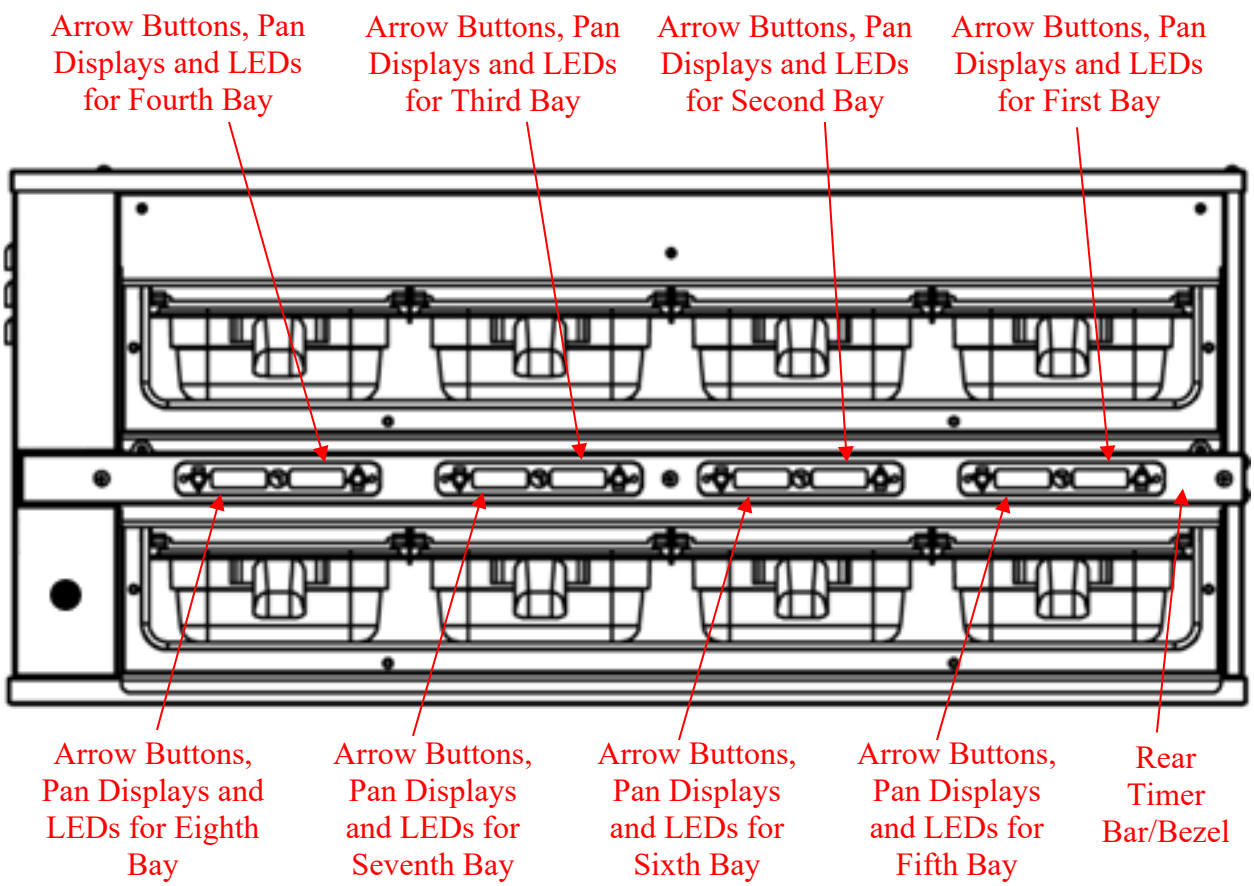


EX1007: 51, 52 (annotated).



EX1008: 12.

296. The POSA would recognize that the rear timer bar/bezel is generally a mirror image of the front timer bar/bezel. As with the front timer bar, the second timer bar (second bezel) provides user interfaces comprising dedicated controls (arrow buttons) and dedicated 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, modified to represent the rear view of the IRHS24 Holding Unit).

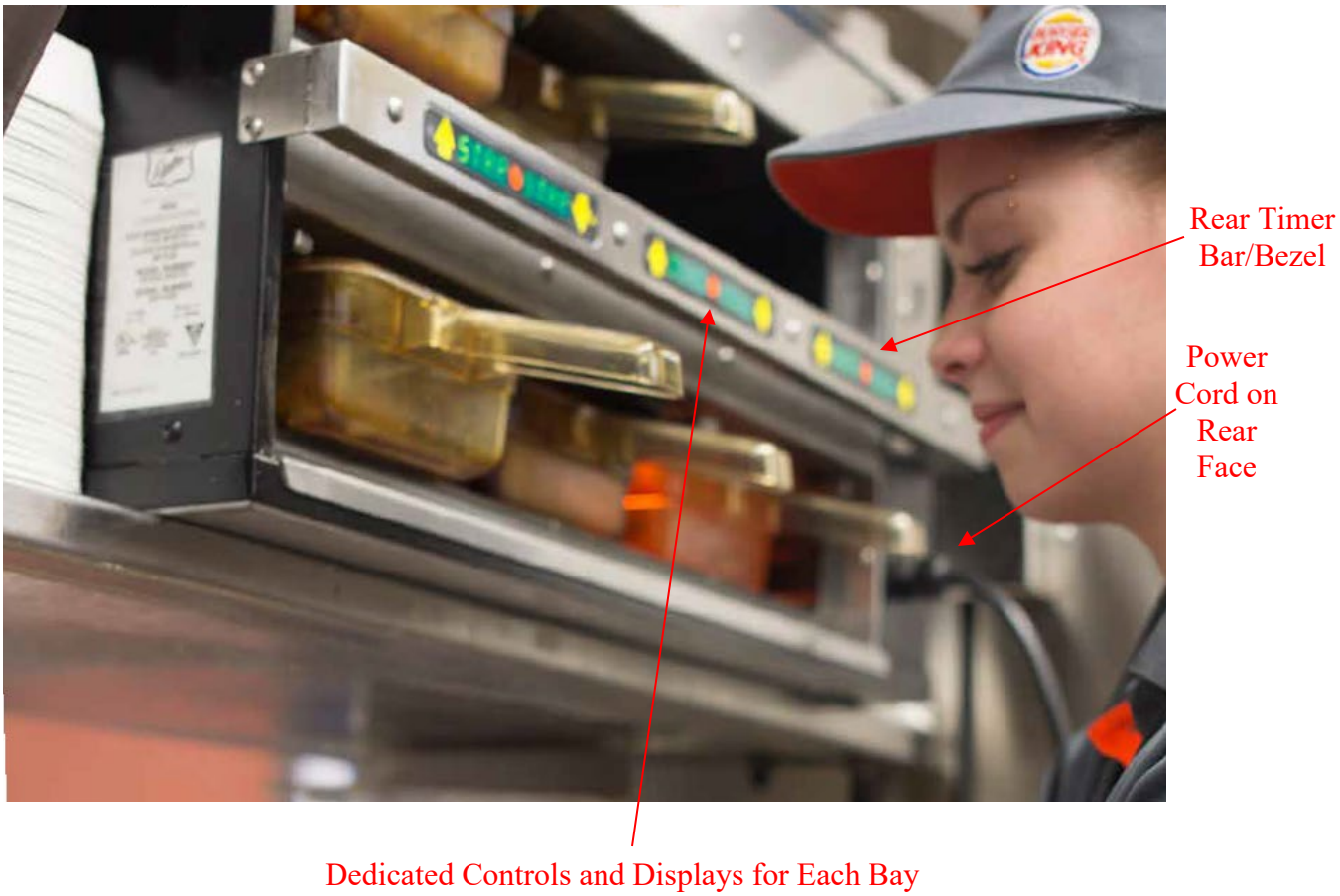


EX1005: 16.

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).





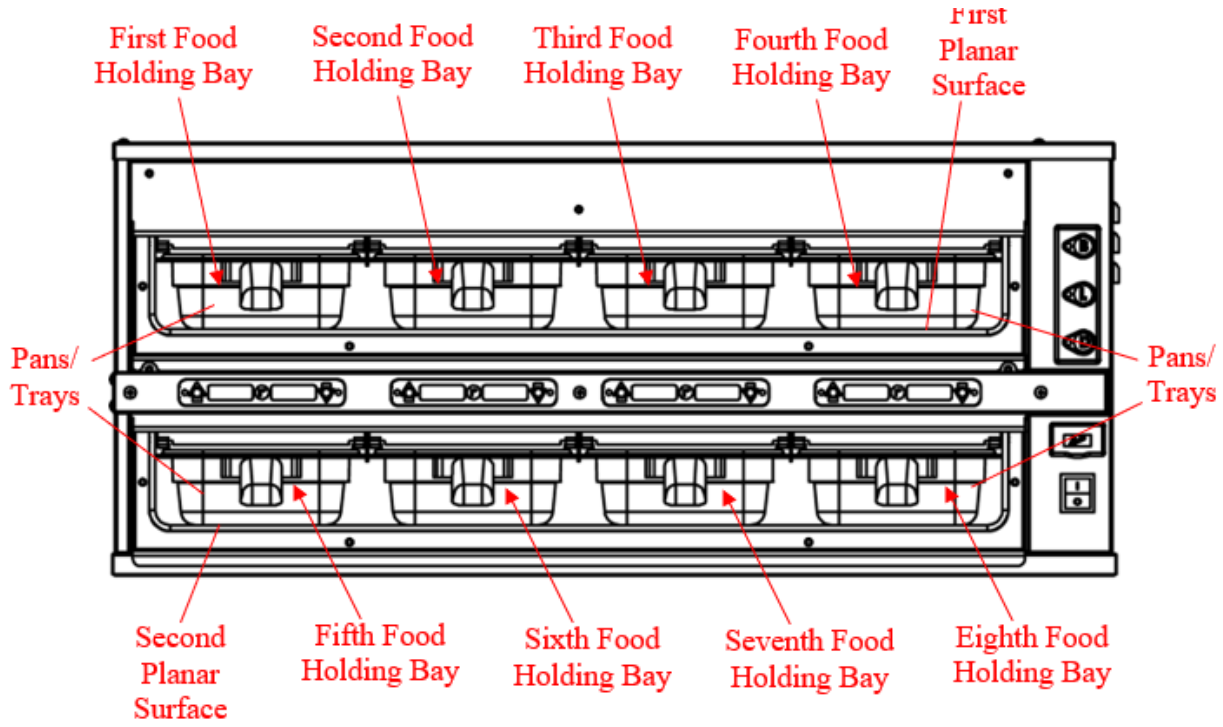
EX1007: 28, 52 (annotated).

297. Accordingly, each limitation of Claim 11 is disclosed within the IRHS Documents. As each limitation of Claim 11 is disclosed within the IRHS Documents, the POSA would have found it obvious to combine the teachings and disclosures of the IRHS Documents to arrive at the food holding bin as claimed in Claim 11.

K. Claim 15: the food holding bin of claim 1, further comprising at least one food holding tray resting on at least one substantially planar surface within one food holding bay

298. 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 food holding bin of Claim 1. The POSA would additionally recognize that the IRHS Documents disclose the additional limitation added in Claim 15 further requiring "at least one food holding tray resting on at least one substantially planar surface within one food holding bay."

299. The IRHS24 Holding Unit is disclosed within the IRHS Documents as having food pans/trays resting on the first and second planar surfaces within each bay.



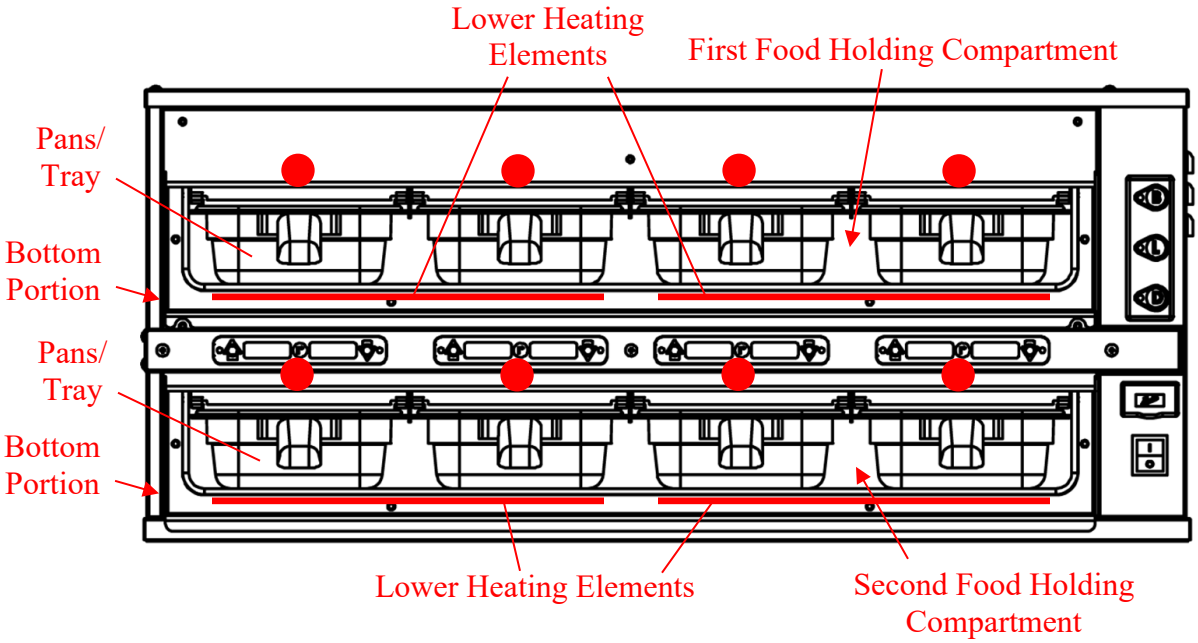
EX1005: 8 (annotated).

300. Accordingly, the POSA would have found it obvious to combine the teachings and disclosures of the IRHS Documents to arrive at the food holding bin as claimed in Claim 15.

L. Claim 16: the food holding bin of claim 15, wherein the independently controllable heating elements disposed at the bottom portion of the first and second food holding compartments provide heat energy to at least one food holding tray through conduction

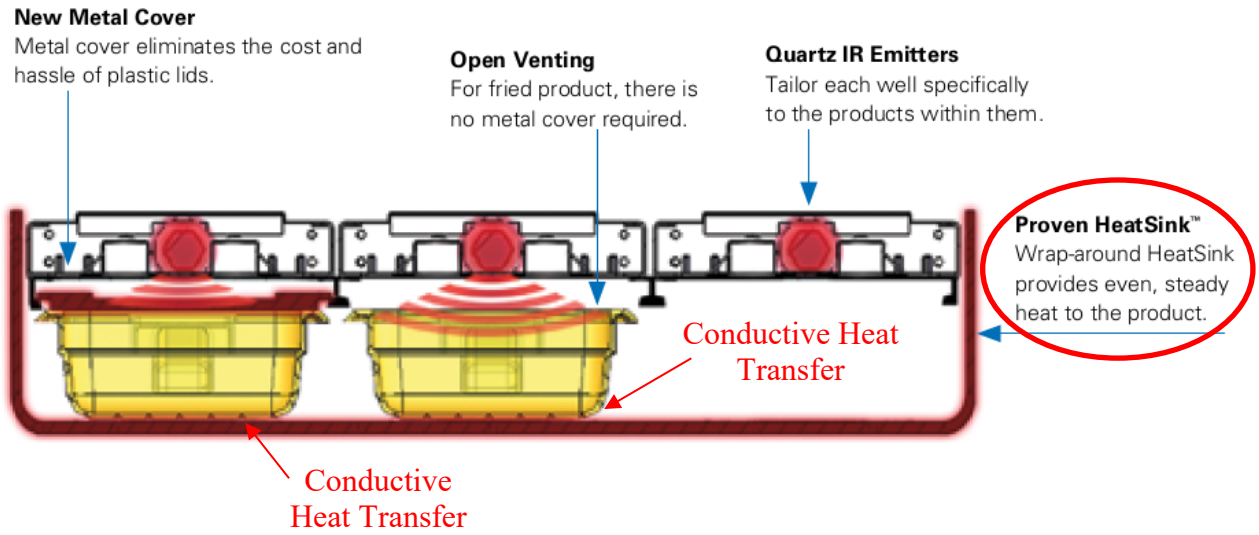
301. As discussed above, the POSA would have found it obvious to combine the teachings and disclosures of the IRHS Documents to arrive at the claimed food holding bin of Claim 15. The POSA would additionally recognize that the IRHS Documents disclose the additional limitation added in Claim 16 further requiring "the independently controllable heating elements disposed at the bottom portion of the first and second food holding compartments provide heat energy to at least one food holding tray through conduction."

302. The POSA would recognize that according to the disclosed configuration of the IRHS24 Holding Unit, the lower heating elements would provide heat to the food pans/trays conductively through the substantially planar surfaces, on which the pans rest.



EX1005: 8 (annotated).

303. The lower heating elements are part of the HeatSinks associated with the two food holding compartments that provide heat to the pans from underneath the pans. EX1007: 51 ("[p]revious generations of the Duke holding units contained only HeatSink, heating from below").



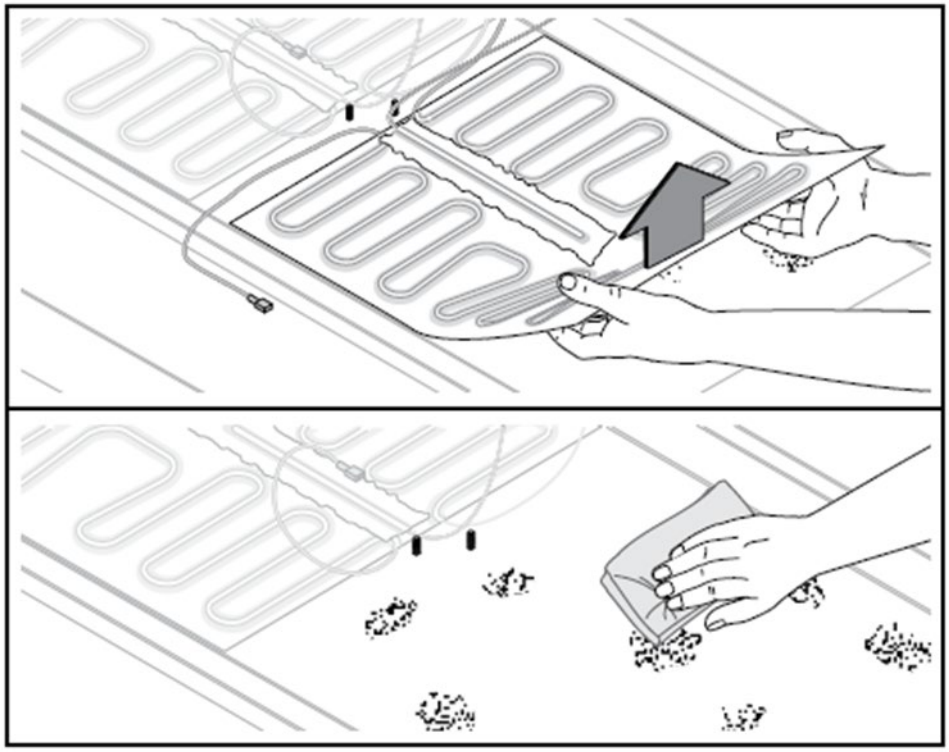
EX1007: 53 (annotated).

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.

304. It would be understood that because the lower heating elements and planar surfaces are parts of the HeatSinks and the food pans rest on the planar surfaces of the HeatSinks, the lower heating elements conductively transfer heat (*i.e.*, transfer heat energy through object-to-object physical contact) to the food pans. It is well understood in art that this is how heat sinks—such as the HeatSinks in the IRHS Documents—conduct heat to food 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"); 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]").

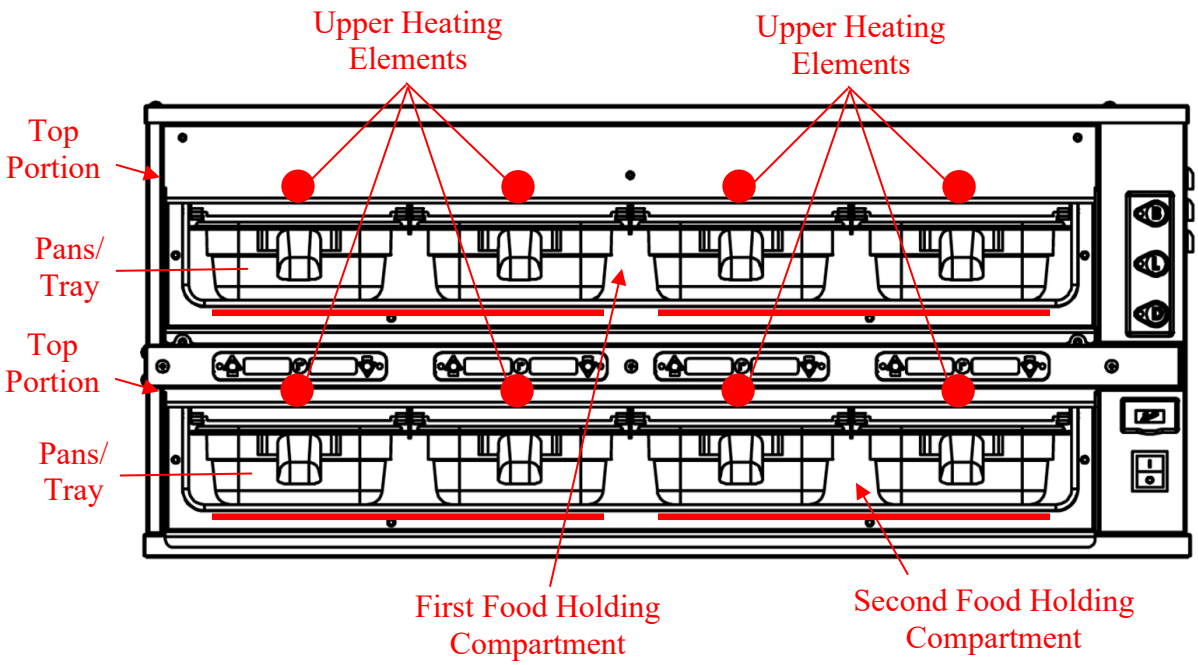
305. Accordingly, the POSA would have found it obvious to combine the teachings and disclosures of the IRHS Documents to arrive at the food holding bin as claimed in Claim 16.

M. Claim 17: The food holding bin of claim 15, wherein the independently controllable heating elements disposed at the top portion of the first and second food holding compartments provide radiant heat to at least one food holding tray.

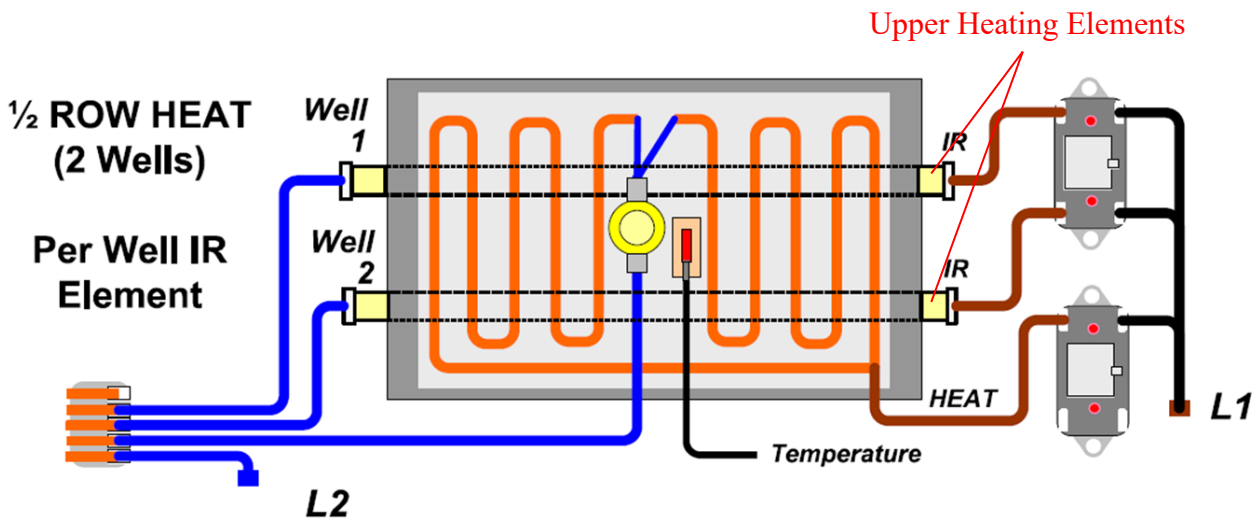
306. As discussed above, the POSA would have found it obvious to combine the teachings and disclosures of the IRHS Documents to arrive at the claimed food holding bin of Claim 15. The POSA would additionally recognize

that the IRHS Documents disclose the additional limitation added in Claim 17 further requiring "the independently controllable heating elements disposed at the top portion of the first and second food holding compartments provide radiant heat to at least one food holding tray."

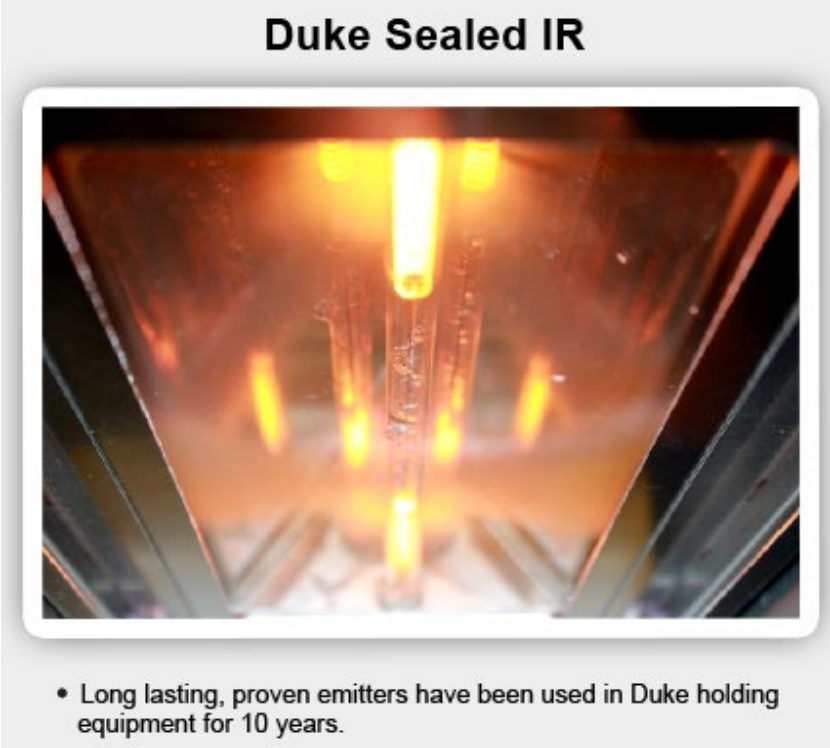
307. As disclosed in the IRHS Documents, the upper heating elements are IR bulbs that provide infrared radiant heat (*i.e.*, the transfer of thermal energy through infrared spectrum radiation) to the food pans/trays. EX1005: 20 (ref. no. 17 – "BULB – IR"); EX1007: 51 ("top-down InfraRed heat").



EX1005: 8 (annotated).

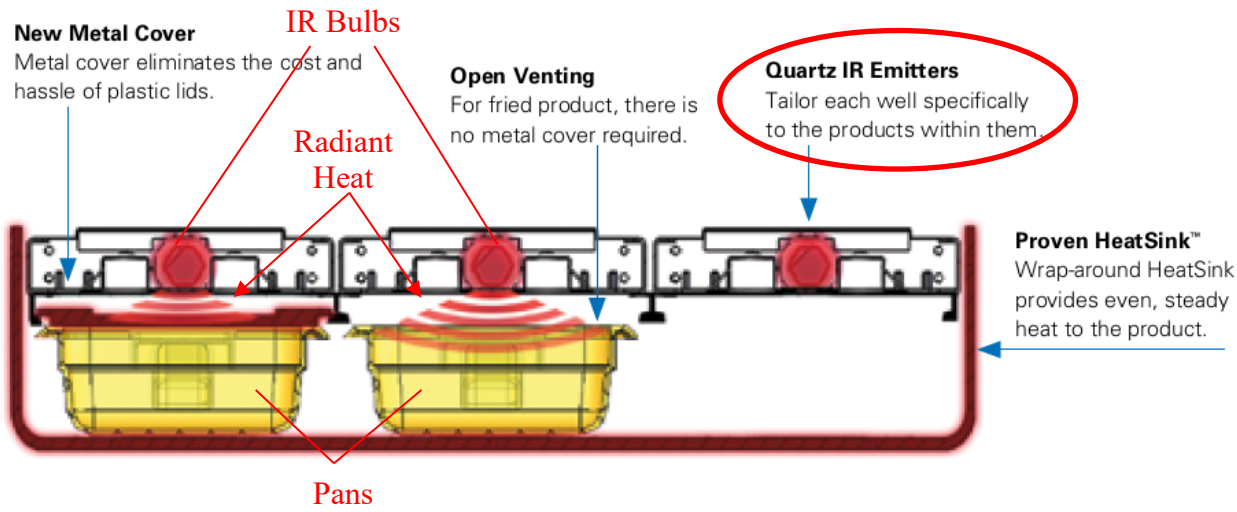


EX1005: 25 (annotated).





EX1007: 11 and 36.



EX1007: 53 (annotated).

308. Accordingly, the POSA would have found it obvious to combine the teachings and disclosures of the IRHS Documents to arrive at the food holding bin as claimed in Claim 17.

N. Claim 18: the food holding bin of claim 15, wherein the independently controllable heating elements disposed at the top portion of the first and second food holding compartments provide radiant heat energy to at least one food holding tray and the independently controllable heating elements disposed at the bottom portion of the first and second food holding compartments provide heat energy through conduction to at least one holding tray.

309. 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 food holding bin of Claim 15. The additional limitations added in Claim 18 merely combine the limitations added separately in Claims 16 and 17.

310. Specifically, the "independently controllable heating elements disposed at the top portion of the first and second food holding compartments provide radiant heat energy to at least one food holding tray" limitation of Claim 18 is identical in claim scope to the limitation added in Claim 17. Accordingly, this limitation is disclosed by the IRHS Documents as explained in Paragraphs 306-308 above.

311. Likewise, the "independently controllable heating elements disposed at the bottom portion of the first and second food holding compartments provide heat energy through conduction to at least one holding tray" limitation of Claim 18

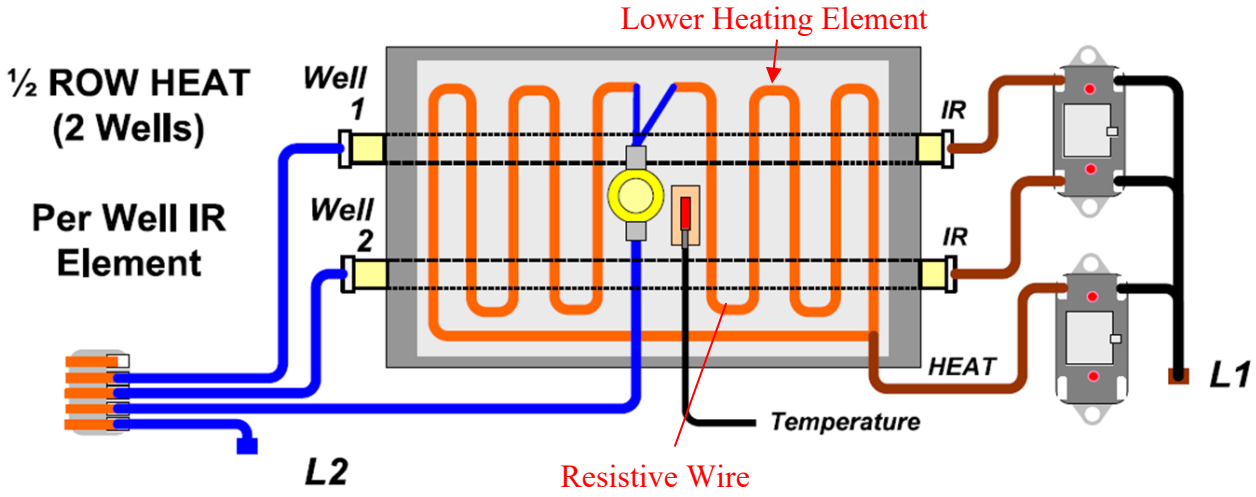
is identical in claim scope to the limitation added in Claim 16. Accordingly, this limitation is disclosed by the IRHS Documents as explained in Paragraphs 301-305 above.

312. Accordingly, the POSA would have found it obvious to combine the teachings and disclosures of the IRHS Documents to arrive at the food holding bin as claimed in Claim 18.

O. Claim 19: the food holding bin of claim 1, wherein the independently controllable heating elements comprise a resistive wire

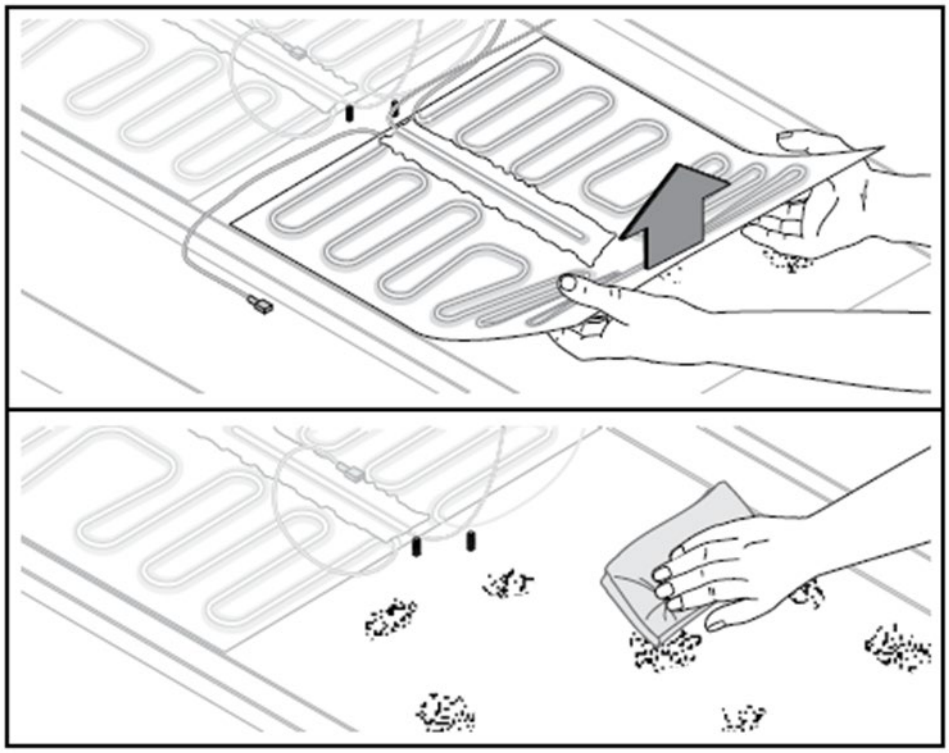
313. As discussed above, the POSA would have found it obvious to combine the teachings and disclosures of the IRHS Documents to arrive at the claimed food holding bin of Claim 1. The POSA would additionally recognize that the IRHS Documents disclose the additional limitation added in Claim 19 further requiring "the independently controllable heating elements comprise a resistive wire."

314. As disclosed in the IRHS documents, each lower heating element of the IRHS Holding Units comprise a resistive wire, as shown below:



EX1005: 25 (annotated).

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

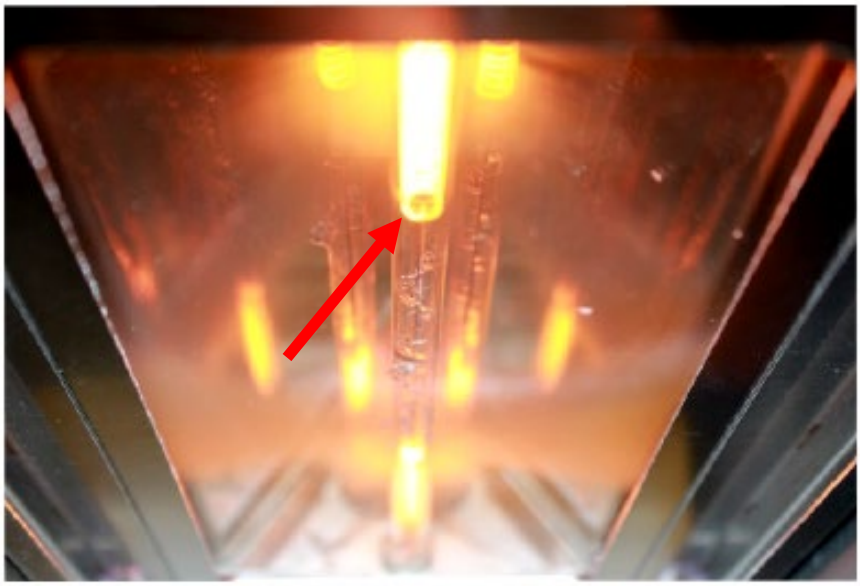


EX1008: 22 (showing the resistive wire is flexible).

315. The image above from the IRHS Service Manual shows the lower heating element for one zone being pulled off of the bottom of the heat sink. The image shows what the POSA understands to be a serpentine resistive wire heating element. Such a resistive wire heating element has the flexibility shown in the image (the illustrated bending as the user is peeling off the lower heating elements).

316. As disclosed in the IRHS documents, each upper heating element of the IRHS Holding Units is a Quartz IR Bulb which the POSA would understand includes a coiled resistive wire that glows orange when converting electrical energy into heat via resistance. EX1007: 53 ("Quartz IR Emitter"); EX1025: 1:29-30 ("[t]he usual quartz infrared heater consists essentially of a resistance wire heating element").

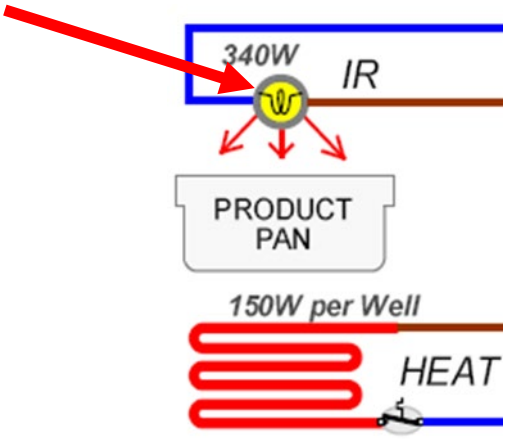
Duke Sealed IR



- Long lasting, proven emitters have been used in Duke holding equipment for 10 years.



EX1007: 11 and 36 (annotated).



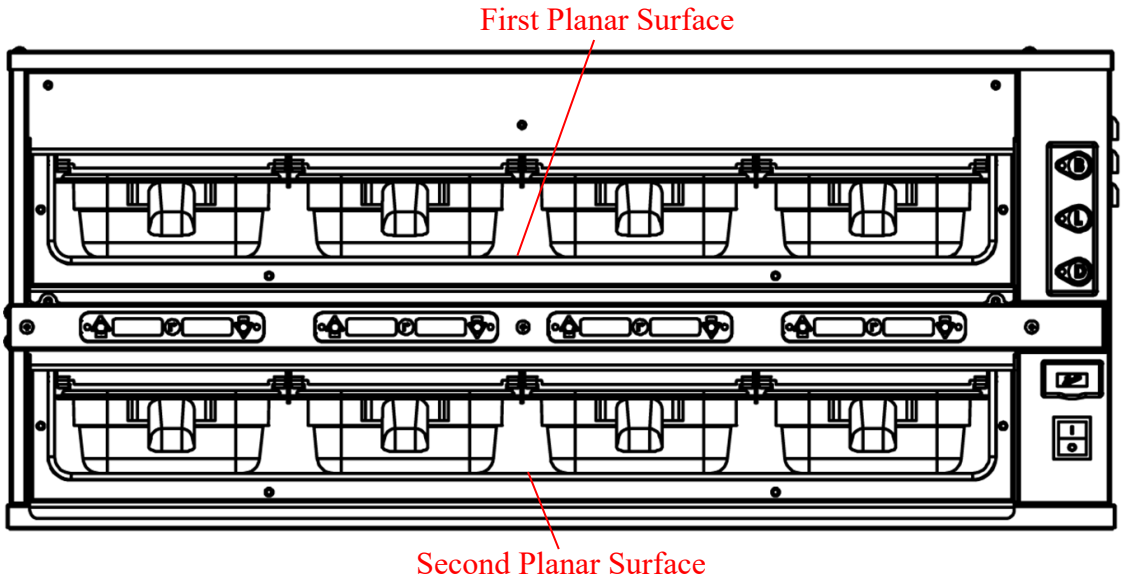
EX1008: 64 (showing schematic coiled resistive wire).

317. Accordingly, the POSA would have found it obvious to combine the teachings and disclosures of the IRHS Documents to arrive at the food holding bin as claimed in Claim 19.

P. Claim 20: the food holding bin of claim 1, wherein at least one of the substantially planar surfaces is a continuous surface

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 food holding bin of Claim 1. The POSA would additionally recognize that the IRHS Documents disclose the additional limitation added in Claim 20 further requiring "at least one of the substantially planar surfaces is a continuous surface."

319. As shown below, the first and second planar surfaces as depicted in the IRHS Documents are continuous.



EX1005: 8 (annotated).

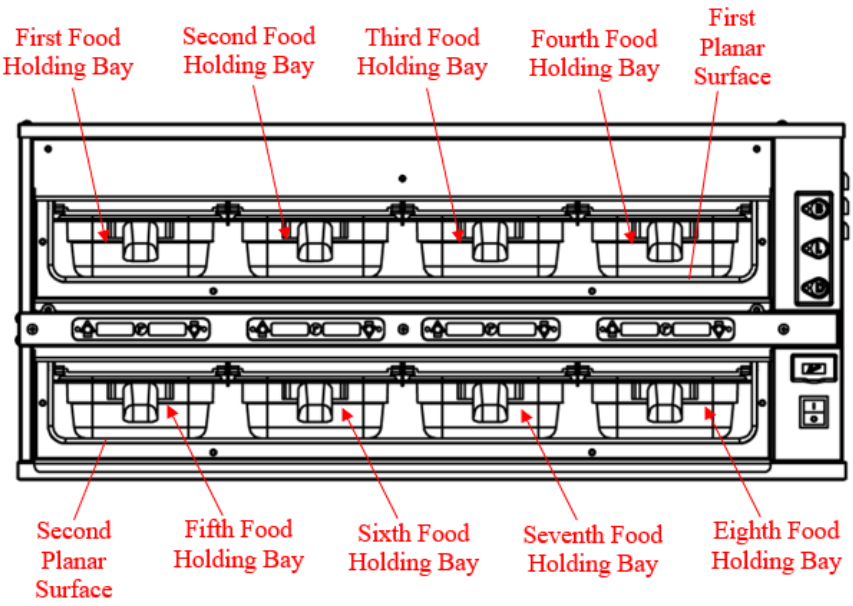
320. Accordingly, the POSA would have found it obvious to combine the teachings and disclosures of the IRHS Documents to arrive at the food holding bin as claimed in Claim 20.

Q. Claim 21: the food holding bin of claim 20, wherein at least one of the substantially planar surfaces is substantially free of any dividing walls or other structure between the first, second, third, and fourth food holding bays

321. 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 food holding bin of Claim 20. The POSA would additionally recognize that the IRHS Documents disclose the additional limitation added in Claim 21 further requiring "at least one of the substantially planar surfaces is substantially

free of any dividing walls or other structure between the first, second, third, and fourth food holding bays."

322. As shown below, the first planar surface as depicted in the IRHS Documents is free of any dividing walls or other structures between the first, second, third, and fourth food holding bays.



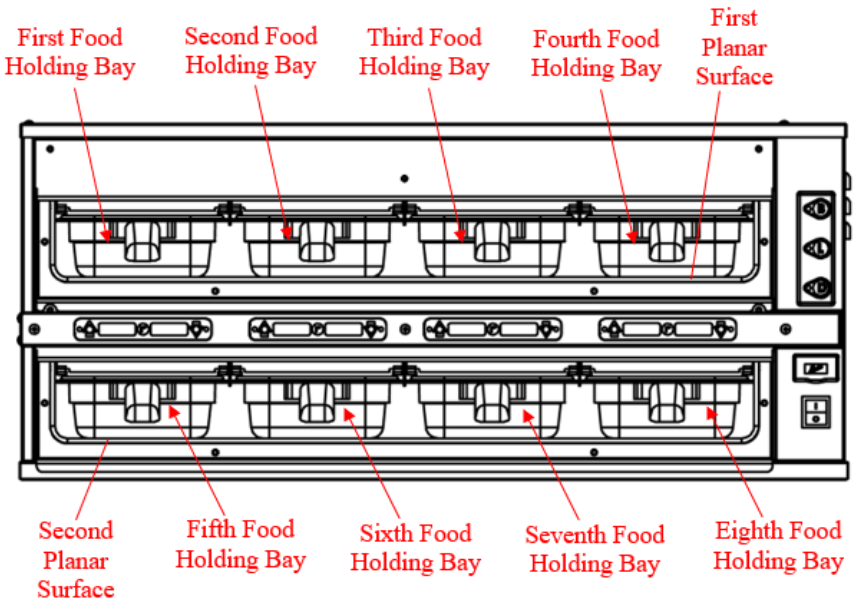
EX1005: 8 (annotated).

323. Accordingly, the POSA would have found it obvious to combine the teachings and disclosures of the IRHS Documents to arrive at the food holding bin as claimed in Claim 21.

R. Claim 22: the food holding bin of claim 20, wherein at least one of the substantially planar surfaces is substantially free of any dividing walls or other structure between the fifth, sixth, seventh, and eighth food holding bays

324. 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 food holding bin of Claim 20. The POSA would additionally recognize that the IRHS Documents disclose the additional limitation added in Claim 22 further requiring "at least one of the substantially planar surfaces is substantially free of any dividing walls or other structure between the fifth, sixth, seventh, and eighth food holding bays."

325. As shown below, the second planar surface as depicted in the IRHS Documents is free of any dividing walls or other structures between the fifth, sixth, seventh, and eighth food holding bays.



EX1005: 8 (annotated).

326. Accordingly, the POSA would have found it obvious to combine the teachings and disclosures of the IRHS Documents to arrive at the food holding bin as claimed in Claim 22.

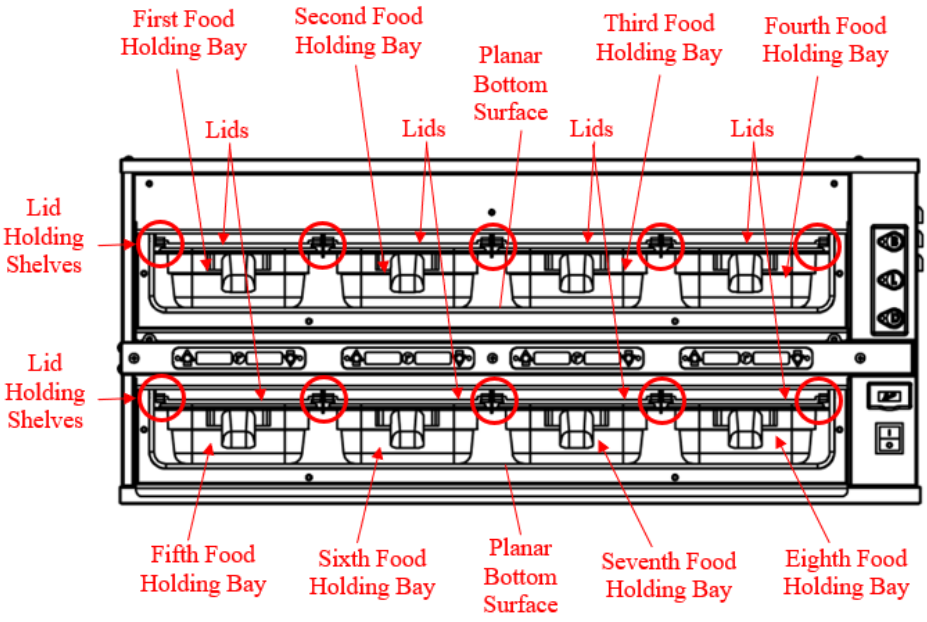
S. Claim 23: the food holding bin of claim 15, wherein each food holding bay further comprises a lid holding shelf elevated above the substantially planar bottom surface in the first food holding compartment and the second food holding compartment, each lid holding shelf being configured to receive and store a lid for the food holding tray

327. 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 food holding bin of Claim 15. The POSA would additionally recognize that the IRHS Documents disclose the additional limitation added in Claim 23 further requiring "each food holding bay further comprises a lid holding shelf elevated above the substantially planar bottom surface in the first food holding compartment and the second food holding compartment, each lid holding shelf being configured to receive and store a lid for the food holding tray."

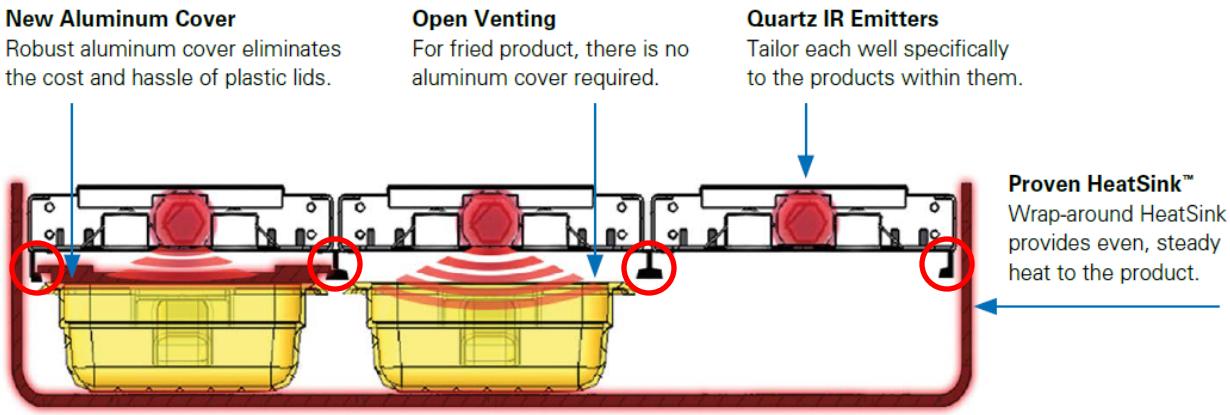
328. As disclosed in the IRHS Documents, The IRHS Holding Units include covers or lids suspended above each pan holding location/bay. EX1005: 4 ("robust aluminum Heat Sink Cover for broiled foods"), 8, 20-21 (ref. no. 18); EX1007: 53 ("[m]etal cover eliminates the cost and hassle of plastic lids"), 56, 58

("[c]over allows better heat transfer and greater seal assurance; critical to maintaining food quality with extended hold times").

329. The IRHS Holding Units—including the IRHS24 Holding Units—have lid-holding shelves in each food holding bays for receiving and storing the lids. These lid-holding shelves are elevated above the first and second planar bottom surfaces.



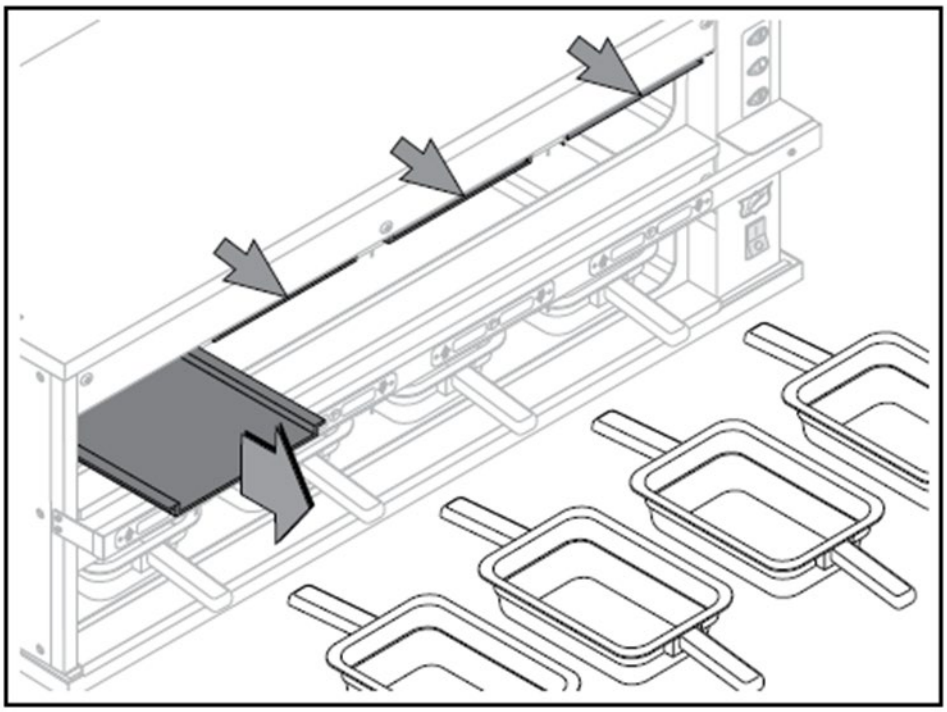
EX1005: 8 (annotated).



EX1007: 53 (annotated).



EX1007: 36 (annotated).



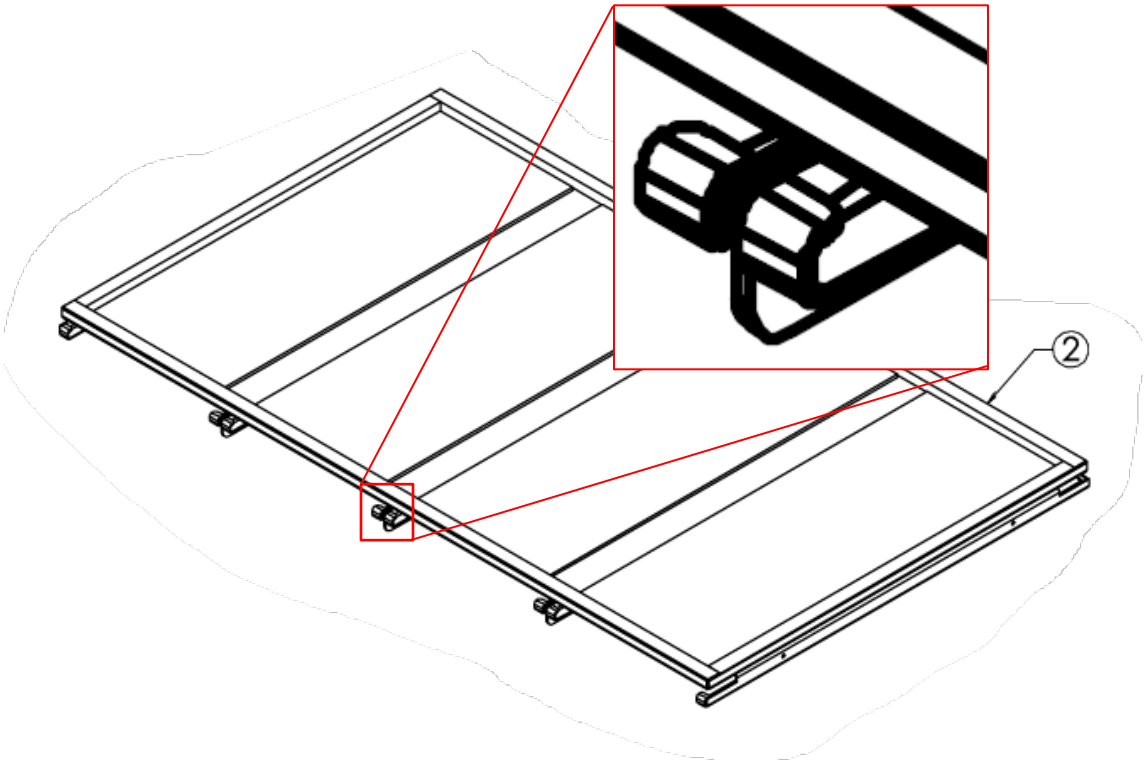
EX1008: 16.

330. Accordingly, the POSA would have found it obvious to combine the teachings and disclosures of the IRHS Documents to arrive at the food holding bin as claimed in Claim 23.

T. Claim 26: the food holding bin of claim 23, wherein the lid holding shelf comprises sheet metal

331. 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 food holding bin of Claim 23. The POSA would additionally recognize that the IRHS Documents disclose the additional limitation added in Claim 26 further requiring "the lid holding shelf comprises sheet metal."

332. The POSA would understand from the shape (appearing to be bent sheet metal) and color of the lid shelves depicted within the IRHS Documents that the lid-holding shelves comprise sheet metal.



EX1005: 19 (enlarged).



EX1007: 36 (annotated).

333. Accordingly, the POSA would have found it obvious to combine the teachings and disclosures of the IRHS Documents to arrive at the food holding bin as claimed in Claim 26.

U. Claim 28: the food holding bin of claim 1, wherein each independently controllable heating element disposed at the top portion of the first and second food holding compartments is adapted to output more heat energy than the independently controllable heating elements disposed at the bottom portion of the first and second food holding compartments

334. As discussed above, the POSA would have found it obvious to combine the teachings and disclosures of the IRHS Documents to arrive at the

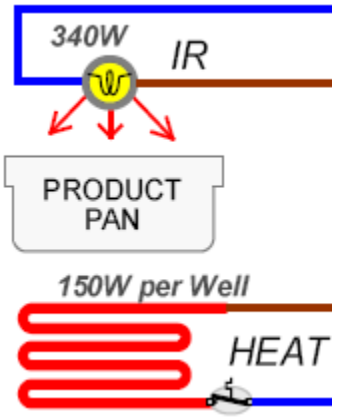
claimed food holding bin of Claim 1. The POSA would additionally recognize that the IRHS Documents disclose the additional limitation added in Claim 28 further requiring "each independently controllable heating element disposed at the top portion of the first and second food holding compartments is adapted to output more heat energy than the independently controllable heating elements disposed at the bottom portion of the first and second food holding compartments."

335. As explained in Paragraphs 170-193 and 234-240 above (claim limitations 1.h.2 and 1.o), the upper and lower heating elements are independently controllable from one another via the controller. Thus, the controller can operate the IR upper heating elements to output more heat energy than the lower heating elements, thereby making the upper heating elements adapted to output more heat energy than the lower heating elements.

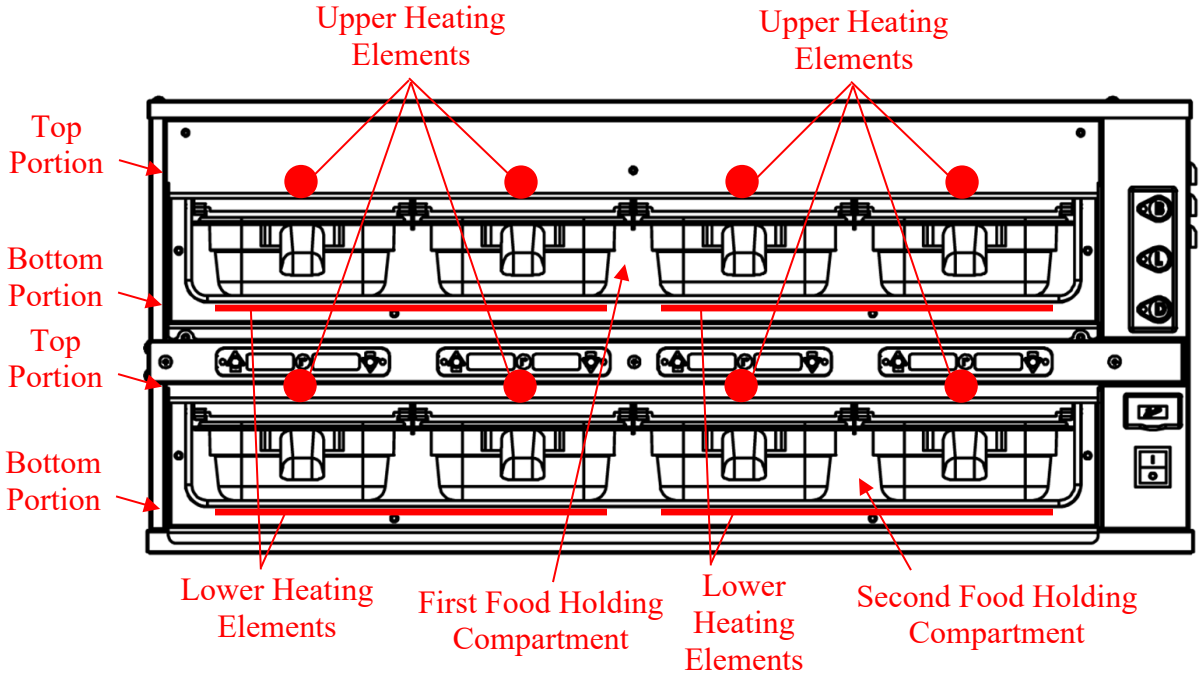
336. Further, the IRHS Documents indicate each heat sink element is rated (adapted) to output 150 Watts per well (300 Watts per element/zone) and each IR emitter is rated (adapted) to output 340 Watts (more heat energy). EX1008: 64.

337. 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" would be understood to result in the upper heating elements outputting more heat energy than the "gentle" lower heating elements during the IR Turbo Boost time period.



EX1008: 64.



EX1005: 8 (annotated).

338. Accordingly, the POSA would have found it obvious to combine the teachings and disclosures of the IRHS Documents to arrive at the food holding bin as claimed in Claim 28.

V. Claim 29: the food holding bin of claim 1, wherein at least one substantially planar surface comprises aluminum

339. 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 food holding bin of Claim 1. The POSA would additionally recognize that the IRHS Documents disclose the additional limitation added in Claim 29 further requiring that "at least one substantially planar surface comprises aluminum."

340. As described in Paragraphs 148-150 and 153-155 above (claim limitations 1.d.2 and 1.e.1), the IRHS Documents suggests the first and second planar surfaces—which are identified as being part of the Heatsinks—are composed of anodized aluminum. EX1006: 1 ("[a]nodized aluminum HeatSink").

341. Accordingly, the POSA would have found it obvious to combine the teachings and disclosures of the IRHS Documents to arrive at the food holding bin as claimed in Claim 29.

W. Claim 30: the food holding bin of claim 1, wherein each of the food holding zones are each heated to different temperatures

342. 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 food holding bin of Claim 1. The POSA would additionally recognize that IRHS Holding Units as disclosed within the IRHS Documents would have been capable of meeting the additional limitation added in Claim 30 further requiring that "each of the food holding zones are each heated to different temperatures."

343. As explained in Paragraphs 170-193 and 234-240 above (claim limitations 1.h.2 and 1.o), the heating elements are independently controllable from one another via the controller.

344. The IRHS Documents teach that the controller of IRHS24 Holding Unit operates the heating elements of the respective food holding zones to heat the four zones to different temperatures based on the different heat settings for different food types in the food holding zones.

345. Specifically, the IRHS Documents 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: 4 ("[t]his new technology allows you to precisely control the environment in each pan, allowing customized settings for each food product"), 16 ("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").

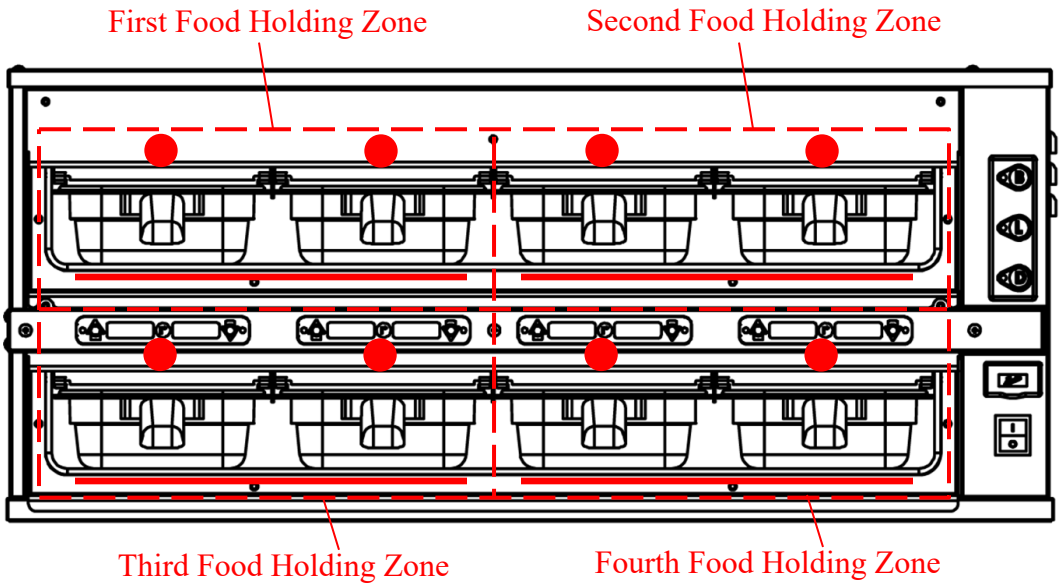
346. The temperature settings for each pan location/heating zone are thus independent of the other food product types being held in the other pan locations/zones. EX1005: 25 ("1/2 ROW HEAT (2 Wells)"); EX1006: 1 ("independent well flexibility"); EX1007: 53 ("[t]otal well independence allows freedom in product placement in the IRHS" and "[t]ailor each well specifically to the products within them").



EX1007: 12.

347. 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 (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 (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].



EX1005: 8 (annotated).

348. Accordingly, the POSA would have found it obvious to combine the teachings and disclosures of the IRHS Documents to arrive at the food holding bin as claimed in Claim 30.

X. Claim 31: the food holding bin of claim 1, wherein two or more of the food holding zones are each heated to different temperatures

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 food holding bin of Claim 1. The POSA would additionally recognize that IRHS Holding Units as disclosed within the IRHS Documents would have been capable of meeting the additional limitation added in Claim 31 further requiring that "two or more of the food holding zones are each heated to different temperatures."

350. Notably, this limitation is nearly identical in scope to the limitation added in Claim 30, except that Claim 30 required each of the food holding zones to be heated to different temperatures, while Claim 31 only requires two of the food holding zones to be heated to different temperatures.

351. Accordingly, for the reasons explained in Paragraphs 342-348 with respect to Claim 30, the POSA would have found it obvious to combine the teachings and disclosures of the IRHS Documents to arrive at the food holding bin as claimed in Claim 31 for the reasons.

Y. Claim 32: the food holding bin of claim 1, wherein two or more of the food holding zones are each heated to the same temperature

352. 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 food holding bin of Claim 1. The POSA would additionally recognize that IRHS Holding Units as disclosed within the IRHS Documents would have been capable of meeting the additional limitation added in Claim 32 further requiring that "two or more of the food holding zones are each heated to the same temperature."

353. As explained in Paragraphs 342-348 above with respect to Claim 30, the IRHS Documents teach that the heating elements of the IRHS24 Holding Unit are independently controllable from one another via the controller and that the temperature settings are to be customized according to the food type within the

food holding zone. The temperature settings for each pan location/heating zone are thus 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.

354. It would have been obvious per the IRHS Documents to heat the food holding zones to the same temperatures to accommodate customized heat settings for the same types of food received in each holding zone (e.g., the first, second, third, and fourth holding zones receive the same food types or food types requiring the same heat settings) to increase food availability to meet customer demands (for example, having multiple bays holding a food item that is in higher demand). 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: 4:42-45 ("the top heater plate 27a and the bottom heater plate 27b may be set to maintain the passageway 16a at a constant uniform temperature"); EX1010: ¶[0024] ("the heaters 60 (or heat zones) are specifically calibrated to generate a uniform temperature within the entire warming volume 18 of the cart").

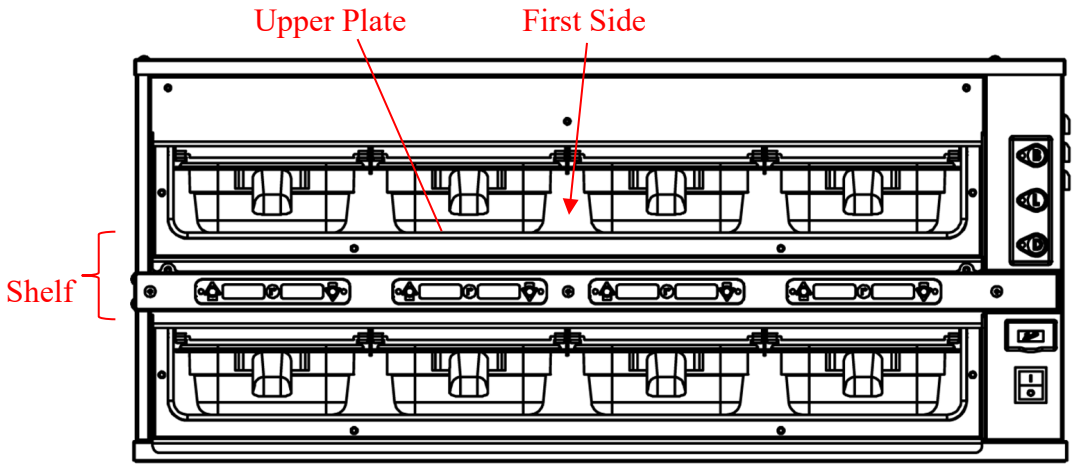
355. Accordingly, the POSA would have found it obvious to combine the teachings and disclosures of the IRHS Documents to arrive at the food holding bin as claimed in Claim 32.

Z. Claim 33

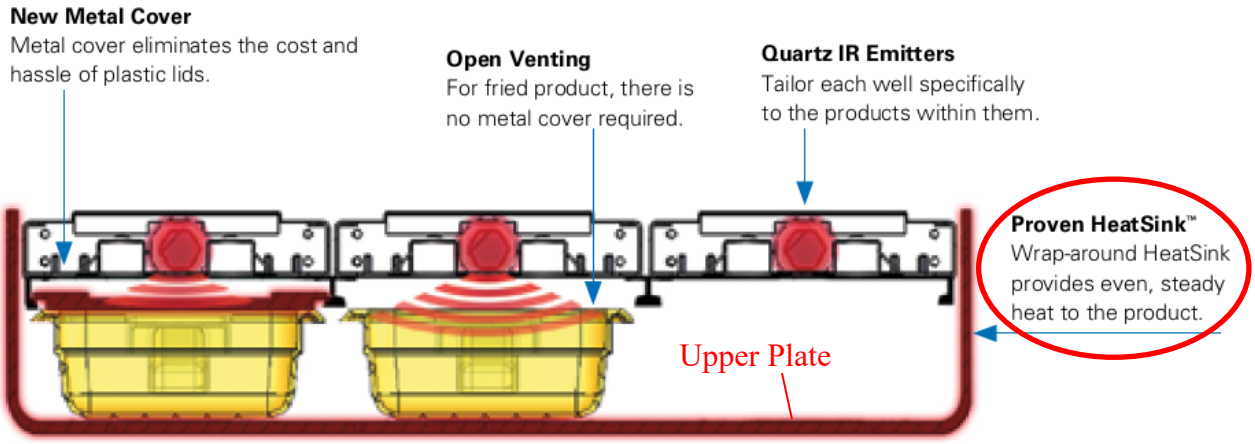
33.a.1: the food holding bin of claim 1, wherein the shelf comprises an upper thermally conductive plate disposed in the shelf and in thermal communication with the first side, a lower thermally conductive plate disposed in the shelf and in thermal communication with the second side

356. 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 food holding bin of Claim 1. The POSA would additionally recognize that the IRHS Documents disclose the limitation requiring that "the shelf comprises an upper thermally conductive plate disposed in the shelf and in thermal communication with the first side, a lower thermally conductive plate disposed in the shelf and in thermal communication with the second side."

357. As disclosed in the IRHS Documents and discussed in Paragraphs 339-341 (Claim 29), the shelf has an upper plate that forms the first planar surface of the HeatSink and is made of anodized aluminum, a thermally conductive material. The upper plate forms the first side of the shelf and, therefore, is in thermal communication with the first side of the shelf.



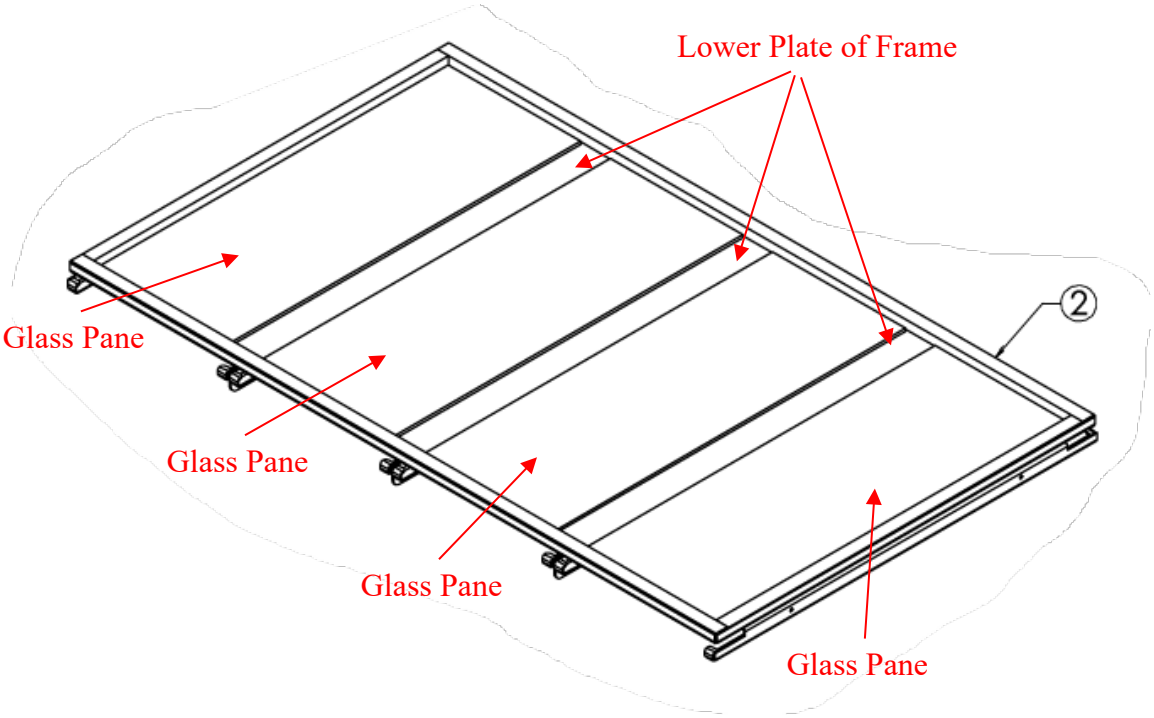
EX1005: 8 (annotated).



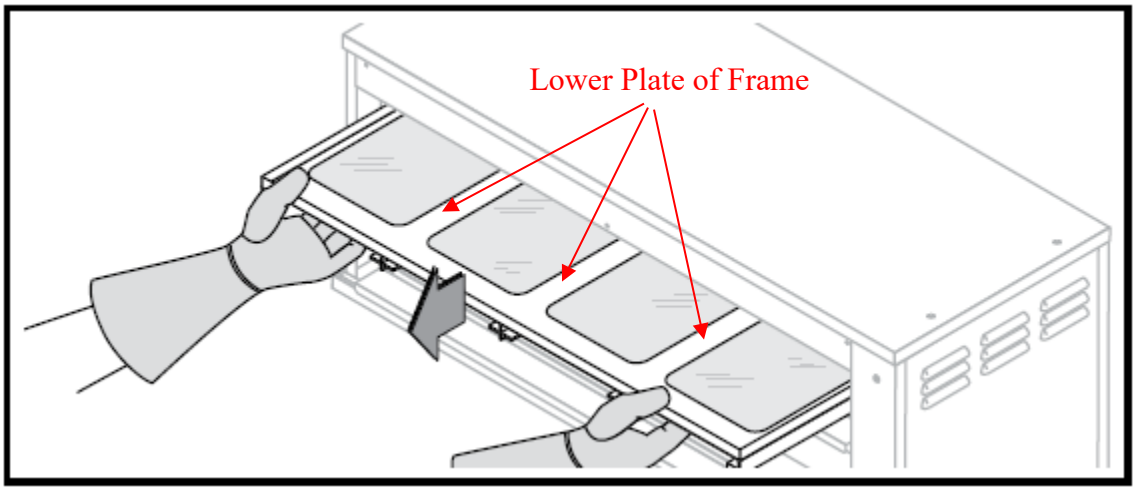
EX1007: 53 (annotated).

358. The shelf comprises a glass support frame including a flat sheet metal plate with IR window cutouts. EX1005: 14 ("[f]ully clean upper glass surfaces by hand, as well as lower heat sink surfaces" and "fried food product can accumulate and bake on to the upper glass surfaces of the compartments"), 19-20 (Ref. No. 2 – "IR GLASS FRAME – 4 WIDE" and the table stating there are two of these for the IRHS24).

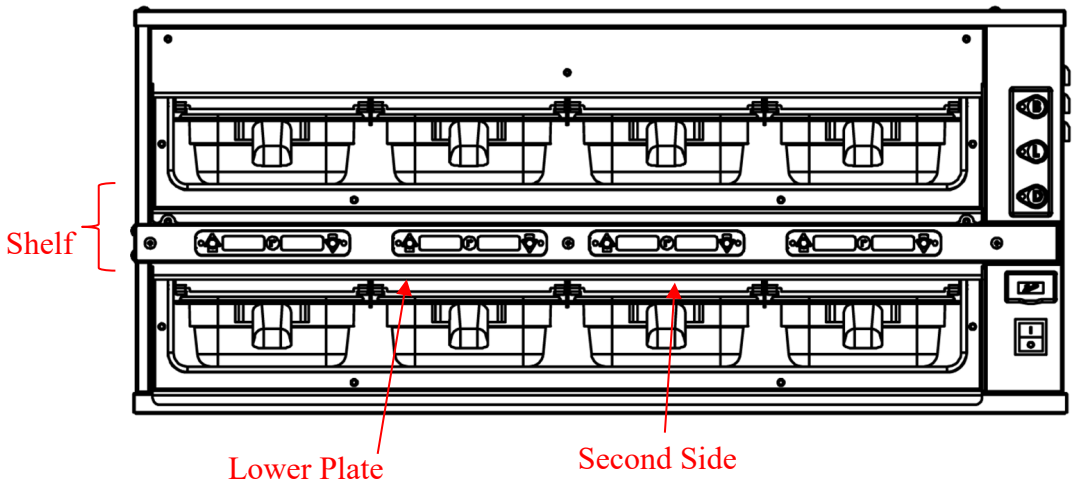
359. The sheet metal plate spans the shelf's width/depth, forms the shelf's bottom surface, carries the glass panes, and supports the lid shelves. The lower plate forms the second side of the shelf and, therefore, is in thermal communication with the second side of the shelf.



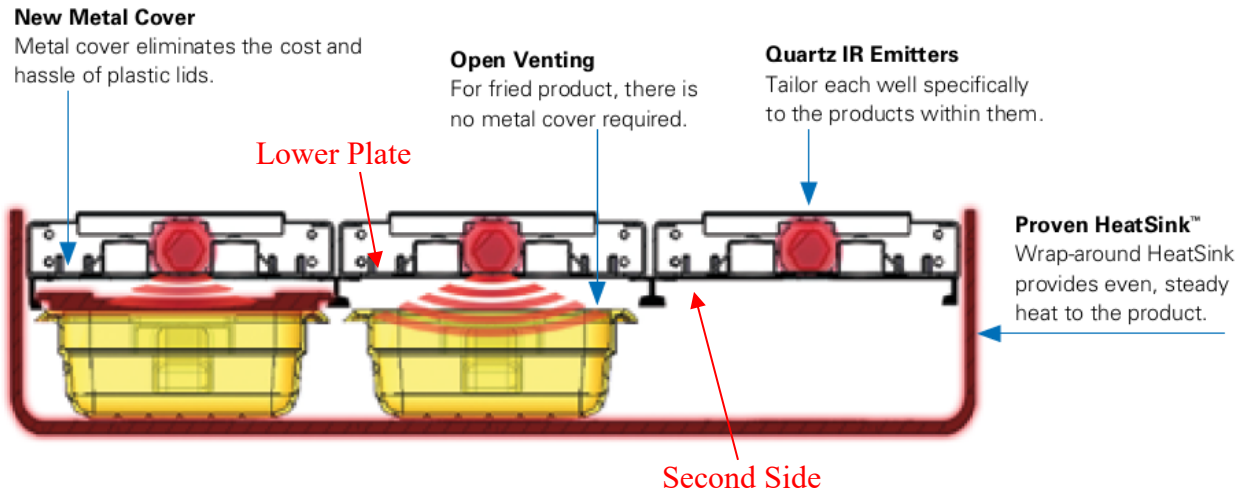
EX1005: 19 (annotated).



EX1008: 25 (annotated).



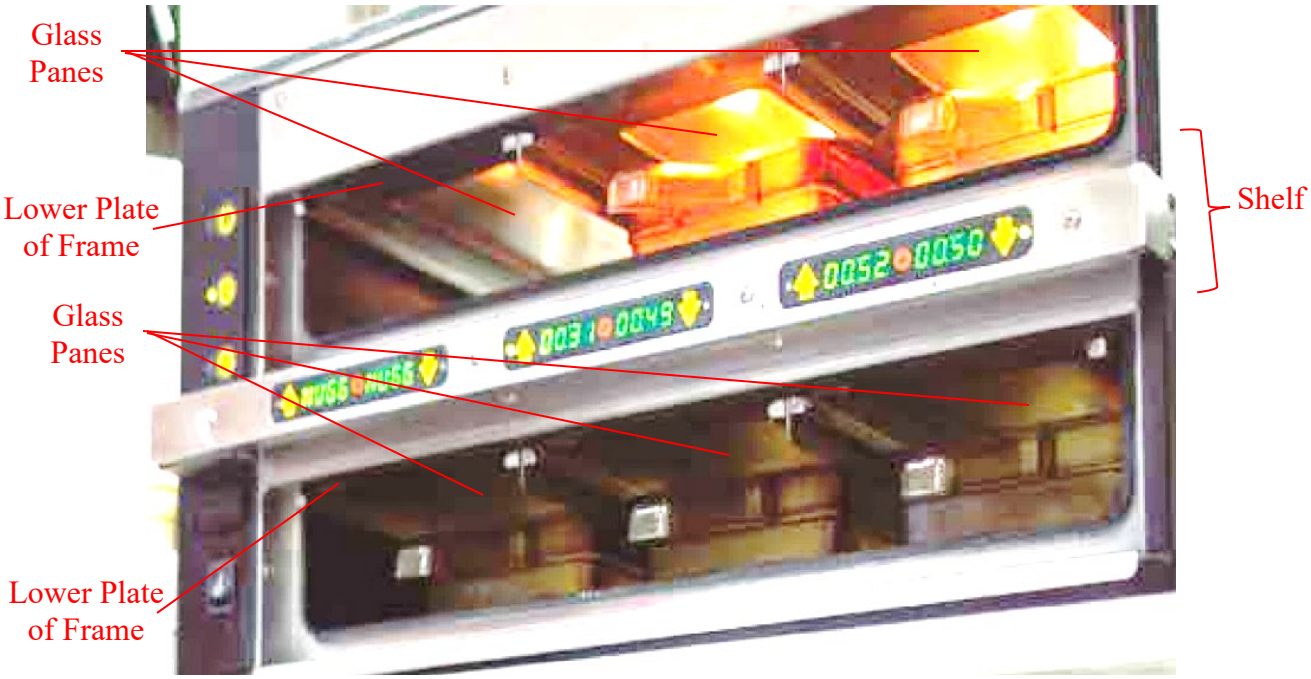
EX1005: 8 (annotated).



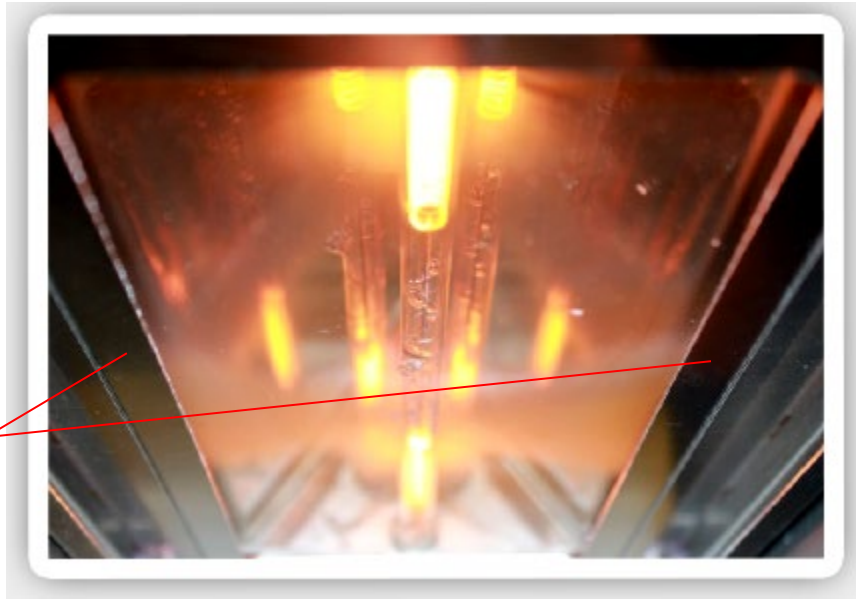
EX1007: 53 (annotated).



EX1007: 32 (annotated).



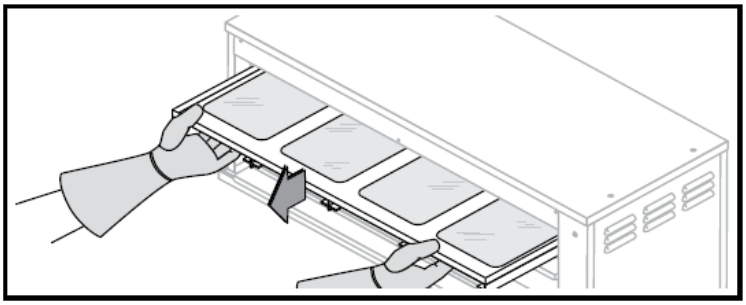
EX1007: 36 (annotated).



EX1007: 11 (annotated).

360. The sheet metal plate is made of thermally conductive material. EX1008: 25, 27 (warning to "make sure the glass has cooled off sufficiently to avoid burns").

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



EX1008: 27 (annotated).

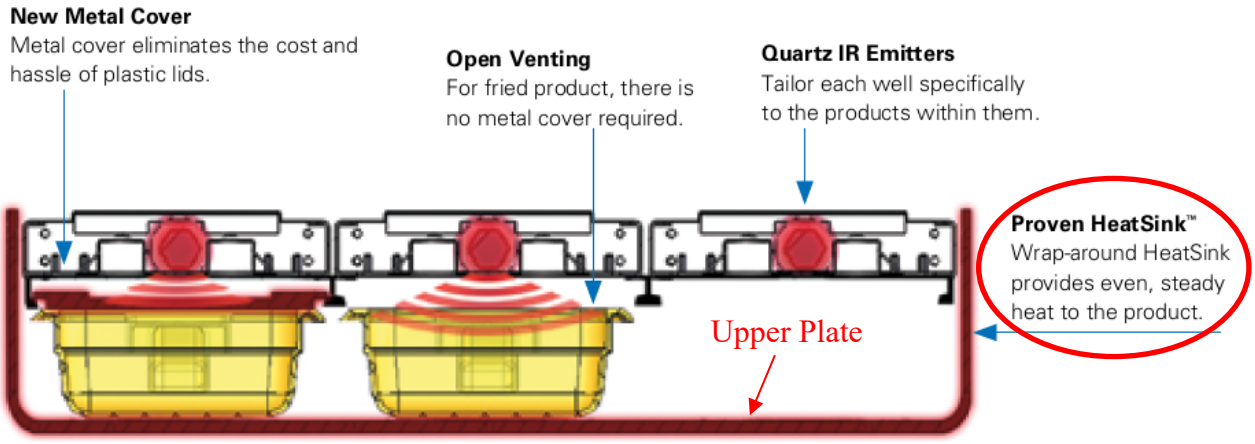
361. Moreover, it would have been obvious to make the plate out of stainless steel, a thermally conductive material, as taught by the IRHS Documents. EX1005: 13 ("Stainless Steel"); EX1006: 1 ("Stainless steel"); EX1007: 58 ("Standard Stainless"). The IRHS Documents teach stainless steel is good material for constructing components of the IRHS24 Holding Unit, providing durable construction, easier cleaning, and rust resistance. EX1005: 13 ("metal will not corrode" and "[r]outine cleaning of stainless steel can be done with soap and water"); EX1007: 53 ("built to last with heavy, durable construction" and "no cracks with the new stainless steel faceplate"). There would have been a

reasonable expectation of success given the IRHS Documents teach stainless steel construction.

33.a.2: a first set of independently controllable heating elements in thermal communication with the upper thermally conductive plate, and a second set of independently controllable heating elements in thermal communication with the lower thermally conductive plate

362. The POSA would recognize that the IRHS Documents disclose "a first set of independently controllable heating elements in thermal communication with the upper thermally conductive plate" and "a second set of independently controllable heating elements in thermal communication with the lower thermally conductive plate."

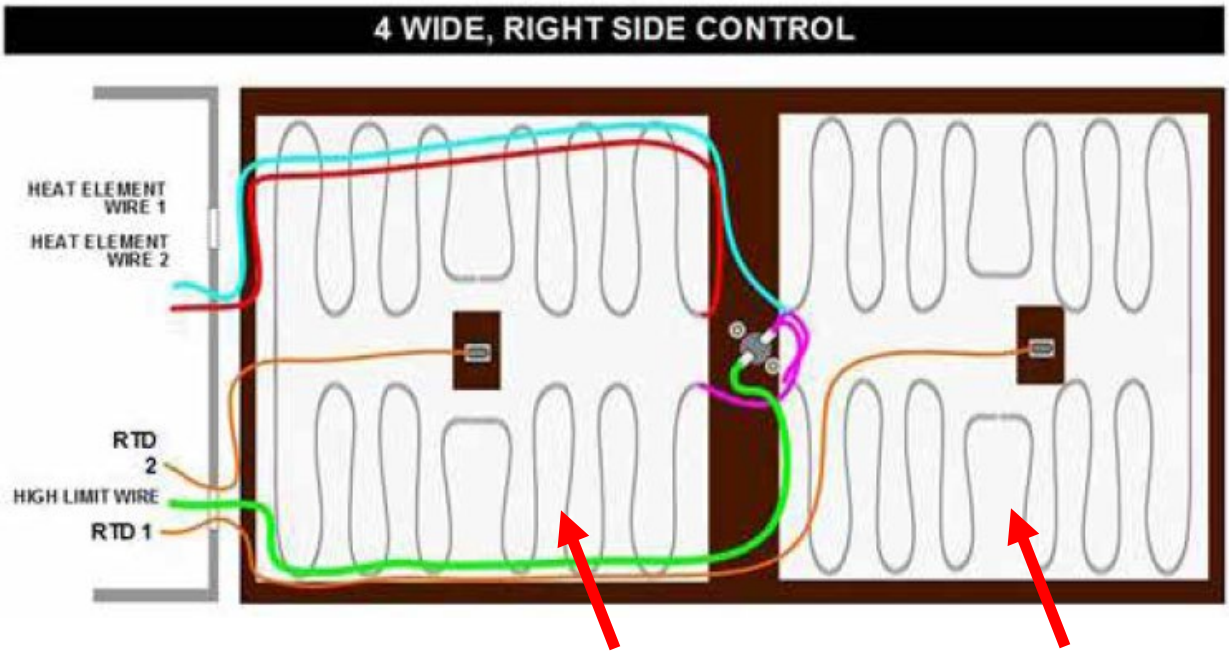
363. As explained in Paragraphs 301-305 above (Claim 16), the upper compartment's lower heating elements (*i.e.*, the first set of heating elements) in the shelf are in conductive thermal communication with the first planar surface.



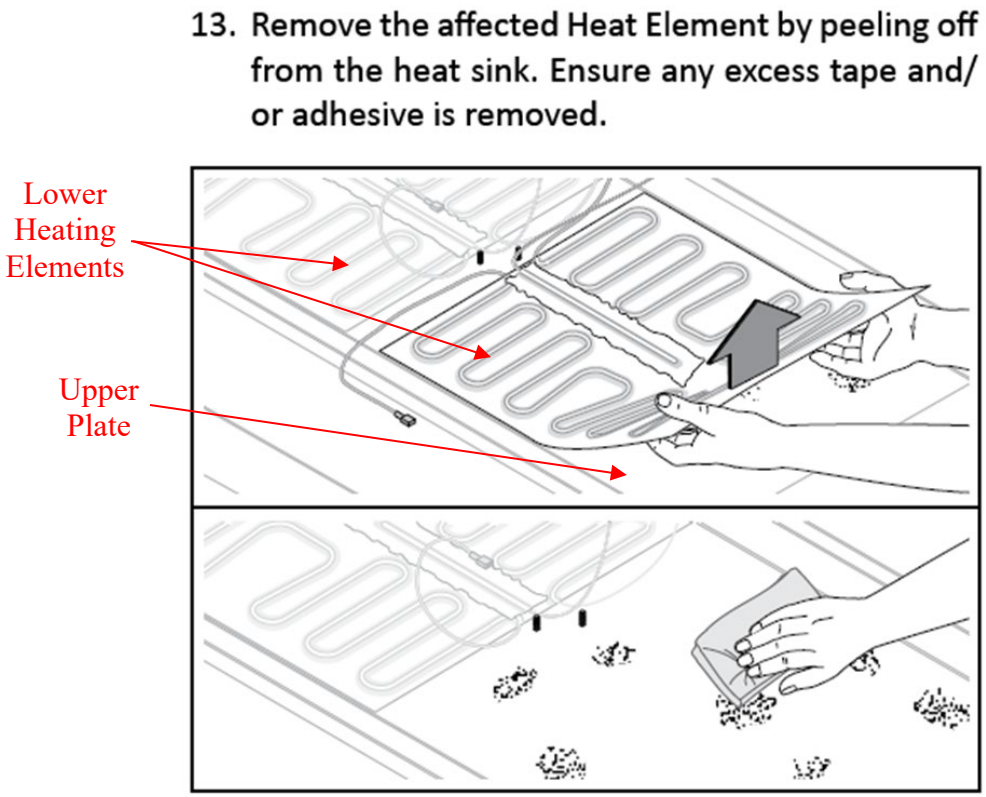
EX1007: 53 (annotated).

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, 58 (annotated).



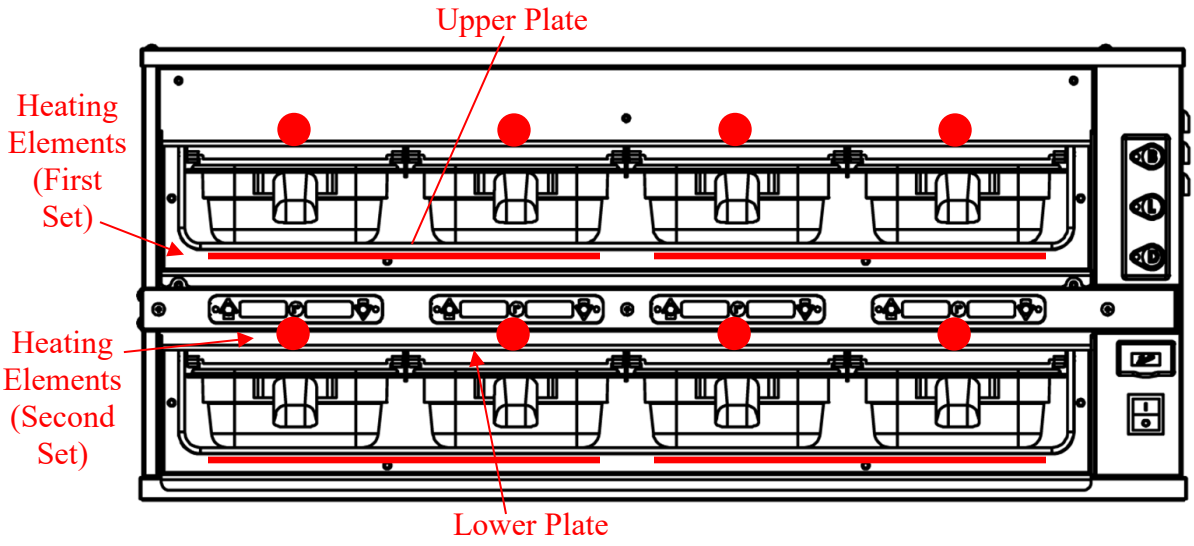
EX1008: 22 (annotated).

364. As discussed in Paragraphs 356-361 (claim limitation 33.a.1), this first planar surface is formed by the upper plate. Accordingly, the lower heating elements in the shelf are in thermal communication with the upper plate. The POSA understands because the lower heating elements are affixed to the upper plate of the HeatSink and heat the upper plate via conduction, the lower heating elements (first set) are in thermal communication with the upper plate. 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

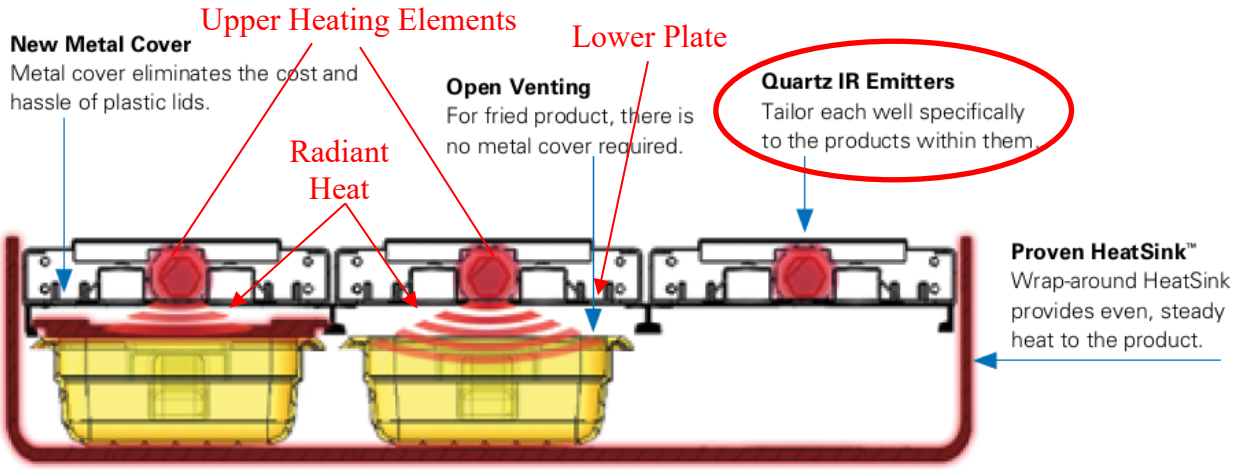
heater which may take the form of a flexible heating element 76 of the electrical resistance type. It extends almost the full length of the heat sink 44, covering the flat bottom surface 54 of the bottom wall 50 [of the heat sink]").

365. The lower sheet metal plate is disposed directly below the lower compartment's upper IR heating elements in the shelf. The IR heating elements are similarly in thermal communication with the lower sheet metal plate.

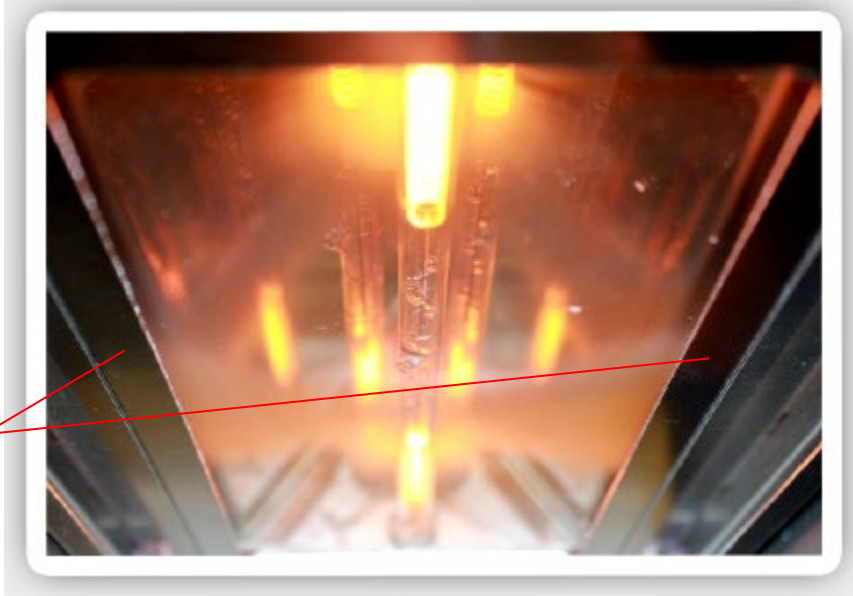
366. Specifically, the IR heating elements heat the sheet metal plate through a number of heat transfer mechanisms. For example, the portions of the sheet metal plate in direct line of sight with the upper IR heating elements receive direct IR heat energy (radiation) from the IR heating elements. Moreover, as the IR heating elements heat the glass panes, the glass panes 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.



EX1005: 8 (annotated).

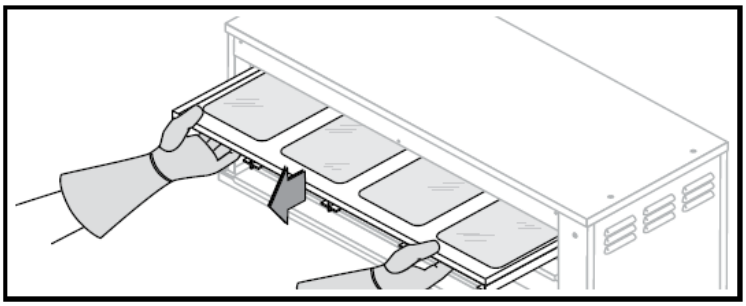


EX1007: 53 (annotated).



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).

367. These upper and lower heating elements are independently controllable for as explained in Paragraphs 170-197 and 234-240 above (claim limitations 1.h.2, 1.h.3, and 1.o).

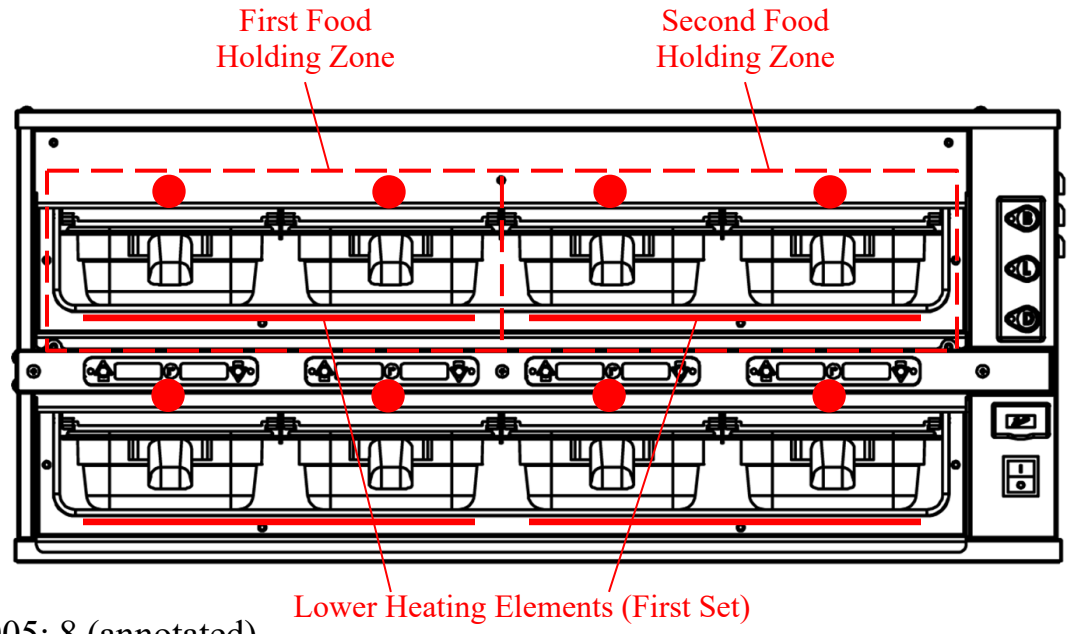
33.b: wherein the first set of independently controllable heating elements are capable of providing different amounts of heat energy into the first and second food holding zones of the first food holding compartment

368. The POSA would recognize that the IRHS Documents disclose that "the first set of independently controllable heating elements are capable of providing different amounts of heat energy into the first and second food holding zones of the first food holding compartment."

369. As explained in Paragraphs 170-197 and 234-240 above (claim limitations 1.h.2, 1.h.3, and 1.o), the upper compartment's lower heating elements (*i.e.*, the first set of heating elements) are independently controllable from one another via the controller. 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"), 25; EX1006: 1 ("[z]oned bottom 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").

370. The POSA would thus recognize that heating elements of the first set of heating elements are capable of providing different amounts of heat energy into the first and second food holding zones, such as for heating the zones to different temperatures as explained in Paragraphs 342-351 above (Claims 30 and 31). Having the lower heating elements in the shelf output different amounts of heat

energy would be a natural result of the first and second food holding zones receiving different kinds of food requiring different bottom temperatures. For example, if the first food holding zone receives pans of cooked eggs and the second food holding zone receives pans of bacon, the lower heating element in the first food holding zone would output less heat energy for warming eggs than the lower heating element in the second food holding zone for warming bacon. *See e.g.*, EX1028: 39 (teaching 180°F for eggs and 200°F for bacon).



EX1005: 8 (annotated).

33.c: wherein the second set of independently controllable heating elements are capable of providing different amounts of heat energy into the third and fourth food holding zones of the second food holding compartment

371. The POSA would recognize that the IRHS Documents disclose that "the second set of independently controllable heating elements are capable of

providing different amounts of heat energy into the third and fourth food holding zones of the first food holding compartment."

372. As explained in Paragraphs 170-197 above (claim limitations 1.h.2 and 1.h.3), the IRHS24 Holding Unit provides "[t]otal well independence," permitting "freedom in product placement in the IRHS" because the temperature settings at each pan location/well are specifically tailored to the product within the pan at that location/well. EX1007: 53; EX1006: 1 ("independent well flexibility").

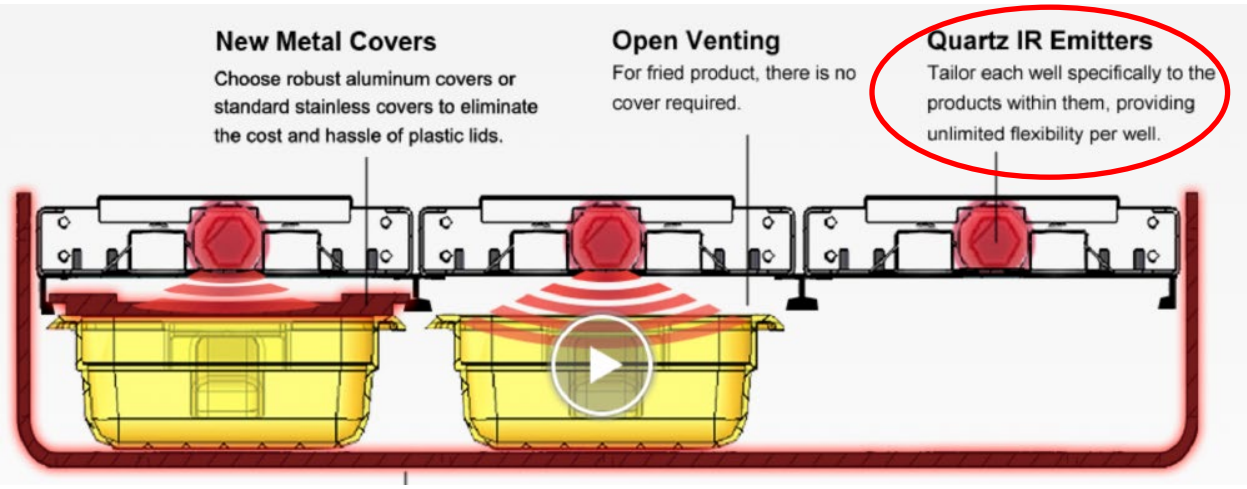
373. As explained in Paragraphs 170-197 and 234-240 above (claim limitations 1.h.2, 1.h.3, and 1.o), the lower compartment's upper heating elements (*i.e.*, the second set of heating elements) are independently controllable from one another via the controller. EX1005: 16 ("[t]his new technology allows you to precisely control the environment in each pan, allowing customized settings for each food product" and "each food product has a tailored … InfraRed pulse rate"), 25; EX1006: 1 ("individually controlled IR emitters" for top heat); EX1007: 10 ("Quartz IR Emitters" that "[t]ailor each well specifically to the products within them, providing unlimited flexibility per well"), 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").

374. Thus, the controller can operate the lower compartment's upper heating elements in the shelf to provide different amounts of heat energy into the

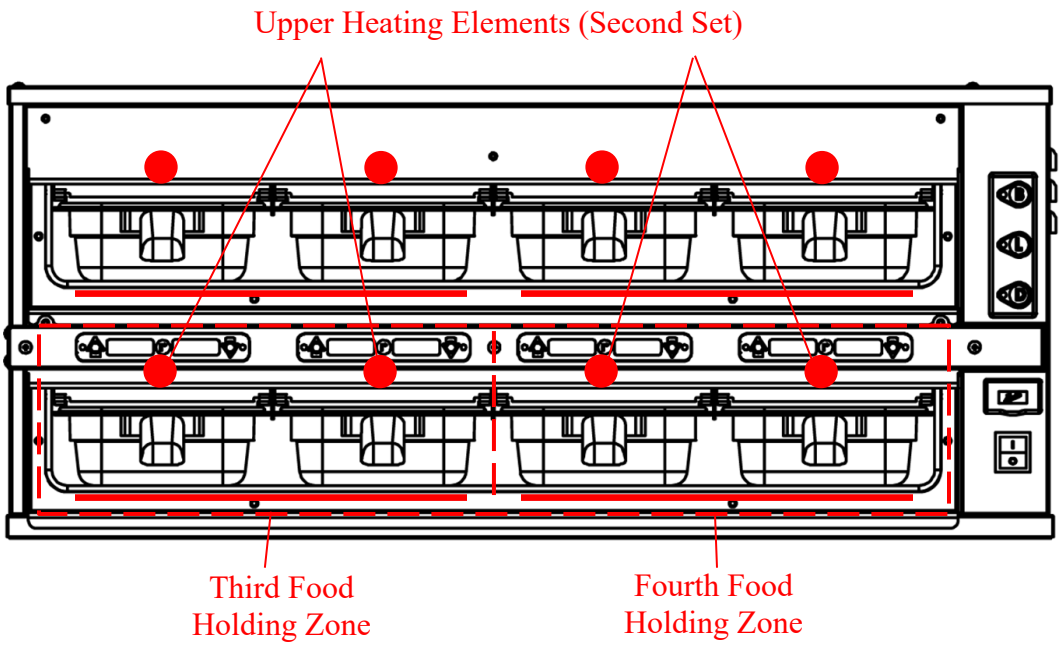
third and fourth food holding zones, such as for heating the zones to different temperatures as explained in Paragraphs 342-351 above (Claims 30 and 31). EX1005: 16 ("each food product has a tailored … InfraRed pulse rate"), 25. EX1006: 1 ("[i]ndividually controlled IR emitters pulse on and off for controlling optimum amount of energy being applied to the food"); EX1007: 10, 53 ("IR is pulsed only when needed, leading to drastic energy savings").

375. Having the upper heating elements in the shelf output different amounts of heat energy would be a natural result of the third and fourth food holding zones receiving different kinds of food requiring different upper temperatures. For example, if the third food holding zone receives pans of cooked eggs and the fourth food holding zone receives pans of bacon, the upper heaters in the third food holding zone would output less heat energy for warming eggs than the upper heaters in the fourth food holding zone for warming bacon. *See e.g.*, EX1007: 10; EX1028: 39 (teaching 160°F for eggs and 200°F for bacon).

376. Further, each upper heating element (IR bulb) 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").



EX1007: 10 (annotated).



EX1005: 8 (annotated).

377. Accordingly, each limitation of Claim 33 is disclosed within the IRHS Documents. As each limitation of Claim 33 is disclosed within the IRHS Documents, the POSA would have found it obvious to combine the teachings and

disclosures of the IRHS Documents to arrive at the food holding bin as claimed in Claim 33.

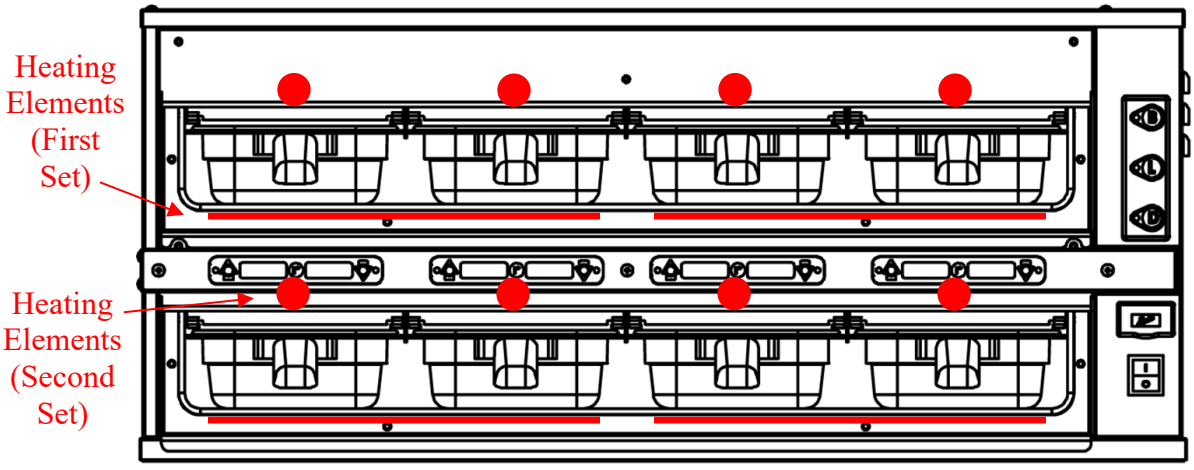
AA. Claim 35: The food holding bin of claim 33, wherein each of the first and second sets of independently controllable heating elements comprise two heating elements.

378. 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 food holding bin of Claim 33. The POSA would additionally recognize that the IRHS Documents disclose the additional limitation added in Claim 35 further requiring that "each of the first and second sets of independently controllable heating elements comprise two heating elements."

379. I understand that under patent law principles that Claim 35's use of "comprise" would be considered open-ended and allow for additional heating elements beyond the two heating elements.

380. Per the identification in Claim 33 the "first set of independently controllable heating elements" is the set of heating elements in thermal communication with the upper thermally conductive plate of the shelf and the "second set of independently controllable heating elements" is the set of heating elements in thermal communication with the lower thermally conductive plate of the shelf.

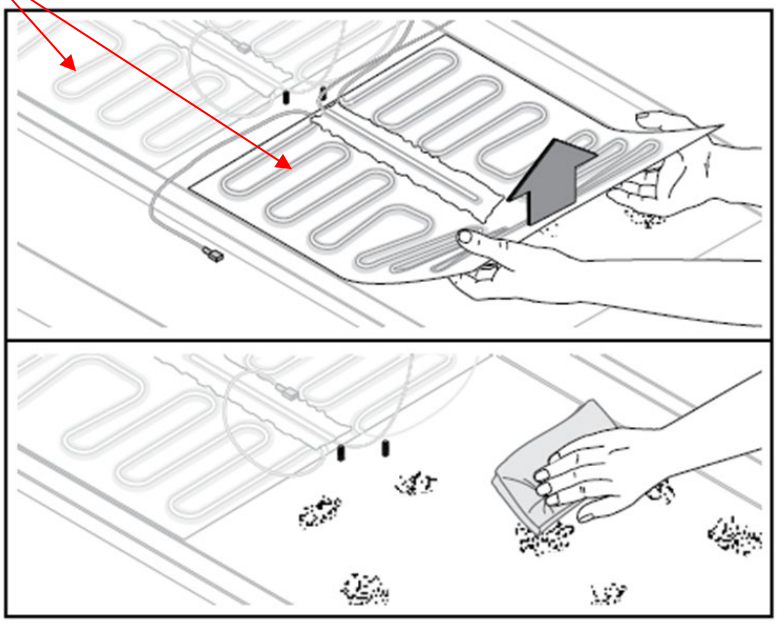
381. For the IRHS24 Holding Units disclosed in the IRHS Documents the first set of heating elements (*i.e.*, the heating elements for the first food holding compartment above the shelf) includes two lower heating elements and the second set of heating elements (*i.e.*, the heating elements for the second food holding compartment below the shelf) includes four upper heating elements. This meets the claim limitation.

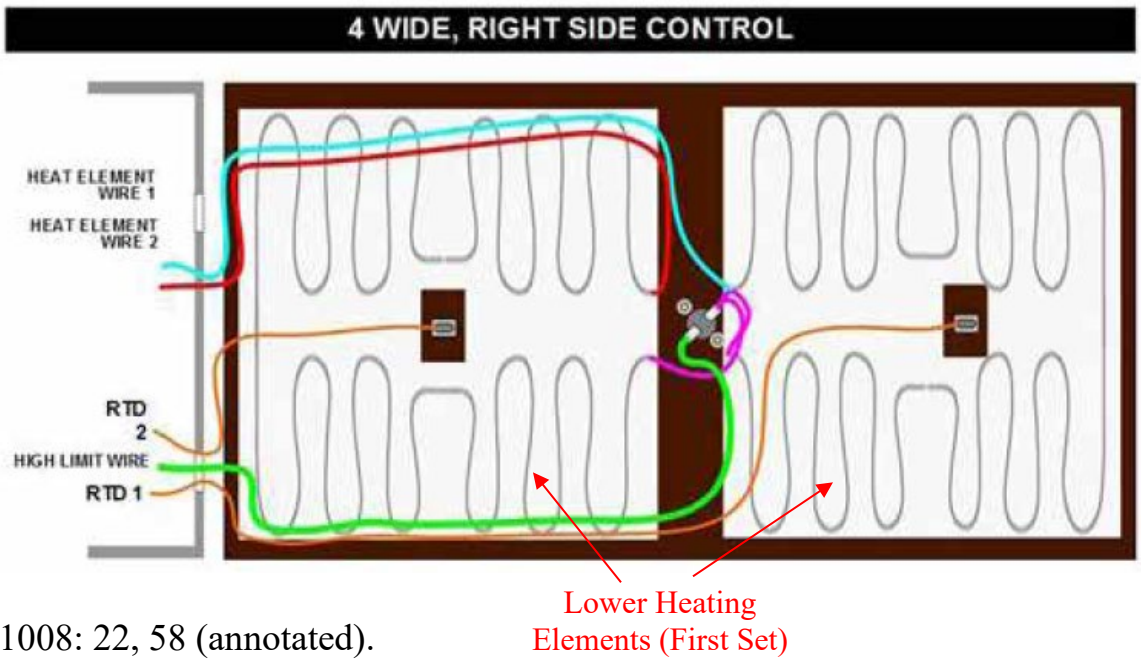


EX1005: 8 (annotated).

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

Lower Heating Elements (First Set)





EX1008: 22, 58 (annotated).

382. Accordingly, the POSA would have found it obvious to combine the teachings and disclosures of the IRHS Documents to arrive at the food holding bin as claimed in Claim 35.

BB. Claim 36: The holding bin of claim 1, wherein the at least one user interface is configured to set the food holding temperature of each food holding zone, and the first food holding zone is maintained at first set food holding temperature, the second food holding zone is maintained at a second set food holding temperature, the third food holding zone is maintained at a third set food holding temperature, and the fourth food holding zone is maintained at a fourth food set holding temperature.

383. 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 food holding bin of Claim 1. The POSA would additionally recognize that the IRHS Documents disclose the additional limitation added in Claim 36 further requiring that "the at least one user interface is configured to set the food holding temperature of each food holding zone, and the first food holding zone is maintained at first set food holding temperature, the second food holding zone is maintained at a second set food holding temperature, the third food holding zone is maintained at a third set food holding temperature, and the fourth food holding zone is maintained at a fourth food set holding temperature."

384. As explained in Paragraphs 228-240 above (claim elements 1.n and 1.o), the user interface sets the food holding temperature of each food holding zone (e.g., heatsink temperature) such as by receiving the holding temperatures via the

USB interface and/or by food types assigned to each pan holding location (e.g., by daypart selection). For example, the first food holding temperature can be set to 160°F/180°F for eggs, the second food holding temperature can be set to 200°F for bacon, the third food holding temperature can be set to 190°F for fish, and the fourth food holding temperature can be set to 220°F for meatballs. *See e.g.*, EX1028: 39.

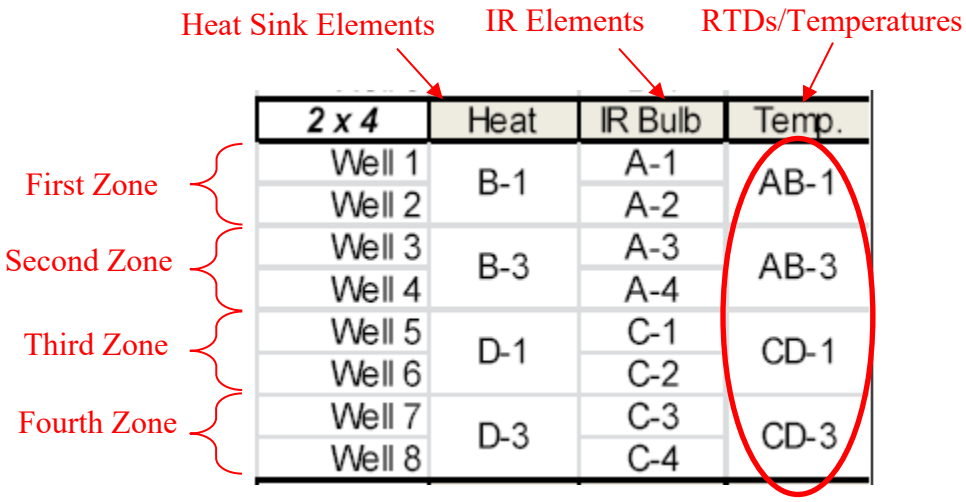


EX1007: 12.

385. As explained in Paragraphs194-197, 204-206, 214-216, 223-225, 234-240, and 342-348 above (claim limitations 1.h.3, 1.i.3, 1.k.3, 1.l.3 and 1.o and Claim 30), the controller maintains each food holding zone at each zone's respective set food holding temperature (e.g., heatsink temperature). The IRHS Documents teach customized temperature settings by food type and independently controllable heat zones having different food types, such that it would have been obvious to hold different food types in the four zones and for the controller to heat

the four zones to four different set temperatures according to customized settings (e.g., heatsink settings) for each food type. EX1006: 1; EX1005: 4, 16, 25; EX1007: 51, 53.

386. For example, the controller would operate the heating elements associated with the first heating zone to maintain 160°F/180°F for eggs, operate the heating elements associated with the second heating zone to maintain 200°F for bacon, operate the heating elements associated with the third heating zone to maintain 190°F for fish, and operate the heating elements associated with the fourth heating zone to maintain 220°F for meatballs. EX1028: 39.



2 x 4	Heat	IR Bulb	Temp.
Well 1	B-1	A-1	AB-1
Well 2		A-2	
Well 3	B-3	A-3	AB-3
Well 4		A-4	
Well 5	D-1	C-1	CD-1
Well 6		C-2	
Well 7	D-3	C-3	CD-3
Well 8		C-4	

EX1008: 64 (annotated).

387. For example, the controller would operate the heating elements associated with the first heating zone to maintain 160°F/180°F for eggs, operate the heating elements associated with the second heating zone to maintain 200°F for bacon, operate the heating elements associated with the third heating zone to

maintain 190°F for fish, and operate the heating elements associated with the fourth heating zone to maintain 220°F for meatballs. EX1028: 39.

388. Accordingly, the POSA would have found it obvious to combine the teachings and disclosures of the IRHS Documents to arrive at the food holding bin as claimed in Claim 36.

CC. Claim 37: The holding bin of claim 1, wherein the at least one user interface is configured to set the food holding temperature of each food holding zone and the controller independently operates each heating element such that each food holding zone is maintained at an independently set food holding temperature.

389. 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 food holding bin of Claim 1. The POSA would additionally recognize that the IRHS Documents disclose the additional limitation added in Claim 37 further requiring that "the at least one user interface is configured to set the food holding temperature of each food holding zone and the controller independently operates each heating element such that each food holding zone is maintained at an independently set food holding temperature."

390. As discussed in Paragraphs 228-240 above (claim elements 1.n and 1.o), the user interface is configured to independently set the food holding temperature of each food holding zone. Likewise, as discussed in Paragraphs194-197, 204-206, 214-216, 223-225, 234-240, 342-348, and 383-388 above (claim

limitations 1.h.3, 1.i.3, 1.k.3, 1.l.3 and 1.o and Claims 30 and 36), the controller independently operates each heating element such that each food holding zone is maintained at its independently set food holding temperature.

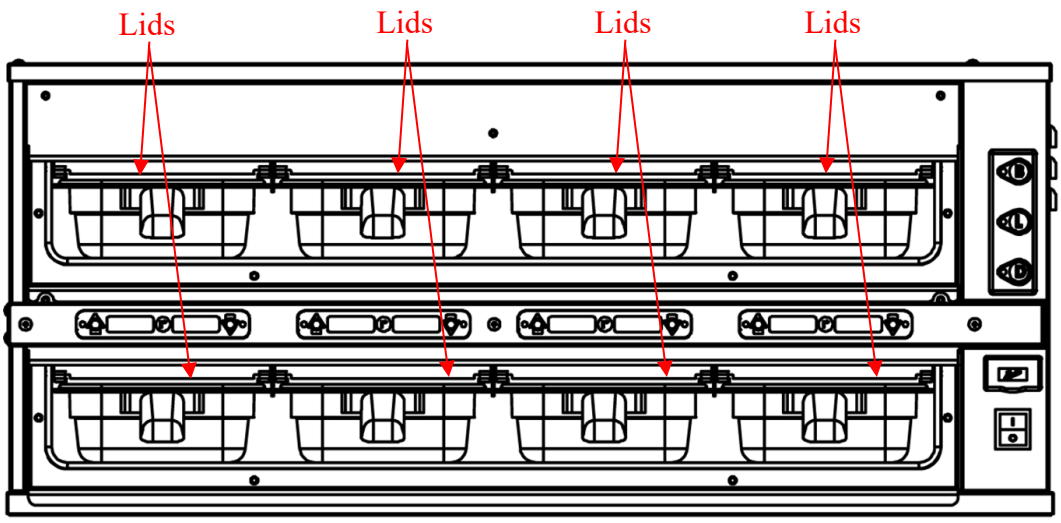
391. Accordingly, the POSA would have found it obvious to combine the teachings and disclosures of the IRHS Documents to arrive at the food holding bin as claimed in Claim 37.

V. GROUND 2: Claims 6, 12-14, 24, and 25 Would Have Been Obvious Over the IRHS Documents in view of Hartfelder and/or Shei'099

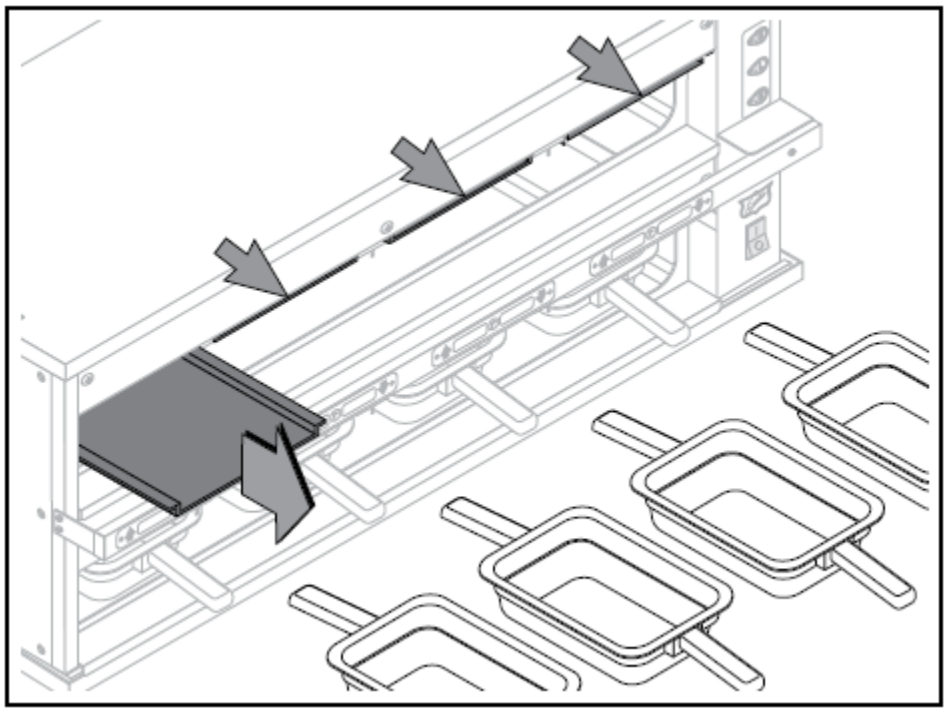
A. Modification of the IRHS Documents based on Hartfelder and/or Shei'099

392. Claims 6, 12-14, 24, and 25 each depend from Claim 1 but further add limitations pertaining to the inclusion of latches that would secure the covers or lids suspended above each pan holding location/bay in place to prevent them from being inadvertently moved, for example, while removing or inserting a food pan into its desired food holding compartment.

393. The IRHS 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").

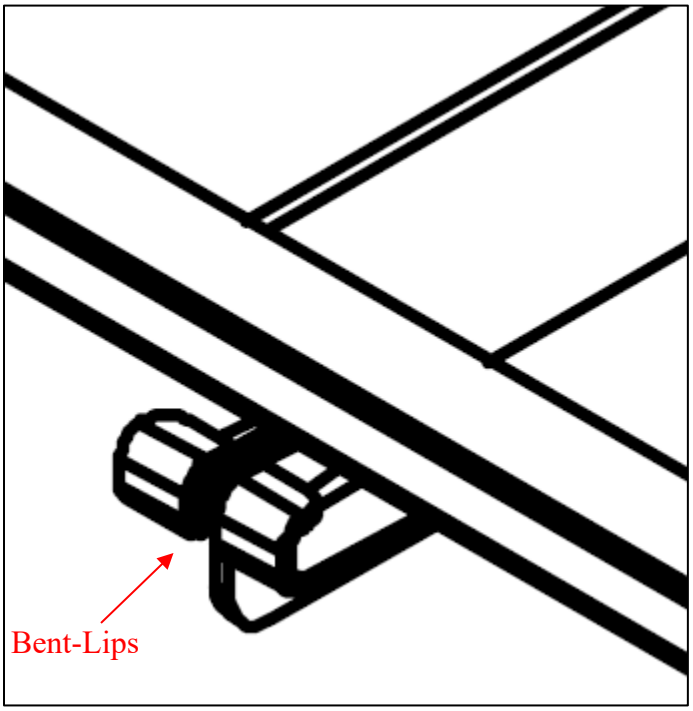


EX1005: 8 (annotated).



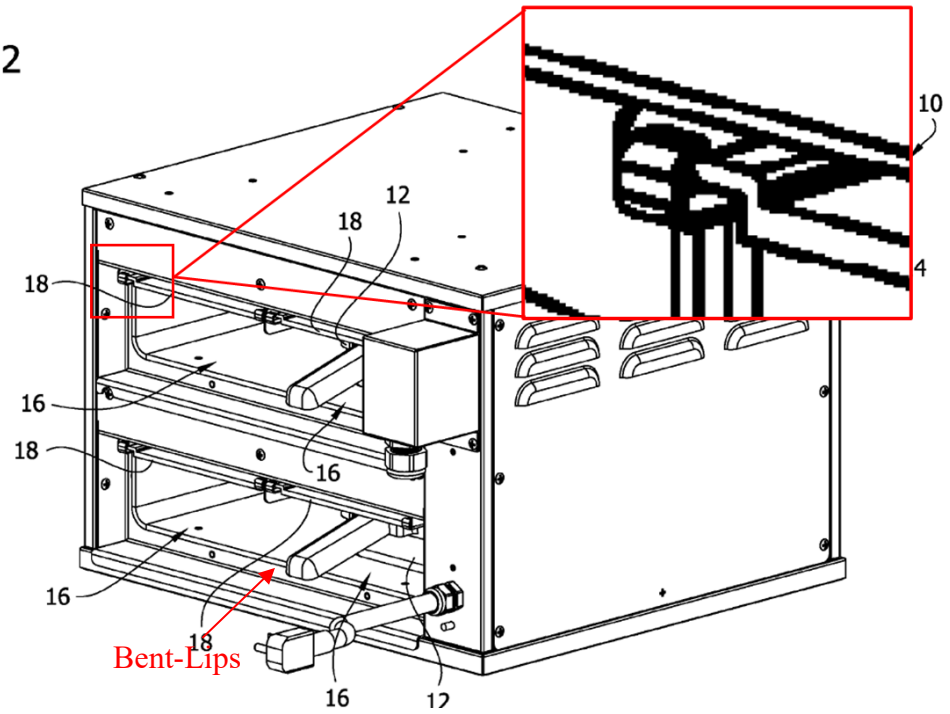
EX1008: 16.

394. Rather than using latches as claimed Claims 6, 12-14, 24, and 25 of the ’363 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).

395. 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).

396. 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.

397. 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.").

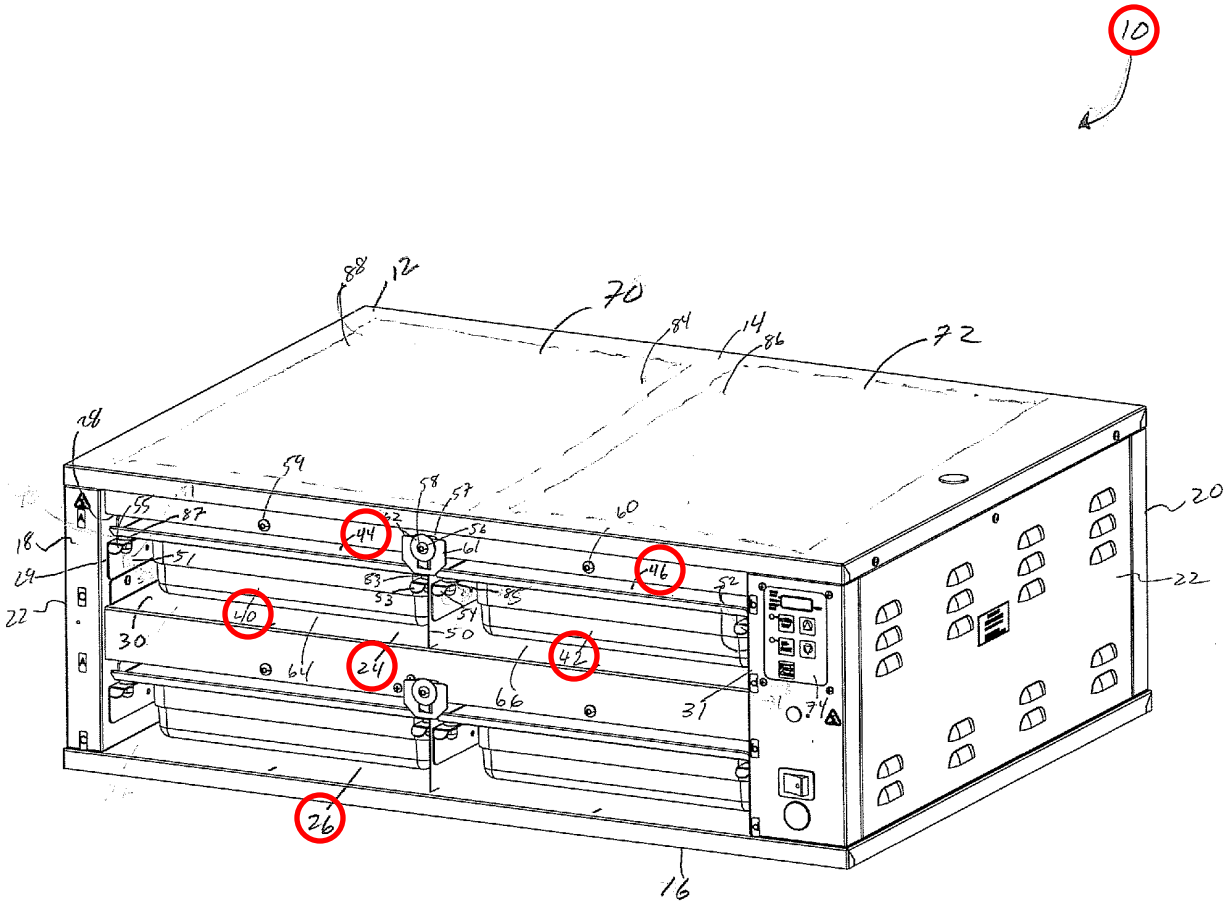


FIGURE 1

EX1013: Fig. 1 (annotated).

398. 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.

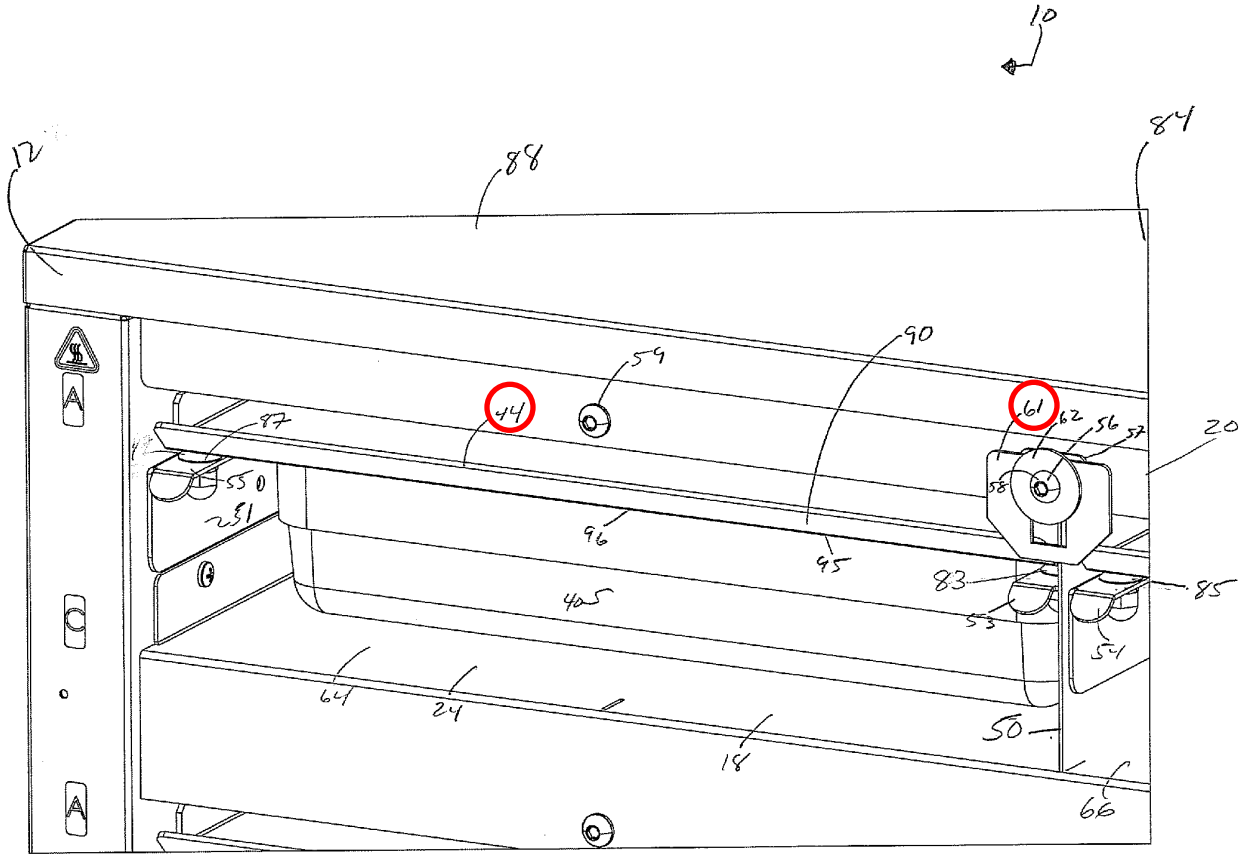


FIGURE 9

EX1013: Fig. 9 (annotated).

399. 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.

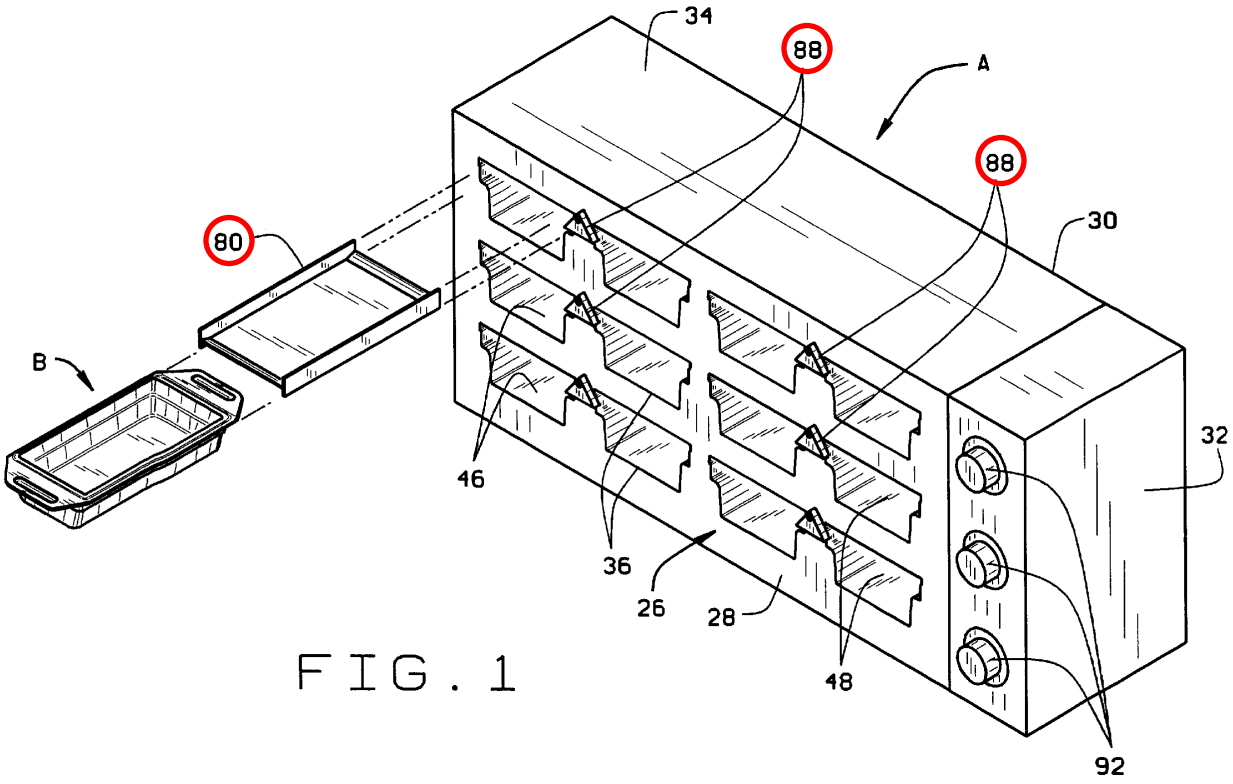


FIG. 1

EX1017: Fig. 1 (annotated).

400. It would have been obvious to modify the IRHS Holding Units as disclosed in the IRHS Document to include Hartfelder's stop members (61) or Shei'099's stops (88) for retaining the lids of the IRHS Holding Unit on the lid-holding shelves.

401. 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.

402. Replacing the existing bent-lips with Hartfelder's stop members would make the IRHS 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.

403. 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 to provide a backup to the existing bent-lips (prevent inadvertent escape of lids out of the unit over the bent-lips).

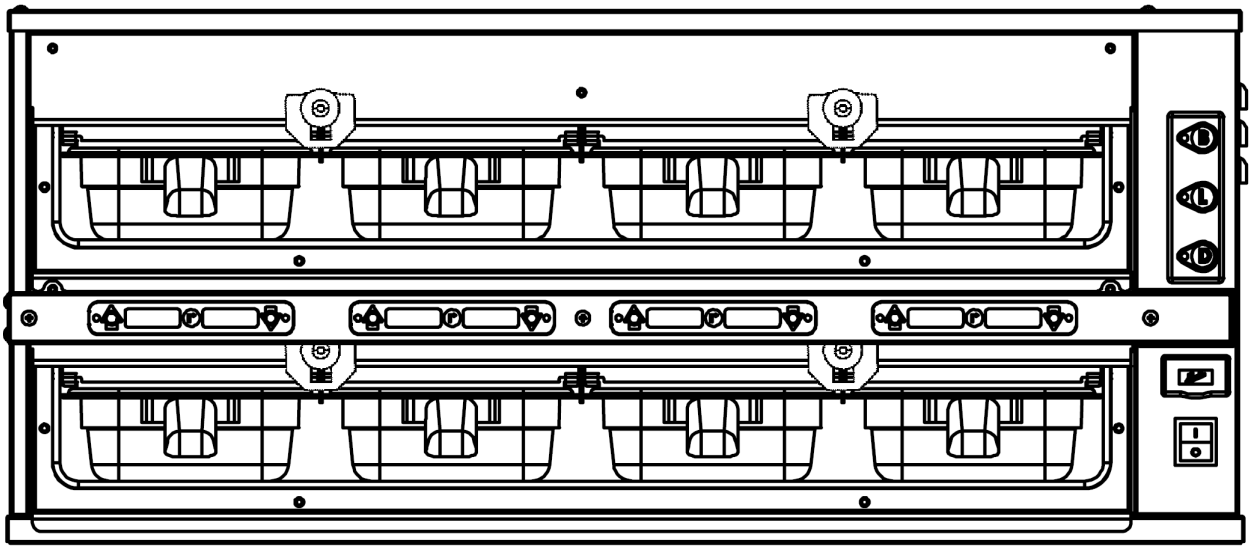
404. Modifying the IRHS Holding Unit to use Hartfelder's stop members or Shei'099's stops instead of or in addition to the bent-lips would have been nothing more than using a known technique/alternative (the stop members of Hartfelder or Shei'099 to retain lids) to improve a similar device (the IRHS

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).

405. 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].

406. 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.

407. 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).



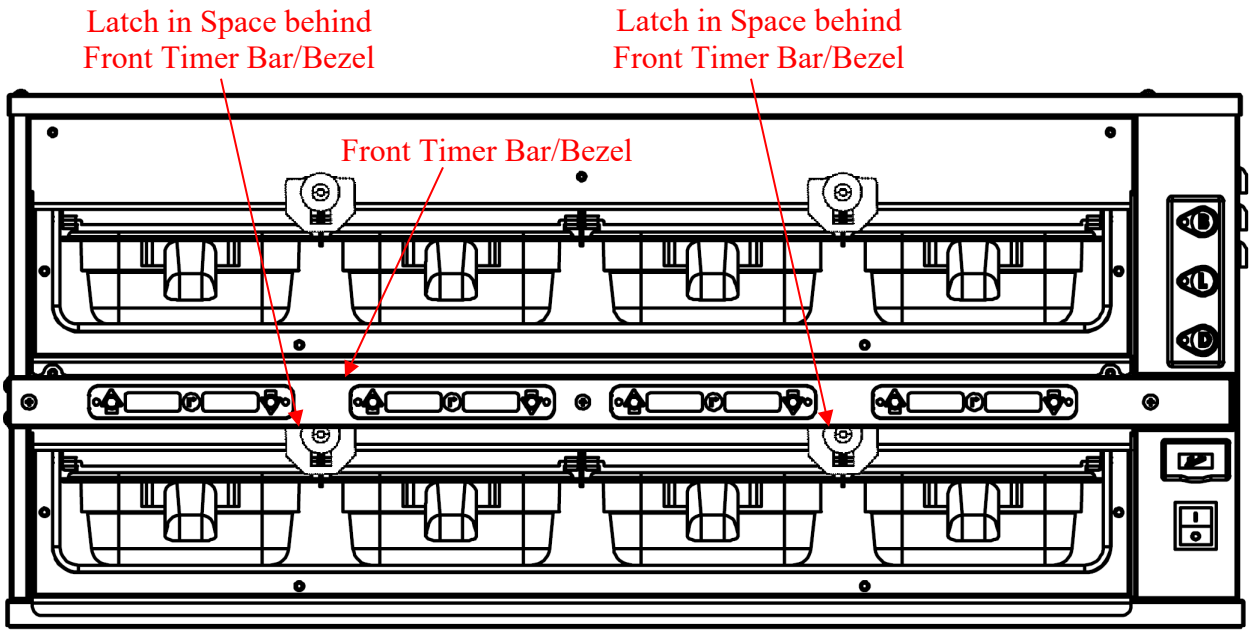
EX1005: 8 (modified).

B. Claim 6: the food holding bin of claim 5, further comprising a latch moveable from a locked position to an unlocked position within the space between the first bezel and the front face

408. 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 food holding bin of Claim 5. As described in Paragraphs 272-274 above (Ground 1, Claim 5), the IRHS Holding Units are disclosed within the IRHS Documents as having a space between their front timer bar and the front face of their chassis.

409. Modifying the IRHS Holding Units in view of Hartfelder and Shei'099, as explained in Paragraphs 392-407 (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).



EX1005: 8 (modified, annotated).

410. This location is the same as taught by Hartfelder and/or Shei'099 and would be the natural location—adjacent the openings and the lids—so as to be positioned to engage and retain the lids. EX1013: Figs. 1 and 9; EX1017: Fig. 1.

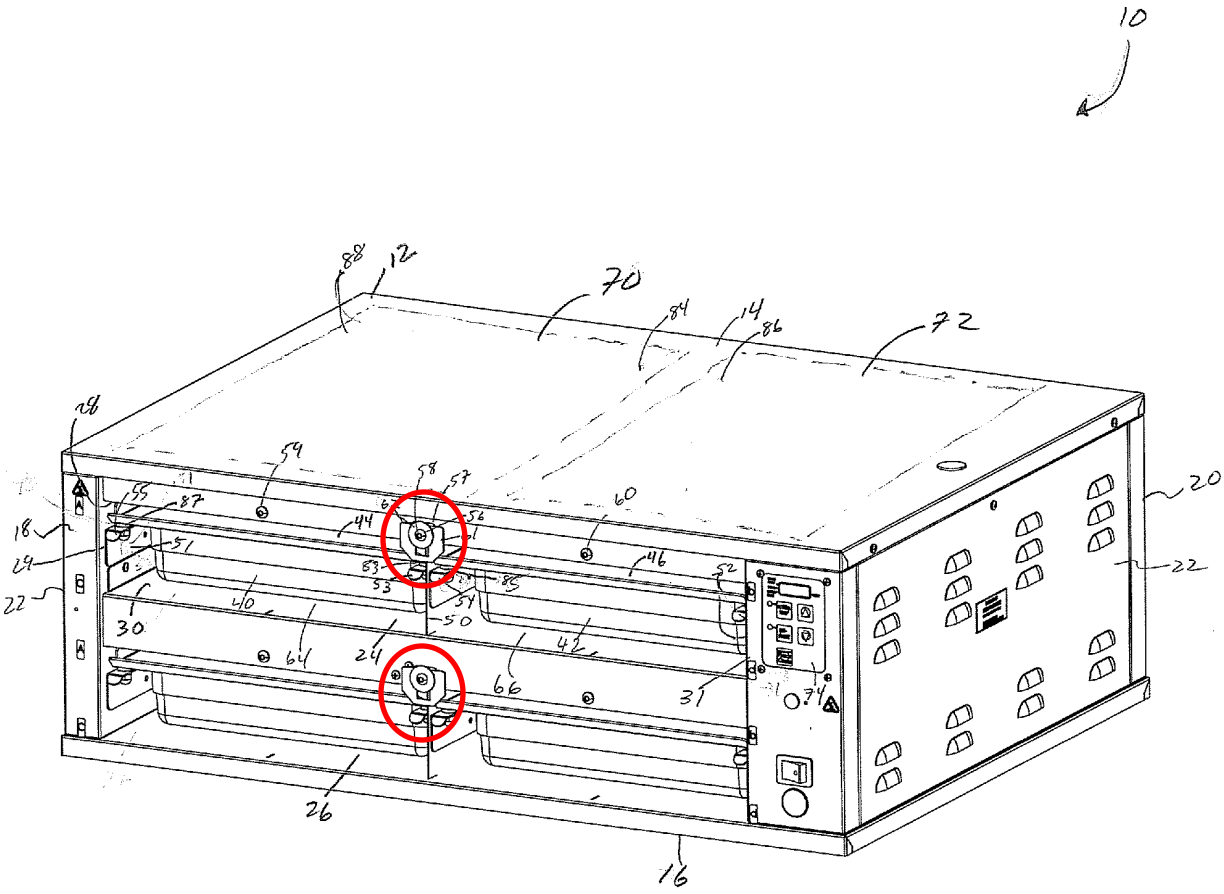
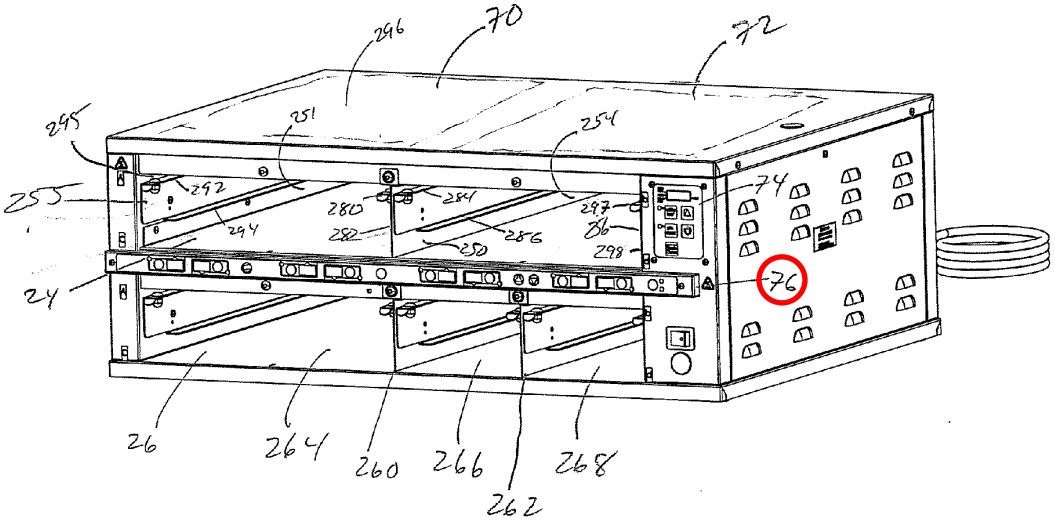

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FIGURE 1


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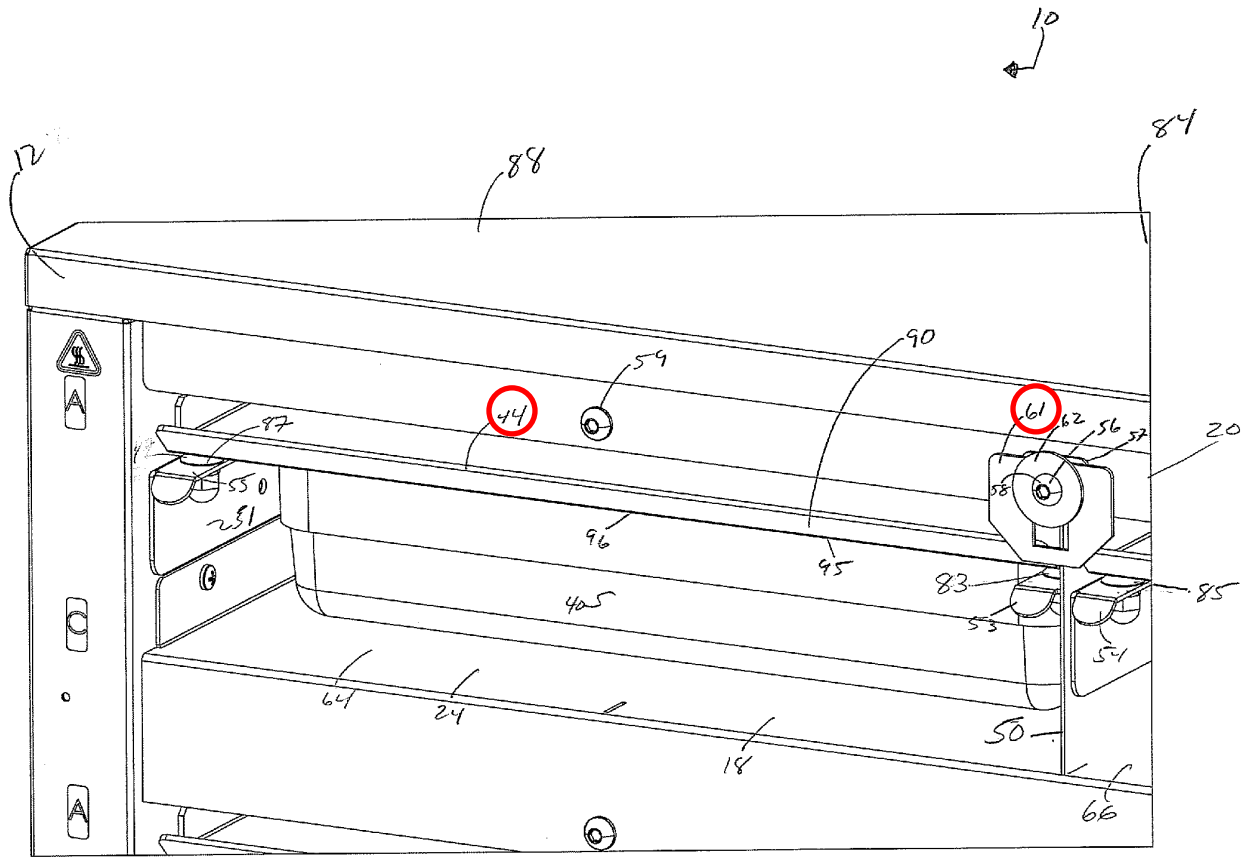


FIGURE 9

EX1013: Figs. 1, 3, and 9 (annotated).

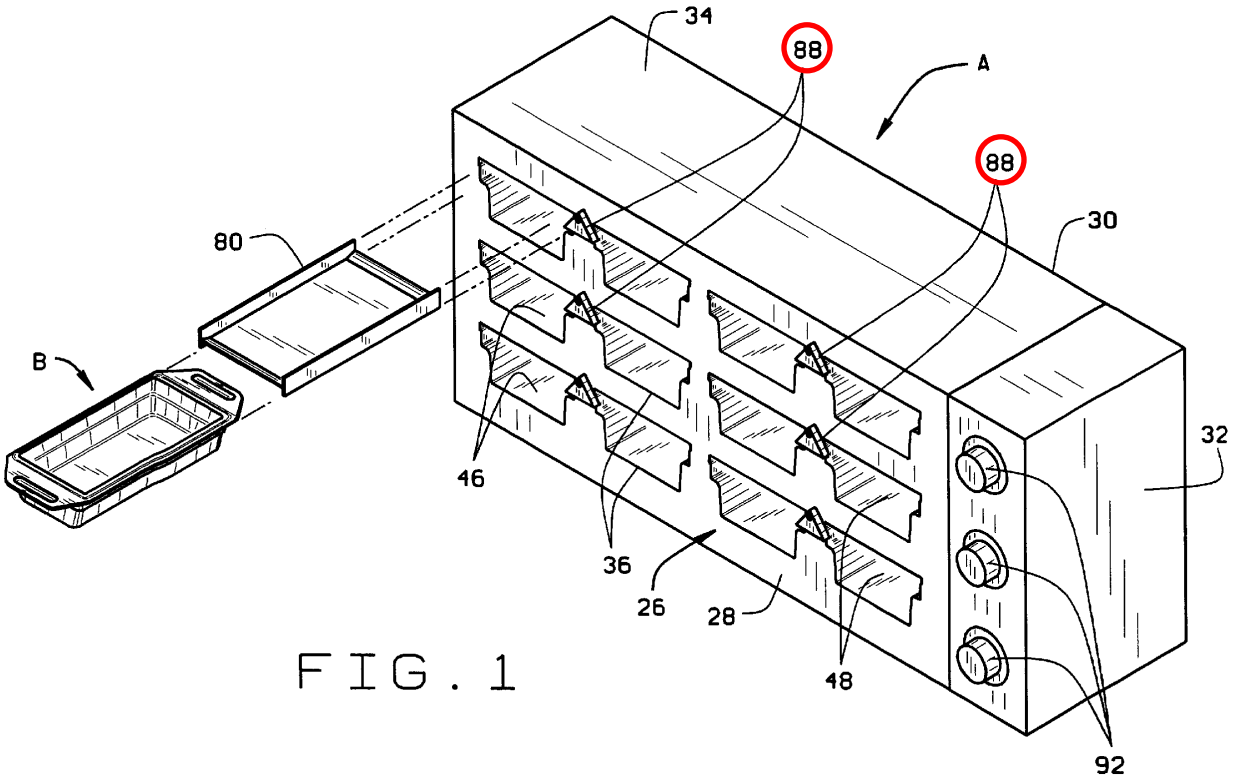


FIG. 1

EX1017: Fig. 1 (annotated).

411. 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.

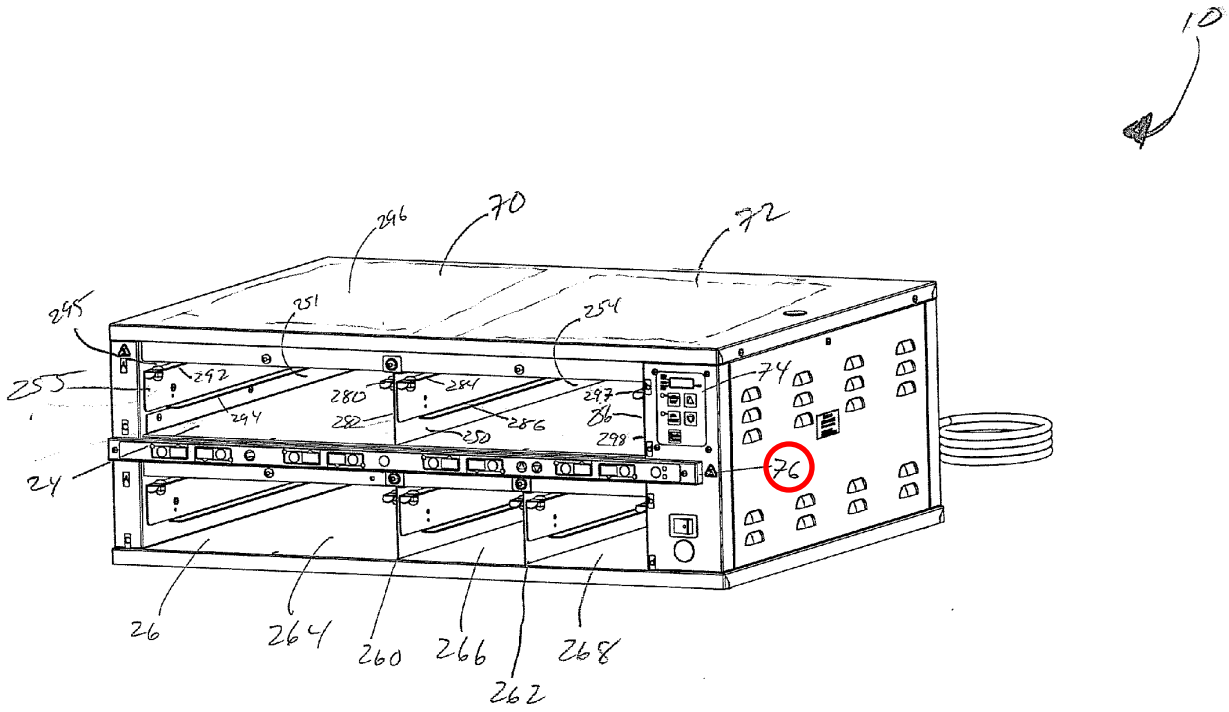
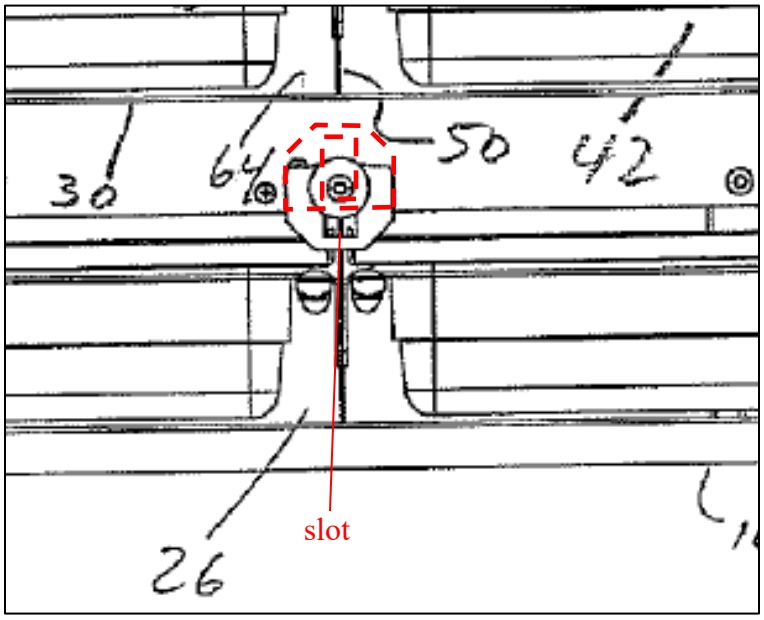


FIGURE 3

EX1013: Fig. 3 (annotated).

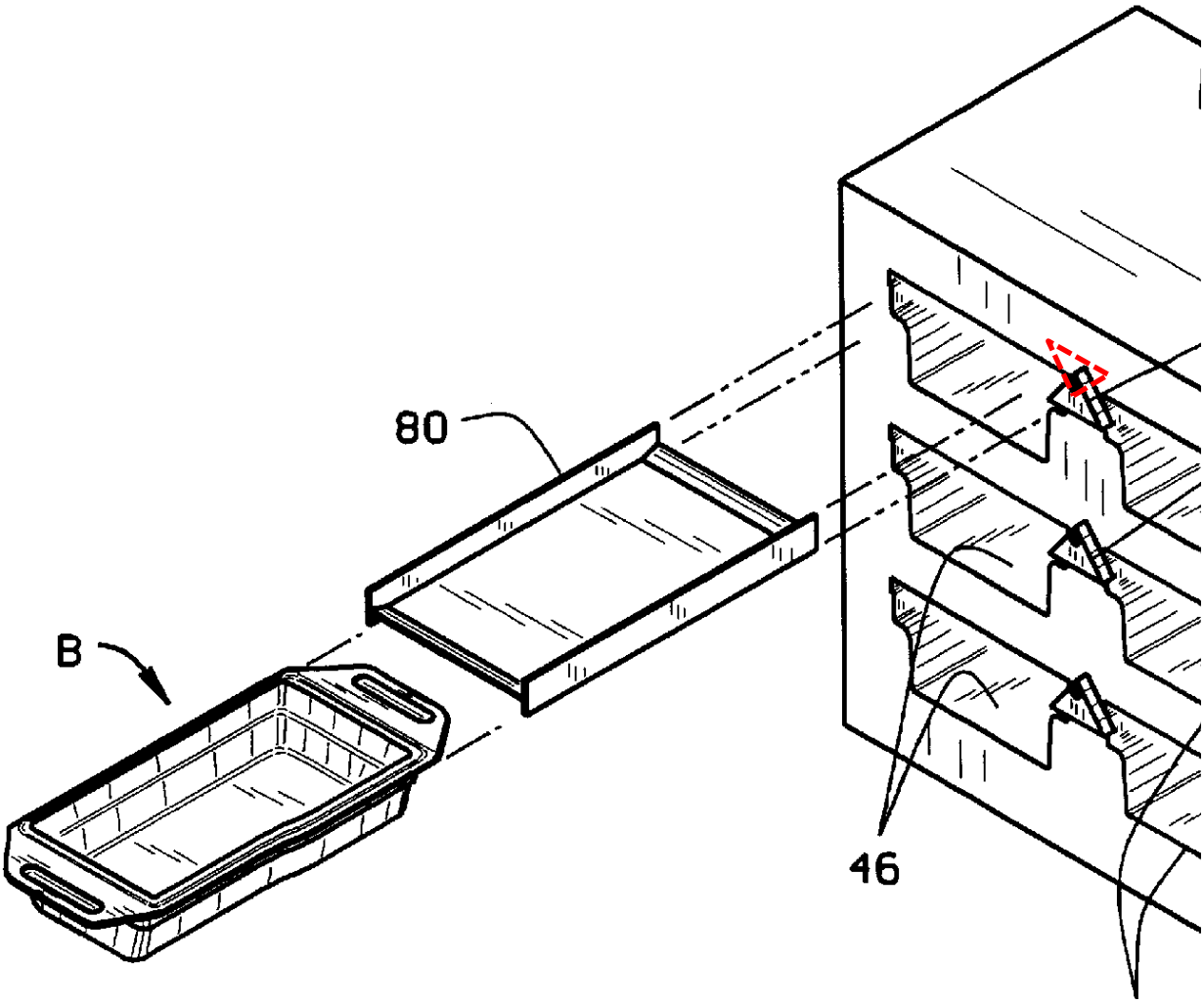
412. The POSA would understand that Hartfelder's stop members (61) are moveable between locked and unlocked positions. Specifically, the stop members (61) have a vertical slot, through which the fastener (56) extends to connect the stop member to the cabinet (12). The cutout is larger than the fastener (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).

413. Likewise, Shei'099's stops (88) rotate between locked and unlocked positions. EX1017: 6:9-32.

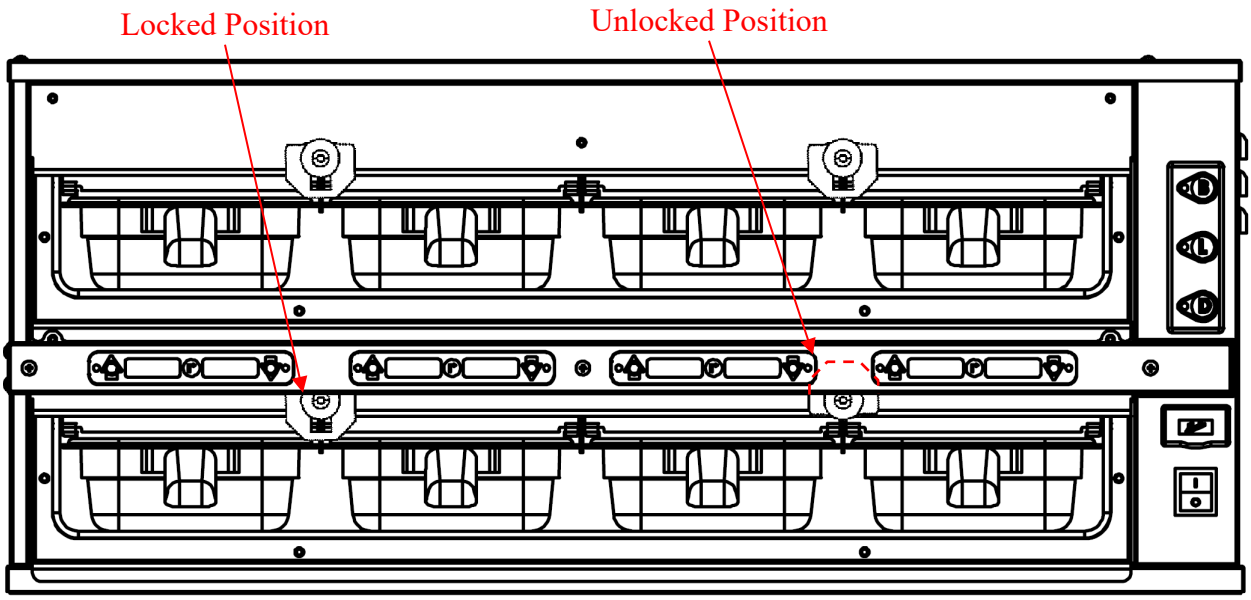


EX1017: Fig. 1 (enlarged, annotated).

414. 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.

415. In the modified IRHS Holding Unit, latches would have been in the space behind the timer bar and would each rotate in the space between their locked

and unlocked positions as shown in the modified rendering of the IRHS24 Holding Unit below.



EX1005: 8 (modified, annotated).

416. 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 claimed in Claim 6.

C. Claim 12: the food holding bin of claim 1, further comprising a latch disposed adjacent the first opening

417. 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 food holding bin of Claim 1.

418. Modifying the IRHS Holding Units in view of Hartfelder and Shei'099 as discussed in Paragraphs 392-407 (Ground 2, Section V(A)) would

result in the rotatable stop members (61) or stops (88) (*i.e.*, latches) disposed adjacent to the food holding bays. EX1013: ¶[0058]; EX1017: 6:9-32.

419. This location is the same as taught by Hartfelder and/or Shei'099 and would be the natural location—adjacent the openings and lids—so as to be positioned to engage and retain the lids. EX1013: Figs. 1 and 9; EX1017: Fig. 1

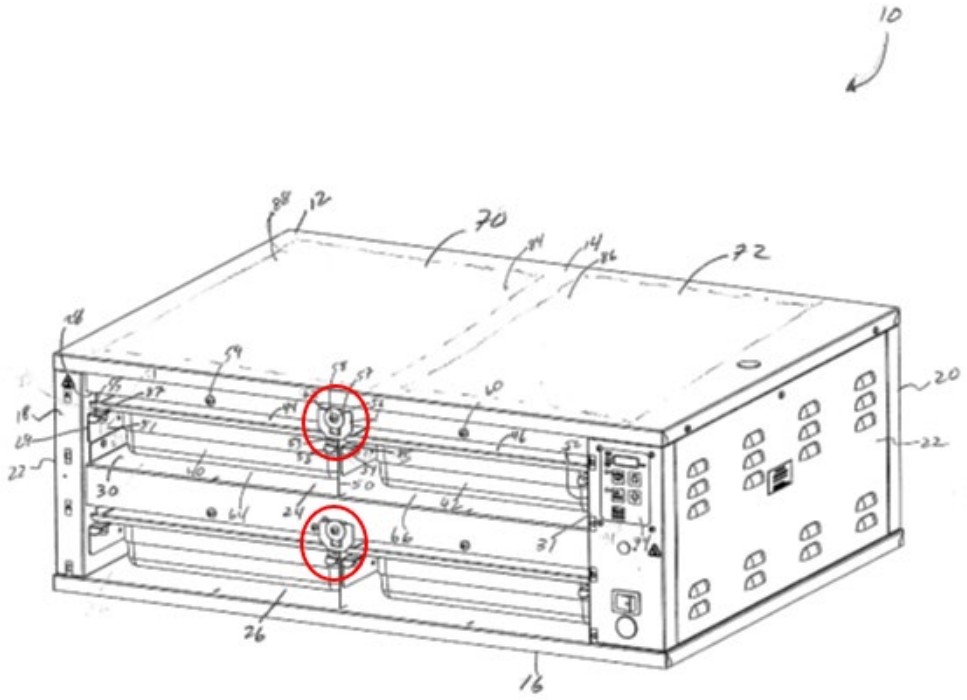


FIGURE 1

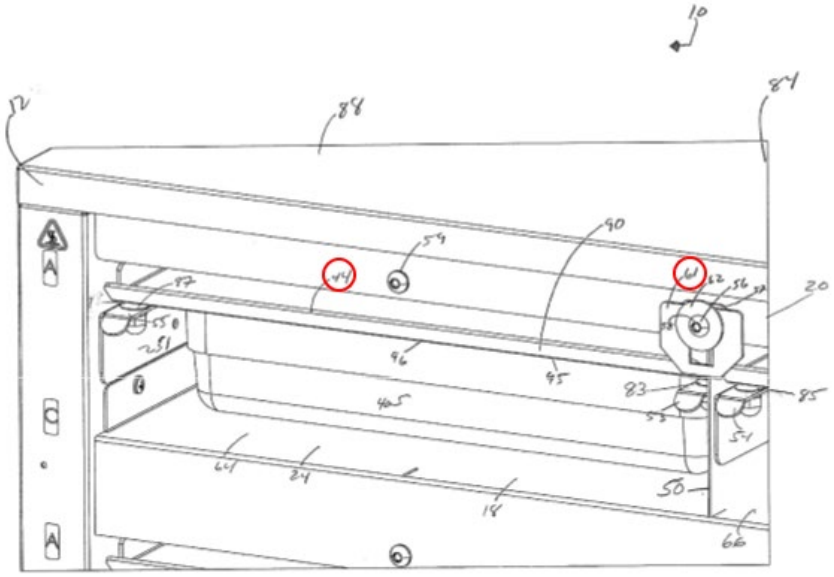


FIGURE 9

EX1013: Figs. 1 and 9 (annotated).

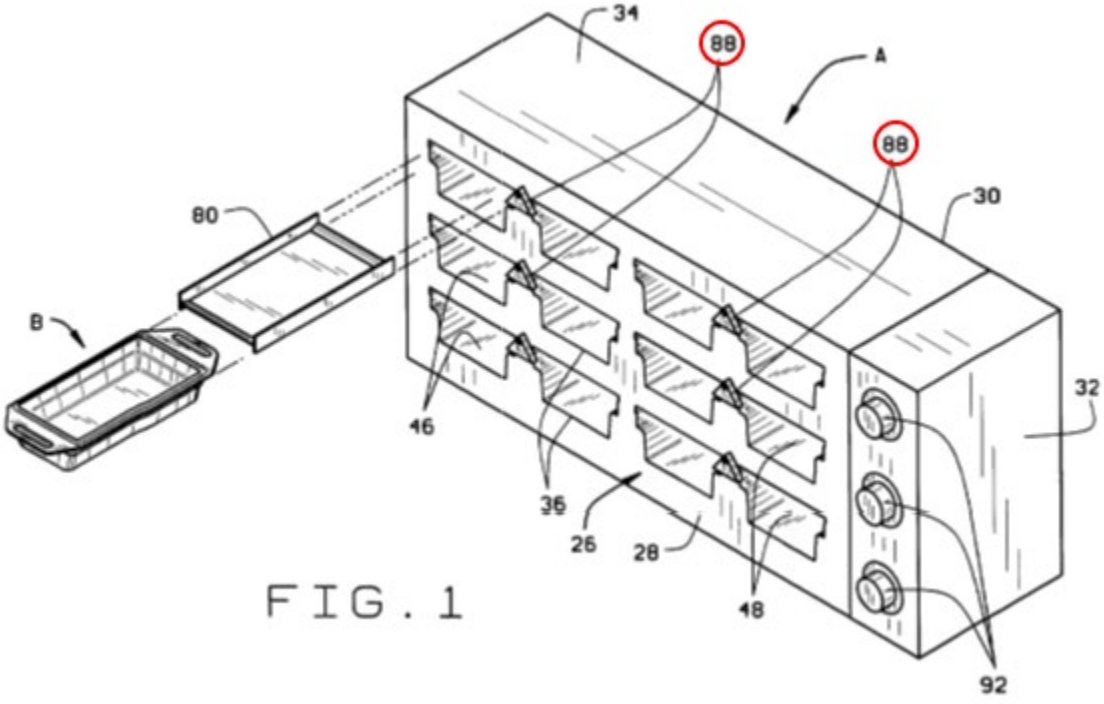


FIG. 1

EX1017: Fig. 1 (annotated).

420. 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.

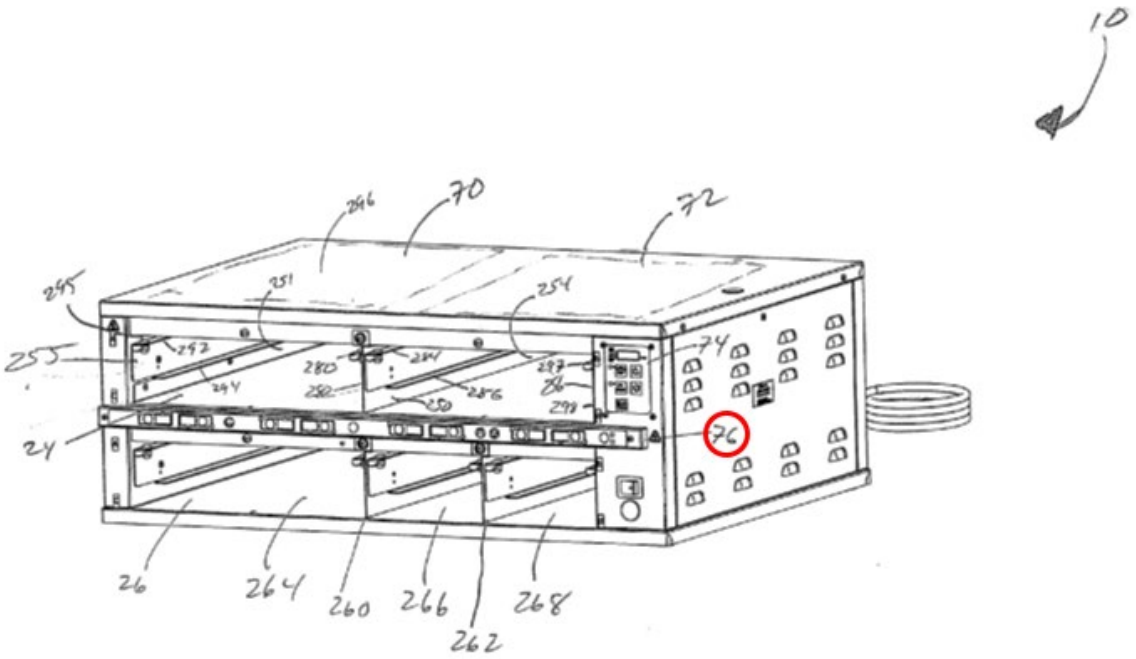
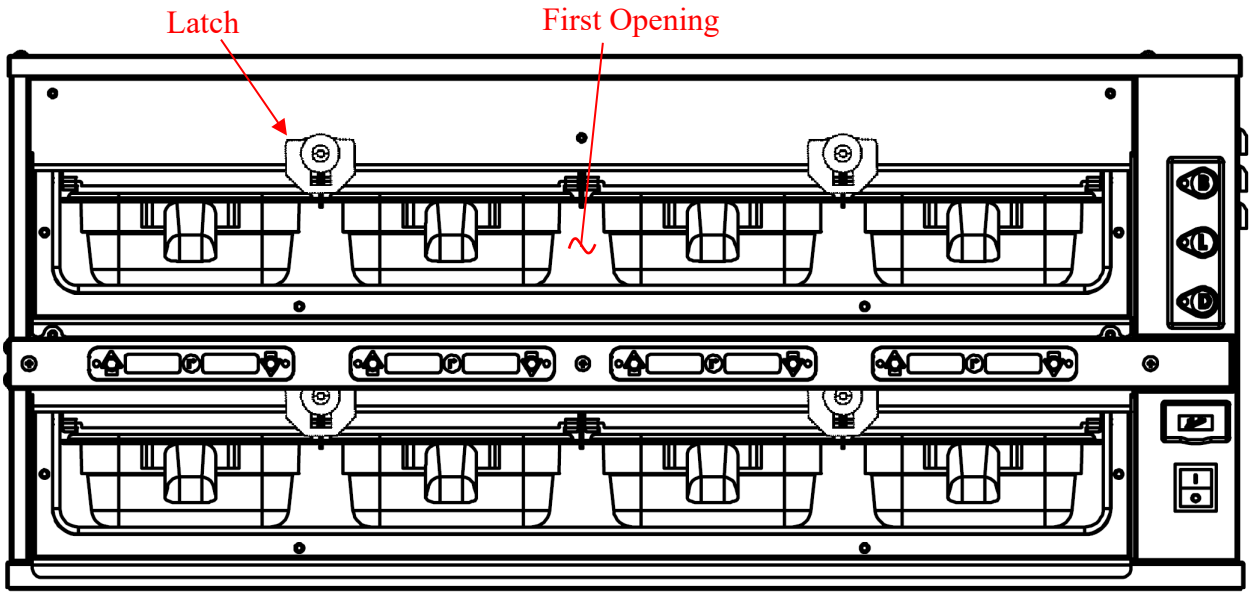


FIGURE 3

EX1013: Fig. 3 (annotated).

421. Accordingly, modifying the IRHS Holding Unit in view of Hartfelder and Shei'099 would result in the IRHS Holding Unit having rotatable latch(es) adjacent the first opening as shown in the modified rendering of the IRHS24 Holding Unit below.



EX1005: 8 (modified, annotated).

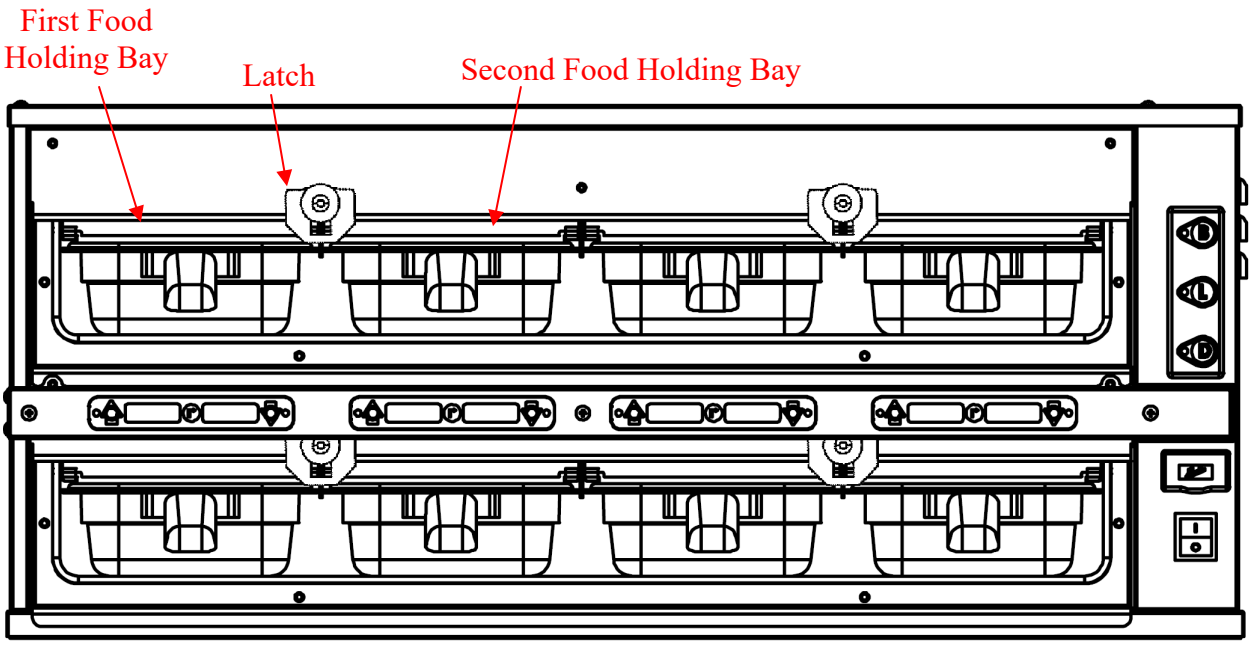
422. Accordingly, the POSA would have found it obvious to combine the teachings and disclosures of the IRHS Documents with the teachings of Hartfelder and/or Shei'099 to arrive at the food holding bin as claimed in Claim 12.

D. Claim 13: the food holding bin of claim 12, wherein the latch is located between the first food holding bay and the second food holding bay

423. As discussed above, the POSA would have found it obvious to modify the IRHS Holding Unit disclosed in the IRHS Documents in view of Hartfelder and/or Shei'099 to arrive at the claimed food holding bin of Claim 12.

424. Modifying the IRHS Holding Unit in view of Hartfelder and/or Shei'099 would result in the latch being located between first and second food

holding bays as shown in the modified rendering of the IRHS24 Holding Unit below.



EX1005: 8 (modified, annotated).

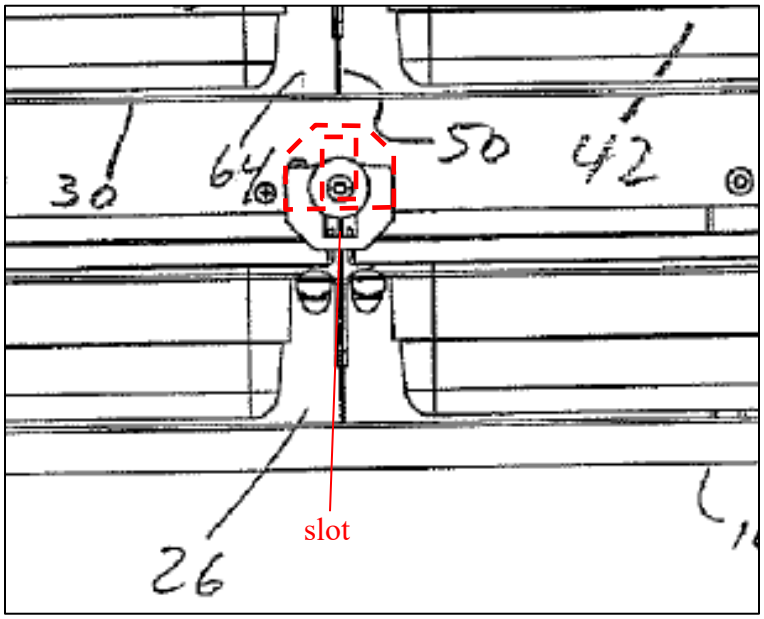
425. Accordingly, the POSA would have found it obvious to combine the teachings and disclosures of the IRHS Documents with the teachings of Hartfelder and/or Shei'099 to arrive at the food holding bin as claimed in Claim 13.

E. Claim 14: the food holding bin of claim 12, wherein the latch is rotatable or translatable from a first position to a second position.

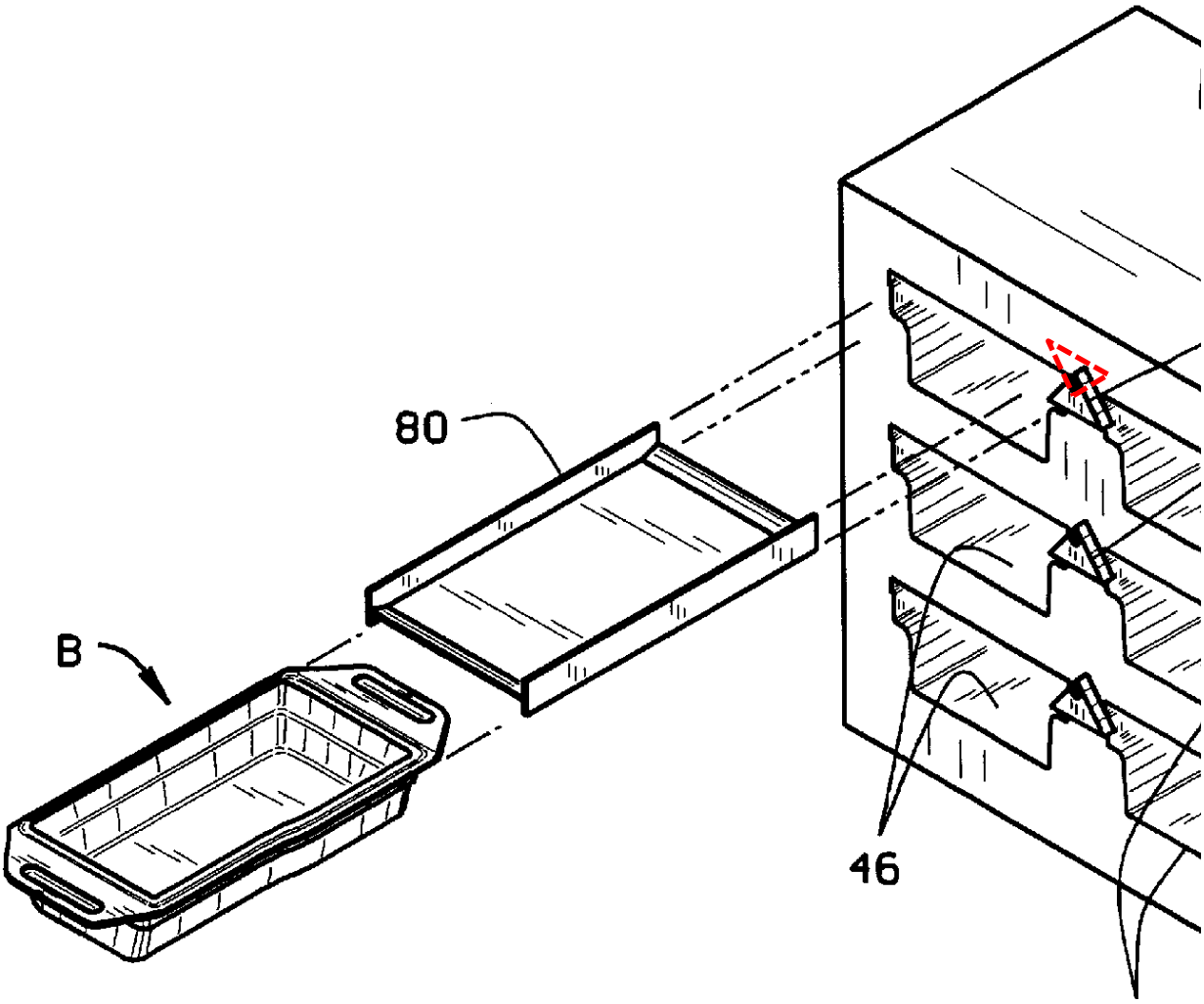
426. As discussed above, the POSA would have found it obvious to modify the IRHS Holding Unit disclosed in the IRHS Documents in view of Hartfelder and/or Shei'099 to arrive at the claimed food holding bin of Claim 12.

427. As explained in Paragraphs 408-416 above (Claim 6), the latches of Hartfelder and Shei'099 are rotatable between a locked position and an unlocked

position as annotated in Fig. 9 of Hartfelder. EX1013: Fig. 2; EX1017: 6:9-32, Fig. 1; EX1016: ¶[0043], Fig. 1.

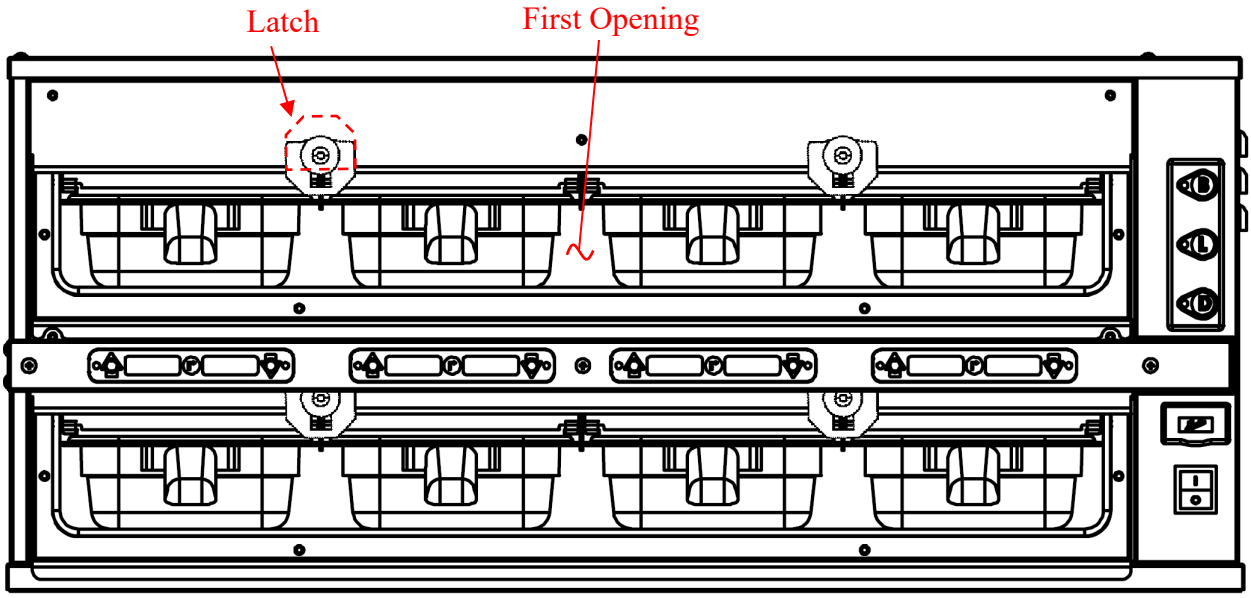


EX1013: Fig. 2 (enlarged, annotated to show rotation of Hartfelder's stop member).



EX1017: Fig. 1 (enlarged, annotated).

428. Modifying the IRHS Holding Unit in view of Hartfelder and/or Shei'099 would result in the latch being rotatable or translatable from a first position to a second position as shown and annotated using broken line in the modified rendering of the IRHS24 Holding Unit below.



EX1005: 8 (modified, annotated).

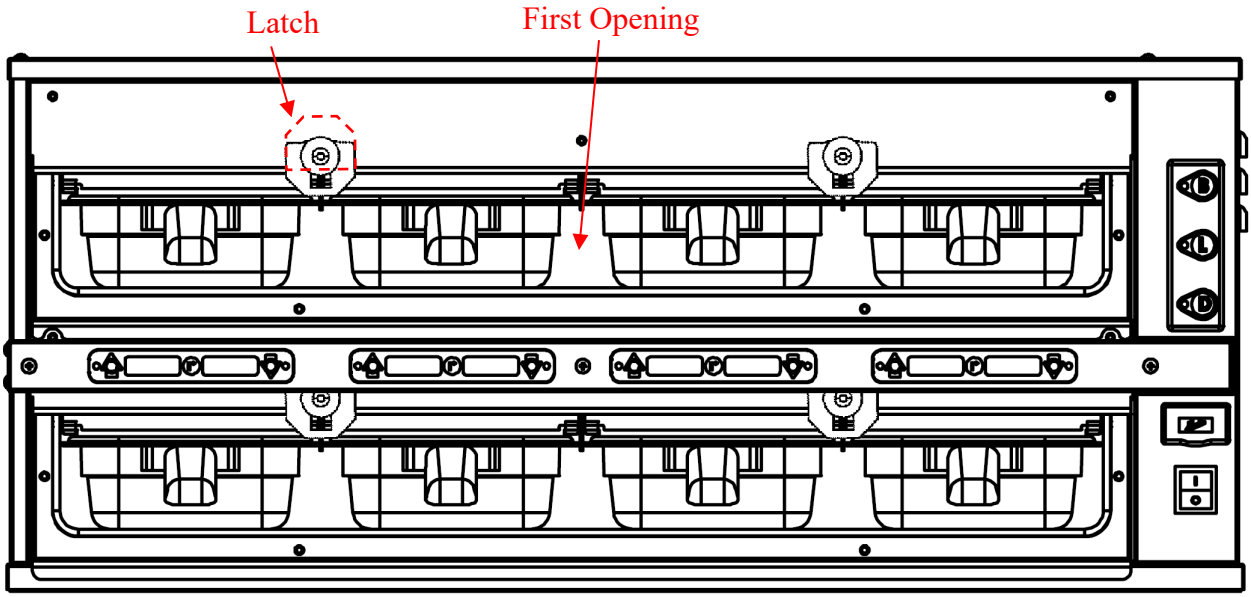
429. Accordingly, the POSA would have found it obvious to combine the teachings and disclosures of the IRHS Documents with the teachings of Hartfelder and/or Shei'099 to arrive at the food holding bin as claimed in Claim 14.

F. Claim 24: the food holding bin of claim 23, wherein a latch is disposed adjacent the first opening and is moveable between a locked position in which the latch prevents a lid from being removed from the lid holding shelf, and an unlocked position in which the latch allows removal of a lid from the lid holding shelf

430. 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 food holding bin of Claim 23.

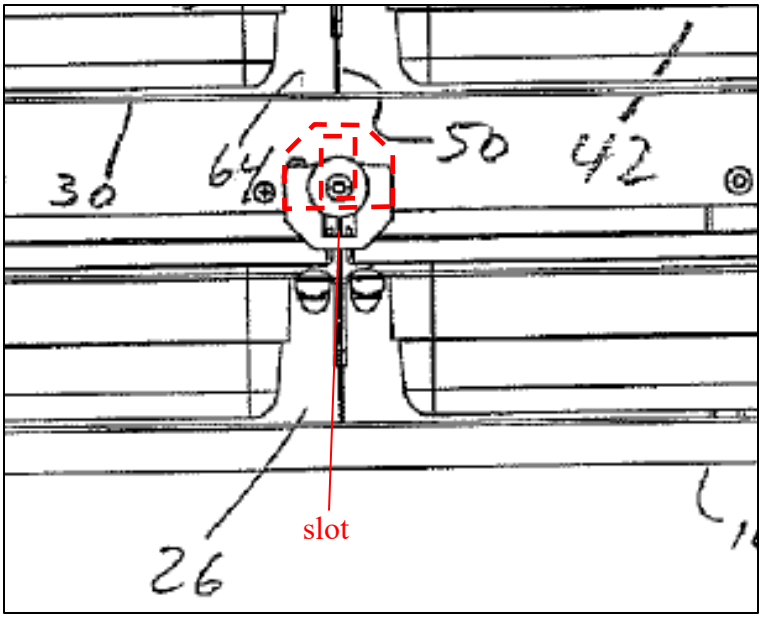
431. For the reasons explained in Paragraphs 417-422 above (Claim 12), modifying the IRHS Holding Unit in view of Hartfelder and/or Shei'099 would

have resulted in the latch being disposed adjacent the first opening. For the reasons explained in Paragraphs 408-416 above (Claim 6), modifying the IRHS Holding Unit in view of Hartfelder and/or Shei'099 would have resulted in the latch being moveable between a locked position in which the latch prevents a lid from being removed from the lid holding shelf and an unlocked position in which the latch allows removal of a lid from the lid holding shelf.

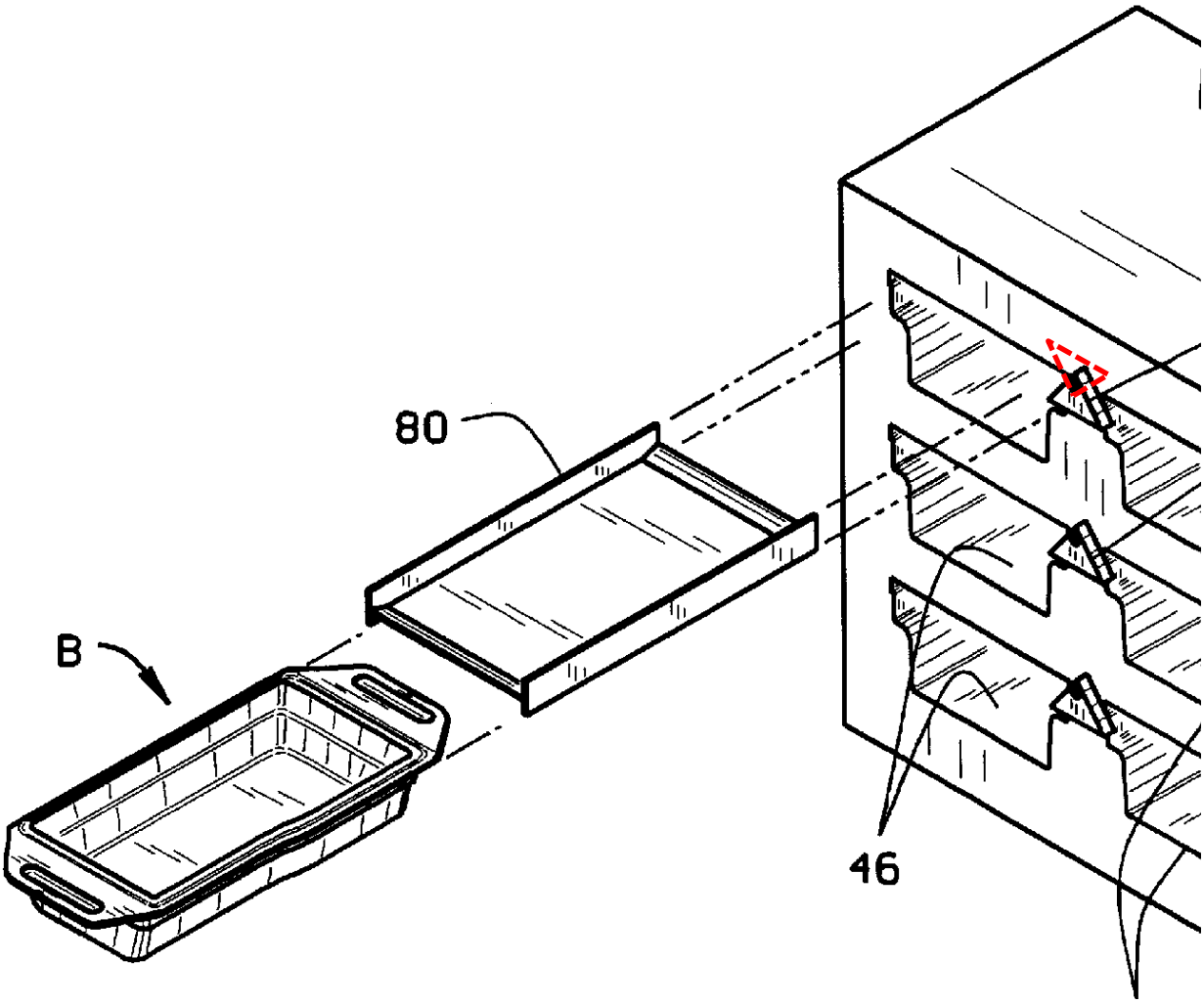


EX1005: 8 (modified, annotated).

432. Specifically, the POSA would have understood the latches of both Hartfelder and Shei'099 were 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.



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



EX1017: Fig. 1 (enlarged, annotated).

433. In the locked position, the latch would have been positioned (via gravity in an at-rest position) to block/prevent 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").

434. In the unlocked position, the latch would have been rotated (e.g., 45-degrees, 180-degrees (as annotated above) to allow removal of the lid from the lid holding shelf. EX1013: Fig. 9; 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.

435. Modifying the IRHS Holding Unit in view of Hartfelder and/or Shei'099 would result in the latch being rotatable or translatable from a first position to a second position as shown and annotated using broken line in the modified rendering of the IRHS24 Holding Unit below. 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 claimed in Claim 24.

G. Claim 25: The food holding bin of claim 24, wherein the latch is rotatable and is biased into the locked position by gravity.

436. As discussed above, the POSA would have found it obvious to modify the IRHS Holding Unit disclosed in the IRHS Documents in view of Hartfelder and/or Shei'099 to arrive at the claimed food holding bin of Claim 24.

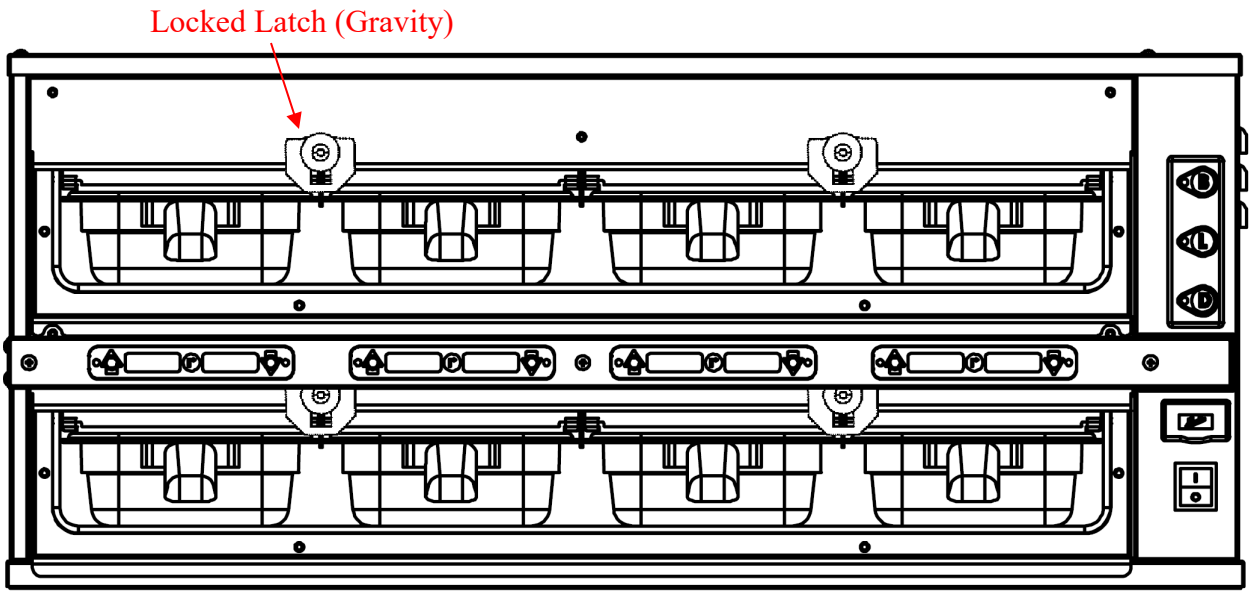
437. As explained in Paragraphs 408-416 above (Claim 6), the latch is rotatable between a locked position and unlocked position (shown in broken lines). EX1013: Fig. 2; EX1017: 6:9-32, Fig. 1; EX1016: ¶[0043], Fig. 1.

438. In application, gravity biases Hartfelder's stop member (61) and Shei'099's stop (88) (*i.e.*, latches) into the locked position 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.

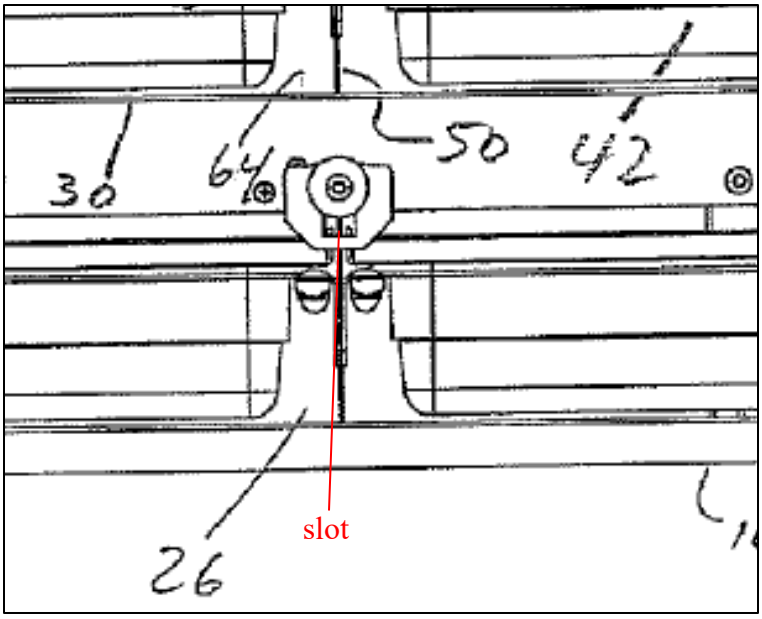
439. For Hartfelder's stop member (61) (latch), the slot results in the fastener being positioned adjacent the top of the stop member, resulting in most of the mass of the stop member (e.g., center of gravity) being below the fastener, thereby biasing the fastener into the locked position. The mass of the stop member (61) moves the stop member downward relative to the fastener, thereby positioning the fastener at the end of the slot. Similarly, the triangle shape of Shei'099's stop

(88) (latch), with the fastener being located at one of the triangle's vertices, results in most of the stop's mass (e.g., center of gravity) being disposed below the fastener (the center of gravity of the stop is spaced apart from the fastener). This arrangement biases the stop toward the locked position.

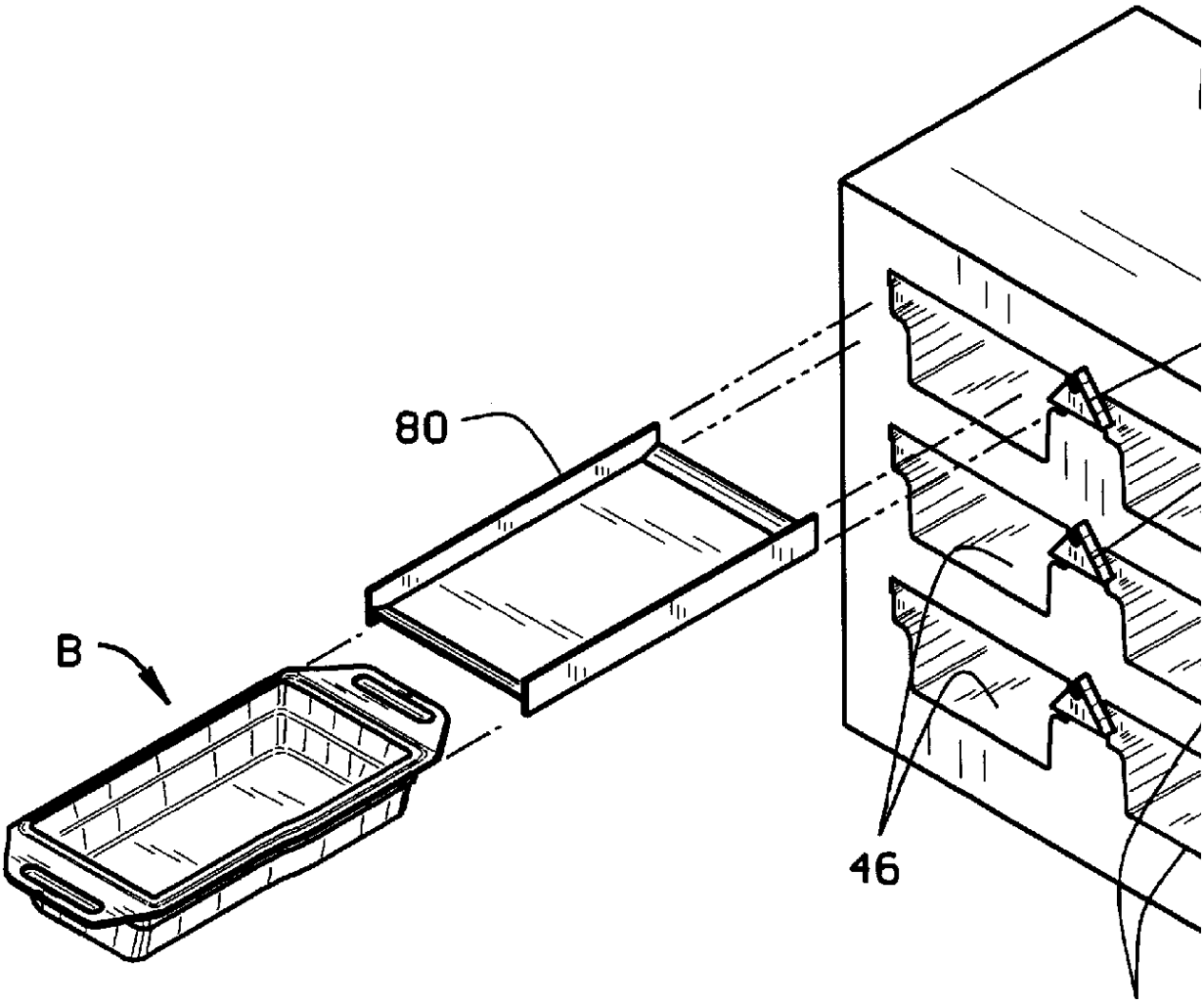
440. Modifying the IRHS Holding Unit in view of Hartfelder and/or Shei'099 would result in the latch being rotatable and biased into the locked position by gravity as shown in the modified rendering of the IRHS24 Holding Unit below.



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



EX1013: Fig. 2 (enlarged, annotated).



EX1017: Fig. 1 (enlarged).

441. 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 claimed in Claim 25.

VI. GROUND 3: Claim 19 Would Have Been Obvious Over the IRHS Documents in view of Veltrop and/or Poole Even to the Extent the IRHS Documents Are Found Not to Sufficiently Teach the Heating Elements Comprising a Resistive Wire

A. Claim 19: the food holding bin of claim 1, wherein the independently controllable heating elements comprise a resistive wire

442. As discussed in Paragraphs 313-317 above (Ground 1, Claim 19), it is my opinion that the POSA would have recognized that each of the IRHS heating elements (including the IR bulbs) comprise a resistive wire. If it is determined that the IRHS Documents do not sufficiently describe the IRHS heating elements as comprising resistive wires, it would have still been obvious for the upper and lower heating elements to include resistive wires in view of Veltrop and/or Poole.

443. Veltrop teaches a food holding cabinet (10) with shelves (52) having electrical heating elements in the form of 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.

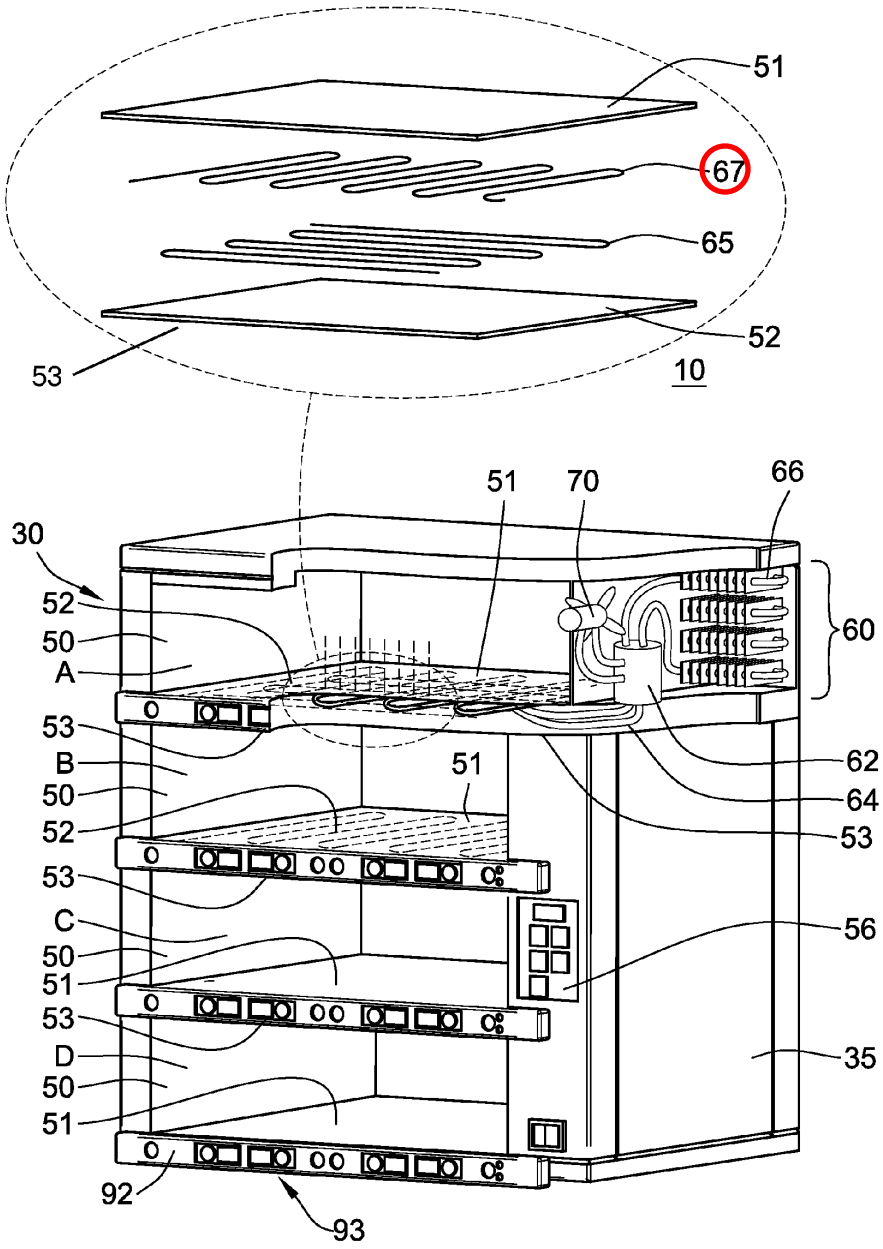
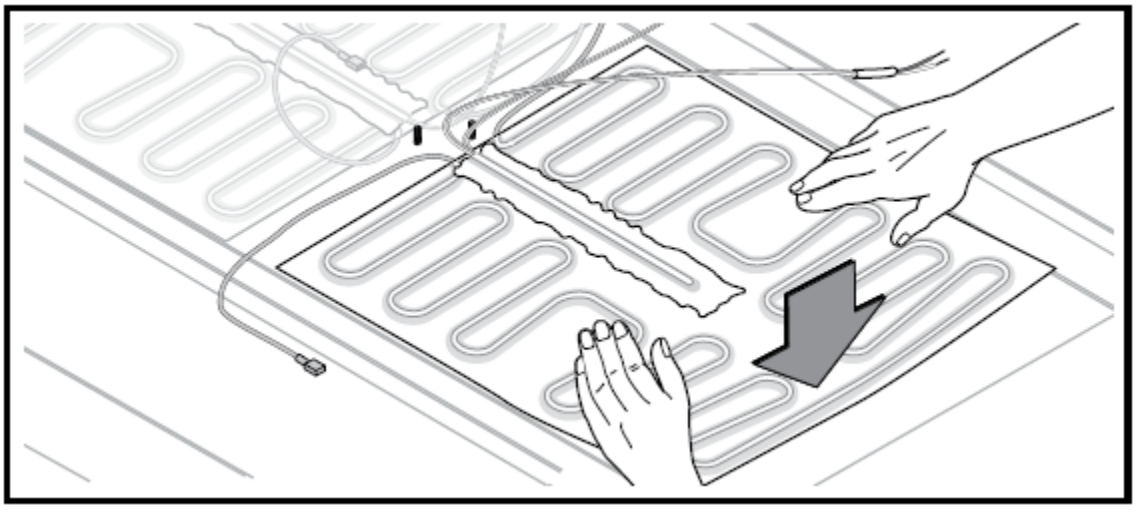


FIG. 2

EX1022: Fig. 2 (annotated).

444. It would have been obvious to have IRHS Holding Unit's lower heating elements comprise an electrically-resistive heater wire in view of Veltrop to generate heat for the compartments.

445. Specifically, the IRHS Documents use electrical heating elements to generate heat. The POSA would understand electrically-resistive heater wire is a suitable source of heat for the heating elements of food holding units like the IRHS Holding Unit. EX1022: ¶[0025] ("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").



EX1008: 23.

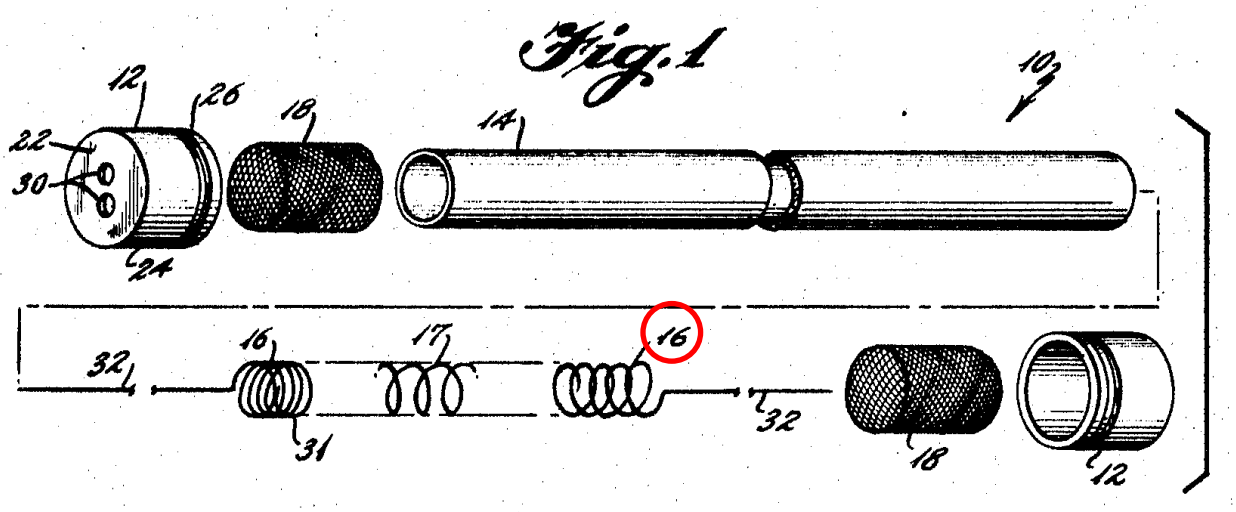
446. Further, Veltrop's electrically-resistive heater wire (67) is electrically controlled, which would enable the IRHS Holding Unit's controller to operate it. EX1022: ¶[0025].

447. This would have been nothing more than the use of a known technique (electrically-resistive heater wire) to improve a similar device (the lower heating elements of the IRHS Holding Unit) in the same way (electrically-resistive heater wire to heat compartments containing food).

448. There would have been a reasonable expectation of success given the IRHS Holding Unit's lower heating elements are electrically controlled, and the IRHS Holding Unit and Veltrop are both food warming cabinets.

449. When implementing this modification, each lower heating element of the IRHS Holding Unit (including in the IRHS24 Holding Unit) would comprise electrically-resistive heater wire.

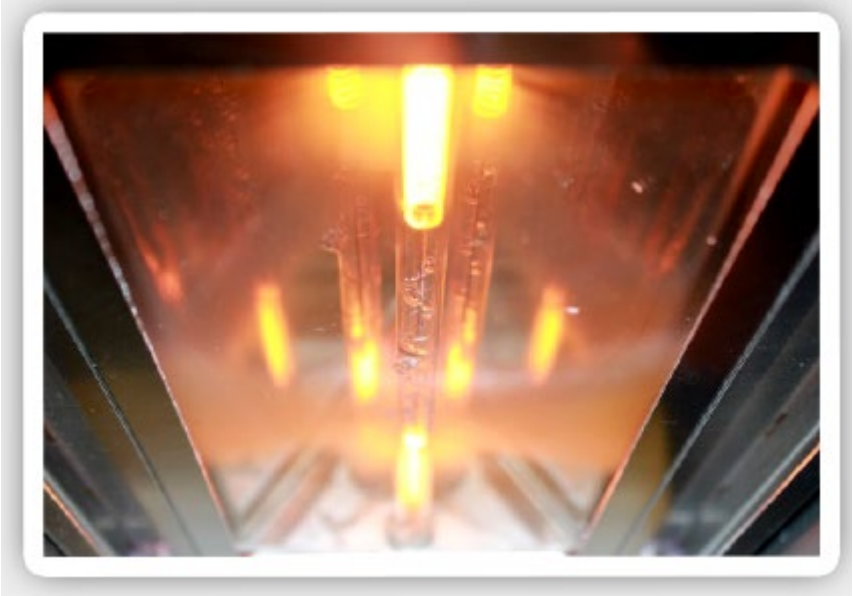
450. Poole teaches that an "infrared quartz heater" has a resistance wire (16). EX1025: Title ("Infrared Quartz Heater"), 1:29-30 ("[t]he usual quartz infrared heater consists essentially of a resistance wire heating element"), 2:6-7 ("a heater element 16 in the form of a coiled resistance wire").



EX1025: Fig. 1 (annotated).

451. In view of Poole, it would have been obvious to use infrared quartz heaters including resistive wires as the IR bulbs (upper heating elements) in the IRHS Holding Unit to generate the IR heat for the compartments. Specifically, Poole teaches such infrared quartz heaters have a "long operating life" with a "low failure rate" and lower cost. EX1025: 1:49-50, 3:1, 3:4.

452. Accordingly, where the IRHS Documents disclose using quartz IR bulbs, Poole discloses a suitable quartz IR bulb.



EX1007: 11.

453. This would have been nothing more than the substitution of one known element (Poole's infrared quartz heater) for another (the unspecified IR bulbs of the IRHS Holding Unit) to obtain predictable results in the form of IR heating of food. Here, there would be a high expectation of success given that the

IRHS Documents already disclosing using quartz IR heaters like Poole's. EX1007: 53.

454. When implementing this modification, each upper heating element of the IRHS Holding Unit (including for the IRHS24 Holding Unit) would comprise an infrared quartz heater with resistive wire.

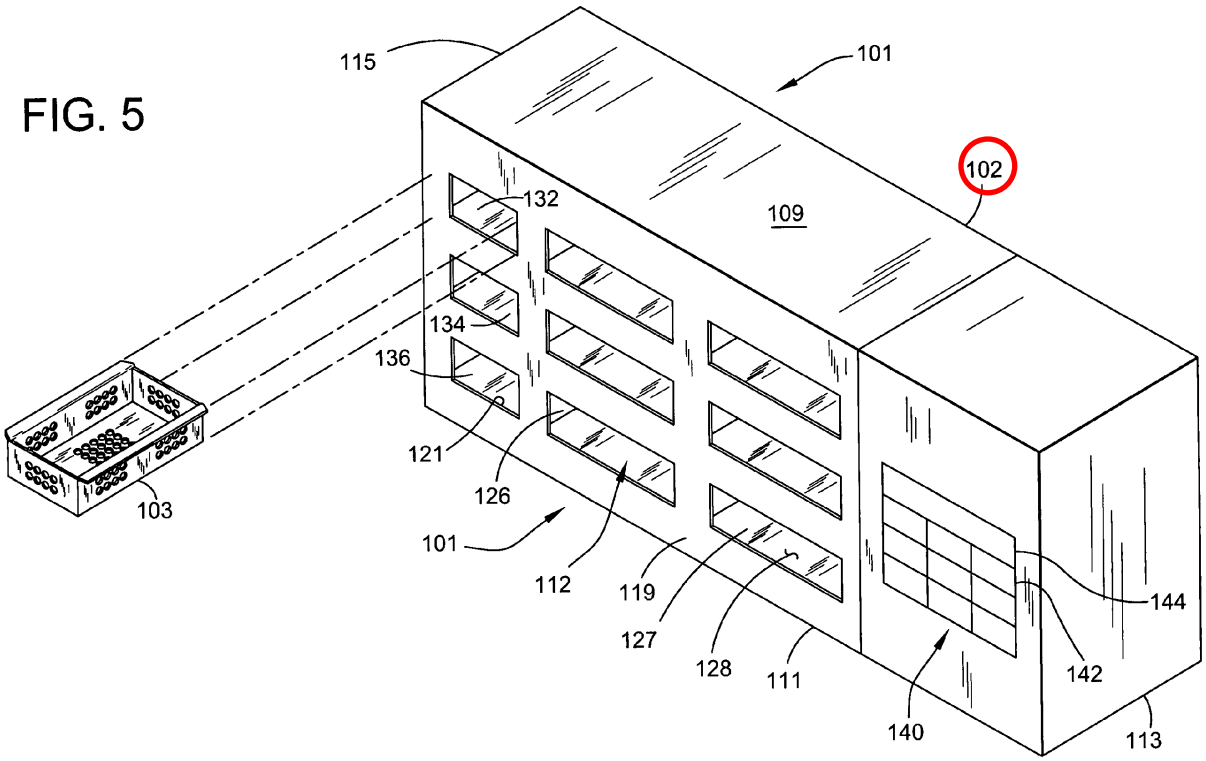
455. Accordingly, to the extent that there is any doubt that the IRHS Documents disclose the independently controllable heating elements as comprising a resistive wire, the POSA would have found it obvious to modify the IRHS Holding Unit disclosed in the IRHS Documents in view of Veltrop and/or Poole to arrive at the claimed food holding bin of Claim 19.

VII. GROUND 4: Claim 26 Would Have Been Obvious Over the IRHS Documents in view of Shei'821 and/or Shei'155 Even to the Extent the IRHS Documents Are Found Not to Sufficiently Teach the Lid-Holding Shelves as Comprising Sheet Metal

A. Claim 26: the food holding bin of claim 23, wherein the lid holding shelf comprises sheet metal

456. As discussed in Paragraphs 331-333 above (Ground 1, Claim 26), it is my opinion that the POSA would have recognized the IRHS lid-holding shelves as comprising sheet metal. If it is determined that the IRHS Documents do not sufficiently describe the IRHS lid-holding shelves as comprising sheet metal, it would have still been obvious for the lid-holding shelves to comprise sheet metal in view of Shei'821 and/or Shei'155.

457. Shei'155 (EX1016) teaches a holding cabinet 102 entirely fabricated by sheet metal. EX1016: ¶[0046] ("the entire cabinet 102 is fabricated of sheet metal").



EX1016: Fig. 5 (annotated).

458. Shei'821 (EX1011) teaches a pan storage apparatus (10) including lid supports (36A) for supporting lid (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"). These lid supports (36A) are shown as a thin bent sheets of material, and Shei'821 discloses the material as being metal. EX1011: ¶[0039], Figs. 1, 7, and 8.

FIG. 1

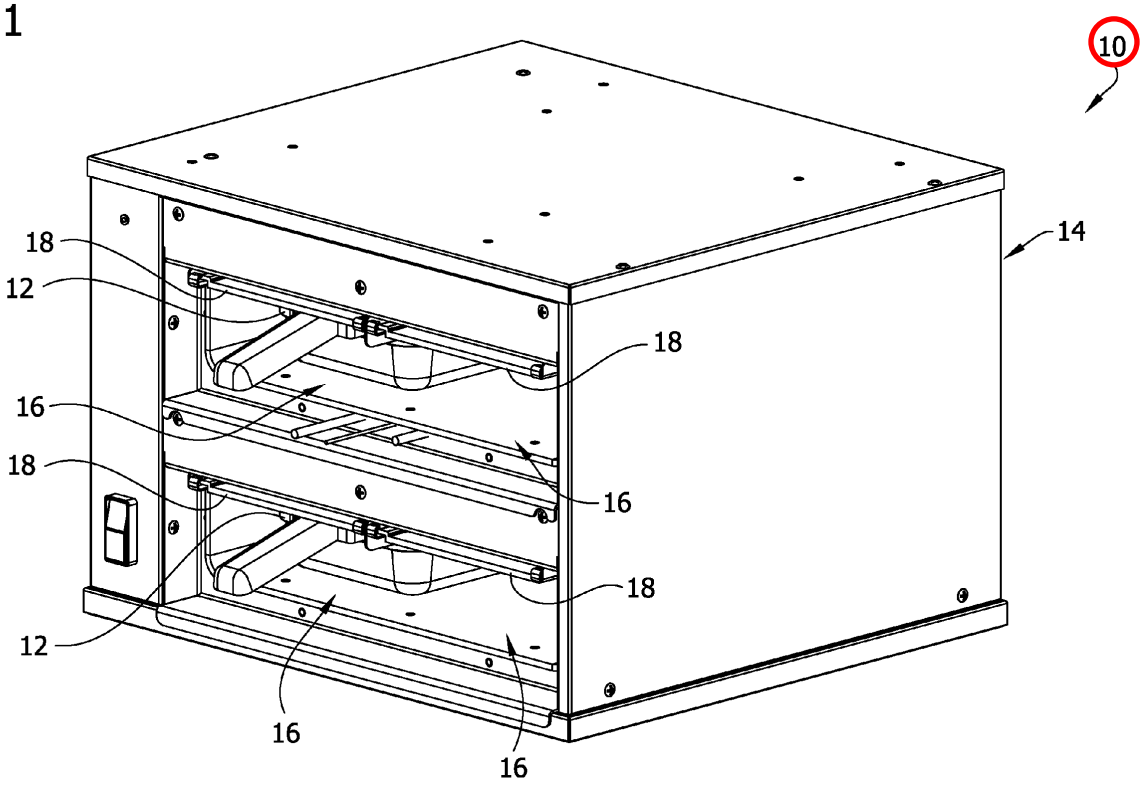

10
14
18
12
18
16
18
16
18
12
16
16

FIG. 7

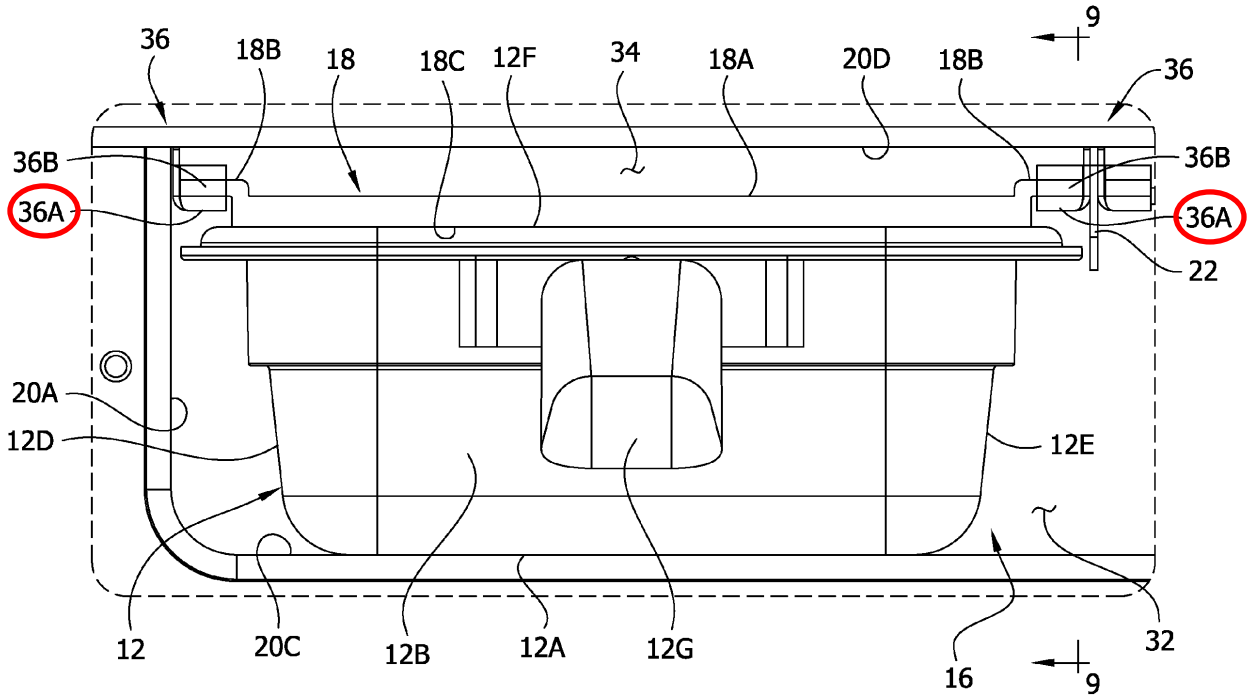
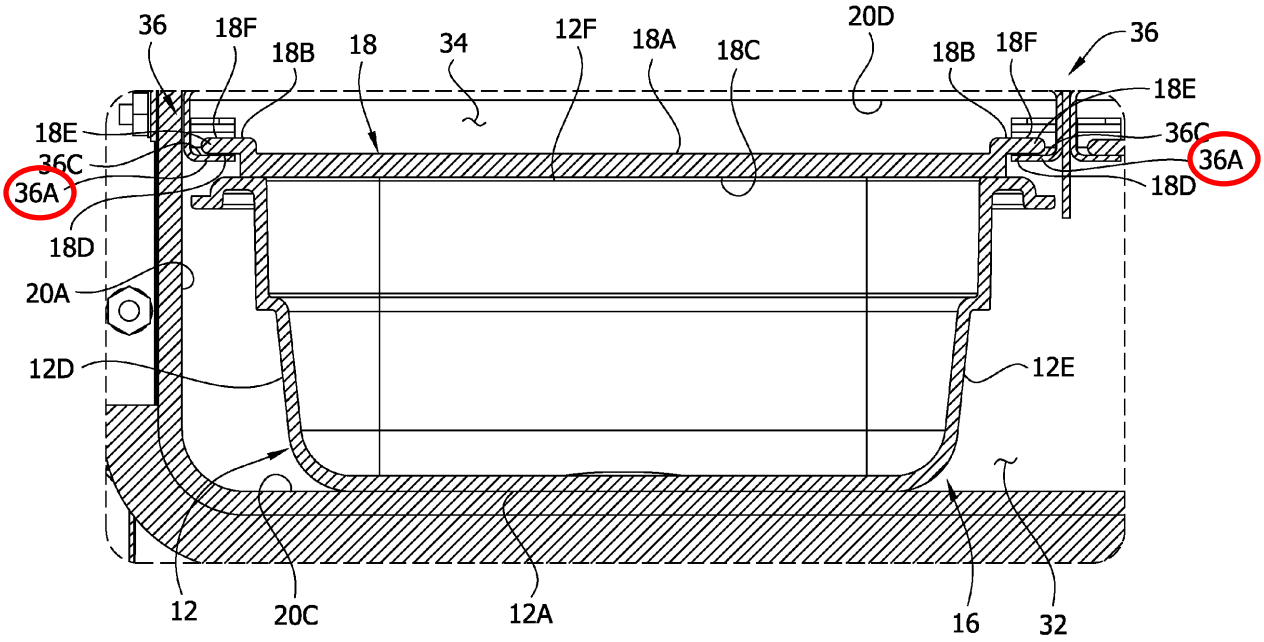

9
36
18B
18
18C
12F
34
18A
20D
18B
36
36B
36A
36B
36A
22
20A
12D
12E
12
20C
12B
12A
12G
16
32
9

FIG. 8



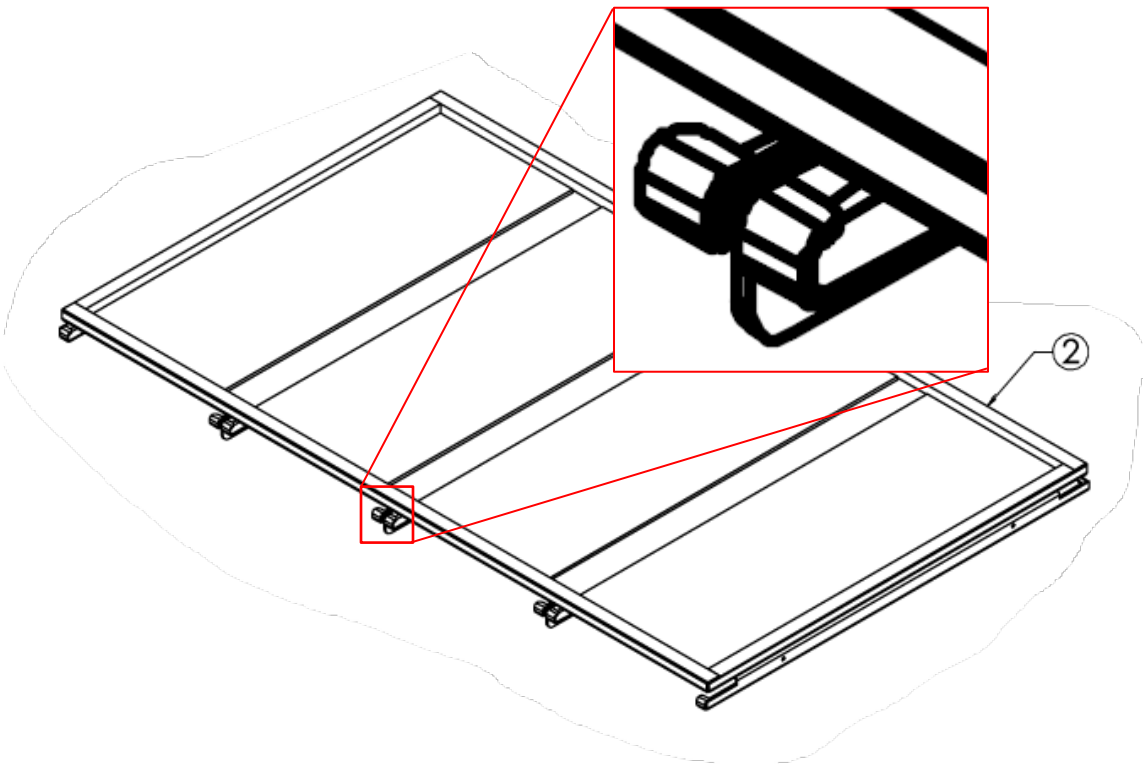
EX1011: Figs. 1 (annotated).

459. It would have been obvious to make the IRHS24 Holding Unit's lid-holding shelves out of sheet metal in view of Shei'821 and/or Shei'155. Based on Shei'821 and/or Shei'155, the POSA would understand sheet metal is a suitable material for constructing the IRHS24 Holding Unit's lid-holding shelves. EX1016: ¶[0046] ("the entire cabinet 102 is fabricated of sheet metal"); EX1011: ¶[0039] ("the cover supports 36A and the cover retainers 36B, including the keepers 36E, are formed as one piece of metal").

460. While the POSA would infer that the IRHS Holding Unit's lid-holding shelves comprise sheet metal, Shei'821 and Shei'155 make clear that this would have been a natural design choice.

461. The use of sheet metal would have combined the known elements (specifically, the inclusion of lid-holding shelves with the use of sheet metal as the material of construction) according to known methods (the construction taught by IRHS Documents) to yield predictable results of sturdy and durable lid-holding shelves capable of supporting the lids. This design choice is also nothing more than the use of a known technique (using sheet metal) from a similar food holding unit in the same way to construct lid-holding shelves capable of supporting the lids. This design choice is also nothing more than a simple substitution of one known alternative (sheet metal) where the IRHS Documents do not expressly identify the material of IRHS Holding Unit's lid-holding shelves to obtain construct lid-holding shelves capable of supporting the lids.

462. Given that the POSA would already have presumed that the IRHS Holding Unit's lid-holding shelves were formed by bending pieces of sheet metal given their shape, the POSA would have had a reasonable expectation of success forming the IRHS Holding Unit's lid-holding shelves from sheet metal.



EX1005: 19 (enlarged).



EX1007: 36 (annotated).

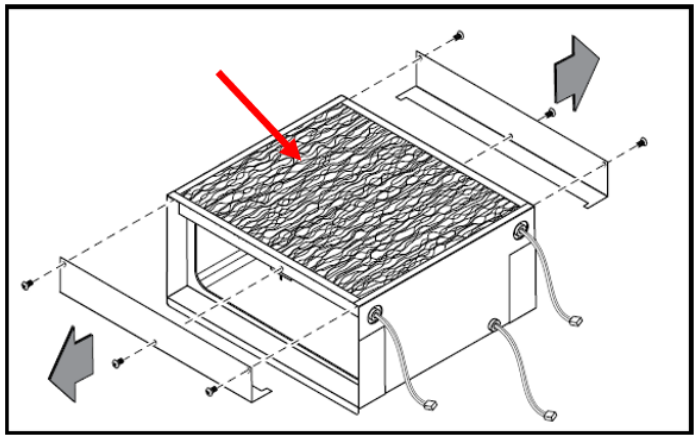
463. The POSA would have found it obvious in view of Shei'821 and/or Shei'155 to form the lid-holding shelf of the IRHS Holding Unit from sheet metal.

464. Accordingly, to the extent that there is any doubt that the IRHS Documents disclose the lid-holding shelf of the IRHS Holding Unit as comprising sheet metal, the POSA would have found it obvious to modify the IRHS Holding Unit disclosed in the IRHS Documents in view of Shei'821 and/or Shei'155 to arrive at the food holding bin as claimed in Claim 26.

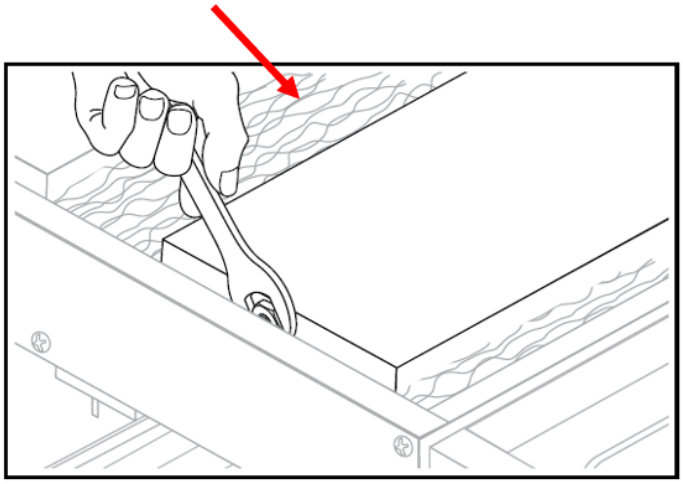
VIII. GROUND 5: Claim 34 Would Have Been Obvious Over the IRHS Documents in view of Fortmann'967 and/or Fortmann'197

A. Claim 34: the food holding bin of claim 33, wherein an insulating material is provided between the first and second sets of independently controllable heating elements

465. The IRHS Service Manual shows thermal insulation in some of its views and instructs the removal and reinstallation of the insulation in the shelf of the IRHS Holding Unit during replacement of heat sink heating elements and temperature sensors. EX1008: 17-18 ("9. Invert the liner deck assembly upside-down, then remove and retain the insulation" and "12. … replace the insulation"), 22-23.



EX1008: 25.



EX1008: 26.

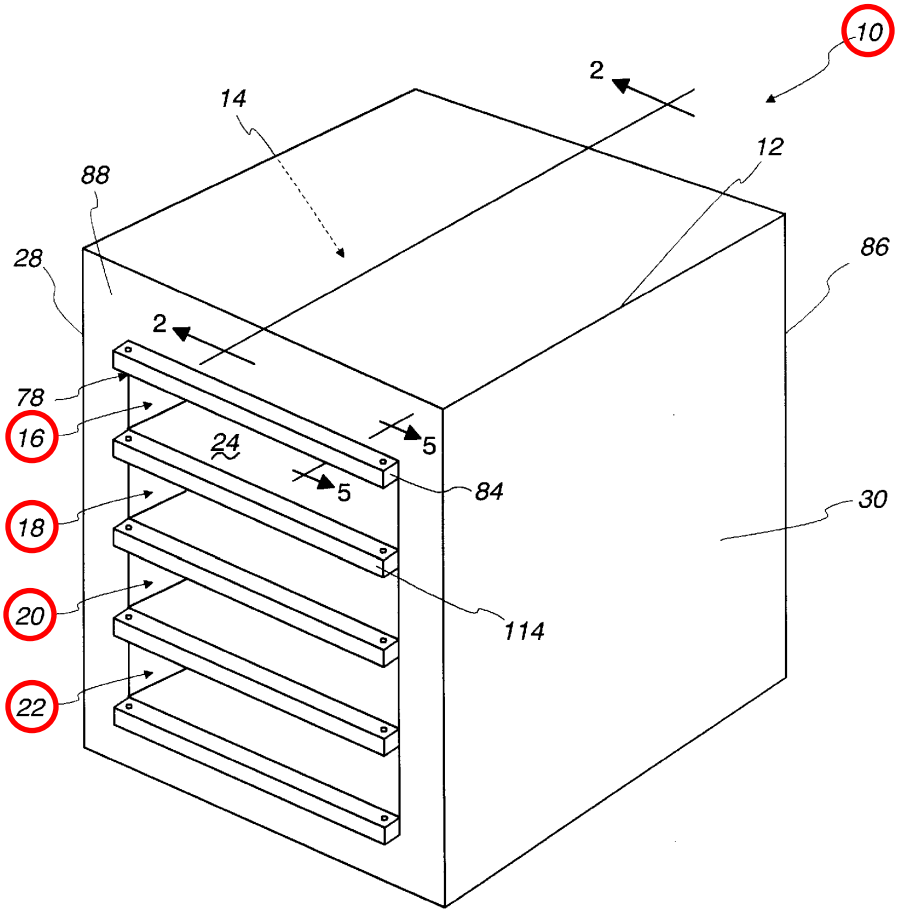
466. While insulation of the IRHS Holding Unit would presumably be located between the first and second sets of independently controllable heating elements, so as to permit the heat to reach the intended food holding compartment while limiting unintended heat migration between the food holding compartments, the IRHS Service Manual does not explicitly give the location of the insulation with respect to heating elements.

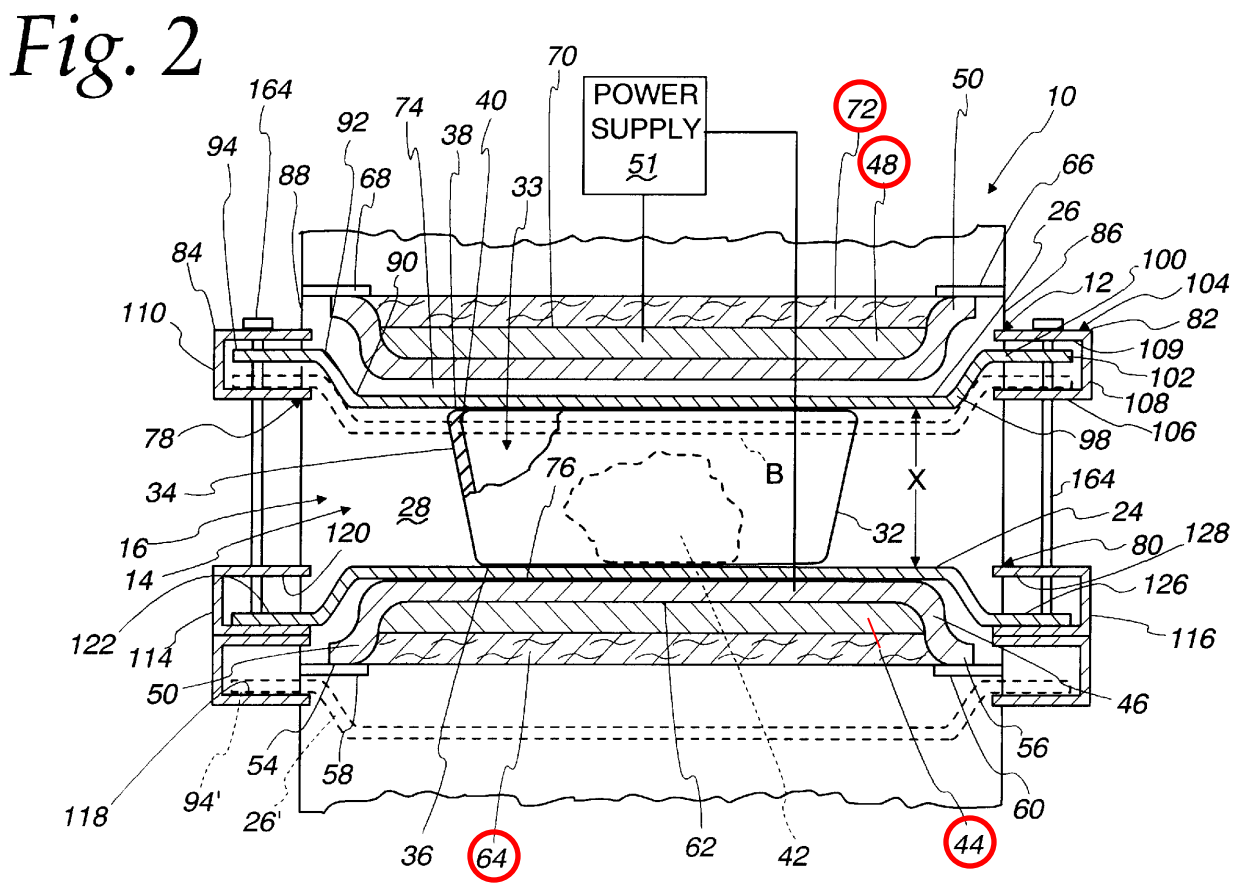
467. Fortmann'967 teaches a food holding system or cabinet (10) for keeping food warm that is similar to the IRHS Holding Unit. EX1018: 1:5-7 ("[t]his invention relates to a system that defines a conditioned environment, as for treating and/or maintaining the treated state of food items"), 4:19-26, Fig. 1.

468. Within the Fortmann'967 cabinet (10), stacked food treatment spaces (16, 18, 20, 22) receive trays (32) of food and each space (16, 18, 20, 22) has two heaters (44, 48) which heat the tops and bottoms of the trays (32). EX1018: 3:64-

65, 4:4-11, 4:22-26 (“a heater 44, which conducts heat through a heat sink 46 to the bottom wall 24, and a separate heater 48 which conducts heat through a heat sink 50 to the top wall 26”), Fig. 2.

Fig. 1





EX1018: Figs. 1 and 2 (annotated).

469. Each heater (44, 48) of Fortmann'967 is backed by insulation (64, 72), which directs the heat from the heaters into the food treatment space (16, 18, 20, 22). EX1018: 4:33-38 ("An insulation layer 64 fills the space 62 beneath the heater 44.… The heater 48 is nested in a space 70 defined by the heat sink 50 and covered by an insulation layer 72."), Fig. 2.

470. Similarly, Fortmann'197 explains "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.

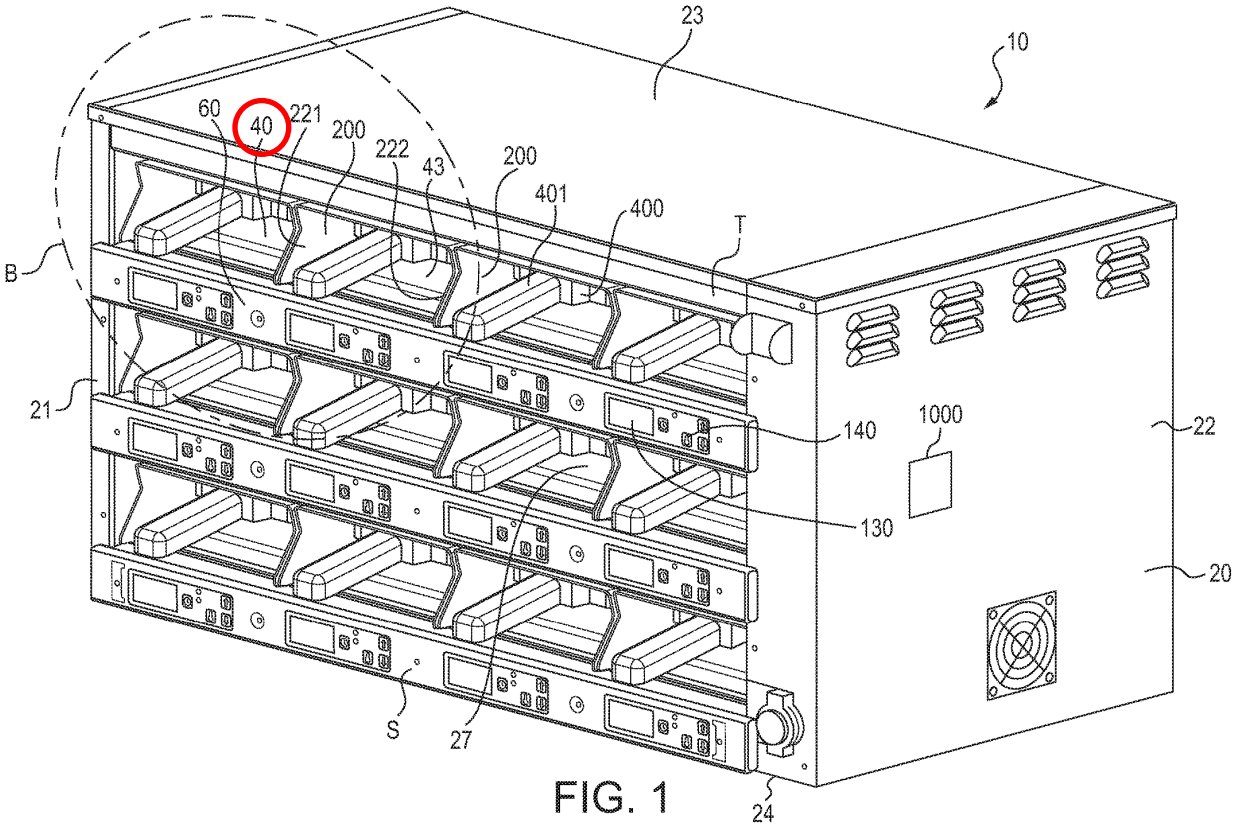


FIG. 1

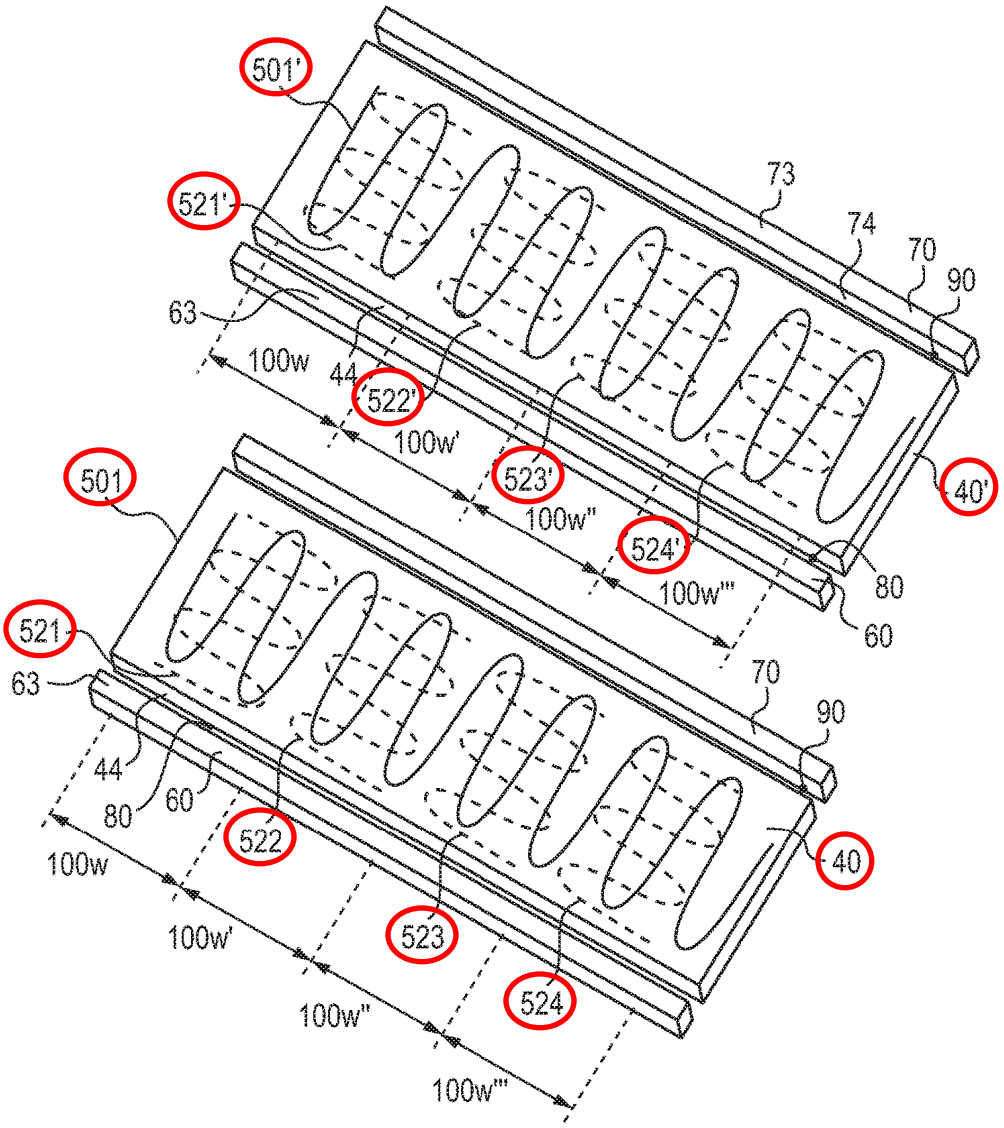


FIG. 10

EX1014: Figs. 1 and 10 (annotated).

471. It would have been obvious to arrange insulation within the shelf of the IRHS Holding Unit between the first and second sets of heating elements to direct the heat generated by the first set of heating elements (the lower heating

elements for the first compartment) into the compartment above the shelf and direct the heat generated by the second set of heating elements (the upper heating elements for the second compartment) into the compartment below the shelf for the same reasons identified by Fortmann'197. EX1014: 9:32-37 ("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"); EX1022: ¶[0025].

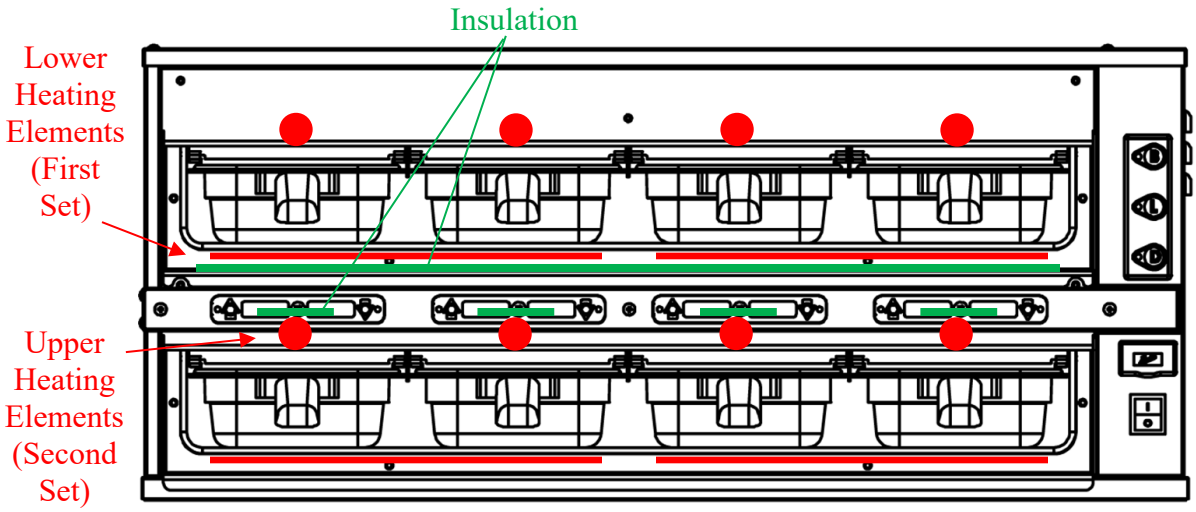
472. The insulation would further thermally separate the two compartments, reduce the effect of temperature in one compartment on temperature in the other compartment, increase heating accuracy and efficiency, and reduce power consumption.

473. This modification would have been nothing more than combining known prior art elements (the insulation of Fortmann'967 and/or Fortmann'197 with the IRHS Holding Unit) according to known methods (the arrangement taught by Fortmann'967 and/or Fortmann'197) to yield predictable results of thermally separating the upper and lower heaters in the same shelf. Likewise, this modification would have also been nothing more than using a known technique (incorporating the insulation of Fortmann'967 and/or Fortmann'197) to improve a

similar device (the IRHS Holding Unit) in the exact same way as taught by Fortmann'967 and/or Fortmann'197.

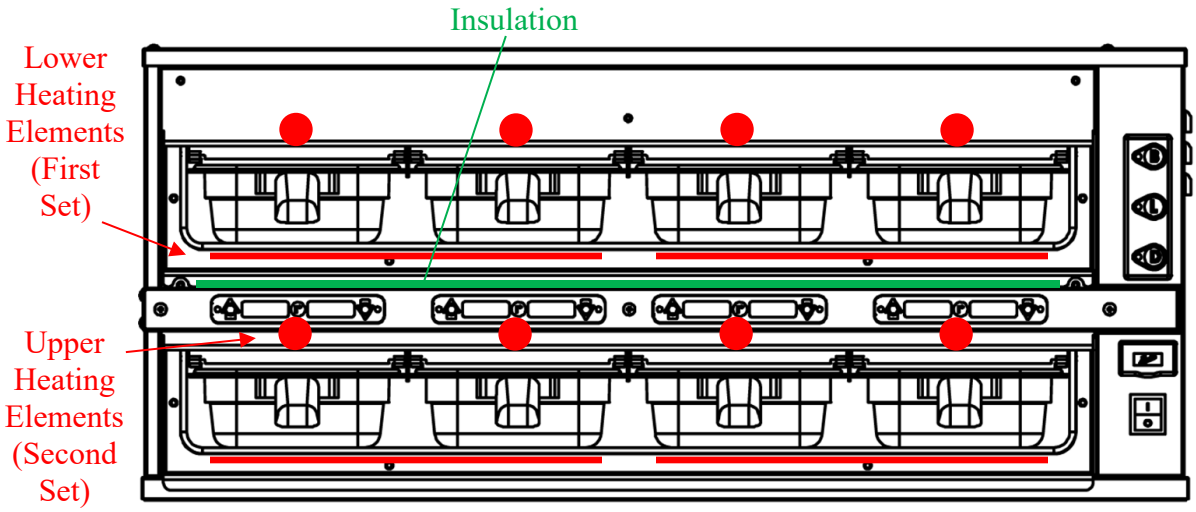
474. Moreover, there would have been a reasonable expectation of success in making this modification given (1) the similarities between the IRHS Holding Unit and the units of Fortmann'967 and Fortmann'197 (e.g., all shelves having upper and lower heating elements), (2) the IRHS Service Manual shows insulation and mentions it in the shelf, (3) the insulating capabilities of the added insulation from Fortmann'967 or Fortmann'197 would not change, and (4) Fortmann'967 and Fortmann'197 demonstrate placement of insulation between heating elements in a shelf would be possible. EX1018: 4:33-38; EX1014: 9:32-37.

475. Specifically, based on Fortmann'967's teachings to back each heating element with insulation (EX1018: 4:33-38), the POSA would have backed each of the upper and lower heating elements in the shelf with insulation. A schematic illustration of the IRHS24 Holding Unit modified in this manner is shown below:



EX1005: 8 (modified, annotated).

476. Fortmann'197 teaches placing insulation between the upper and lower heating elements in the shelf. EX1014: 9:32-37. Based on these teachings, the POSA would place the insulation in the interior volume of the shelf (21) between the upper and lower heating elements. A schematic illustration of the IRHS24 Holding Unit modified in this manner is shown below:



EX1005: 8 (modified, annotated).

477. In either configuration, the modified IRHS Holding Unit would have had insulative material in the shelf, which would have been arranged between the lower heating elements (first set) and the upper heating elements (second set).

478. Accordingly, the POSA would have found it obvious to modify the IRHS Holding Unit disclosed in the IRHS Documents in view of Fortmann'967 and/or Fortmann'197 to arrive at the claimed food holding bin of Claim 33.

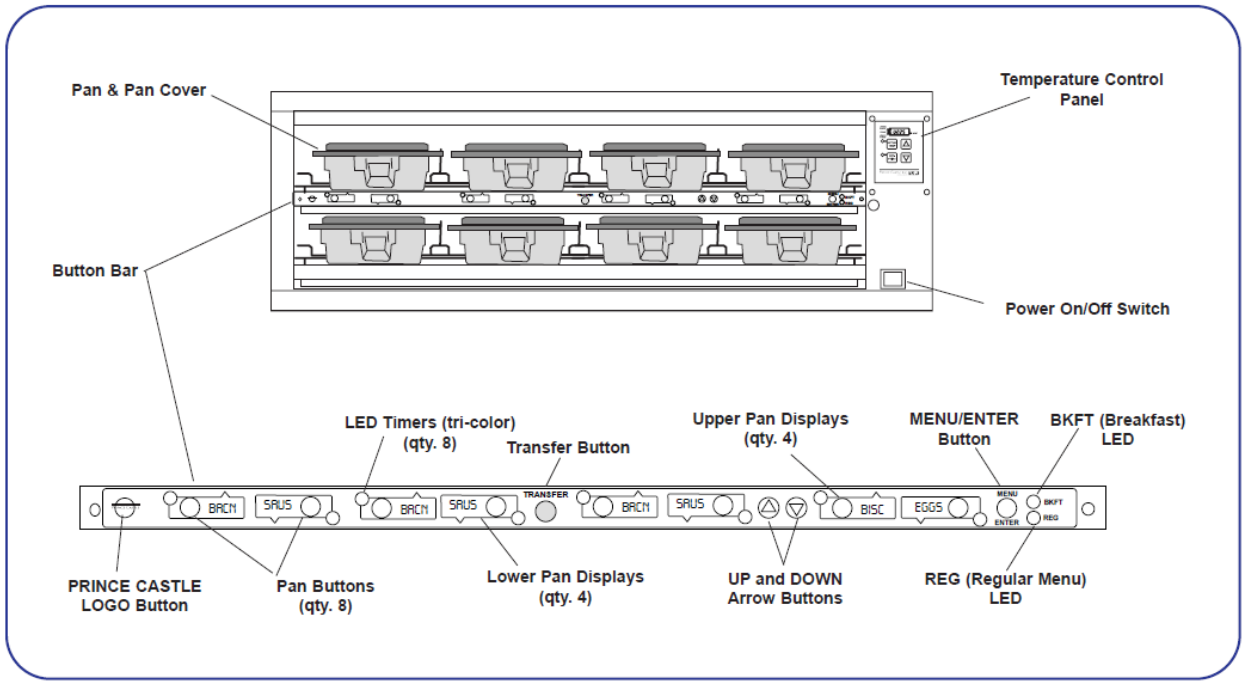
IX. GROUND 6: Claim 28 Would Have Been Obvious Over the IRHS Documents in view of Prince Castle and/or Reese Even to the Extent the IRHS Documents Are Found Not to Sufficiently Teach the Comparative Energy Outputs of the Heating Elements

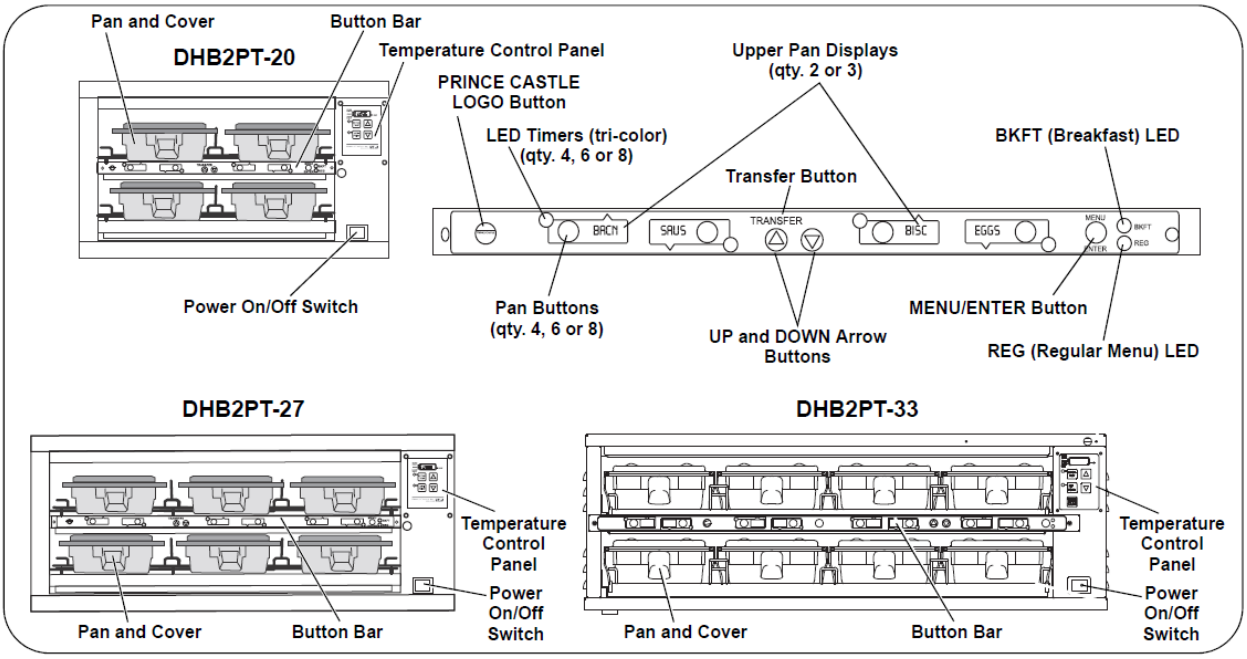
A. Claim 28: the food holding bin of claim 1, wherein each independently controllable heating element disposed at the top portion of the first and second food holding compartments is adapted to output more heat energy than the independently controllable heating elements disposed at the bottom portion of the first and second food holding compartments

479. As discussed in Paragraphs 334-338 above (Ground 1, Claim 28), it is my opinion that the POSA would have recognized that as disclosed by the IRHS Documents the heating element disposed at the top portion of the food holding compartments were adapted 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.

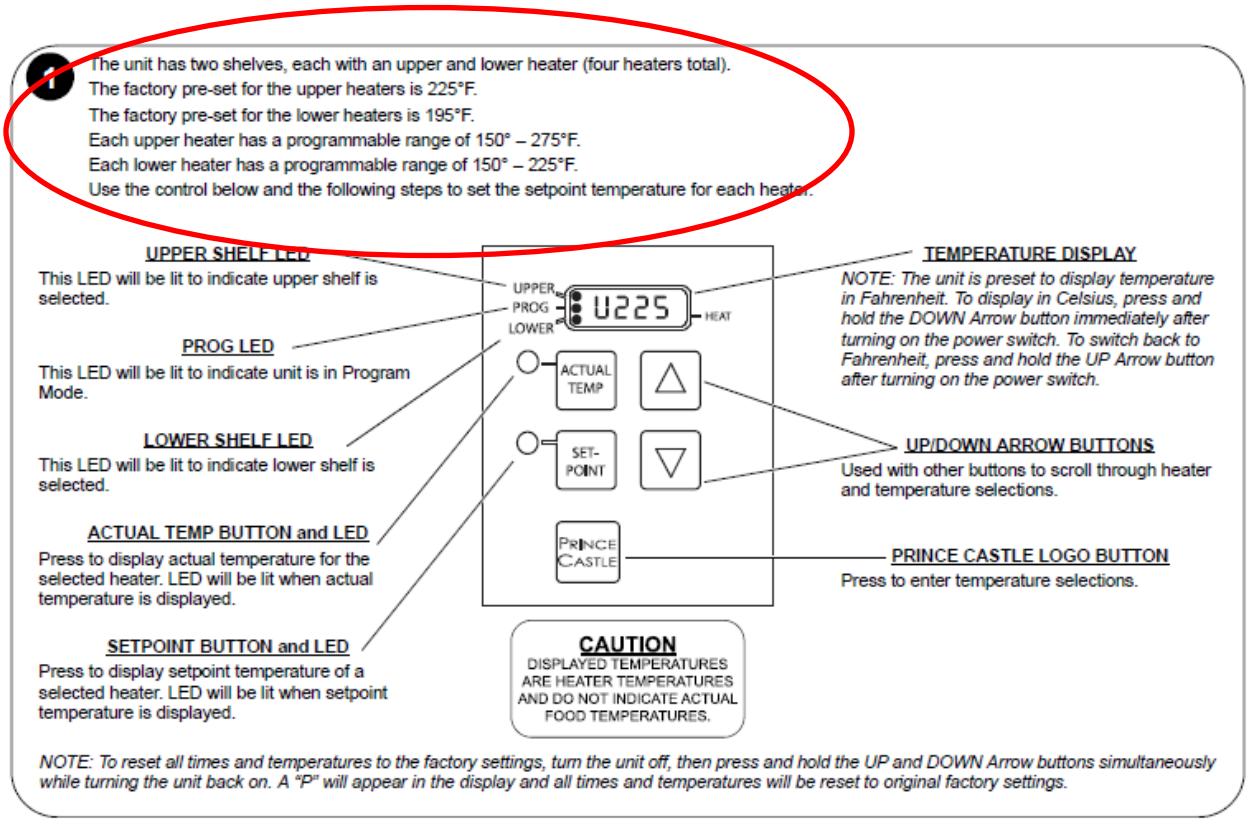
480. Similar to the IRHS Holding Unit, Prince Castle (EX1009) discloses a Product Holding Bin where each compartment has "an upper and lower heater." EX1009: 22, 40. Prince Castle expressly teaches adapting the heating element disposed at the top portion of the food holding compartments to output more heat energy than the heating elements disposed at the bottom portion of the food holding compartments.

481. 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.




DHB2PT-20
Pan and Cover
Button Bar
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
Temperature Control Panel
Power On/Off Switch
Pan and Cover
Button Bar
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).

482. 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").

483. 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].

484. 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. 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.

485. It would have further been desirable for the top IR heating elements in a food holding to output more heat energy than bottom conduction elements as needed for the top IR heating elements to overcome several issues.

486. 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.

487. 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.

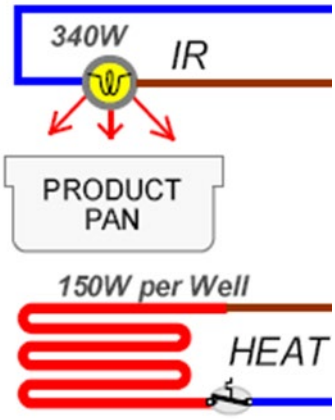
488. Further, moisture evaporates from the surface of food as it sits, which creates a cooling effect. Top IR heating elements would need to provide enough energy to counteract this surface cooling and keep the top of the food at a warm temperature. Thus, the bottom heat would be kept lower just to maintain 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).

489. It would have been obvious to adapt each upper heating element of the IRHS Holding Unit—including the IRHS24 Holding Unit—to output more heat energy than the lower heating elements in view of the IRHS Documents, Prince Castle, and/or Reese. The POSA would have had the upper IR heating elements output more heat energy than the 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 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.").

490. Adapting the upper heating elements to output more heat energy than the 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").

491. This would have been nothing more than the application of a known technique (upper heating elements outputting more heat energy than lower heating elements per Prince Castle) to improve a similar device (IRHS Holding Unit) in the same way (higher setpoint temperatures for upper heating elements relative to lower heating elements).

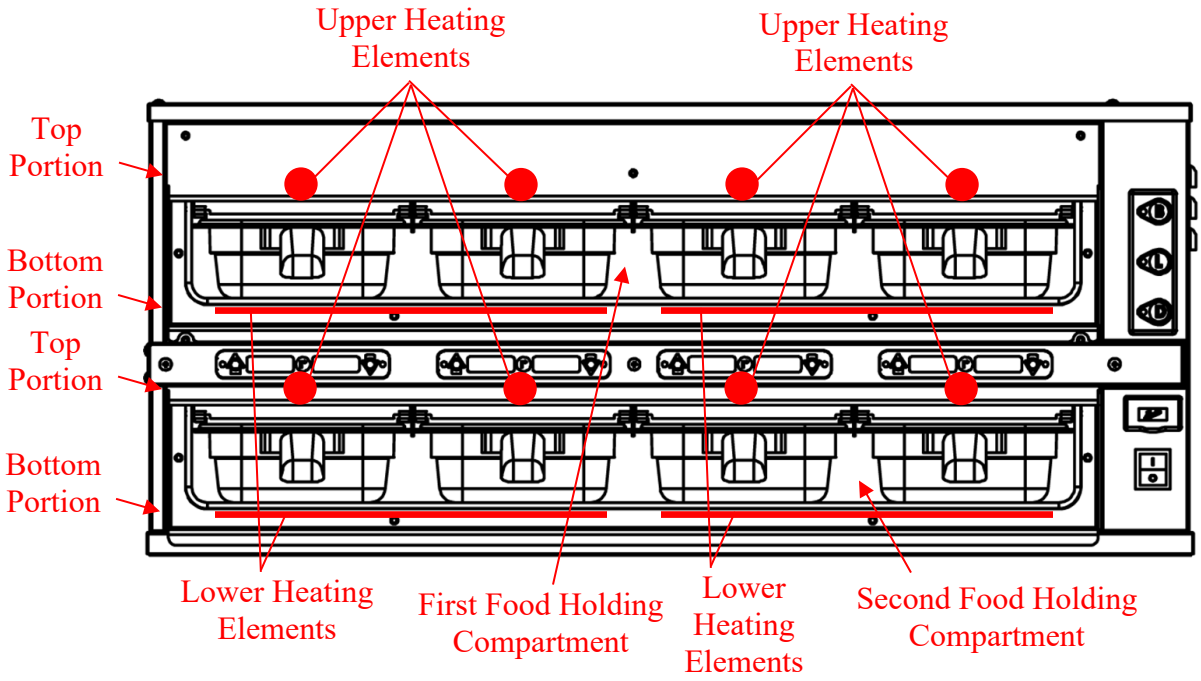
492. The POSA would have had a reasonable expectation of success given the IR upper heating elements operate independently of the lower heating elements, can pulse on and off as needed, and are higher wattage (340W) than the heat sink heating elements (150W per well or 300W per element). EX1006: 1 ("Individually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



EX1008: 64.

493. In this implementation, each upper heating element of the IRHS24 Holding Unit would have been adapted to output more heat energy than each lower

heating element via having a higher target temperature, turbo boost functionality, and/or higher wattage rating.



EX1005: 8 (annotated).

494. Having the upper IR heating elements operate at a higher target temperature than the lower heating elements means the upper IR heating elements are outputting more heat energy to maintain the higher temperature than the lower heating elements. Moreover, activating the turbo boost function would further increase the heat energy output of the upper IR heating elements "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" right before serving. EX1027: ¶¶[0019] ("deliver an increased amount of heat to the food"), [0021].

495. Accordingly, to the extent that there is any doubt that the IRHS Documents disclose that the heating elements disposed at the top portion of the food holding compartments were adapted to output more heat energy than the heating elements disposed at the bottom portion of the food holding compartments, 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 in Claim 28.

X. GROUND 7: Claims 1-26 and 28-37 Would Have Been Obvious as Addressed in Grounds 1-6 Above in Further View of Veltrop and Shei'155 (If Necessary) Even to the Extent the IRHS Documents Are Found Not to Sufficiently Teach the Claim Limitations Concerning the Material of Construction of the Heatsink or its Conductivity

496. Within the claims of the '363 Patent, there were several claim limitations of Claims 1, 16, 18, 29, and 33 that concern the material of construction of the substantially planar surfaces and their ability to conduct thermal energy. These limitations are listed as follows:

- 1.d.2: "the first side defining a first substantially planar surface comprising a thermally conductive material forming a top surface of the shelf and forming a bottom surface of the first food holding compartment";
- 1.e.1: "and wherein the bottom panel includes a second substantially planar surface comprising a thermally conductive material forming a bottom surface of the second food holding compartment";
- 16: "wherein the independently controllable heating elements disposed at the bottom portion of the first and second food holding compartments provide heat energy to at least one food holding tray through conduction";

- 18: "the independently controllable heating elements disposed at the bottom portion of the first and second food holding compartments provide heat energy through conduction to at least one holding tray";
- 29: "wherein at least one substantially planar surface comprises aluminum"; and
- 33.a.1: "wherein the shelf comprises an upper thermally conductive plate disposed in the shelf and in thermal communication with the first side."

497. 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 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 their thermal conductivity, the claims would have still been obvious in view of Veltrop and/or Shei'155.

498. 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.”).

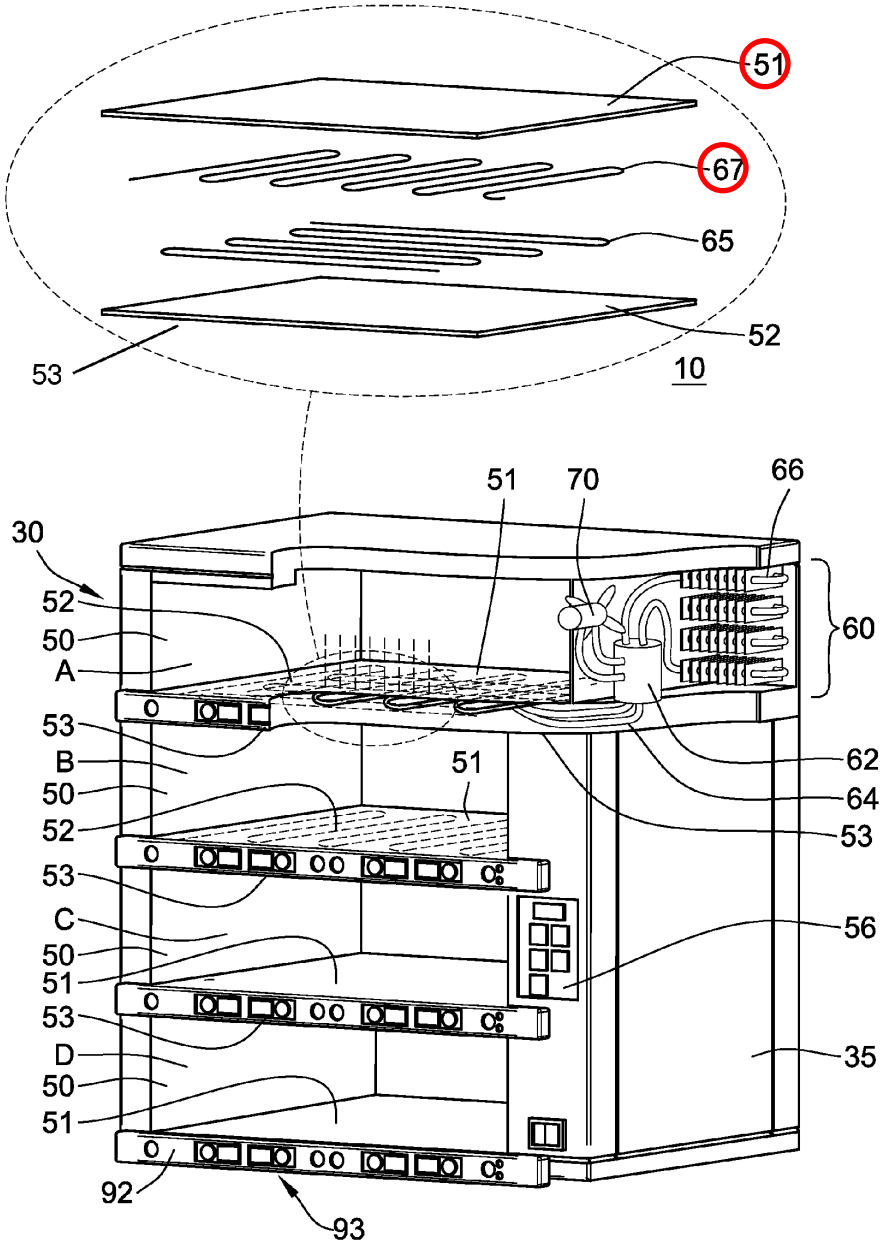
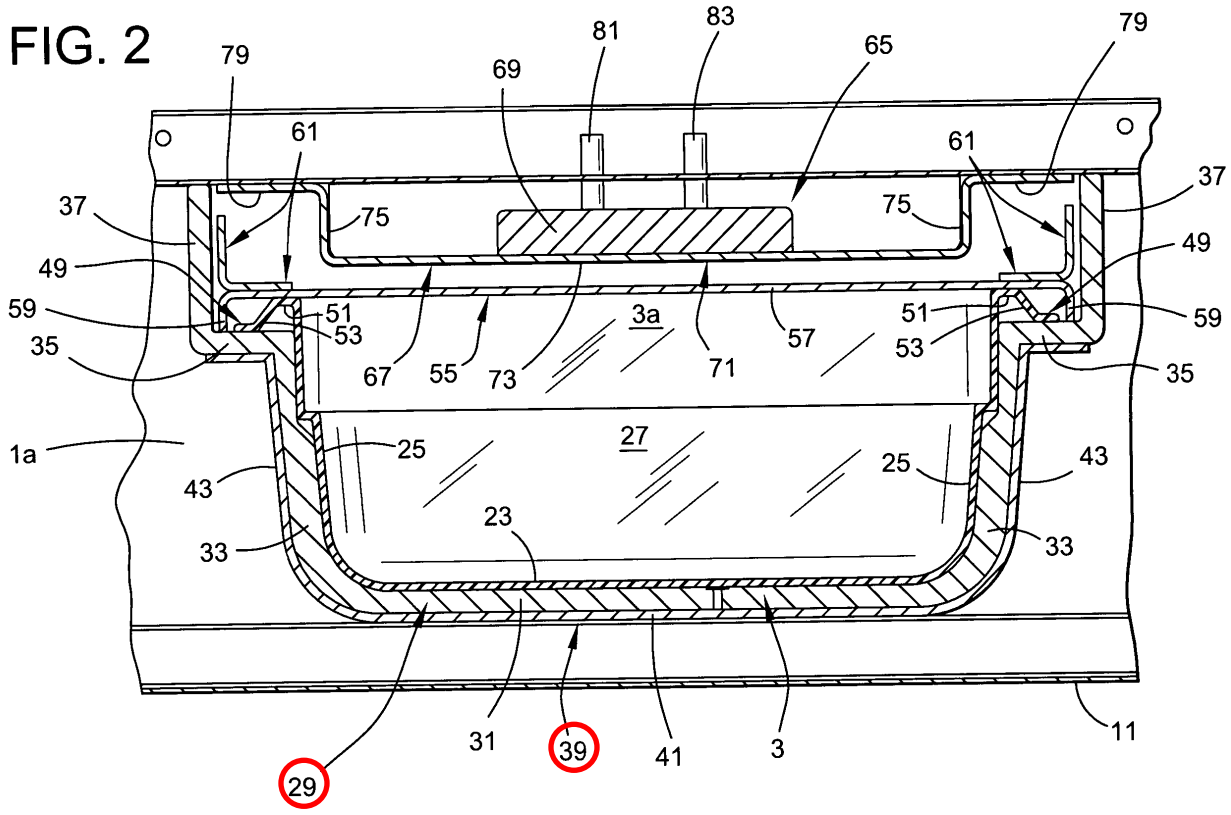


FIG. 2

EX1022: Fig. 2 (annotated).

499. 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").



EX1016: Fig. 2 (annotated).

500. It would have been obvious for the lower heating elements of the IRHS Holding Unit to be conductively coupled to the heatsink plates in view of Veltrop and/or Shei'155 because conduction is an effective and efficient means of transferring the heat from the lower heating elements to the heat sinks and into the

food in the 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").

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 Unit (which already appears to have a similar construction for its 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. In implementing this modification, the IRHS Holding Unit's 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).

504. Moreover, Veltrop teaches that 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.

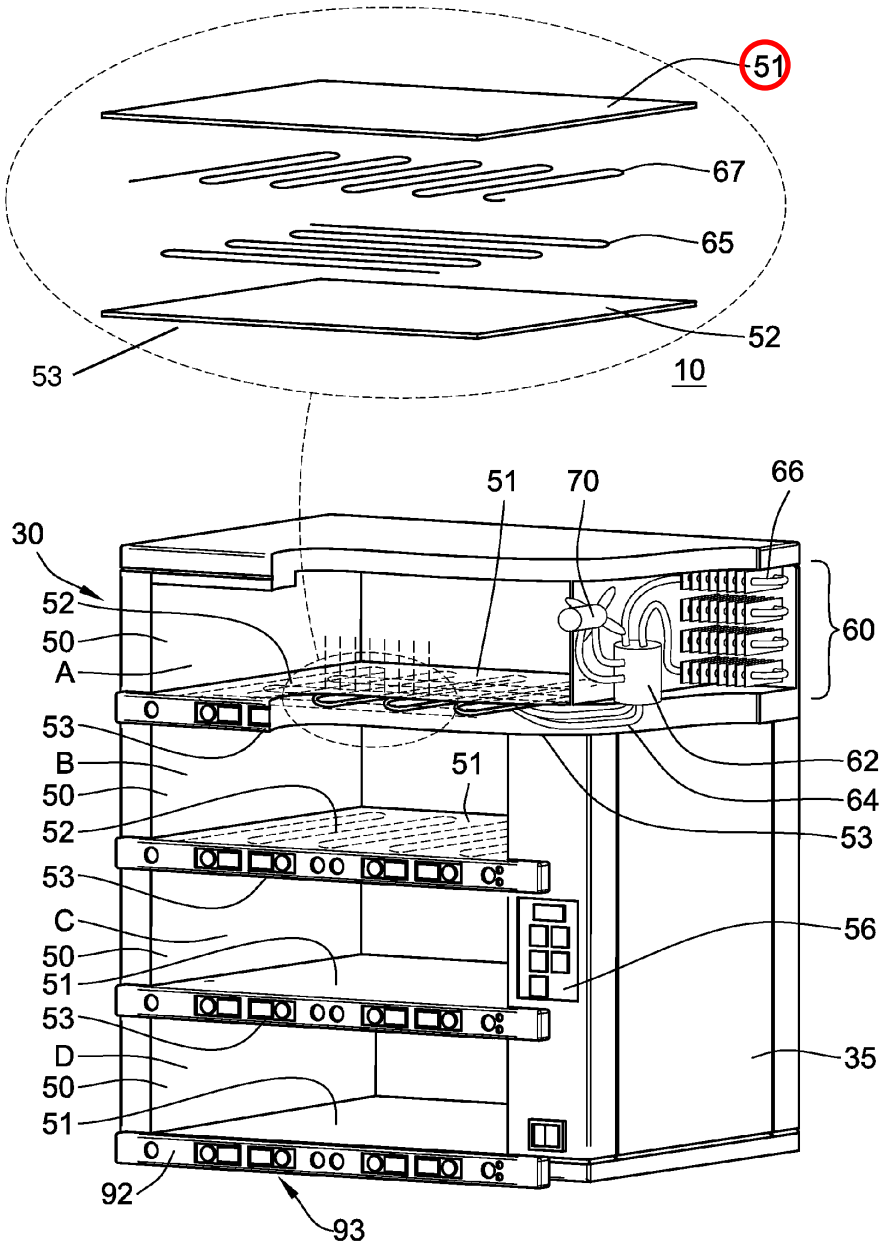


FIG. 2

EX1022: Fig. 2 (annotated).

505. Shei'155 likewise teaches constructing its heat sink (29) out of aluminum. EX1016: ¶[0039] ("heat sink 29, which is made of aluminum").

506. Just as it would have been obvious to select thermally conductive material to make the IRHS heatsink plates, more specifically, aluminum would have been a preferred material for such structures as it "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").

507. Further, making the heatsink plates of aluminum, instead of heavier materials such as glass and stainless steel, would reduce the weight of the unit (making it easier to ship) and reduce cost.

508. The use of aluminum, specifically, would have been nothing more than the use of a known material (aluminum from Veltrop and Shei'155) to improve—to the extent it was not sufficiently disclosed—a similar device (the

heatsink plates of the IRHS Holding Unit) in the same way (aluminum surfaces for supporting food tray/pans for localized heating).

509. There would have been a reasonable expectation of success given the IRHS Holding Unit, Veltrop, and Shei'155 are all food warming cabinets and the well-known suitability of aluminum in the art, including for shelves having different temperature zones. EX1016: ¶[0039] ("heat sink 29, which is made of aluminum"); 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"); EX1022: ¶[0023] ("thermally-conductive plates 51 and 53 are preferably made of aluminum").

510. 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.

511. 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.").

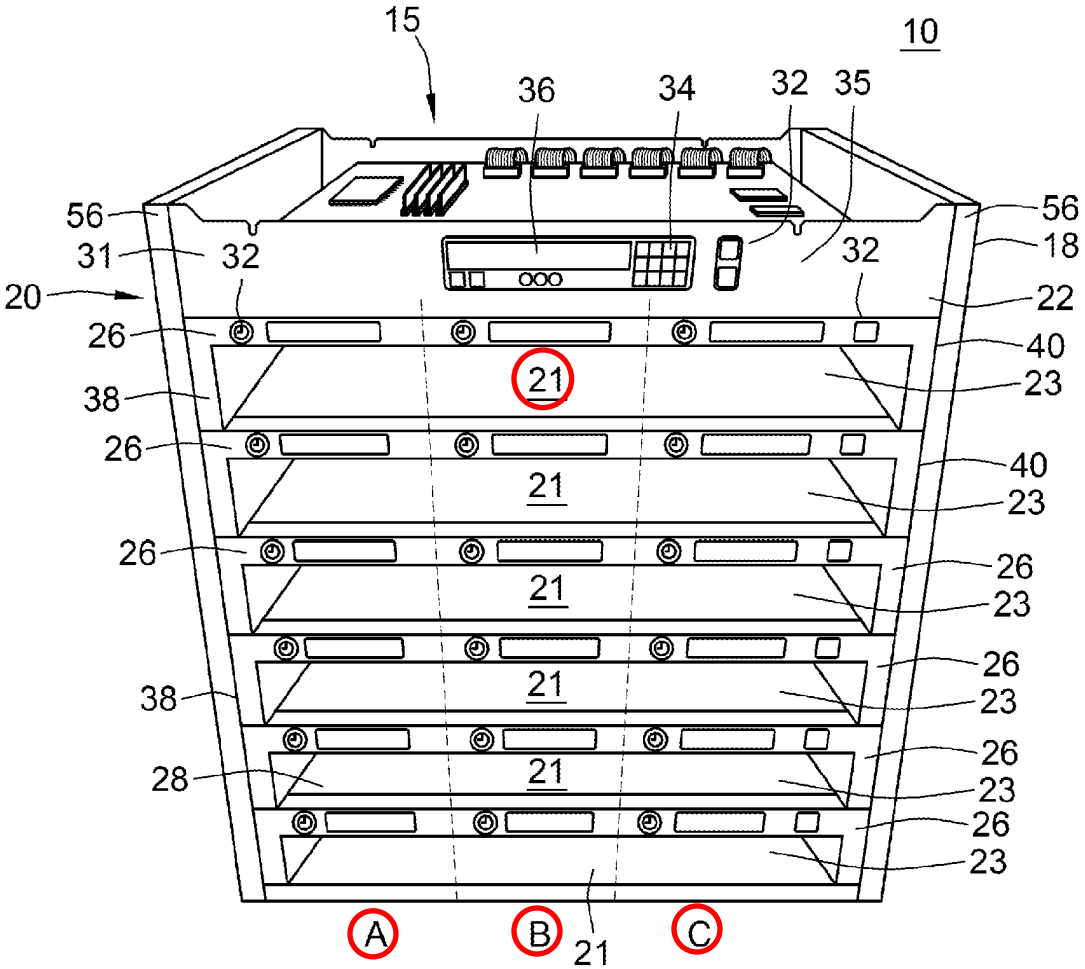
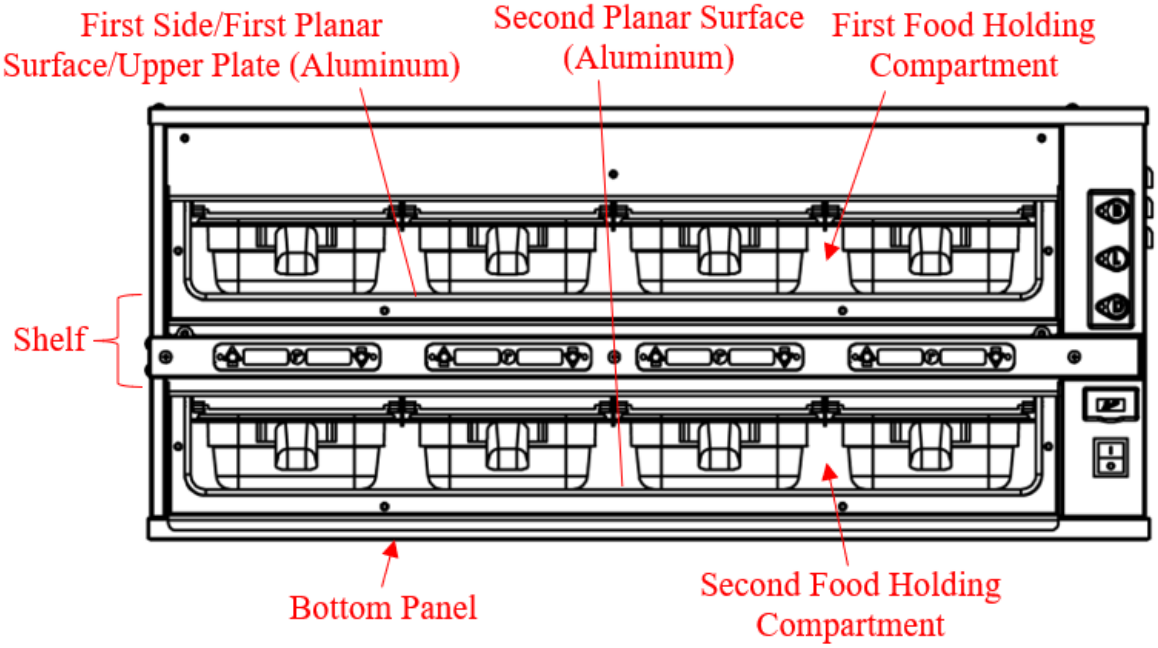


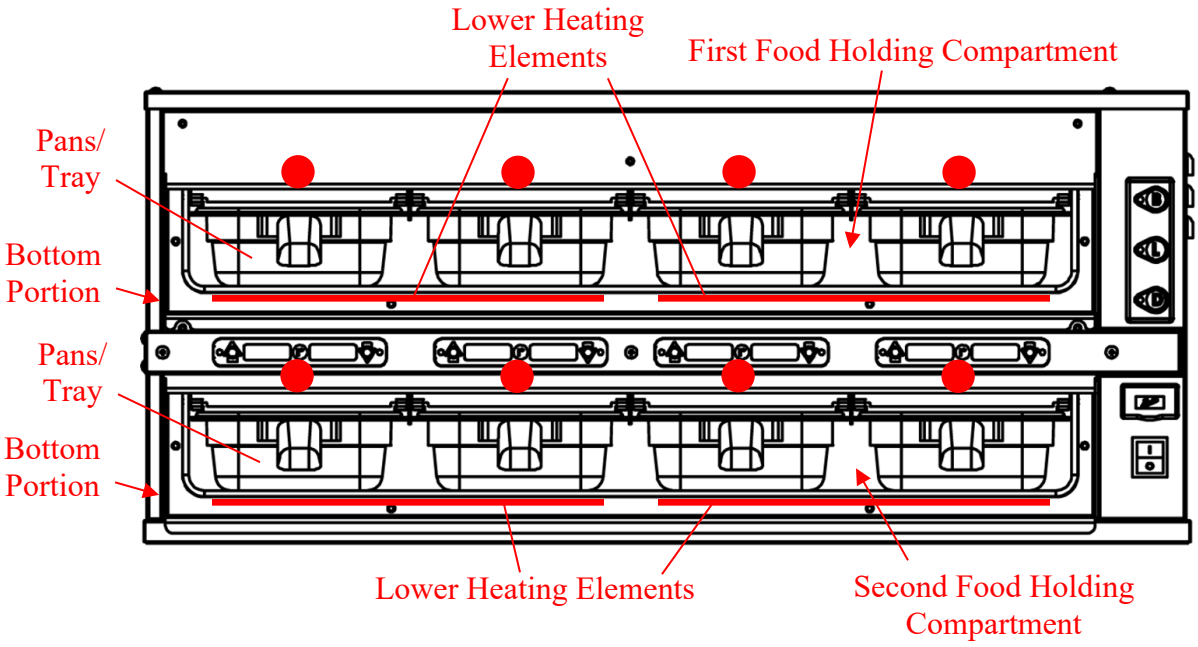
FIG. 2

EX1020: Fig. 2 (annotated).

512. In making this modification, the IRHS Holding Unit's heatsink plates would be made of aluminum, thereby making the first and second planar surfaces and the upper plate of the IRHS Holding Unit (which are formed by the heat sink) comprise aluminum, a thermally conductive material. This is illustrated with the IRHS24 Holding Unit below.



EX1005: 8 (annotated).



EX1005: 8 (annotated).

513. The claim limitations of claims 1, 16, 18, 29, and 33 that concern the material of construction of the substantially planar surfaces and their ability to conduct thermal energy are met by Veltrop and/or Shei'155. As such, Claims 1-26 and 28-37 would have been obvious for at least the reasons explained in Grounds 1-6 above in further view of Veltrop and/or Shei'155.

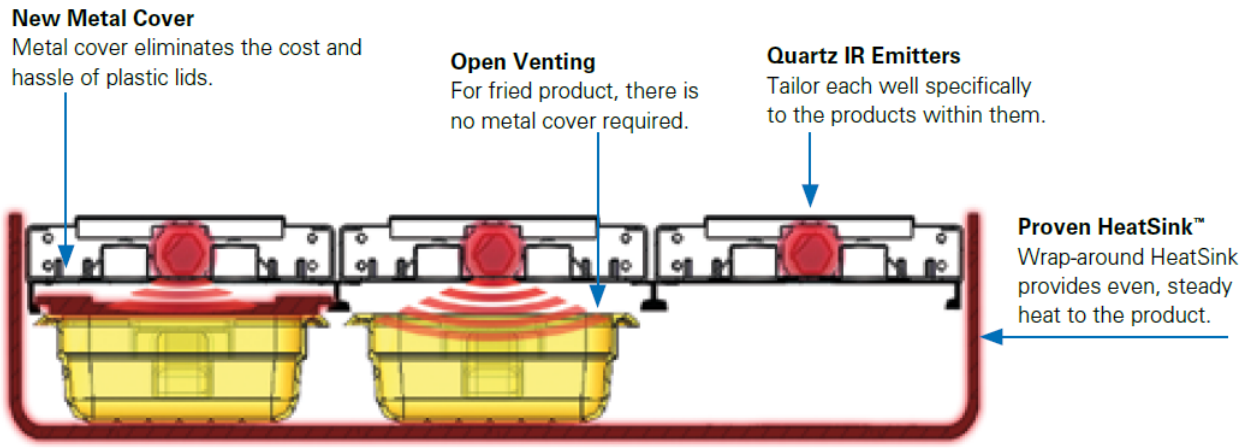
XI. GROUND 8: Claims 1-26 and 28-37 Would Have Been Obvious as Addressed Grounds 1-7 Above in Further View of Hartfelder and/or Veltrop Even to the Extent the IRHS Documents Are Found Not to Meet the "Panel" and "Substantially Planar Surface" Limitations

514. Within the claims of the '363 Patent, there were several claim limitations of Claims 1, 2, and 33 that concern identifying the "panels" of the chassis or certain "substantially planar surfaces." These limitations are listed as follows:

- 1.a: "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.b.1: "a first food holding compartment within the chassis, the first food holding compartment being defined by the first side panel, the second side panel, the top panel and a shelf";
- 1.b.3: "the first food holding compartment being substantially unobstructed between the first side panel and the second side panel and below the downwardly depending lid holding shelf";
- 1.c.1: "a second food holding compartment disposed below the first food holding compartment within the chassis, the second food holding compartment being defined by the first side panel, the second side panel, the bottom panel and the shelf";
- 1.c.3: "the second food holding compartment being substantially unobstructed between the first side panel and the second side panel and below the downwardly depending lid holding shelf";

- 1.d.2: “the first side defining a first substantially planar surface comprising a thermally conductive material forming a top surface of the shelf and forming a bottom surface of the first food holding compartment”;
- 1.e.1: “wherein the bottom panel includes a second substantially planar surface comprising a thermally conductive material forming a bottom surface of the second food holding compartment”;
- 1.f.1: “a first opening in the front face of the chassis defined by the first substantially planar surface, the first side panel, the second side panel and the top panel”;
- 1.g.1: “a second opening in the front face of the chassis defined by the second substantially planar surface, the first side panel, the second side panel and the shelf”;
- 2.a.1: “a third opening in the rear face of the chassis defined by the first substantially planar surface, the first side panel, the second side panel and the top panel”;
- 2.b.1: “a fourth opening in the rear face of the chassis defined by the second substantially planar surface, the first side panel, the second side panel and the shelf”; and
- 33.a.1: “wherein the shelf comprises an upper thermally conductive plate disposed in the shelf and in thermal communication with the first side.”

515. The IRHS Documents explain the heat sink wraps upwardly on the left and right sides as shown below:



EX1007: 53.

516. 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 '363 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.

517. 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.").

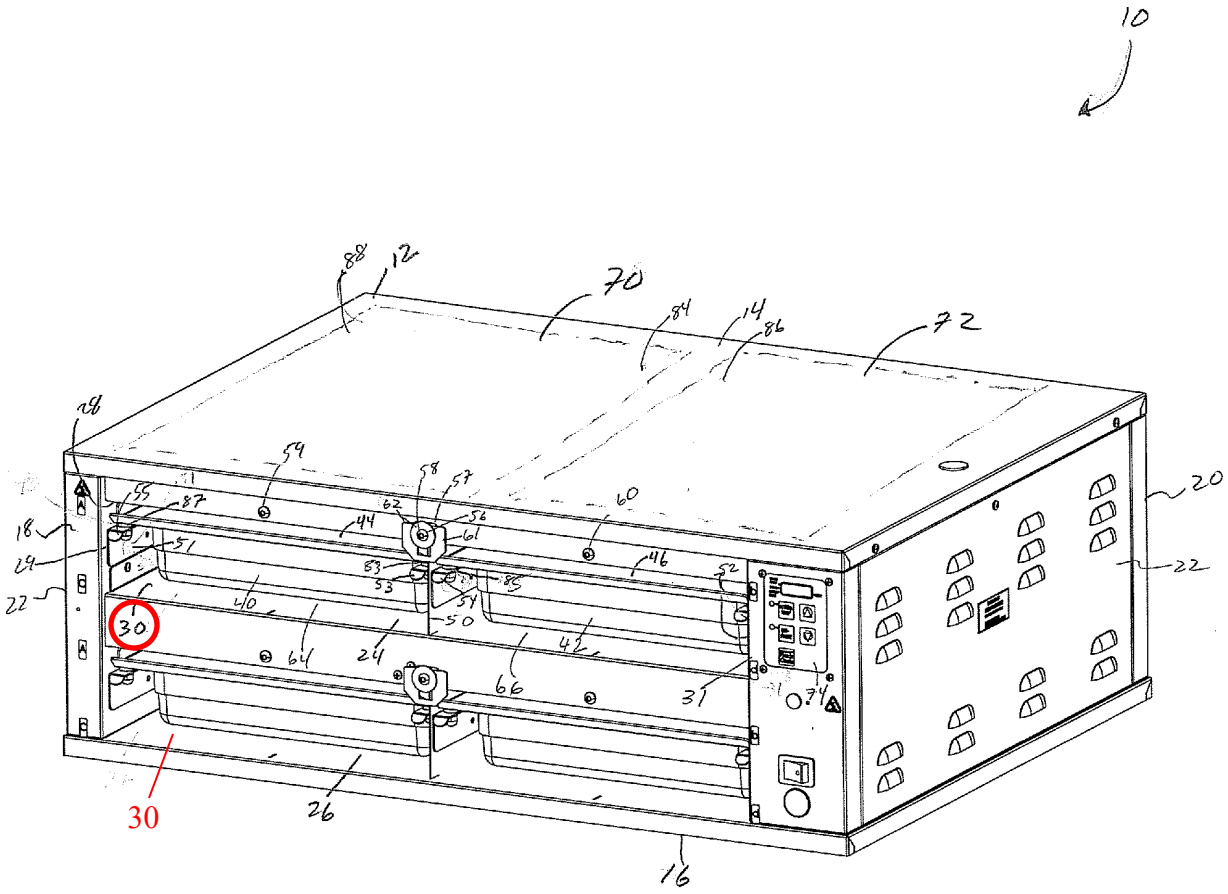


FIGURE 1

EX1013: Fig. 1 (annotated).

518. 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").

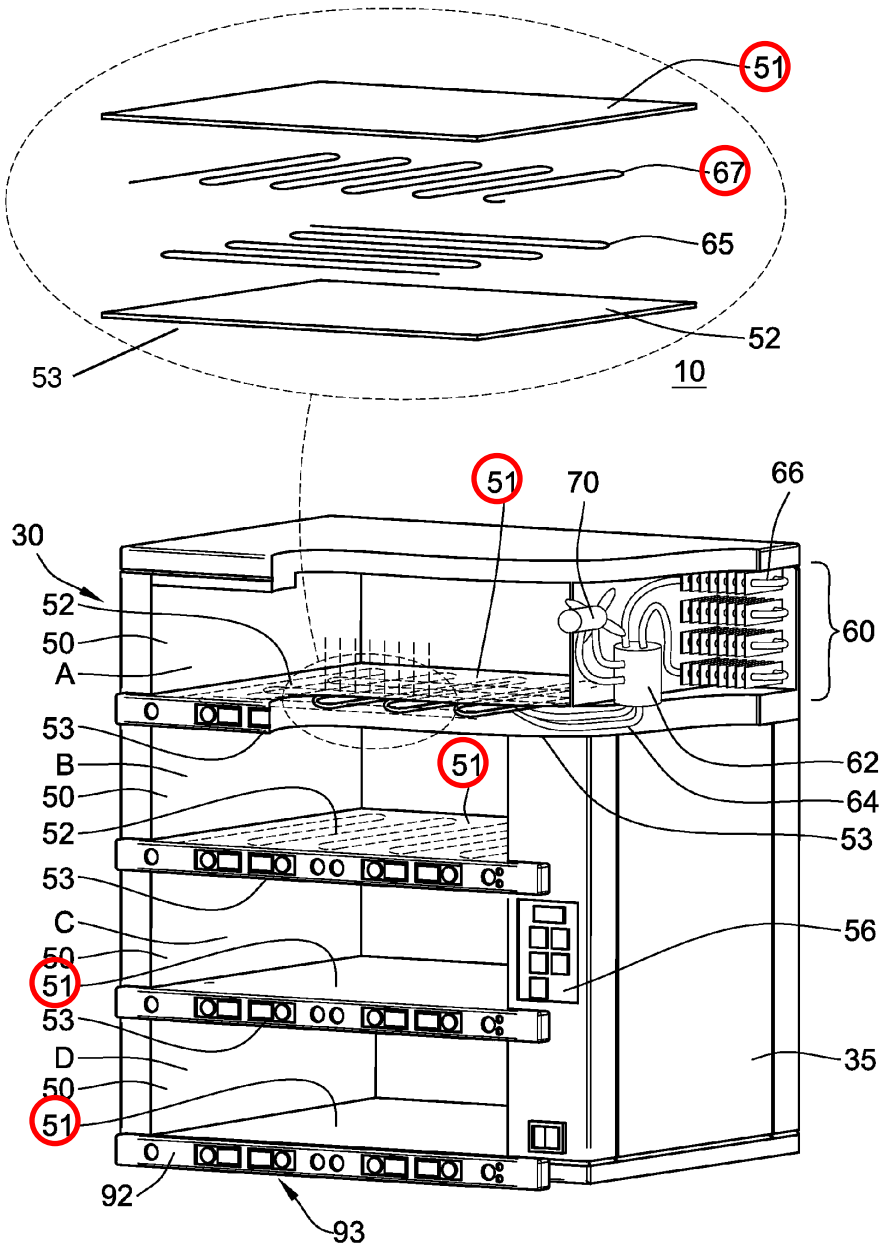


FIG. 2

EX1022: Fig. 2 (annotated).

519. It would have been obvious to modify the heat sink of the IRHS Holding Unit to be fully planar as taught by Hartfelder and/or Veltrop, rather than wrapping heat sink the upwardly on the left and right sides as doing so could provide advantages.

520. Eliminating the upward wrapping of the heat sink would allow for a reduced width of the IRHS Holding Unit, furthering the IRHS Holding Unit's goal to have a small footprint. EX1007: 53 ("Smaller footprint allows IRHS to fit into smaller spaces").

521. This configuration would also reduce cost to manufacture the IRHS 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.

522. 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.

523. 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.

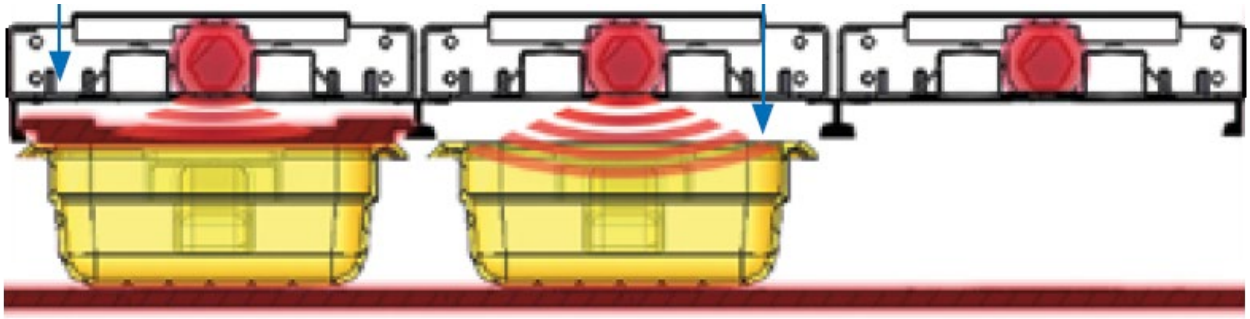
524. A flat heat sink, on the other hand, would result in all the pans being heated in a similar fashion (just from below by the heat sink) to provide a more consistent supply of heat to all the pans in a zone. Heating across all the pans in a heating zone (e.g., across the compartment, or across the 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.

525. 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).

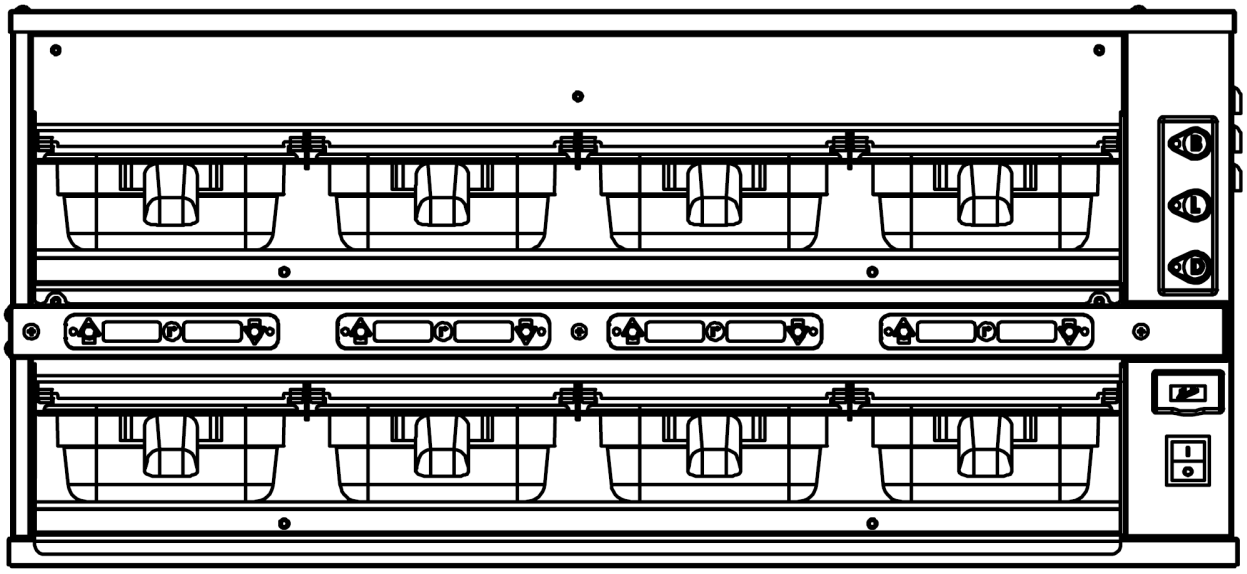
526. There would have been a reasonable expectation of success in making this modification given this modification requires only minor reconfiguration of some parts, within the POSA's capabilities, and because prior art demonstrates it was possible. EX1013: Fig. 1; EX1022: Fig. 2; EX1020: ¶¶[0021]-[0023].

527. A representative illustration of the modified heat sink is shown below:

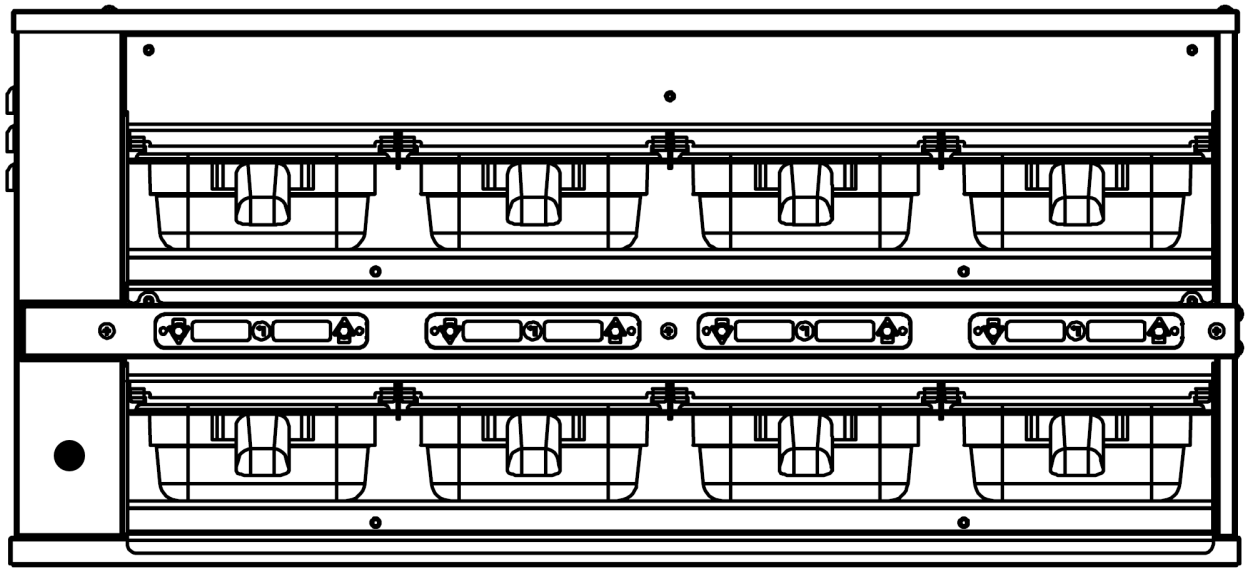


EX1007: 53 (modified)

528. Representative illustrations of the IRHS24 Holding Unit modified to have flat heat sinks are shown below:



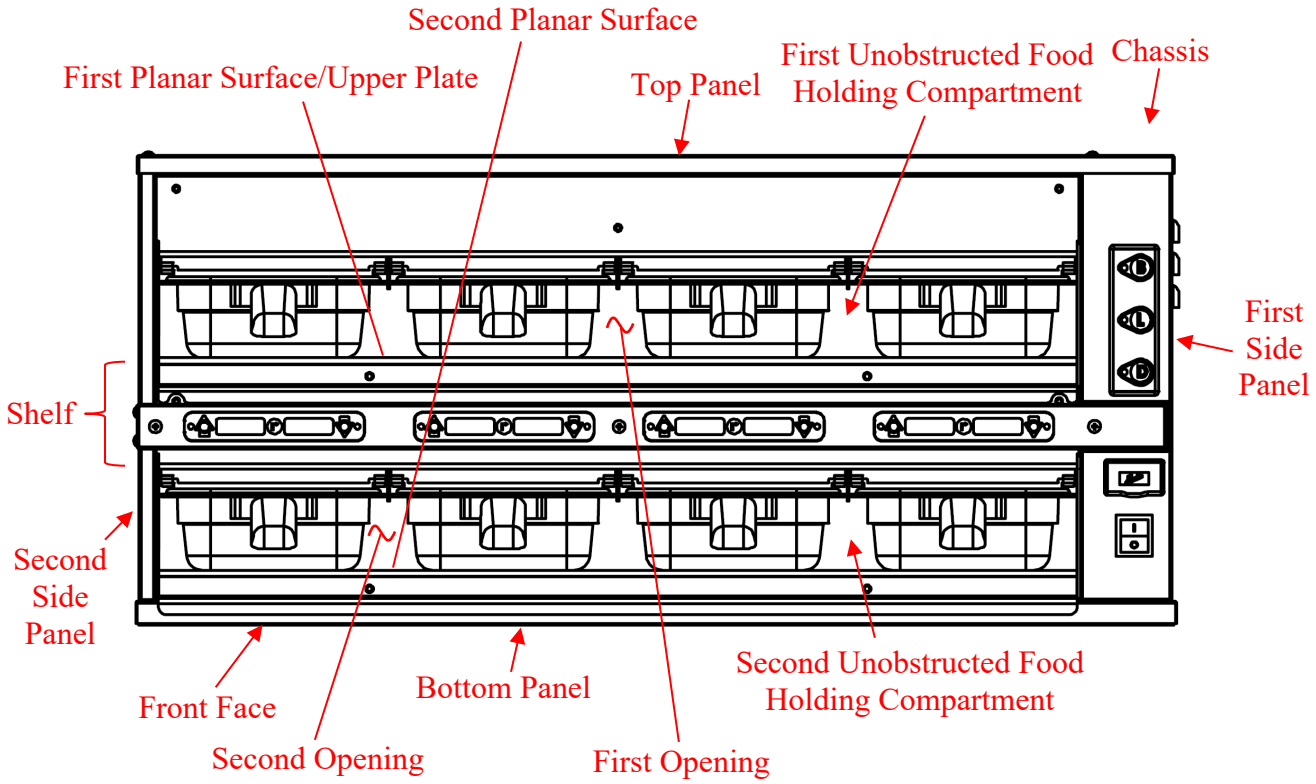
EX1005: 8 (modified-front).



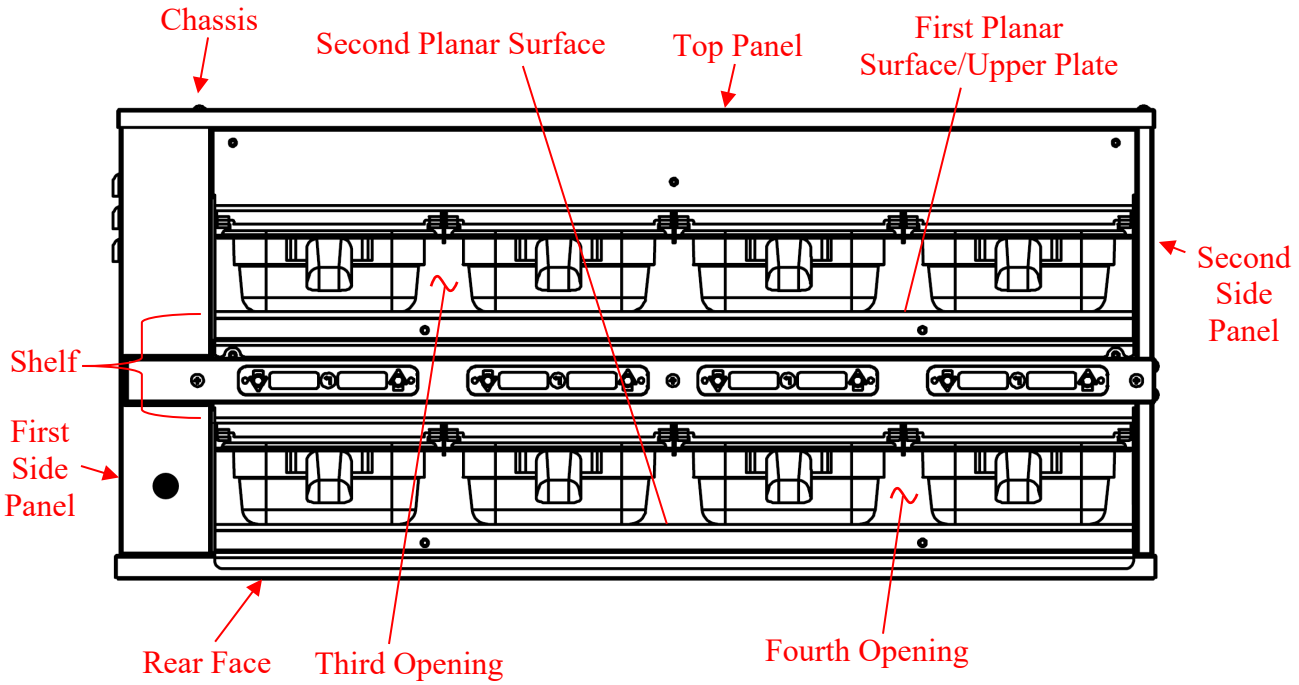
EX1005: 8 (modified-rear).

529. Under the modification of the IRHS Holding Unit in view of Hartfelder or Veltrop, the limitations of claims 1-26 and 28-37 are obvious for at least the reasons Grounds 1-7 above, with at least the following limitations of claims 1, 2, and 33 further being obvious as demonstrated below by the

representative illustrations of the IRHS24 Holding Unit modified to have flat heat sinks:



EX1005: 8 (modified-front).



EX1005: 8 (modified-rear).

XII. GROUND 9: Claims 1-26 and 28-37 Would Have Been Obvious as Addressed Grounds 1-8 Above in Further View of Vaseloff and McMillan (if necessary)

A. Claims 1-26 and 28-37 Would Have Been Obvious as Addressed Grounds 1-8 Above in Further View of Vaseloff and McMillan Even to the Extent the IRHS Documents Are Found Not to Meet the Dedicated Display Limitations

530. Within the claims of the '363 Patent, there were several claim limitations of Claims 1, 3, 4, 7, 8, 9, 10, 11, 36, and 37 specifying the configuration of the user/graphical interface and displays:

- 1.n: "at least one user interface for controlling the food holding temperature of each food holding zone";
- 1.o: "a controller operatively coupled to the user interface";

- 3: “wherein each interface is a graphical interface that displays the food holding temperature of each food holding zone”;

- 4: “the first bezel providing at least one user interface comprising dedicated controls and/or dedicated displays for each of the first, second, third, and fourth food holding bays”;

- 7: “wherein the first bezel provides at least one graphical interface comprising at least one dedicated display and the dedicated display displays a temperature setting for a corresponding food holding bay”;

- 8: “wherein the dedicated display displays additional information about a food item stored in the corresponding food holding zone”;

- 9: “wherein the dedicated display displays additional information about a food item stored in the corresponding food holding zone”;

- 10: “wherein the first bezel provides two user interfaces arranged horizontally beneath the first food holding zone and the second food holding zone, respectively”;

- 11.a.2: “a first bezel providing at least one user interface comprising dedicated controls and/or dedicated displays for each of the first, second, third, fourth, fifth, sixth, seventh, and eighth food holding bays”;

- 11.a.3: “the second bezel providing at least one user interface comprising dedicated controls and/or dedicated displays for each of the first, second, third, fourth, fifth, sixth, seventh, and eighth food holding bays”;

- 36: “wherein the at least one user interface is configured to set the food holding temperature of each food holding zone”; and

- 37: “wherein the at least one user interface is configured to set the food holding temperature of each food holding zone.”

531. As discussed above, it is my opinion that the POSA would recognize that the IRHS Holding Unit—and more specifically, the IRHS24 Holding Unit—as

disclosed in the IRHS Documents meets these claim limitations. If the user/graphical interface and displays disclosed in the IRHS Documents are deemed not to sufficiently meet the claimed configurations, it would have been obvious to modify the IRHS Holding Unit in view of Vaseloff and McMillan as explained below.

532. Vaseloff teaches a food holding device (30) includes upper and lower rows each having two temperature-controlled pan locations (34). EX1026: 2:60-63. Similar to the time bar of the IRHS Holding Unit, the Vaseloff food holding device (30) has a timer module (32). EX1026: 2:60-63, 3:48-49, Figs. 3, 4, 10.

533. 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 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.

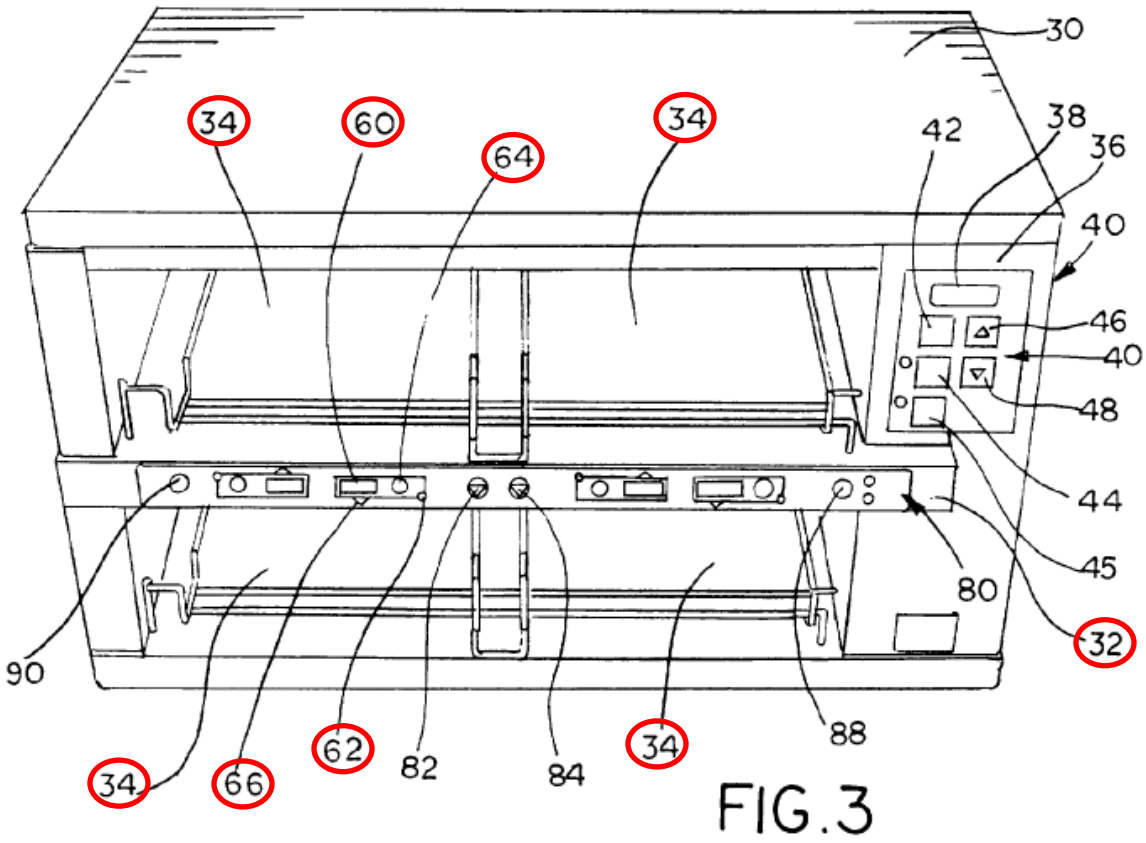


FIG.3

EX1026: Fig. 3 (annotated).

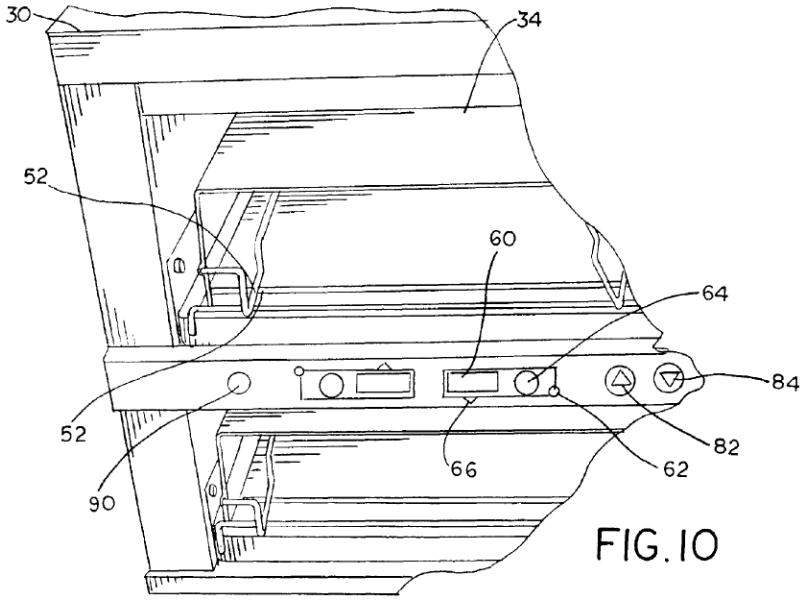


FIG.10

EX1026: Fig. 10.

534. The display devices (60) of Vaseloff 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. 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.

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

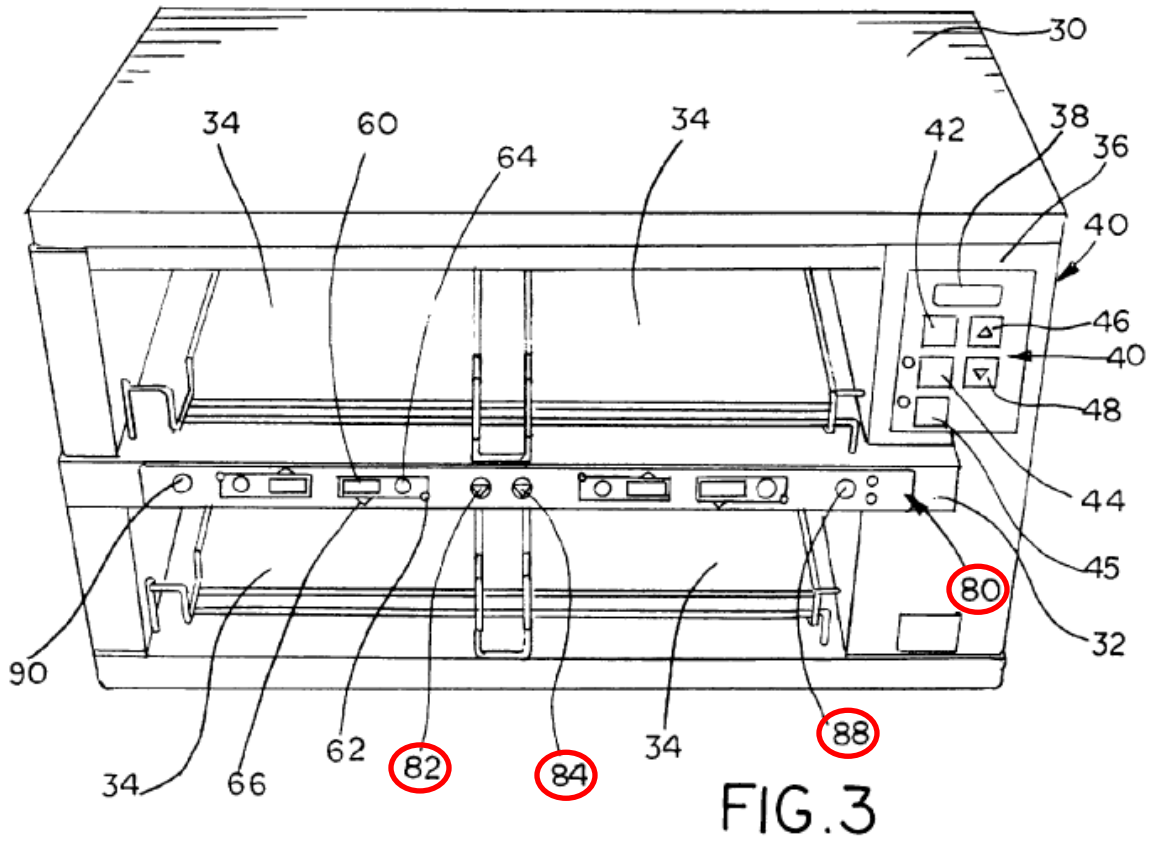


FIG.3

EX1026: Fig. 3 (annotated).

536. Vaseloff further includes a transfer button (90) which 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.

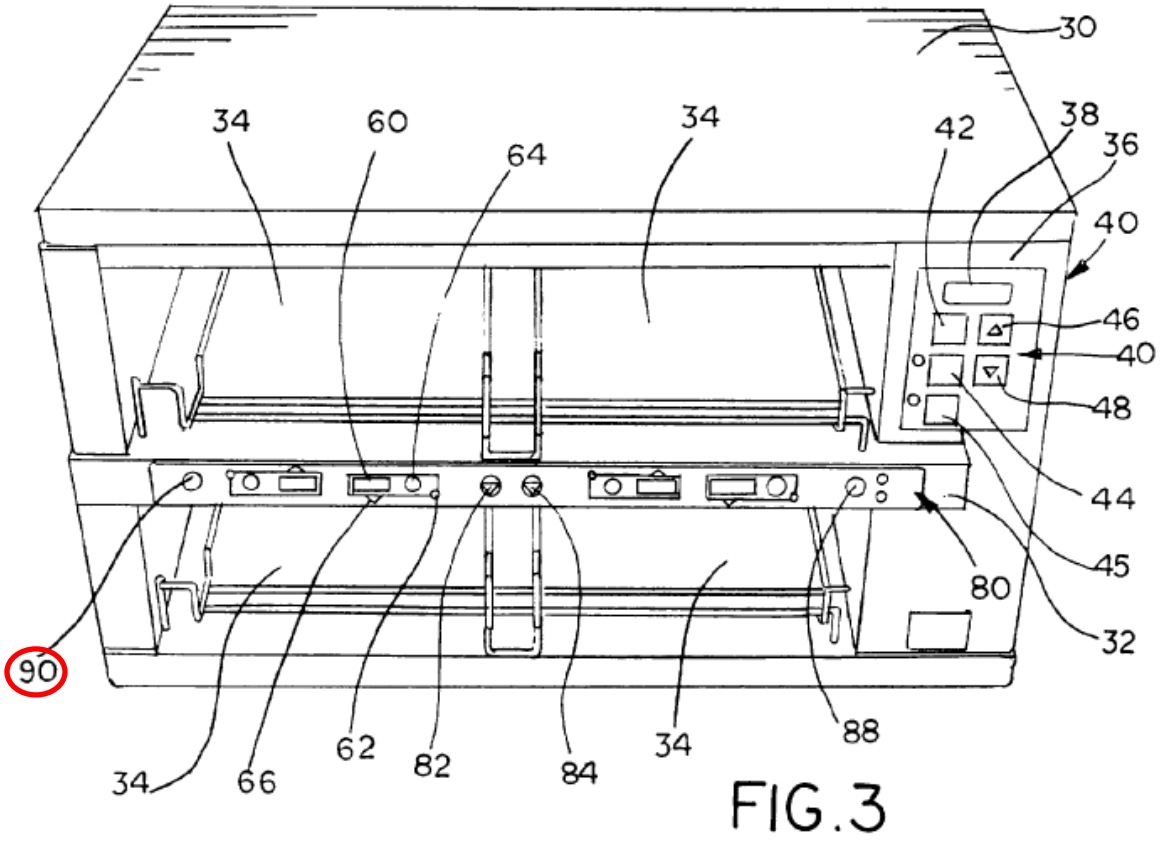
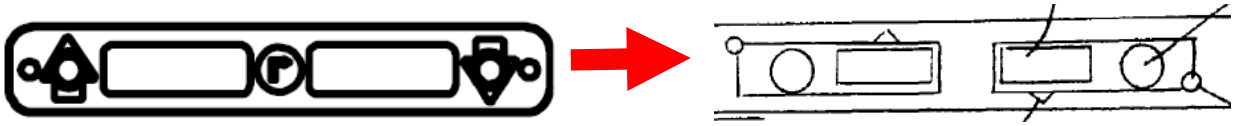


FIG.3

EX1026: Fig. 3 (annotated).

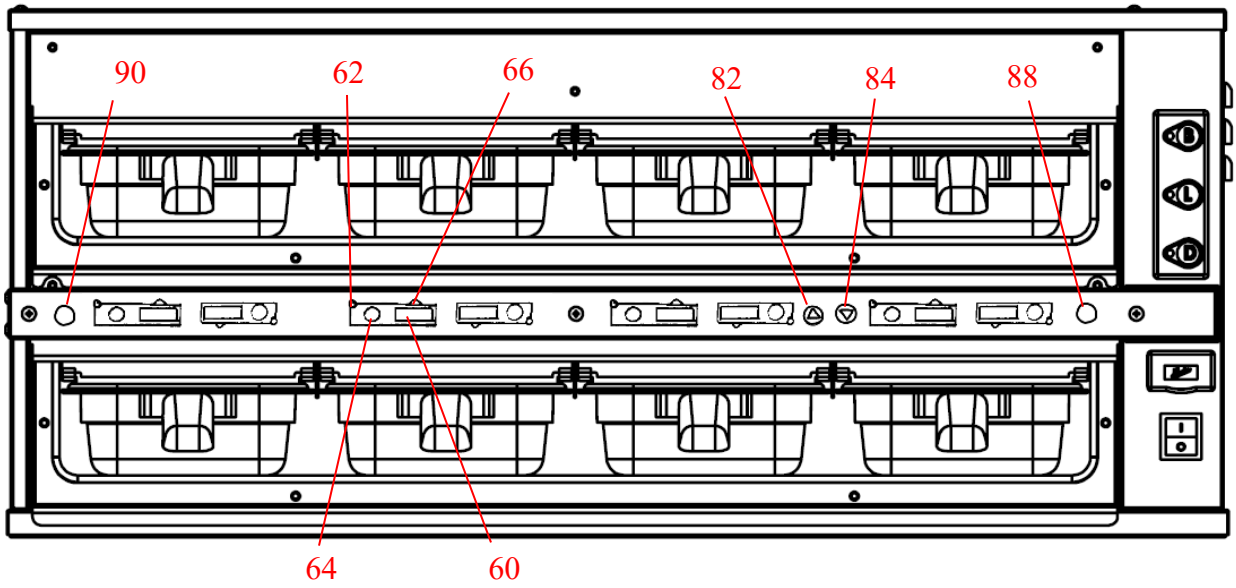
537. In view of Vaseloff, it would have been obvious to replace the controls of the IRHS timer bars with Vaseloff's timer module controls (in the housing of the IRHS timer bar). For example, each IRHS24 Holding Unit control/display group (below left) would be replaced by two groups (below right) of Vaseloff's display devices (60), timer status indicators (62), timer buttons (64), and indicator arrows (66).



EX1007: 8.

EX1026: Fig. 10.

538. A representative front view of the modified IRHS24 Holding Unit with a modified IRHS24/Vaseloff timer bar controls is shown below. The rear view would be similar.



EX1005: 8 (modified-front).

539. The POSA would make these modifications because the Vaseloff control system would add convenience and flexibility, such as the pan transfer capability. Additionally, some users may find the Vaseloff controls to be more intuitive, to display more information, and/or to more clearly display or associate information with the respective pan locations. EX1026: 4:20-22, 4:26-29, 57-58, 6:1-25, 6:65-7:20; 11:35-38.

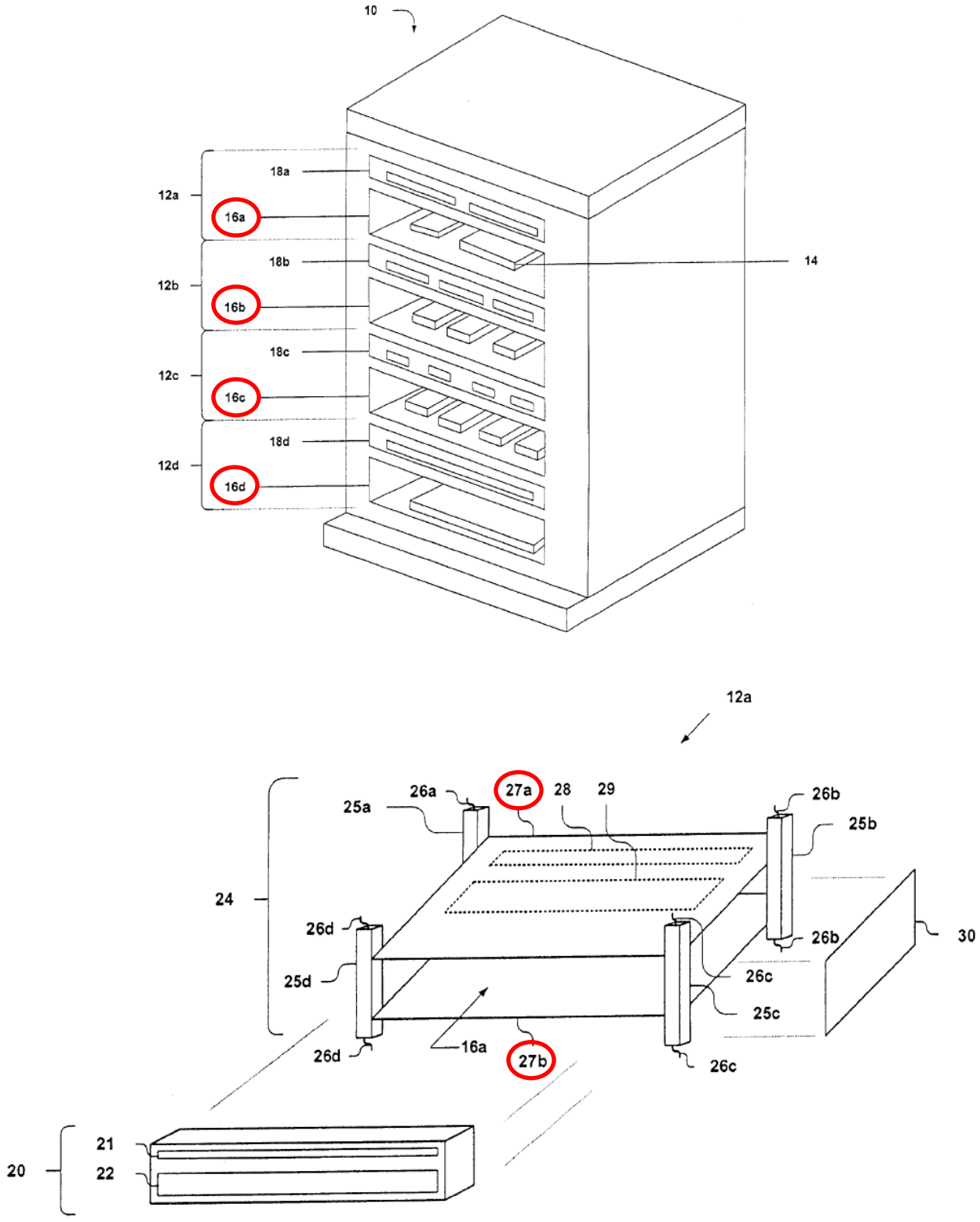
540. Modifying the IRHS timer bars in view of Vaseloff would have been nothing more than the application of a known technique (Vaseloff timer bar controls) to improve a similar device (the timer bars of the IRHS Holding Units) in

the same way (specifically by incorporating one-to-one corresponding displays and controls for each individual pan location).

541. The POSA would have had a reasonable expectation of success in making such a modification because the food holding units and their intended operation are similar. Vaseloff expressly explains that "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.

542. When implementing this modification, the POSA would have connected Vaseloff's timer module controls (e.g., transfer button (90), arrow buttons (82, 84), and each display/control grouping, including display device (60), timer status indicator (62), timer button (64)) to the IRHS Holding Unit's controller. EX1005: 25. It would have been within the skill in the art to modify the connections to and/or programming of the controller to accommodate the Vaseloff timer module controls.

543. McMillan also teaches a food holding cabinet (10) including several food passageways (16a-16d). EX1019: 2:49-52, 2:65-67. Each passageway of McMillan includes upper and lower heater plates (27a, 27b). EX1019: 4:36-52.



EX1019: Figs. 1 and 2 (annotated).

544. Each food passageway of McMillan 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) includes 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.").

545. 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.

546. 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.").

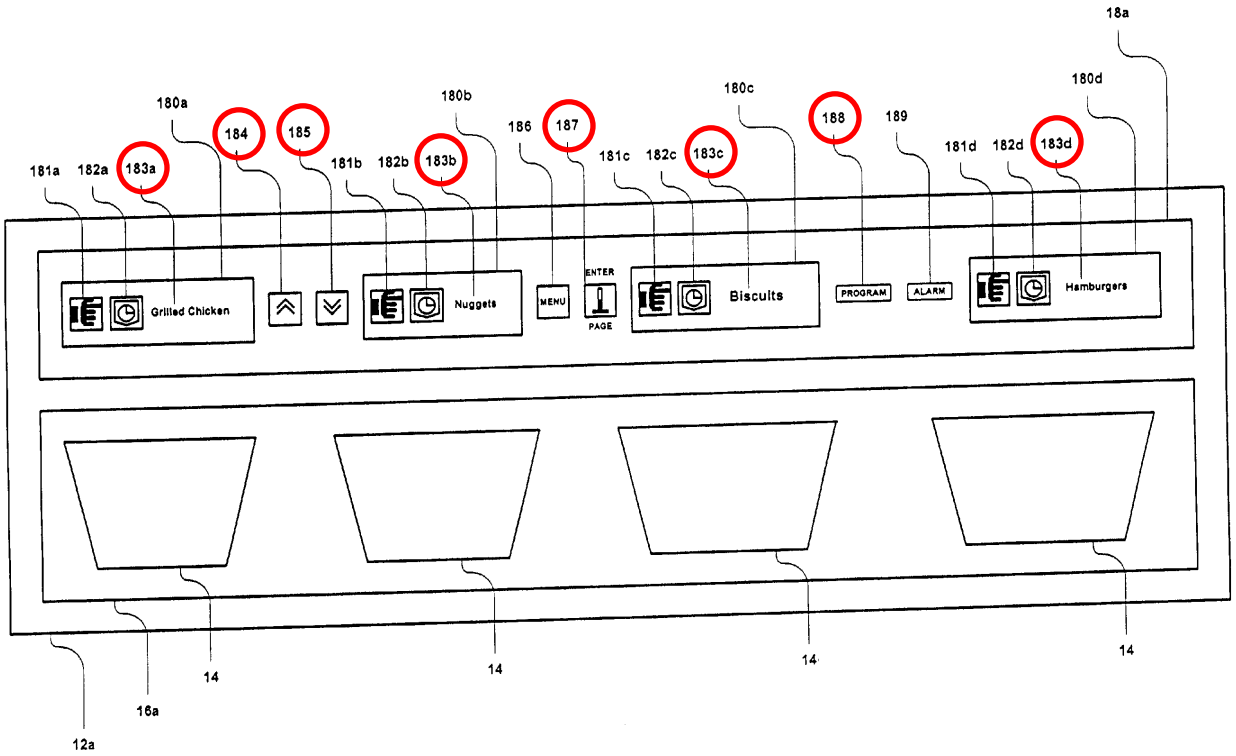


Fig. 5a

EX1019: Fig. 5a (annotated).

547. Because McMillan provides additional detail regarding the ability to display current temperatures and setpoint temperatures in the display device (60)

for each pan location, it would have been obvious to further modify the IRHS24/Vaseloff timer bars to incorporate these teachings of McMillan. EX1019: 10:30-32 ("display areas [] may present a numeric value indicating the current and/or set temperature").

548. Moreover, it would have been obvious to enable the timer bars to change the setpoint temperature as taught by McMillan. EX1019: 10:43-58 ("allow an operator to change or select … holding temperatures").

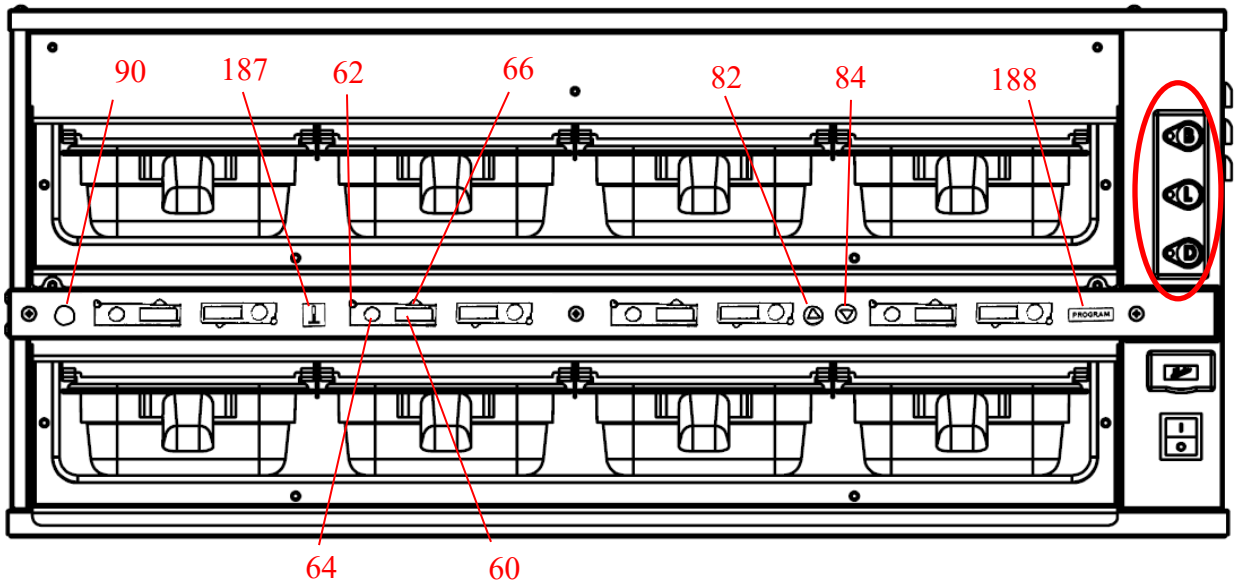
549. Vaseloff's timer bar includes up-arrow and down-arrow buttons (82, 84) similar to McMillan's arrow keys (184, 185). In further incorporating the teachings of McMillan, the POSA would have implemented Vaseloff's arrow buttons (82, 84) (described by Vaseloff as "for increasing and decreasing the value of a parameter, or scrolling up and down through a list of parameters") or McMillan's arrow keys (184, 185) to "allow an operator to increase and decrease displayed values (e.g., temperature, time) or change selections." EX1026: 7:30-32; EX1019: 10:46-48.

550. It would have thus been obvious per McMillan to incorporate a temperature button (187) to permit a user to "allow a user to display temperature information, enter operational changes, and/or scroll to different pages," a program button (188) to permit the user to "change or select … holding temperatures," and/or arrow keys (184, 185) per McMillan EX1019: 10:52-58. The POSA would

know how to implement the arrow buttons, temperature button, and/or program button as physical buttons. EX1026: 2:60-3:19 (teaching physical programming buttons).

551. Moreover, it would have been obvious to replace the IRHS24/Vaseloff activity button (88) with McMillan's temperature button (187) and/or program button (188), or to otherwise omit the activity button (88), because the IRHS24 Holding Unit already includes a daypart interface serving the purpose of the activity button (88) (selecting a daypart to populate the pan location displays with an arrangement of pre-programmed food types). EX1026: 7:46-8:39; *see also* Paragraphs 232-233.

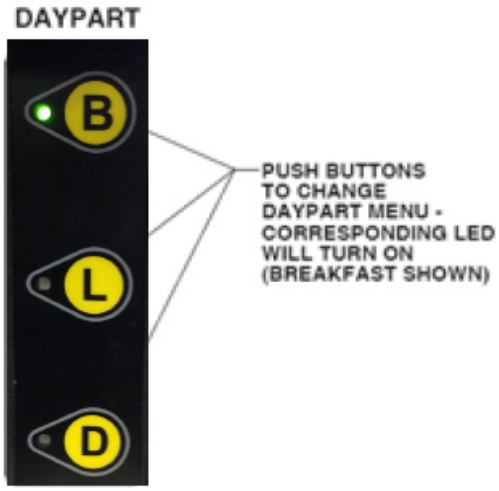
552. Specifically, the POSA would operatively connect the existing IRHS24 daypart interface to the IRHS24/Vaseloff timer bar (as in the IRHS24 Holding Unit) to permit selection of a daypart. The IRHS daypart interface provides a dedicated and simpler solution for selecting a daypart with dedicated LEDs for indicating the active daypart. *See* Paragraphs 232-233.



EX1005: 8 (modified-front, annotated).

OPERATION – CHANGE DAYPARTS

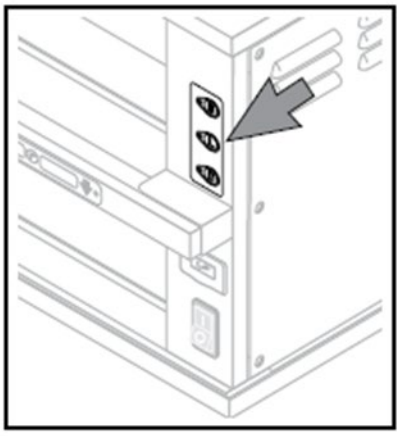
Select the appropriate Daypart Button to switch between Breakfast, Lunch, and Dinner menus.



EX1005: 16.

DAYPART SWITCH

The Daypart Switch is used to control the temperatures of various food products, up to three different time periods a day. It is located on the Control Panel and is accessed from inside the control compartment.



EX1008: 29.

553. The POSA would further program the IRHS24/Vaseloff timer bars 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 by use of the up-arrow and down-arrow buttons (82, 84), the temperature button (187), and/or the program button (188), similar to the teaching of McMillan. EX1019: 10:6-8, 10:20-33, 10:42-58.

554. For example, a first press of the temperature button (187) would cause each display (60) to display a current temperature of its associated pan location, a second press of the temperature button (187) would cause each display (60) to display a setpoint temperature of its associated pan location, the program button (188) would be pressed as needed to cycle through the displays (60) (e.g., from left to right) to select a desired display/pan location for temperature programming, and

the arrow buttons (82, 84) would be pressed to adjust the displayed setpoint temperature for that pan location.

555. Temperature display and setting per McMillan would provide an easy, fast, and intuitive way for a user to see current temperatures and setpoint temperatures displayed where the user would associate them with the corresponding pan location. EX1019: 1:29-35, 1:38-49, 10:6-10; EX1026: 4:20-22, 4:25-30. This would also allow the user to change the holding temperatures in real time as needed, 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. EX1005: 19 ("Able to program via USB Port"); EX1007: 33 ("USB Drive: Allows for web programing updates for your [] IRHS holding unit[]").

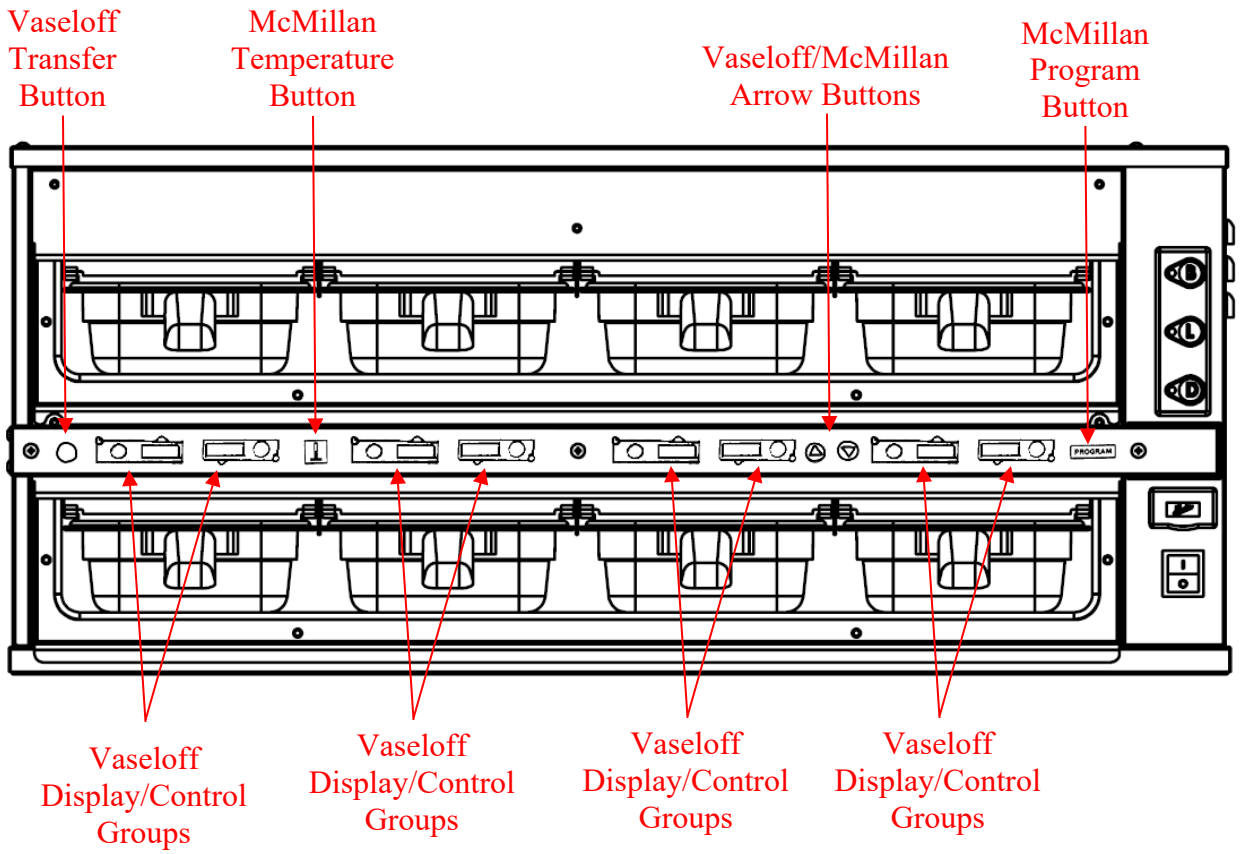
556. This would have been nothing more than the application of a known technique (actual and set-point temperature display and changing set-point temperature of McMillan) to improve a similar device (IRHS24/Vaseloff) in the same way (display actual and set-point temperatures for each pan holding location to a user and provide the ability for the user to change the set-point temperature).

557. There would have been a reasonable expectation of success in modifying the IRHS/Vaseloff timer bars because the timer bars already include displays for displaying various parameters and controls for scrolling or

incrementing/decrementing parameters similar to McMillan's arrow and program keys, the functions would be incorporated as taught in McMillan and use existing IRHS24 temperature sensors, and McMillan showed it was possible. EX1026: 4:10-12, 7:26-32.

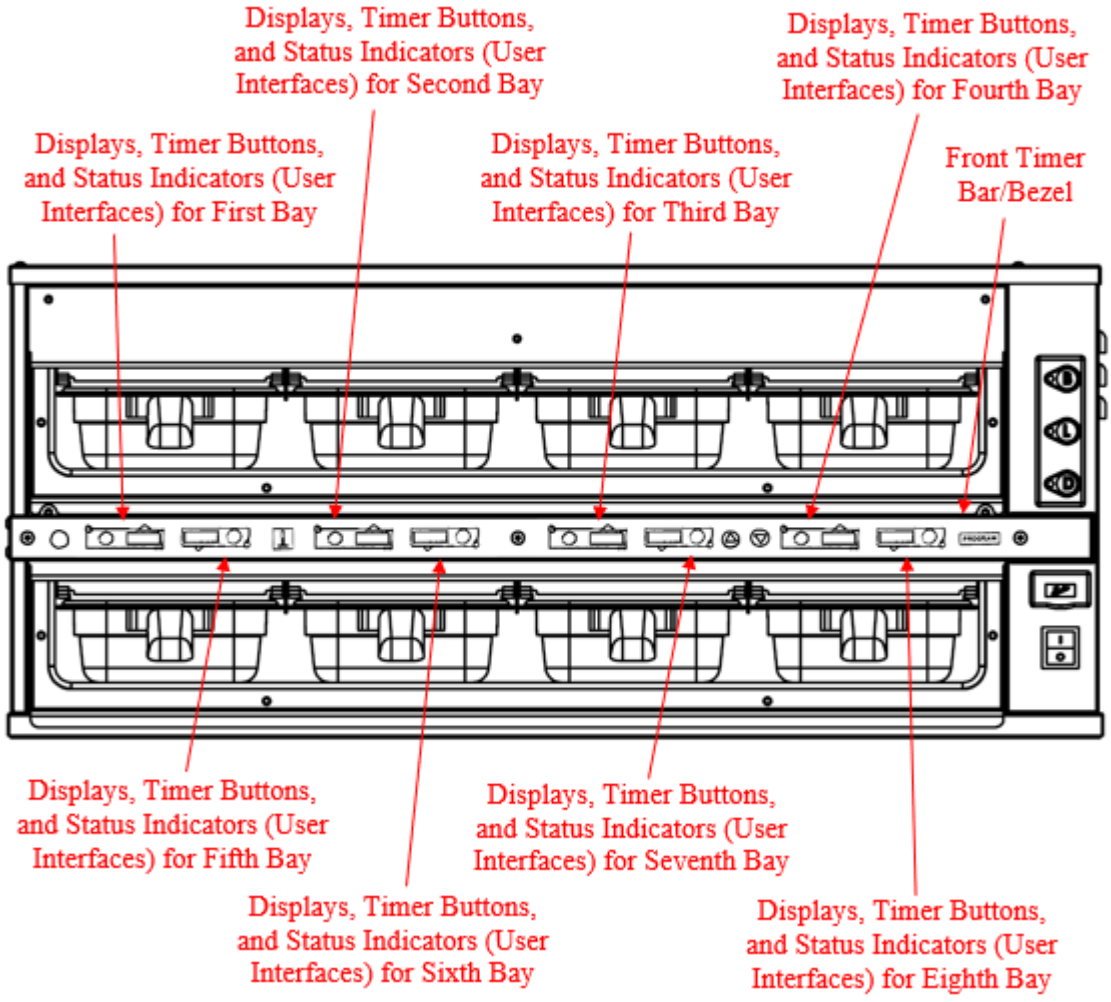
558. When implementing this modification, the POSA would have connected McMillan's controls (e.g., temperature button (187), program button (188), and/or arrow buttons (184, 185)) to the IRHS24's controller. EX1005: 25. The POSA would have been able to make any changes to the IRHS Holding Unit's controller 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.").

559. IRHS24 modified in view of Vaseloff and McMillan is shown below:

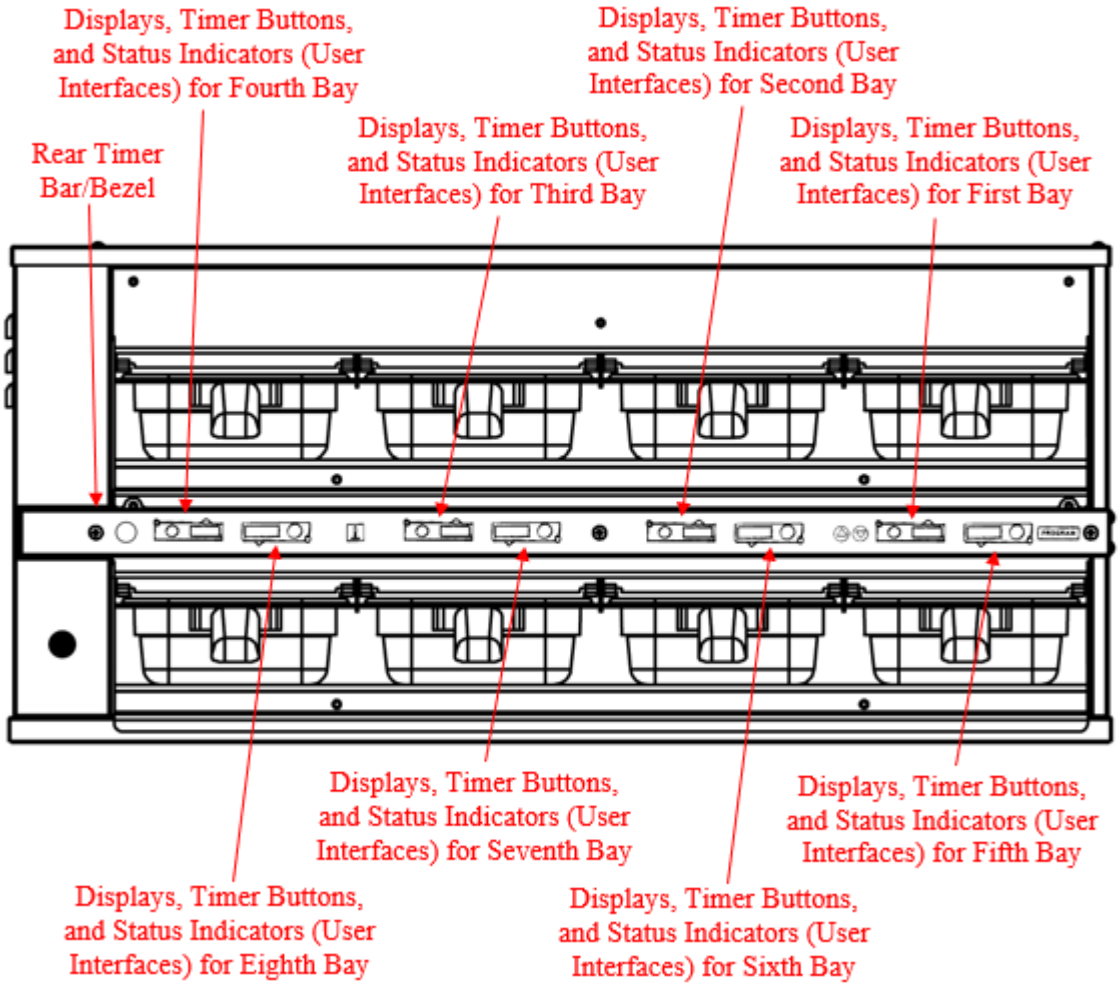


EX1005: 8 (modified-front, annotated).

560. Under the modification of the IRHS Holding Unit in view of Vaseloff and McMillan, the limitations of claims 1-26 and 28-37 are obvious for at least the reasons Grounds 1-8 above, with at least the following limitations of Claims 1, 3, 4, 7, 8, 9, 10, 11, 36, and 37 further being obvious as demonstrated below with the representative illustration of the IRHS24 Holding Unit below.



EX1005: 8 (modified-front, annotated).



EX1005: 8 (modified-rear, annotated).

561. The IRHS24 Holding Unit further modified in view of the Vaseloff and McMillan renders obvious the user interface (e.g., displays and controls) elements and would thus meet the following limitations of the ’363 Patent:

- By incorporating the Vaseloff timer bar controls (e.g., display devices (60), timer status indicators (62), timer buttons (64), etc.) further modified to be able to set temperature of each zone in view of McMillan (EX1019: 10:43-58) the IRHS24 Holding Unit would meet the claim limitation 1.n: (“at least one user interface for controlling the food holding temperature of each food holding zone”).

- As incorporated, the IRHS24 Holding Unit/Vaseloff's timer bar controls would have been connected to the IRHS24 Holding Unit's controller (EX1005: 25) thus meeting claim limitation 1.o ("a controller operatively coupled to the user interface").

- As incorporated, the IRHS24 Holding Unit/Vaseloff's timer bar controls would have display devices (60) for each zone which display the holding temperature of the zone per McMillan (EX1019: 10:30-32.) thus meeting Claim 3 ("wherein each interface is a graphical interface that displays the food holding temperature of each food holding zone").

- As incorporated, IRHS24 Holding Unit/Vaseloff's timer bar controls would have display devices (60) for each zone which display the set temperature of the zone per McMillan (EX1019: 10:30-32) thus meeting Claim 4 ("the first bezel providing at least one user interface comprising dedicated controls and/or dedicated displays for each of the first, second, third, and fourth food holding bays") and 7 ("wherein the first bezel provides at least one graphical interface comprising at least one dedicated display and the dedicated display displays a temperature setting for a corresponding food holding bay").

- As incorporated, the IRHS24 Holding Unit/Vaseloff's timer bar controls would have displays showing the name of the food item stored in the zone (EX1005: 16; EX1006: 1; EX1007: 10-11; EX1026: 4:5-8; EX1019: Fig. 5a (183a-183d)) thus meeting Claims 8/9 ("wherein the dedicated display displays additional information about a food item stored in the corresponding food holding zone").

- By incorporating the Vaseloff timer bar control system (e.g., display devices (60), timer status indicators (62), timer buttons (64), etc.) further modified to be able to set temperature of each zone in view of McMillan (EX1019: 10:43-58) the IRHS24 Holding Unit would meet Claim 10 ("wherein the first bezel provides two user interfaces arranged horizontally beneath the first food holding zone and the second food holding zone, respectively"), claim limitations 11.a.2 ("a first bezel providing at least one user interface comprising dedicated controls and/or

dedicated displays for each of the first, second, third, fourth, fifth, sixth, seventh, and eighth food holding bays") and 11.a.3 ("the second bezel providing at least one user interface comprising dedicated controls and/or dedicated displays for each of the first, second, third, fourth, fifth, sixth, seventh, and eighth food holding bays"), and Claims 36/37 ("wherein the at least one user interface is configured to set the food holding temperature of each food holding zone").

B. Claim 32: the food holding bin of claim 1, wherein two or more of the food holding zones are each heated to the same temperature

562. As discussed in Paragraphs 352-355 above (Claim 32), it is my opinion that the POSA would have recognized that as disclosed by the IRHS Documents the IRHS Holding Units configured such that they would have been capable of meeting the additional limitation added in Claim 32 further requiring that "two or more of the food holding zones are each heated to the same temperature." If it is determined that the IRHS Documents do not sufficiently describe the combinations by which the food holding zone temperatures could be set, the claimed comparative temperatures would have still been obvious in view of Vaseloff and McMillan.

563. Vaseloff teaches heating different zones to the same temperature. EX1026: 3:17-19 ("the user can also set one temperature for the food holding device 30 (i.e., all food holding compartments 34)"). Likewise, McMillan teaches heating different zones to the same temperature. EX1019: 4:42-45 ("the top heater

plate 27a and the bottom heater plate 27b may be set to maintain the passageway 16a at a constant uniform temperature").

564. In view of Vaseloff and McMillan, it would have been obvious to heat the food holding zones to the same temperature to accommodate customized heat settings for the same types of food received in each holding zone (e.g., the first, second, third, and fourth holding zones receive the same food types or food types requiring the same heat settings) and/or to increase the availability of those types of food to meet customer demands (two or more zones receive the same type of food). 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: 4:42-45 ("the top heater plate 27a and the bottom heater plate 27b may be set to maintain the passageway 16a at a constant uniform temperature"); EX1010: ¶[0024] ("the heaters 60 (or heat zones) are specifically calibrated to generate a uniform temperature within the entire warming volume 18 of the cart"); EX1007: 8.

565. This would have been nothing more than the use of a known comparative temperature settings (heating zones to same temperature per Vaseloff and McMillan) with a similar device (IRHS24 Holding Unit) by simply operating the heating elements of the zones heat them to same temperatures.

566. There would have been a reasonable expectation of success, as for example, the heating elements of the IRHS24 Holding Unit are independently controllable, therefore can be controlled to heat the zones to the same temperature. Paragraphs 170-193 (Ground 1, claim limitation 1.h.2).

567. This modification renders obvious two or more of the food holding zones being heated to the same temperature.

XIII. GROUND 10: Claims 1-18, 20-25, and 30-37 Would Have Been Obvious Over Fortmann'748 in view of the IRHS Documents, Jones, Stanger, Loy, Fortmann'197, Fortmann'967, McMillan, Vaseloff, Hartfelder, and/or Shei'099

568. 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.

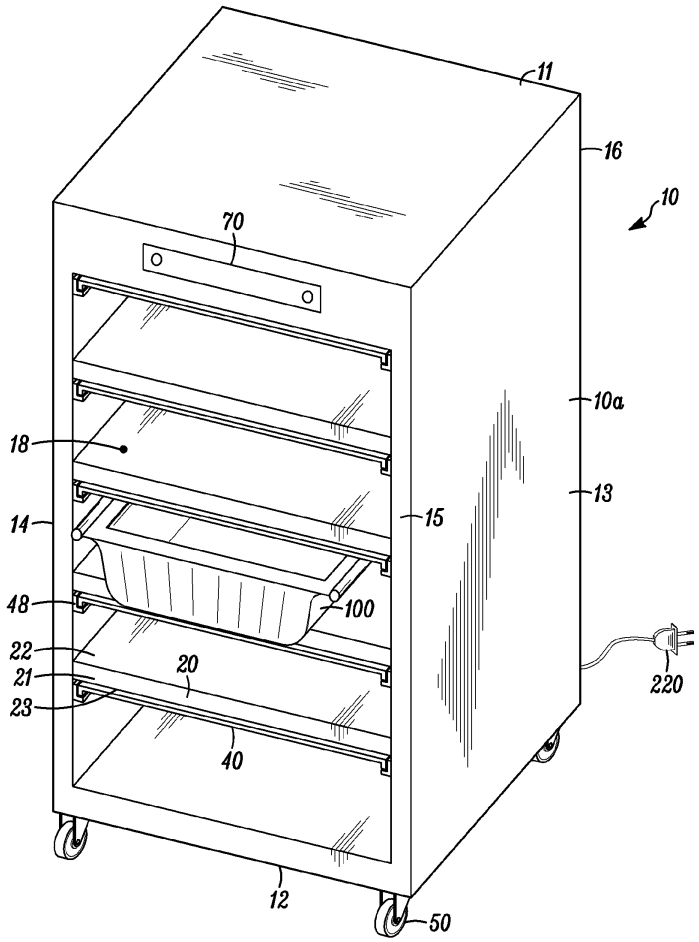


FIG. 1

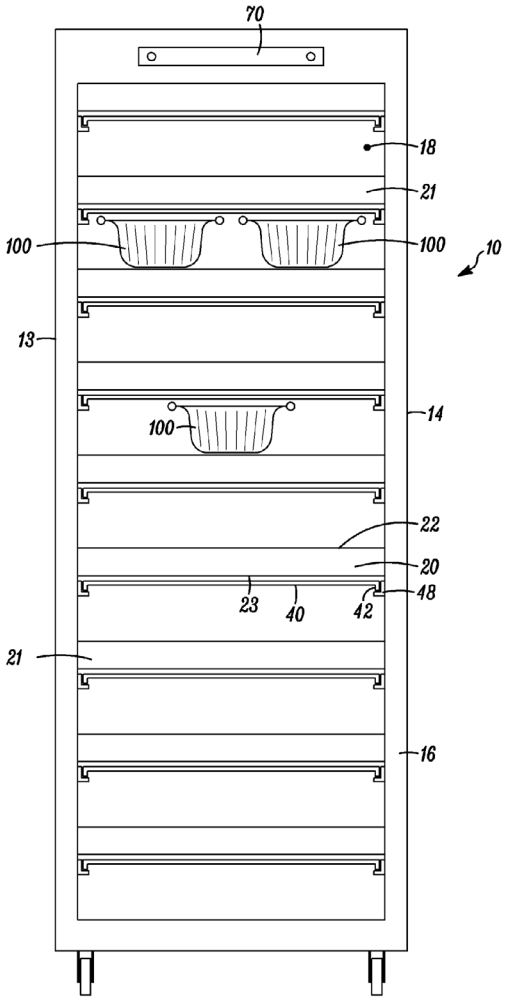


FIG. 6

EX1010: Figs. 1 and 6.

569. 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 of other food holding cabinets such as those taught by the IRHS Documents, Jones, Fortmann'197, Fortmann'967, McMillan, Vaseloff, Hartfelder, and/or Shei'099.

A. Modifications of Fortmann'748

1. 2x4 Configuration

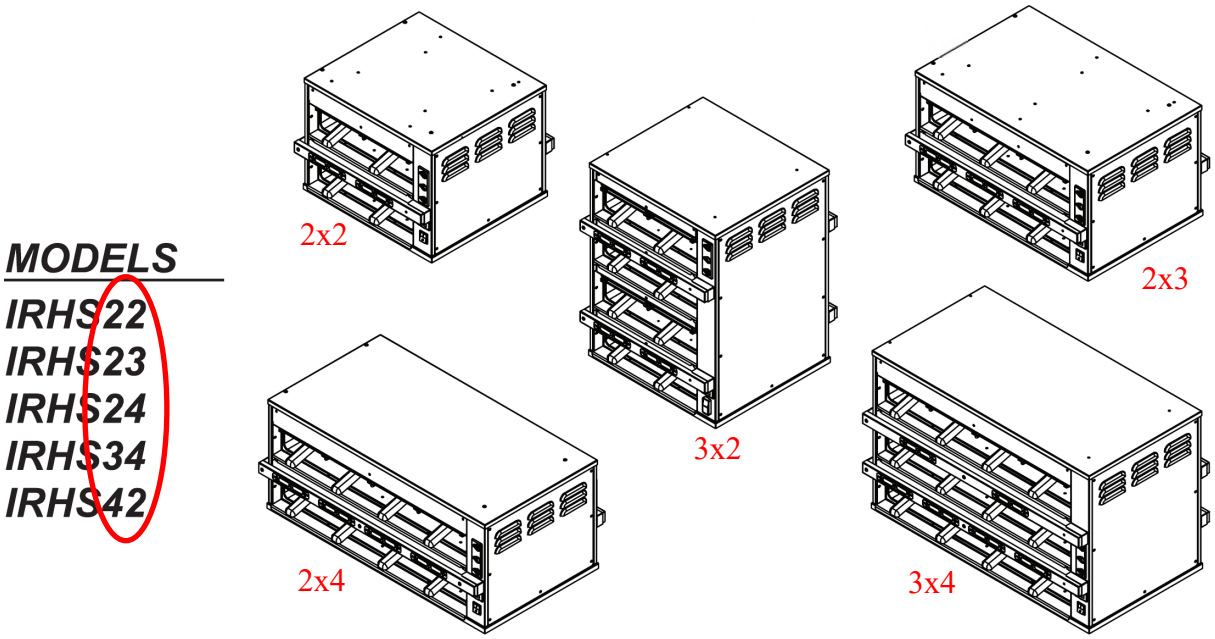
570. While Fortmann'748 does not explicitly disclose a 2x4 configuration, such a configuration would have been both consistent with and obvious in light of the teachings of Fortmann'748.

571. 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").

572. 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: ¶¶[0014] (also identifying that instead of 12 inch wide warming pans the cabinet could be designed to accept "trays, pizza boxes, or the like"), [0015] (emphasis added).

573. 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).

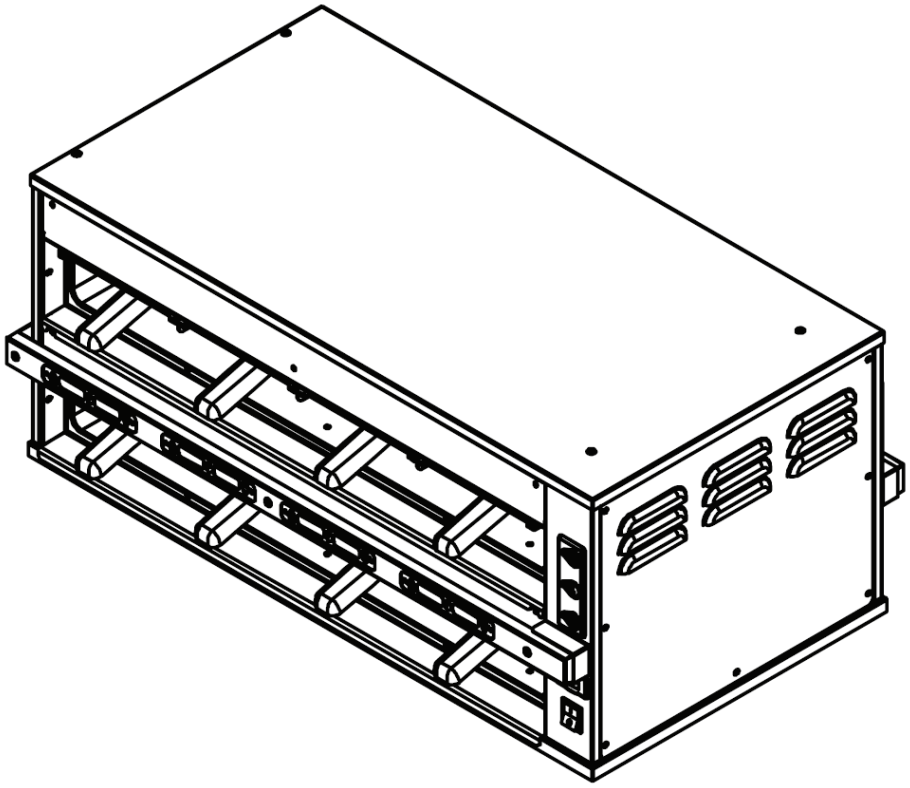
574. In view of the IRHS Documents, it would have been obvious to configure Fortmann'748's cabinet (10) to have only two compartments, with each compartment having four relatively narrow pan holding locations (*i.e.*, modifying Formann '748's cabinet to specifically have a 2x4 configuration holding eight relatively narrow pan holding locations arranged in a 2x4 grid (two rows, four columns)).

575. A two 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").

576. 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.

577. Reconfiguring Fortmann'748's cabinet (10) to have a 2x4 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").

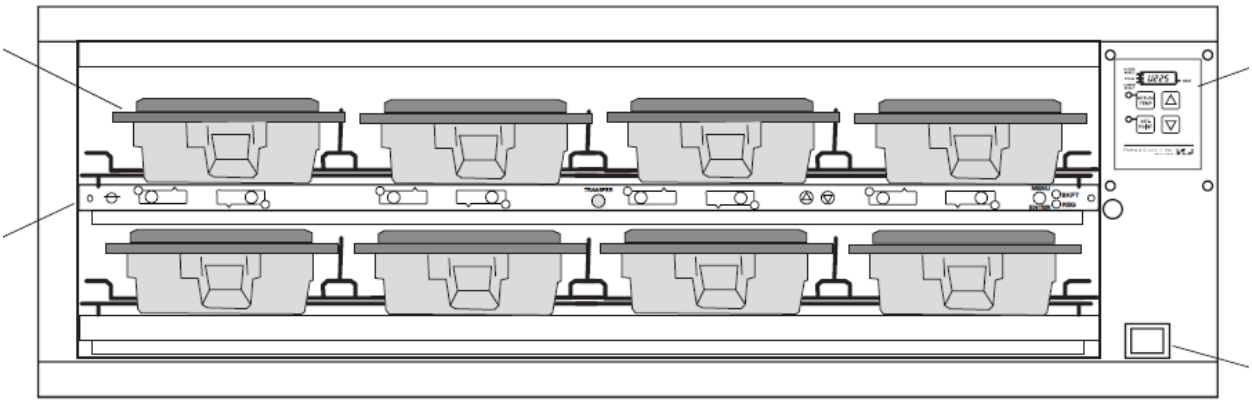


EX1005: 1.



EX1007: 56.





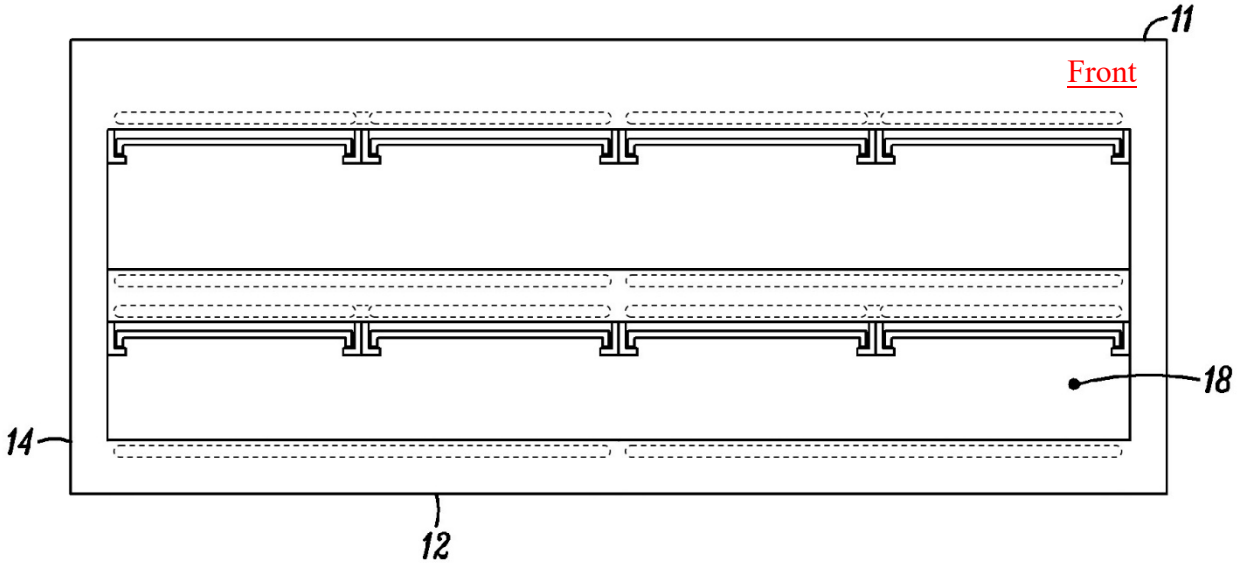
EX1009: 11, 19.

578. The selection of a 2x4 pan holding location/bay configuration would have been nothing more than the application of a known configuration (the 2x4 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 pan holding locations/bays for warming pans of food).

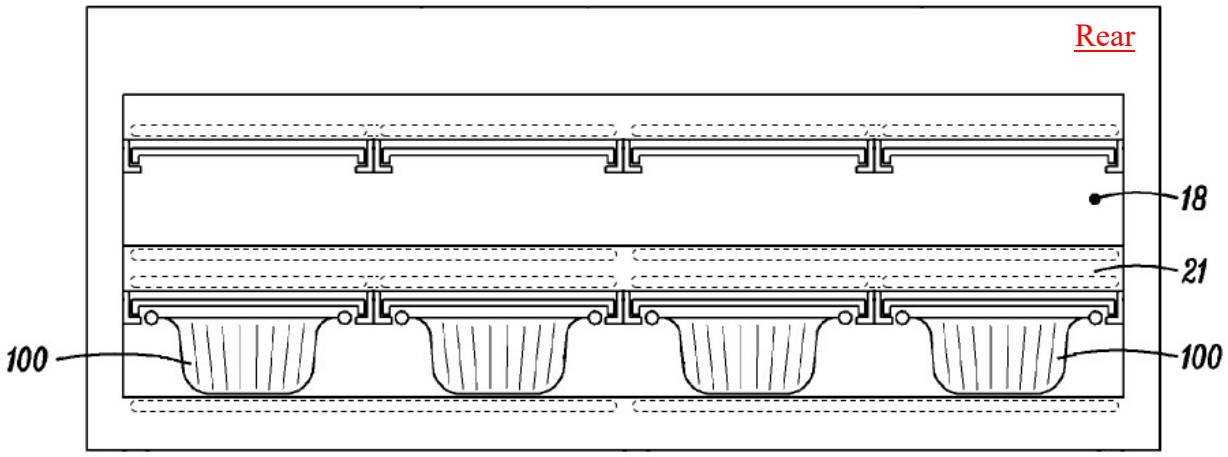
579. There would have been a high expectation of success in making this modification given the similarities between Fortmann'748's cabinet and IRHS Documents' food holding unit (*e.g.*, both receive pans/trays of food to warm).

Fortmann'748 already describes that its cabinet can be made smaller to "rest upon a table" (EX1010: ¶[0014]), and such a modification would merely require removing otherwise duplicated 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.

580. Representative illustrations[2] of Fortmann'748's cabinet modified to have a 2x4 configuration are shown below:



[2] These illustrations include further modifications as explained below.



EX1010: Figs. 2 and 6 (modified, annotated).

2. Multiple Temperature Zones per Compartment

581. 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.

582. 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).

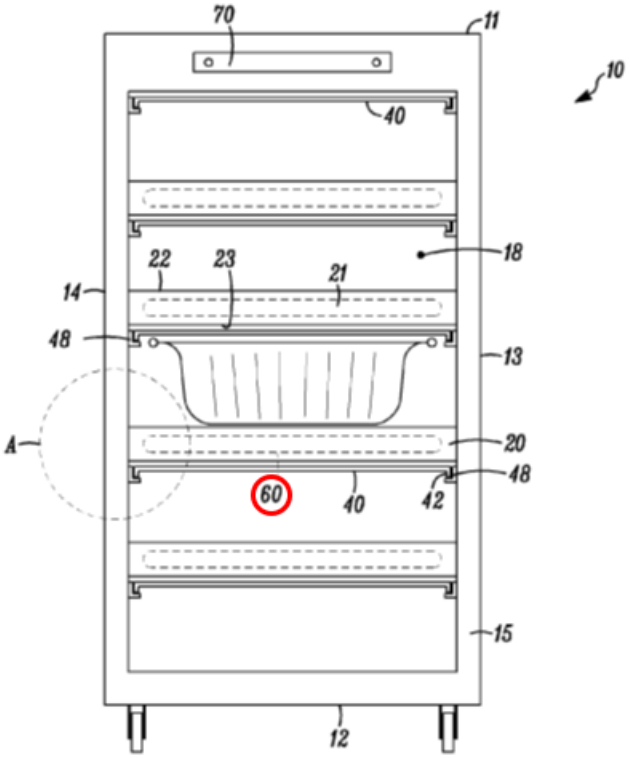


FIG. 2

EX1010: Fig. 2 (annotated).

583. 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'748 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.

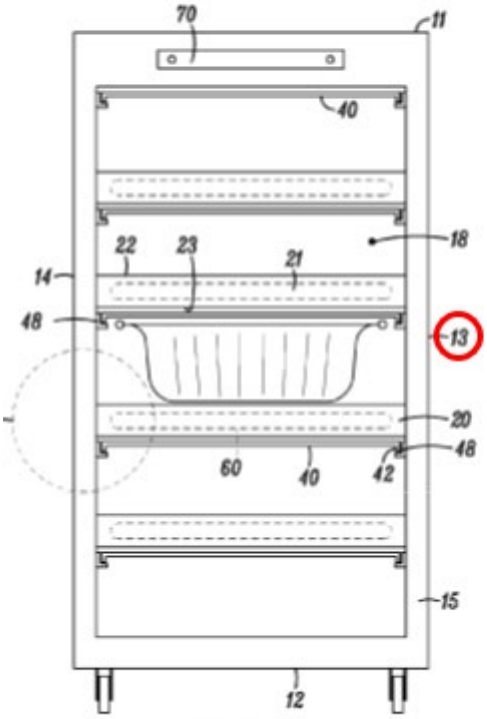


FIG. 2

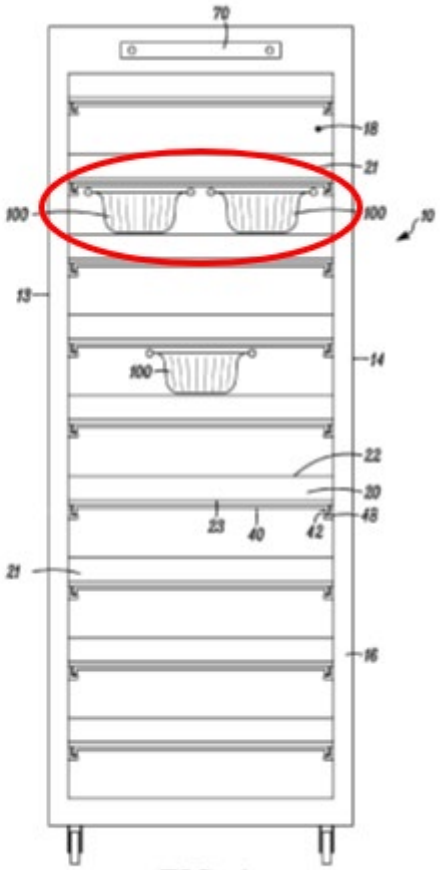


FIG. 6

EX1010: Figs. 2, 6 (annotated).

584. 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.

585. 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.

586. 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.

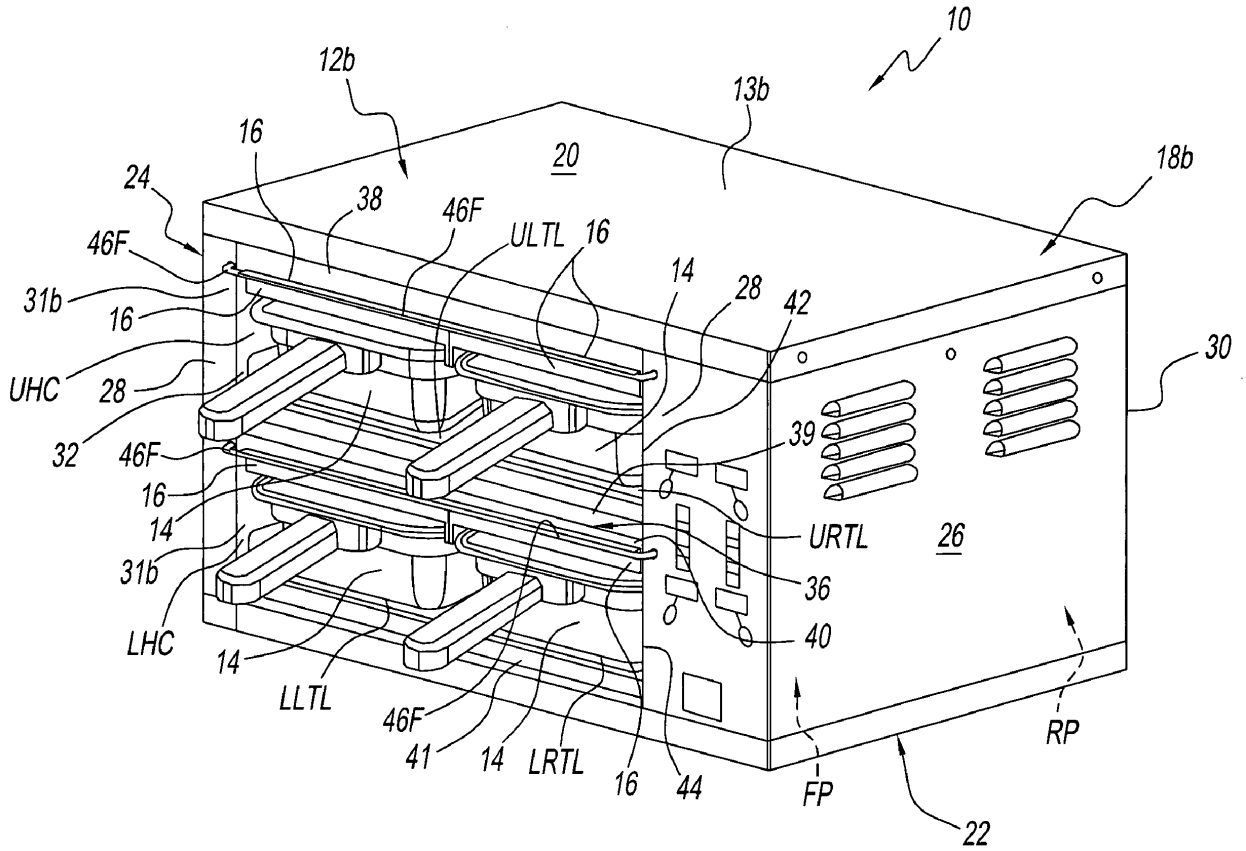
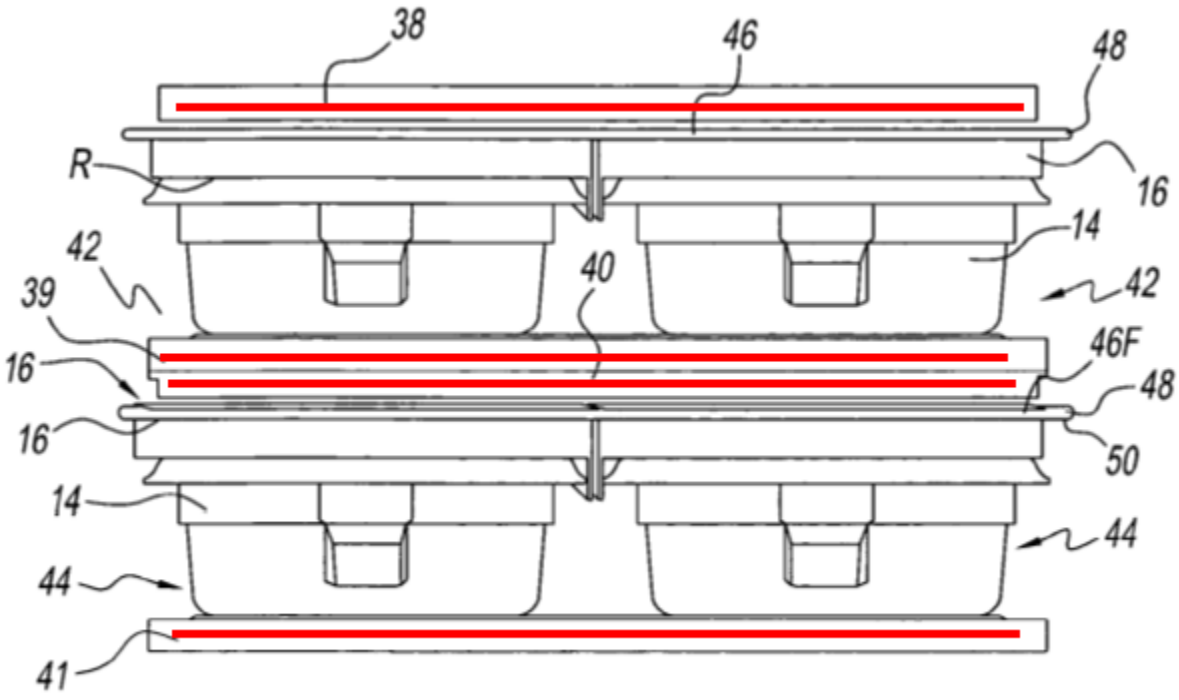


Fig. 1B

EX1012: Fig. 1B.

587. 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.

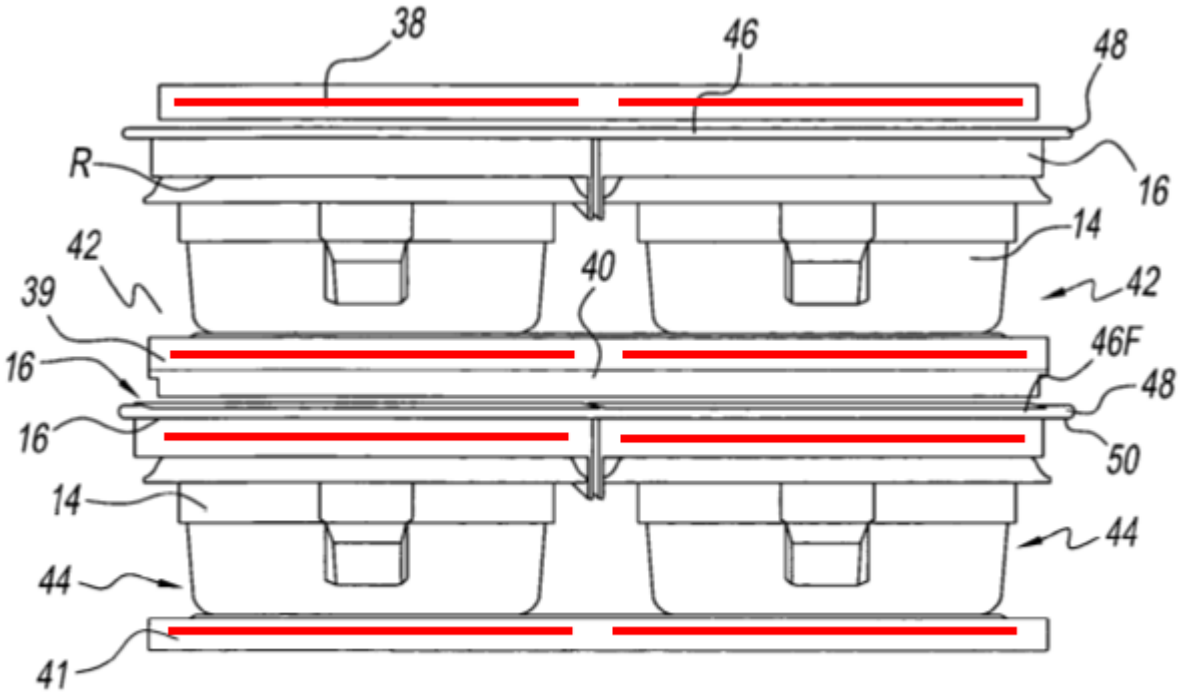
588. In one embodiment, Jones's food holding cabinet (12b) has an upper heater (38, 40) and a lower heater (39, 41) for each heating compartment (UHC, LHC) to heat both tray locations within the respective compartment. EX1012: ¶[0073], Fig. 1G.



EX1012: Fig. 1G (annotated).

589. 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).

590. 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").

591. 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").

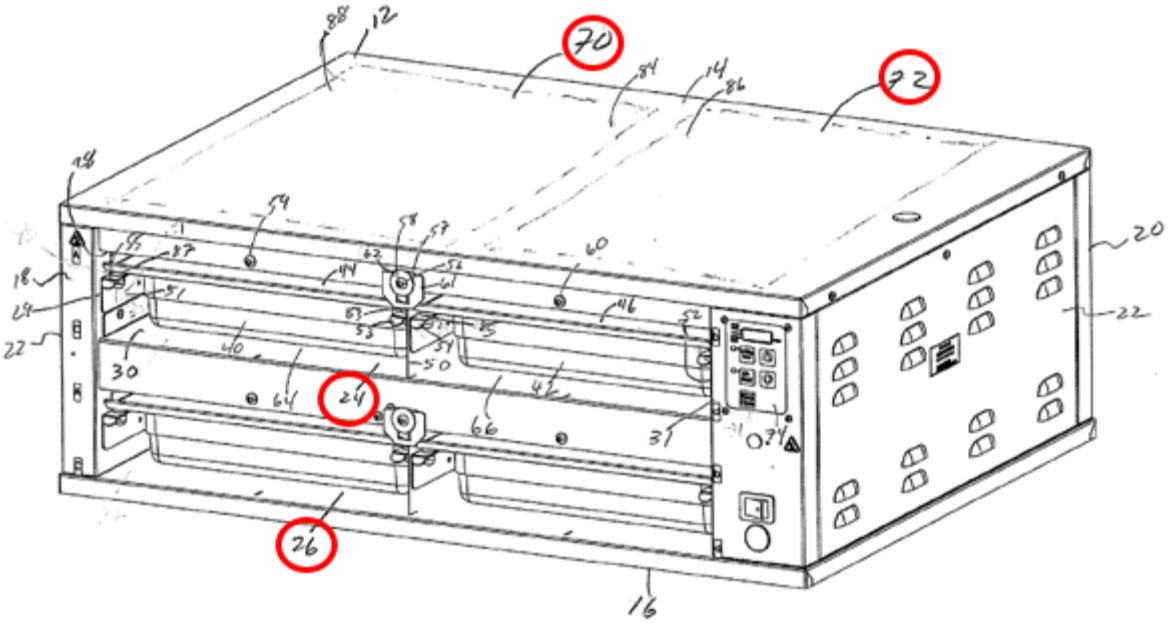


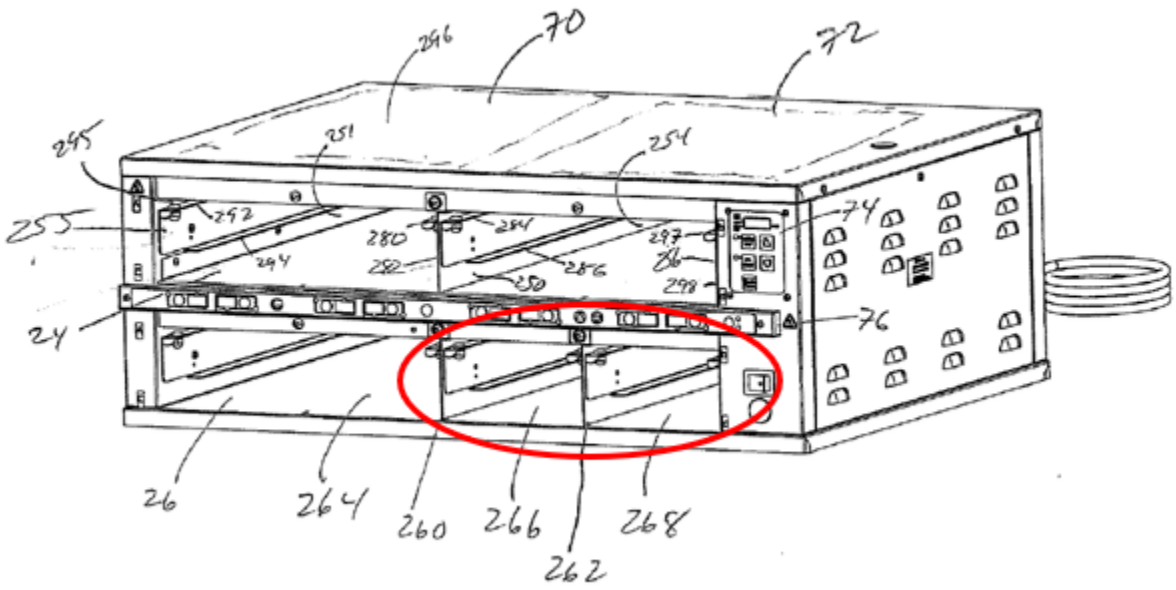
FIGURE 1

EX1013: Fig. 1 (annotated).

592. 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].

593. 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.

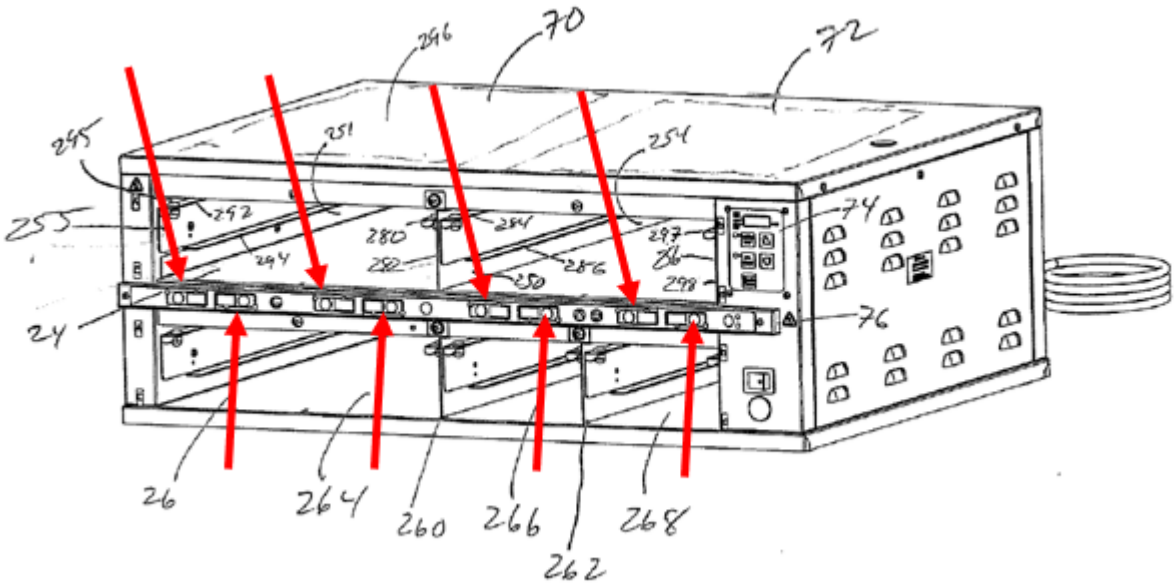
EX1013: ¶¶[0031], [0034]. As an example, in Figure 3, Hartfelder shows the lower-right heating zone/quadrant configured to receive two narrow trays to share the upper and lower heaters of that zone. EX1013: ¶[0037], [0041].



EX1013: Fig. 3 (annotated).

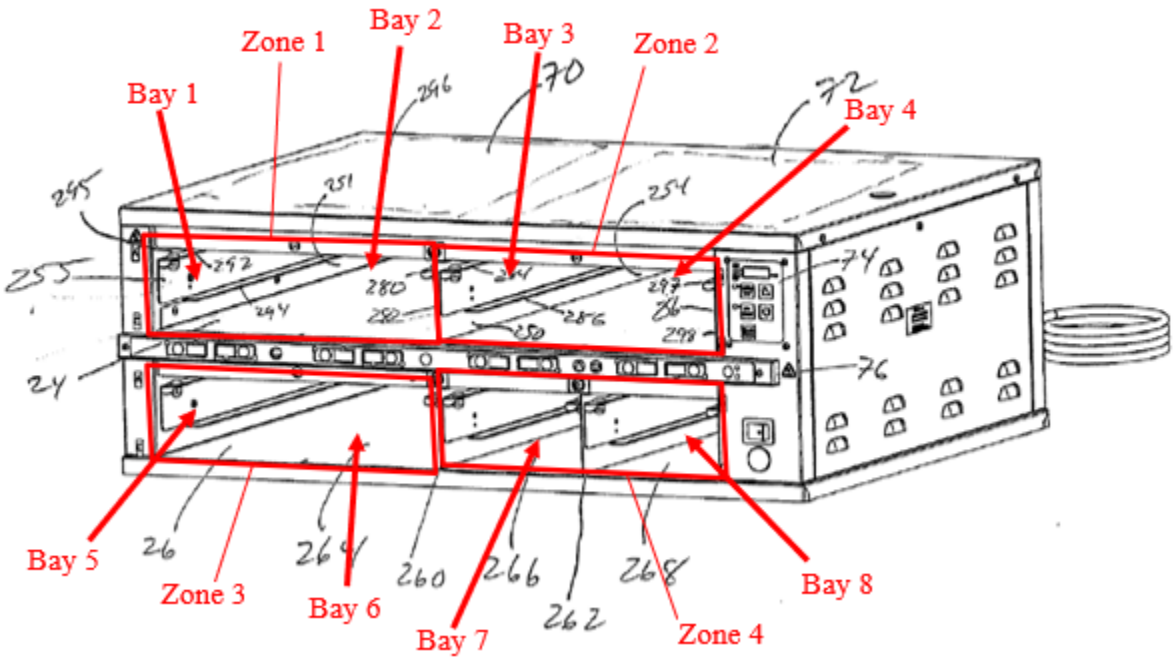
594. The POSA would understand each heating zone/quadrant can be configured to define two bays with dividers (e.g., 250, 260, 262) similar to Figure 3's lower right zone/quadrant, such that a total of eight trays could be held in eight bays. EX1013: ¶¶[0041], [0045] ("multi-level divider 250 is mounted 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). 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).

595. 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).

596. 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.").

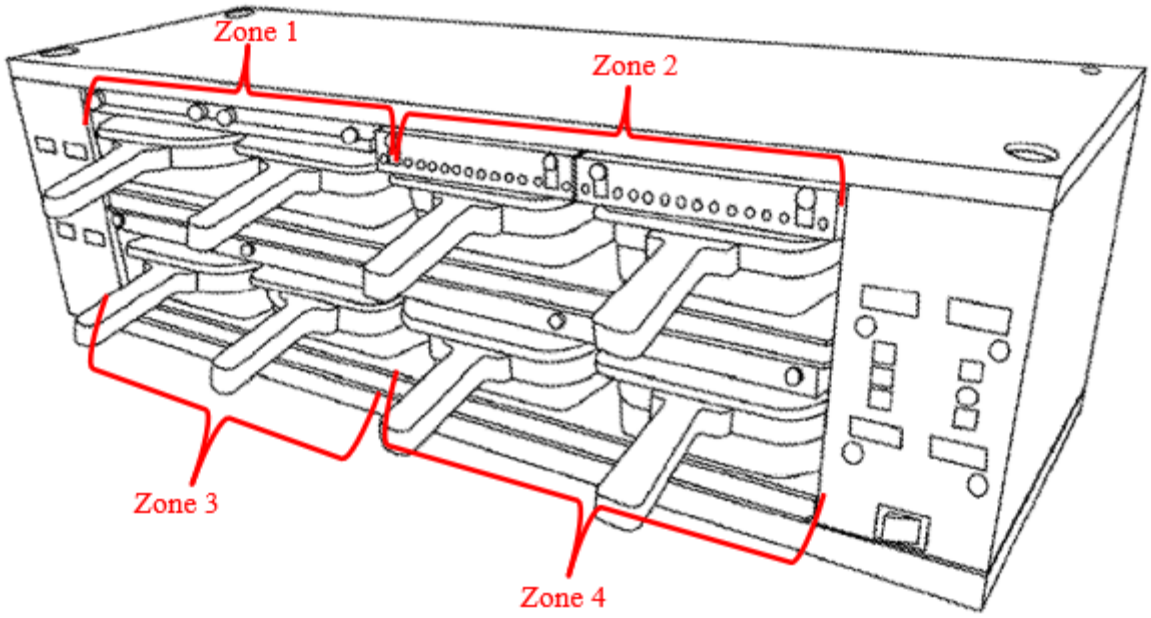


FIG. 14

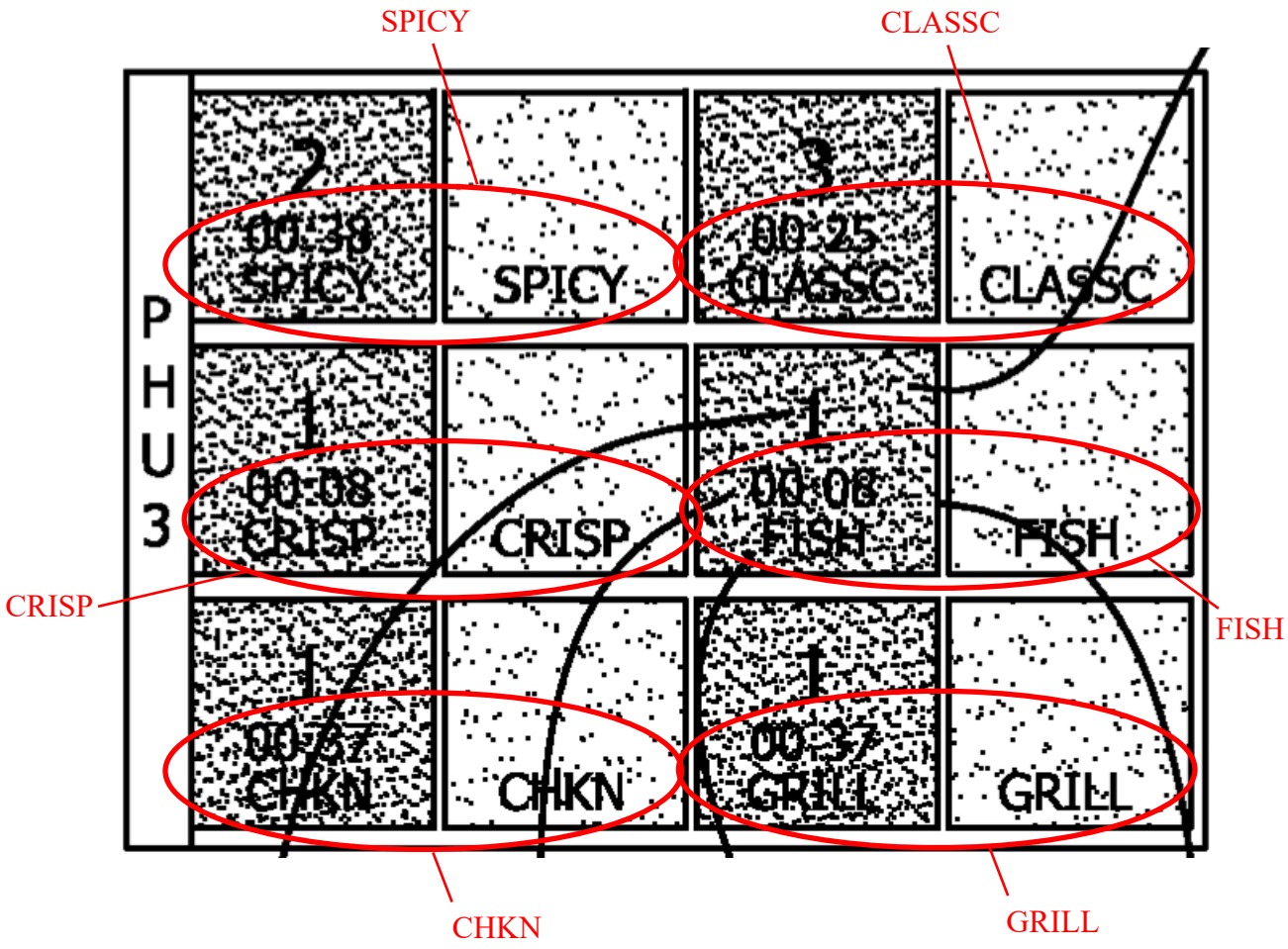
EX1042: Fig. 14 (annotated).

597. 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.

598. 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 '750 Patent.

599. Loy teaches a two-pan/two-bay 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).

600. 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].

601. In view of Jones, Hartfelder, Stanger, Loy, and/or the IRHS Documents, it would have been obvious for modified Fortmann'748 2x4 cabinet to have multiple zones per compartment, two-pan/two-bay quadrant zoning, where each independently controlled quadrant/zone includes upper and lower heaters for two pans/bays, with adjacent zones being open to each other across the compartment.

602. This would be obvious based on the prior art teachings for zoning across the compartment (Jones, Hartfelder, Stanger, IRHS Documents), quadrants/zones including single upper and lower heaters (Jones, Hartfelder), quadrants/zones sized for two pans (Hartfelder, Stanger, and the IRHS Documents), adjacent quadrants/zones being open to each other across the

compartment (Jones, Stanger, and the IRHS Documents), and the two-pan/two-bay quadrants/zones facilitate paired-pan cooked food inventory continuity (Loy).

603. 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.

604. 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.

605. Moreover, the two-pan/two-bay quadrant 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").

606. The two-pan/two-bay quadrant 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").

607. 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).

608. The market forces also included Burger King's demands for a food holding unit in 2x4 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).

609. 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").

610. The POSA would maintain the openness of Fortman'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").

611. 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").

612. 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.

613. 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).

614. 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 having 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.

615. 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.").

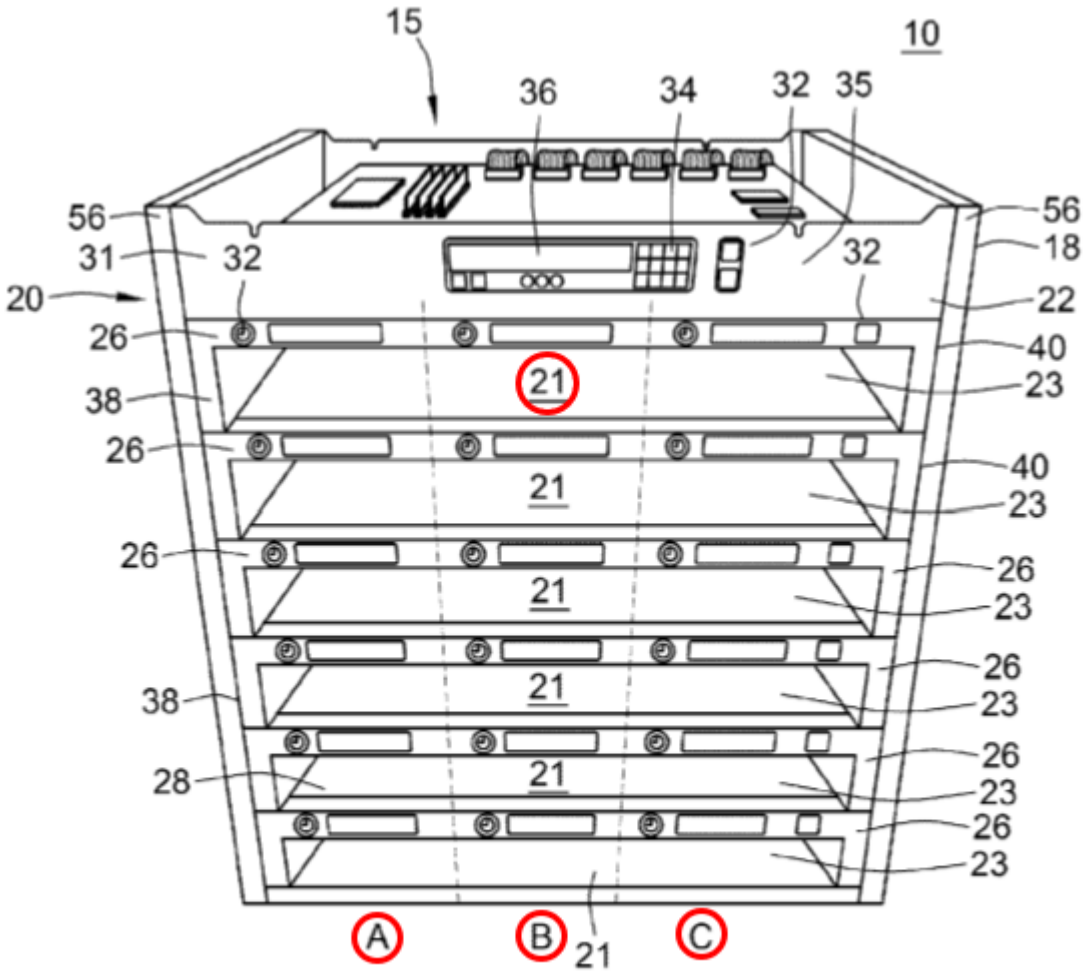
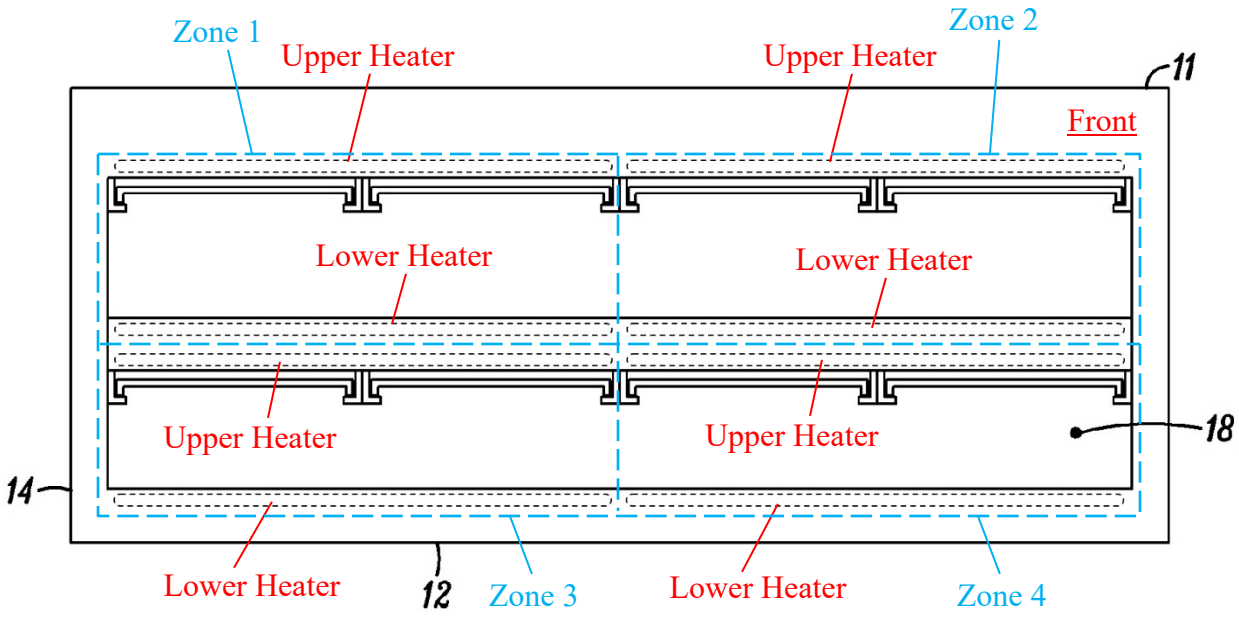


FIG. 2

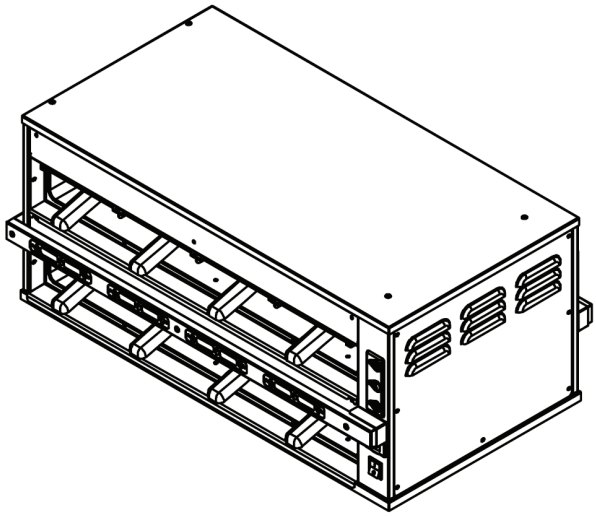
EX1020: Fig. 2 (annotated).

616. 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. A schematic illustrations of the 2x4 Fortmann'748 cabinet modified to have a single upper heater and a single lower heater for each zone is shown below.



EX1010: Fig. 2 (modified, annotated).

617. An alternative but similar quadrant 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.



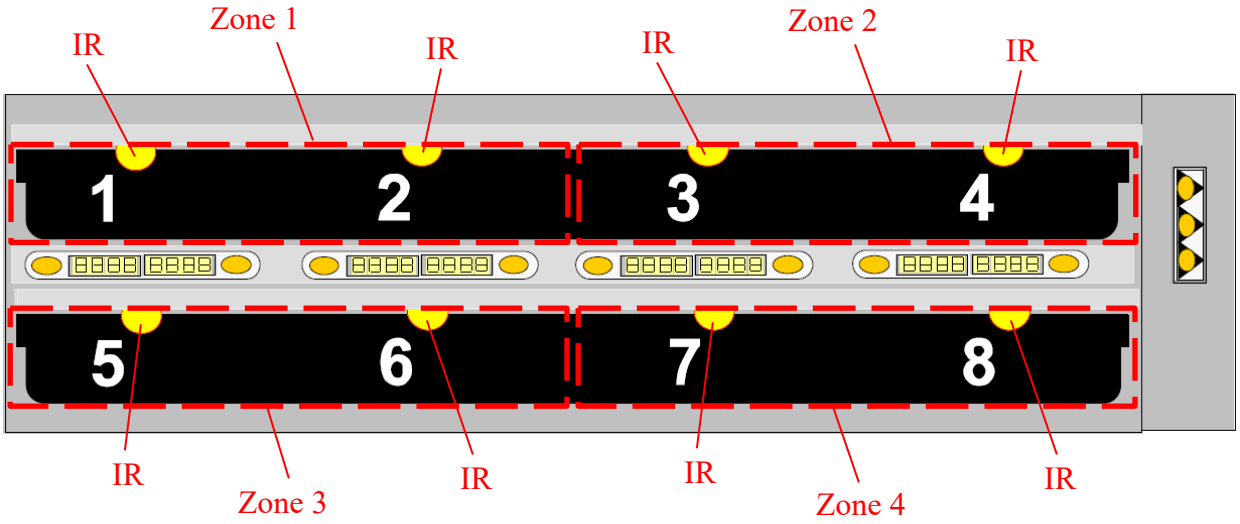
EX1007: 56.

618. 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)). 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").

619. The IRHS Documents further explain the IRHS24 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").

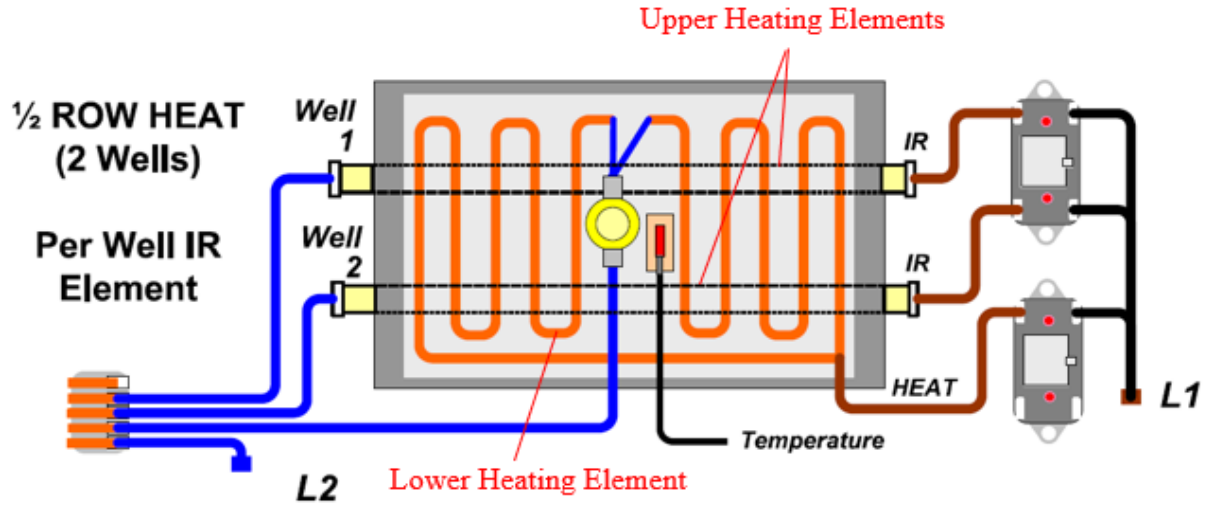
620. For the IRHS24 Holding Unit, the first heating zone includes pan locations or wells "1" and "2." The second heating zone includes pan locations or wells "3" and "4." The third heating zone includes pan locations or wells "5" and "6." And the fourth heating zone includes pan locations or wells "7" 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).

621. 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; EX1007: 53. The image below shows the upper heating elements (IR) and lower heating element for one heating zone:



EX1005: 25 (annotated).

622. It would have been obvious to modify the Fortmann'748 cabinet to provide multiple zones per compartment, two-pan/two-bay quadrant zoning, where each independently controlled quadrant/zone includes two upper heaters and a single lower heater for two pans/bays, with adjacent zones being open to each other across the compartment—as taught by the IRHS Documents.

623. 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.

624. 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.

625. 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").

626. 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.

627. 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).

628. 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 having 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.

629. 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.

630. As demonstrated by U.S. Publication No. 2011/0114618 ("Chung"), the POSA knew a single heating compartment could 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 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.").

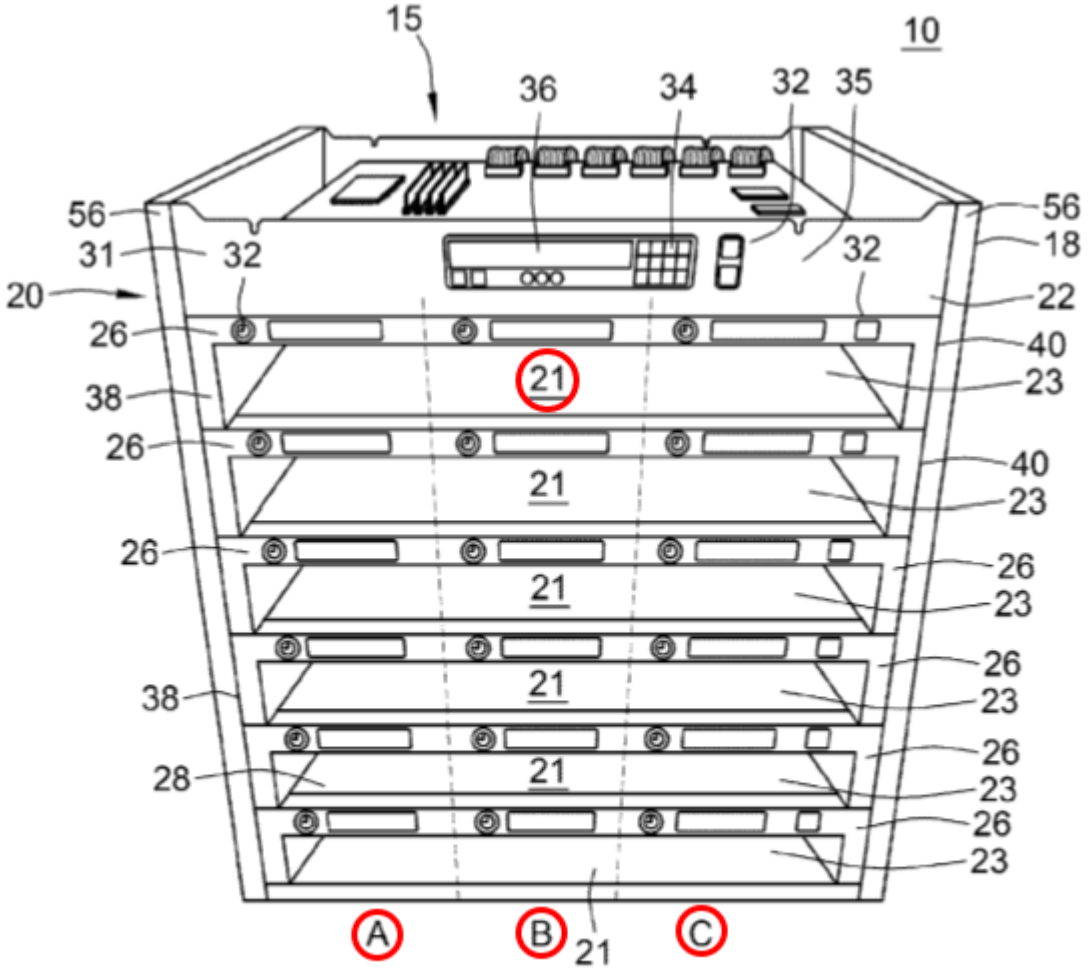
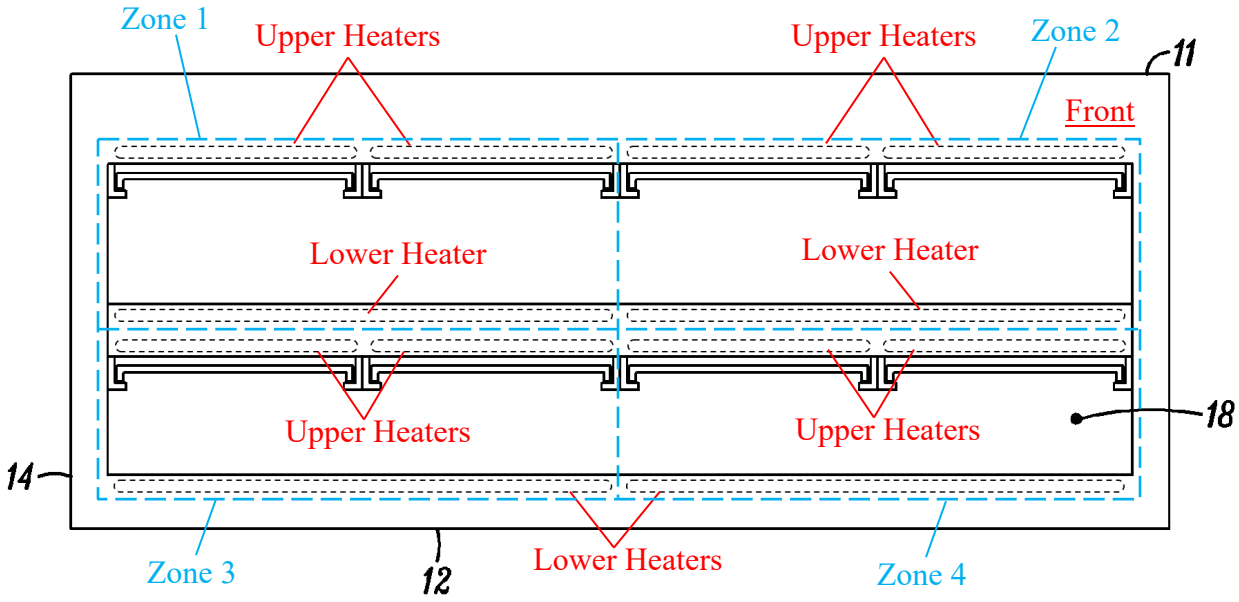


FIG. 2

EX1020: Fig. 2 (annotated).

631. IRHS Documents teach each zone (e.g., pair of pan holding locations) within a compartment of a 2x4 holding unit having two upper heating elements (e.g., IR bulbs), one for each pan holding location/bay, and a single lower heating

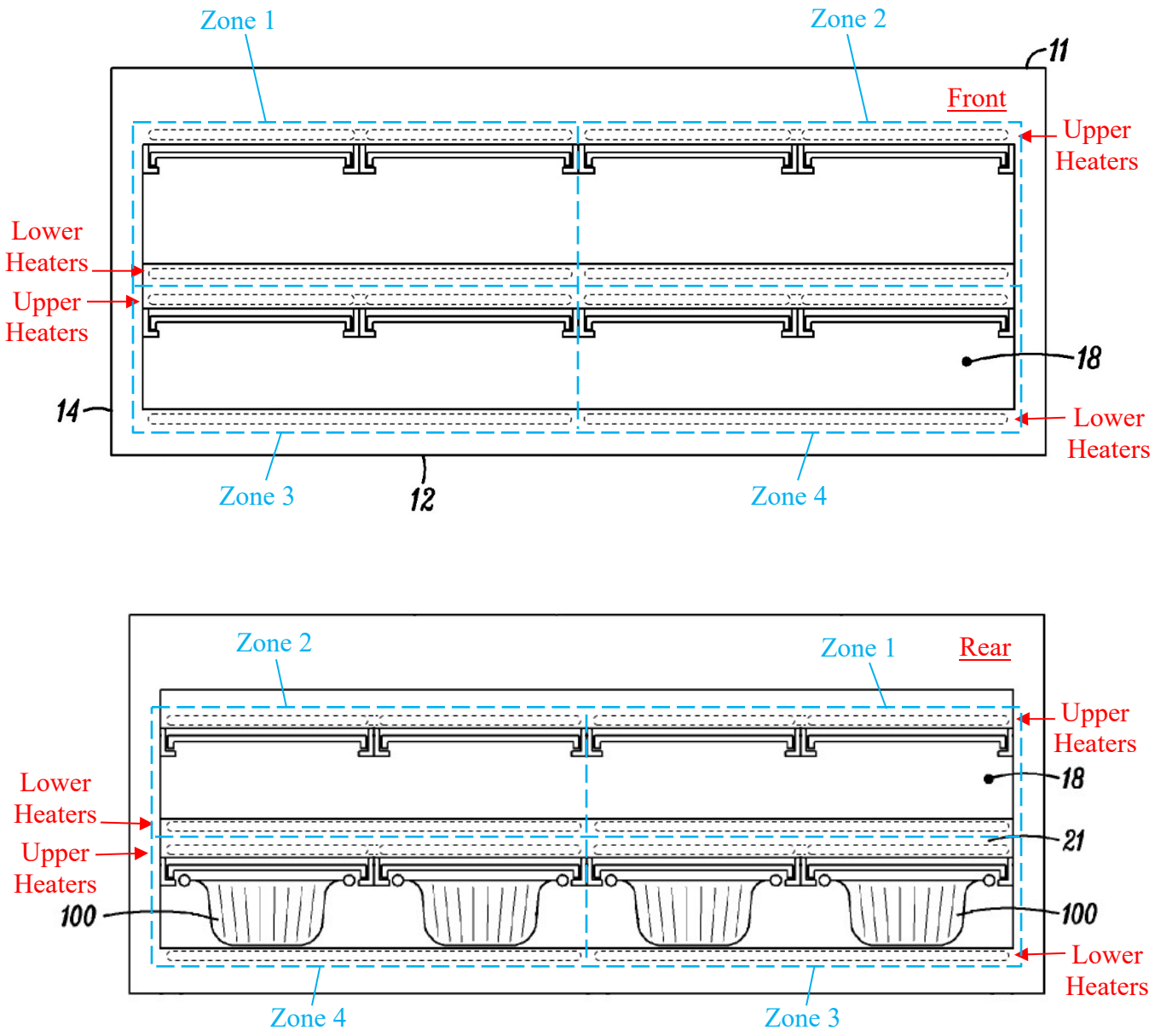
element. EX1005: 20, 25; EX1006: 1; EX1007: 53. Based on these teachings, the POSA would duplicate the existing heaters (60) of Fortmann'748 to provide each two-pan/two-bay quadrant/zone with two upper heaters and a single lower heater, and the heaters of each zone being independently controllable from heaters of other zones. Schematic illustrations of the 2x4 Fortmann'748 cabinet modified to have this arrangement of heaters are shown below.



EX1010: Fig. 2 (modified, annotated).

632. Schematic illustrations of the 2x4 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.

633. Notably, the claims of the ’363 Patent would have been obvious regardless of which of the two heater configurations discussed in Paragraphs 616 and 631 are relied upon. The following illustrations are intended to simultaneously represent both configurations and will be used in Grounds 10-13 based on Fortmann’748.



EX1010: Figs. 2 and 6 (modified, annotated).

3. Independently Controllable Top and Bottom Heaters per Zone

634. 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").

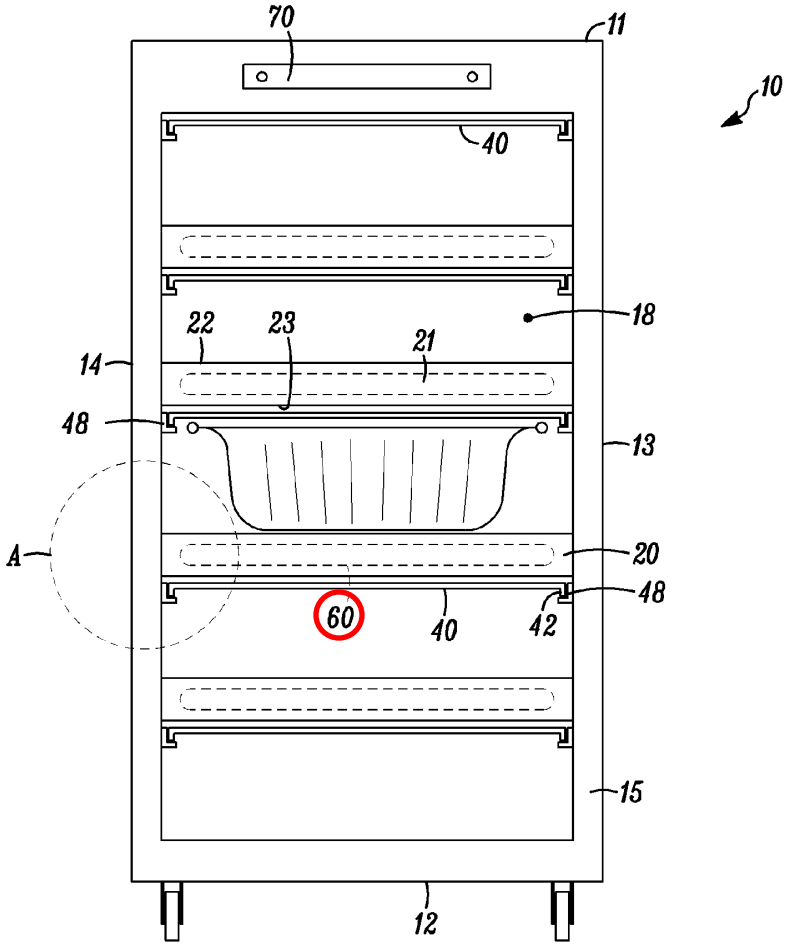


FIG. 2

EX1010: Fig. 2 (annotated).

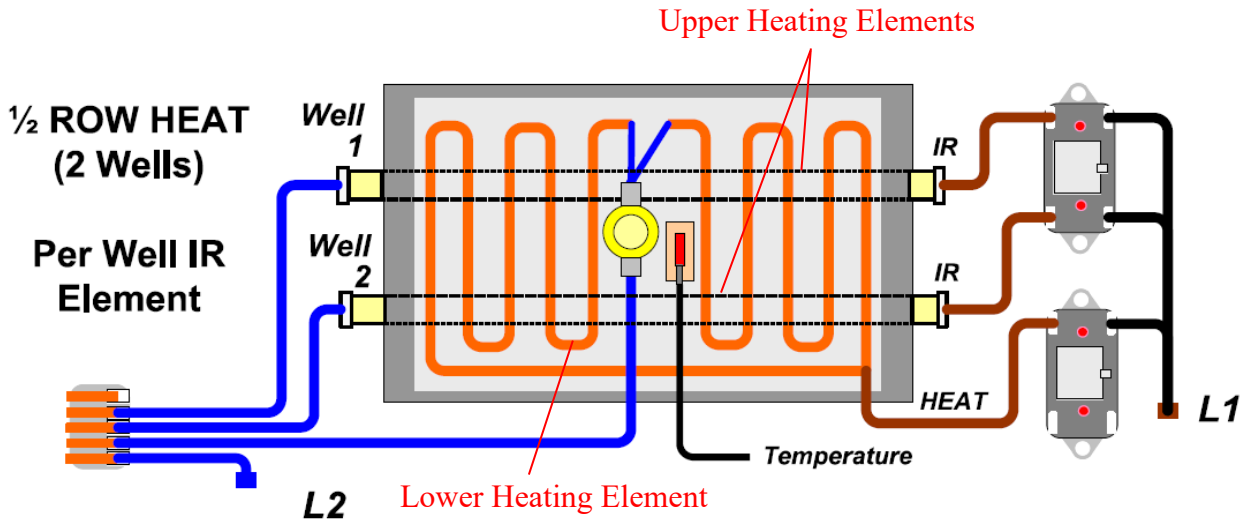
635. Jones, Fortmann'197, the IRHS Documents, and McMillan likewise teach independently controllable from one another, providing more particularized descriptions of their disclosed controls configurations which the POSA which the POSA would have been motivated to incorporate with respect to the Fortmann'748 cabinet as modified in Paragraphs 570-633 above.

636. Jones teaches its 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 using up and down arrow buttons. EX1012: ¶[0130] ("Use 'Up' and 'Down' Arrows to Set Upper Heater Temperature" and "Use 'Up' and 'Down' Arrows to Set Lower Heater Temperature").

637. Similarly, Fortmann'197 has independently controllable upper and lower heaters for 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)").

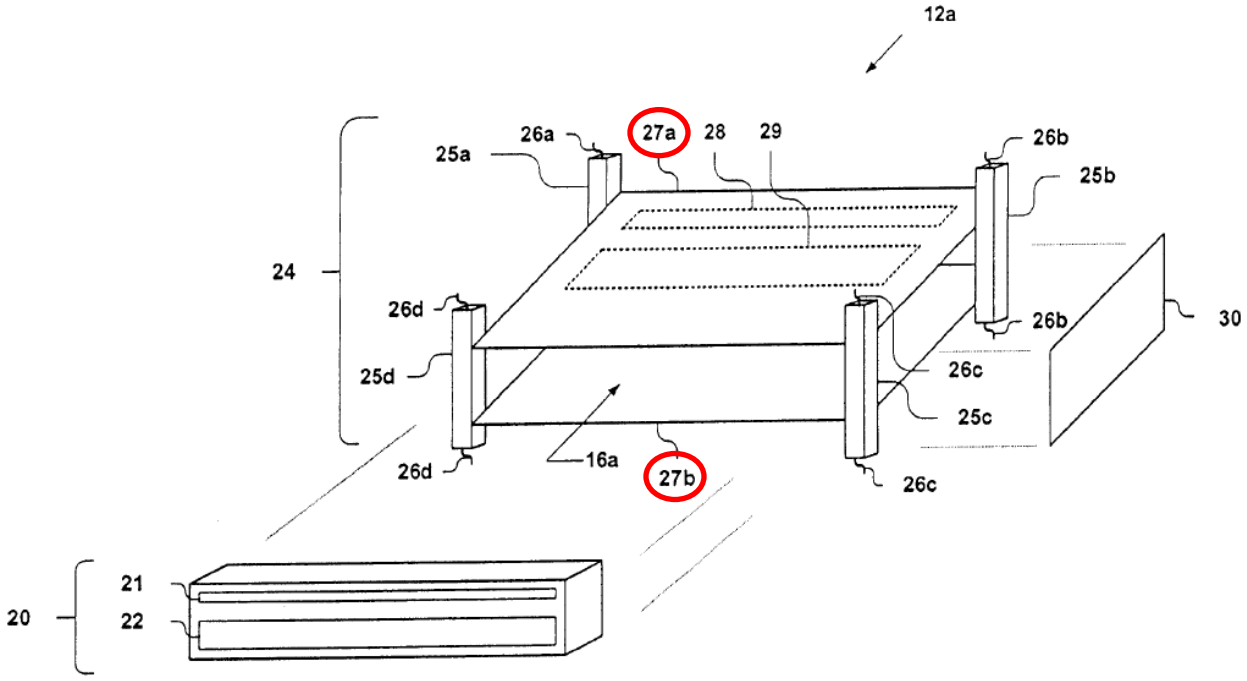
638. Likewise, the IRHS Documents teach the upper (IR bulb) and lower (electrical resistance heating element) heaters for each zone which are independently controllable from one another, as explained in Paragraphs 170-193 above (Ground 1, claim limitation 1.h.2).



EX1005: 25 (annotated).

639. 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 the upper heater and heater plate "27b" is the bottom heater.



EX1019: Fig. 2 (annotated).

640. It would have been obvious to make the upper and lower heaters of each zone of Fortmann'748's cabinet as modified in Paragraphs 570-633 above to be independently controllable, as taught by Jones, Fortmann'197, the IRHS Documents, and/or McMillan. This adaptation would have provided "more accurate temperature control between products" and "limit temperature bleed over between [zones]." EX1012: ¶[0096].

641. 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").

642. 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").

643. 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 different 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).

644. 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

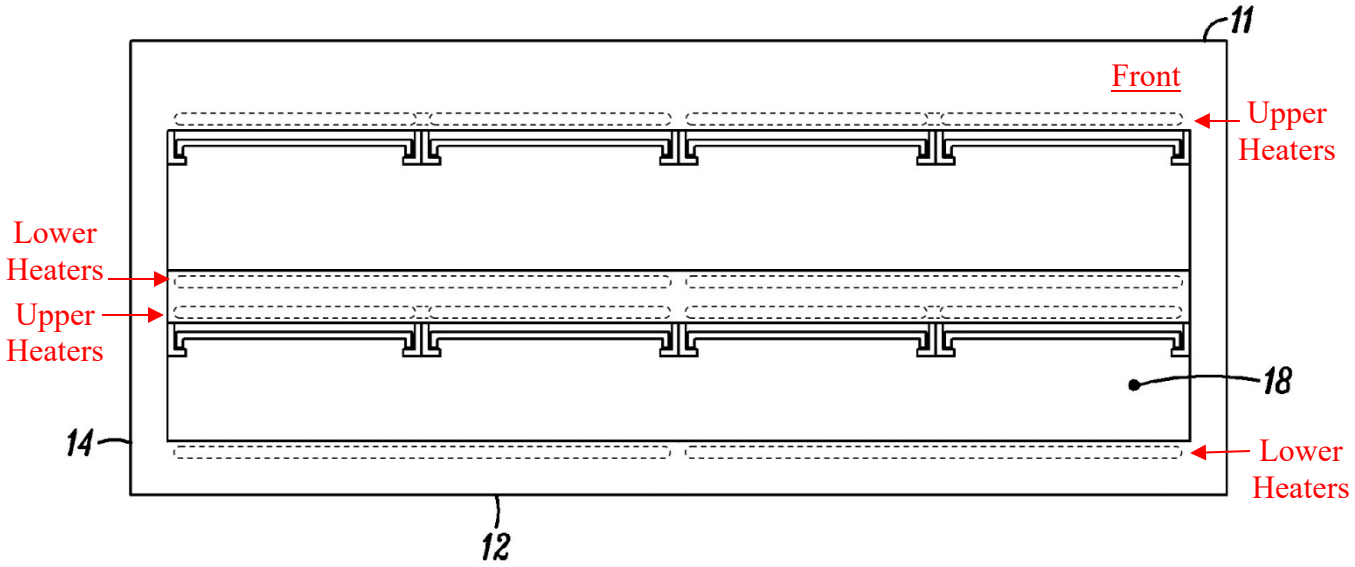
improve a similar device (Fortmann'748's cabinet) in the same way (incorporating independent temperature control of each heating zone via each zone's independently controllable upper and lower heaters).

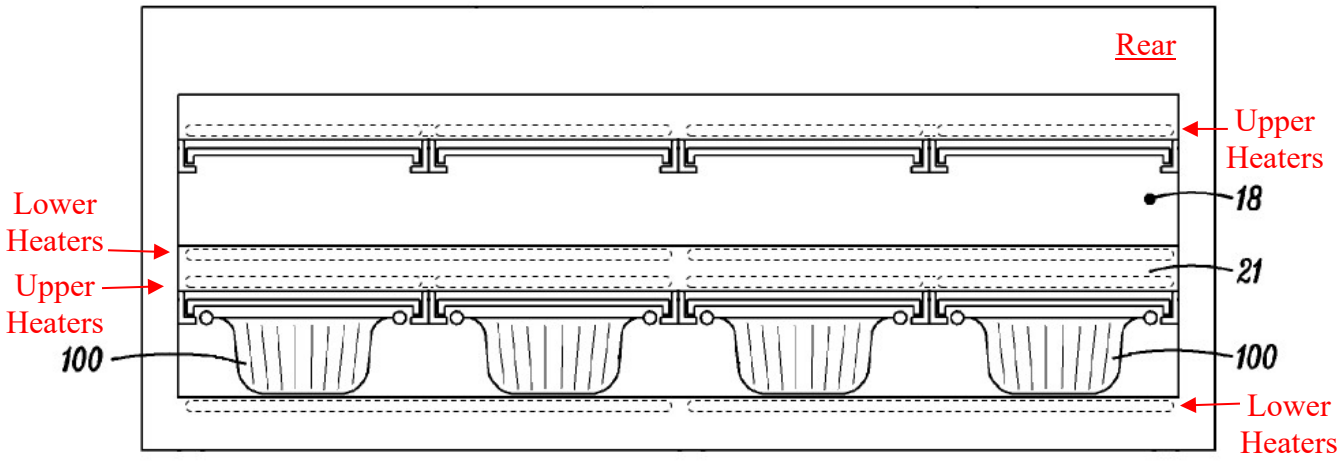
645. There would have been a high expectation of success in making this modification given:

(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.





EX1010: Figs. 2 and 6 (modified, annotated).

646. 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].

647. 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].

648. 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").

649. 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.

650. 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

651. 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].

652. While Fortmann'748 describes generic input devices and displays, Vaseloff provides more specific descriptions of its input devices and displays that would be consistent and applicable to Fortmann'748.

653. 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.

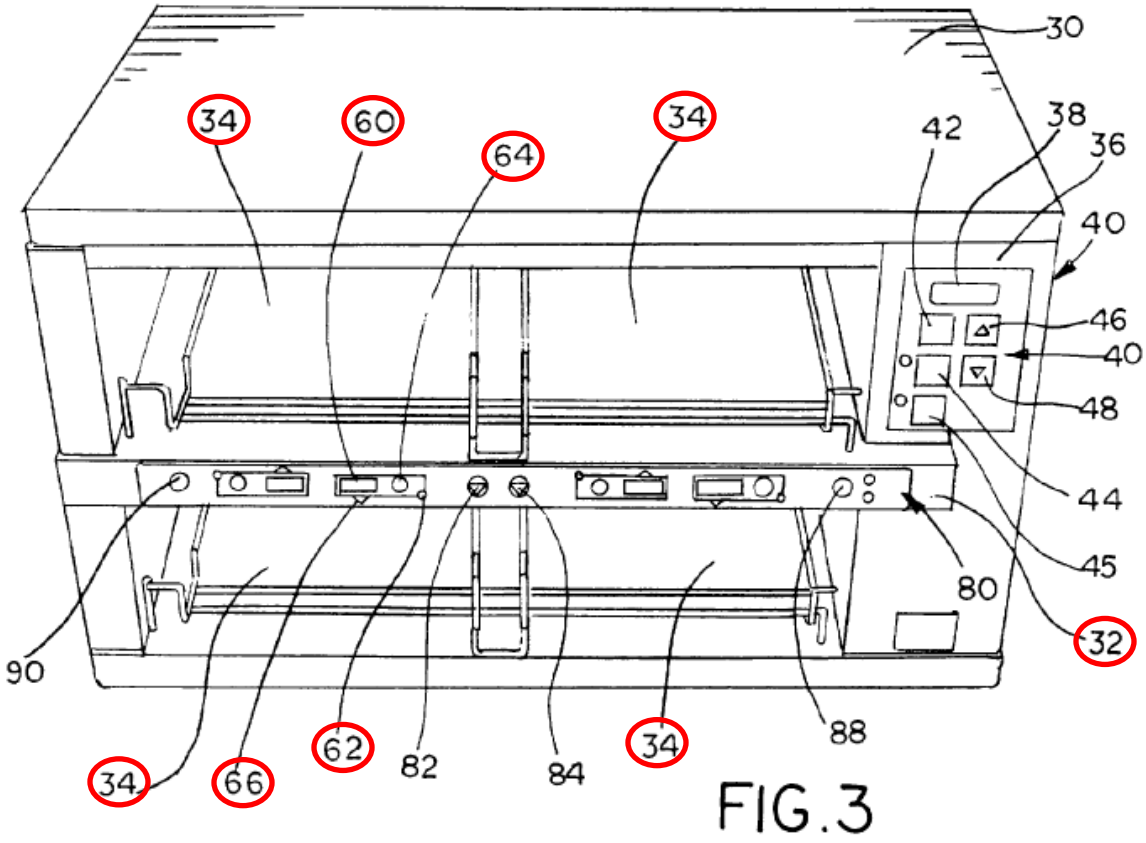
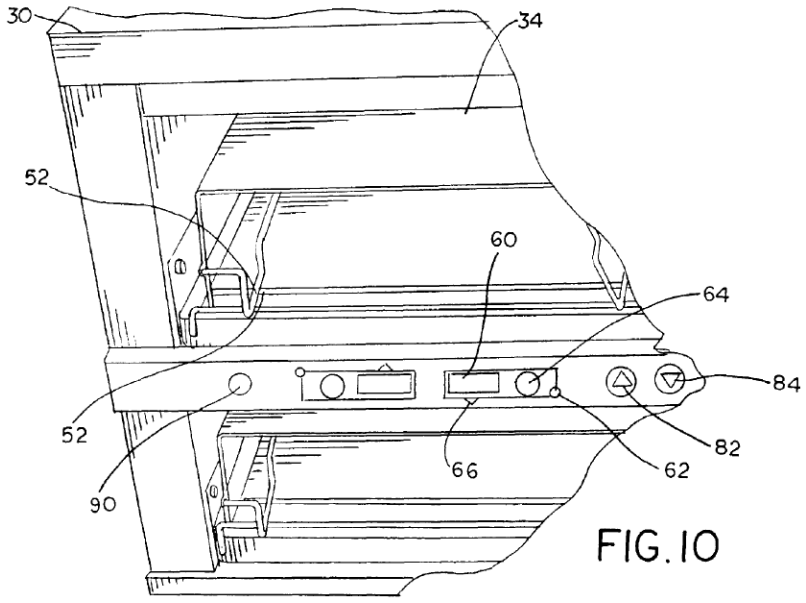


FIG.3

EX1026: Fig. 3 (annotated).



EX1026: Fig. 10.

654. 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. 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.

655. 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.

656. In view of Vaseloff, the POSA would have considered it obvious to incorporate Vaseloff's display/control groups (*e.g.*, each set of display devices

(60), timer status indicators (62), timer buttons (64), and indicator arrows (66)) into Fortmann'748's modified cabinet for each pan holding location (*e.g.*, well).

657. 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").

658. Providing each pan holding location with its own display/control group would visually associate the controls for each pan holding location/bay with the pan holding location, 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").

659. 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 and to identify the input device associated with the pan holding location (*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").

660. 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 at 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.

661. 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 predictable results (display/control groups on the cabinet with controls associated with each pan holding location). This would have also been nothing more than 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).

662. 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. As 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.

663. 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.

664. 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").

665. 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.

666. 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.

667. 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].

668. Providing Vaseloff's display/control groups on both the front and back of Fortmann'748's cabinet allows 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").

669. 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").

670. 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

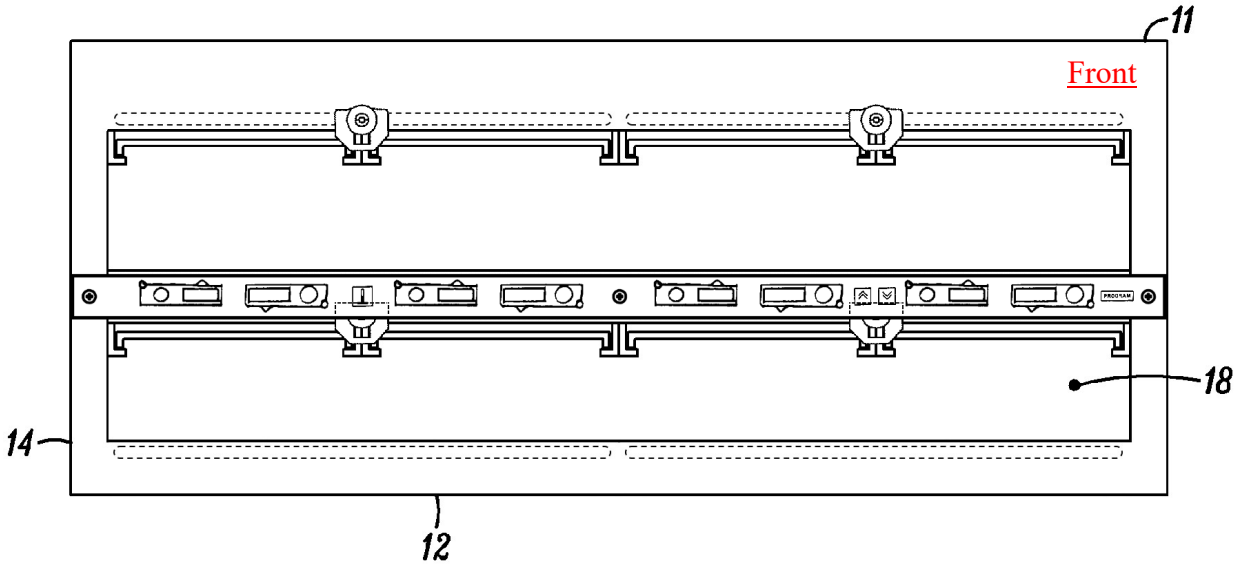
operators on the front and/or rear side of the cabinet to view information and control the operation of the cabinet).

671. There would have been a high expectation of success in making these modifications given

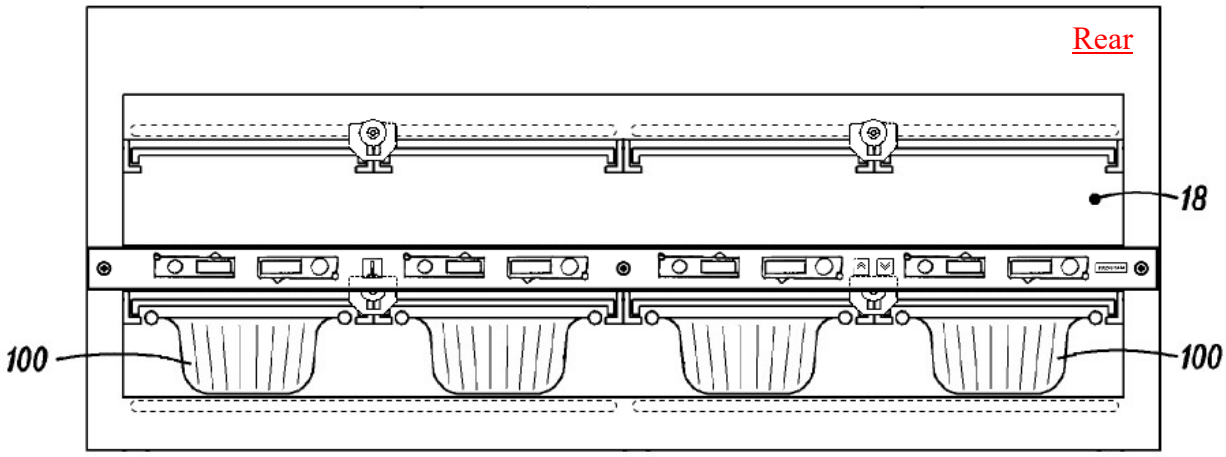
(1) the similarities between the Fortmann'748 cabinet and the units of Fortmann'197, the IRHS Documents, and McMillan (*e.g.*, each disclose units with compartments for warming trays/pans of food via heating elements); and

(2) that Vaseloff's display/control groups would still function in generally the same way.

672. Representative illustrations[3] of the 2x4 Fortmann'748 cabinet modified to have Vaseloff's display/control groups are shown below:



[3] These illustrations include further modifications as explained below.

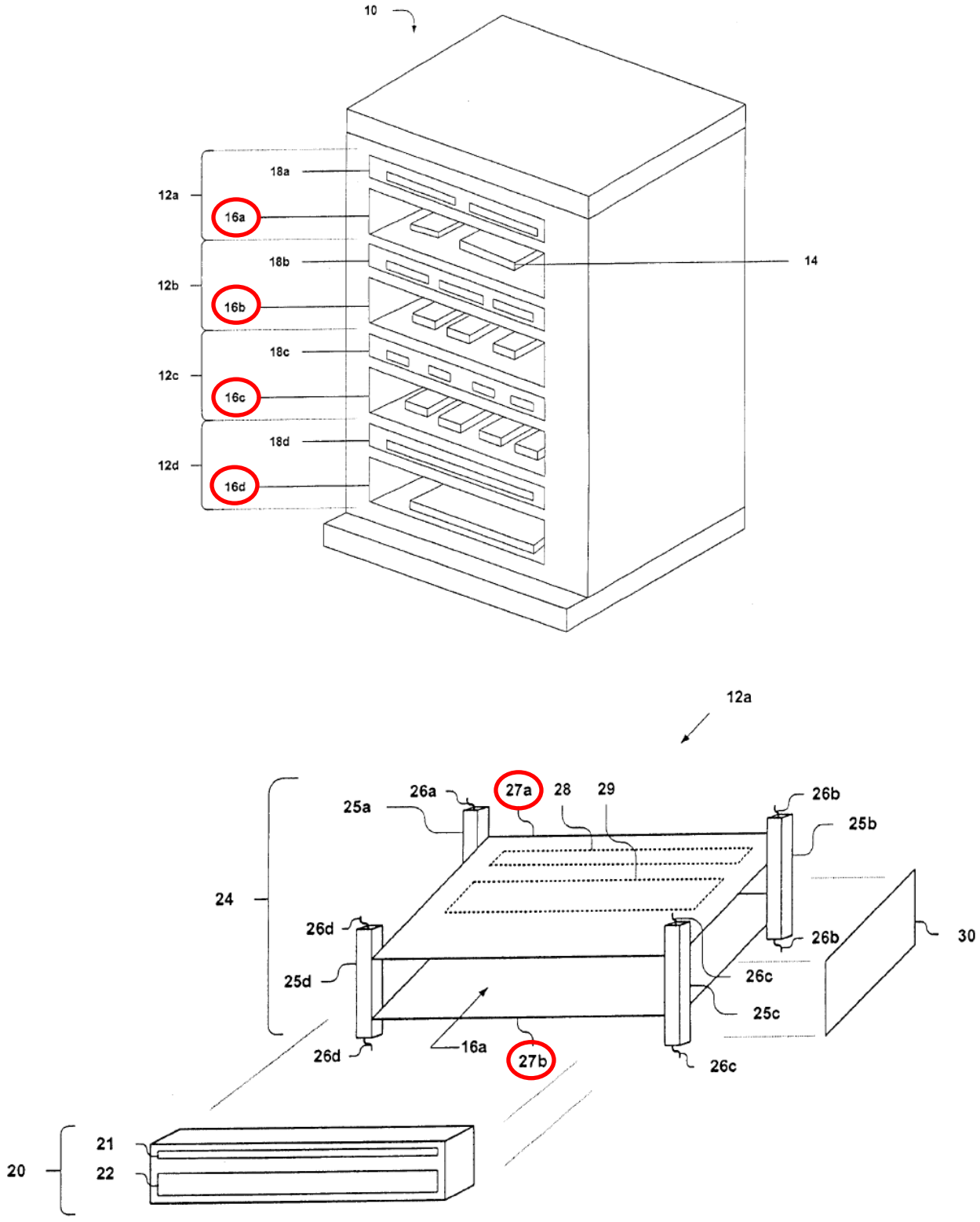


EX1010: Figs. 2 and 6 (modified).

5. Temperature Control

673. 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 devices and displays for providing temperature control, McMillen provides more specific descriptions as to how such devices and displays could be configured and operated.

674. 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).

675. 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 Millan'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.

676. Further, each food product display (180a-d) includes 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.").

677. 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.").

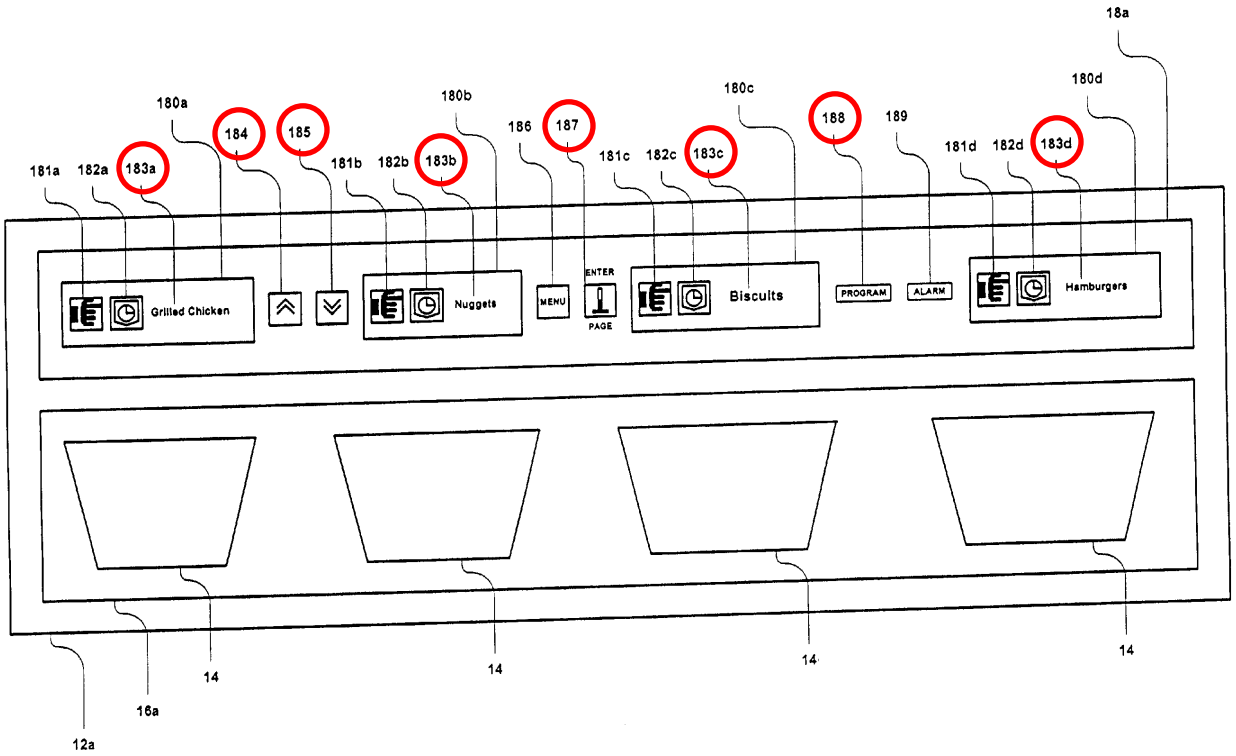


Fig. 5a

EX1019: Fig. 5a (annotated).

678. 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 as taught by McMillan. EX1019: 10:30-32 ("display areas [] may present a numeric value indicating the current and/or set temperature").

679. 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].

680. Incorporation of McMillan controls for displaying and setting 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. EX1019: 1:29-35, 1:38-49, 10:6-10; EX1026: 4:20-22, 4:25-30.

681. Incorporation of McMillan 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.

682. 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.

683. It would have been further 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.

684. 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).

685. 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 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.

686. 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 display/pan location for temperature programming and the arrow buttons (184,185) could be pressed to adjust the displayed setpoint temperature for that pan location.

687. 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).

688. 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.

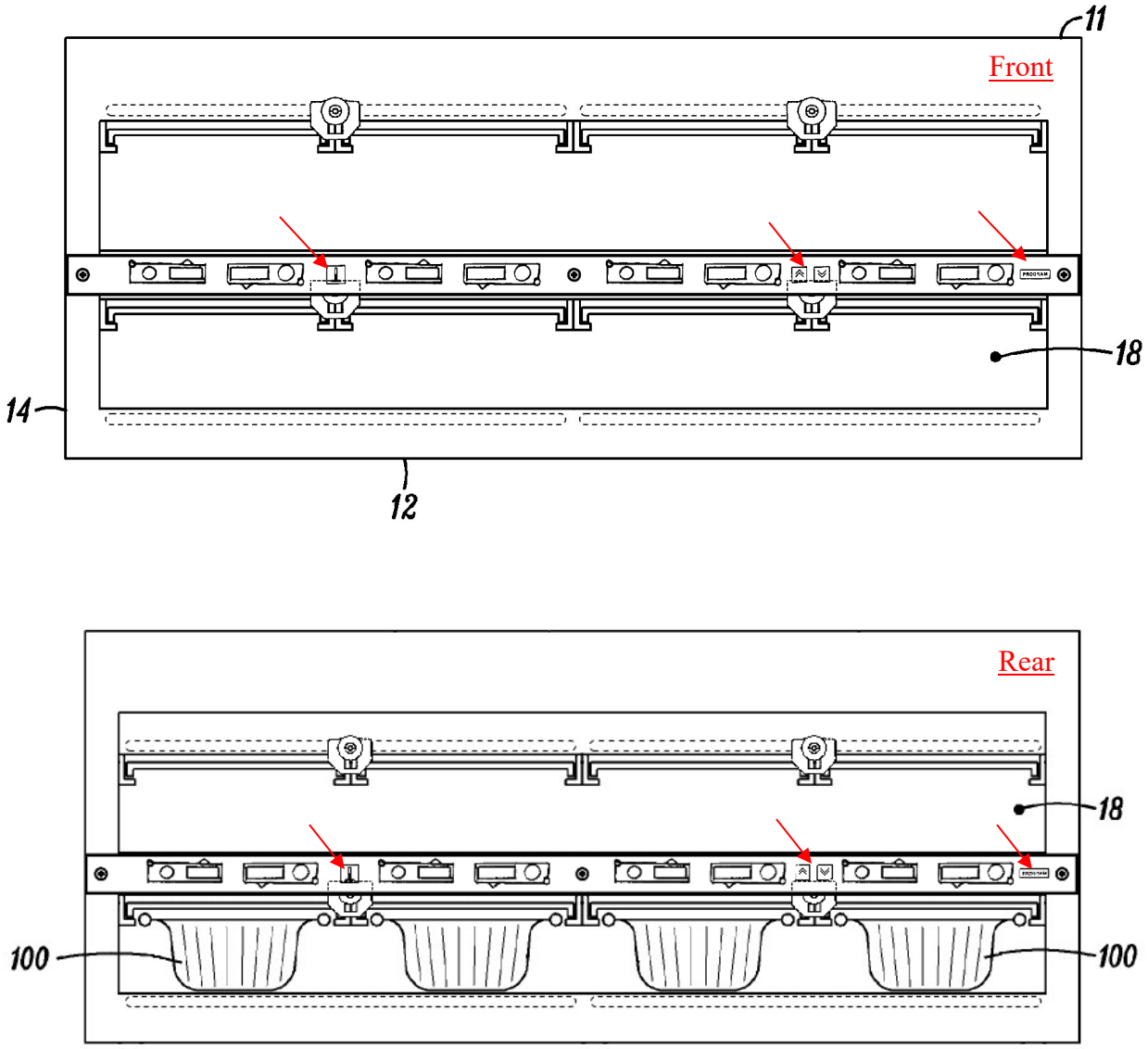
689. When implementing this modification, it would have been obvious to the POSA to connect McMillan's controls (*e.g.*, arrow keys (184, 185),

temperature button (187), program button (188)) to Fortmann'748's controller. EX1010: ¶[0027].

690. 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.").

691. Representative illustrations[4] of the 2x4 Fortmann'748 cabinet modified to have McMillan's controls (*e.g.*, arrow buttons, temperature button, program button) are shown below:

[4] These illustrations include further modifications as explained below.



EX1010: Figs. 2 and 6 (modified).

6. Timer Bar/Bezel

692. 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.

693. 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.

694. 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.

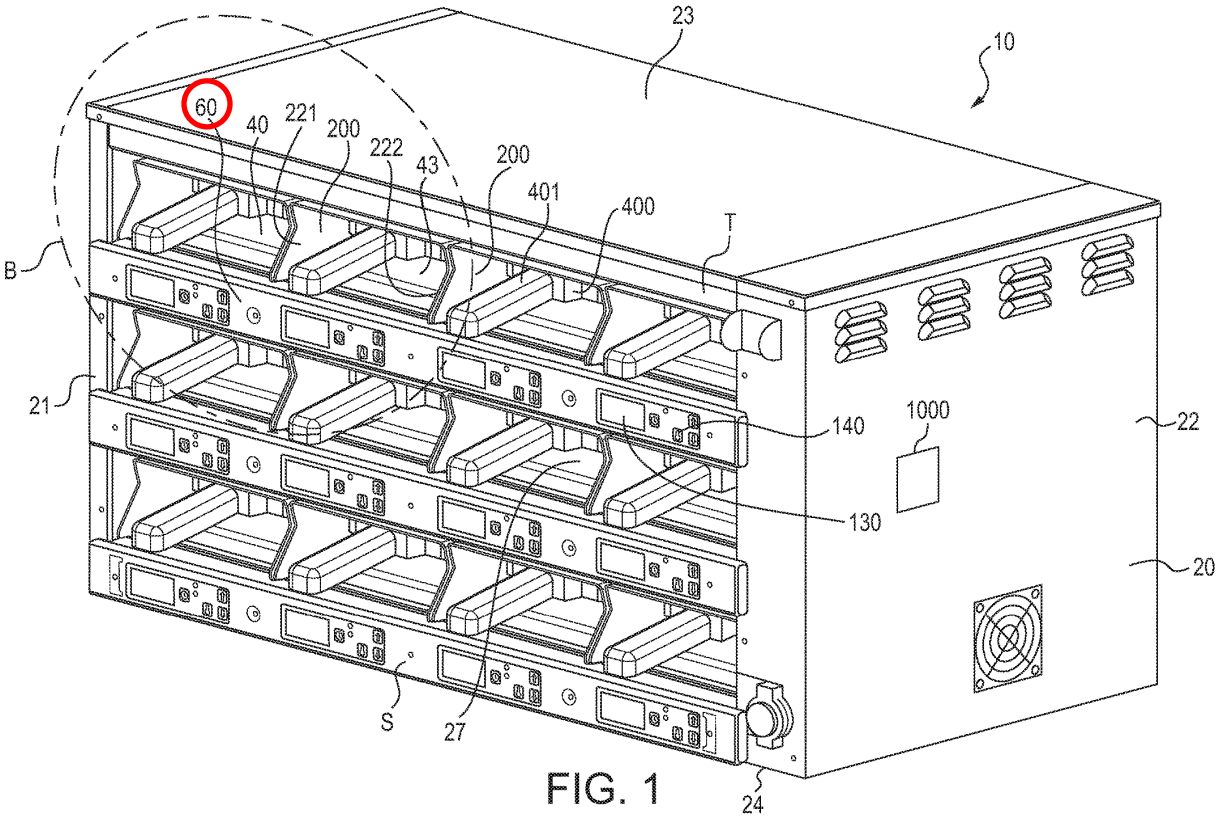

23
10
60
40
221
200
222
43
200
401
400
T
B
21
140
1000
22
130
20
S
27
24

FIG. 1

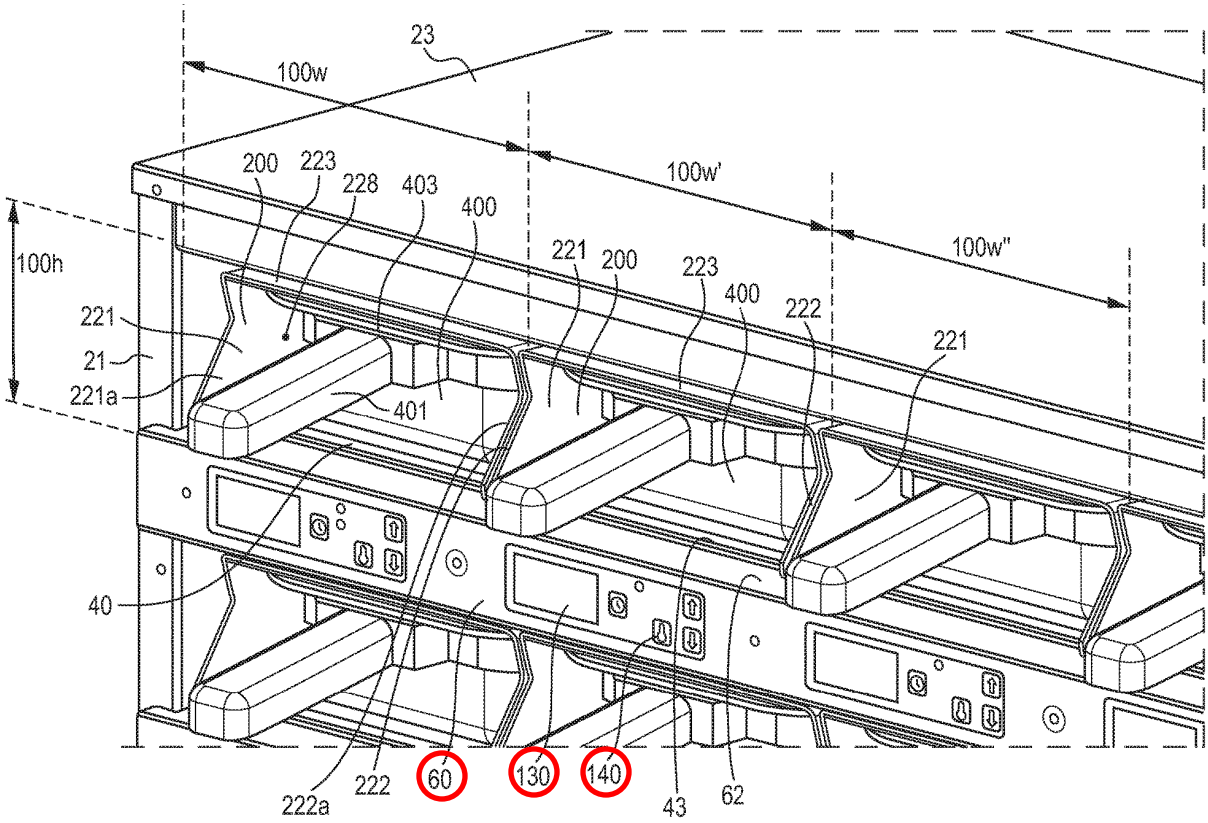

23
100w
100w'
100w"
100h
200
223
228
403
400
221
200
223
400
222
221
221
21
221a
401
40
222a
222
60
130
140
43
62

FIG. 2

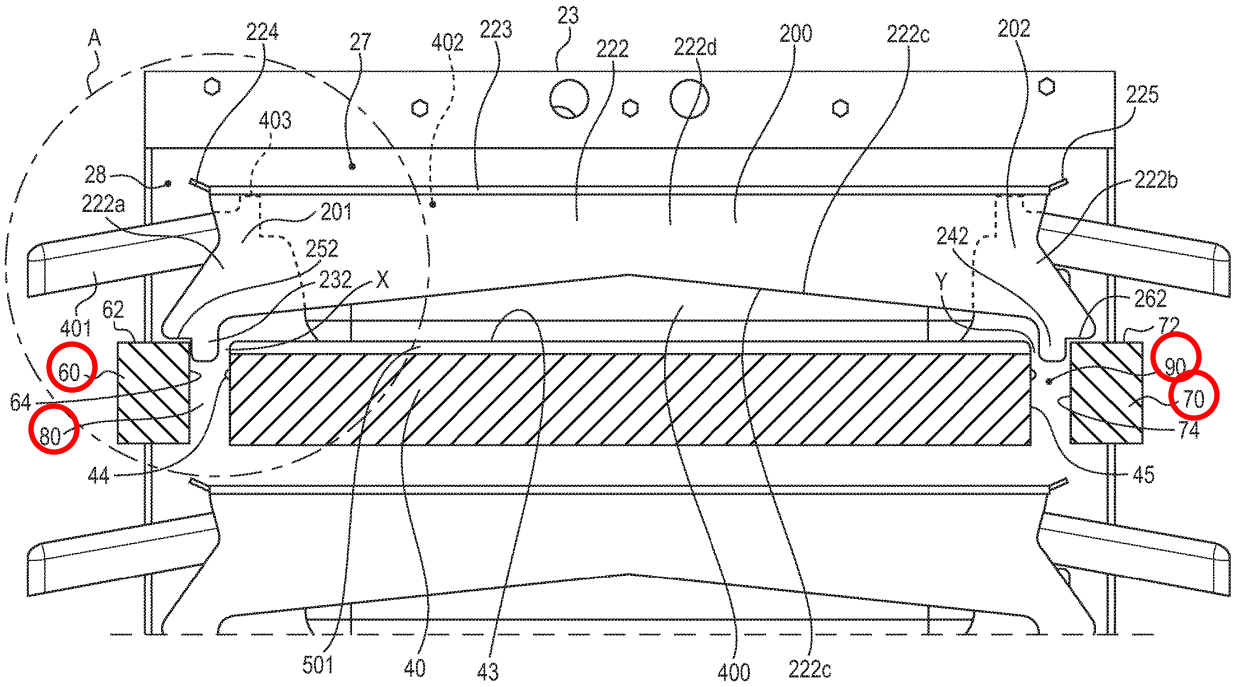
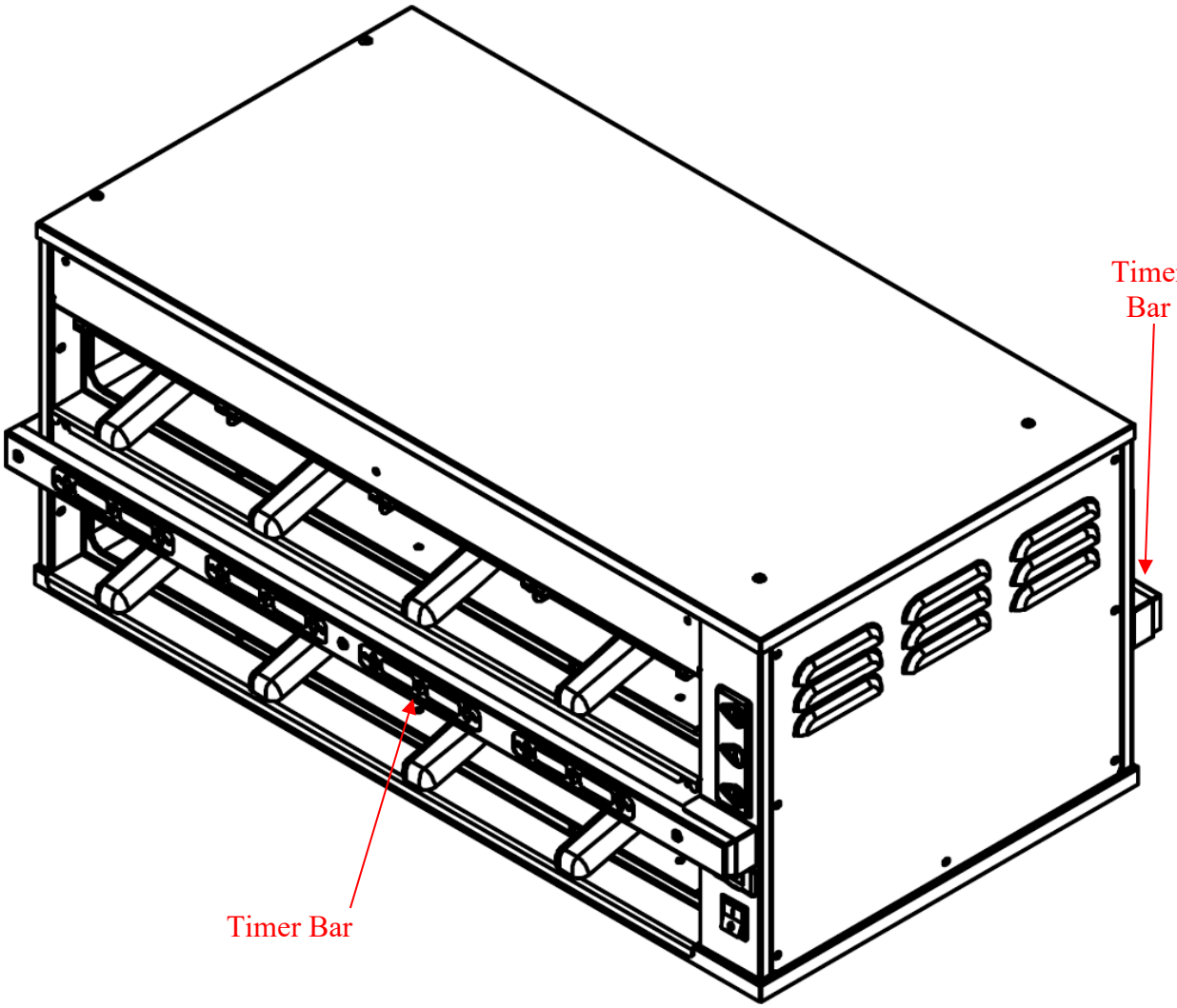
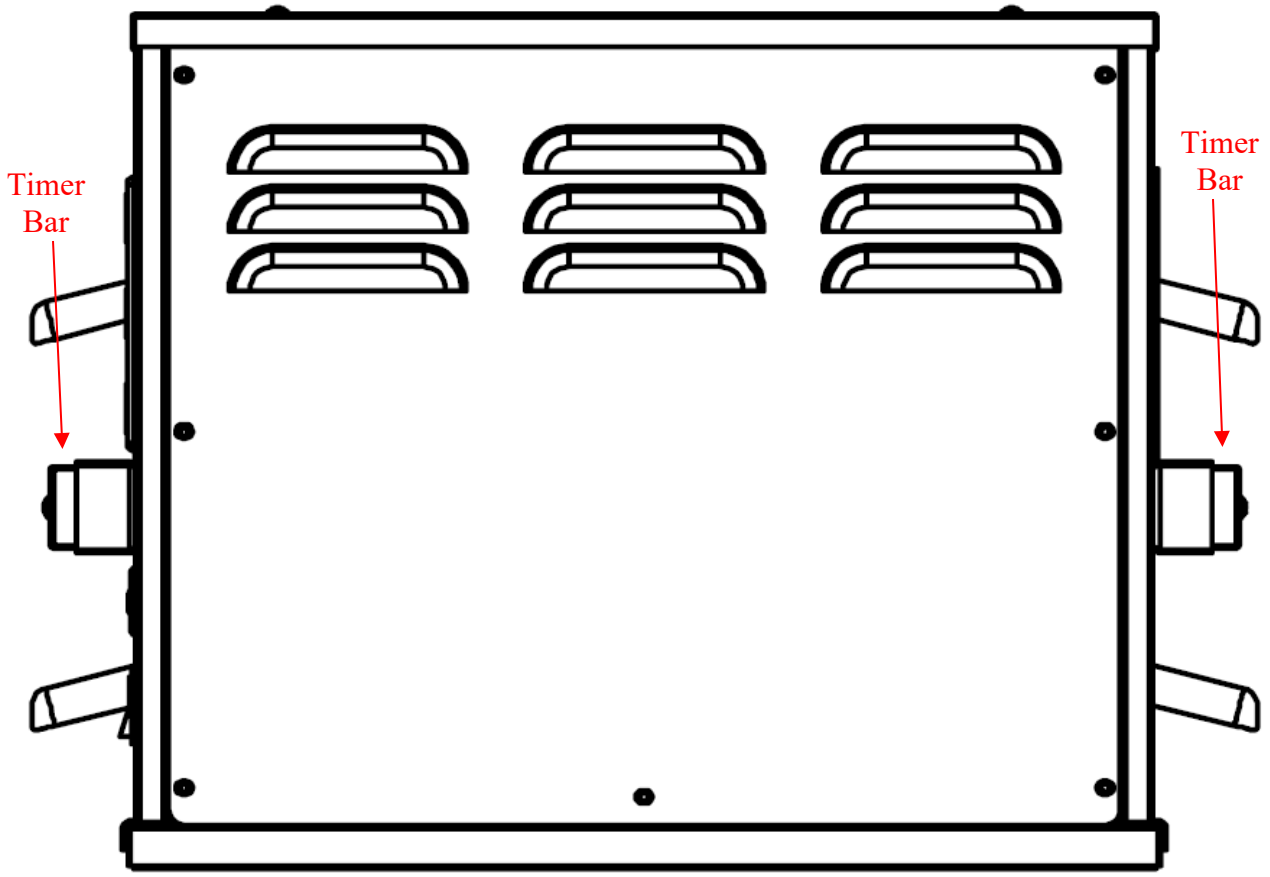

A
224
27
402
223
23
222
222d
200
222c
202
225
403
28
222a
201
252
232
X
222b
242
Y
262
72
401
62
60
64
80
90
70
74
44
45
501
40
43
400
222c

FIG. 5

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

695. 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]alphanumeric 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"). 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 ("[a]alphanumeric displays to indicate product description, temp and hold time"); EX1007: 52.


Timer
Bar
Timer Bar

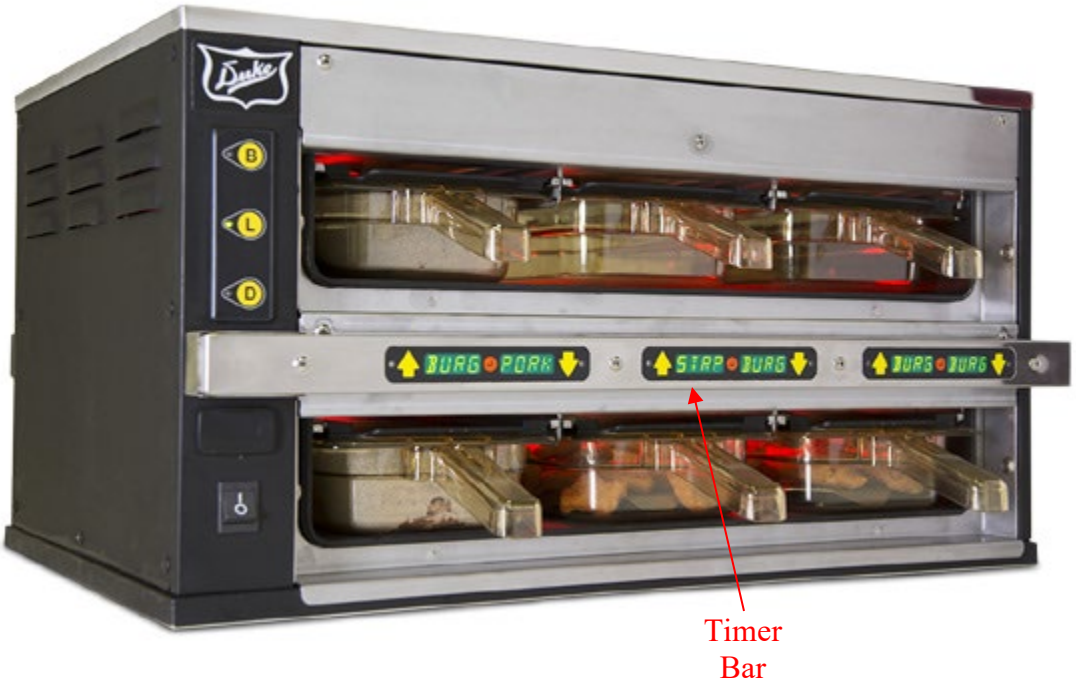


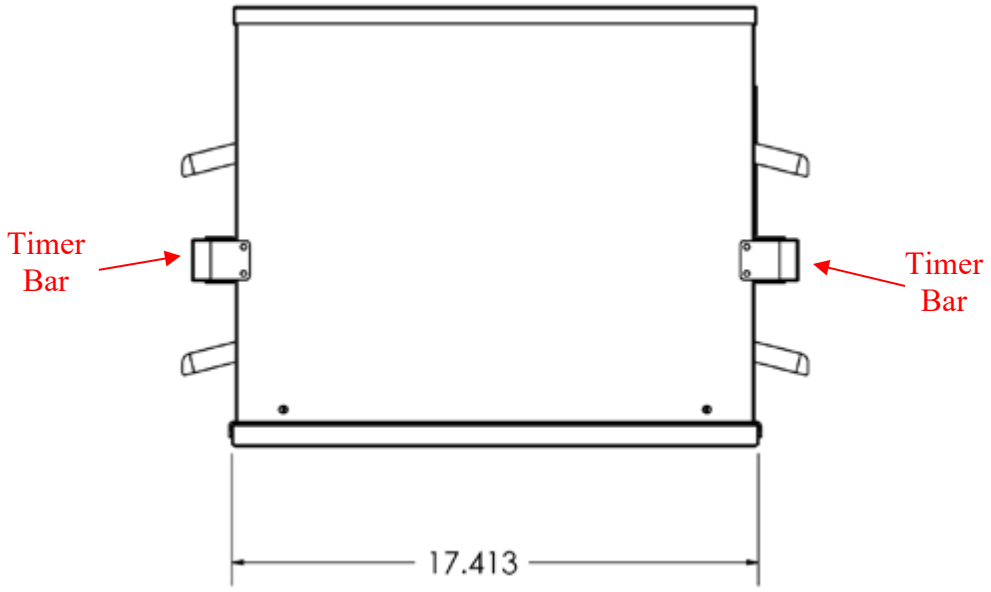
EX1005: 8 (annotated).





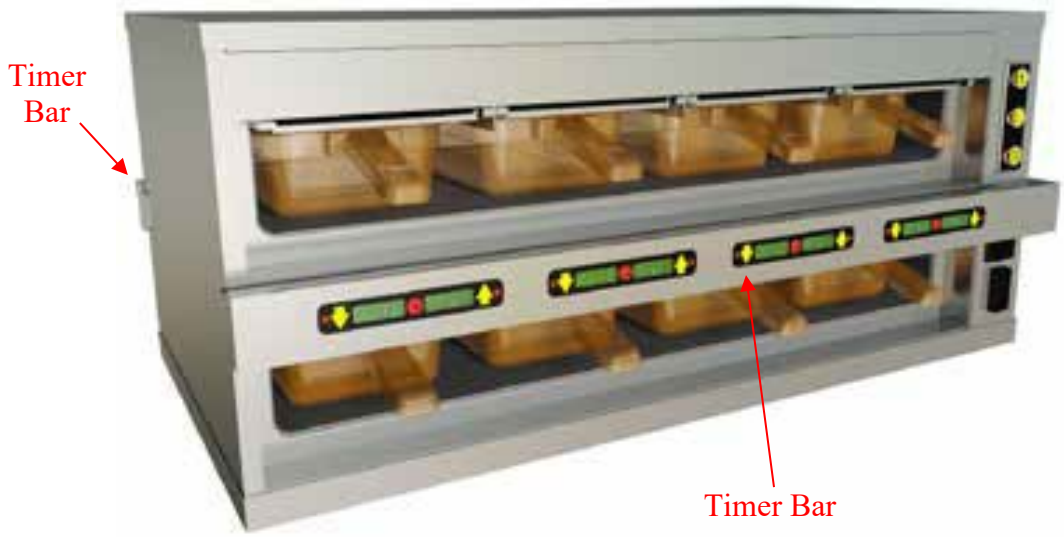
EX1005: 17.





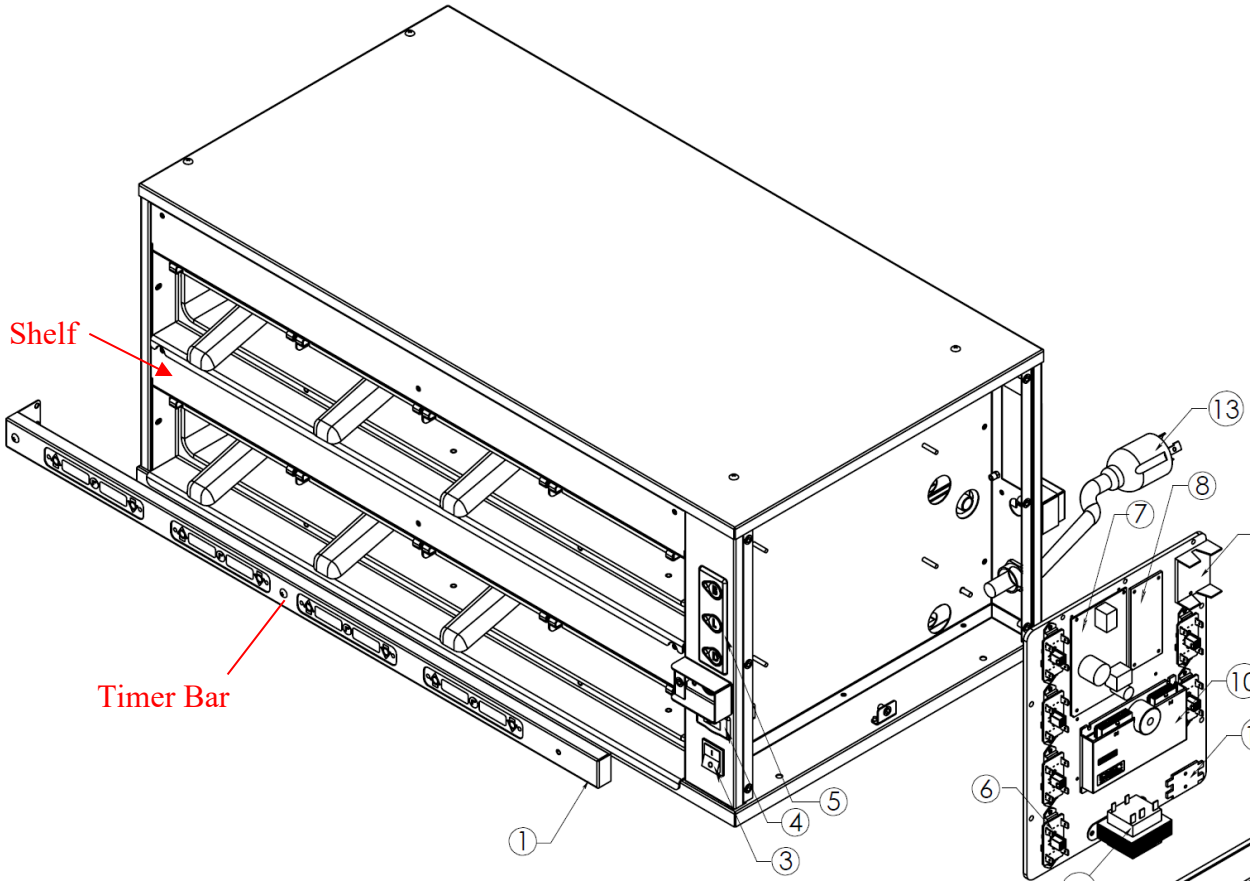
EX1006: 1-2 (annotated).



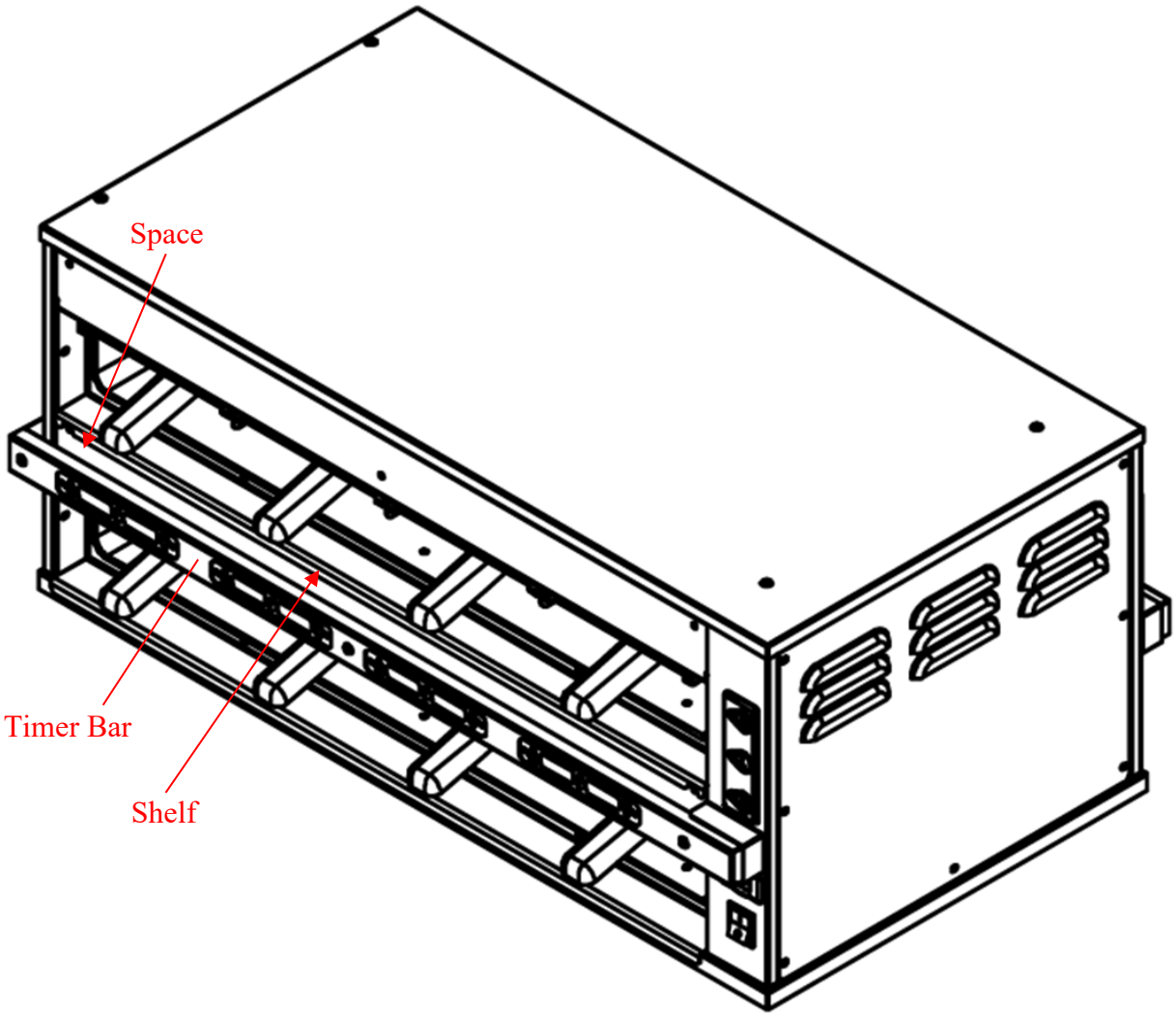


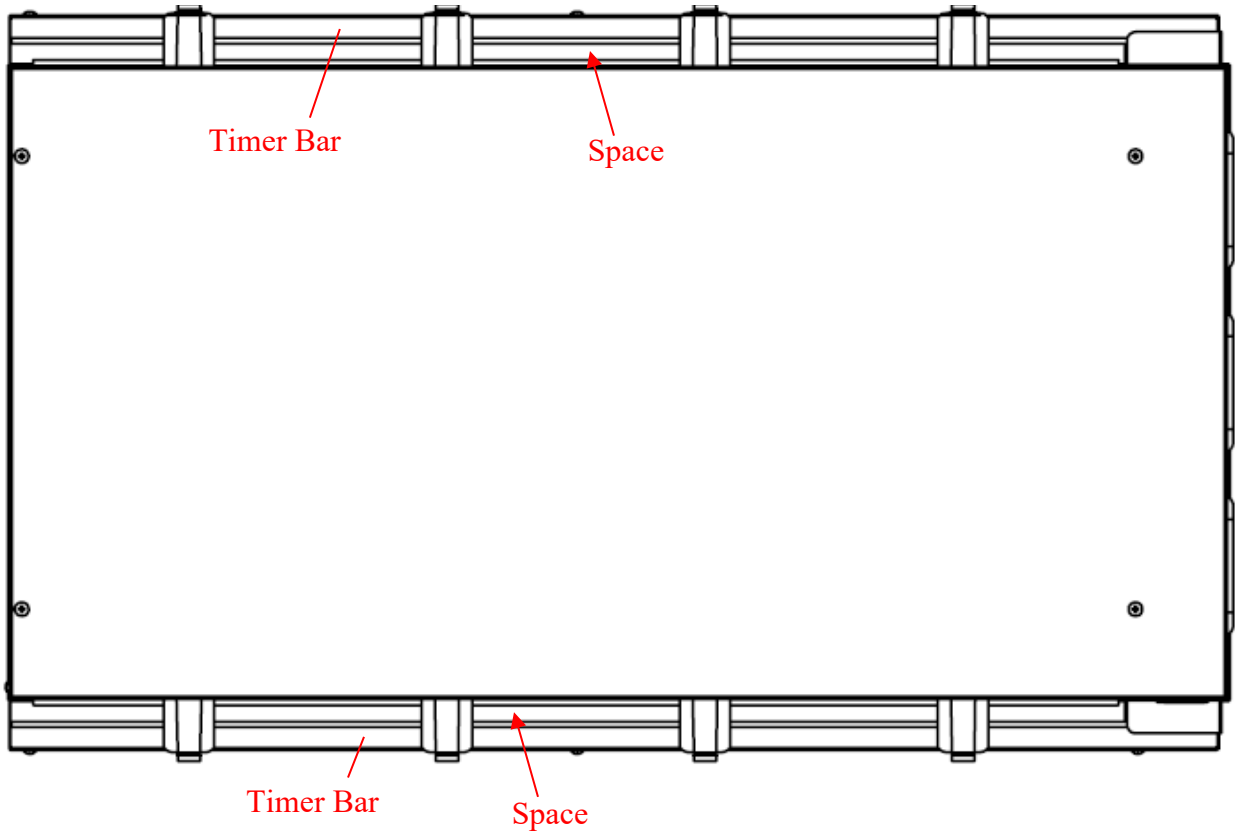
EX1007: 52, 56 (annotated).

696. The front and rear timer bars of the IRHS Documents are spaced apart from the shelf.

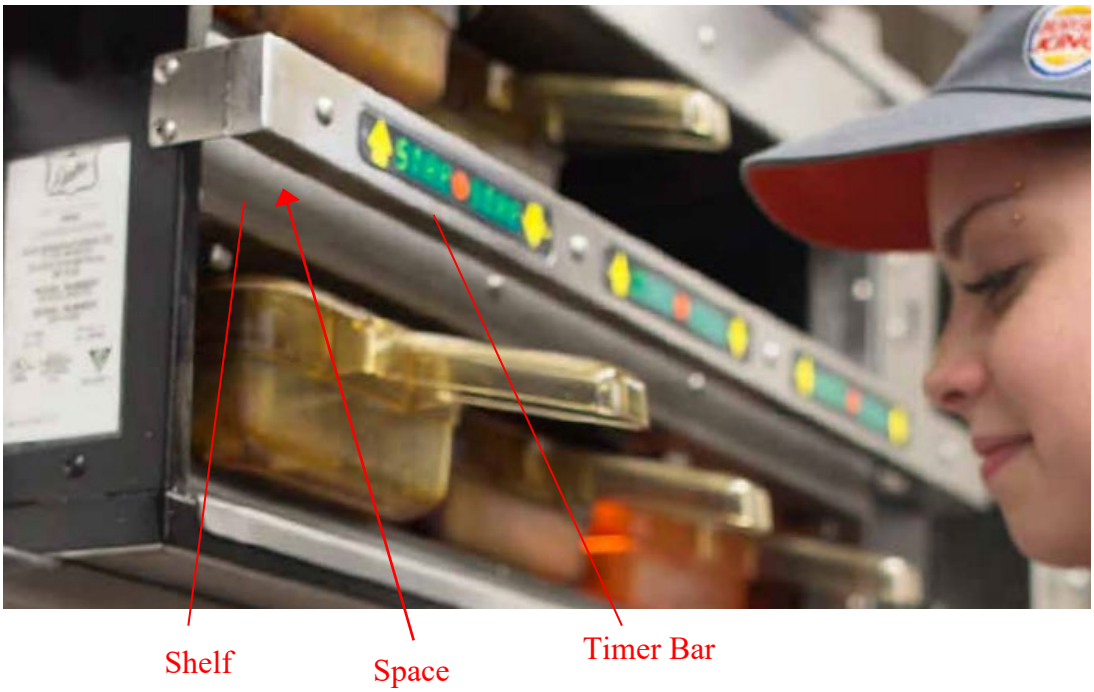


EX1005: 19 (annotated).


Space
Timer Bar
Shelf

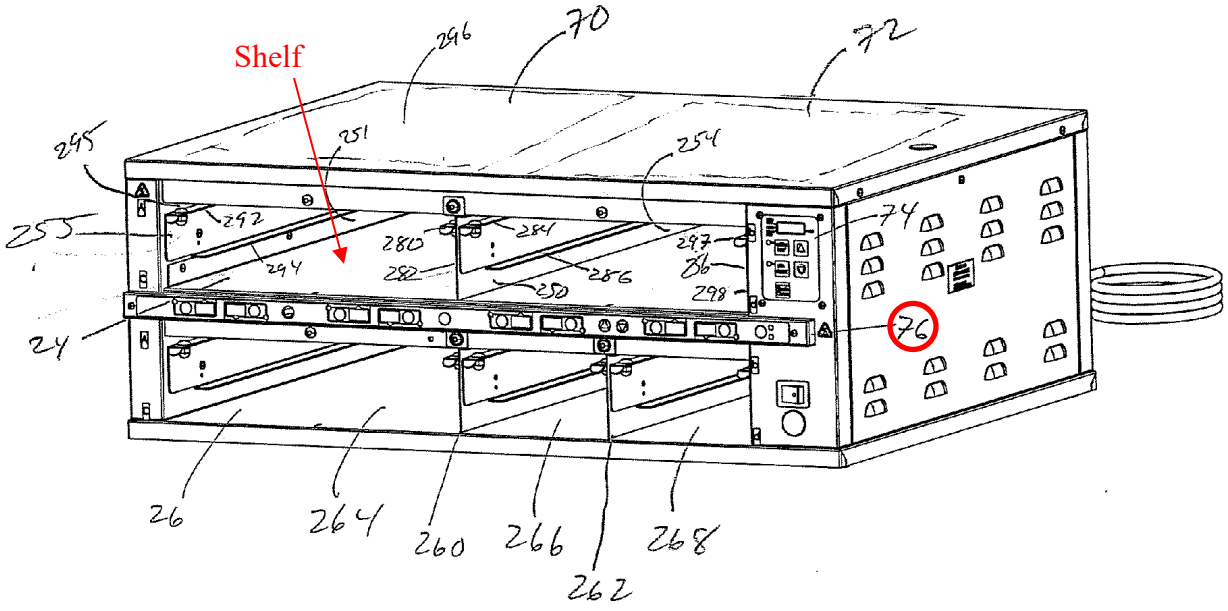


EX1005: 8 (annotated).



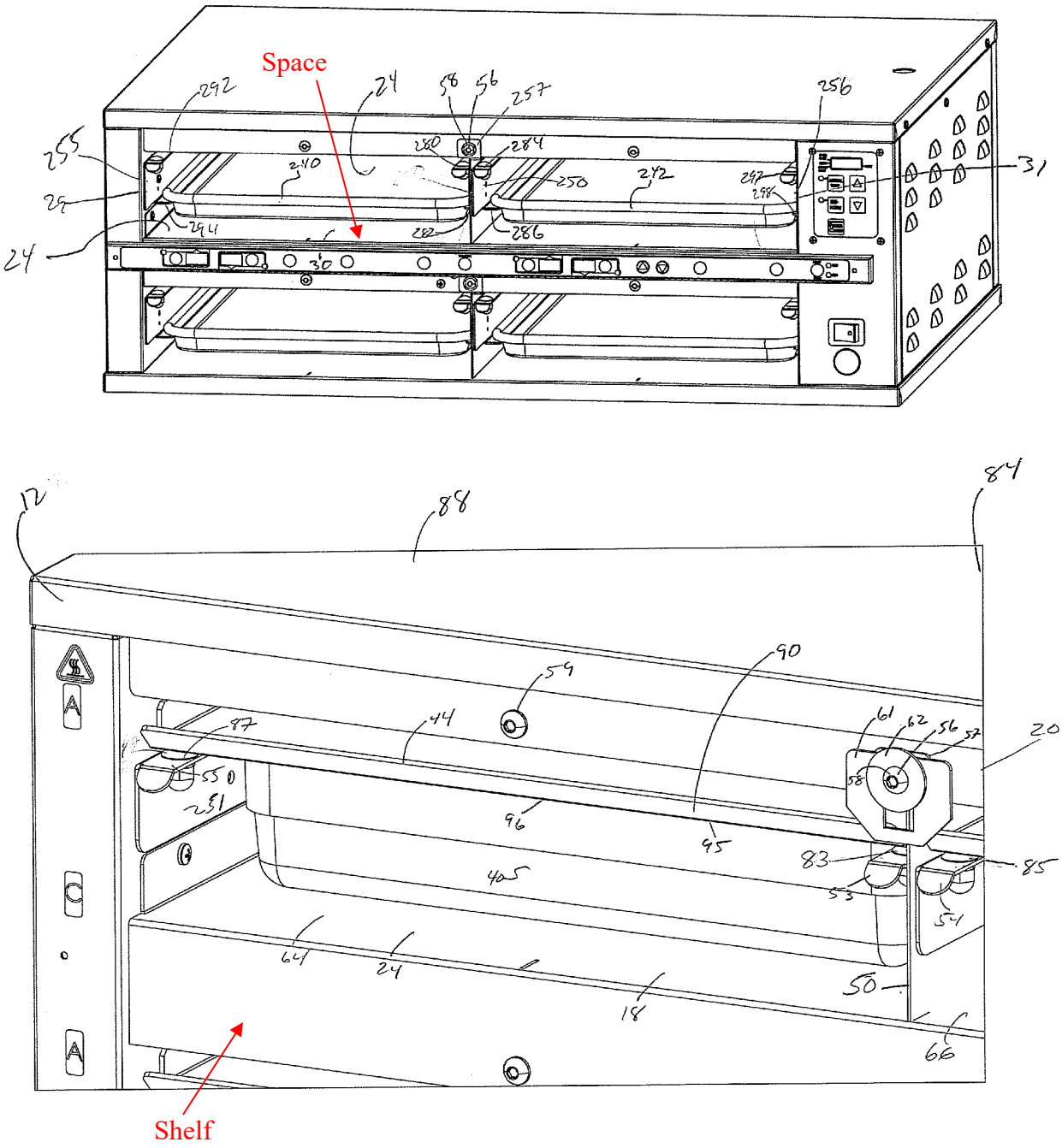
EX1007: 28 (annotated).

697. Hartfelder (EX1013) similarly teaches a food warming apparatus (10) having an interface bar (76) in front of a shelf for housing displays and controls.



EX1013: Fig 3.

698. 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: Figs. 4 and 9 (annotated).

699. 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.

700. 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. 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.").

701. 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).

702. 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).

703. 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

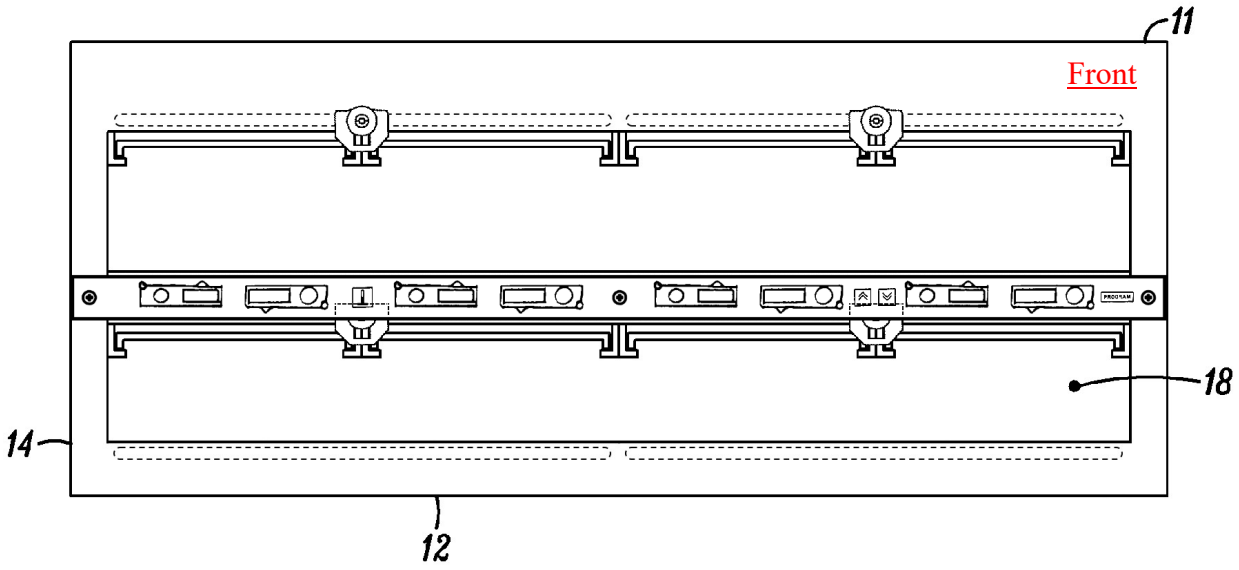
(2) the functionality of display/control groups and buttons as incorporated from Vaseloff and McMillan would not change.

704. 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

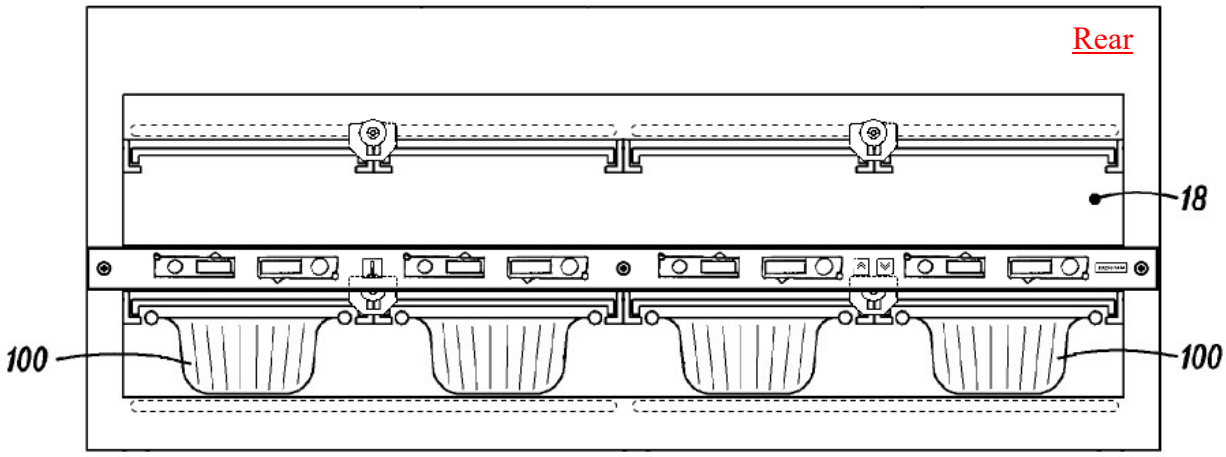
cabinet and changing its settings from either side, but at the tradeoff of increasing the cost.

705. 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.

706. Representative illustrations[5] of the 2x4 Fortmann'748 cabinet modified to have front and rear spaced timer bars are shown below:



[5] These illustrations include further modifications as explained below.



EX1010: Figs. 2 and 6 (modified).

7. Discrete Lids for Each Pan Holding Location

707. 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").

708. 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 removable. EX1010: ¶[0017] ("removable and slidable cover"), Fig. 4.

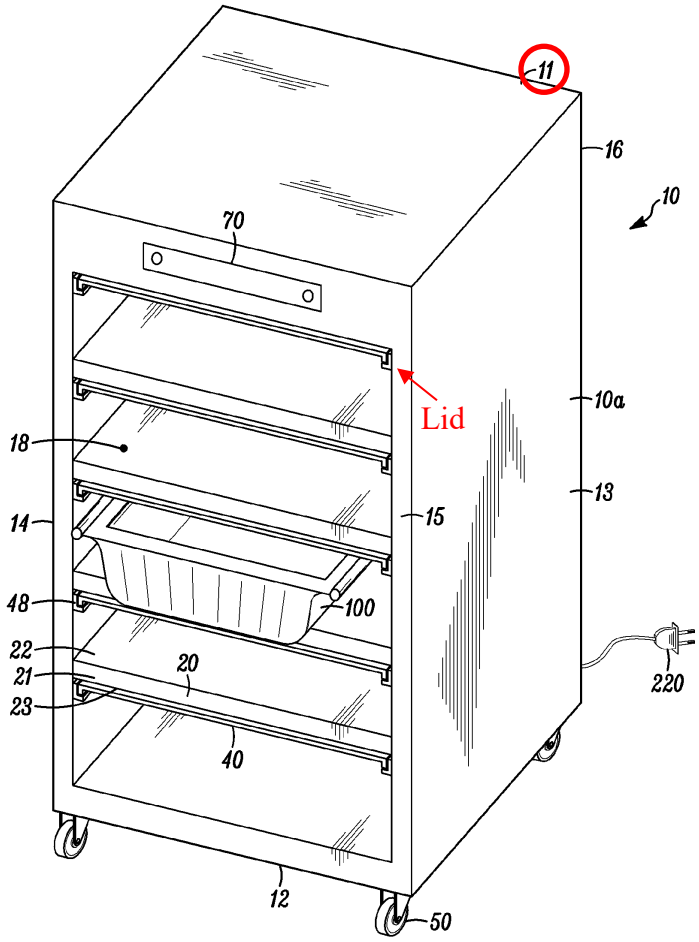


FIG. 1

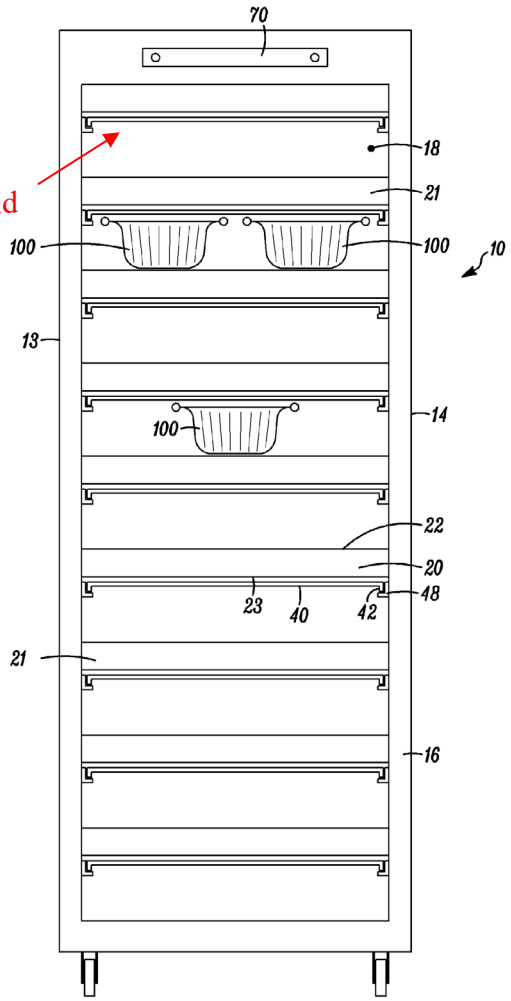


FIG. 6

EX1010: Figs. 1 and 6 (annotated).

709. 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; EX1006: 1 ("HeatSink cover"), 2; EX1007: 53 ("Metal Cover"), 33 ("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").

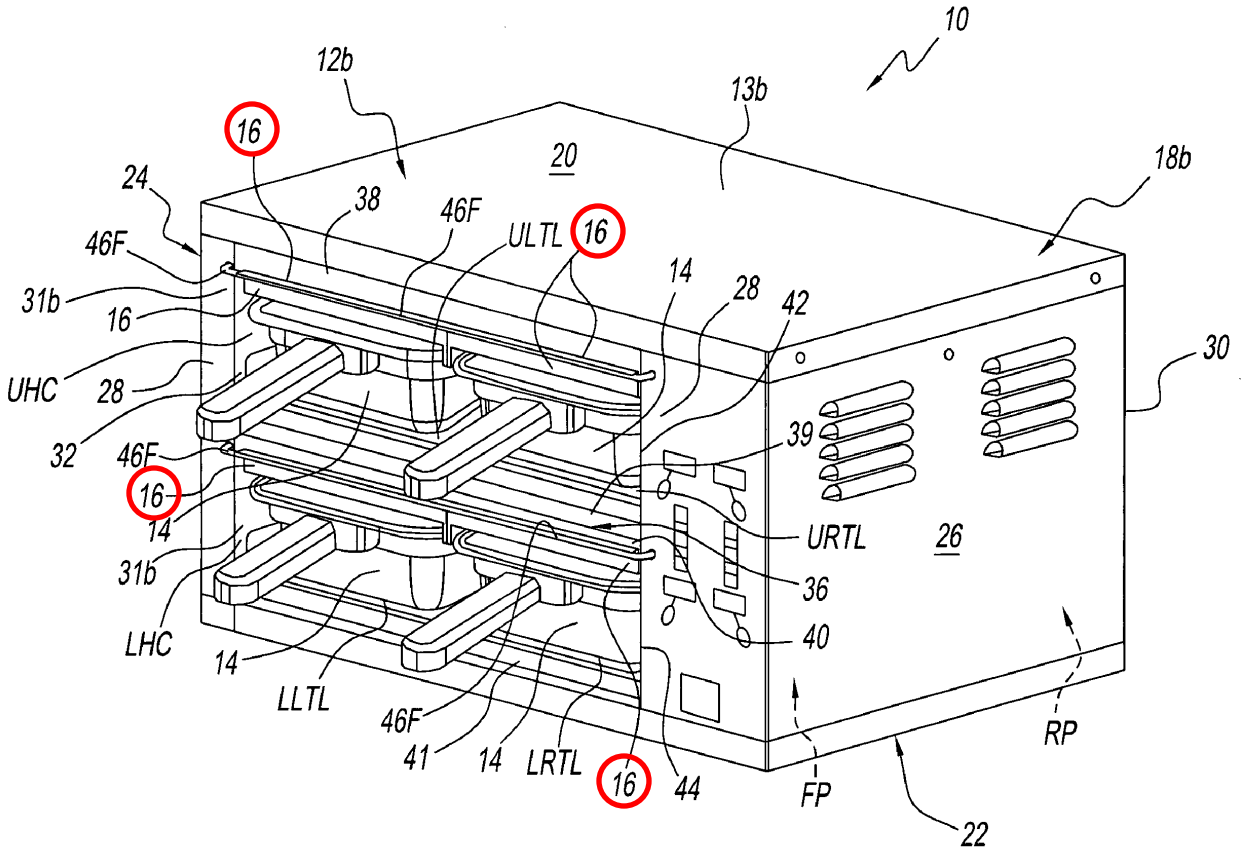


Fig. 1B

EX1012: Fig. 1B (annotated).

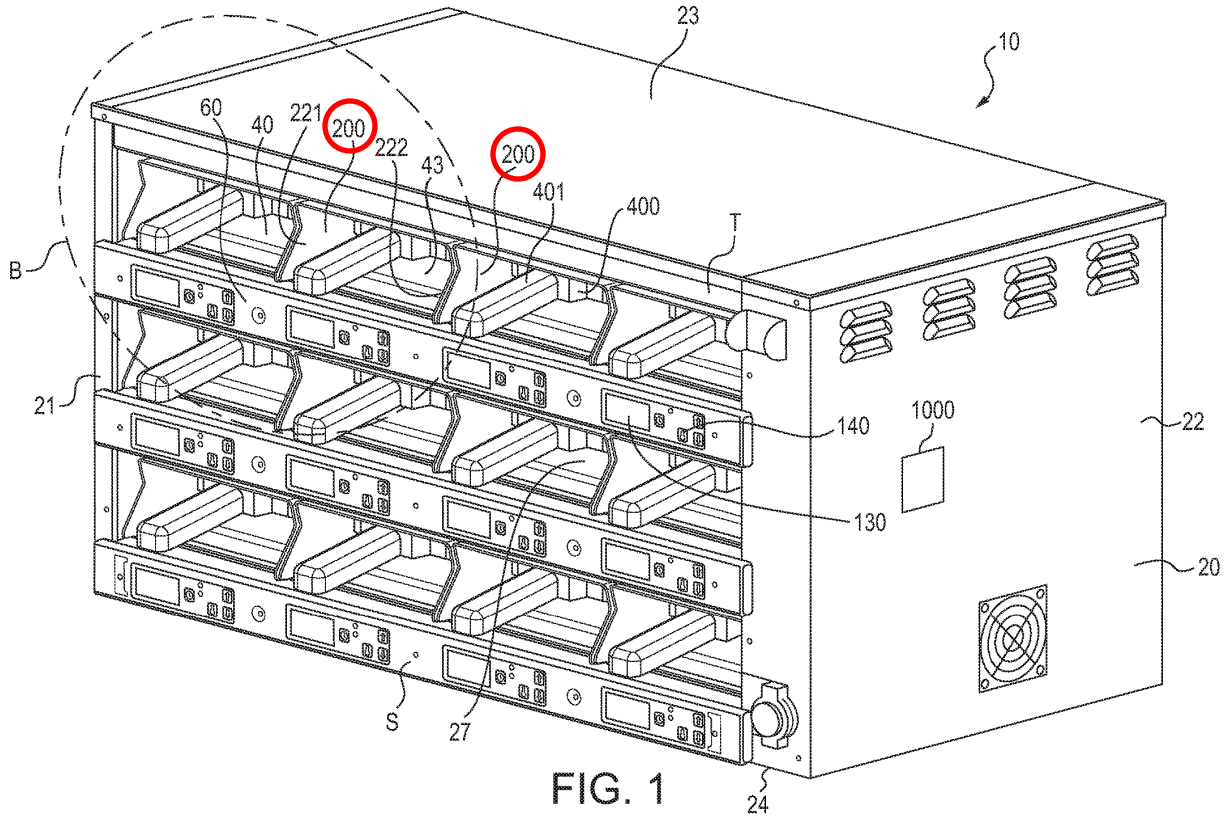
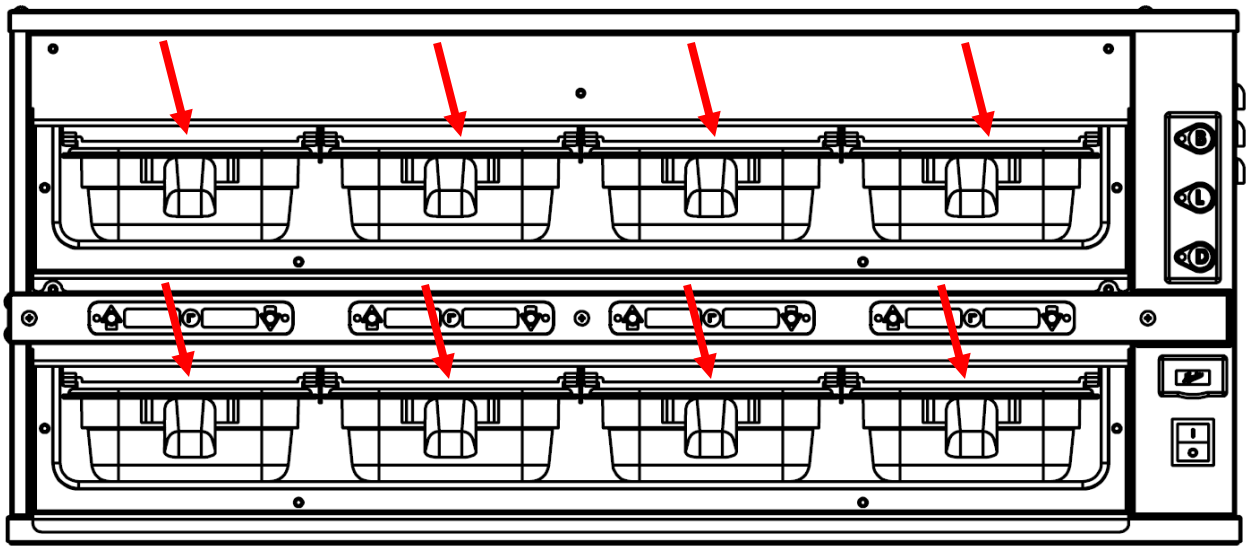


FIG. 1

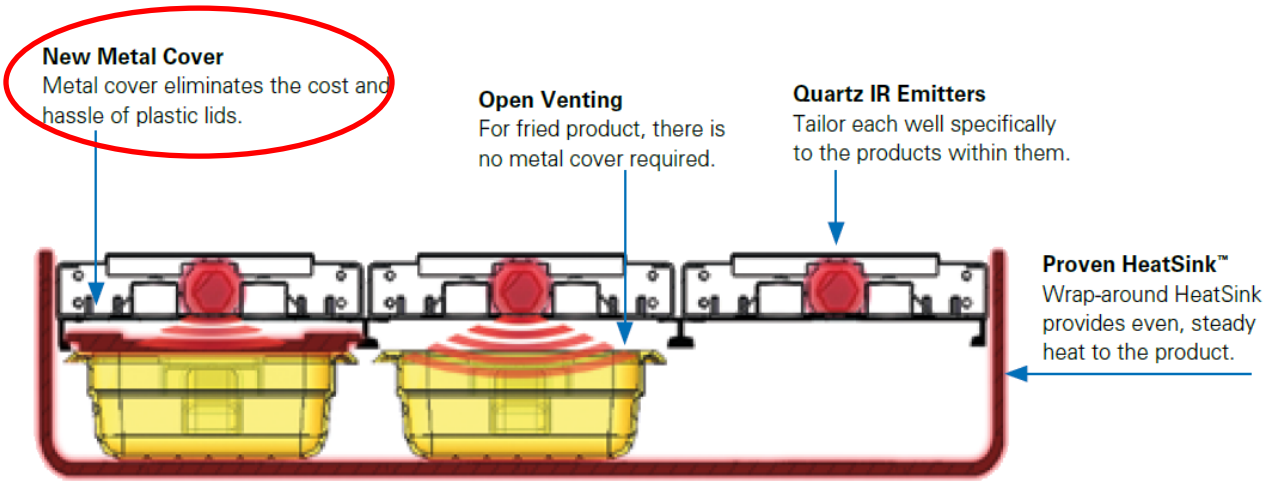
EX1014: Fig. 1 (annotated).



EX1005: 8 (annotated).



EX1006: 2 (annotated).



EX1007: 53 (annotated).

710. 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.

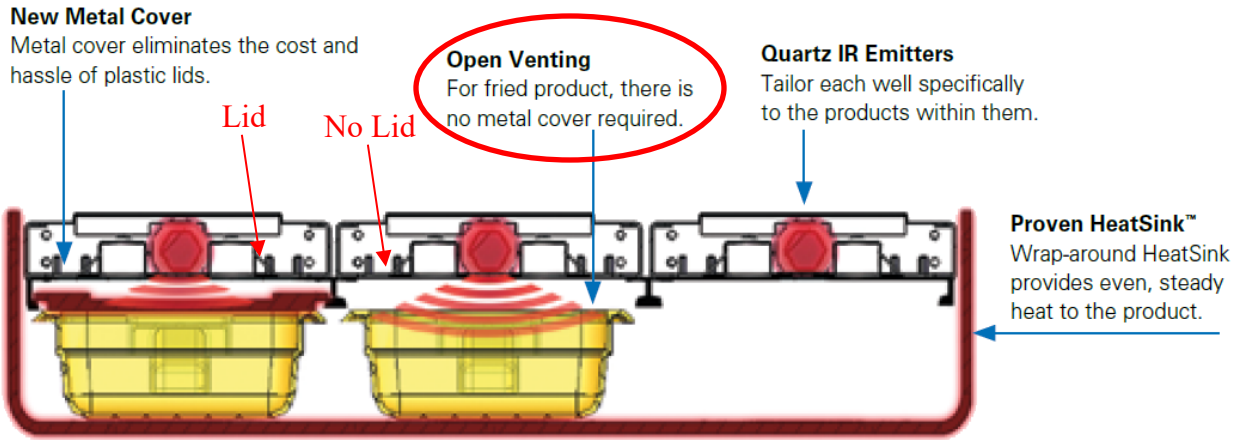
711. This modification would further Fortmann'748's goal of having "zones" for different types of food by allowing the lids for individual pans to be selectively removable, increasing the flexibility for the cabinet and each compartment to hold more types of food (more temperature/moisture combinations) at the same time. EX1010: ¶[0024].

712. 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").

713. Yet in other examples, it is desirable not to cover the food pan with a lid 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").

714. 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."). 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).

715. Moreover, discrete lids for each pan holding location are smaller, making the lids easier to move and clean.

716. 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.

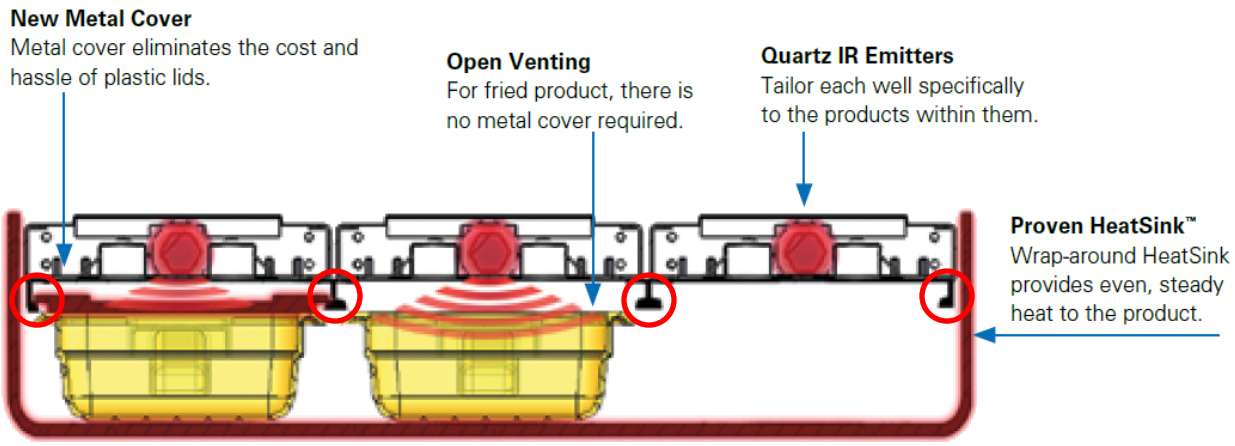
717. Adding discrete lids for each food pan/tray would merely require duplicating and resizing Fortmann'748's lids to cover one pan (100) and

duplicating Fortmann'748's tracks (48) across the compartments to hold the additional lids.

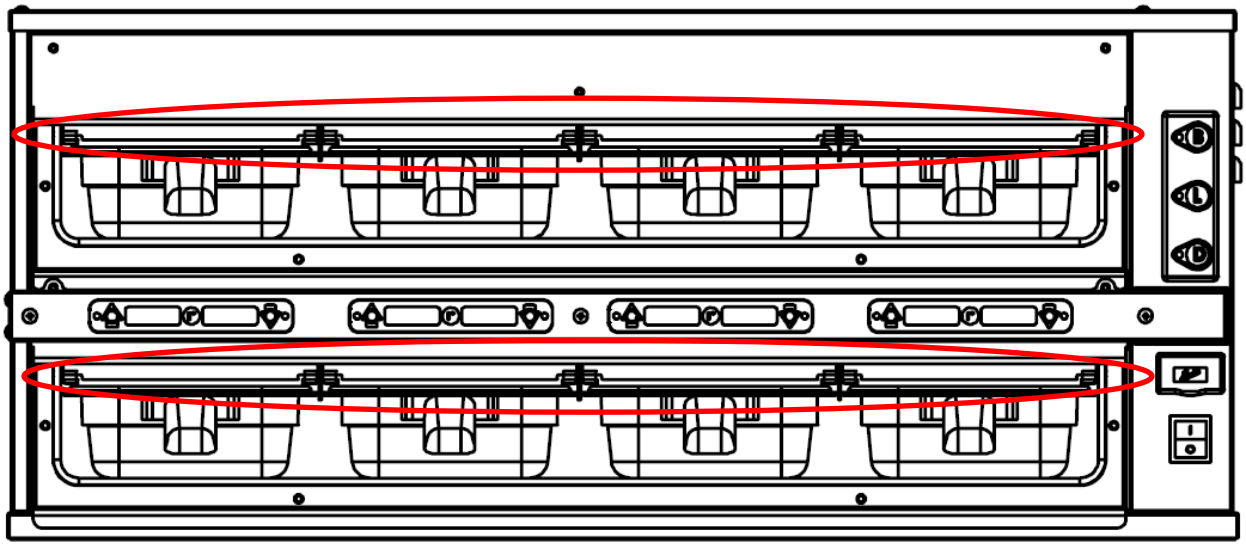
718. In duplicating the tracks (48), it would have been obvious to secure them to the overlying structure, as taught by Fortmann'748. EX1010: ¶[0018] ("a track 48 may be fixed directly to the respective shelf 21 and is disposed beneath each of the right and left sides of the shelf 21").

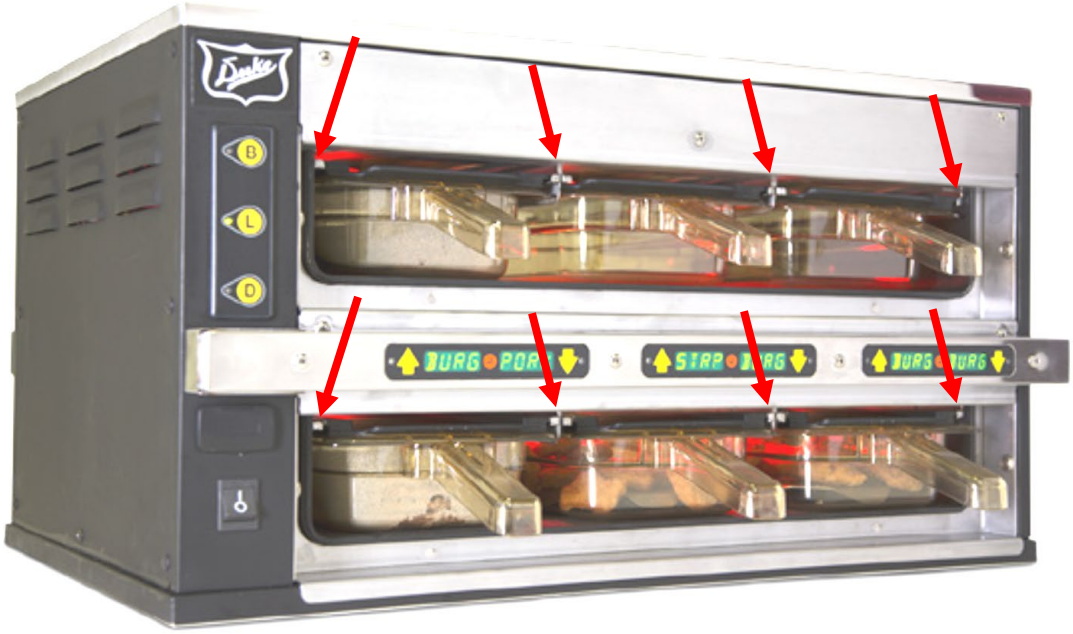
719. Moreover, in view of the IRHS Documents, the POSA would have known to simply duplicated the Fortmann'748 lid holding shelves across the width of the compartment to provide suitable support structure in locations/orientations for holding left and right sides of the individual lids.

720. 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").

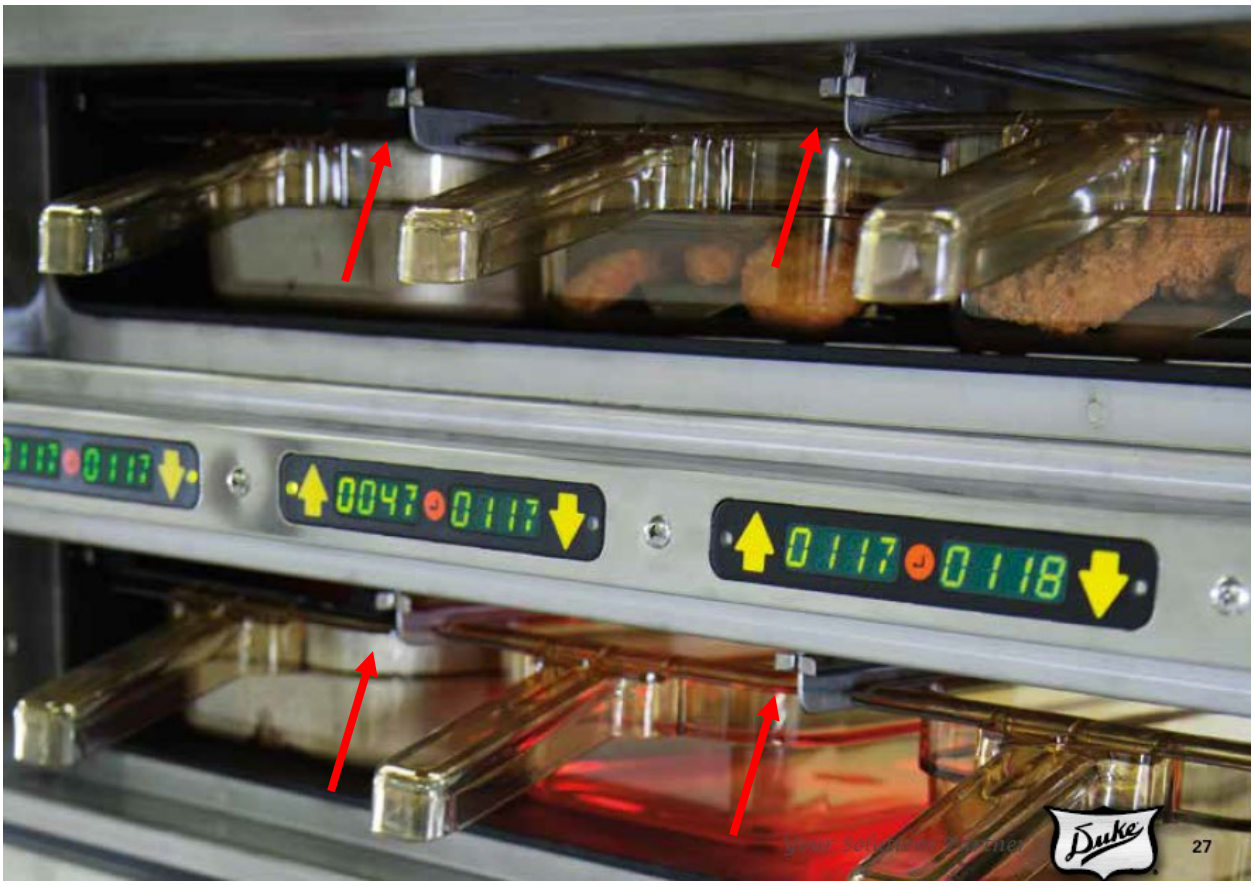


EX1007: 53 (annotated).

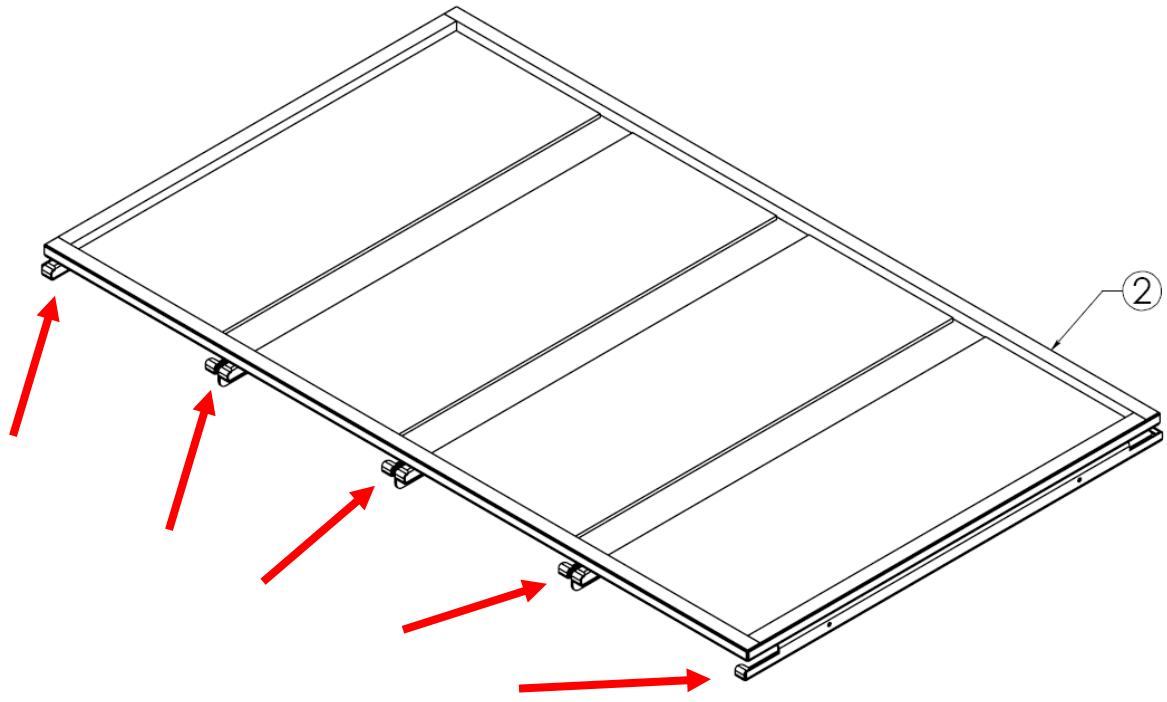




EX1006: 2 (annotated).



EX1007: 52 (annotated).



EX1005: 19 (annotated).

721. 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 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).

722. 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.

723. 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].

724. 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) instead (the top panel substituting as the shelf in this context).

725. This would have also been the application of a known technique (Fortman‘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).

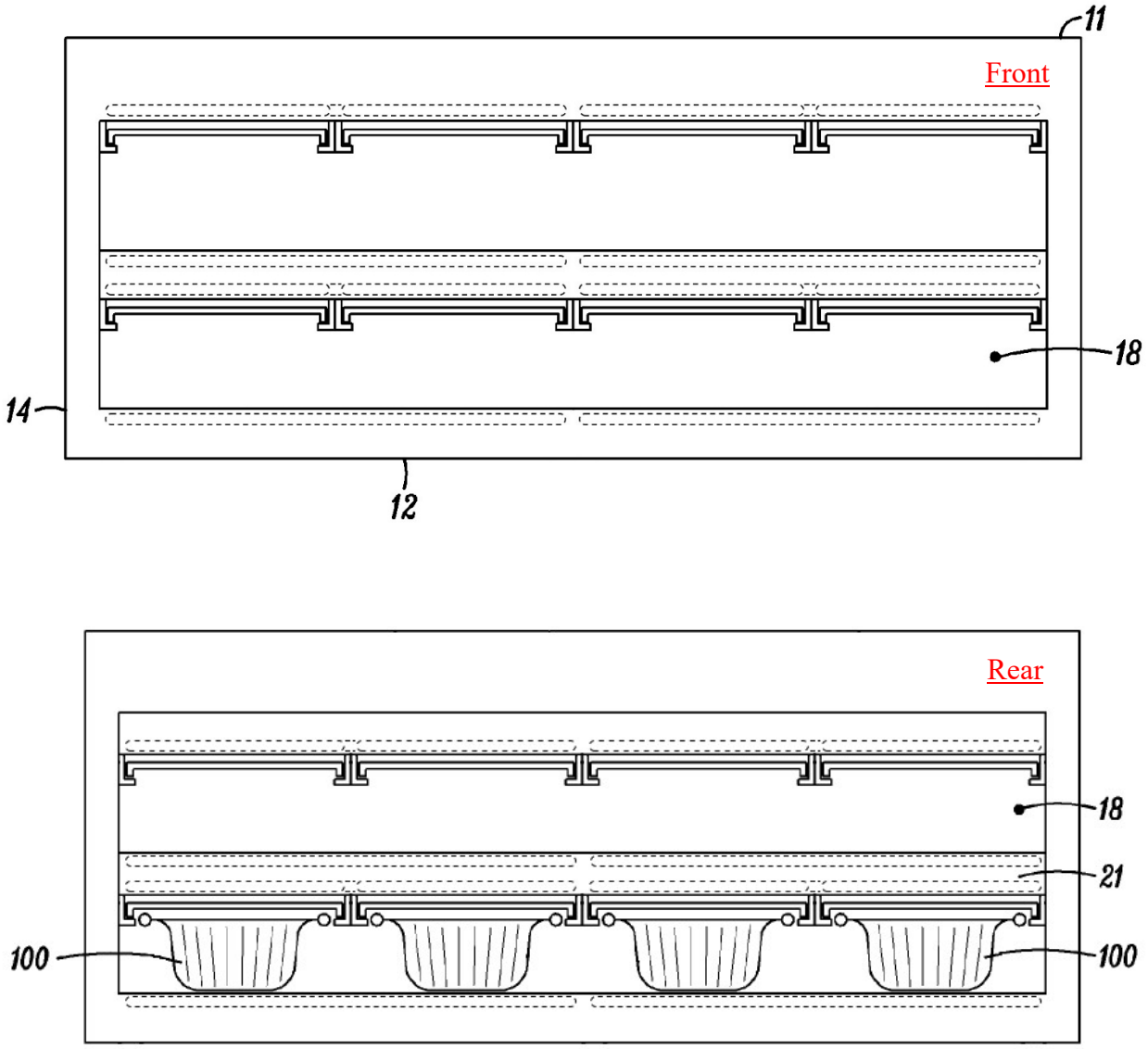
726. There would have been a high expectation of success in making this modification given

(1) the similarities between the Fortmann’748 cabinet and the holding unit of Jones, Fortmann’197, or 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 IRHS Documents demonstrate individual lids for each pan holding location is possible. EX1012: ¶[0072], Fig. 1B; EX1014: 4:50-53, 7:31-32, Figs. 1-4; EX1005: 8; EX1006: 1-2; EX1007: 53, 58.

727. Schematic illustrations of the 2x4 Fortmann’748 cabinet modified to have individual lids for each pan holding location are shown below:



EX1010: Figs. 2 and 6 (modified, annotated).

8. Latches

728. 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").

729. 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").

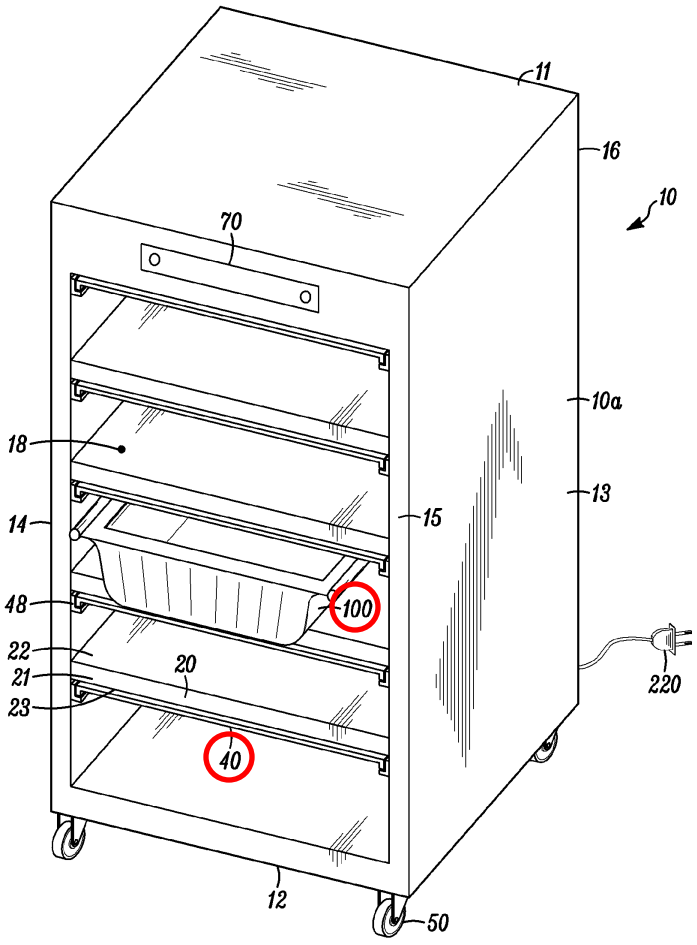


FIG. 1

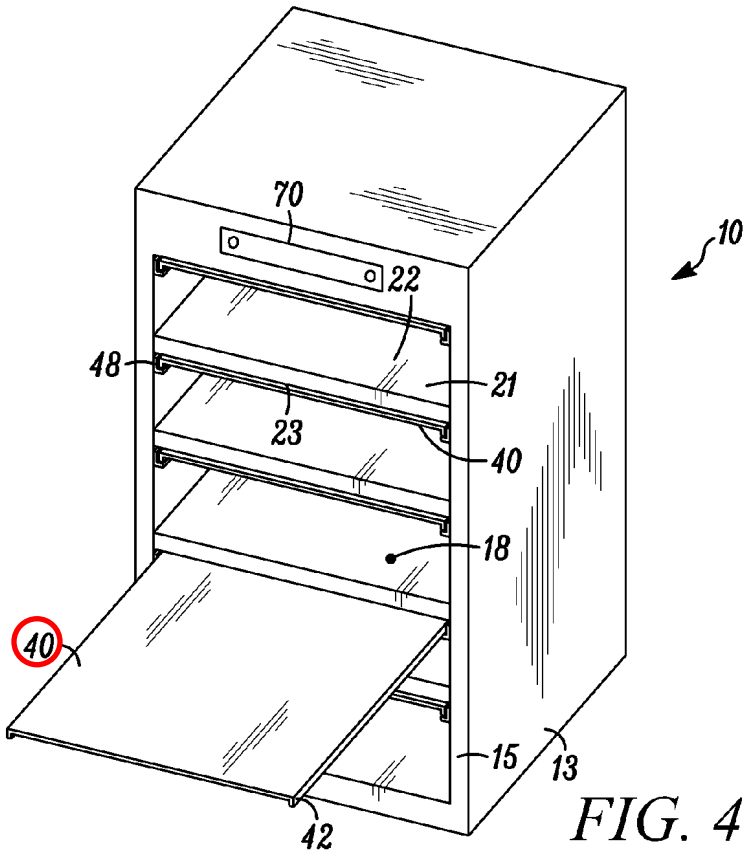


FIG. 4

EX1010: Figs. 1 and 4 (annotated).

730. 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.").

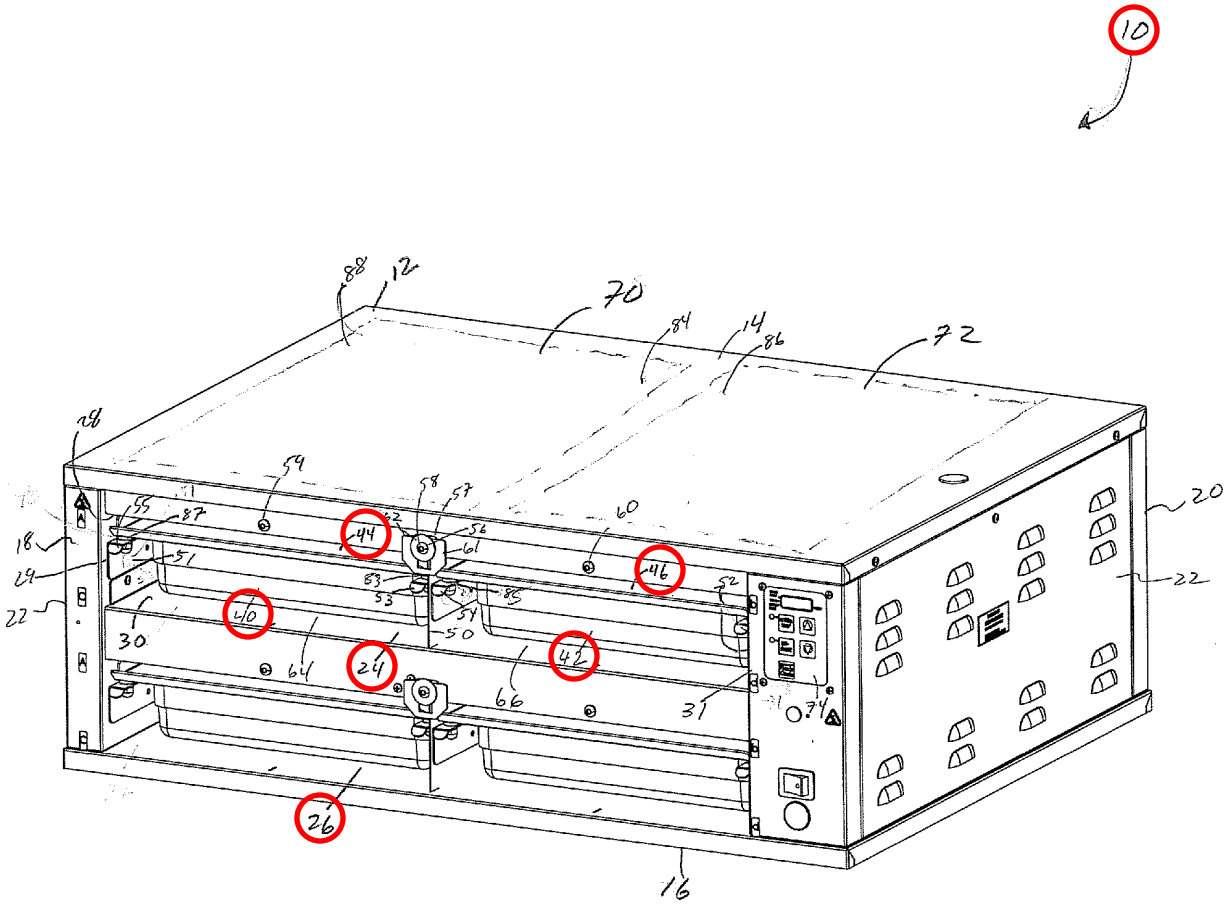


FIGURE 1

EX1013: Fig. 1 (annotated).

731. 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.

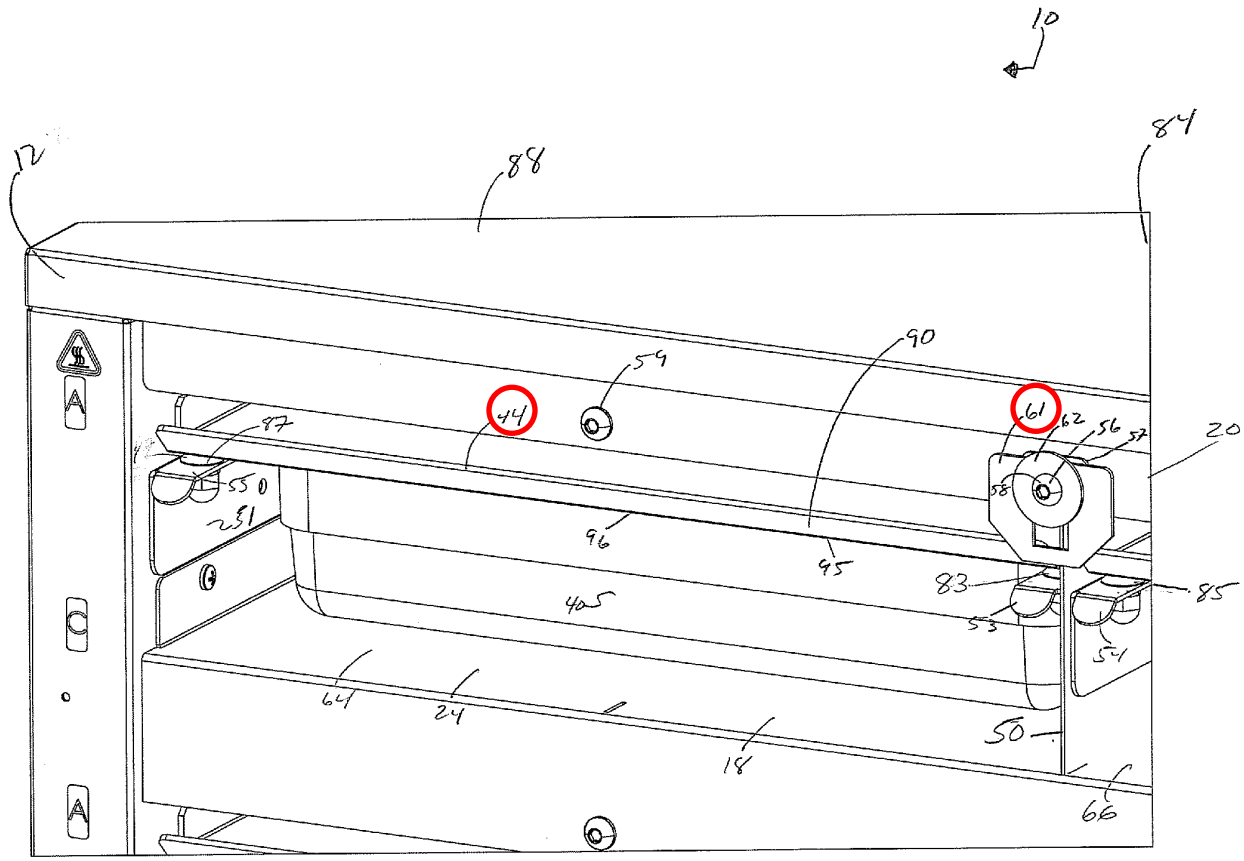


FIGURE 9

EX1013: Fig. 9 (annotated).

732. 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.

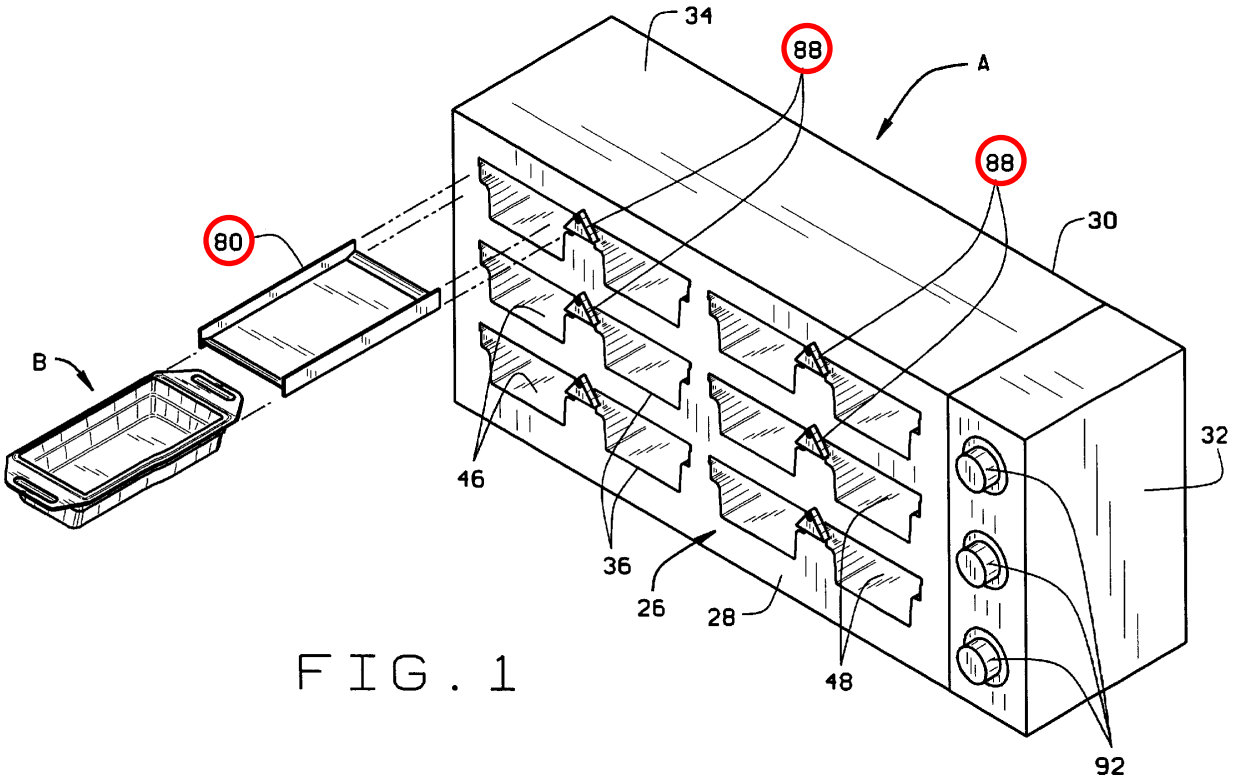


FIG. 1

EX1017: Fig. 1 (annotated).

733. 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].

734. 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.

735. 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).

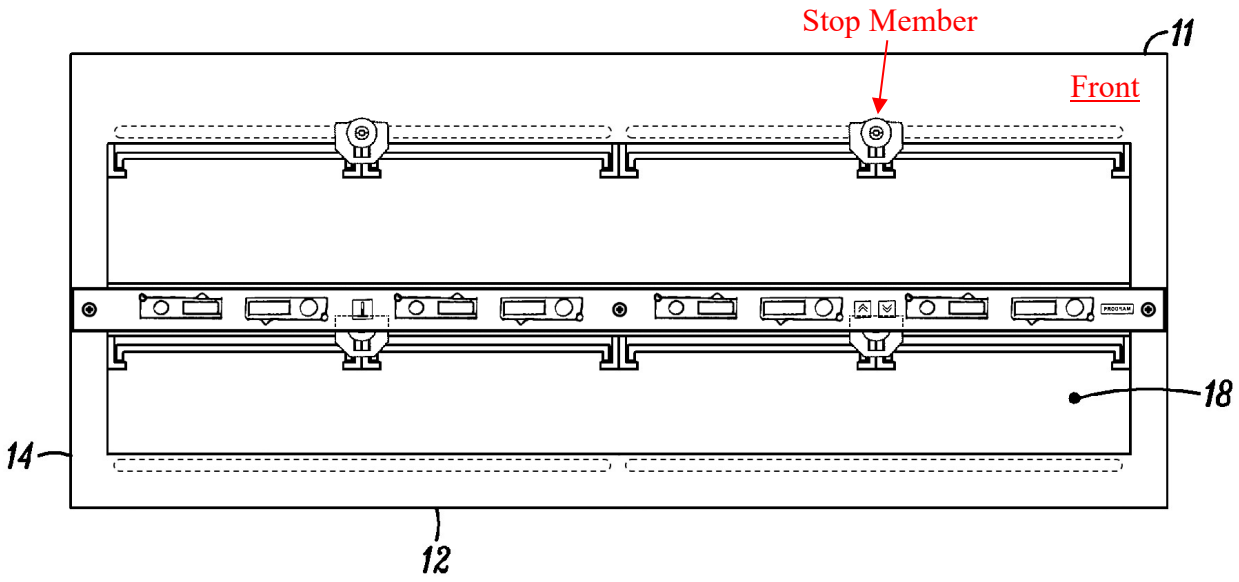
736. There would have been a high expectation of success in making this modification given:

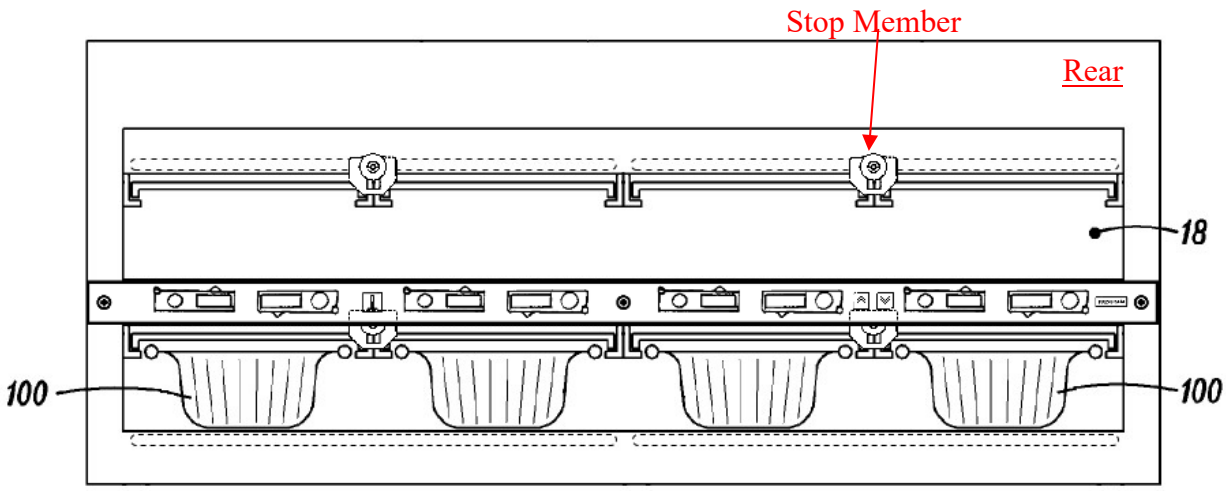
(1) the similarities between the Fortmann'748 cabinet and Hartfelder's and Shei'099's unit (*e.g.*, all units with compartments for warming trays/pans of food with lids covering the trays/pans); and

(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].

737. 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/chassis between two lids as taught by Hartfelder and Shei'099.

738. A representative illustration of the 2x4 Fortmann'748 cabinet 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).





EX1010: Figs. 2 and 6 (modified, annotated).

9. Insulation

739. The heaters (60) of Fortmann'748 are disposed between top and bottom planar sheets (22, 23) of the shelf (21). EX1010: ¶[0019] ("[e]ach of the plurality of shelves 21 include[s] one or more heaters 60 … disposed within the internal volume shelf 21 …, the shelves 21 may include two planar sheets of thin material (such as stainless steel) that form an envelope for the heater[s] 60 to be disposed therebetween").

740. The heater (60) is taught to be in contact with the top sheet (22) of the shelf (21) to heat the compartment above the shelf and the heater for the compartment below the shelf is taught to be in contact with the bottom sheet (23) of the shelf (21) to heat the compartment below the shelf. 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)").

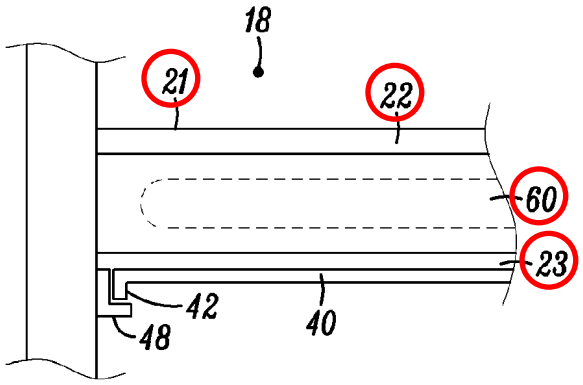


FIG. 3

EX1010: Fig. 3 (annotated).

741. In implementing the upper and lower heater modification to Fortmann'748 discussed in Paragraphs 581-650 above, it would have been obvious to provide insulation between the upper and lower heaters as taught in the prior art.

742. For example, Fortmann'967 teaches a food holding system or cabinet (10) for keeping food warm. EX1018: 1:5-7 ("[t]his invention relates to a system that defines a conditioned environment, as for treating and/or maintaining the treated state of food items"), 4:19-26, Fig. 1.

743. Similar to Fortmann'748, the system (10) of Fortmann'967 has a plurality of vertically stacked food treatment spaces (16, 18, 20, 22) that receive a receptacle or tray (32) of food. EX1018: 3:64-65, 4:4-11, Fig. 2. Each food treatment space (16, 18, 20, 22) of Fortmann'967 has two heaters (44, 48) which heat the top and bottom of the receptacle (32). EX1018: 4:22-26 ("a heater 44,

which conducts heat through a heat sink 46 to the bottom wall 24, and a separate heater 48 which conducts heat through a heat sink 50 to the top wall 26"), Fig. 2.

Fig. 1

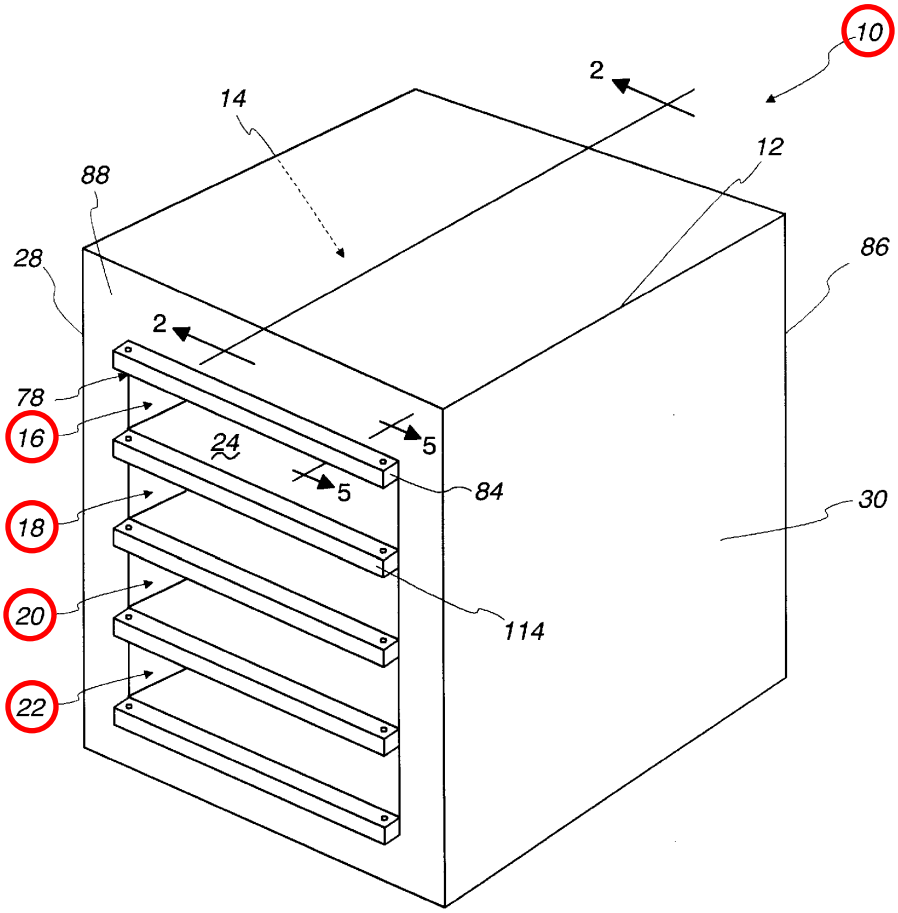
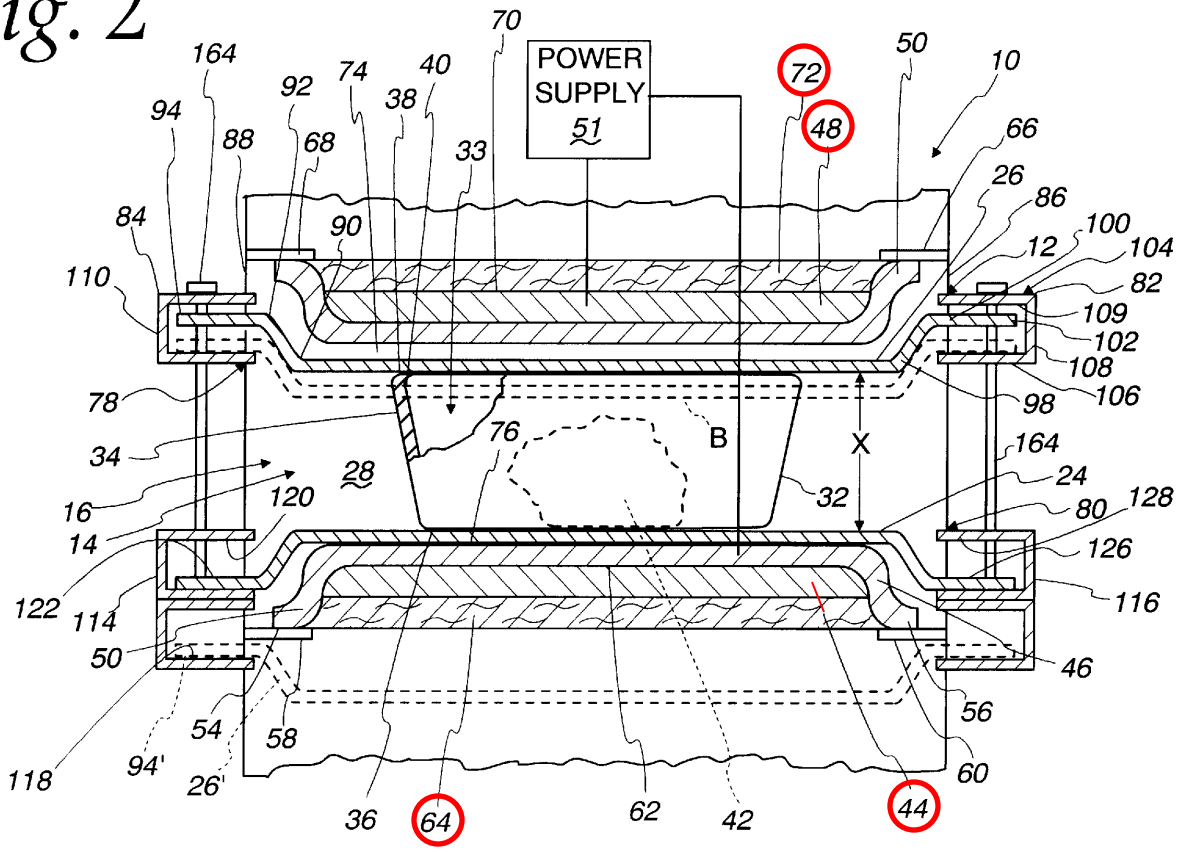


Fig. 2



EX1018: Figs. 1 and 2 (annotated).

744. Each heater (44, 48) is backed by insulation (64, 72), which directs the heat from the heaters into the food treatment space (16, 18, 20, 22). EX1018: 4:33-38 ("An insulation layer 64 fills the space 62 beneath the heater 44.… The heater 48 is nested in a space 70 defined by the heat sink 50 and covered by an insulation layer 72."), Fig. 2.

745. Similarly, 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.

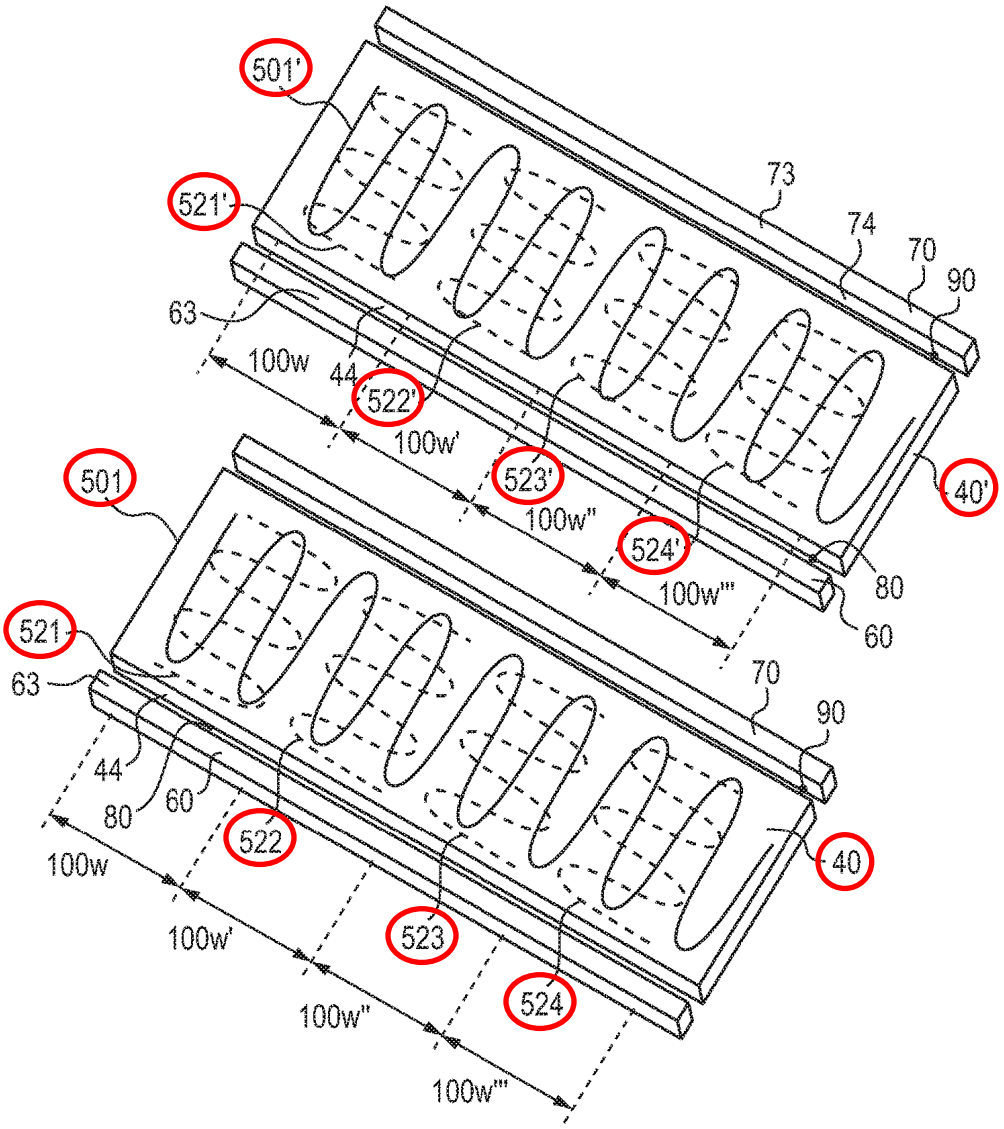


FIG. 10

EX1014: Fig. 10 (annotated).

746. It would have been obvious to add insulation in the shelf of Fortmann‘748’s cabinet—as modified in view of Jones, Fortmann’197, the IRHS Documents, and McMillan to incorporate separate independently controllable upper and lower heaters—to direct the heat generated by the heaters (upper heaters) disposed at the bottom of the shelf into the compartment below the shelf and heaters (upper heaters) disposed at the top of the shelf into the compartment above the shelf. EX1014: 9:32-37 (“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”).

747. The addition of insulation would also further thermally separate the two compartments, reducing the effect the temperature in one compartment has on the temperature in the other compartment. Moreover, insulation would increase heating accuracy and efficiency, reducing power consumption and operating costs. EX1007: 8 (“raise restaurant profitability” and “decreasing the costs associated with running your restaurant”), 11 (“Energy Savings = Cash Flow Improvement”).

748. This modification would have been nothing more than combining known prior art elements (the insulation of Fortmann’967 and Fortmann’197 with the cabinet of Fortmann’748) according to known methods (the insulation

arrangement taught by Fortmann'967 and Fortmann'197) to yield predictable results (thermally separating the upper and lower heaters in the same shelf and heating accuracy/efficiency). This modification would have also been nothing more than using a known technique (the insulation of Fortmann'967 and Fortmann'197) to improve a similar device (Fortmann'748's cabinet) in the same way (the insulation arrangements taught by Fortmann'967 and Fortmann'197).

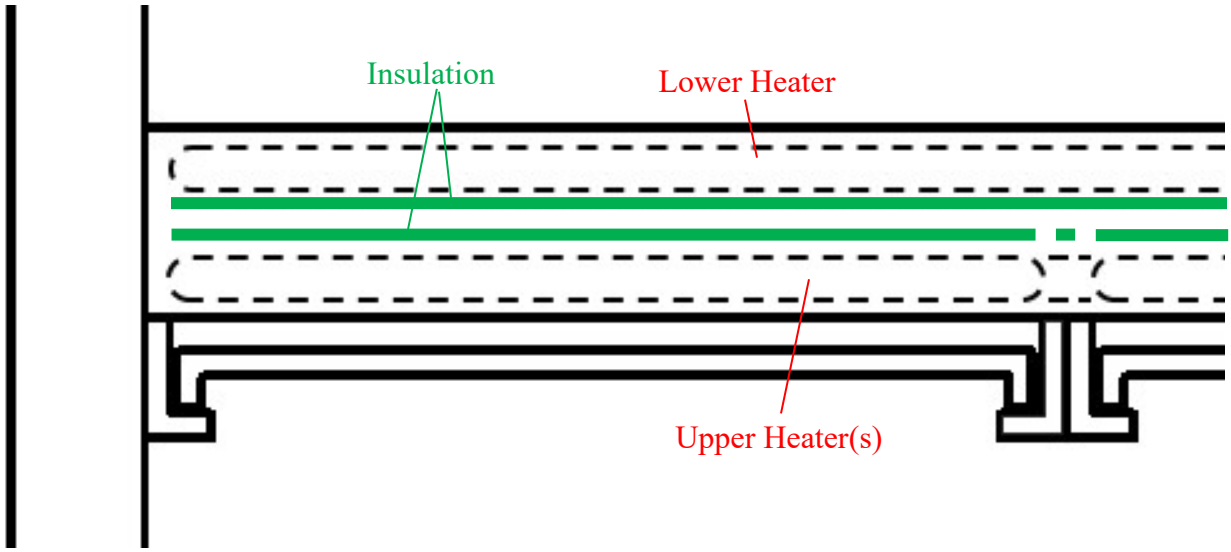
749. There would have been a high expectation of success in making this modification given:

(1) the similarities between the Fortmann'748 cabinet and the units of Fortmann'967 and Fortmann'197 (*e.g.*, all shelves having upper and lower heating elements);

(2) the insulating purposes of the added insulation from Fortmann'967 or Fortmann'197 would not change; and

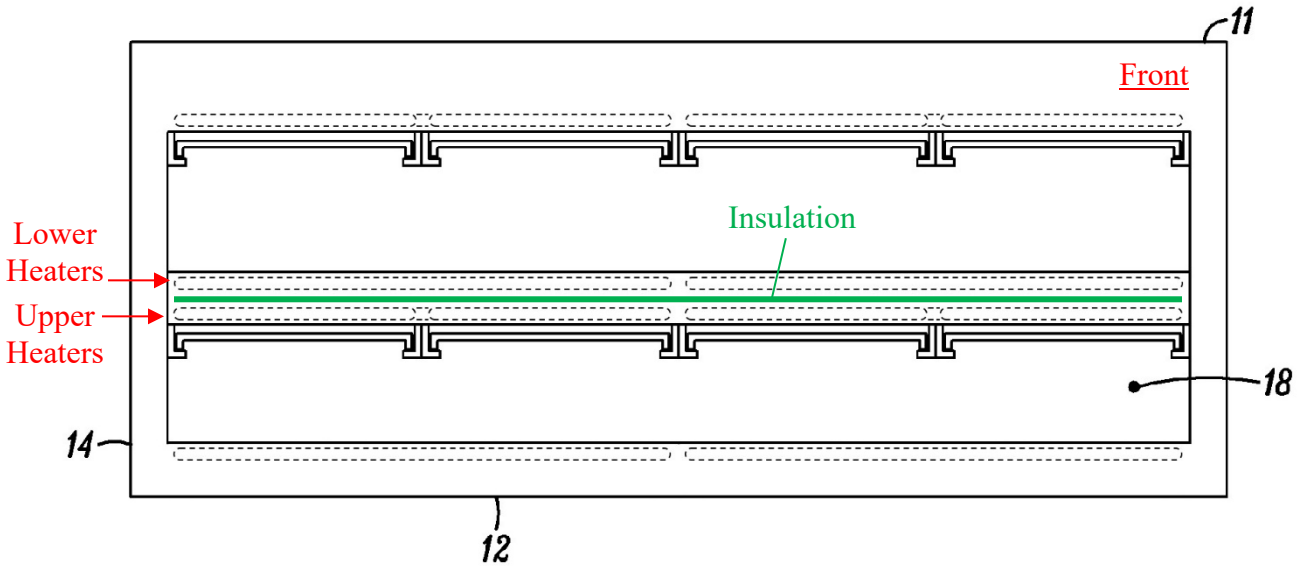
(3) Fortmann'967 and Fortmann'197 demonstrate placement of insulation to promote heating in a desired direction is possible. EX1018: 4:33-38; EX1014: 9:32-37.

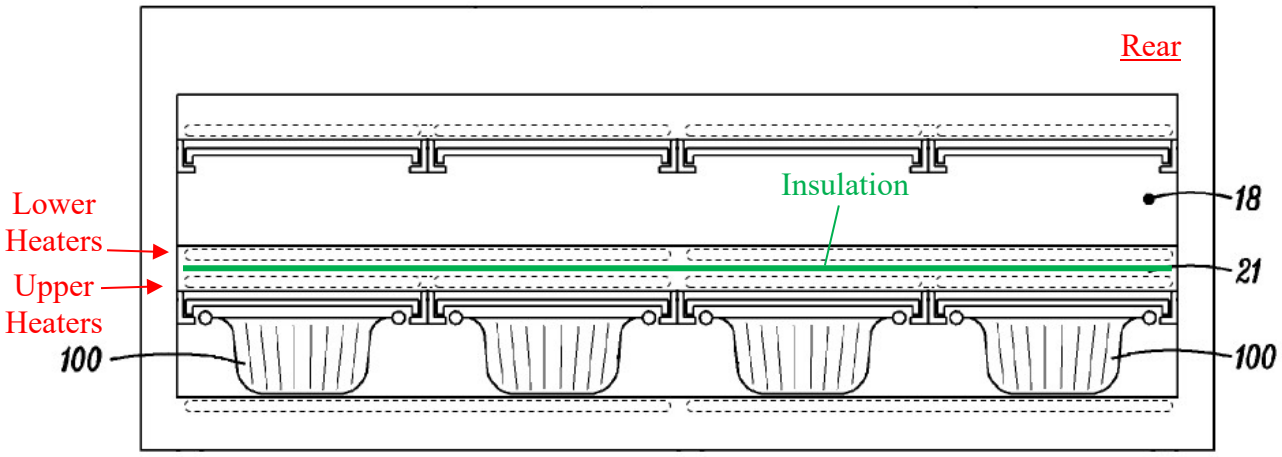
750. Fortmann'967 teaches backing each heater with insulation. EX1018: 4:33-38. Based on these teachings, the POSA would back each of the upper and lower heaters in the shelf with insulation. An enlarged schematic illustration of the 2x4 Fortmann'748 cabinet modified in this manner is shown below:



EX1010: Fig. 2 (modified, annotated, enlarged).

751. Fortmann'197 similarly teaches placing insulation between the upper and lower heating elements in the shelf. EX1014: 9:32-37. Based on these teachings, the POSA would place the insulation in the interior volume of the shelf (21) between the upper and lower heaters. Schematic illustrations of the 2x4 Fortmann'748 cabinet modified in this manner are shown below:





EX1010: Figs. 2 and 6 (modified, annotated).

B. Independent Claim 1

1.P: A multi-zone food holding bin comprising:

752. The POSA would recognize that Fortmann'748 disclose "a multi-zone food holding bin."

753. Specifically, Fortmann'748 teaches 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; Section XIII(B)(1.h.1), (1.i.1), (1.k.1), (1.l.1).

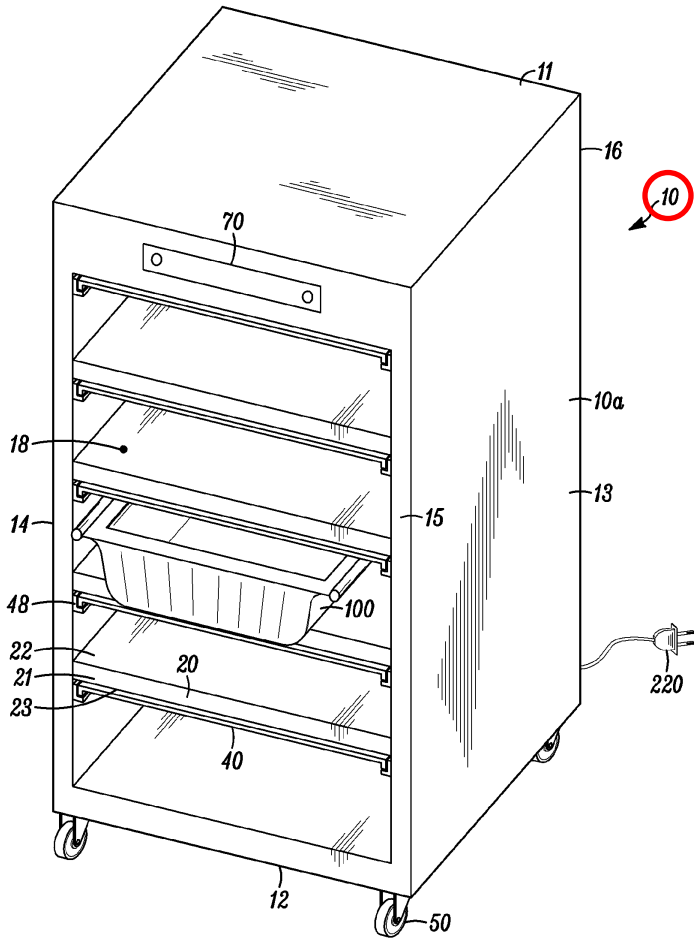


FIG. 1

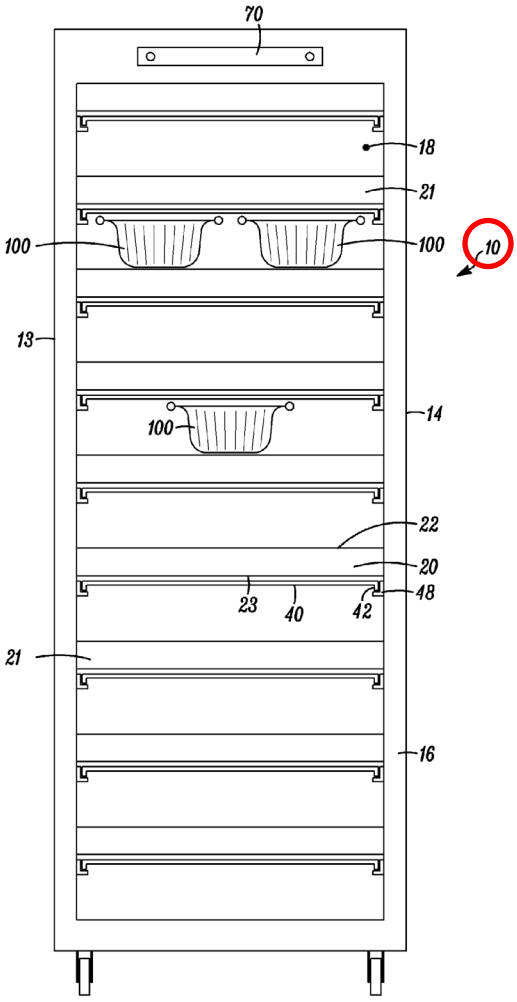
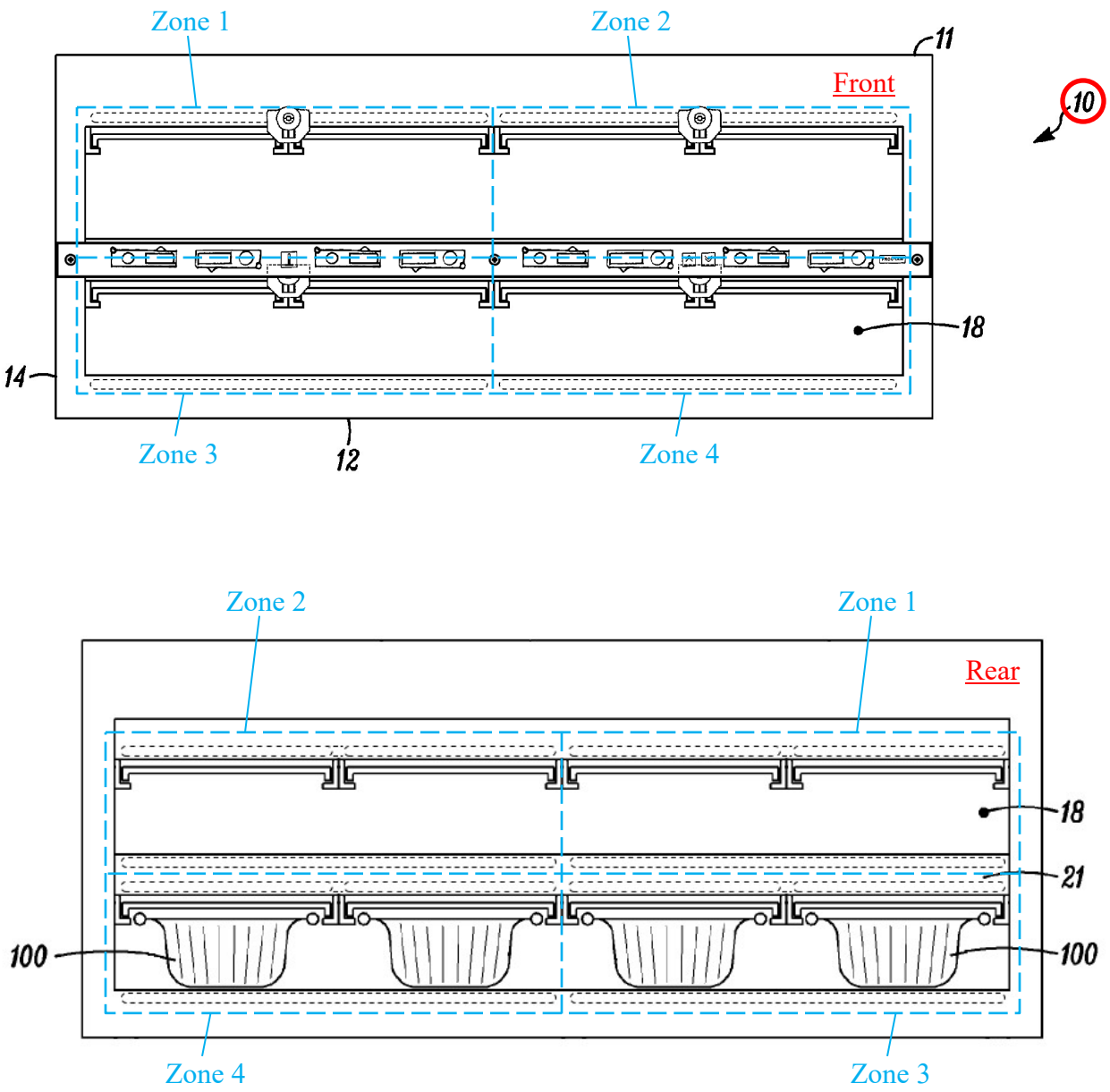


FIG. 6

EX1010: Figs. 1 and 6 (annotated).



EX1010: Figs. 2 and 6 (modified, annotated).

1.a: 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

754. The POSA would recognize that Fortmann'748 disclose the multi-zone food holding bins as having "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."

755. 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) 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.

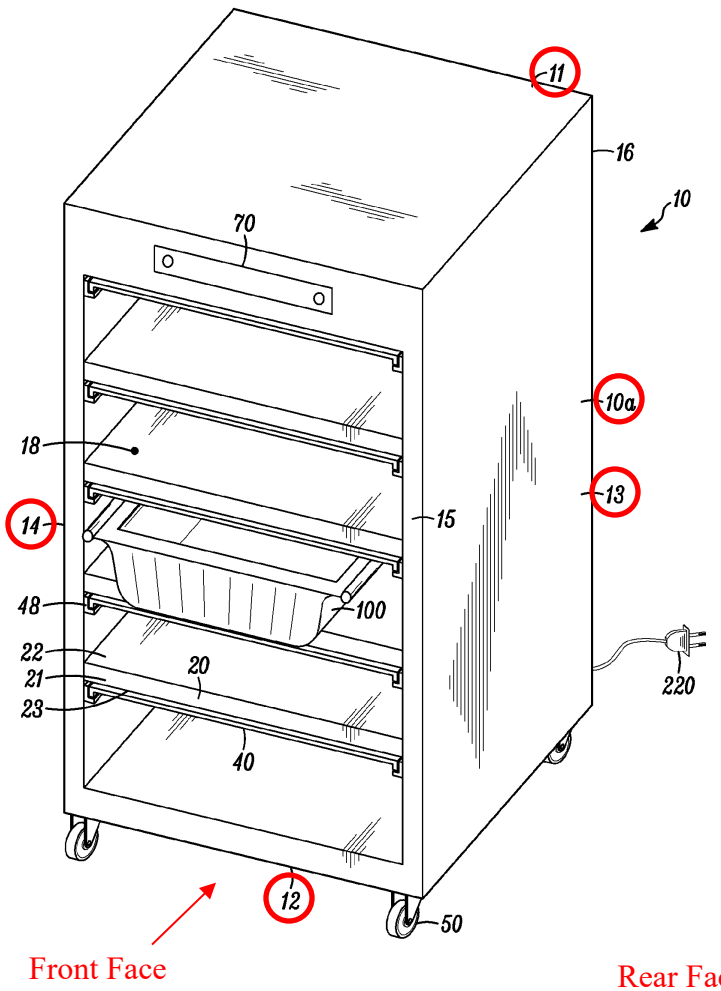


FIG. 1

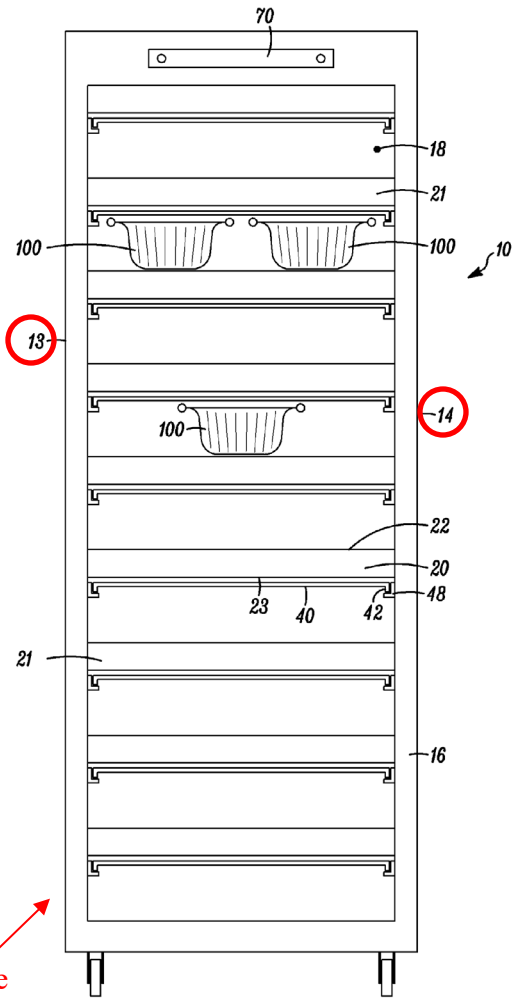
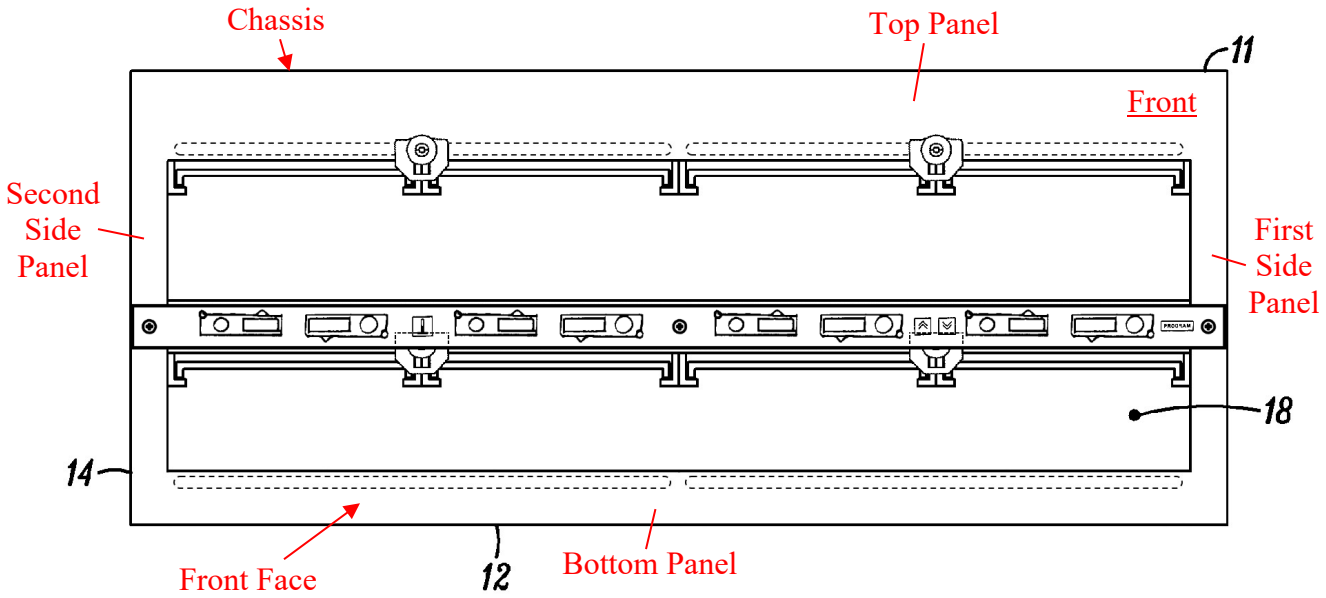
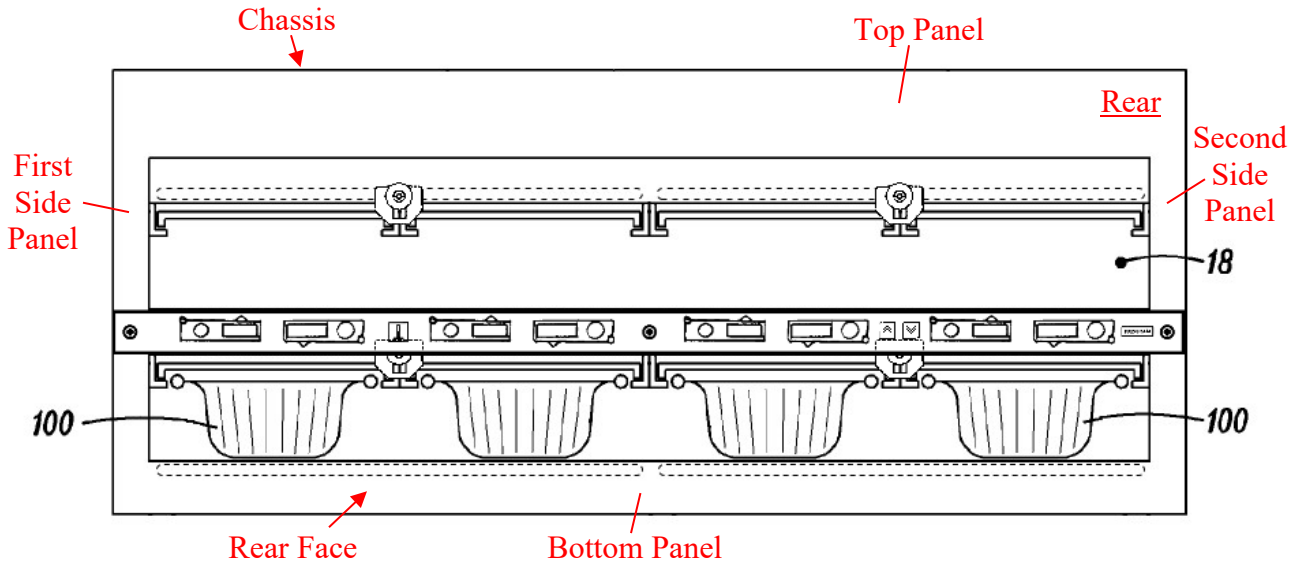


FIG. 6

EX1010: Figs. 1 and 6 (annotated).

756. This teaching would likewise hold true for the Fortmann'748 cabinet as modified according to Paragraphs 570-738 (Ground 10, Section XIII(A)) above as shown in the modified renderings below. The modified figures throughout Grounds 10-13 represent the modifications explained in Paragraphs 570-738.





EX1010: Figs. 2 and 6[6] (modified, annotated).

1.b.1: a first food holding compartment within the chassis, the first food holding compartment being defined by the first side panel, the second side panel, the top panel and a shelf

757. The POSA would recognize that Fortmann'748 disclosed "a first food holding compartment within the chassis, the first food holding compartment being defined by the first side panel, the second side panel, the top panel and a shelf."

758. 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.

[6] Fig. 2 is a front view and Fig. 6 is a back view of the cabinet. EX1010: ¶¶[0008], [0012].

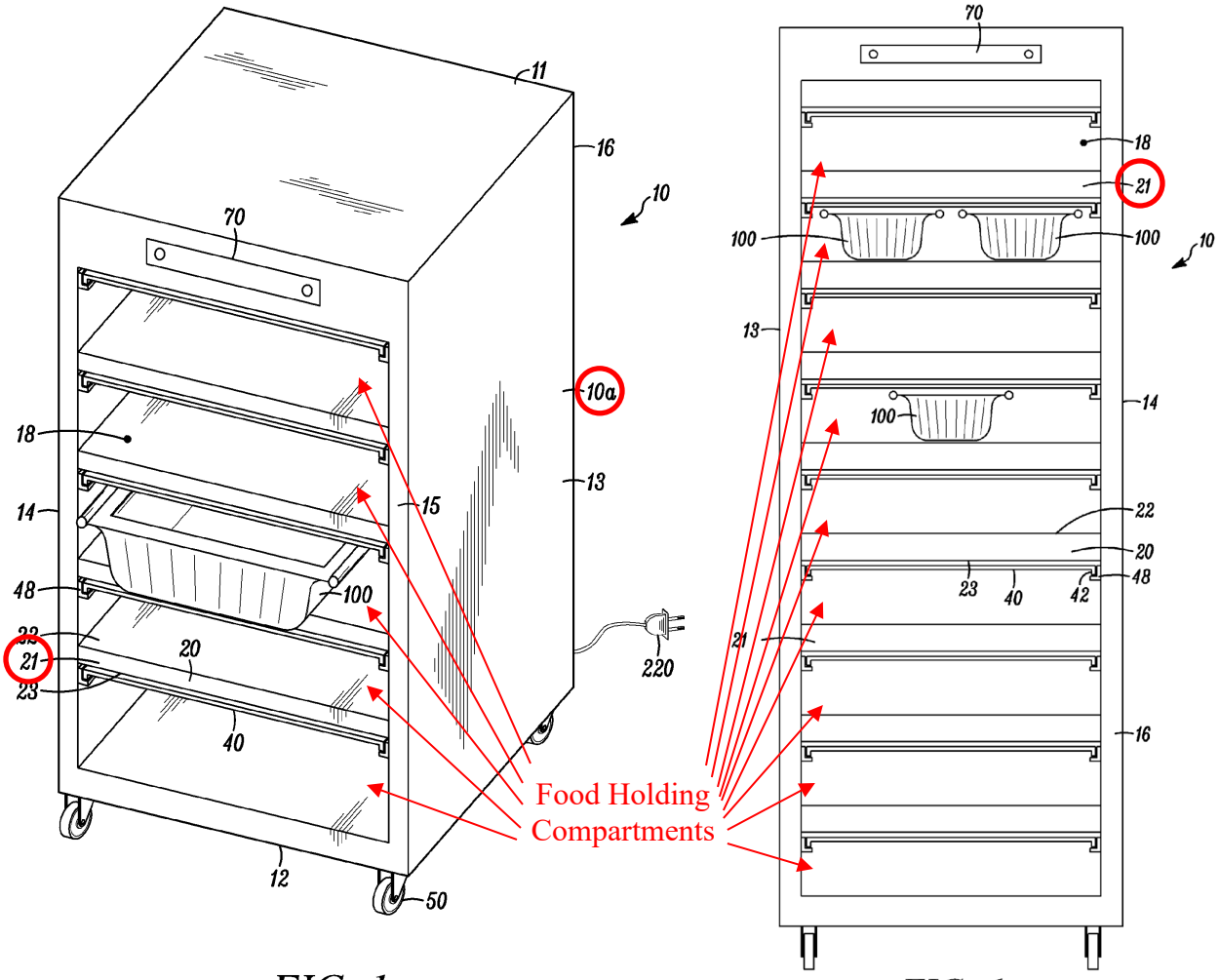
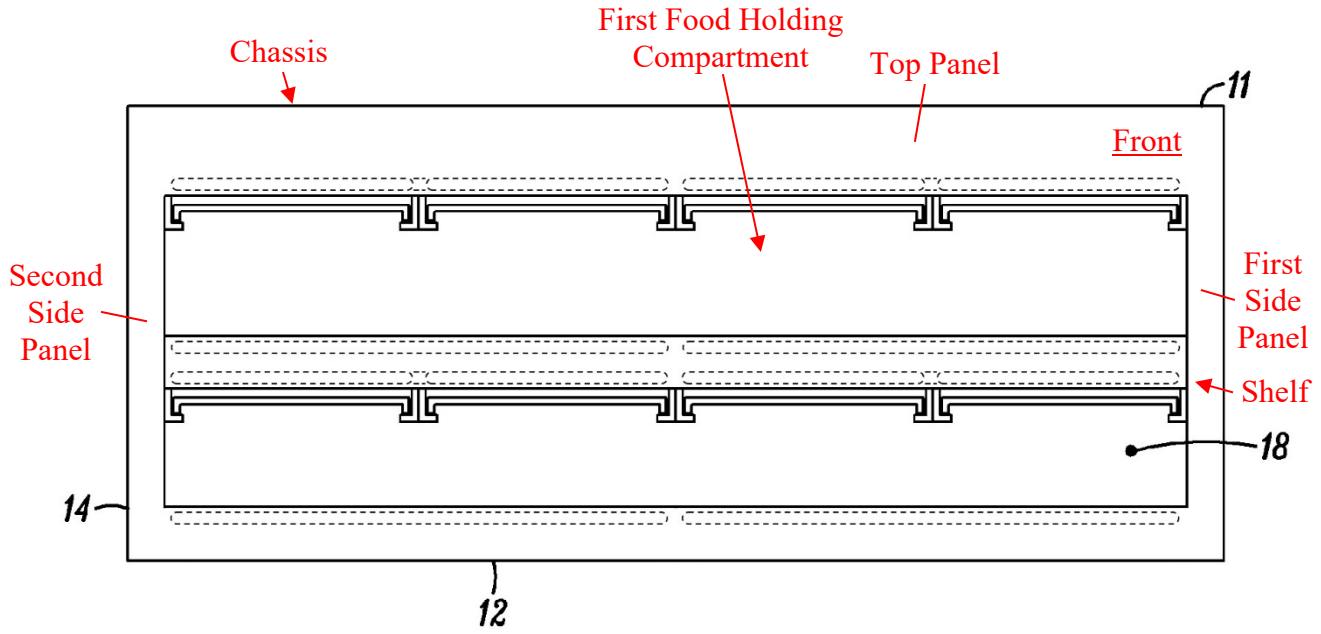
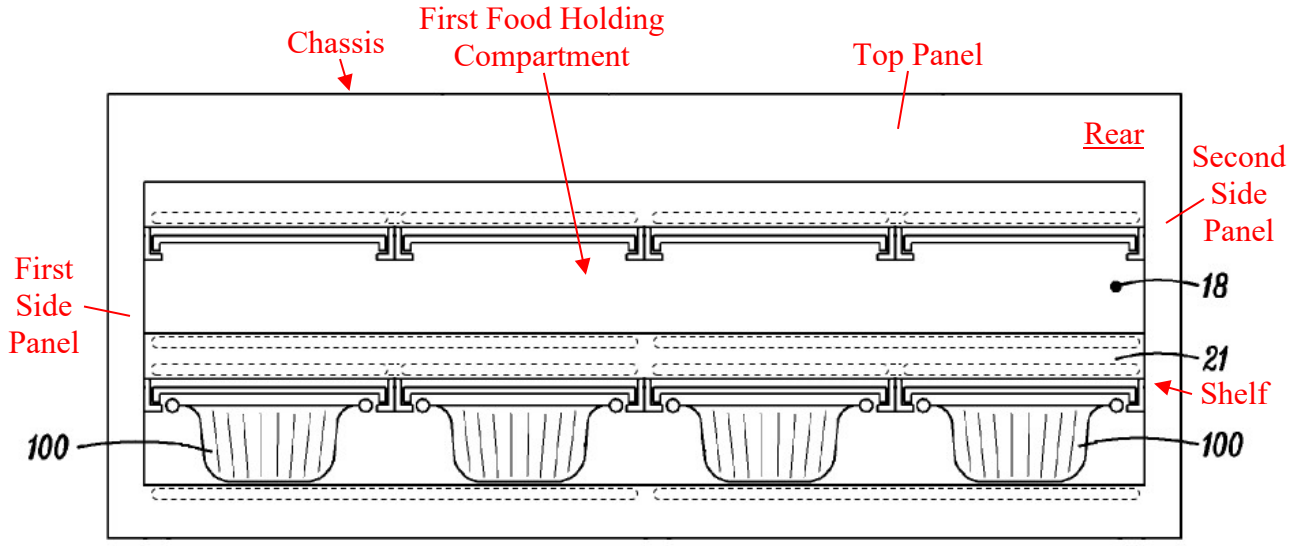


FIG. 1 *FIG. 6*

EX1010: Figs. 1 and 6 (annotated).

759. In adapting the Fortmann'748 cabinet to a 2x4 configuration as discussed at Paragraphs 570-580 (Ground 10, Section XIII(A)(1)) above, the chassis (10a) would have a first food holding compartment within the chassis defined by the first side panel (13), the second side panel (14), the top panel (11), and the shelf (21).





EX1010: Figs. 2 and 6 (modified, annotated).

1.b.2: the top panel including at least one downwardly depending lid holding shelf

760. The POSA would recognize that a multi-zone food holding unit with "the top panel including at least one downwardly depending lid holding shelf" would have been obvious over Fortmann'748 either alone or in view of the IRHS Documents and/or Shei'821.

761. The top panel (11) 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.

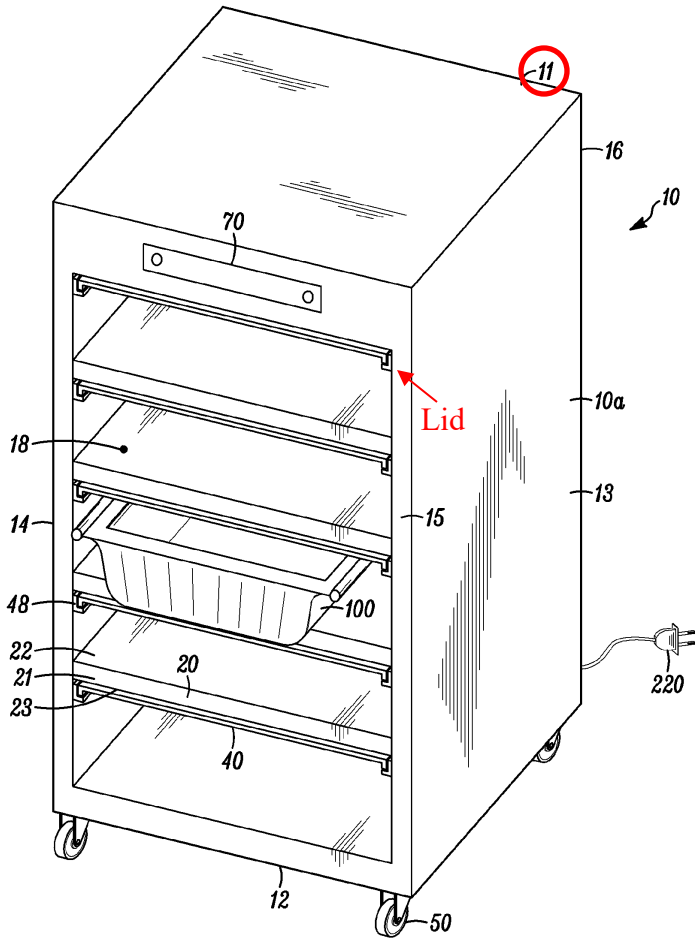


FIG. 1

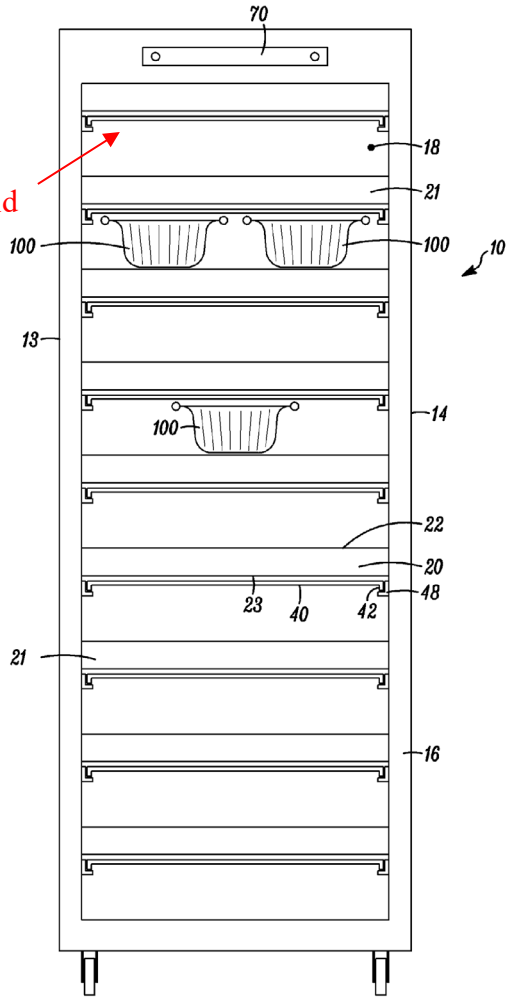


FIG. 6

EX1010: Figs. 1 and 6 (annotated).

762. 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.

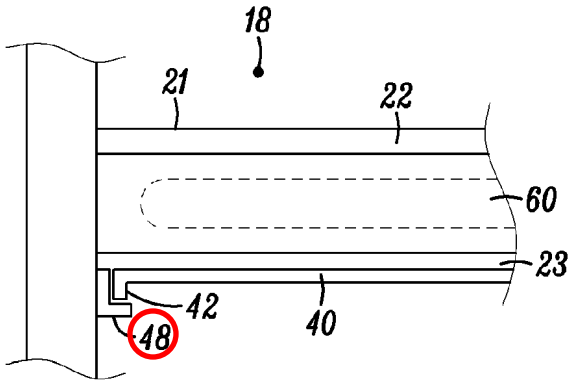


FIG. 3

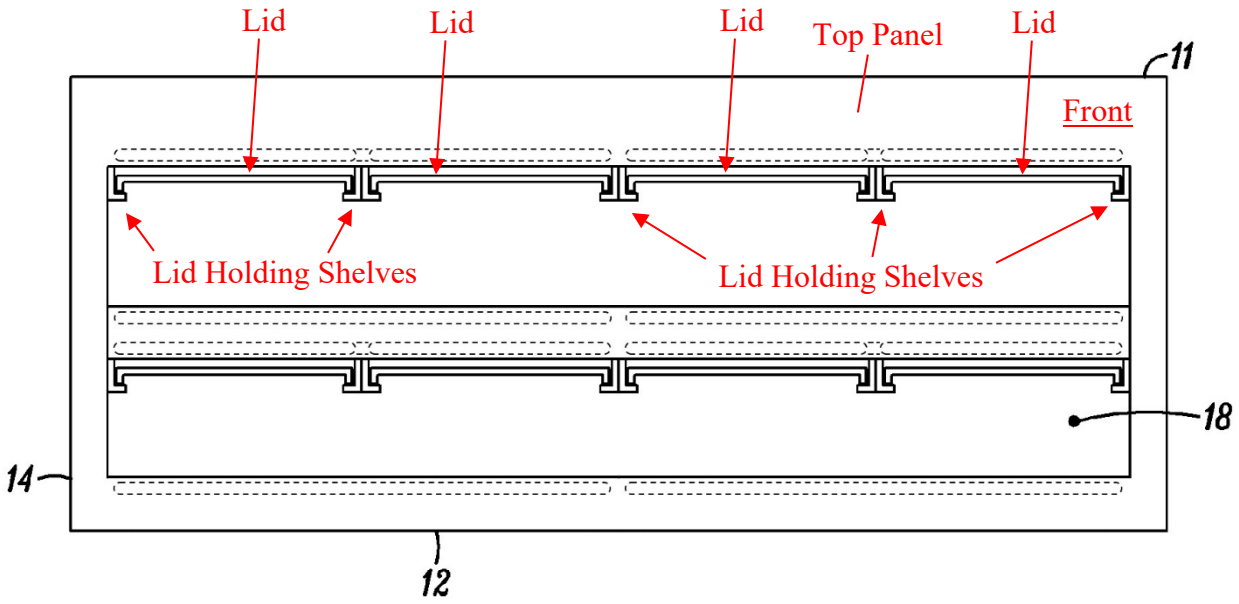
EX1010: Fig. 3 (annotated).

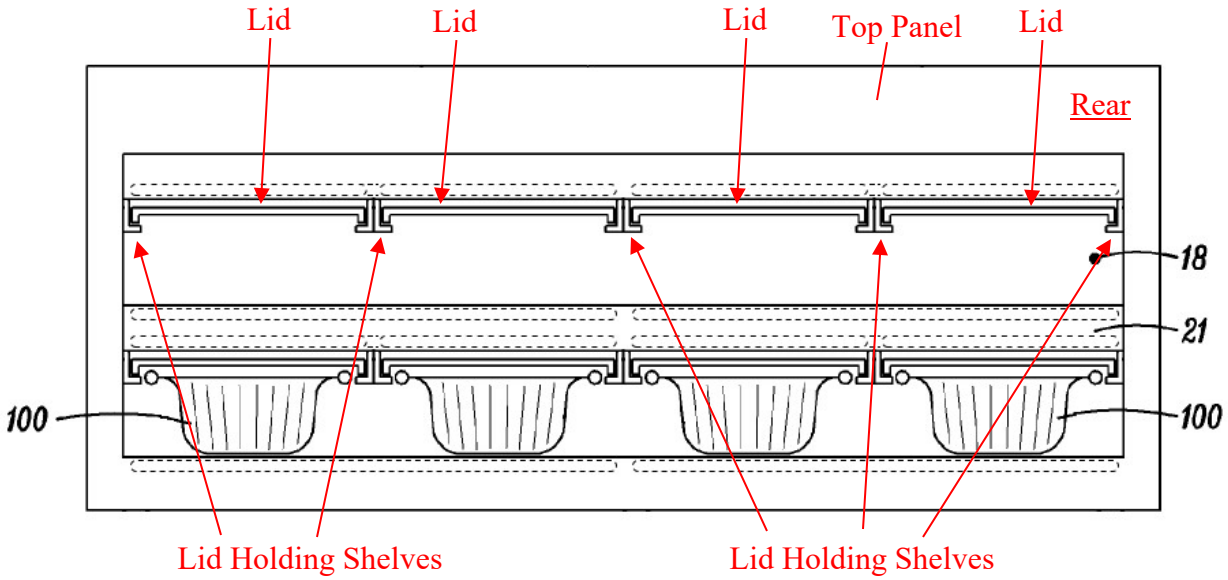
763. Fortmann'748 teaches an embodiment where the track (48) is "***fixed directly to the respective shelf 21*** and is disposed beneath each of the right and left sides of the shelf 21." EX1010: ¶[0018]. Although not explicitly taught, it would have been obvious to directly fix the track (48) that supports the lid (40) that is directly below top panel (11) to the top panel.

764. Fortmann'748 discloses two ways of mounting the track (48): (1) mounted on the side panels (13, 14), or (2) mounted on the shelves (21). EX1010: ¶[0018]. The POSA would understand that, because the top lid (40) does not have a shelf (21) above it, the track (48) can be "fixed directly" to the top panel (11) instead (the top panel substituting as the shelf in this context). EX1010: ¶[0018].

765. Notably, in modifying the Fortmann'748 cabinet to accommodate discrete lids for each pan holding location, it would have been necessary for the top track (48) supporting the lid (40) to be fixed directly to the top panel (11) and

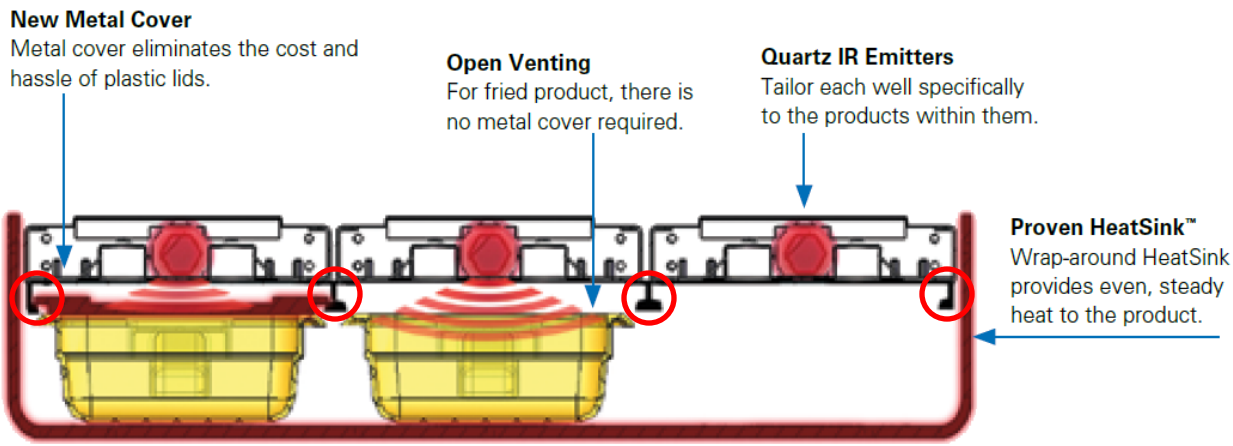
extend downwardly therefrom. Thus, the top panel (11) of the modified Fortmann'748 cabinet would include a track (48) forming a downwardly depending lid holding shelf.



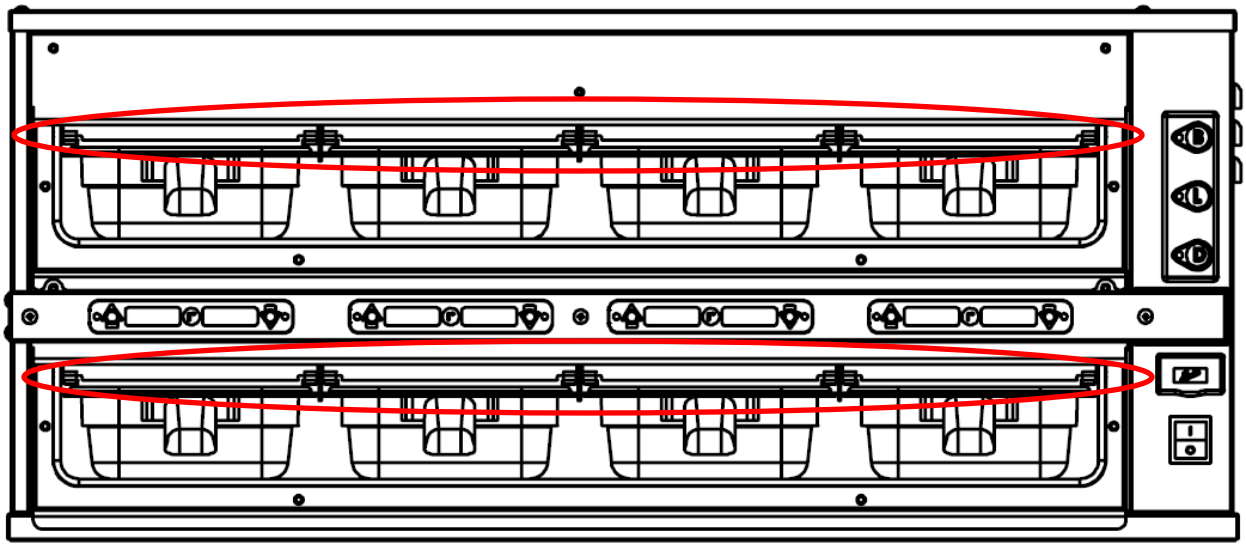


EX1010: Figs. 2 and 6 (modified, annotated).

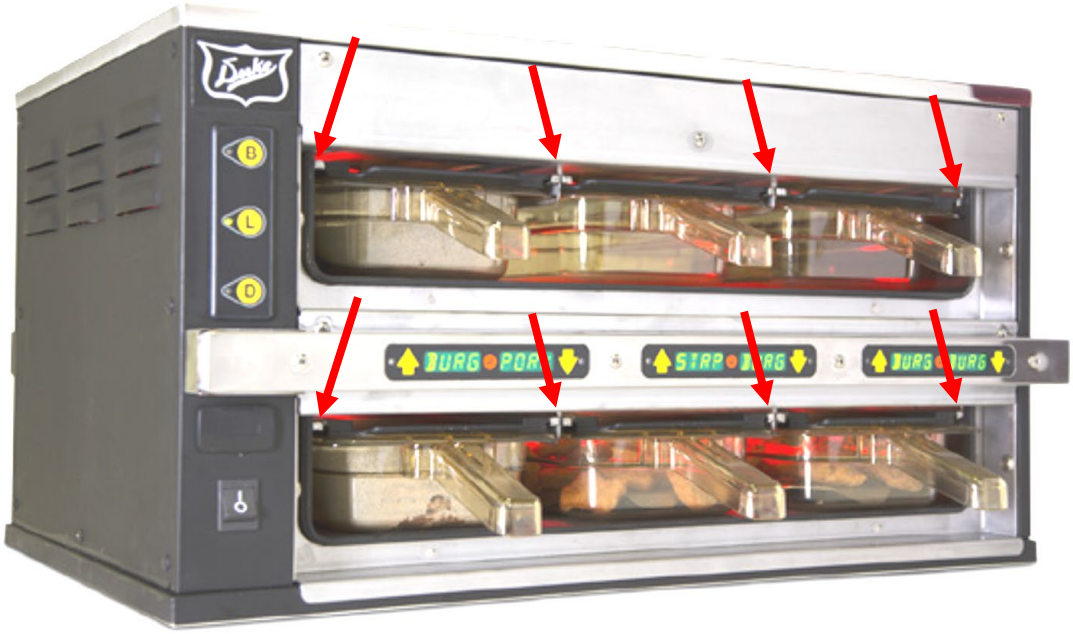
766. This would have been the application of a known technique (mounting a track to an overhead structure) to improve a similar device (the top track) in the same way. This would have also been a mere design choice and/or obvious to try as one of a finite number of ways of mounting the track (48) that supports the top lid (40) to the chassis (10a) as known in the art:



EX1007: 53 (annotated).

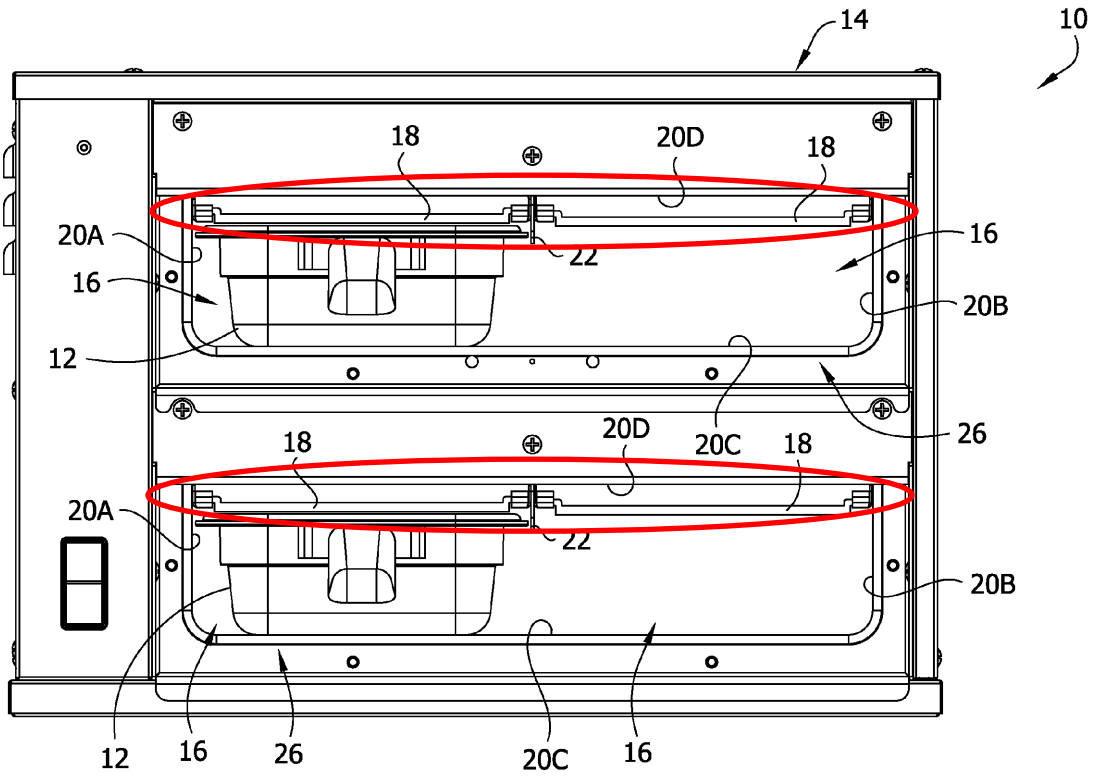


EX1005: 8 (annotated).



EX1006: 2 (annotated).

FIG. 3



EX1011: Fig. 3 (annotated).

767. The POSA would have had a high expectation of success, given Fortmann'748's explicit teaching of attaching the track to overhead structures (*e.g.*, the shelves (21)). EX1010: ¶[0018].

768. Again, in this case, the track (48) would be fixed directly to the top panel (11) and extend downwardly therefrom to support the lid (40). Thus, the track (48) associated with the top panel (11) would form a downwardly depending lid holding shelf.

1.b.3: the first food holding compartment being substantially unobstructed between the first side panel and the second side panel and below the downwardly depending lid holding shelf

769. The POSA would recognize that Fortmann'748 discloses "the first food holding compartment being substantially unobstructed between the first side panel and the second side pane and below the downwardly depending lid holding shelf."

770. The food holding compartments in the interior volume (18) of Fortmann'748 are unobstructed between the first and second side panels (13, 14) and below the tracks (48) (lid holding shelves).

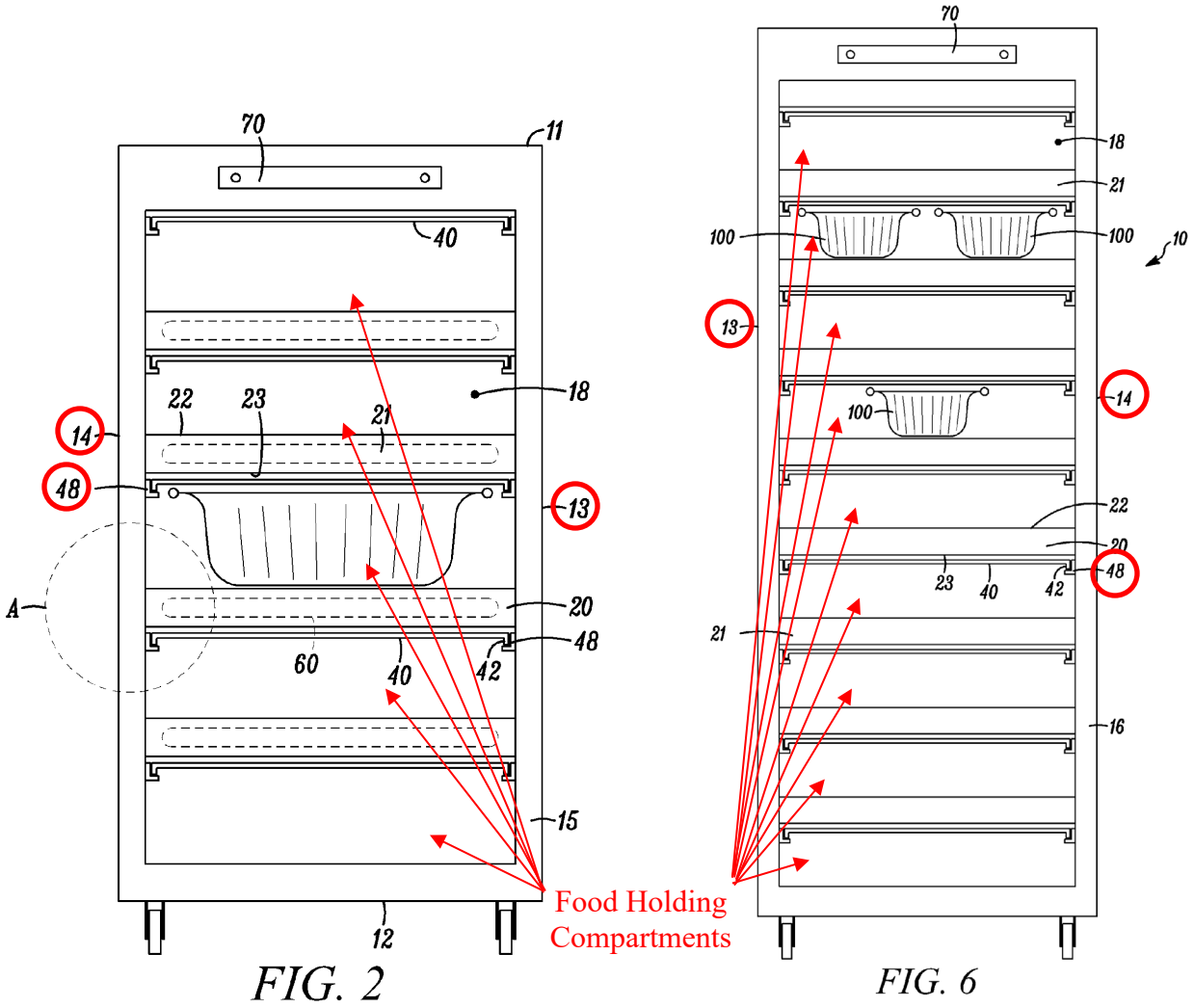
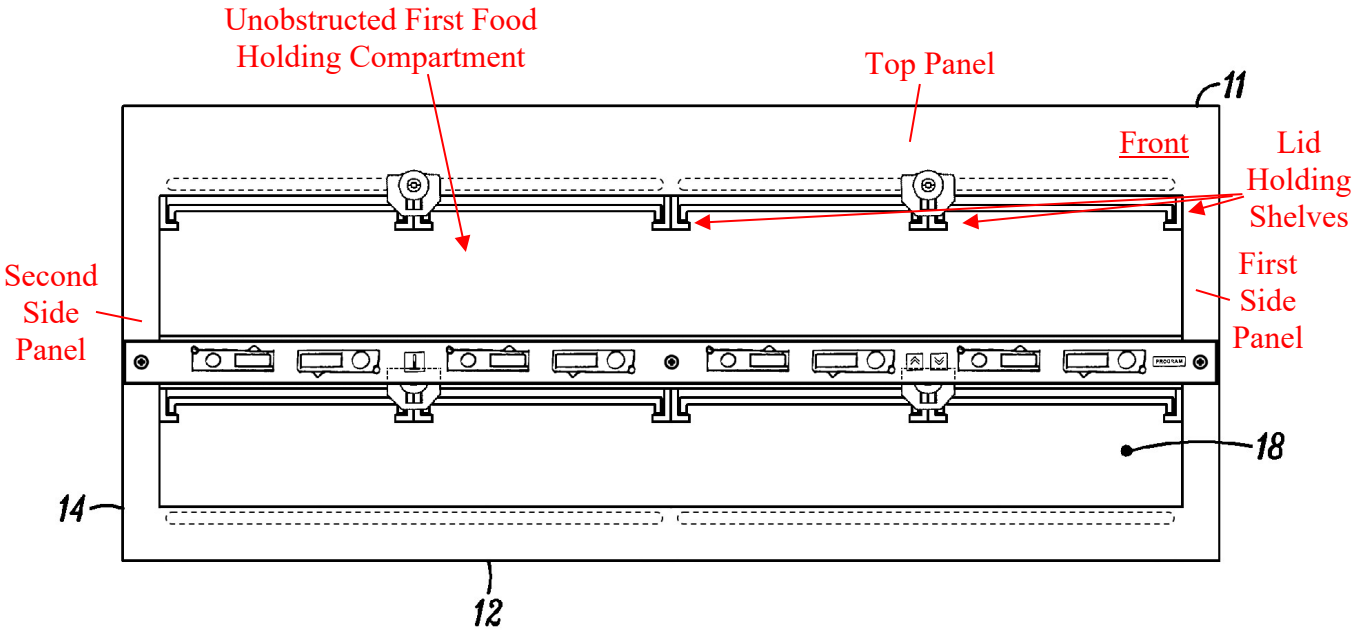
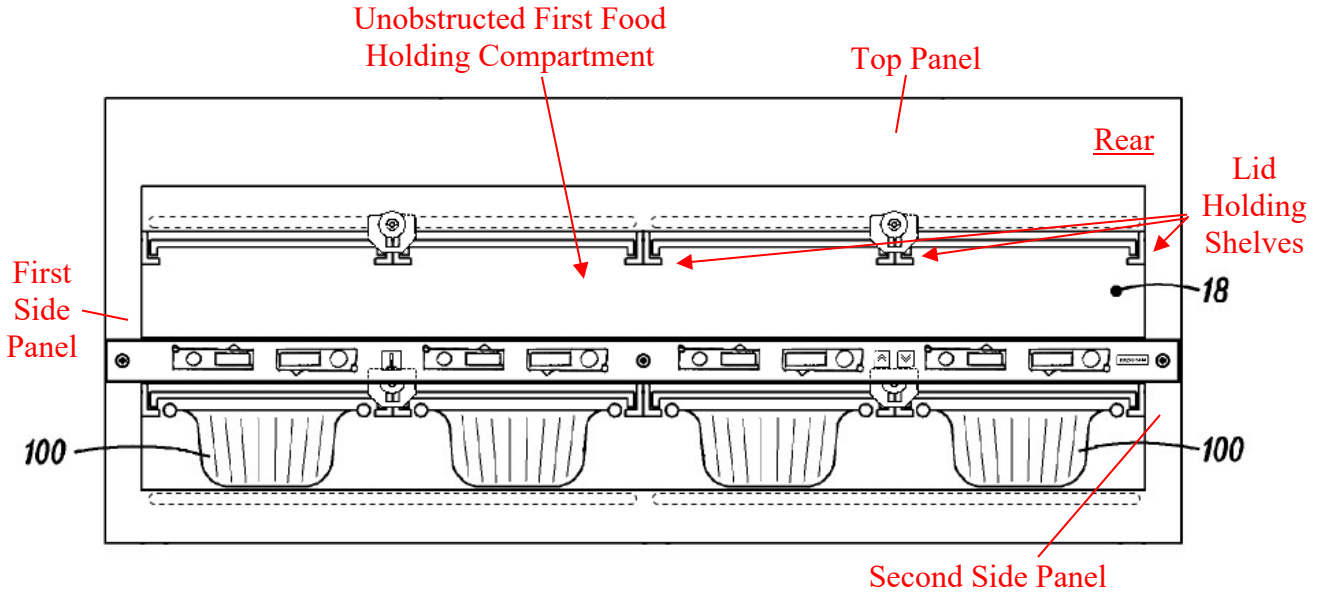


FIG. 2 FIG. 6

EX1010: Figs. 2 and 6 (annotated).

771. In adapting the Fortmann'748 cabinet to a 2x4 configuration as discussed at Paragraphs 570-580 (Ground 10, Section XIII(A)(1)) above, the food holding compartments would remain unobstructed between the first and second side panels and below the downwardly depending lid holding shelf.





EX1010: Figs. 2 and 6 (modified, annotated).

1.c.1: a second food holding compartment disposed below the first food holding compartment within the chassis, the second food holding compartment being defined by the first side panel, the second side panel, the bottom panel and the shelf

772. The POSA would recognize that Fortmann'748 discloses "a second food holding compartment disposed below the first food holding compartment within the chassis, the second food holding compartment being defined by the first side panel, the second side panel, the bottom panel and the shelf."

773. 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"), Figs. 1 and 6.

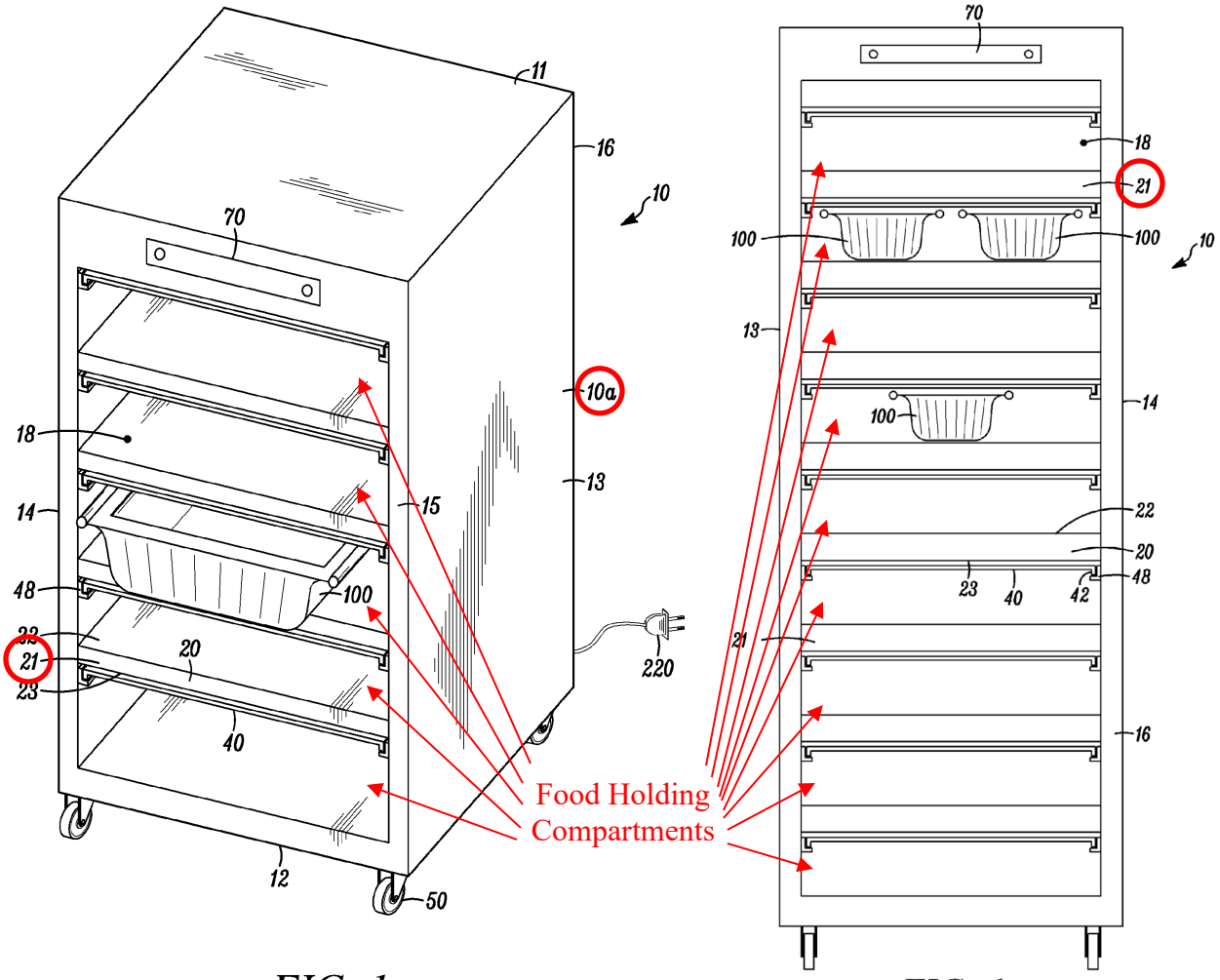
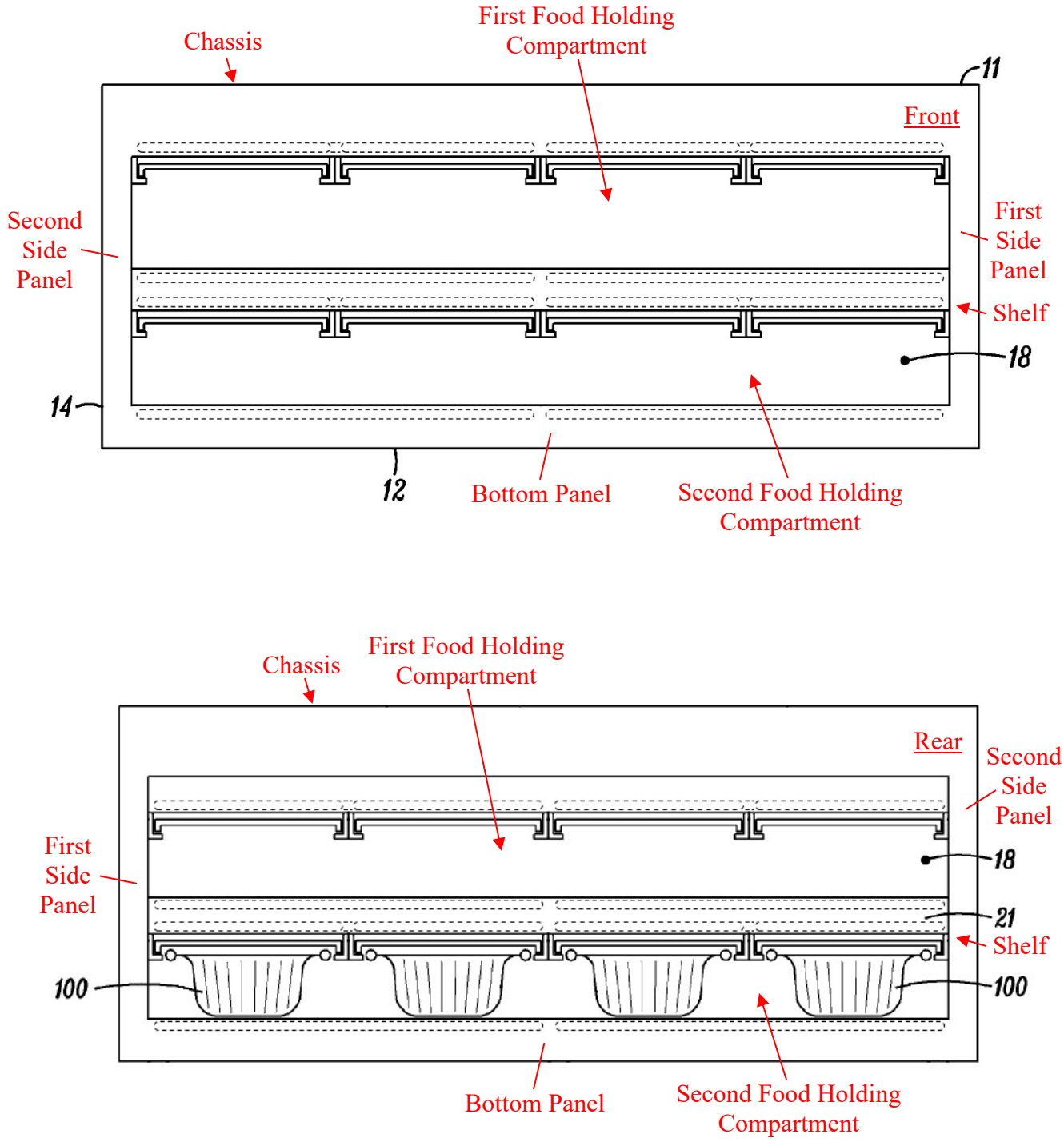


FIG. 1 *FIG. 6*

EX1010: Figs. 1 and 6 (annotated).

774. In adapting the Fortmann'748 cabinet to a 2x4 configuration as discussed at Paragraphs 570-580 (Ground 10, Section XIII(A)(1)) above, the chassis (10a) of the cabinet would have a second food holding compartment within the chassis disposed below the first food holding compartment and defined by the first side panel (13), the second side panel (14), the bottom panel (12), and the shelf (21).



EX1010: Figs. 2 and 6 (modified, annotated).

1.c.2: the shelf including at least one downwardly depending lid holding shelf

775. The POSA would recognize that Fortmann'748 discloses that "the shelf includ[es] at least one downwardly depending lid holding shelf."

776. Specifically, 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"), Figs. 1 and 6.

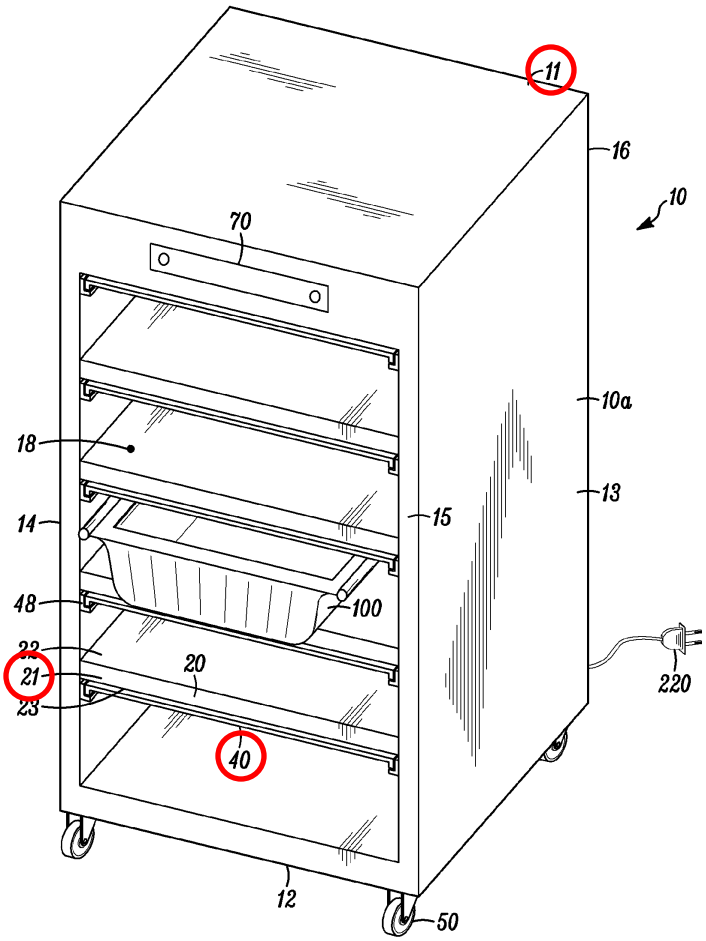


FIG. 1

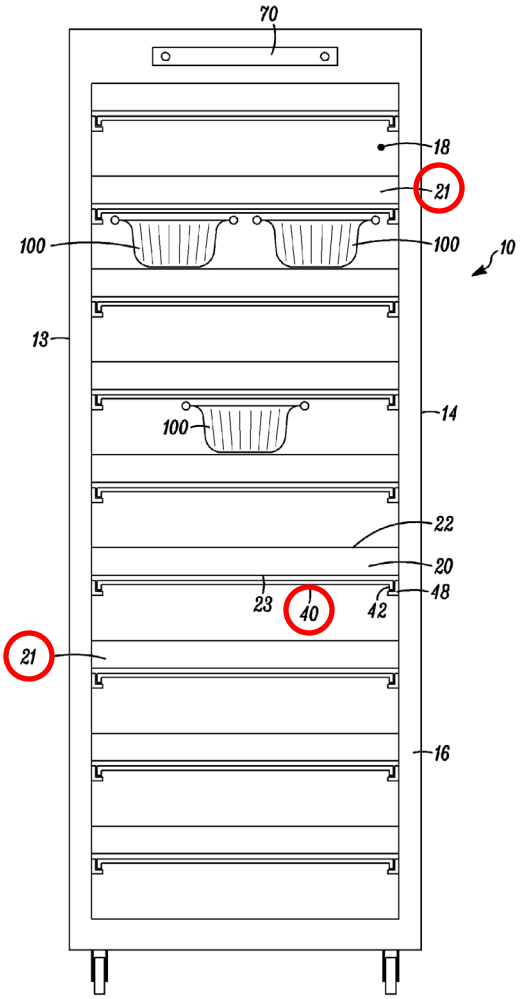


FIG. 6

EX1010: Figs. 1 and 6 (annotated).

777. 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.

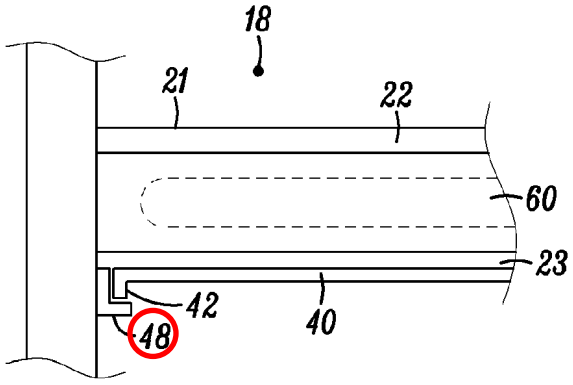
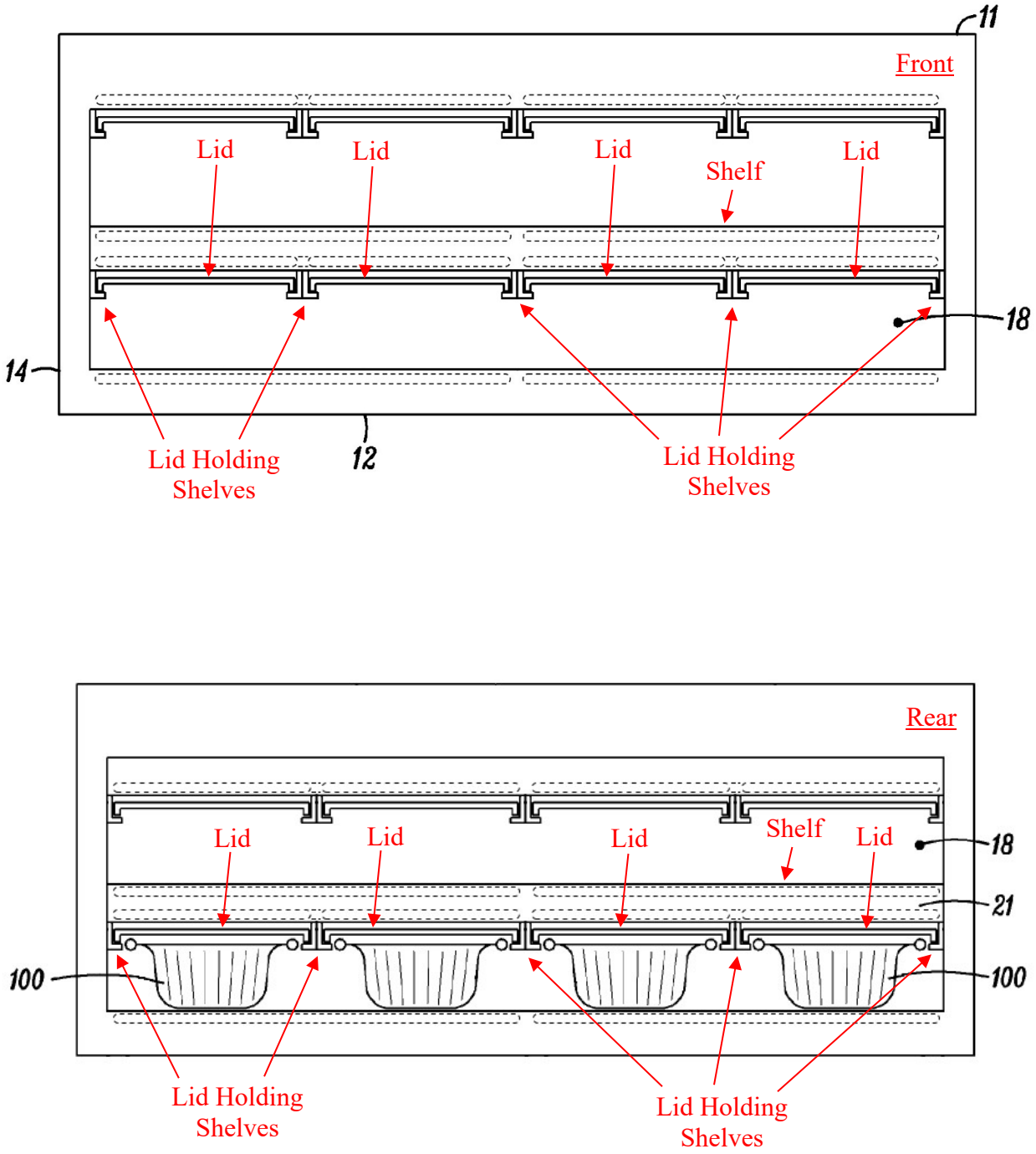


FIG. 3

EX1010: Fig. 3 (annotated).

778. Fortmann'748 teaches an embodiment where 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].

779. In adapting the Fortmann'748 cabinet to a 2x4 configuration as discussed at Paragraphs 570-580 (Ground 10, Section XIII(A)(1)) above, the shelf would necessarily include multiple downwardly depending lid holding tracks or shelves.



EX1010: Figs. 2 and 6 (modified, annotated).

1.c.3: the second food holding compartment being substantially unobstructed between the first side panel and the second side panel and below the downwardly depending lid holding shelf

780. The POSA would recognize that Fortmann'748 discloses "the second food holding compartment being substantially unobstructed between the first side panel and the second side pane and below the downwardly depending lid holding shelf."

781. The food holding compartments in the interior volume (18) of Fortmann'748 are unobstructed between the first and second side panels (13, 14) and below the tracks (48) (lid holding shelves).

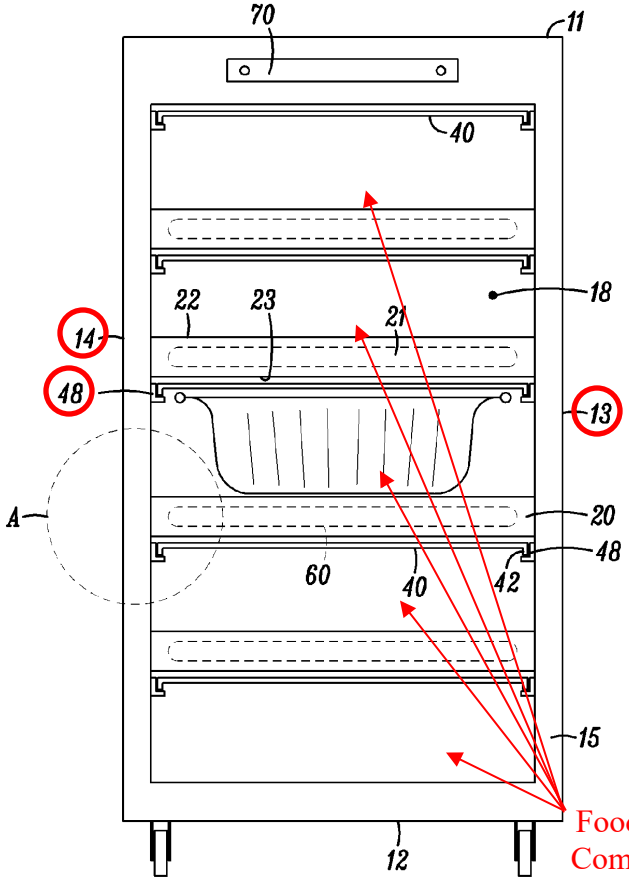


FIG. 2

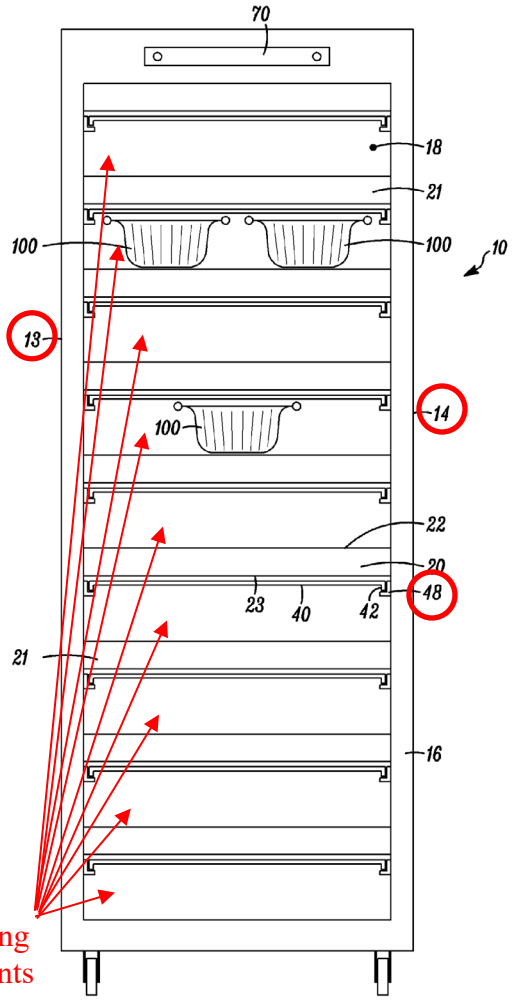
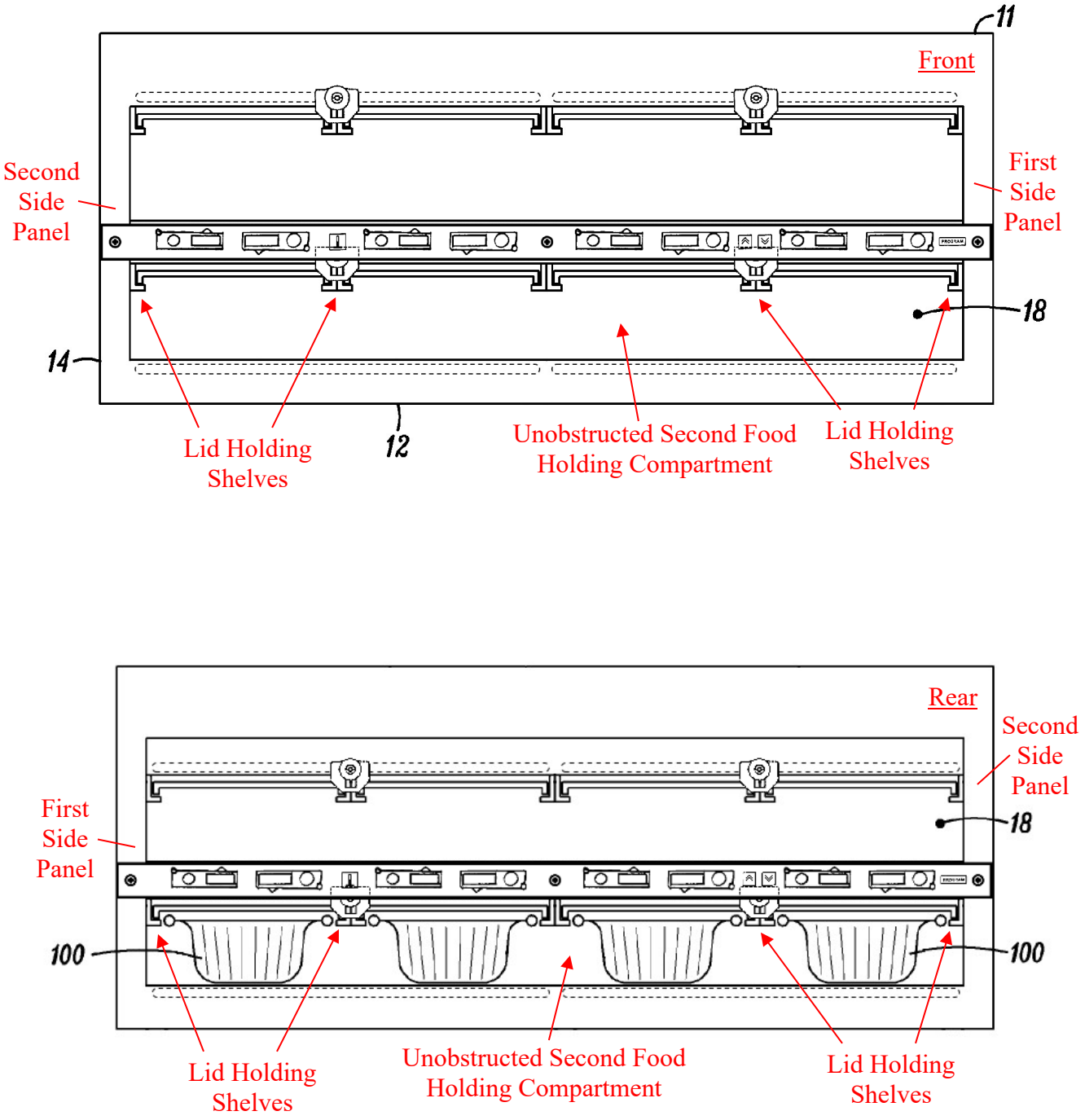


FIG. 6

EX1010: Figs. 2 and 6 (annotated).

782. In adapting the Fortmann'748 cabinet to a 2x4 configuration as discussed at Paragraphs 570-580 (Ground 10, Section XIII(A)(1)) above, the food holding compartments would remain unobstructed between the first and second side panels and below the downwardly depending lid holding shelf.



EX1010: Figs. 2 and 6 (modified, annotated).

1.d.1: wherein the shelf is located between the first and second food holding compartments and comprises a first side and a second side, the first side facing into the first food holding compartment, the second side facing into the second food holding compartment

783. The POSA would recognize that Fortmann'748 discloses that "the shelf is located between the first and second food holding compartments and comprises a first side and a second side, the first side facing into the first food holding compartment, the second side facing into the second food holding compartment."

784. Fortmann'748's shelves (21) are located between the food holding compartments. EX1010: ¶[0015], Figs. 1 and 6. Each shelf (21) has a top side (22) facing the upper food holding compartment and a bottom side (23) facing the lower food holding compartment. 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.

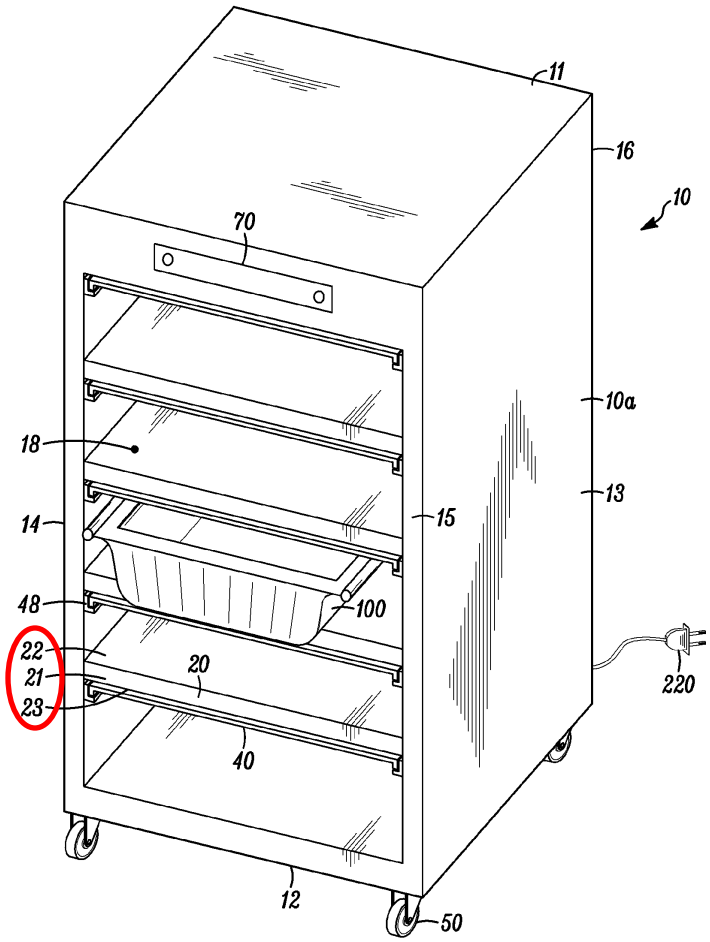


FIG. 1

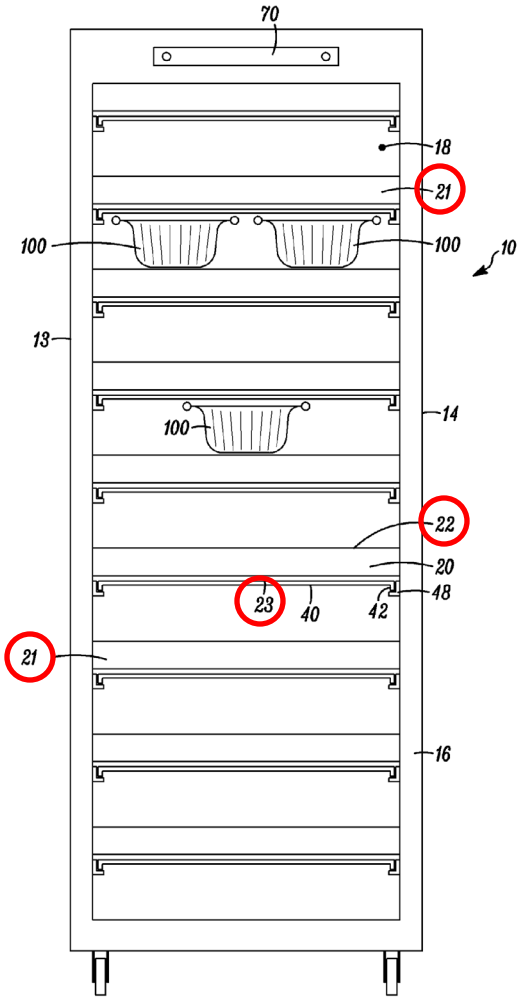
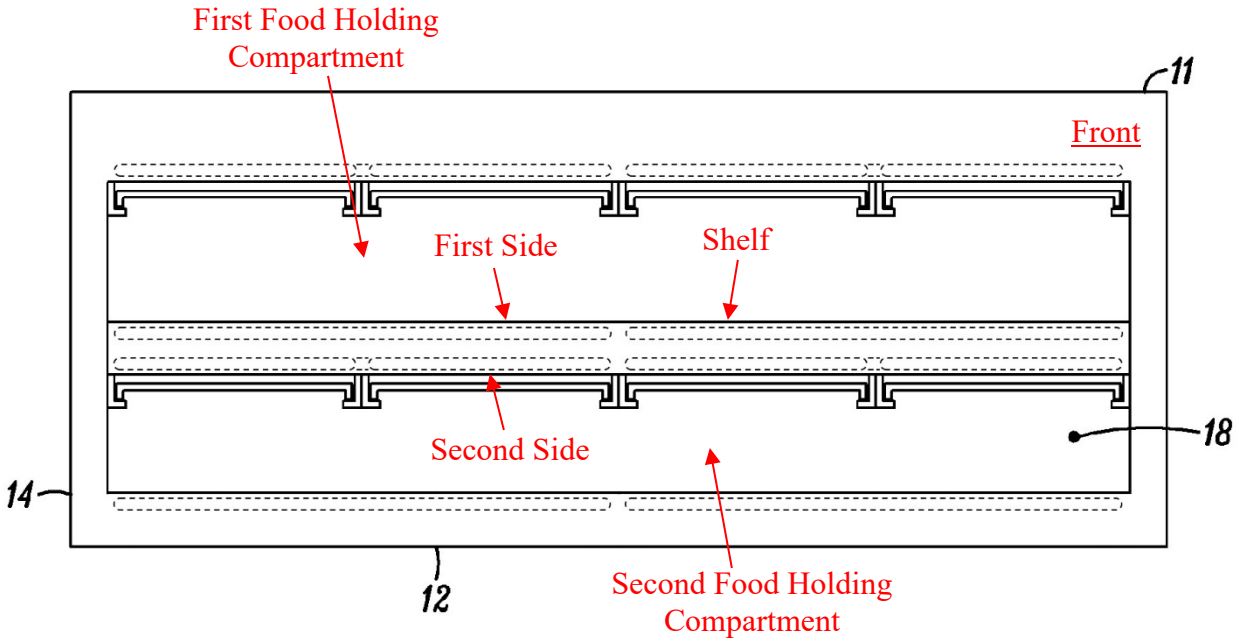
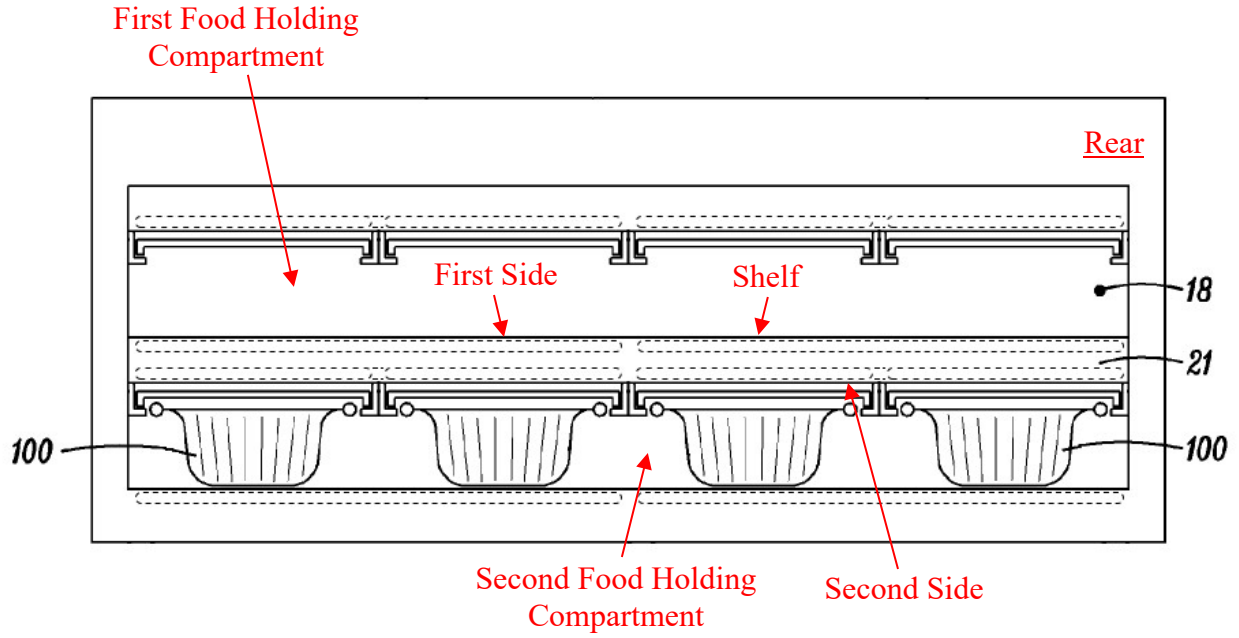


FIG. 6

EX1010: Figs. 1 and 6 (annotated).

785. In adapting the Fortmann'748 cabinet to a 2x4 configuration as discussed at Paragraphs 570-580 (Ground 10, Section XIII(A)(1)) above, the shelf (21) of the cabinet is between the first and second food holding compartments and includes a first side facing the first food holding compartment and a second side facing the second food holding compartment.





EX1010: Figs. 2 and 6 (modified, annotated).

1.d.2: the first side defining a first substantially planar surface comprising a thermally conductive material forming a top surface of the shelf and forming a bottom surface of the first food holding compartment

786. The POSA would recognize that Fortmann'748 discloses that the first side of the shelf defines "first substantially planar surface comprising a thermally conductive material forming a top surface of the shelf and forming a bottom surface of the first food holding compartment."

787. The first side (22) of the shelf (21) of Fortmann'748 is shown as a planar surface and forms the top surface of the shelf and bottom surface of the respective food holding compartment. 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.

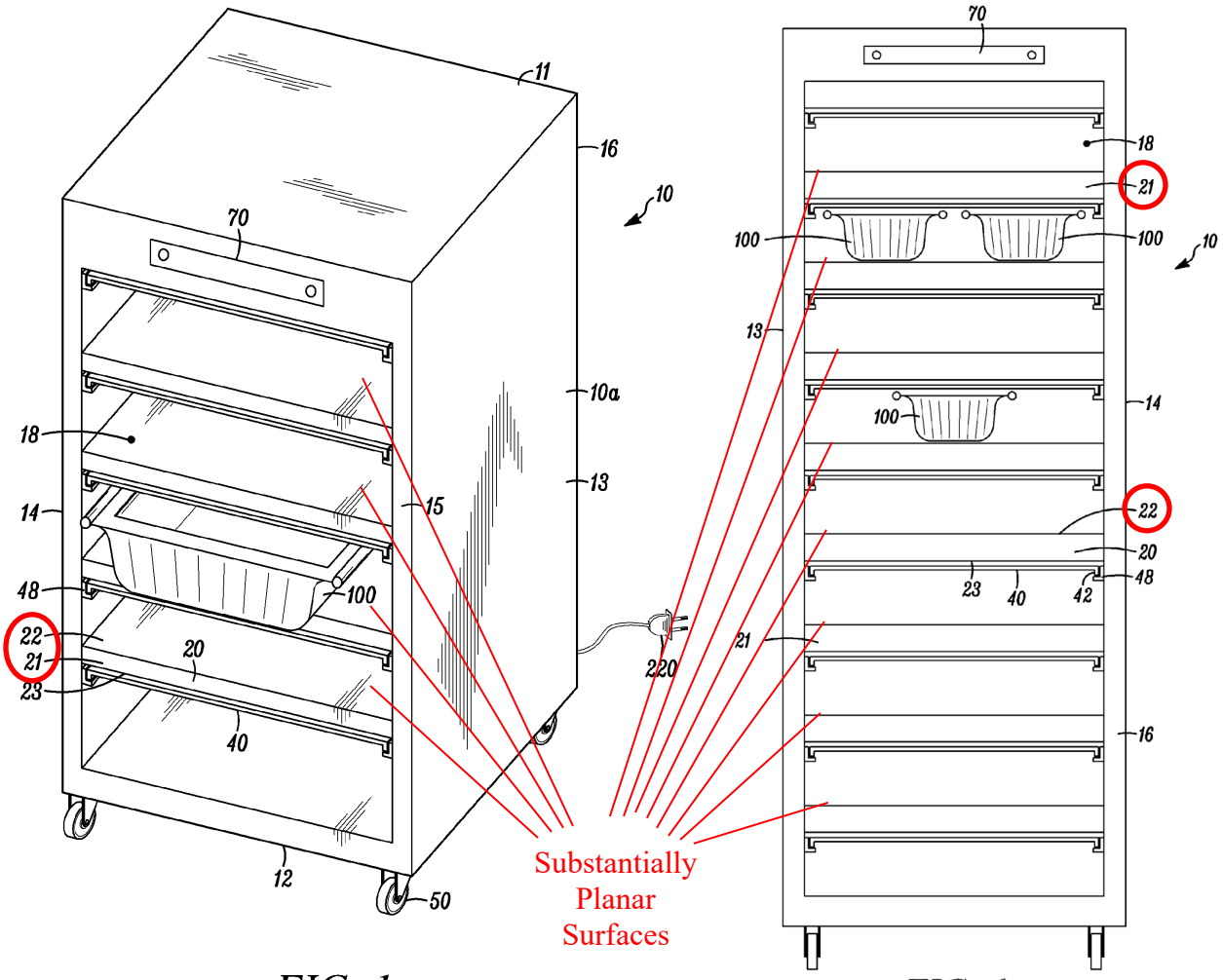


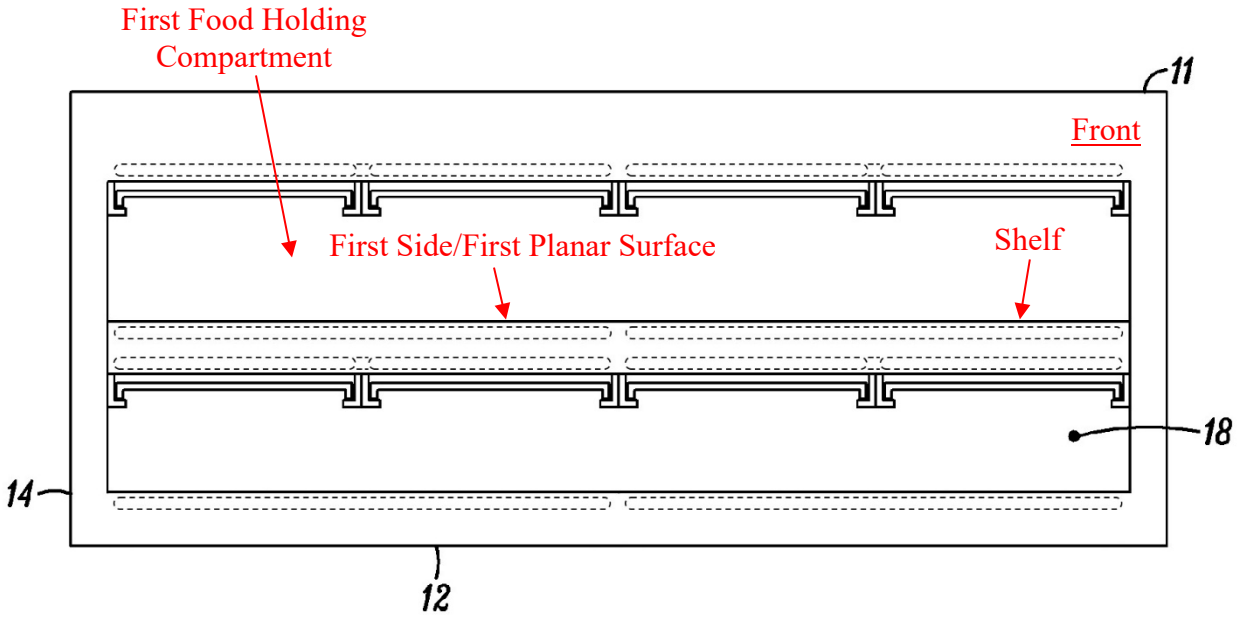
FIG. 1 *FIG. 6*

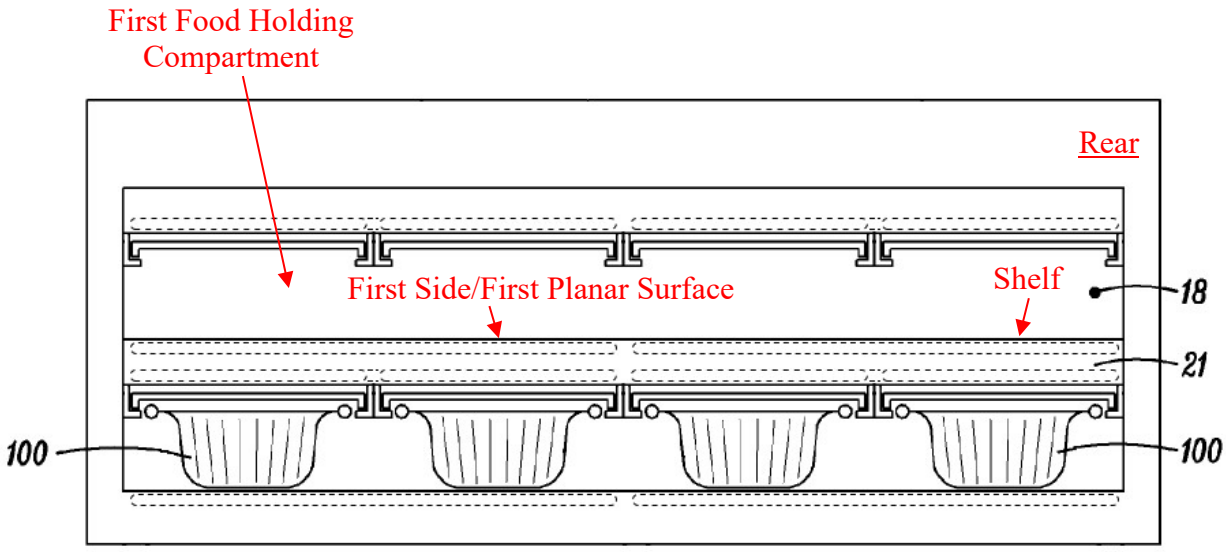
EX1010: Figs. 1 and 6 (annotated).

788. 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]. Stainless steel is a thermally conductive material.

789. Both as disclosed in Fortmann'748 and as modified according to Paragraphs 570-738 (Ground 10, Section XIII(A)) above, the first side (22) of the

shelf (21) of the cabinet is a planar surface made of stainless steel (*i.e.*, a thermally conductive material) that forms the top surface of the shelf and the bottom surface of the first food holding compartment. EX1010: ¶[0019].





EX1010: Figs. 2 and 6 (modified, annotated).

1.d.3: the first substantially planar surface adapted to receive a tray for food items

790. The POSA would recognize that Fortmann'748 discloses that the first substantially planar surface (*i.e.*, the first side of the shelf) is "adapted to receive a tray for food items."

791. The planar first side surfaces (22) of Fortmann'748's shelves (21) receive food pans or trays (100). EX1010: ¶¶[0015] ("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"), [0017] ("food products disposed within the pan 100"), [0024] ("tray 100"), Figs. 1 and 6.

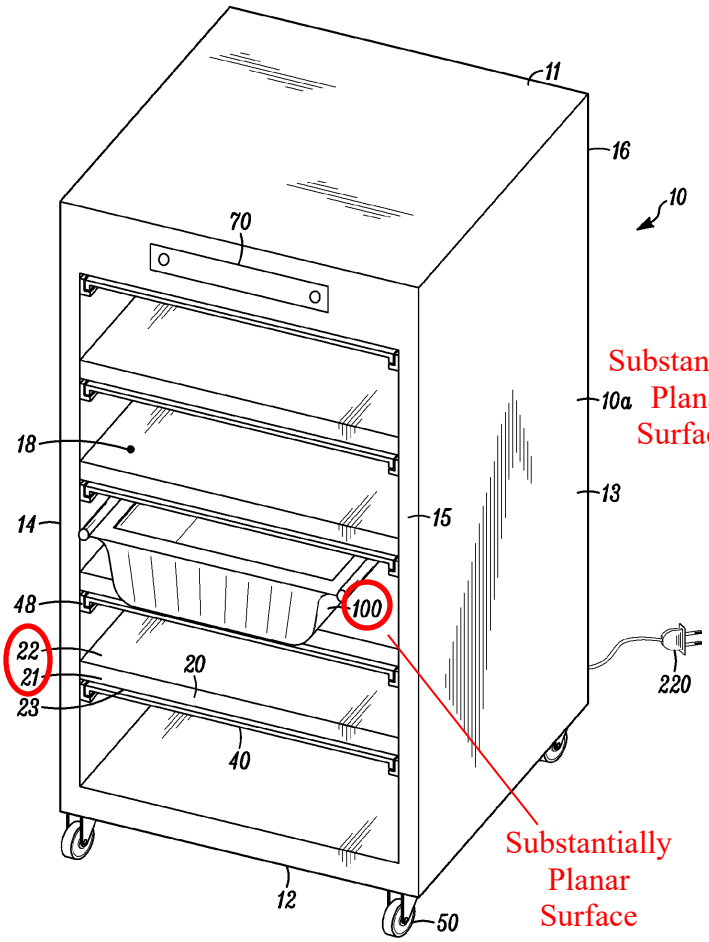


FIG. 1

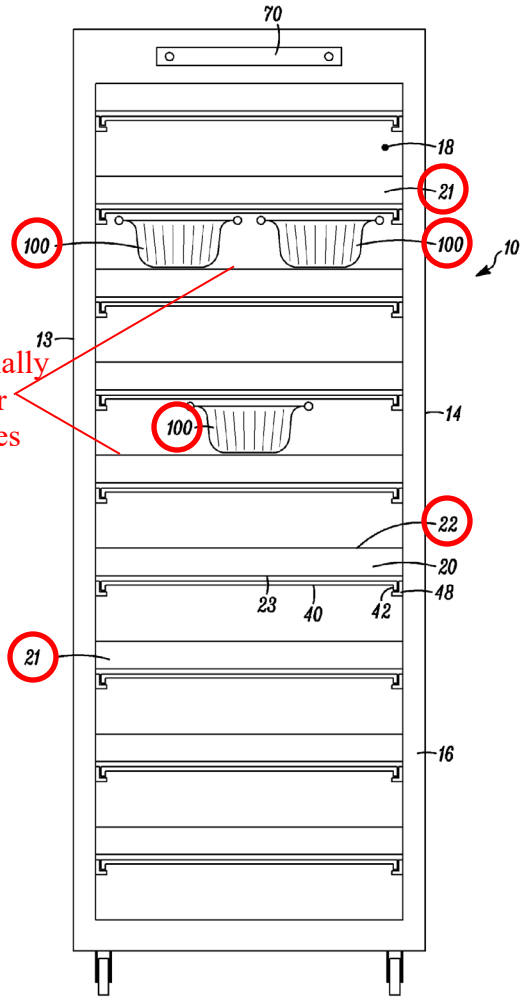
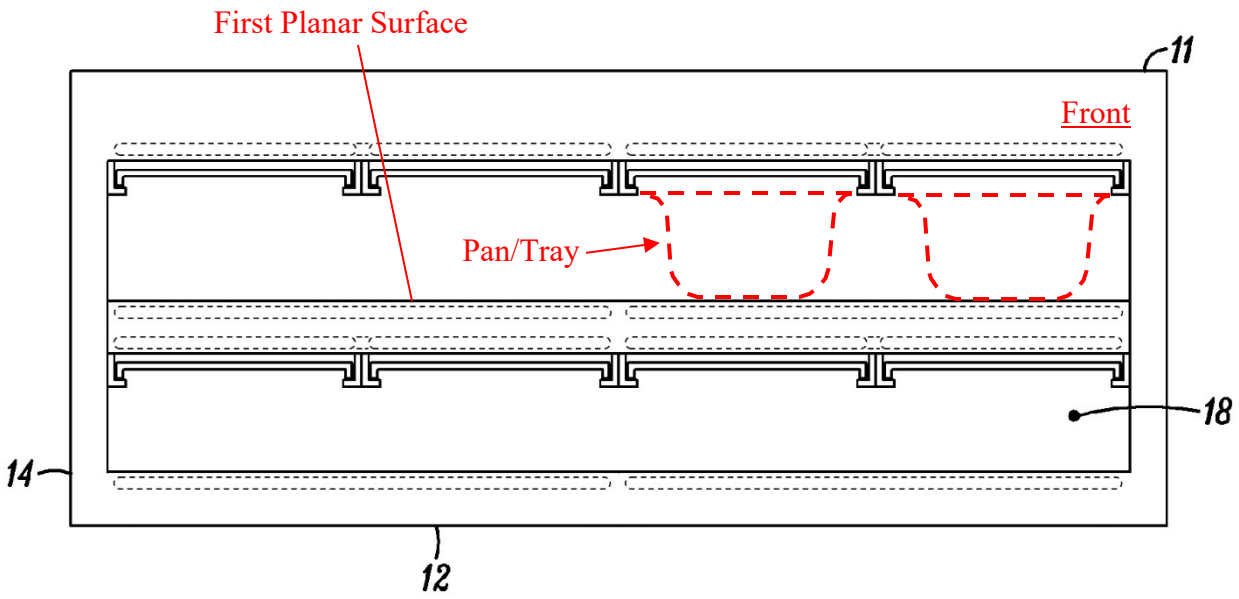
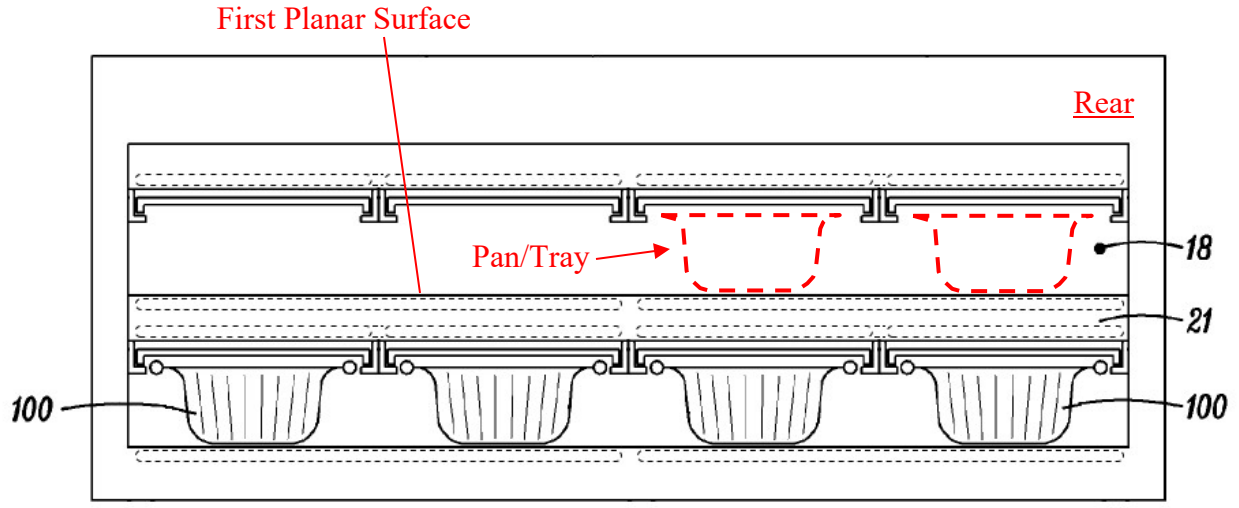


FIG. 6

EX1010: Figs. 1 and 6 (annotated).

792. Both as disclosed in Fortmann'748 and as modified according to Paragraphs 570-738 (Ground 10, Section XIII(A)) above, the first substantially planar surface is adapted to receive food pans or trays.





EX1010: Figs. 2 and 6 (modified, annotated).

1.e.1: and wherein the bottom panel includes a second substantially planar surface comprising a thermally conductive material forming a bottom surface of the second food holding compartment

793. The POSA would recognize that Fortmann'748 discloses that "the bottom panel includes a second substantially planar surface comprising a thermally conductive material forming a bottom surface of the second food holding compartment."

794. The bottom panel (12) of Fortmann'748 is shown as having planar surface forming the bottom surface of the bottom food holding compartment. 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.

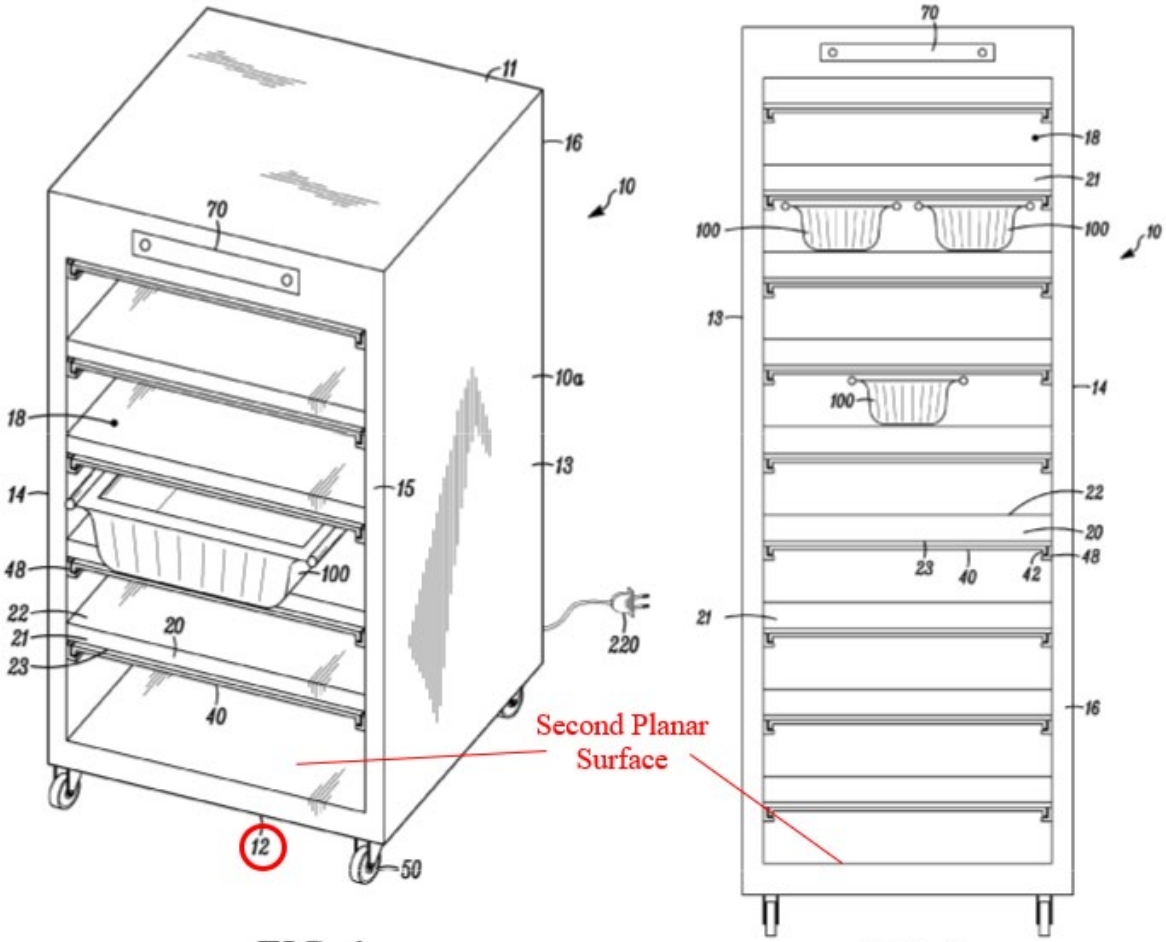


FIG. 1 FIG. 6

EX1010: Figs. 1 and 6 (annotated).

795. Fortmann'748 identifies the bottom panel (12) as being another shelf (21) for supporting food pans (100). EX1010: ¶[0016] ("the cart 10 may include 2,

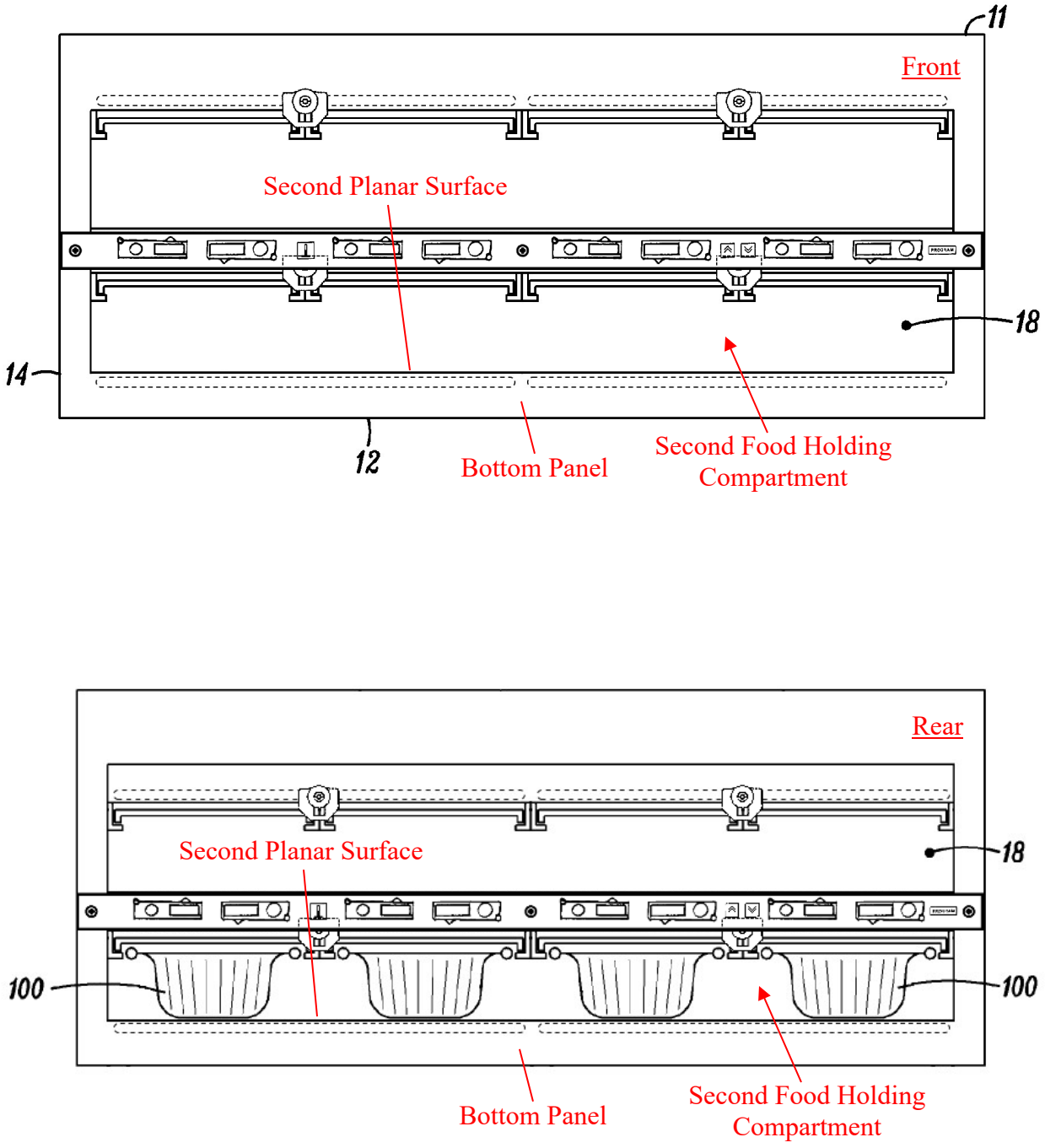
5 (FIG. 1), 10 (FIG. 6), or another number of vertically spaced shelves 21")[7], ¶[0017] ("[t]he plurality of shelves 21 may each include a removable and slidable cover 40 that is disposed in conjunction with and below each shelf 21 (with the exception of the bottom shelf 21")[8].

796. 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]. Stainless steel is a thermally conductive material. Therefore, the planar surface of the bottom panel (12) is made of a thermally conductive material.

797. In adapting the Fortmann'748 cabinet to a 2x4 configuration as discussed at Paragraphs 570-580 (Ground 10, Section XIII(A)(1)) above, the top side of the bottom panel (12) of the cabinet is a planar surface made of stainless steel (thermally conductive material) that forms the bottom surface of the second food holding compartment. EX1010: ¶[0019].

[7] For Fig. 1 to have five shelves (21) and for Fig. 6 to have ten shelves, the bottom panel must be considered a shelf.

[8] 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).



EX1010: Figs. 2 and 6 (modified, annotated).

798. Moreover, to the extent it is disputed whether Fortmann'748 expressly identifies that the bottom panel (12) is made out of stainless steel, 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].

799. Fortmann'748 already discloses its shelves (21) are made of stainless steel. EX1010: ¶[0019]. Using stainless steel to construct the bottom panel (12) would thus be a mere design choice.

800. Using stainless steel to construct the bottom panel (12) is nothing more than combining known elements (the use of 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 that can conduct heat). Using stainless steel to construct the bottom panel (12) 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 that can conduct heat). To the extent that the stainless steel to construct the bottom panel (12) is indeed a modification, the modification would be nothing more than 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 that can conduct heat).

801. The POSA would have had a high expectation of success, given Fortmann'748 uses stainless steel in other parts of the warming cabinet (10). EX1010: ¶[0019].

802. This further renders obvious the second planar surface comprising thermally conductive stainless steel.

1.e.2: the second substantially planar surface adapted to receive a tray for food items

803. The POSA would recognize that Fortmann'748 discloses that the second substantially planar surface (*i.e.*, the first side of the shelf) is "adapted to receive a tray for food items."

804. The second planar surface of Fortmann'748's bottom panel (12) receives food pans or trays (100), as indicated by the lid (40) directly above the second planar surface. EX1010: Figs. 1 and 6.

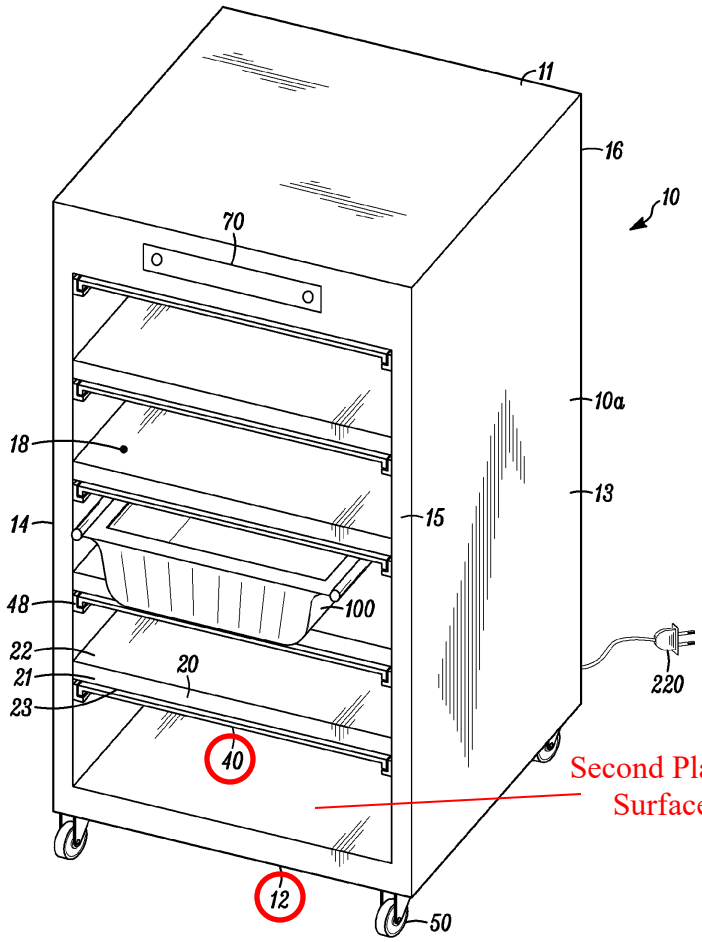


FIG. 1

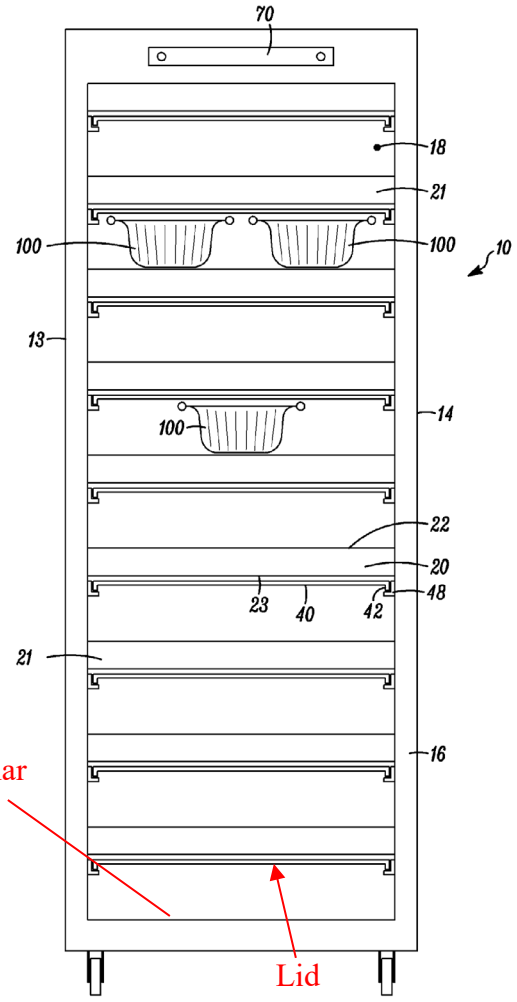
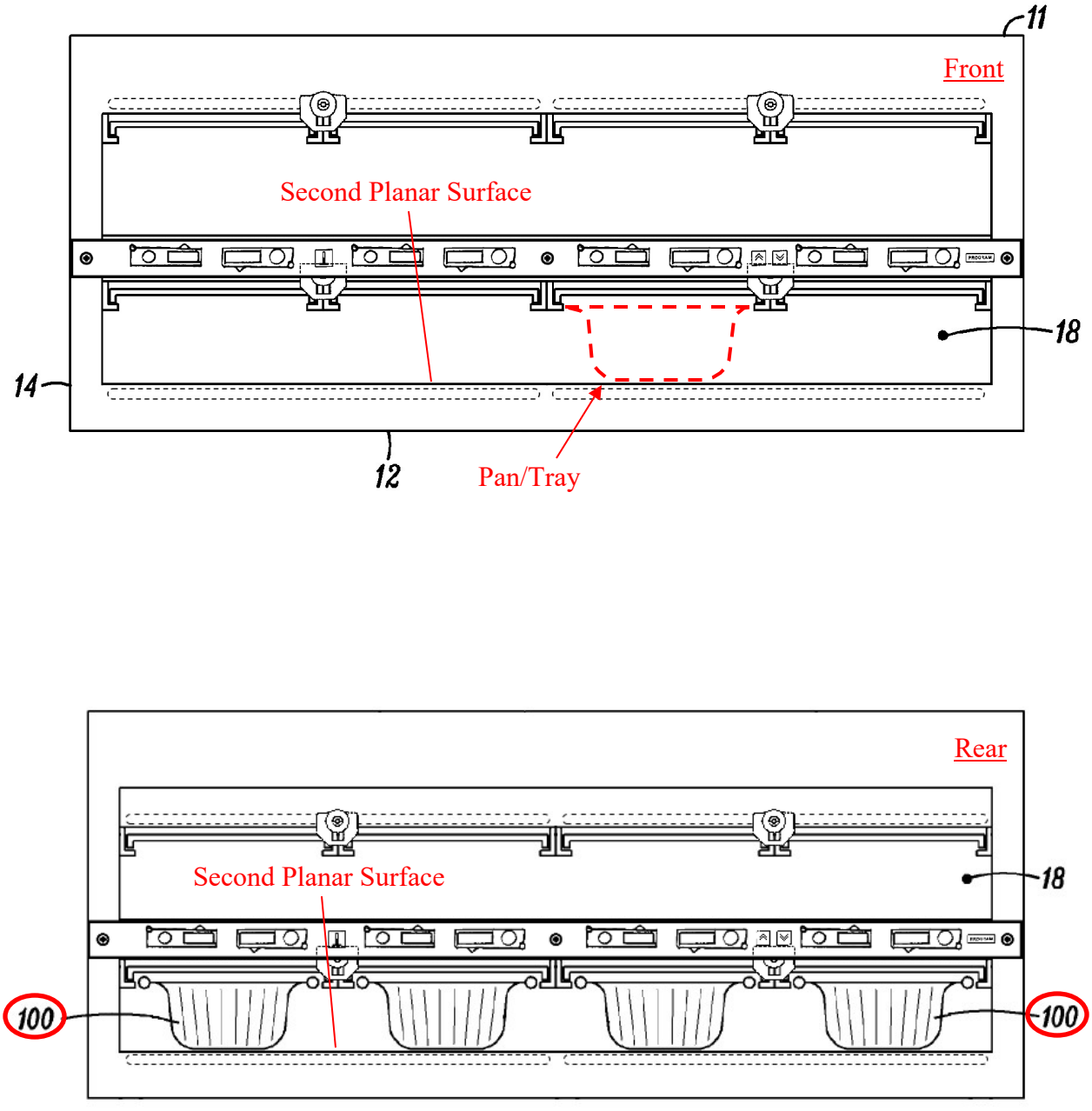


FIG. 6

EX1010: Figs. 1 and 6 (annotated).

805. Both as disclosed in Fortmann'748 and as modified according to Paragraphs 570-738 (Ground 10, Section XIII(A)) above, the second planar surface of the bottom panel (12) of the cabinet is adapted to receive food trays (100). EX1010: ¶[0019].



EX1010: Figs. 2 and 6 (modified, annotated).

1.f.1: a first opening in the front face of the chassis defined by the first substantially planar surface, the first side panel, the second side panel and the top panel

806. The POSA would recognize that Fortmann'748 discloses the multi-zone food holding bins as having "a first opening in the front face of the chassis defined by the first substantially planar surface, the first side panel, the second side panel and the top panel."

807. 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").

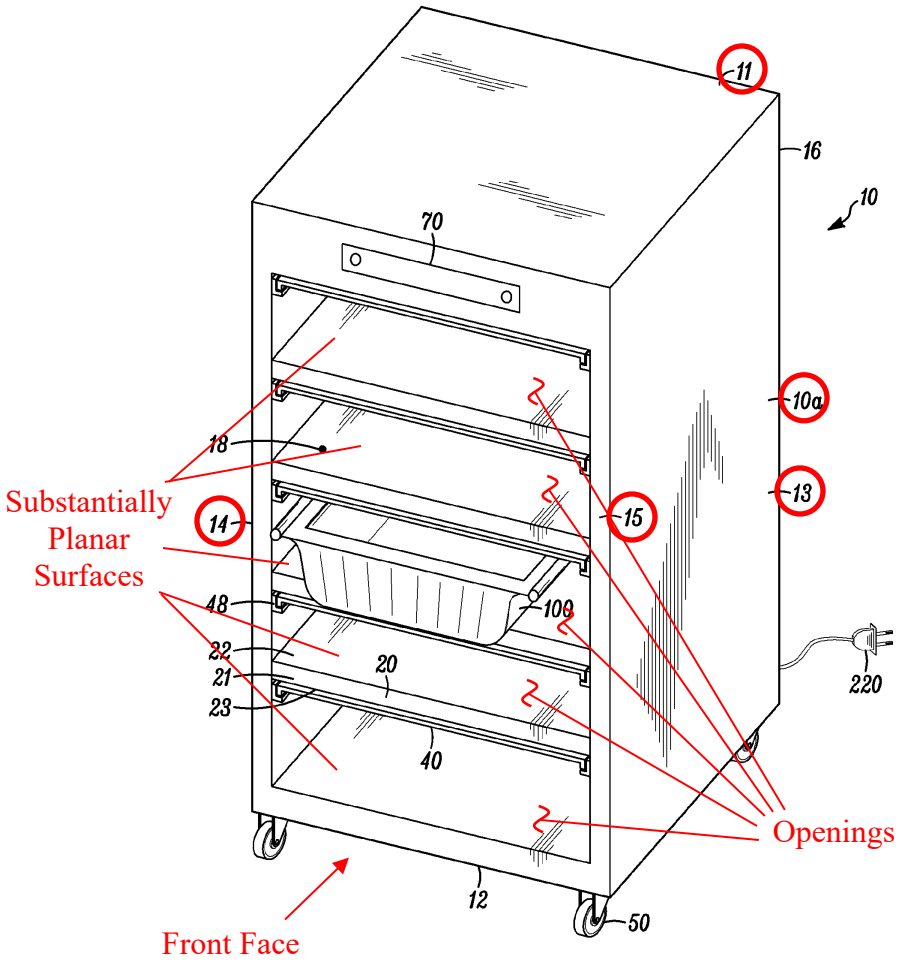
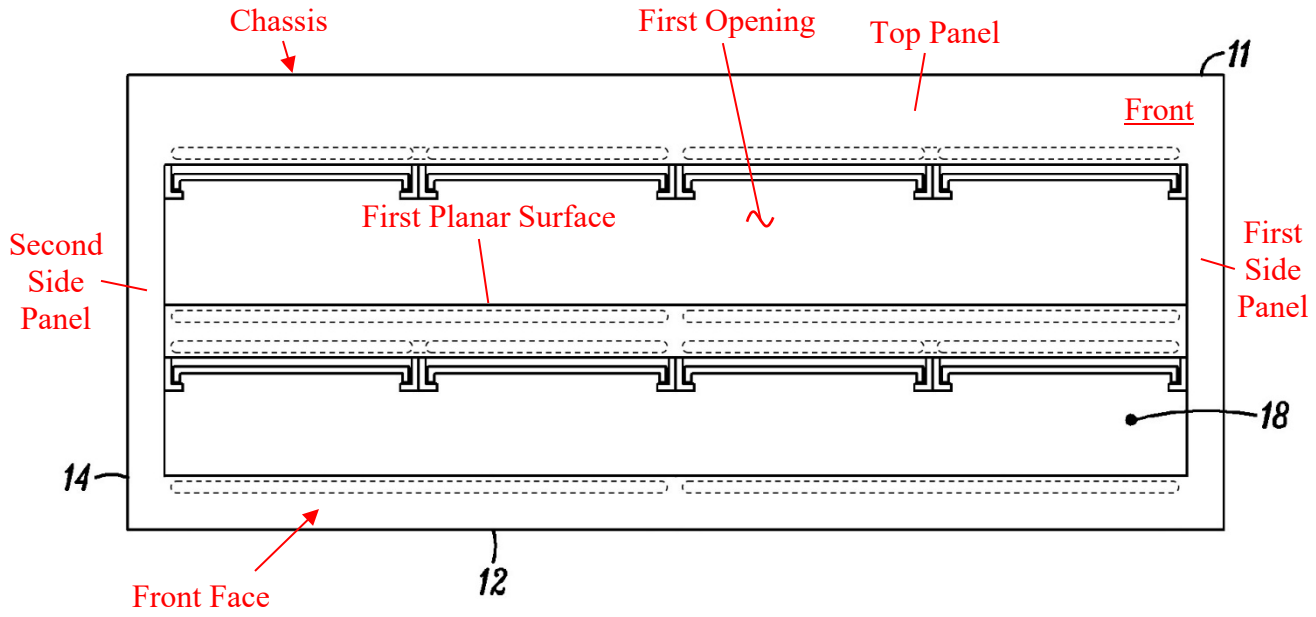


FIG. 1

EX1010: Fig. 1 (annotated).

808. Both as disclosed in Fortmann'748 and as modified according to Paragraphs 570-738 (Ground 10, Section XIII(A)) above, the front face of the chassis (10a) of the cabinet has a first opening defined by the first planar surface, the first side panel (13), the second side panel (14), and the top panel (11).



EX1010: Fig. 2 (modified, annotated).

1.f.2: the first opening configured to allow the tray for food items to be passed through the first opening and onto the first substantially planar surface

809. The POSA would recognize that Fortmann'748 discloses that the first opening of the multi-zone food holding bins is "the first opening configured to allow the tray for food items to be passed through the first opening and onto the first substantially planar surface."

810. 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").

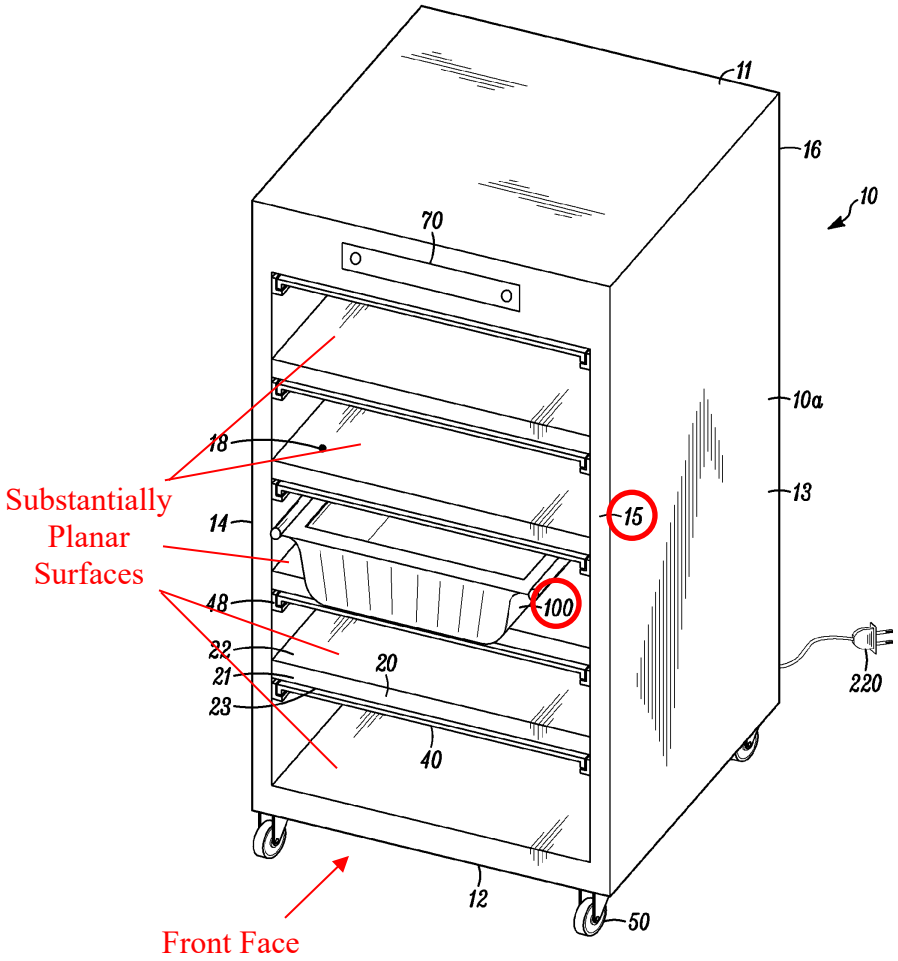
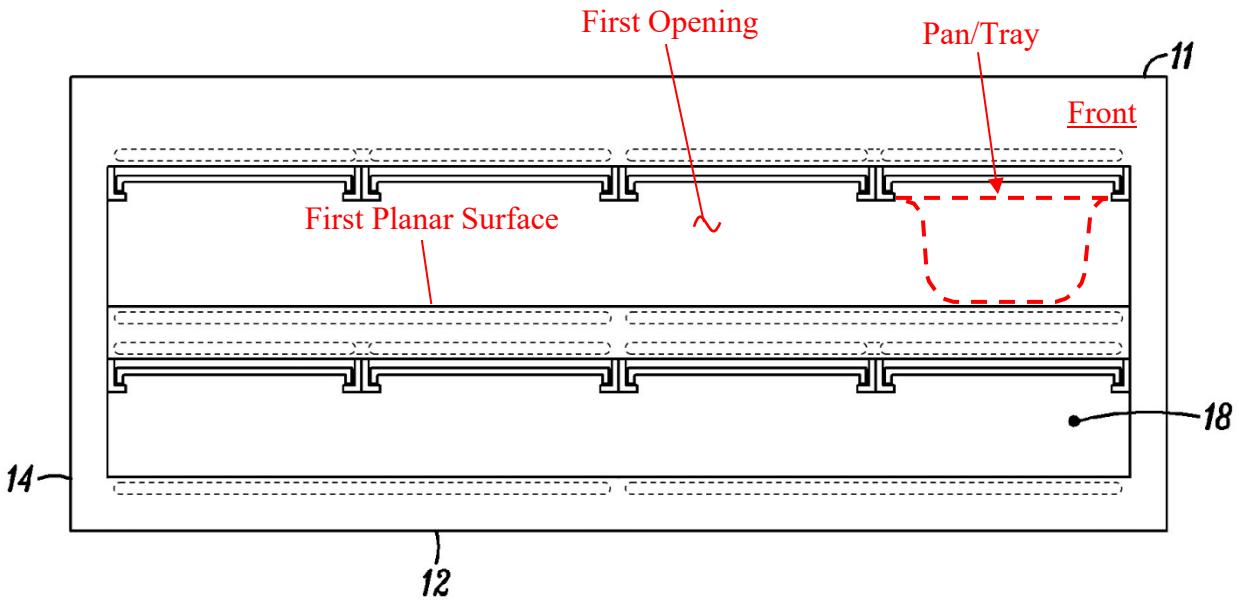


FIG. 1

EX1010: Fig. 1 (annotated).

811. Both as disclosed in Fortmann'748 and as modified according to Paragraphs 570-738 (Ground 10, Section XIII(A)) above, the food pans (100) can pass through the first opening of the cabinet 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").



EX1010: Fig. 2 (modified, annotated).

1.g.1: a second opening in the front face of the chassis defined by the second substantially planar surface, the first side panel, the second side panel and the shelf

812. The POSA would recognize that Fortmann'748 discloses the multi-zone food holding bins as having "a second opening in the front face of the chassis defined by the second substantially planar surface, the first side panel, the second side panel and the shelf."

813. 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").

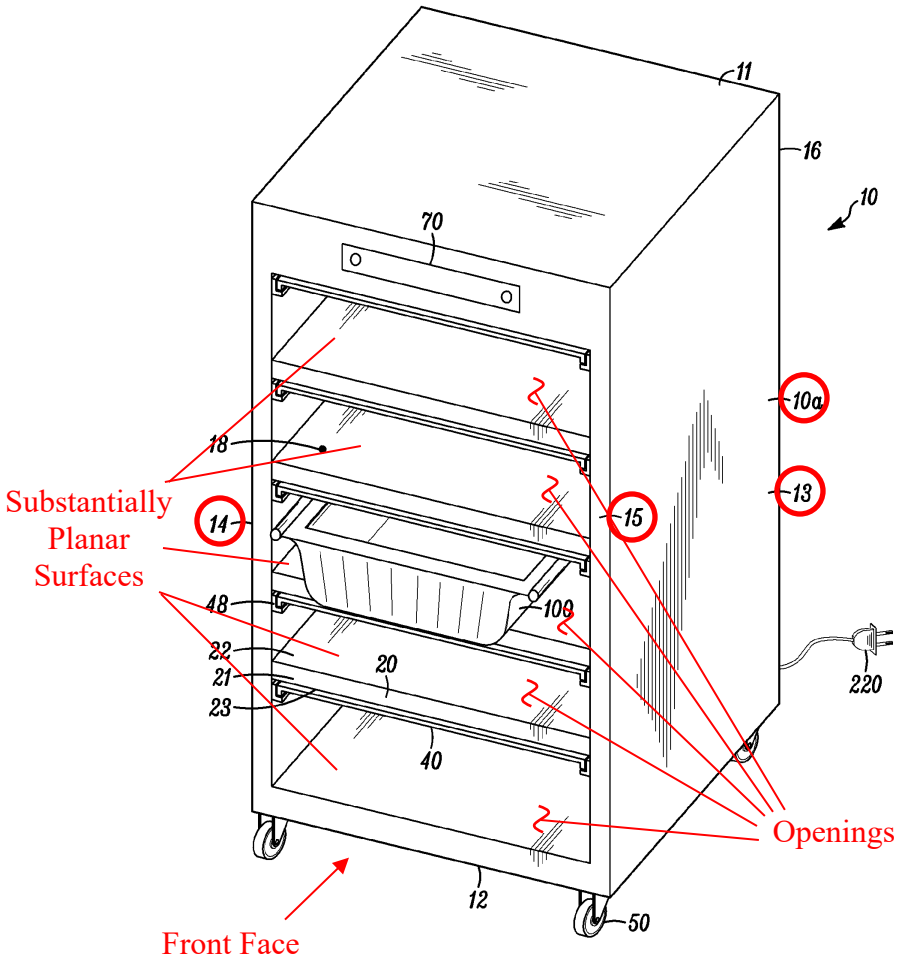
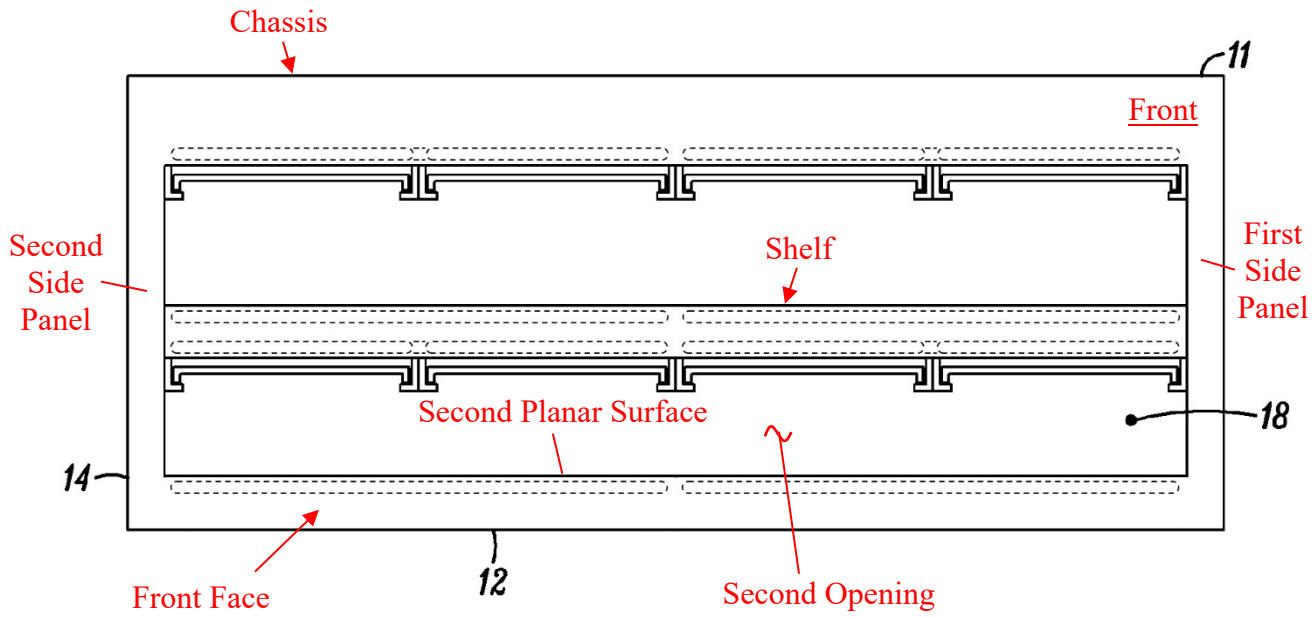


FIG. 1

EX1010: Fig. 1 (annotated).

814. Both as disclosed in Fortmann'748 and as modified according to Paragraphs 570-738 (Ground 10, Section XIII(A)) above, the front face of the chassis (10a) of the cabinet has a second opening defined by the second planar surface, the first side panel (13), the second side panel (14), and a shelf (21). Per Paragraphs 570-580 and 772-774 (Ground 10, Section XIII(A)(1) and claim limitation 1.c.1), it would have been obvious to configure Fortmann'748 into a 2x4

configuration such that the shelf that forms the first planar surface is also the shelf that defines the second opening.



EX1010: Fig. 2 (modified, annotated).

1.g.2: the second opening configured to allow the tray for food items to be passed through the second opening and onto the second substantially planar surface

815. The POSA would recognize that Fortmann'748 discloses that the second opening of the multi-zone food holding bins is "the second opening configured to allow the tray for food items to be passed through the second opening and onto the second substantially planar surface."

816. 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").

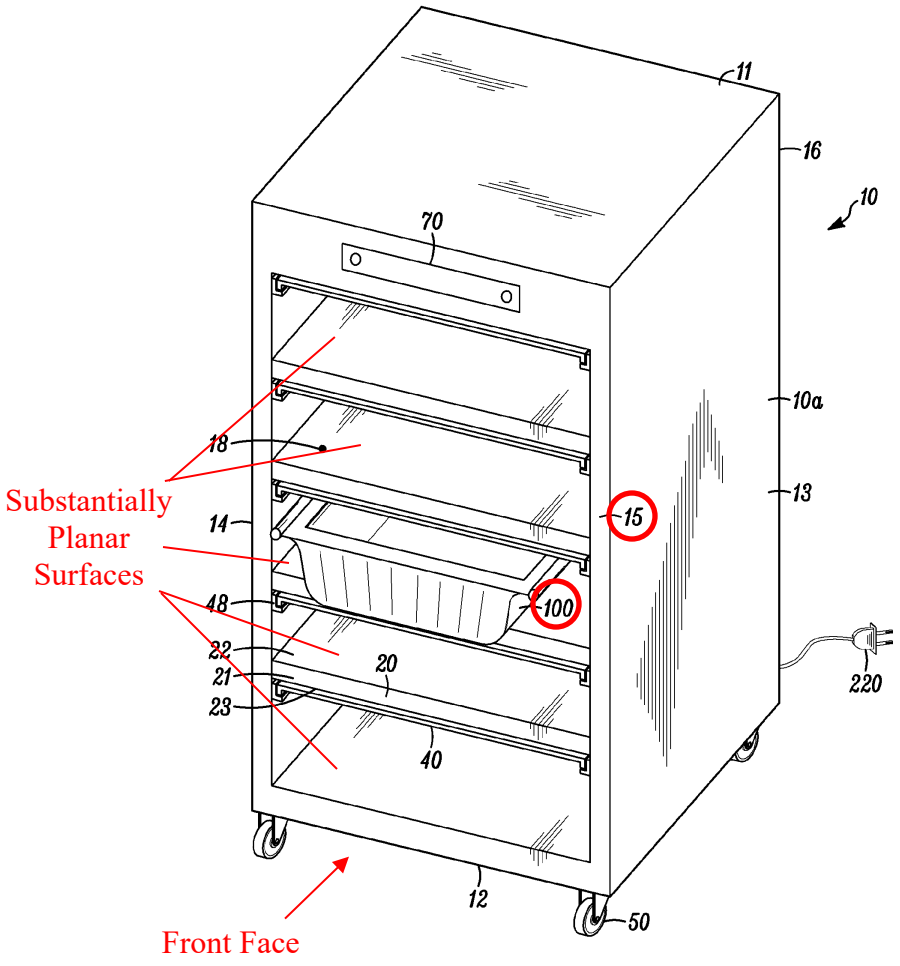
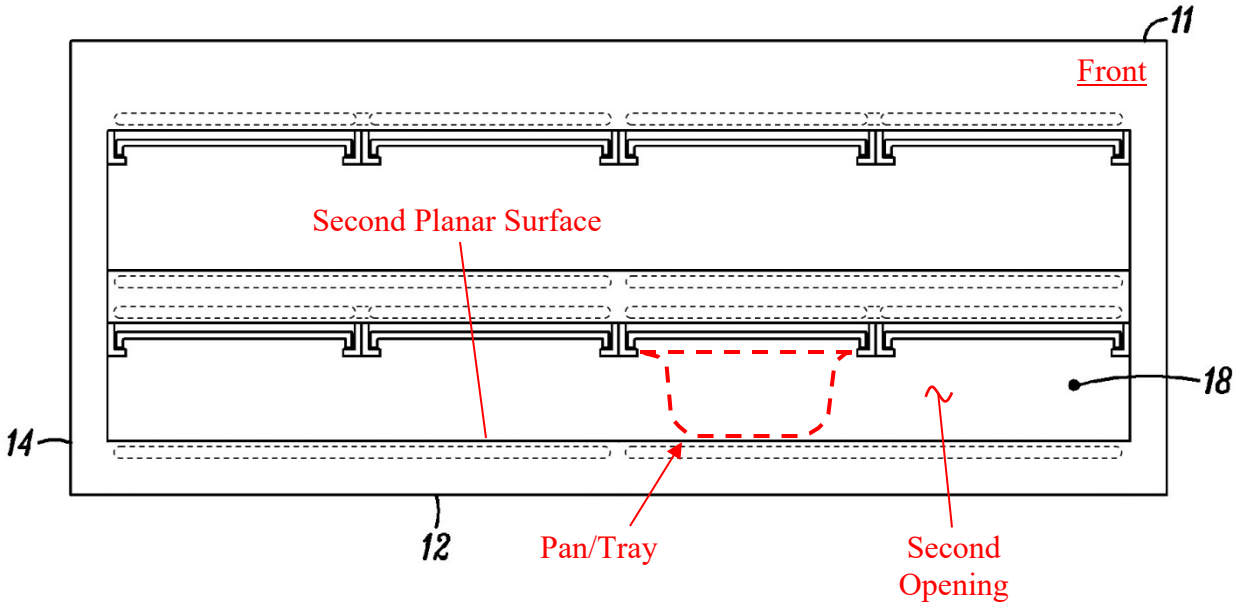


FIG. 1

EX1010: Fig. 1 (annotated).

817. Both as disclosed in Fortmann'748 and as modified according to Paragraphs 570-738 (Ground 10, Section XIII(A)) above, the food pans (100) can pass through the second opening of the cabinet to rest on the second planar surface of the bottom panel (12). EX1010: Figs. 1 and 2 (showing a lid (40) directly above the planar surface of the bottom panel (12) to indicate a food pan is received on the planar surface).

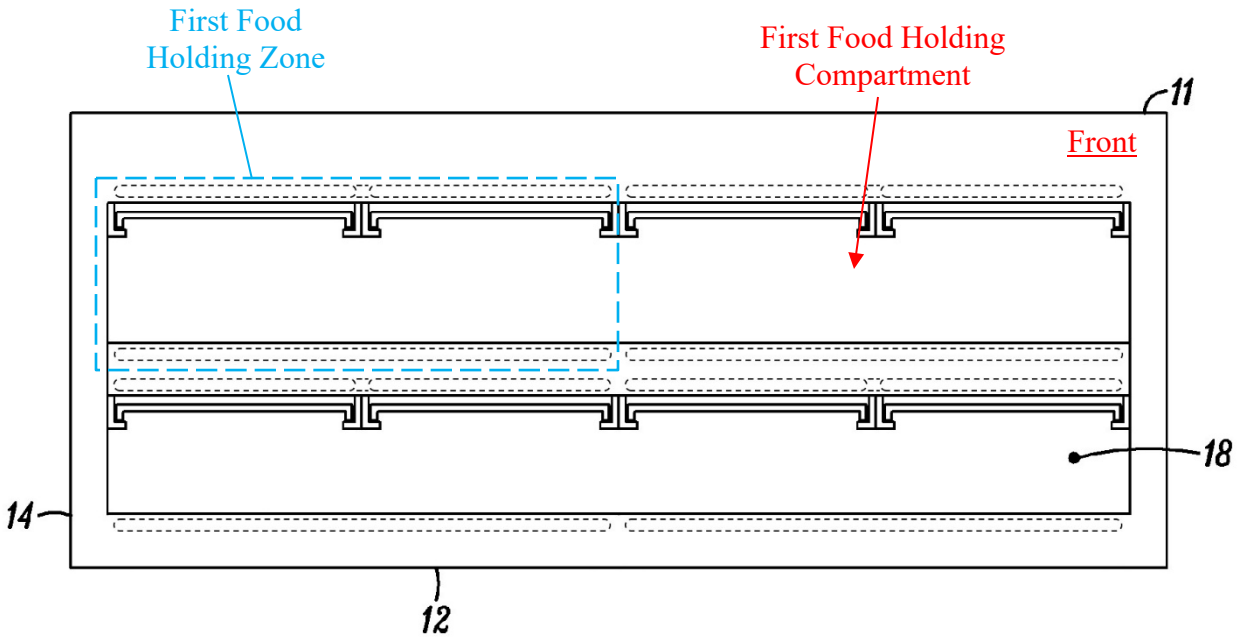


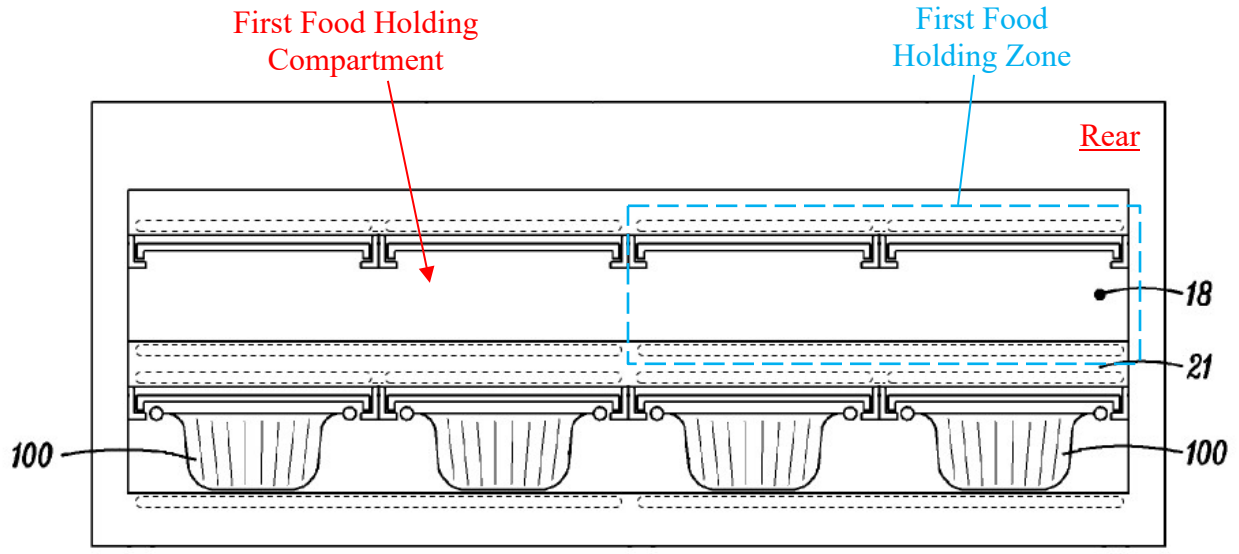
EX1010: Fig. 2 (modified, annotated).

1.h.1: a first food holding zone formed in the first food holding compartment

818. The POSA would recognize that Fortmann'748 discloses a "holding zone formed in the first food holding compartment."

819. It would have been further obvious to modify the Fortmann'748 cabinet in view of Jones (EX1012), Hartfelder (EX1013), Stanger (EX1042), Loy (EX1043), and/or the IRHS Documents (EX1005-1008), as discussed in Paragraphs 581-633 (Ground 10, Section XIII(A)(2)) such that it has a first food holding zone and a second food holding zone in the first food holding compartment. As described above in Paragraphs 581-633 (Ground 10, Section XIII(A)(2)), Jones, Hartfelder, Stanger, Loy, and IRHS Documents all disclose multiple food holding zones in a food holding compartment. EX1005: 20, 25, 26; EX1007: 53; EX1012: ¶¶[0069], [0072], [0096]; EX1013: ¶[0037]; EX1042: ¶[0055]; EX1043: Fig. 17.



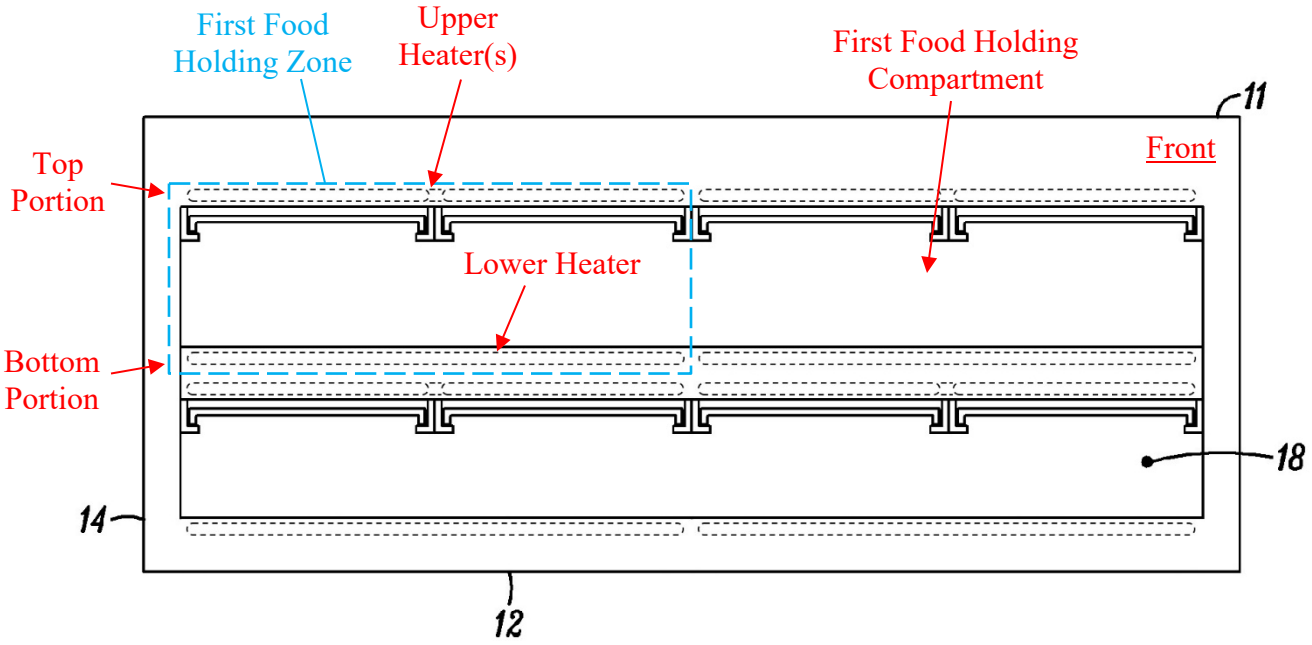


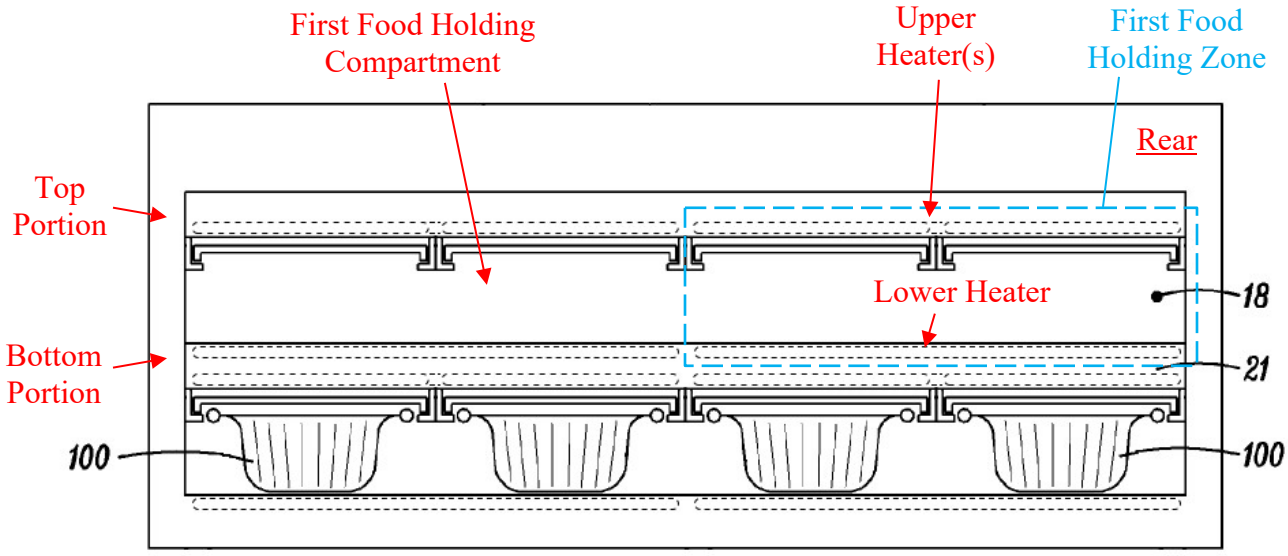
EX1010: Figs. 2 and 6 (modified, annotated).

1.h.2: the first food holding zone having at least one independently controllable heating element disposed at a top portion of the first food holding compartment, and at least one independently controllable heating element disposed at a bottom portion of the first food holding compartment

820. The POSA would recognize that Fortmann'748 discloses having food holding zones with independently controllable heating elements.

821. 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 581-633 (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 634-650 (Ground 10(A)(3)) such that the first food holding zone would have at least one upper heater and at least one lower heater (*e.g.*, heating elements) at the respective top and bottom portions of the first food holding compartment. EX1005: 16, 20, 25, 26; EX1006: 1; EX1007: 53; EX1010: ¶[0027]; EX1012: ¶¶[0072], [0073], [0096], [0098], [0130]; EX1013: ¶[0037]; EX1014: 3:6-27, 8:63-9:19, 9:50-65; EX1019: 4:36-59.





EX1010: Figs. 2 and 6 (modified, annotated).

822. In modifying Fortmann'748's cabinet such that the first food holding zone were to have upper heaters and lower heater(s) it would further been obvious for the upper heaters and lower heater(s) to be independently controllable from one another and from the upper and lower heaters of the other food holding zones. 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.

823. Specifically, as explained in Paragraphs 581-650 (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 581-650 (Ground 10, Section XIII(A)(2)-(3)), Fortmann'748's modified control system would independently operate the upper and lower heaters in one zone (specifically, in each pan holding location) from one another and from the upper and lower heaters in other zones.

824. As such, it would have been obvious for the first food holding zone's upper and lower heaters to be independently controllable from one another and from the upper and lower heaters of the other food holding.

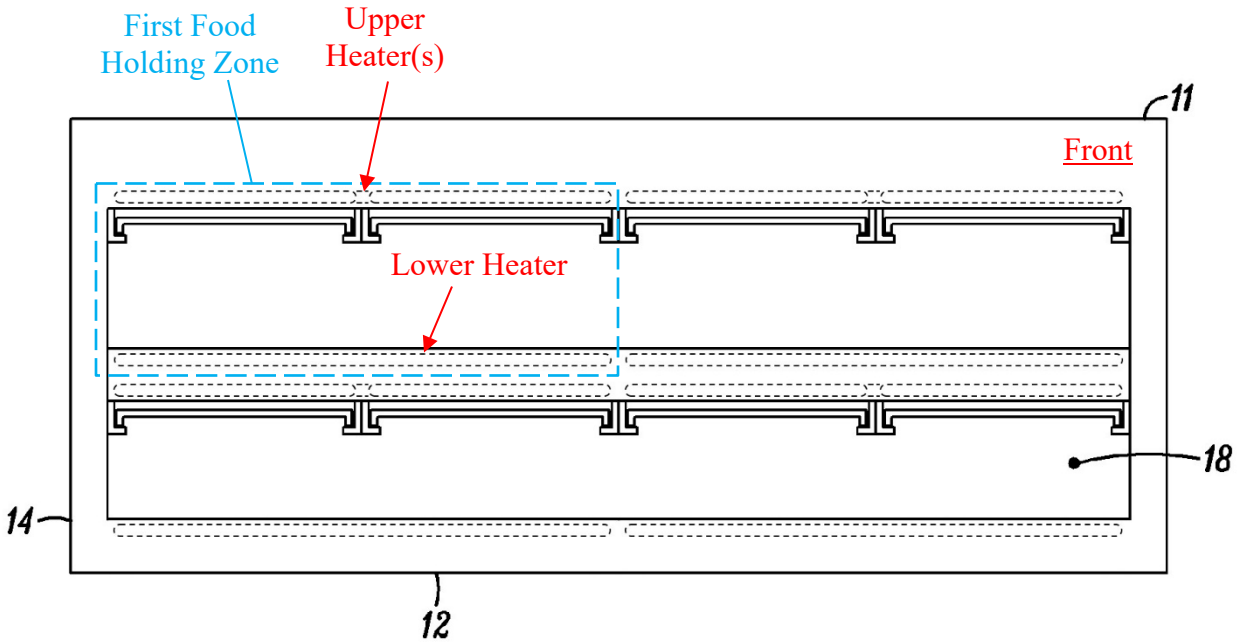
1.h.3: the first food holding zone having a controllable first food holding temperature

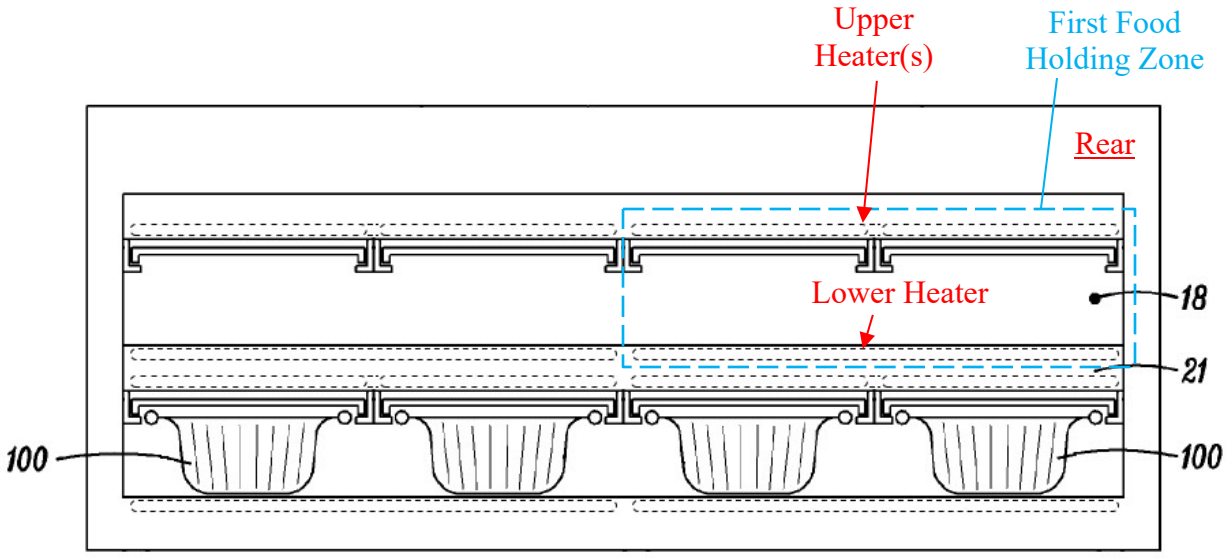
825. The POSA would recognize that Fortmann'748 discloses each food holding zone as being capable of having its own food holding temperature, such that it would have been obvious for the first food holding zone to have a controllable first food holding temperature.

826. Specifically, each of the Fortmann'748 shelf's one or more heaters (60) are described 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: ¶¶[0019], [0021], [0024]. Modifying Fortmann'748's cabinet to have zones and upper and lower heaters for each zone, as discussed in Paragraphs 818-824 above (claim limitations 1.h.1 and 1.h.2), results in each zone (e.g., the first food holding zone) having its own temperature. EX1005: 16, 20, 25; EX1006: 1; EX1007: 53; EX1010: ¶¶[0021], [0024], [0027]; EX1012: ¶¶[0098], [0130]; EX1014: 3:6-27, 8:63-9:19, 9:50-65; EX1019: 4:36-59.

827. Fortmann'748's control system has 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].

828. As discussed in Paragraphs 581-691 above (Ground 10, Section XIII(A)(2)-(5)), in modifying Fortmann'748's cabinet to a 2x4 configuration with upper and lower heaters for each food holding zone, it would have been obvious to adapt Fortmann'748's control system to independently operate the upper and lower heaters of each food holding zone—including the first holding zone—so as to control its food holding temperature such that the first holding zone would have a controllable first food holding temperature.





EX1010: Figs. 2 and 6 (modified, annotated).

1.h.4: the first food holding zone including a first food holding bay and a second food holding bay, each of the first and second food holding bays being configured to receive a food holding tray

829. 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.

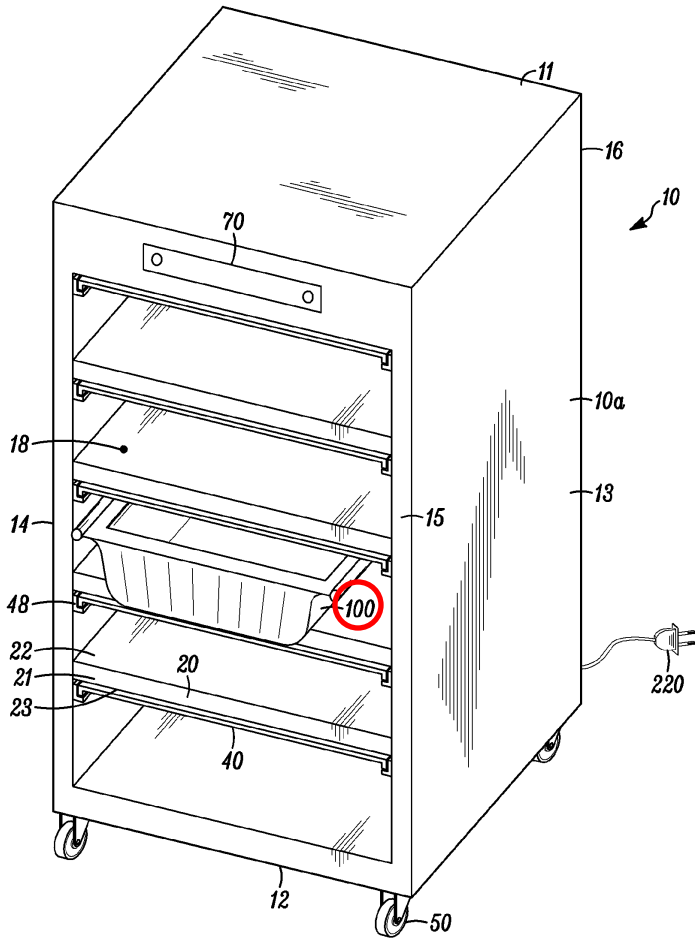


FIG. 1

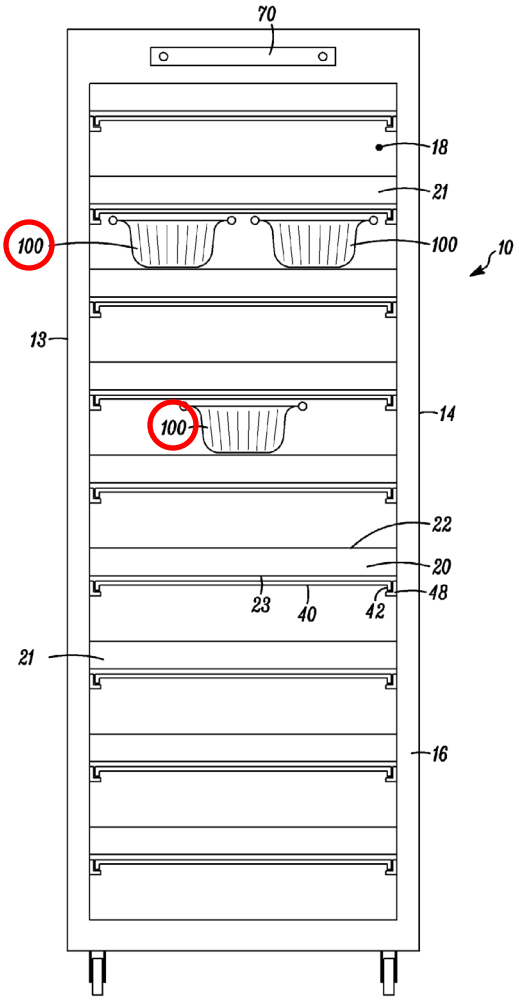


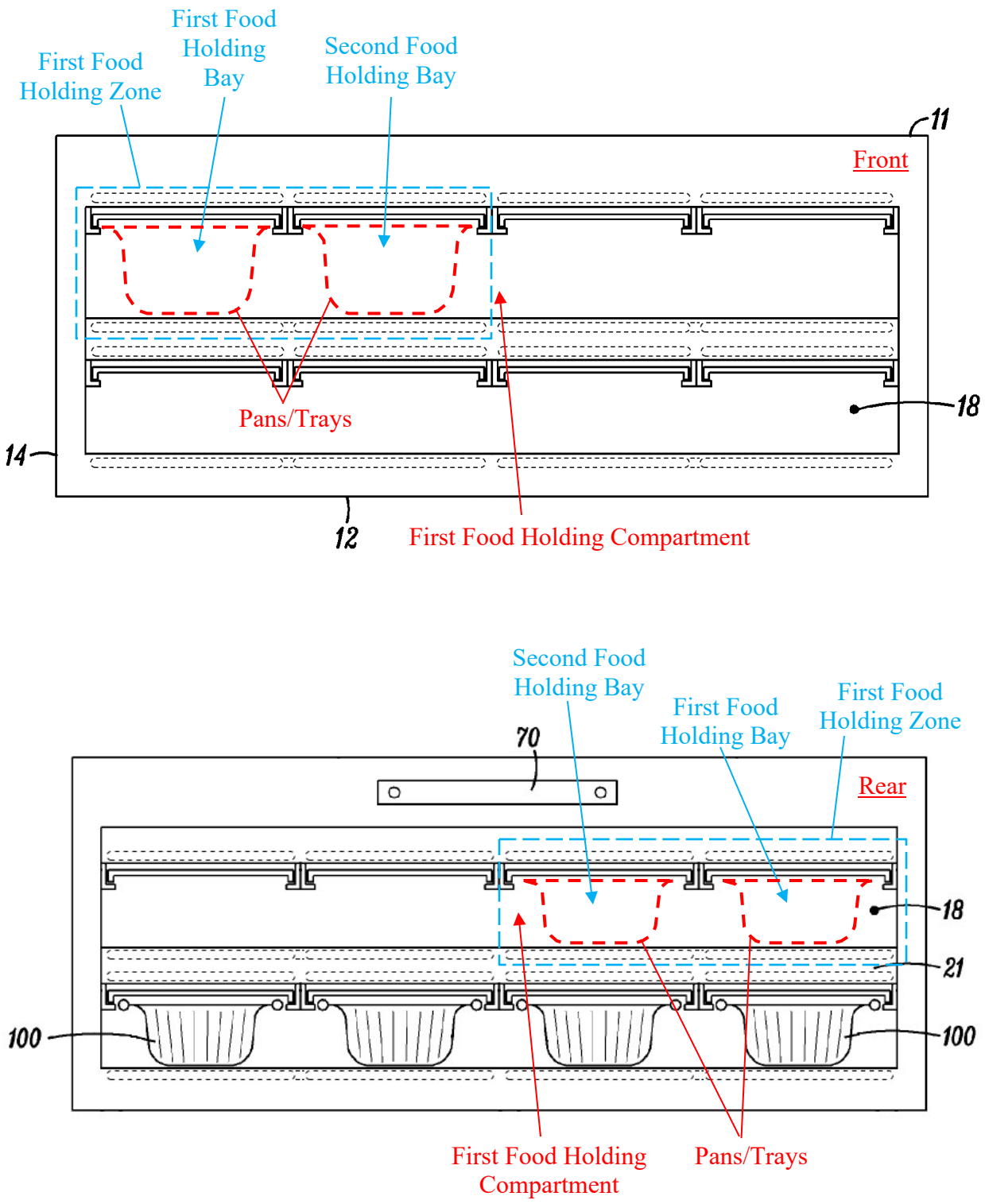
FIG. 6

EX1010: Figs. 1 and 6 (annotated).

830. 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 (EX1005-1008) as discussed in Paragraphs 581-633 (Ground 10, Section XIII(A)(2)), it would have also been obvious for each of the food holding zones to be further subdivided into multiple food holding bays. 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"), ¶[0015] ("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"), ¶[0017] ("food products disposed within the pan 100"), ¶[0024] ("tray 100"), Figs. 1 and 6. As described above in Paragraphs 581-633 (Ground 10, Section XIII(A)(2)), Jones, Hartfelder, Stanger, Loy, and IRHS Documents all disclose or suggest multiple bays in heating zones. EX1005: 8, 25; EX1006: 1; EX1007: 56; EX1010: ¶¶[0014]-[0015]; EX1012: ¶¶[0073], [0096]; EX1013: ¶[0037], Fig. 3; EX1042: ¶[0055]; EX1043: Fig. 17.

831. Pursuant to the modifications explained in Paragraphs 581-633 above (Ground 10, Section XIII(A)(2)), the first food holding zone would include a first food holding bay and a second food holding bay with each holding bay configured to receive a food pan/tray.

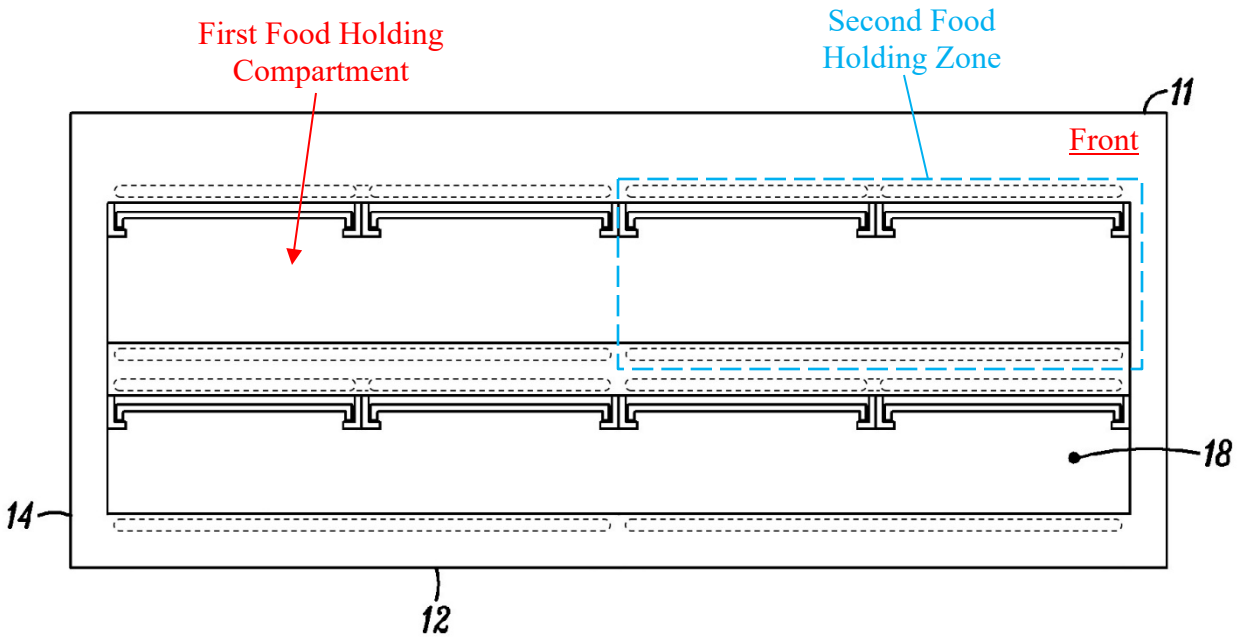


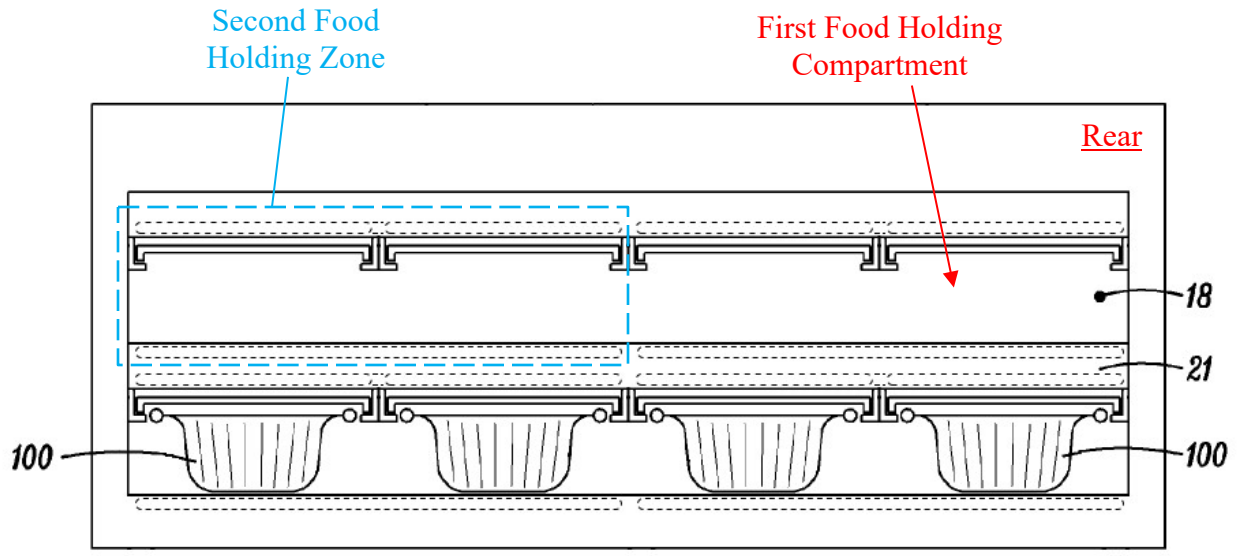
EX1010: Figs. 2 and 6 (modified, annotated).

1.i.1: a second food holding zone formed in the first food holding compartment

832. The POSA would recognize that Fortmann'748 discloses a "holding zone formed in the first food holding compartment."

833. It would have been further obvious to modify the Fortmann'748 cabinet in view of Jones (EX1012), Hartfelder (EX1013), Stanger (EX1042), Loy (EX1043), and/or the IRHS Documents (EX1005-1008) as discussed in Paragraphs 581-633 (Ground 10, Section XIII(A)(2)) above it such that it has a first food holding zone and a second food holding zone in the first food holding compartment. As described above Paragraphs 581-633 (Ground 10, Section XIII(A)(2)), Jones, Hartfelder, Stanger, Loy, and IRHS Documents all disclose multiple food holding zones in a food holding compartment. EX1005: 20, 25, 26; EX1007: 53; EX1012: ¶¶[0069], [0072], [0096]; EX1013: ¶[0037]; EX1042: ¶[0055]; EX1043: Fig. 17.



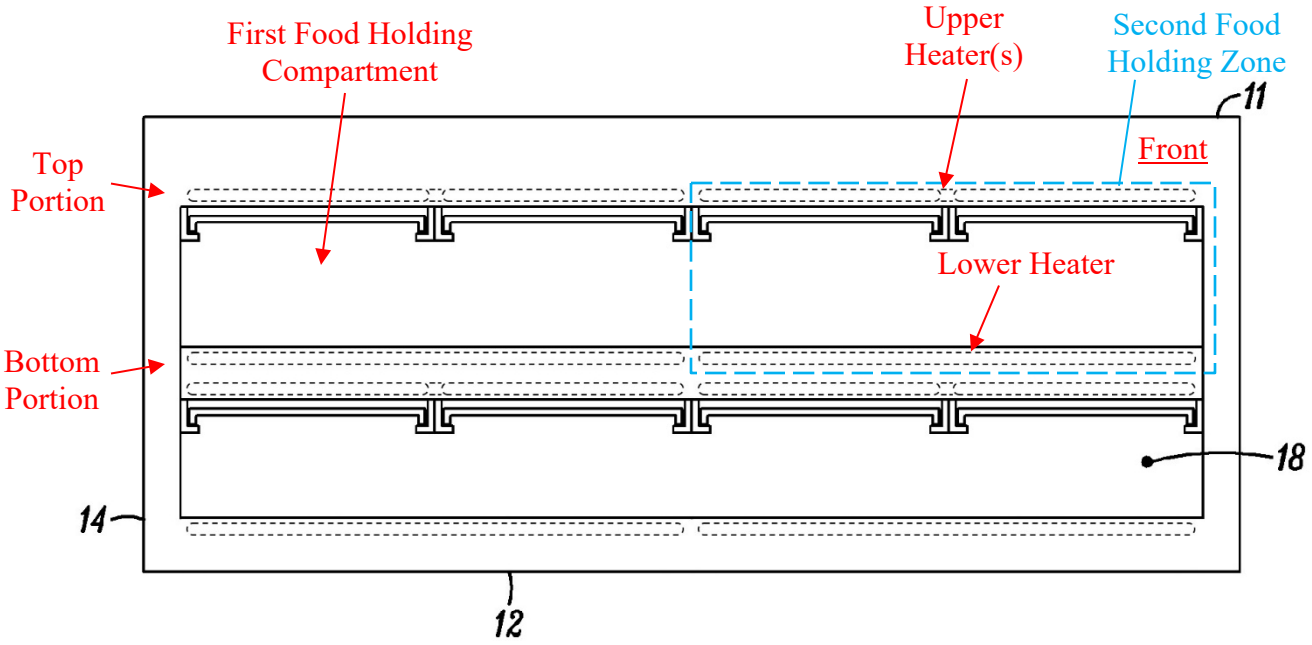


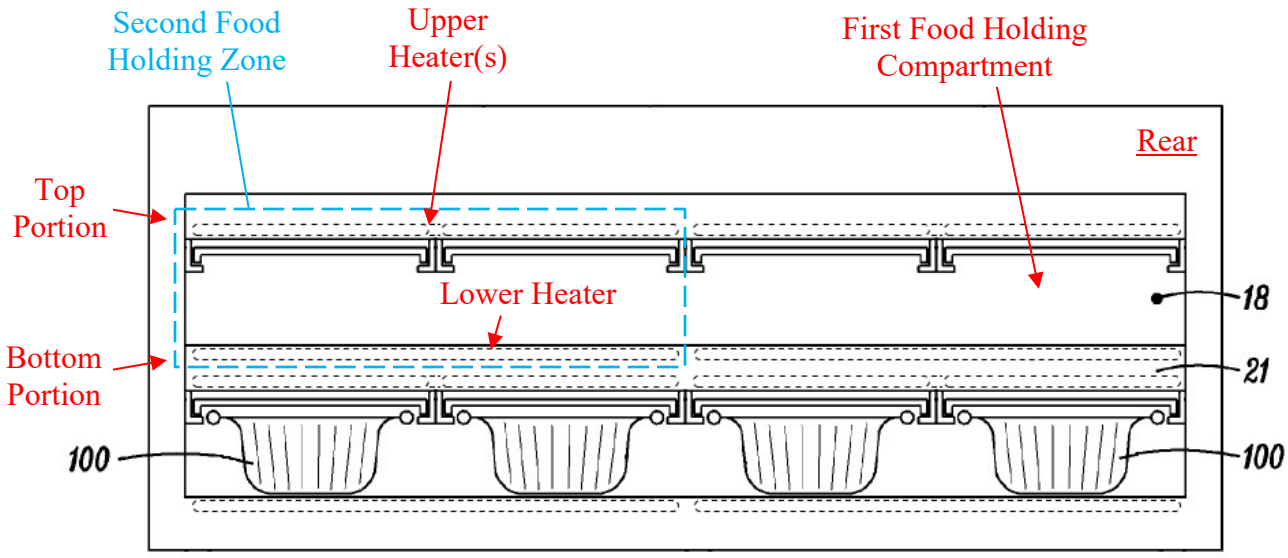
EX1010: Figs. 2 and 6 (modified, annotated).

1.i.2: the second food holding zone having at least one independently controllable heating element disposed at the top portion of the first food holding compartment and at least one independently controllable heating element disposed at the bottom portion of the first food holding compartment

834. The POSA would recognize that Fortmann'748 discloses having food holding zones with independently controllable heating elements.

835. 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 581-633 (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 634-650 (Ground 10, Section XIII(A)(3)) such that the second food holding zone would have at least one upper heater and at least one lower heater (*e.g.*, heating elements) at the respective top and bottom portions of the first food holding compartment. EX1005: 16, 20, 25, 26; EX1006: 1; EX1007: 53; EX1010: ¶[0027]; EX1012: ¶¶[0072], [0073], [0096], [0098], [0130]; EX1013: ¶[0037]; EX1014: 3:6-27, 8:63-9:19, 9:50-65; EX1019: 4:36-59.





EX1010: Figs. 2 and 6 (modified, annotated).

836. As with the first food holding zone in Paragraphs 820-824 (claim limitation 1.h.2), 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. *See also*, Paragraphs 581-650 (Ground 10, Section XIII(A)(2)-(3)). 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.

837. As such, it would have been obvious for the second food holding zone's upper and lower heaters to be independently controllable from one another and from the upper and lower heaters of the other food holding zones.

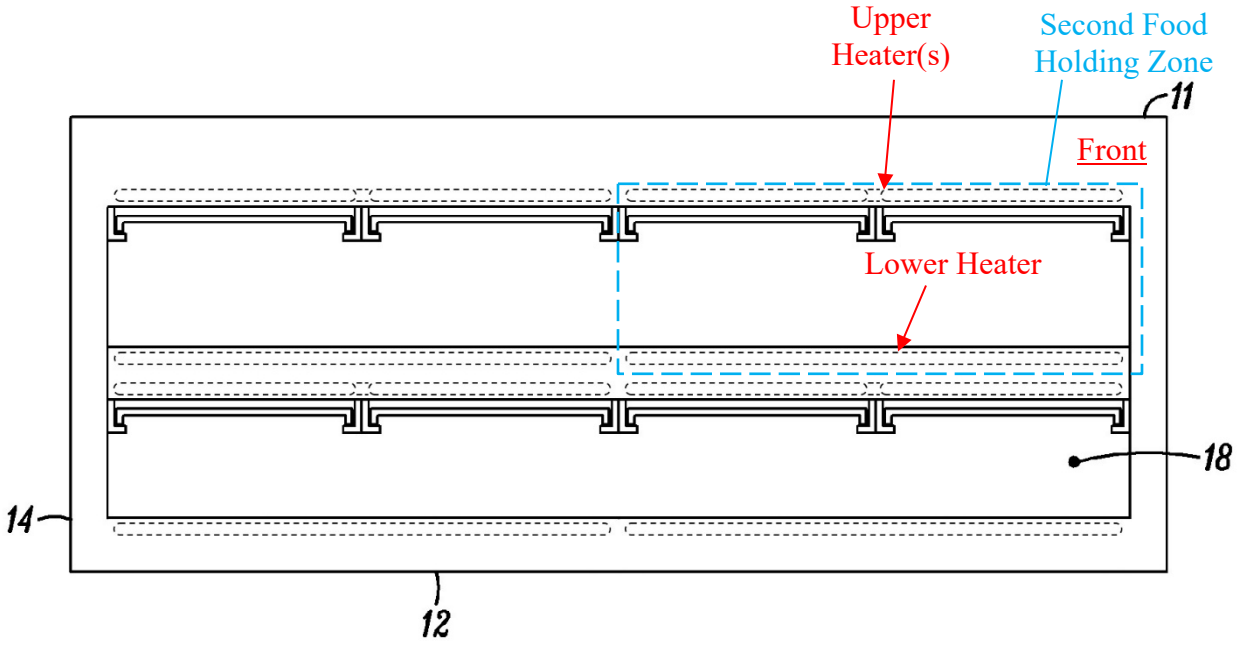
1.i.3: the second food holding zone having a controllable second food holding temperature

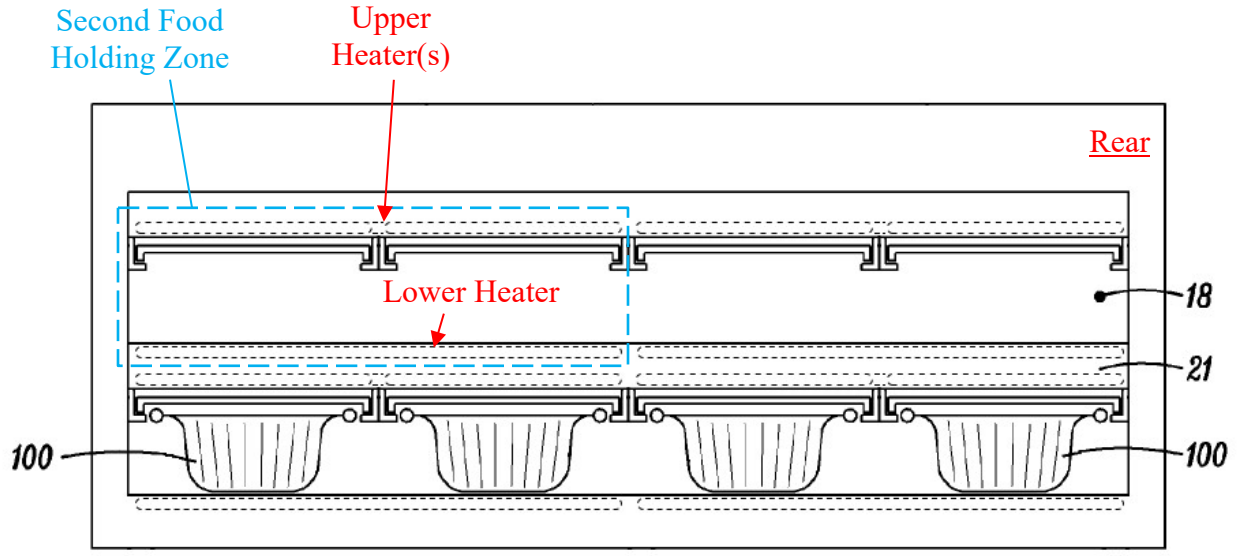
838. The POSA would recognize that Fortmann'748 discloses each food holding zone as being capable of having its own food holding temperature, such that it would have been obvious for the second food holding zone to have a controllable second food holding temperature.

839. Specifically, each of the Fortmann'748 shelf's one or more heaters (60) are described 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: ¶¶[0019], [0021], [0024]. Modifying Fortmann'748's cabinet to have zones and upper and lower heaters for each zone, as discussed in Paragraphs 832-837 above (claim limitations 1.i.1 and 1.i.2), results in each zone (e.g., the second food holding zone) having its own temperature. EX1005: 16, 20, 25; EX1006: 1; EX1007: 53; EX1010: ¶¶[0021], [0024], [0027]; EX1012: ¶¶[0098], [0130]; EX1014: 3:6-27, 8:63-9:19, 9:50-65; EX1019: 4:36-59.

840. As explained in Paragraphs 581-691 and 825-828 (Ground 10, Section XIII(A)(2)-(5) and claim limitation 1.h.3), it would have been obvious to adapt Fortmann'748's control system to operate the upper and lower heaters of each food holding zone to control its food holding temperature.





EX1010: Figs. 2 and 6 (modified, annotated).

1.i.4: the second food holding zone including a third food holding bay and a fourth food holding bay, each of the third and fourth food holding bays being configured to receive a food holding tray

841. 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.

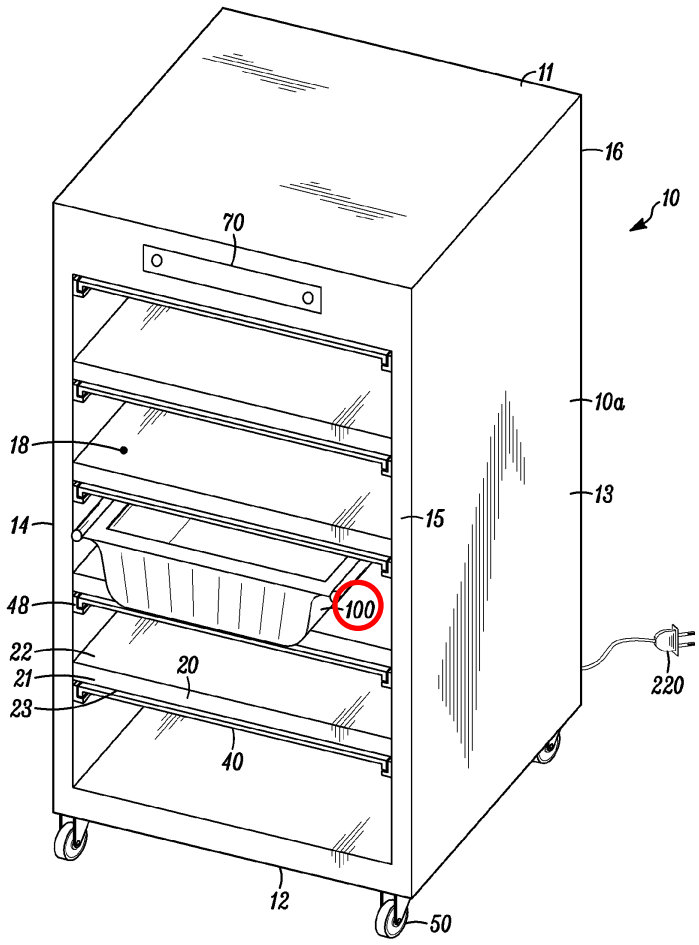


FIG. 1

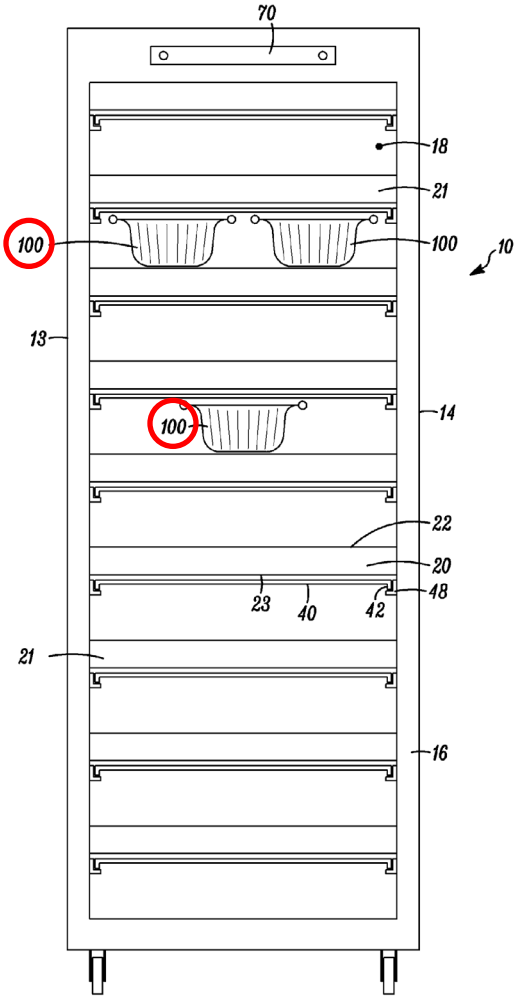
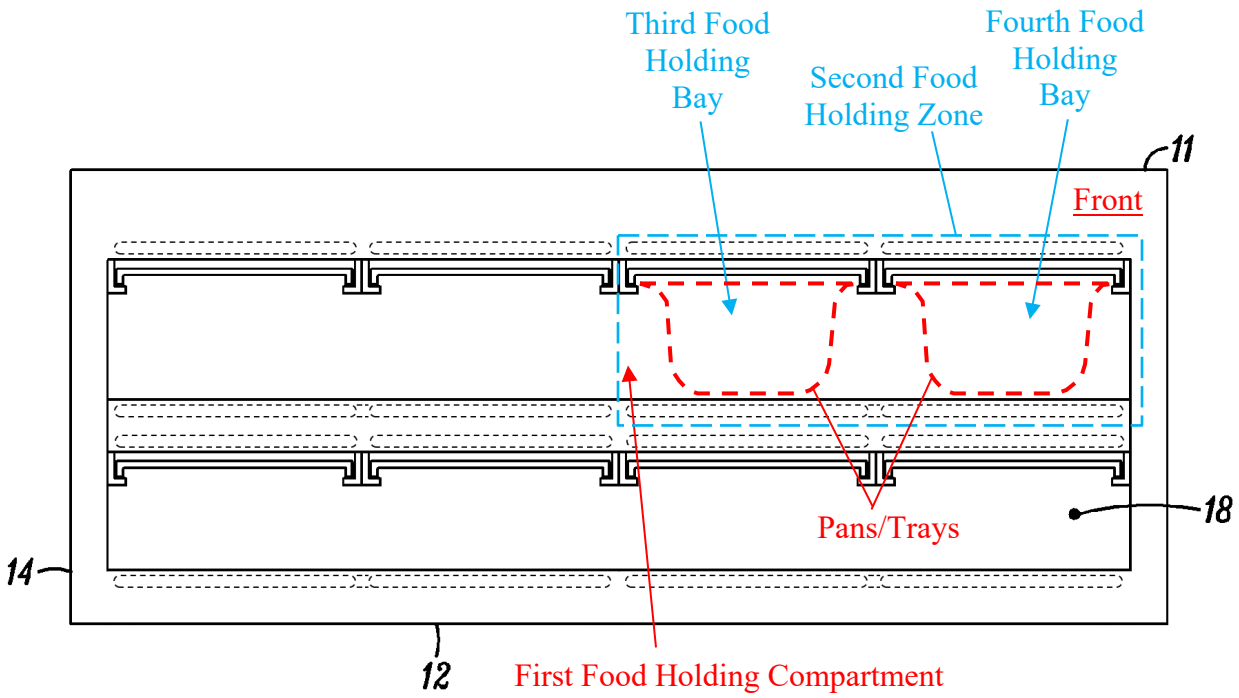


FIG. 6

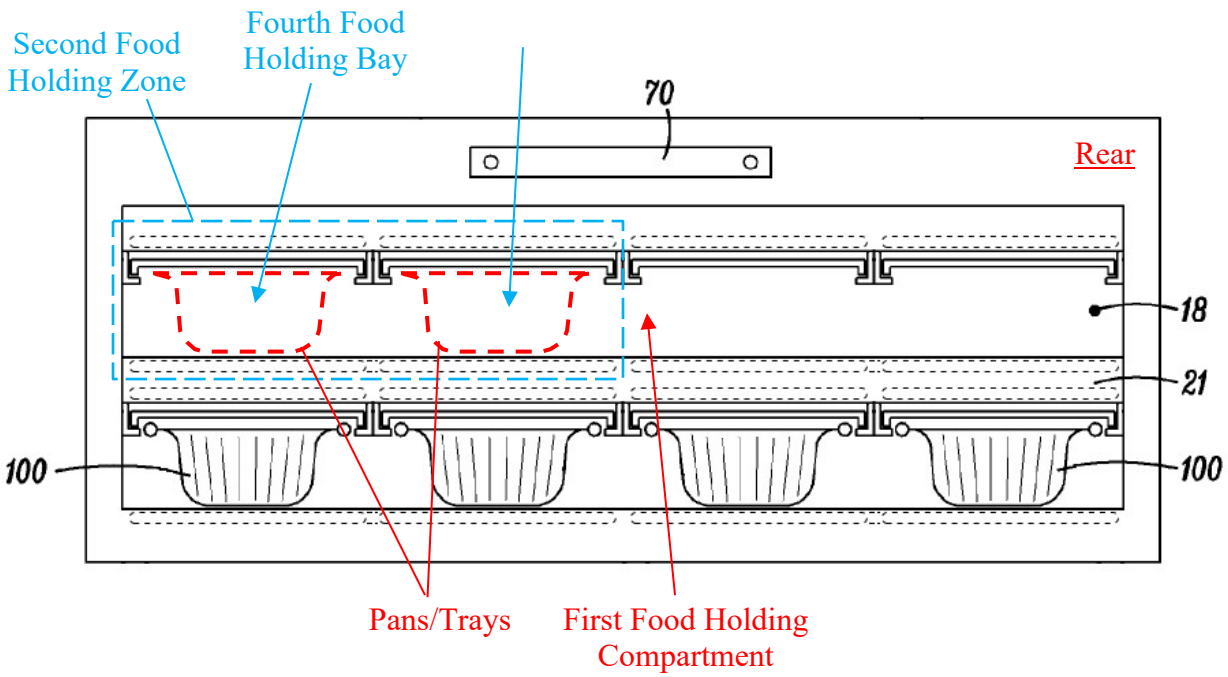
EX1010: Figs. 1 and 6 (annotated).

842. 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 (EX1005-1008) as discussed in Paragraphs 581-633 (Ground 10, Section XIII(A)(2)), it would have also been obvious for each of the food holding zones to be further subdivided into multiple food holding bays. 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"), ¶[0015] ("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"), ¶[0017] ("food products disposed within the pan 100"), ¶[0024] ("tray 100"), Figs. 1 and 6. As described above in Paragraphs 581-633 (Ground 10, Section XIII(A)(2)), Jones, Hartfelder, Stanger, Loy, and IRHS Documents all disclose or suggest multiple bays in heating zones. EX1005: 8, 25; EX1006: 1; EX1007: 56; EX1010: ¶¶[0014]-[0015]; EX1012: ¶¶[0073], [0096]; EX1013: ¶[0037], Fig. 3; EX1042: ¶[0055]; EX1043: Fig. 17.

843. Pursuant to the modifications explained in Paragraphs 581-633 above (Ground 10, Section XIII(A)(2)), the second food holding zone would include a third food holding bay and a fourth food holding bay with each holding bay configured to receive a food pan/tray.



Third Food Holding Bay



EX1010: Figs. 2 and 6 (modified, annotated).

1.j: wherein the first food holding zone and the second food holding zone are adjacent one another across the substantially planar surface

844. 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 (EX1005-1008) as discussed in Paragraphs 581-633, 818-819, and 832-833 (Ground 10, Section XIII(A)(2) and claim limitations 1.h.1 and 1.i.1), the first food holding zone and the second food holding zone would be adjacent one another across the first substantially planar surface:

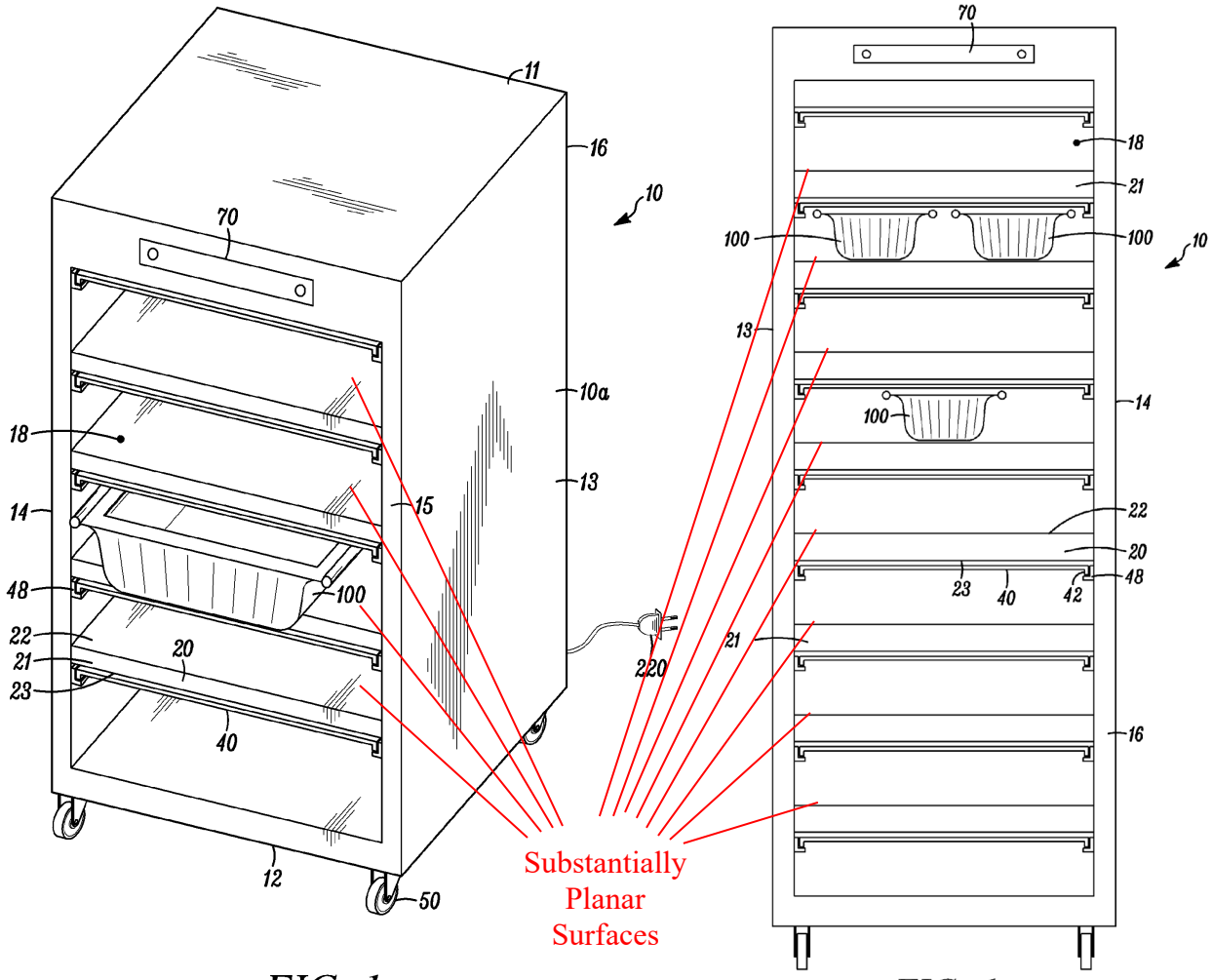
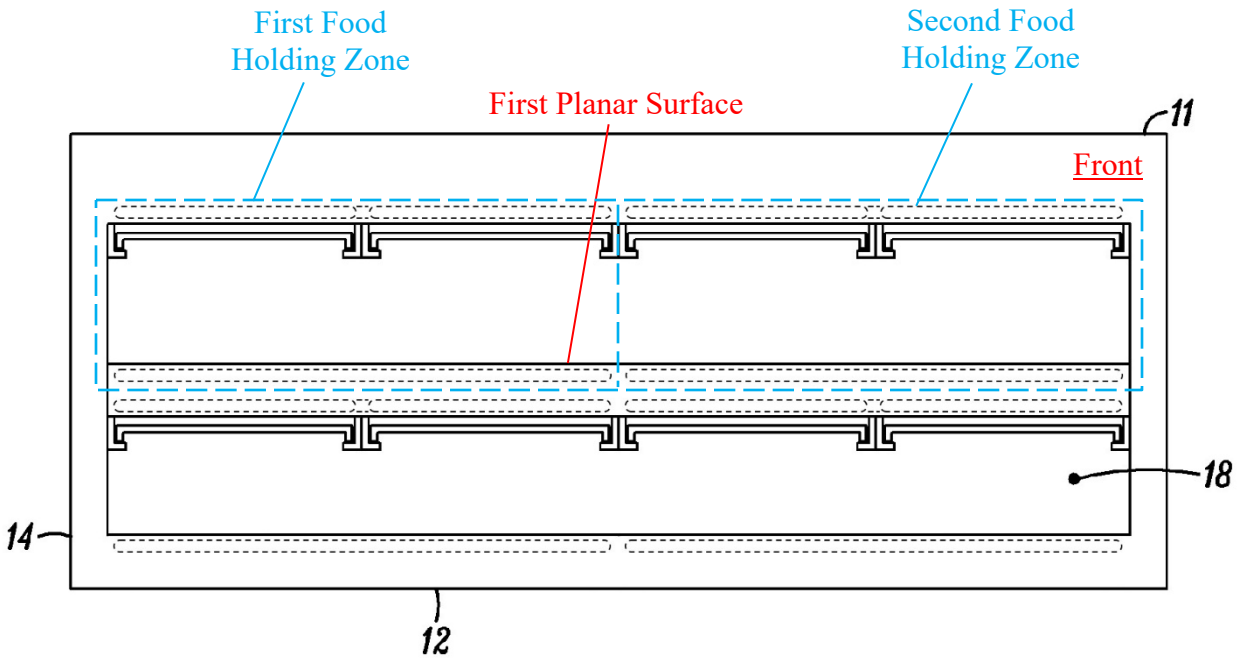
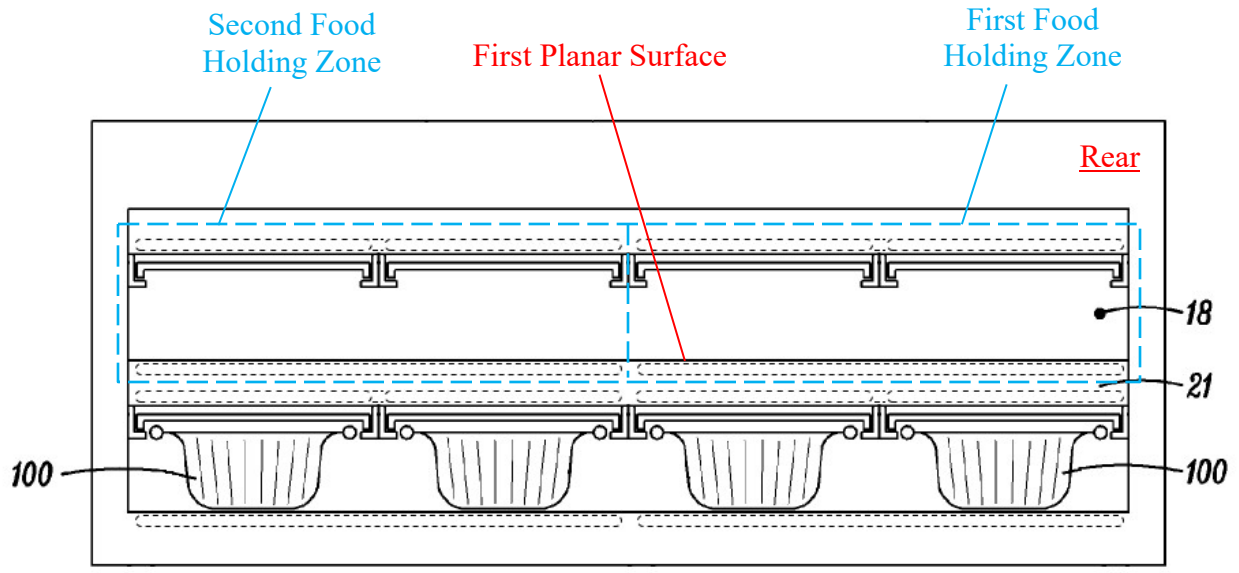


FIG. 1 FIG. 6

EX1010: Figs. 1 and 6 (annotated).



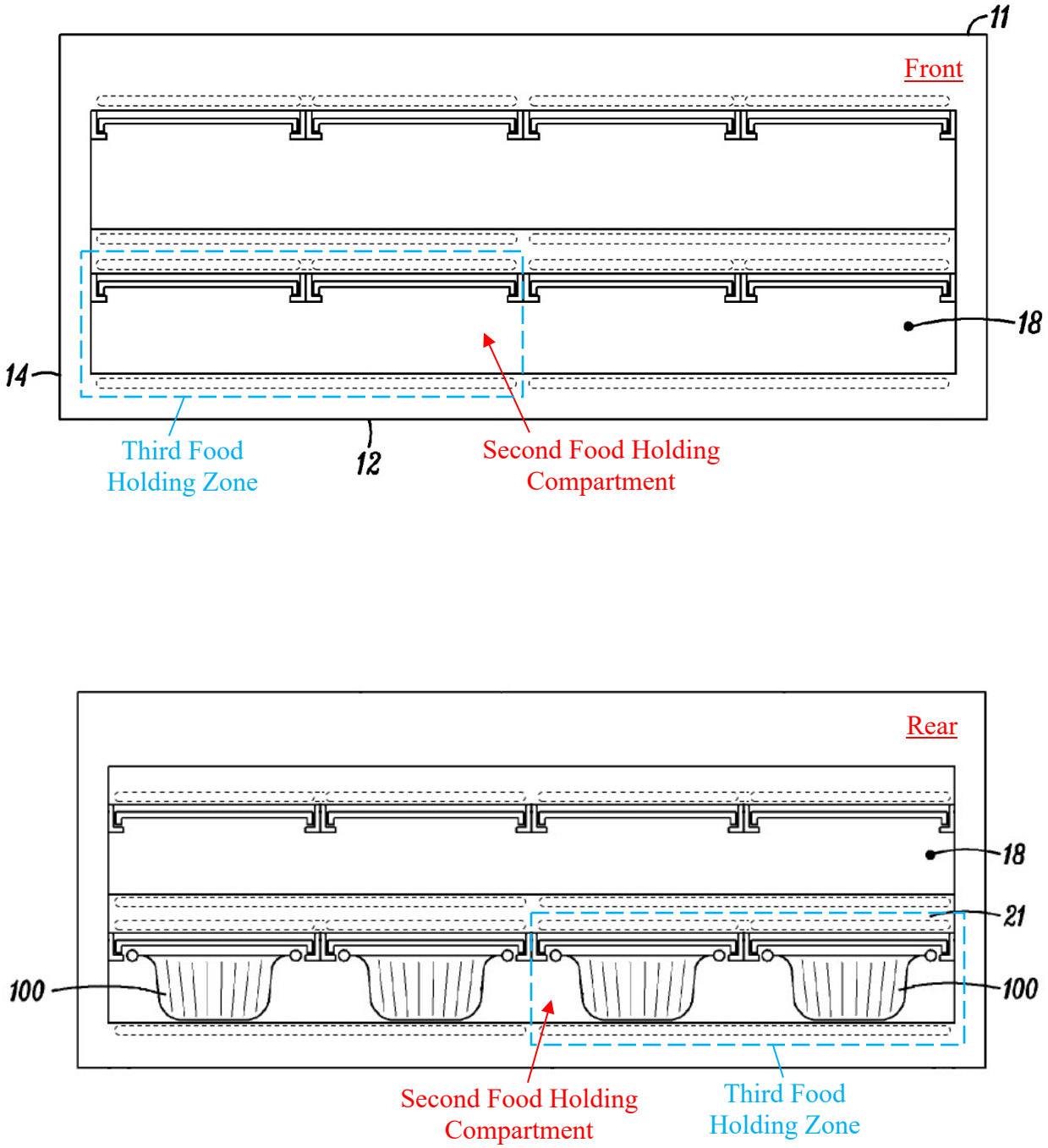


EX1010: Figs. 2 and 6 (modified, annotated).

1.k.1: a third food holding zone formed in the second food holding compartment

845. The POSA would recognize that Fortmann'748 discloses a "holding zone formed in the second food holding compartment."

846. It would have been further obvious to modify the Fortmann'748 cabinet in view of Jones (EX1012), Hartfelder (EX1013), Stanger (EX1042), Loy (EX1043), and/or the IRHS Documents (EX1005-1008) as discussed in Paragraphs 581-633 (Ground 10, Section XIII(A)(2)) such that it has a third food holding zone and a fourth food holding zone in the second food holding compartment. As described above in Paragraphs 581-633 (Ground 10, Section XIII(A)(2)), Jones, Hartfelder, Stanger, Loy, and IRHS Documents all disclose multiple food holding zones in a food holding compartment. EX1005: 20, 25, 26; EX1007: 53; EX1012: ¶¶[0069], [0072], [0096]; EX1013: ¶[0037]; EX1042: ¶[0055]; EX1043: Fig. 17.



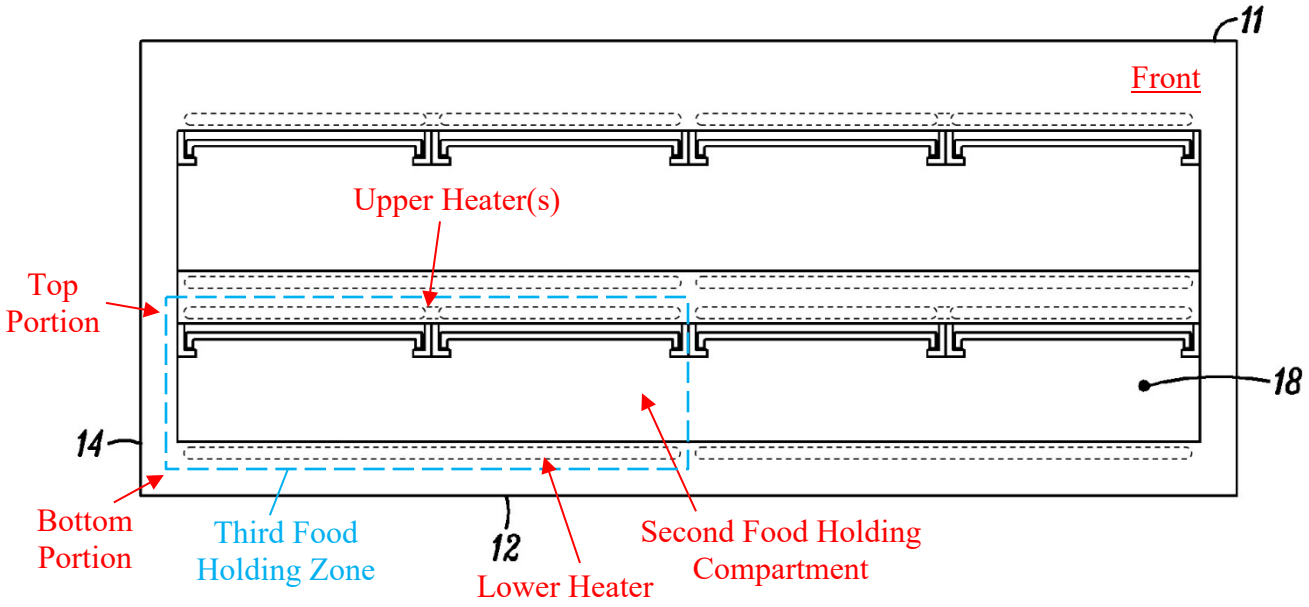
EX1010: Figs. 2 and 6 (modified, annotated).

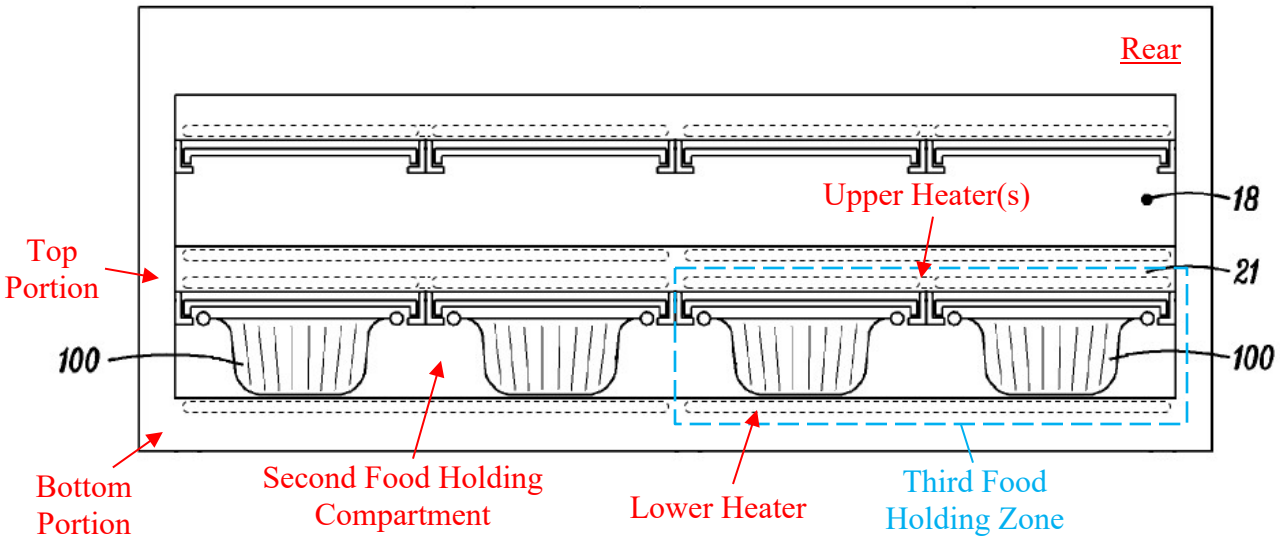
1.k.2: the third food holding zone having at least one independently controllable heating element disposed at a top

portion of the second food holding compartment, and at least one independently controllable heating element disposed at a bottom portion of the second food holding compartment

847. The POSA would recognize that Fortmann'748 discloses having food holding zones with independently controllable heating elements.

848. 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 581-633 (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 634-650 (Ground 10, Section XIII(A)(3)) such that the third food holding zone would have at least one upper heater and at least one lower heater (*e.g.*, heating elements) at the respective top and bottom portions of the second food holding compartment. EX1005: 16, 20, 25, 26; EX1006: 1; EX1007: 53; EX1010: ¶[0027]; EX1012: ¶¶[0072], [0073], [0096], [0098], [0130]; EX1013: ¶[0037]; EX1014: 3:6-27, 8:63-9:19, 9:50-65; EX1019: 4:36-59.





EX1010: Figs. 2 and 6 (modified, annotated).

849. As with the first food holding zone in Paragraphs 820-824 (claim limitation 1.h.2), 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. *See also*, Paragraphs 581-650 (Ground 10, Section XIII(A)(2)-(3)). 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.

850. As such, it would have been obvious for the third food holding zone's upper and lower heaters to be independently controllable from one another and from the upper and lower heaters of the other food holding zones.

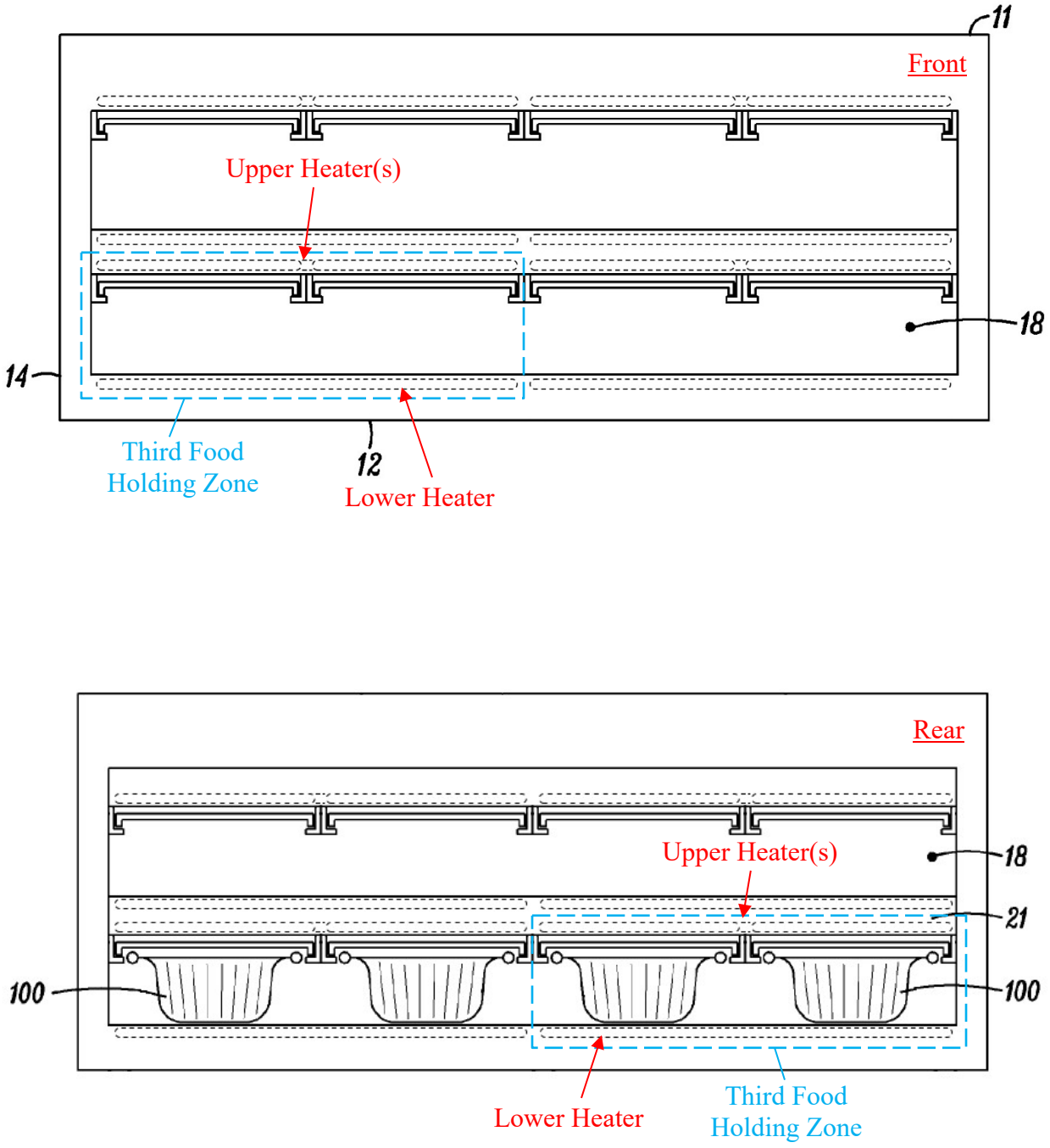
1.k.3: the third food holding zone having a controllable third food holding temperature

851. The POSA would recognize that Fortmann'748 discloses each food holding zone as being capable of having its own food holding temperature, such that it would have been obvious for the third food holding zone to have a controllable third food holding temperature.

852. Specifically, each of the Fortmann'748 shelf's one or more heaters (60) are described 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: ¶¶[0019], [0021], [0024]. Modifying Fortmann'748's cabinet to have zones and upper and lower heaters for each zone, as discussed in Paragraphs 845-850 above (claim limitations 1.k.1 and 1.k.2), results in each zone (e.g., the third food holding zone) having its own temperature. EX1005: 16, 20, 25; EX1006: 1; EX1007: 53; EX1010: ¶¶[0021], [0024], [0027]; EX1012: ¶¶[0098], [0130]; EX1014: 3:6-27, 8:63-9:19, 9:50-65; EX1019: 4:36-59.

853. As explained in Paragraphs 581-691 and 825-828 (Ground 10, Section XIII(A)(2)-(5) and claim limitation 1.h.3), it would have been obvious to adapt Fortmann'748's control system to operate the upper and lower heaters of each food holding zone to control its food holding temperature.



EX1010: Figs. 2 and 6 (modified, annotated).

1.k.4: the third food holding zone including a fifth food holding bay and a sixth food holding bay, each of the third and fourth food holding bays being configured to receive a food holding tray

854. 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.

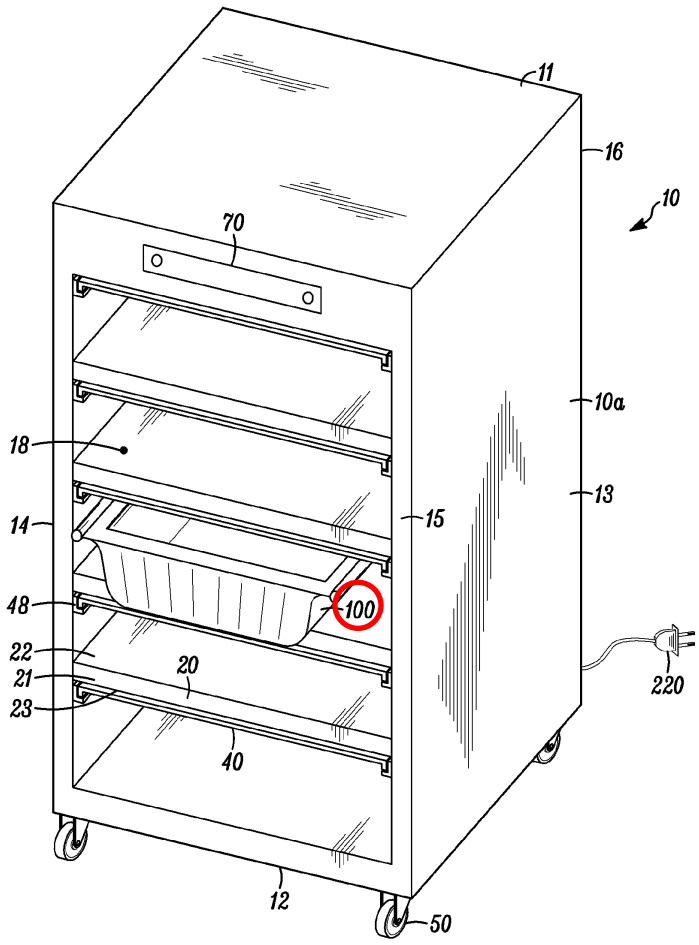


FIG. 1

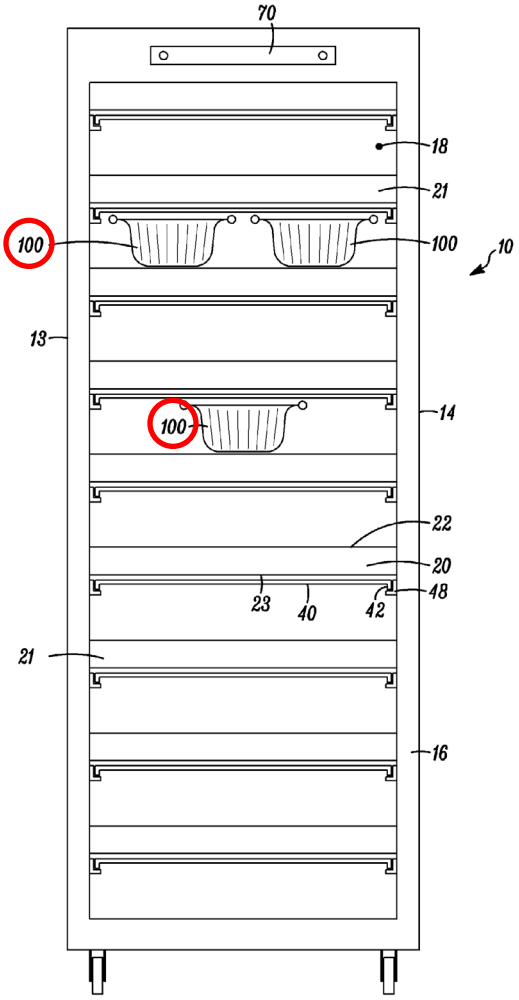
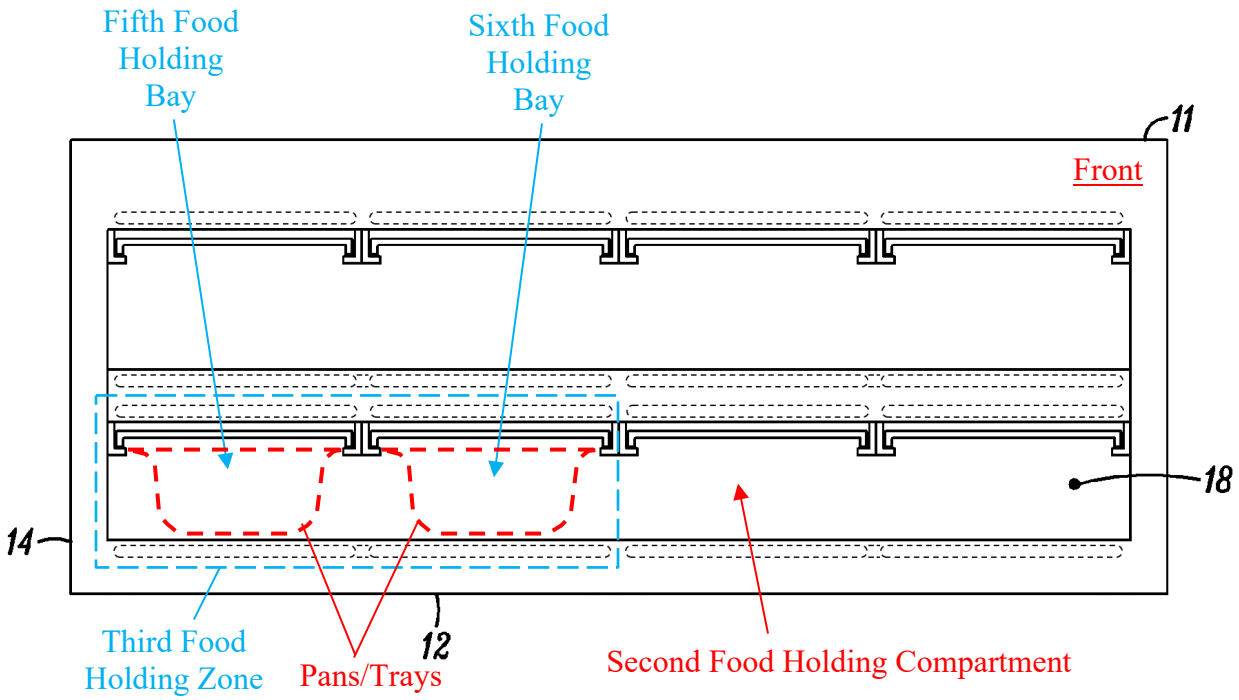


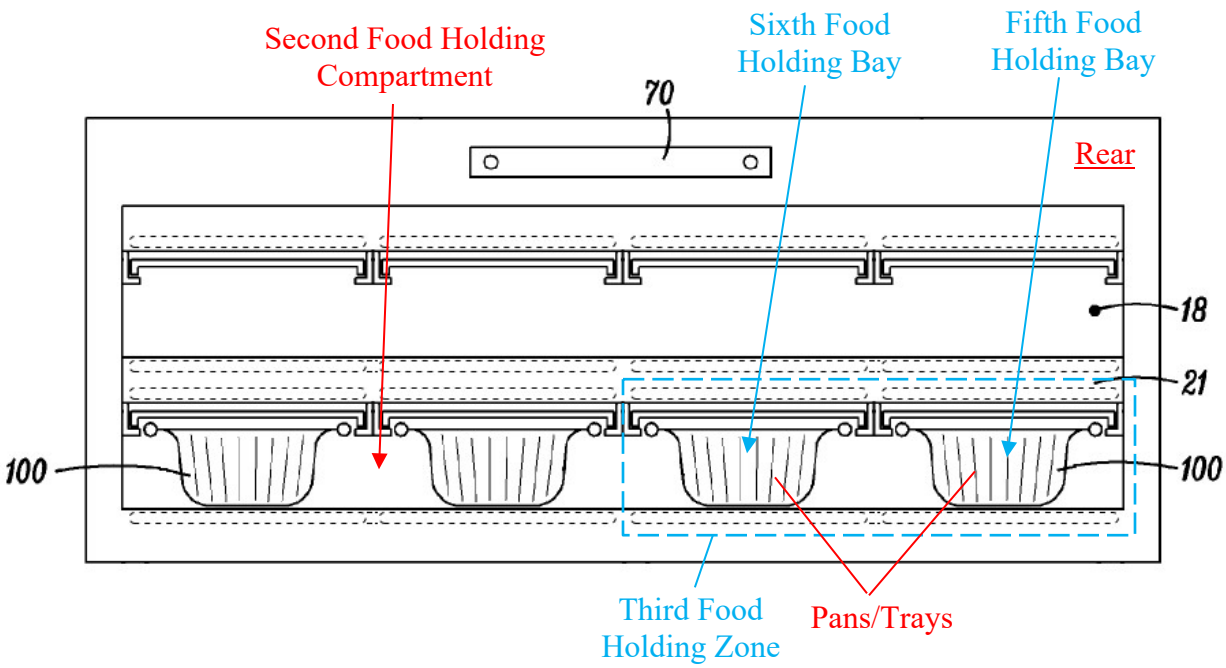
FIG. 6

EX1010: Figs. 1 and 6 (annotated).

855. 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 (EX1005-1008) as discussed in Paragraphs 581-633 (Ground 10, Section XIII(A)(2)), it would have also been obvious for each of the food holding zones to be further subdivided into multiple food holding bays. 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"), ¶[0015] ("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"), ¶[0017] ("food products disposed within the pan 100"), ¶[0024] ("tray 100"), Figs. 1 and 6. As described above in Paragraphs 581-633 (Ground 10, Section XIII(A)(2)), Jones, Hartfelder, Stanger, Loy, and IRHS Documents all disclose or suggest multiple bays in heating zones. EX1005: 8, 25; EX1006: 1; EX1007: 56; EX1010: ¶¶[0014]-[0015]; EX1012: ¶¶[0073], [0096]; EX1013: ¶[0037], Fig. 3; EX1042: ¶[0055]; EX1043: Fig. 17.

856. Pursuant to the modifications explained in Paragraphs 581-633 above (Ground 10, Section XIII(A)(2)), the third food holding zone would include a fifth food holding bay and a sixth food holding bay with each holding bay configured to receive a food pan/tray.





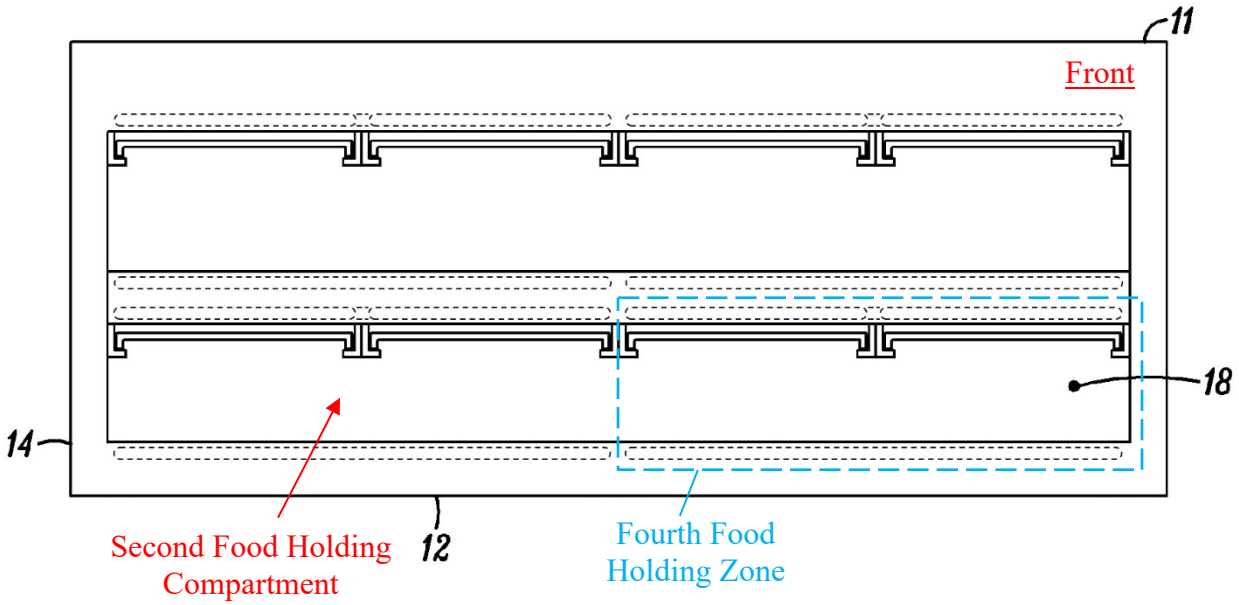
EX1010: Figs. 2 and 6 (modified, annotated).

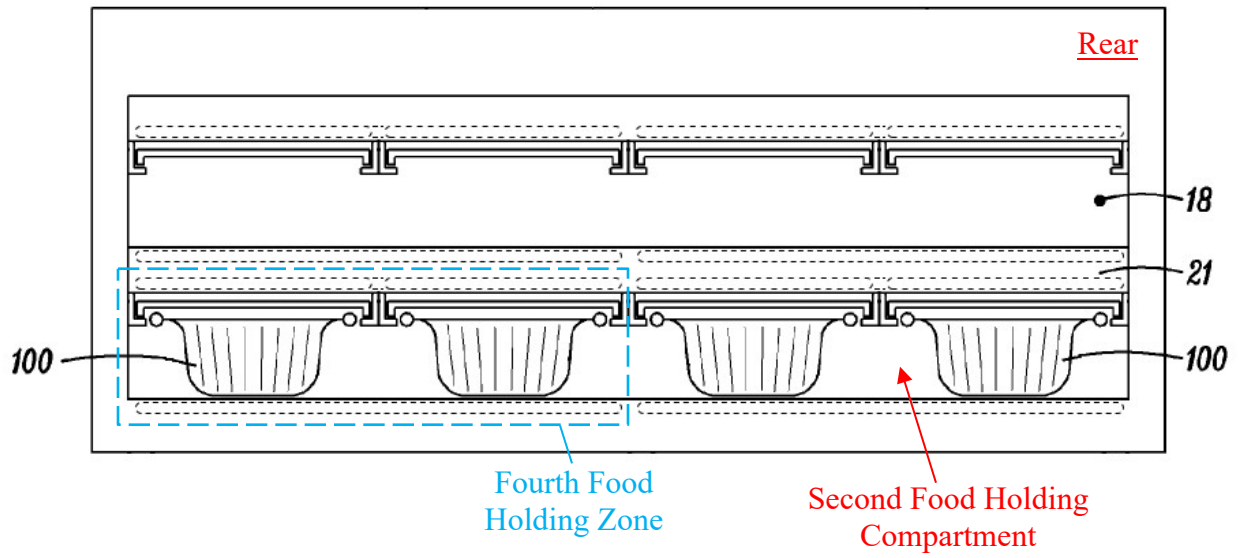
1.l.1: a fourth food holding zone formed in the second food holding compartment

857. The POSA would recognize that Fortmann'748 discloses a "holding zone formed in the second food holding compartment."

858. It would have been further obvious to modify the Fortmann'748 cabinet in view of Jones (EX1012), Hartfelder (EX1013), Stanger (EX1042), Loy (EX1043), and/or the IRHS Documents (EX1005-1008) as discussed in Paragraphs 581-633 (Ground 10, Section XIII(A)(2)) such that it has a third food holding zone and a fourth food holding zone in the second food holding compartment. As described above in Paragraphs 581-633 (Ground 10, Section XIII(A)(2)), Jones, Hartfelder, Stanger, Loy, and IRHS Documents all disclose multiple food holding

zones in a food holding compartment. EX1005: 20, 25, 26; EX1007: 53; EX1012: ¶¶[0069], [0072], [0096]; EX1013: ¶[0037]; EX1042: ¶[0055]; EX1043: Fig. 17.



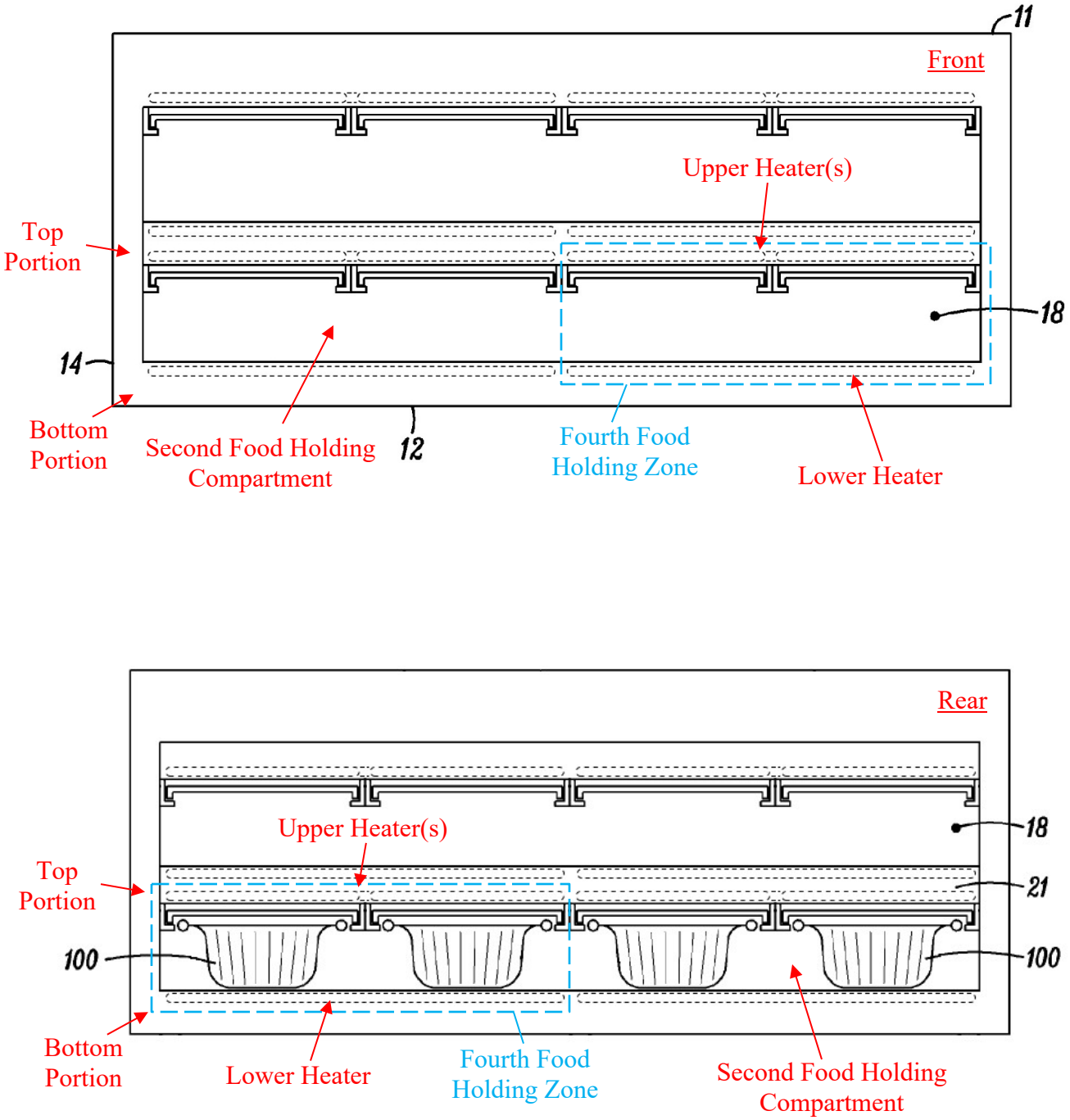


EX1010: Figs. 2 and 6 (modified, annotated).

1.l.2: the fourth food holding zone having at least one independently controllable heating element disposed at the top portion of the second food holding compartment and at least one independently controllable heating element disposed at the bottom portion of the second food holding compartment

859. The POSA would recognize that Fortmann'748 discloses having food holding zones with independently controllable heating elements.

860. 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 581-633 (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 634-650 (Ground 10, Section XIII(A)(3)) such that the fourth food holding zone would have at least one upper heater and at least one lower heater (*e.g.*, heating elements) at the respective top and bottom portions of the second food holding compartment. EX1005: 16, 20, 25, 26; EX1006: 1; EX1007: 53; EX1010: ¶[0027]; EX1012: ¶¶[0072], [0073], [0096], [0098], [0130]; EX1013: ¶[0037]; EX1014: 3:6-27, 8:63-9:19, 9:50-65; EX1019: 4:36-59.



EX1010: Figs. 2 and 6 (modified, annotated).

861. As with the first food holding zone in Paragraphs 820-824 (claim limitation 1.h.2), 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. *See also*, Paragraphs 581-650 (Ground 10, Section XIII(A)(2)-(3)). 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.

862. As such, it would have been obvious for the fourth food holding zone's upper and lower heaters to be independently controllable from one another and from the upper and lower heaters of the other food holding zones.

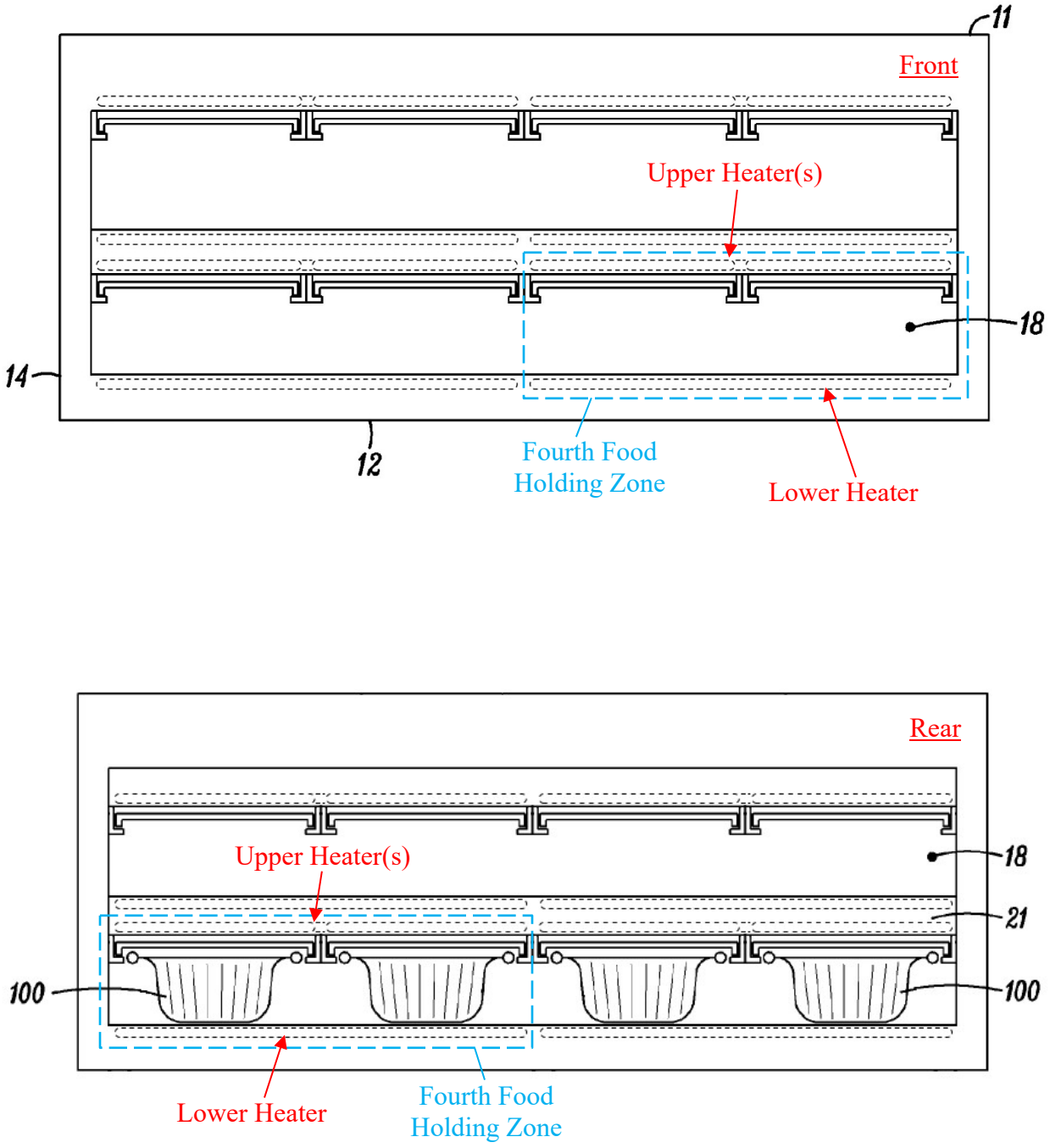
1.l.3: the fourth food holding zone having a controllable fourth food holding temperature

863. The POSA would recognize that Fortmann'748 discloses each food holding zone as being capable of having its own food holding temperature, such that it would have been obvious for the fourth food holding zone to have a controllable fourth food holding temperature.

864. Specifically, each of the Fortmann'748 shelf's one or more heaters (60) are described 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: ¶¶[0019], [0021], [0024]. Modifying Fortmann'748's cabinet to have zones and upper and lower heaters for each zone, as discussed in Paragraphs 857-862 above (claim limitations 1.l.1 and 1.l.2), results in each zone (e.g., the fourth food holding zone) having its own temperature. EX1005: 16, 20, 25; EX1006: 1; EX1007: 53; EX1010: ¶¶[0021], [0024], [0027]; EX1012: ¶¶[0098], [0130]; EX1014: 3:6-27, 8:63-9:19, 9:50-65; EX1019: 4:36-59.

865. As explained in Paragraphs 581-691 and 825-828 (Ground 10, Section XIII(A)(2)-(5) and claim limitation 1.h.3), it would have been obvious to adapt Fortmann'748's control system to operate the upper and lower heaters of each food holding zone to control its food holding temperature.



EX1010: Figs. 2 and 6 (modified, annotated).

1.l.4: the fourth food holding zone including a seventh food holding bay and a eighth food holding bay, each of the seventh and eighth food holding bays being configured to receive a food holding tray

866. 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.

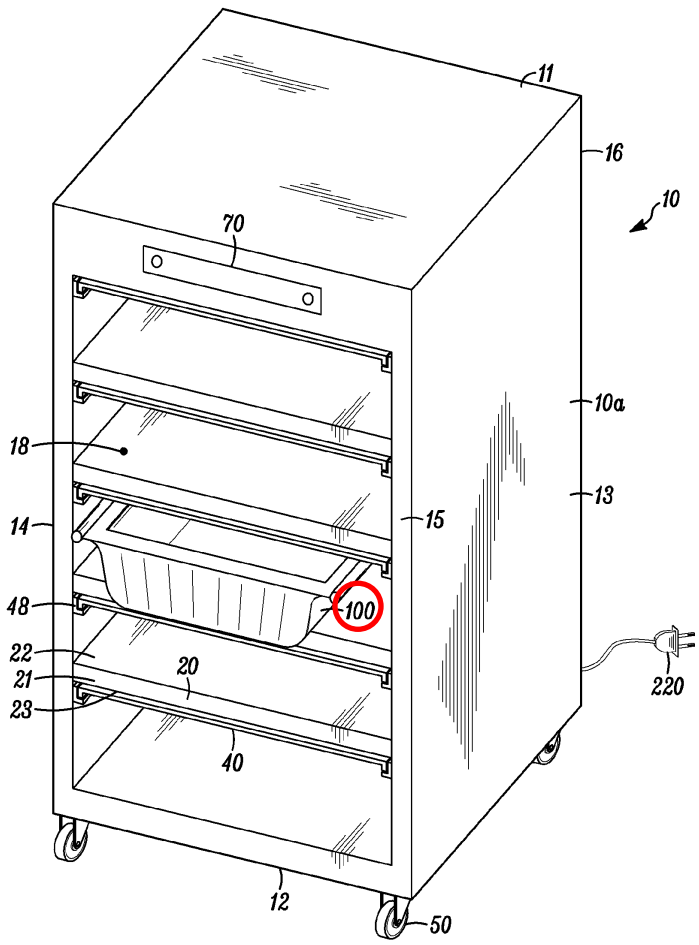


FIG. 1

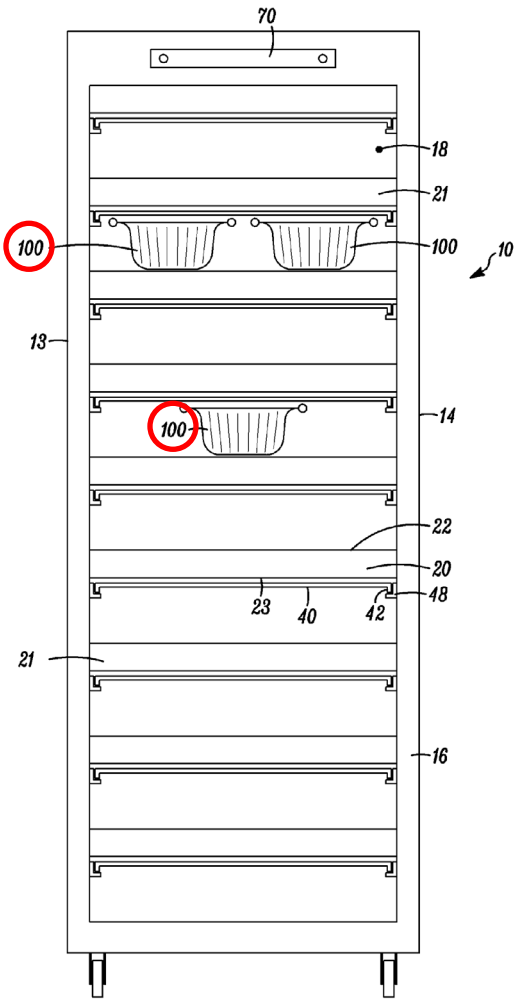
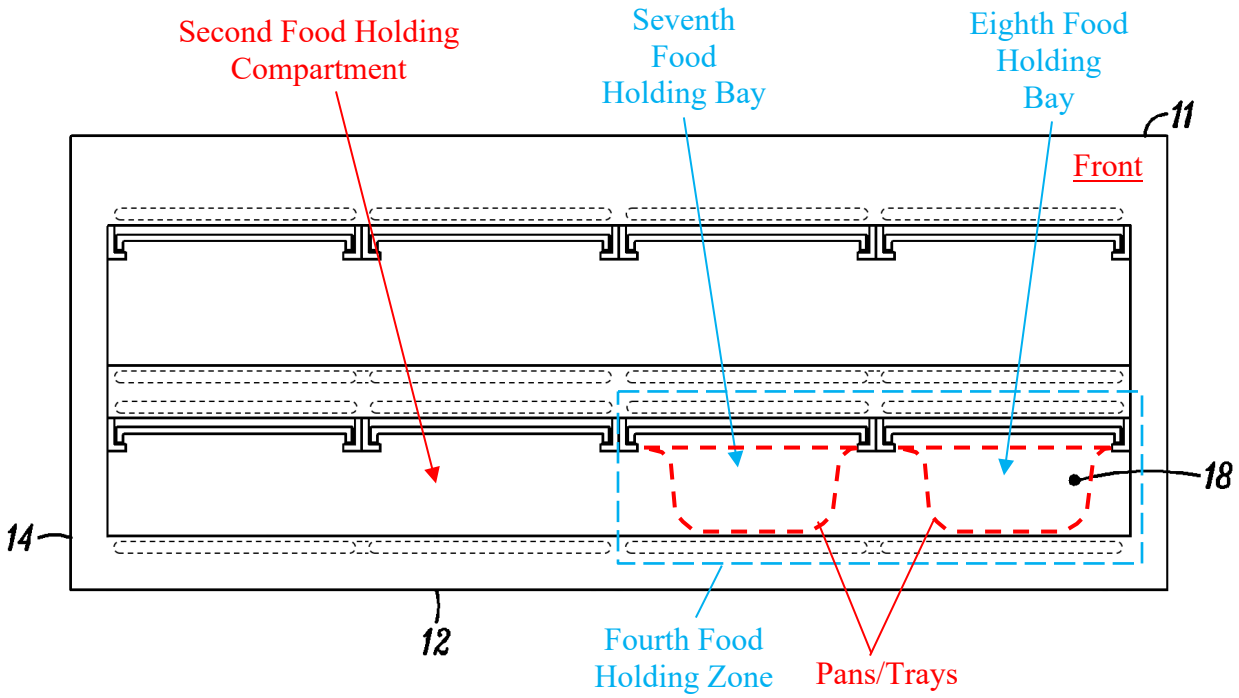


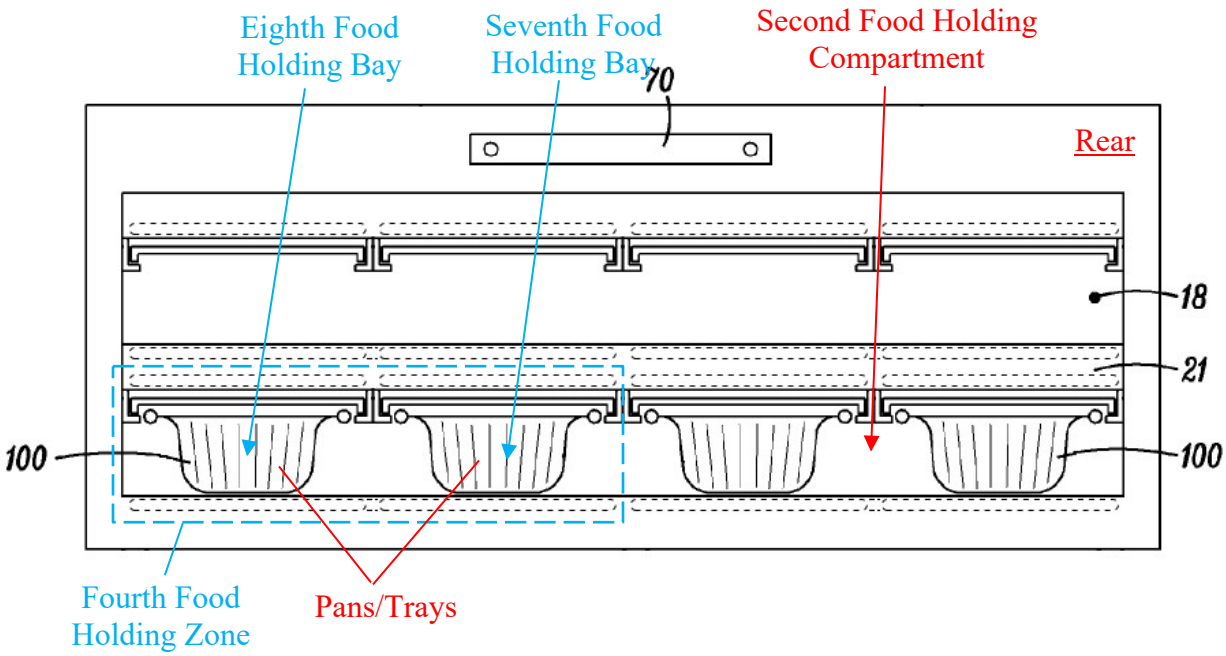
FIG. 6

EX1010: Figs. 1 and 6 (annotated).

867. 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 (EX1005-1008) as discussed in Paragraphs 581-633 (Ground 10, Section XIII(A)(2)), it would have also been obvious for each of the food holding zones to be further subdivided into multiple food holding bays. 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"), ¶[0015] ("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"), ¶[0017] ("food products disposed within the pan 100"), ¶[0024] ("tray 100"), Figs. 1 and 6. As described above in Paragraphs 581-633 (Ground 10, Section XIII(A)(2)), Jones, Hartfelder, Stanger, Loy, and IRHS Documents all disclose or suggest multiple bays in heating zones. EX1005: 8, 25; EX1006: 1; EX1007: 56; EX1010: ¶¶[0014]-[0015]; EX1012: ¶¶[0073], [0096]; EX1013: ¶[0037], Fig. 3; EX1042: ¶[0055]; EX1043: Fig. 17.

868. Pursuant to the modifications explained in Paragraphs 581-633 (Ground 10, Section XIII(A)(2)), the fourth food holding zone would include a seventh food holding bay and an eighth food holding bay with each holding bay configured to receive a food pan/tray.





EX1010: Figs. 2 and 6 (modified, annotated).

1.m: wherein the third food holding zone and the fourth food holding zone are adjacent one another across the second substantially planar surface

869. 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 (EX1005-1008) as discussed in Paragraphs 581-633, 818-819, and 832-833 (Ground 10, Section XIII(A)(2) and claim limitations 1.h.1 and 1.i.1), the third food holding zone and the fourth food holding zone would be adjacent one another across the second substantially planar surface:

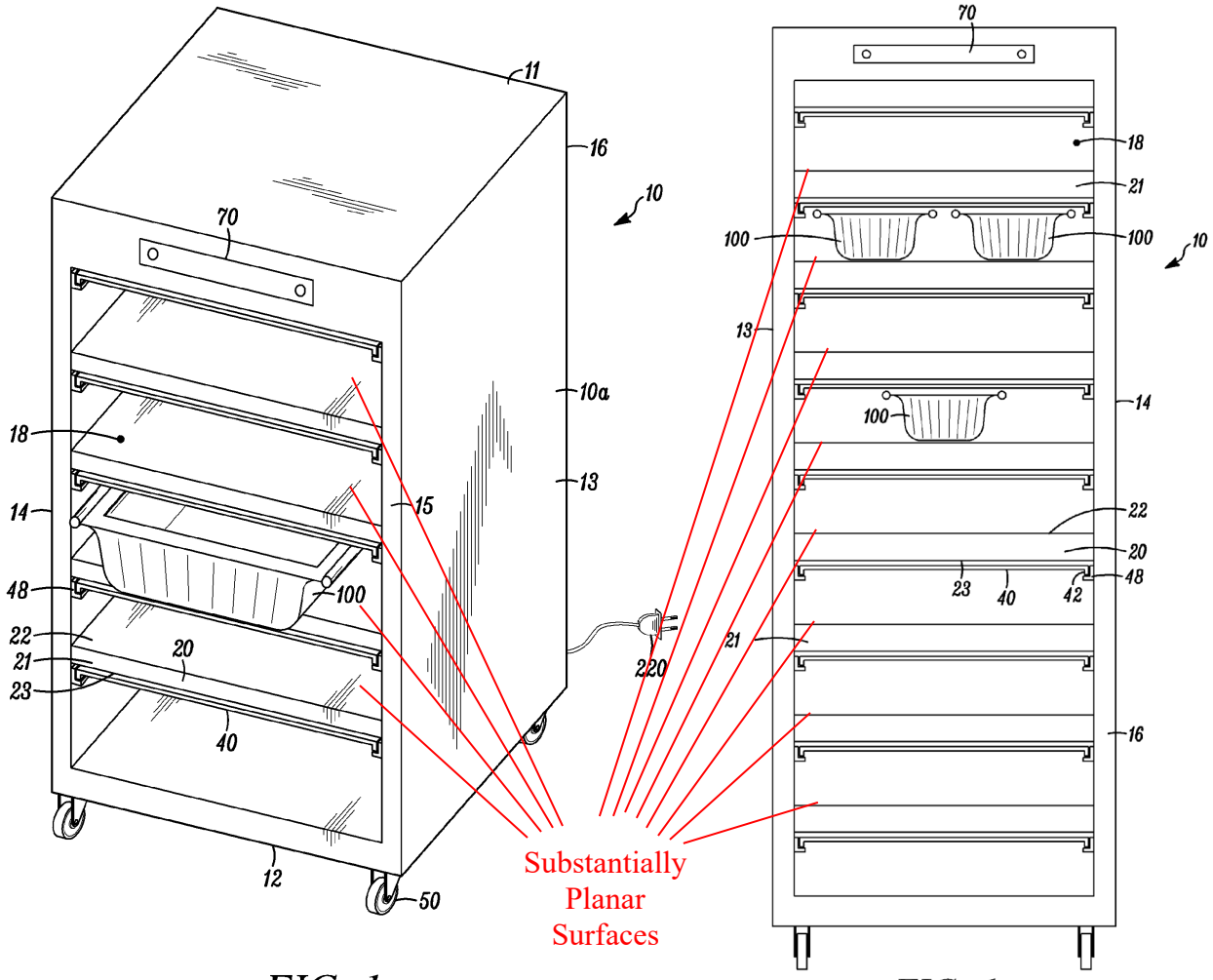
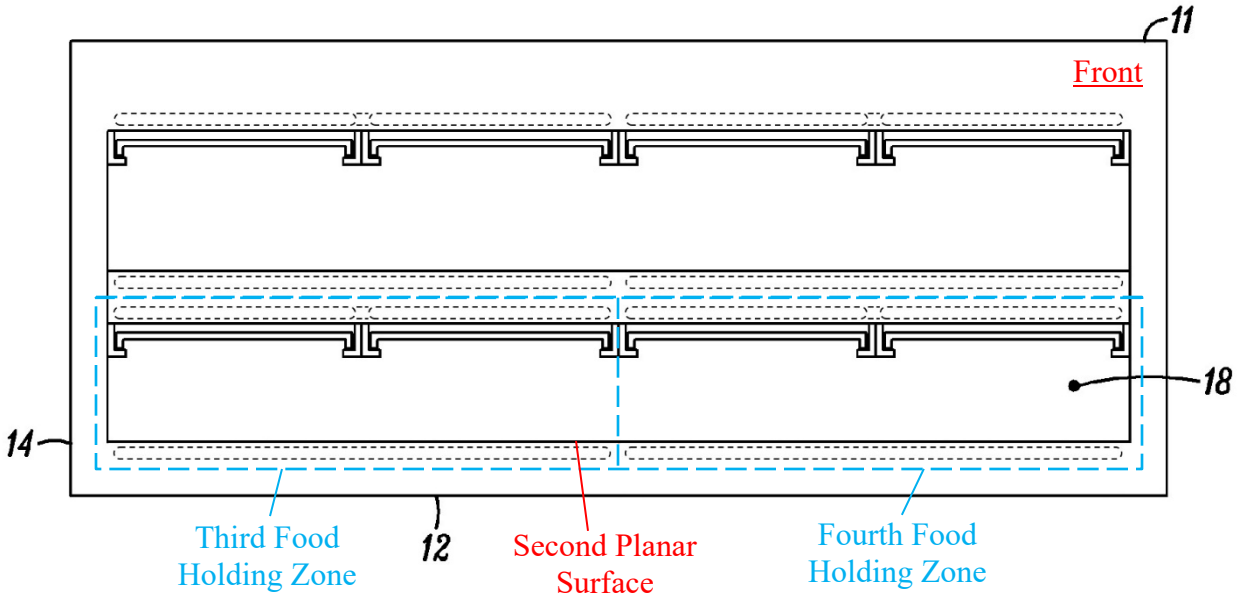
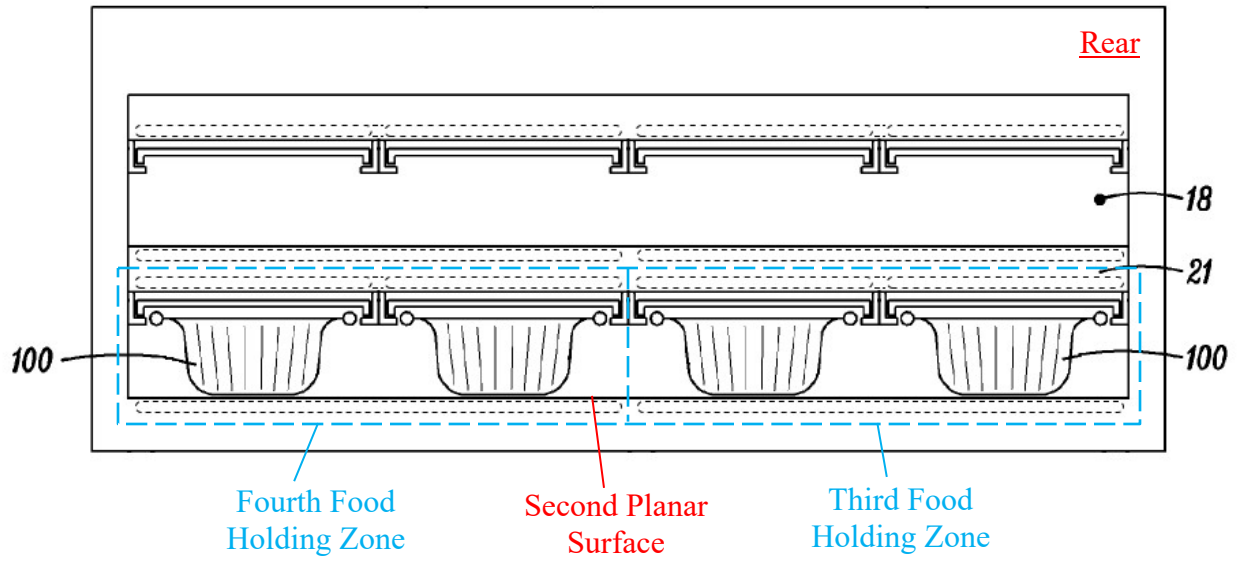


FIG. 1 FIG. 6

EX1010: Figs. 1 and 6 (annotated).





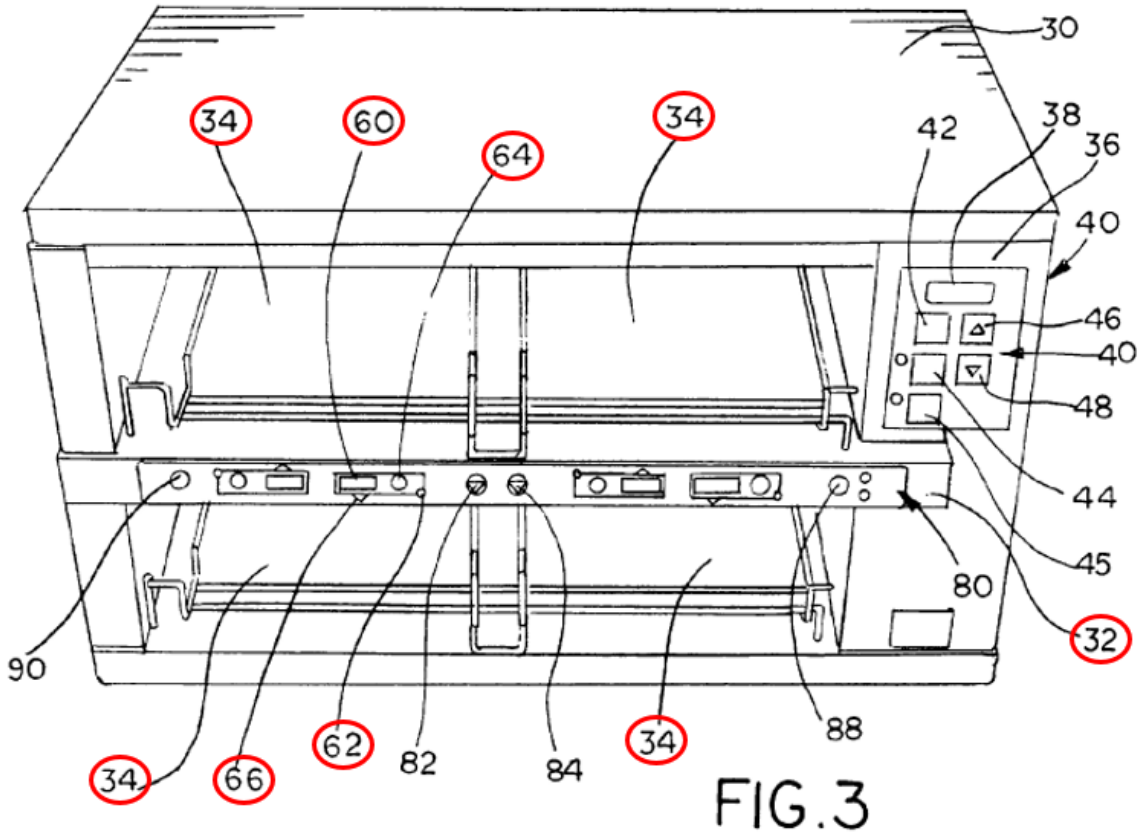
EX1010: Figs. 2 and 6 (modified, annotated).

1.n: at least one user interface for controlling the food holding temperature of each food holding bay

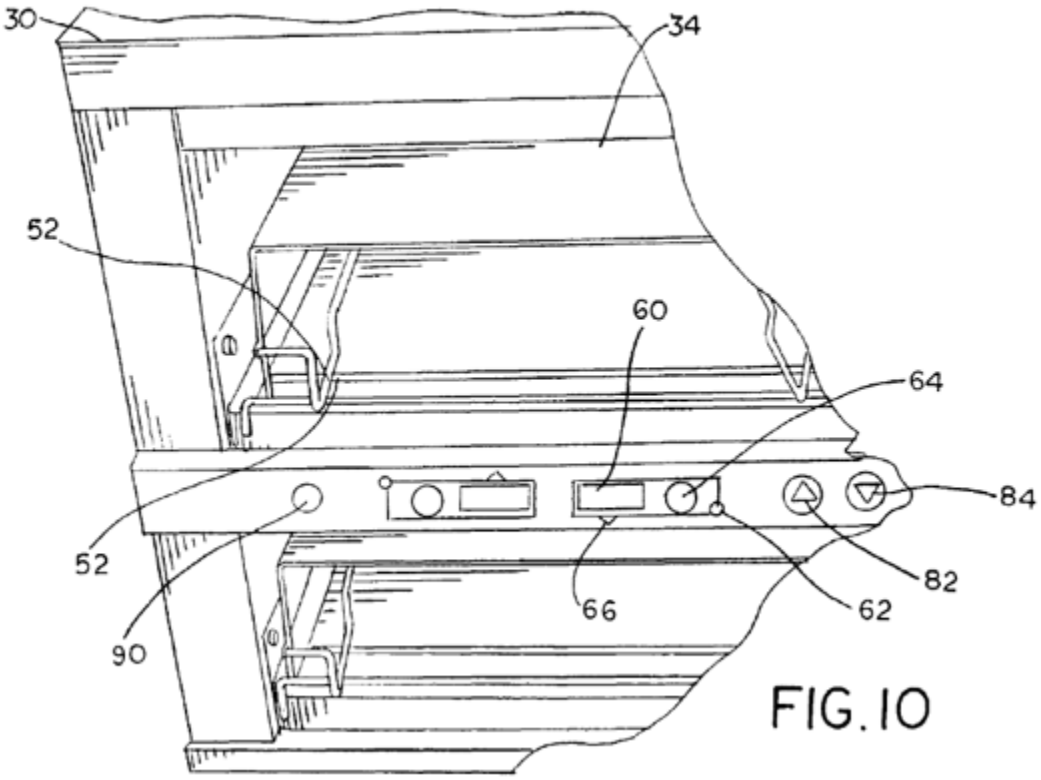
870. The POSA would recognize that Fortmann'748 discloses that the multi-zone food holding bins as having a user interface.

871. Specifically, 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].

872. 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/bay (34) as confirmed by a visual indicator arrow (66) that points up or down to the pan location/bay. EX1026: 4:5-6, 4:20-22, 4:26-33, 4:48-49, 6:51-52.



EX1026: FIG. 3 (annotated).

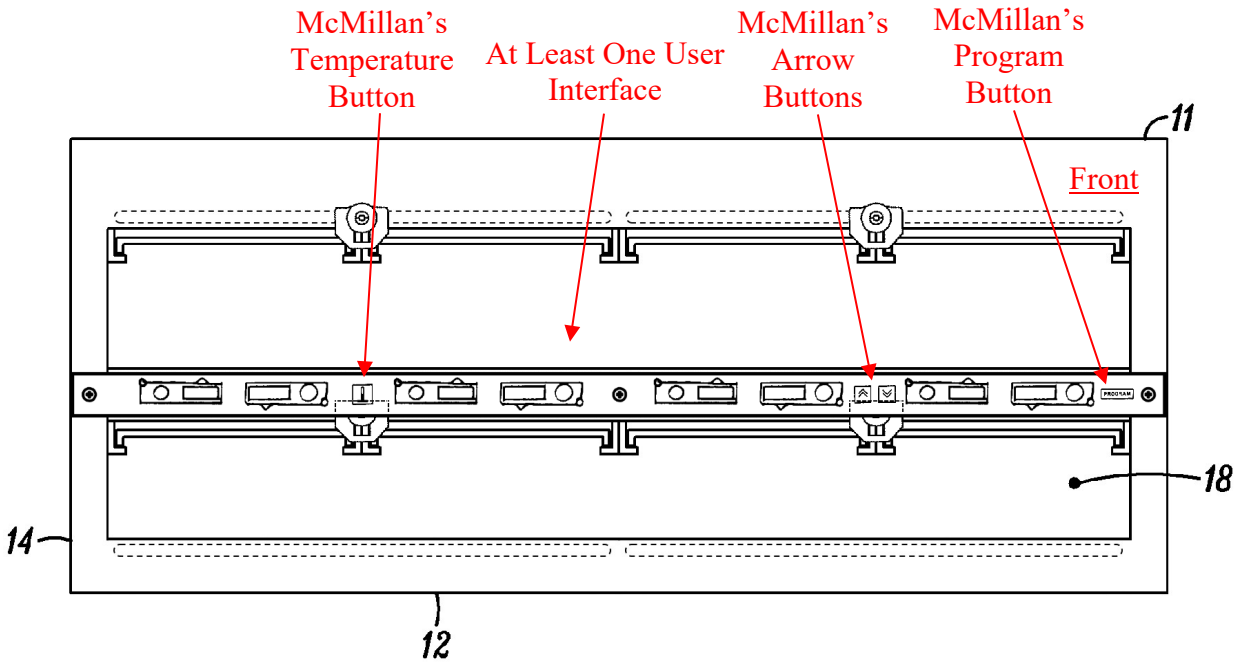


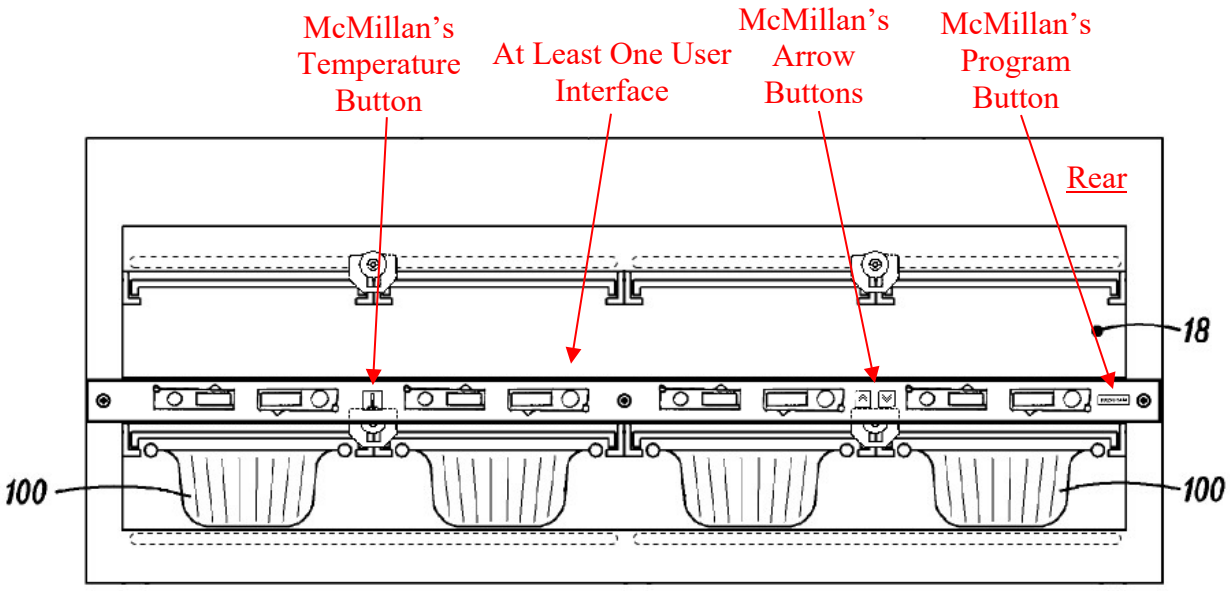
EX1026: Fig. 10.

873. As explained in Paragraphs 651-672 above (Ground 10, Section XIII(A)(4)), it would have been obvious to modify the Fortmann'748 control system such that it would have at least one user interface in the form of Vaseloff's display/control groups (*e.g.*, display devices, timer status indicators, and timer buttons) for each bay.

874. As explained in Paragraphs 673-691 above (Ground 10, Section XIII(A)(5)), it would have further been obvious to modify the Fortmann'748 control system in view of McMillan to affirmatively have the capability to set or control the food holding temperature of each bay by adding McMillan's program

button, temperature button, and/or arrow buttons. EX1019: 10:43-58 ("[t]he 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.").





EX1010: Figs. 2 and 6 (modified, annotated).

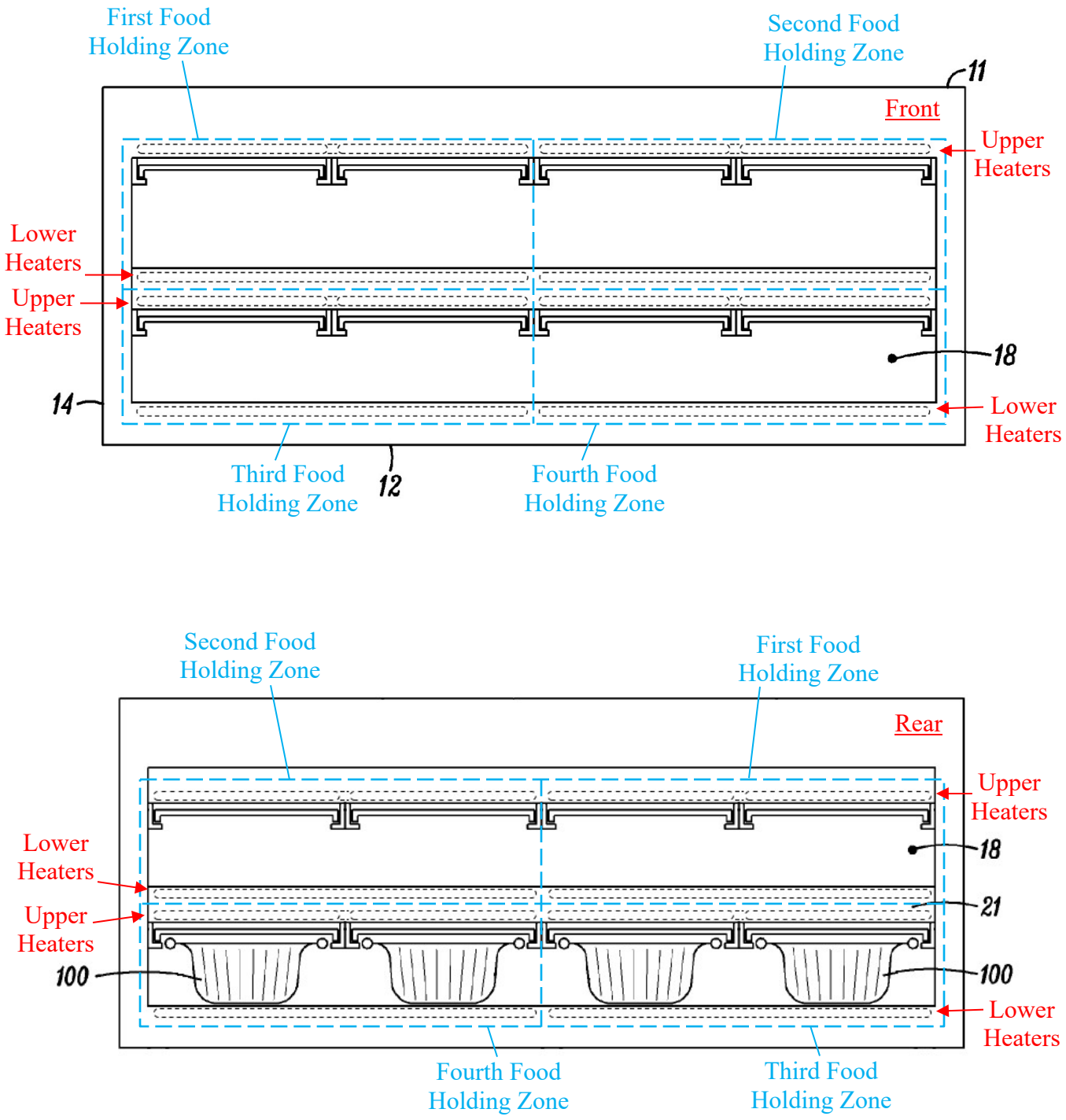
1.o: a controller operatively coupled to the user interface and each heating element, the controller configured to independently operate each heating element such that each food holding zone has an independently controlled food holding temperature

875. Fortmann'748's control system has 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" and is in communication with the input device. EX1010: ¶[0027] ("control system 200 may include or communicate with an input device for the user to select a desired temperature within the specific … heat zone").

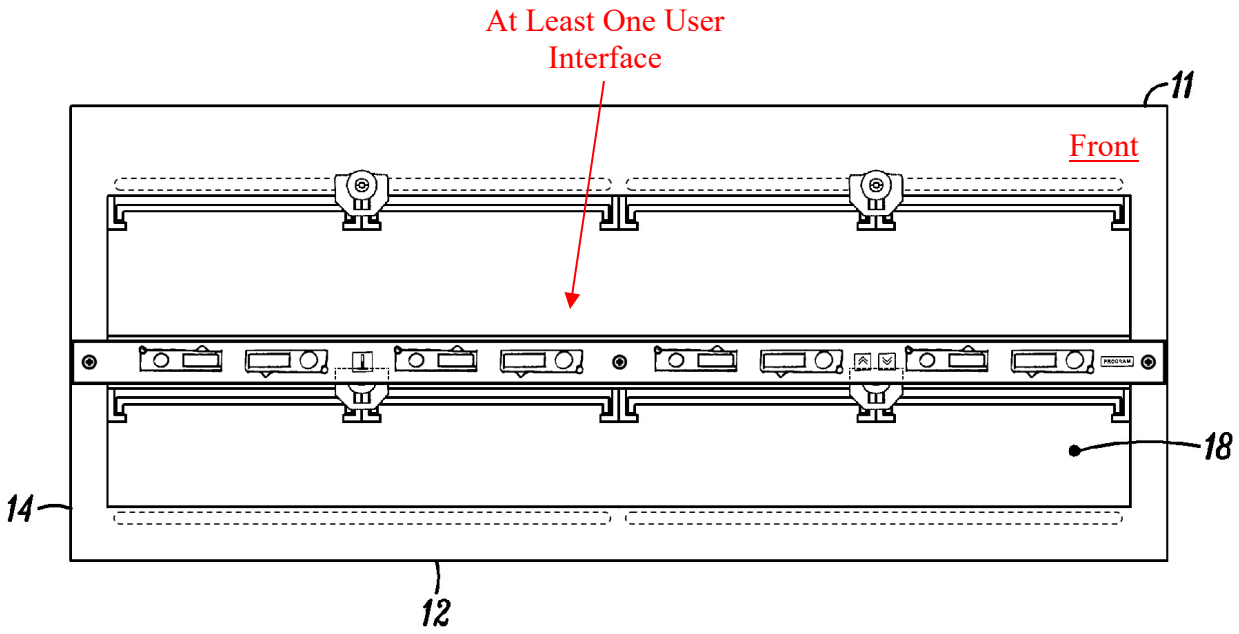
876. As discussed above in Paragraphs 581-691 and 870-874 (Ground 10, Section XIII(A)(2)-(5) and claim limitation 1.n), it would have been obvious to

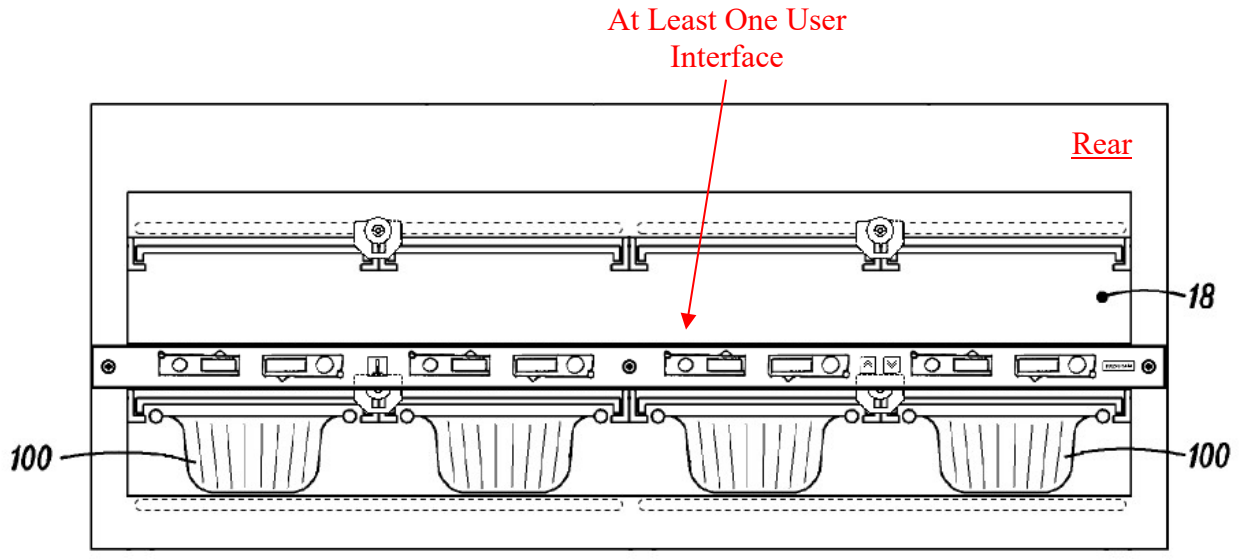
modify Fortmann'748's controller to be operatively coupled to Vaseloff's display/control groups and the added McMillan controls (user interface), and each heater. EX1010: ¶[0027]; EX1026: 2:17-20; EX1019: 6:15-19.

877. In making the modifications, it would have been obvious for Fortmann'748's controller to have the capability to independently operate each heater to independently control the food holding temperature associated with each food holding zone. *See* Paragraphs 581-691 (Ground 10, Section XIII(A)(2)-(5)). As explained in Paragraphs 581-691 and 825-828 (Ground 10, Section XIII(A)(2)-(5) and claim limitation 1.h.3), as modified, it would have been obvious for Fortmann'748's control system (*e.g.*, controller) to have the capability of operating the upper and lower heaters of each food holding zone to control its food holding temperature.



EX1010: Figs. 2 and 6 (modified, annotated).





EX1010: Figs. 2 and 6 (modified, annotated).

878. Accordingly, each limitation of Claim 1 is either disclosed in Fortmann'748 or would have been an obvious modification to the multi-zone food holding bin of Fortmann'748 in view of the teachings and disclosures of the IRHS Documents, Jones, Stanger, Loy, Fortmann'197, Fortmann'967, McMillan, Vaseloff, Hartfelder, and/or Shei'099. As such, the POSA would have found it obvious to arrive at the food holding bin as claimed in Claim 1.

C. Claim 2

2.a.1: the food holding bin of claim 1, further comprising: a third opening in the rear face of the chassis defined by the first substantially planar surface, the first side panel, the second side panel and the top panel

879. As discussed above, the POSA would have found it obvious to modify the multi-zone food holding bin of Fortmann'748 in view of the teachings and disclosures of the IRHS Documents, Jones, Stanger, Loy, Fortmann'197, Fortmann'967, McMillan, Vaseloff, Hartfelder, and/or Shei'099 to arrive at the claimed food holding bin of Claim 1. The POSA would recognize that Fortmann'748 discloses the multi-zone food holding bins as having "a third opening in the rear face of the chassis defined by the first substantially planar surface, the first side panel, the second side panel and the top panel."

880. The chassis (10a) of Fortmann'748's 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").

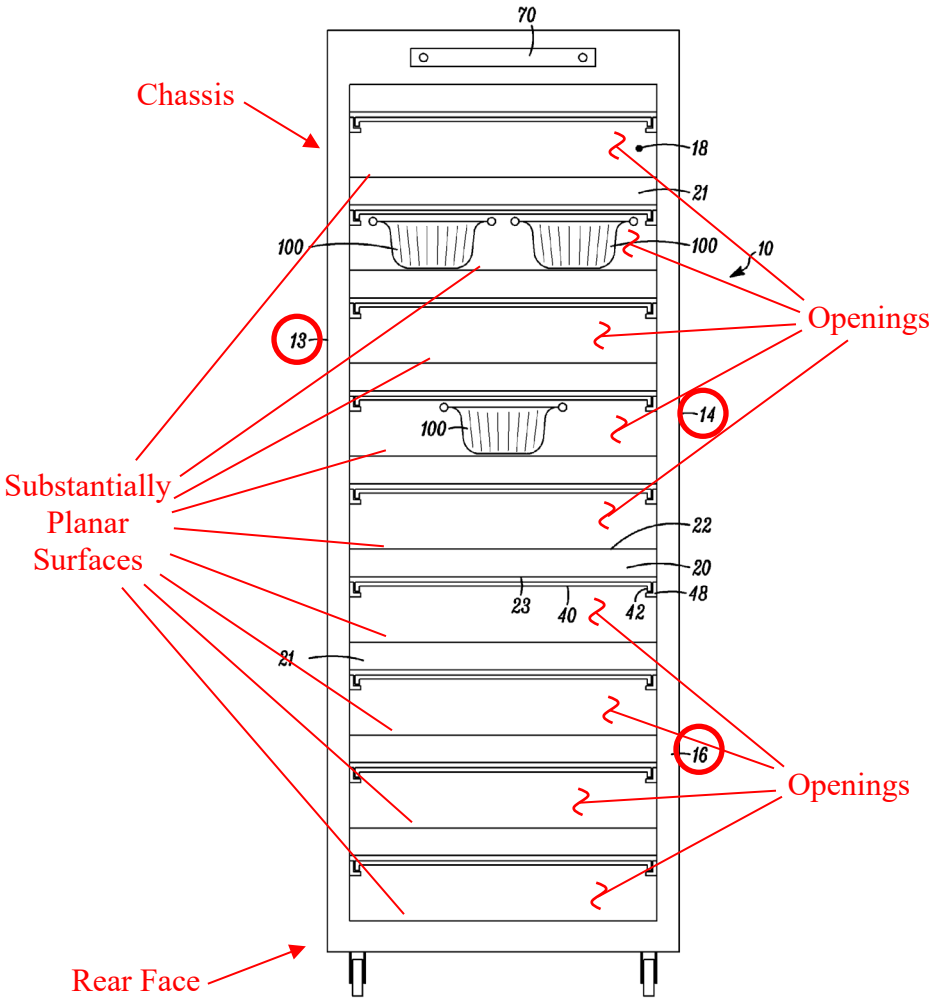
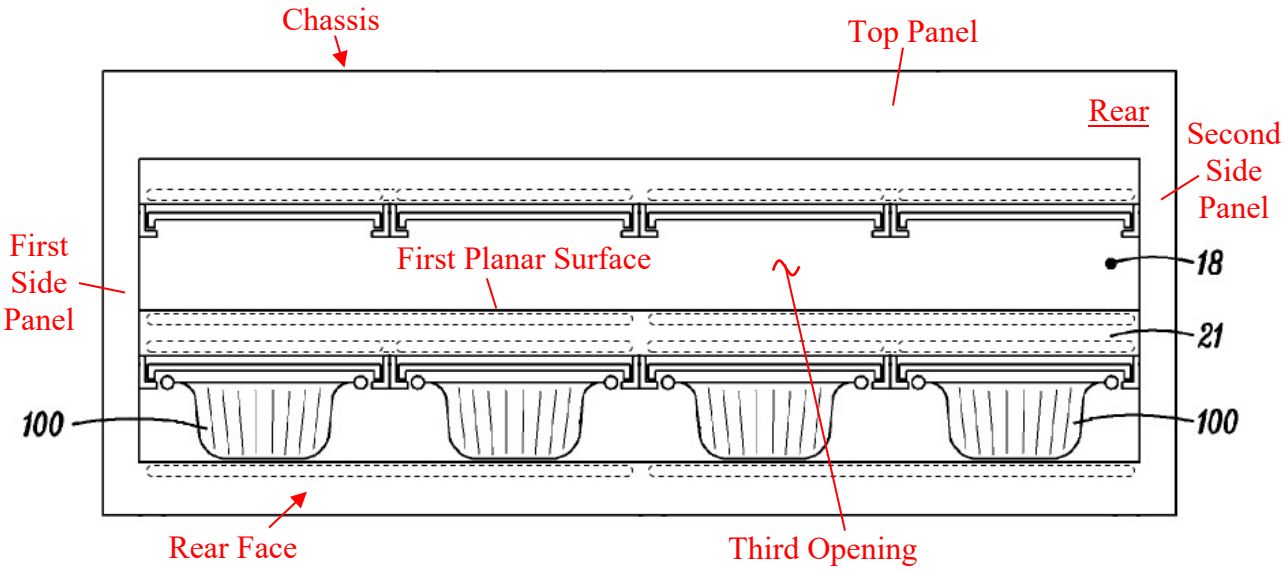


FIG. 6

EX1010: Fig. 6 (annotated).

881. Both as disclosed in Fortmann'748 and as modified according to Paragraphs 570-738 (Ground 10, Section XIII(A)) above, the rear face of the chassis (10a) of cabinet has a third opening defined by the first planar surface, the first side panel (13), the second side panel (14), and the top panel (11).



EX1010: Fig. 6[9] (modified, annotated).

[9] Fig. 6 appears to show a shelf-like component above the top compartment. This shelf-like component is considered to be part of the top panel. *see* EX1010: Figs. 1 and 2 (not showing a shelf-like component above the top compartment).

2.a.2: the third opening configured to allow the tray for food items to be passed through the third opening from the first substantially planar surface

882. The POSA would recognize that Fortmann'748 discloses that the second opening of the multi-zone food holding bins is "the third opening configured to allow the tray for food items to be passed through the third opening from the first substantially planar surface."

883. The chassis (10a) of Fortmann'748's 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").

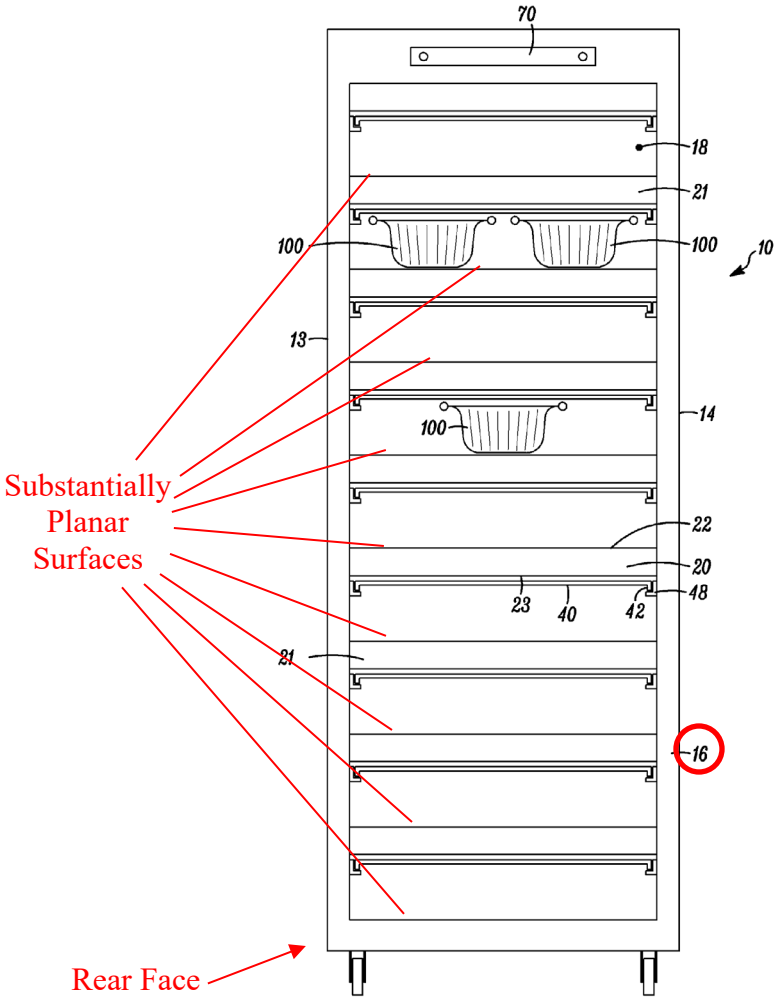
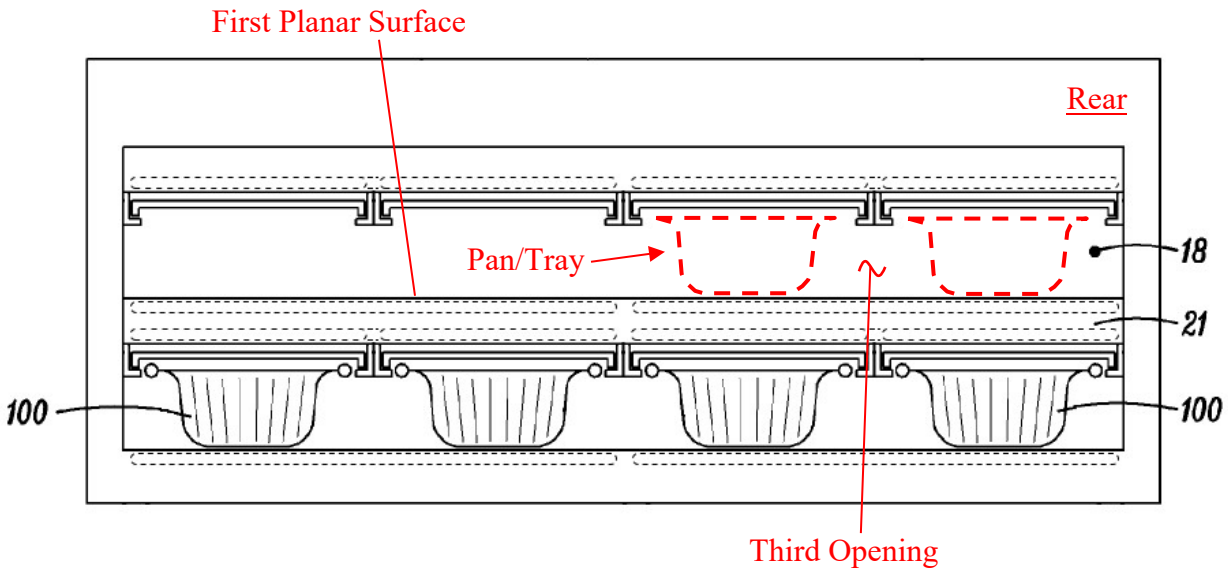


FIG. 6

EX1010: Fig. 6 (annotated).

884. Both as disclosed in Fortmann'748 and as modified according to Paragraphs 570-738 (Ground 10, Section XIII(A)) above, the food pans (100) can pass through the third opening of the cabinet from 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").



EX1010: Fig. 6 (modified, annotated).

2.b.1: a fourth opening in the rear face of the chassis defined by the second substantially planar surface, the first side panel, the second side panel and the shelf

885. The POSA would recognize that Fortmann'748 discloses the multi-zone food holding bins as having "a fourth opening in the rear face of the chassis defined by the second substantially planar surface, the first side panel, the second side panel and the shelf."

886. The chassis (10a) of Fortmann'748's 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").

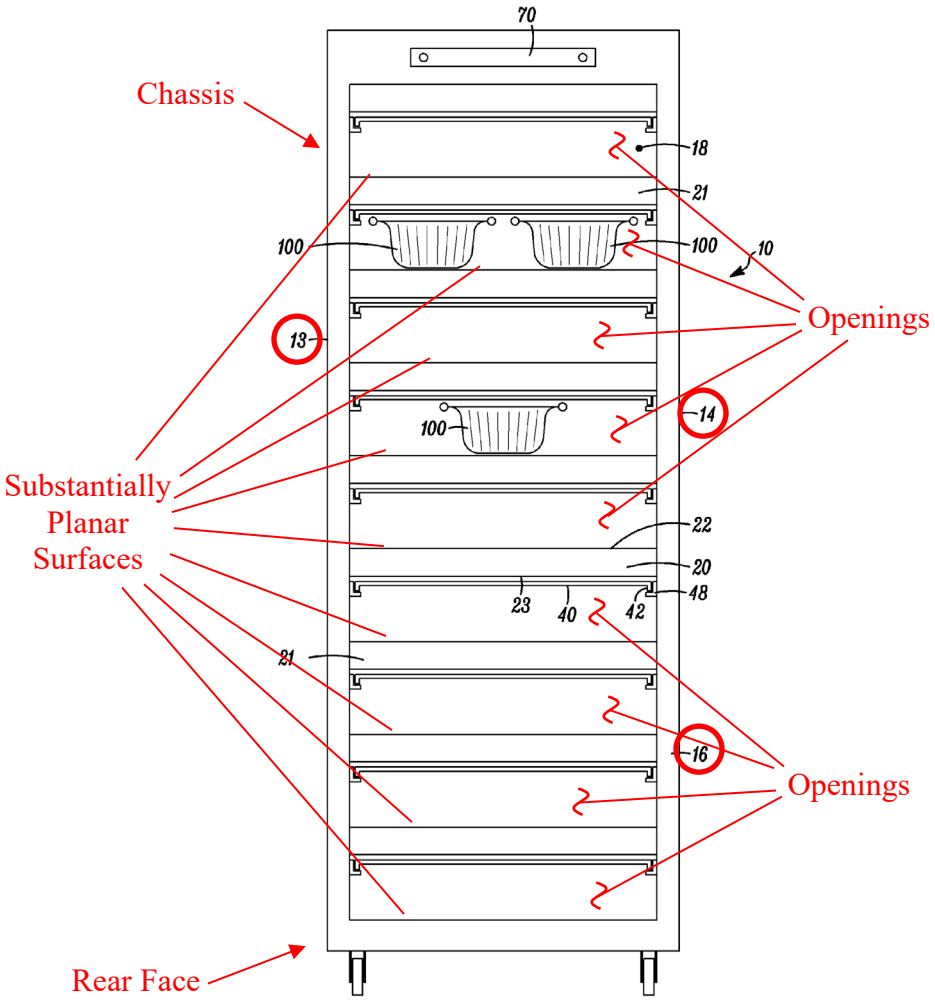
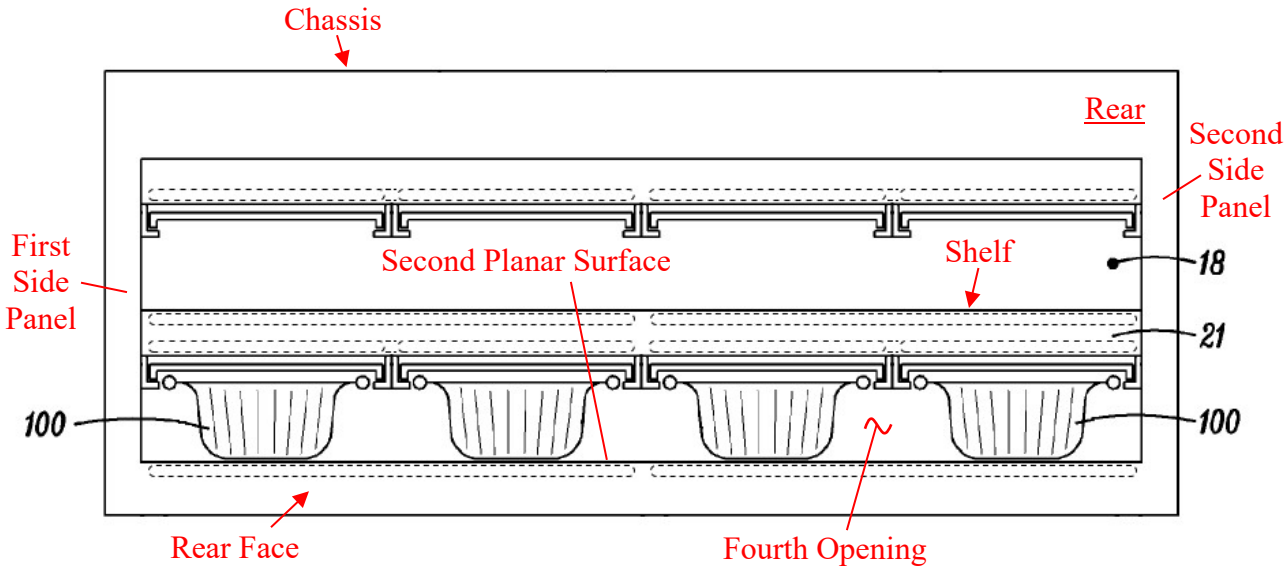


FIG. 6

EX1010: Fig. 6 (annotated).

887. The IRHS Documents disclose a 2x4 bay configuration (where the shelf separates and defines upper and lower compartments) such that it would have been obvious to modify Fortmann'748's chassis to have a fourth opening (for the second food holding compartment) at the rear face of the chassis defined by the second planar surface, the first side panel (13), the second side panel (14), and the shelf (21) as explained in Paragraphs 570-580 above (Ground 10, Section XIII(A)(1)). EX1005: 8; EX1006: 1; EX1007: 55-57.



EX1010: Fig. 6 (modified, annotated).

2.b.2: the fourth opening configured to allow the tray for food items to be passed through the fourth opening from the second substantially planar surface

888. The POSA would recognize that Fortmann'748 discloses that the second opening of the multi-zone food holding bins is "fourth opening configured

to allow the tray for food items to be passed through the fourth opening from the second substantially planar surface."

889. The chassis (10a) of Fortmann'748's 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").

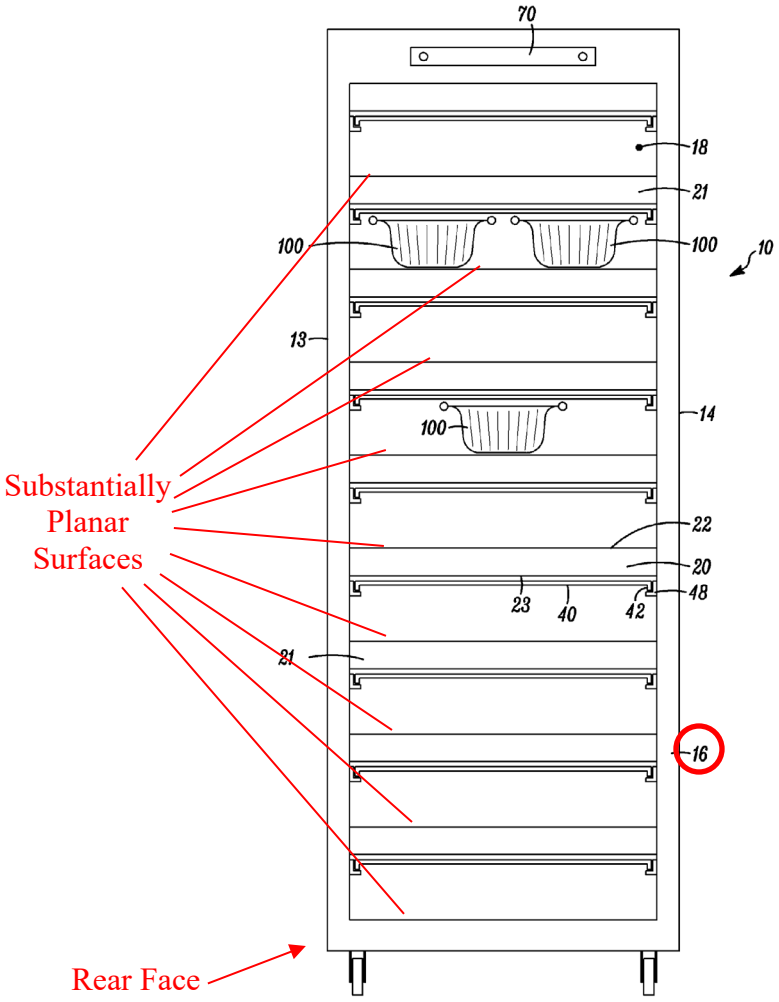
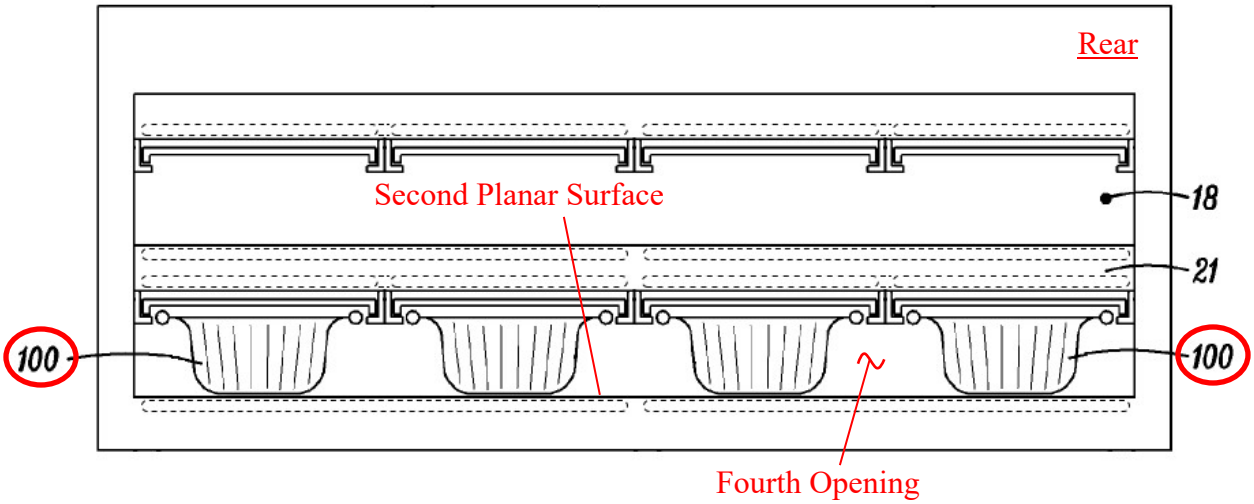


FIG. 6

EX1010: Fig. 6 (annotated).

890. Both as disclosed in Fortmann'748 and as modified according to Paragraphs 570-738 (Ground 10, Section XIII(A)) above, the food pans (100) can pass through the fourth opening of the cabinet from the second planar surface of the bottom panel (12). EX1010: Figs. 1 and 2 (showing a lid (40) directly above the planar surface of the bottom panel (12) to indicate a food pan is received on the planar surface).



EX1010: Fig. 6 (modified, annotated).

891. Accordingly, each limitation of Claim 2 is either disclosed in Fortmann'748 or would have been an obvious modification to the multi-zone food holding bin of Fortmann'748 in view of the teachings and disclosures of the IRHS Documents, Jones, Stanger, Loy, Fortmann'197, Fortmann'967, McMillan, Vaseloff, Hartfelder, and/or Shei'099. As such, the POSA would have found it obvious to arrive at the food holding bin as claimed in Claim 2.

D. Claim 3: the food holding bin of claim 1 wherein each interface is a graphical interface that displays the food holding temperature of each food holding bay

892. As discussed above, the POSA would have found it obvious to modify the multi-zone food holding bin of Fortmann'748 in view of the teachings and disclosures of the IRHS Documents, Jones, Stanger, Loy, Fortmann'197,

Fortmann'967, McMillan, Vaseloff, Hartfelder, and/or Shei'099 to arrive at the claimed food holding bin of Claim 1. The POSA would additionally recognize that the prior art discloses the additional limitation added in Claim 3 requiring that "each interface is a graphical interface that displays the food holding temperature of each food holding bay."

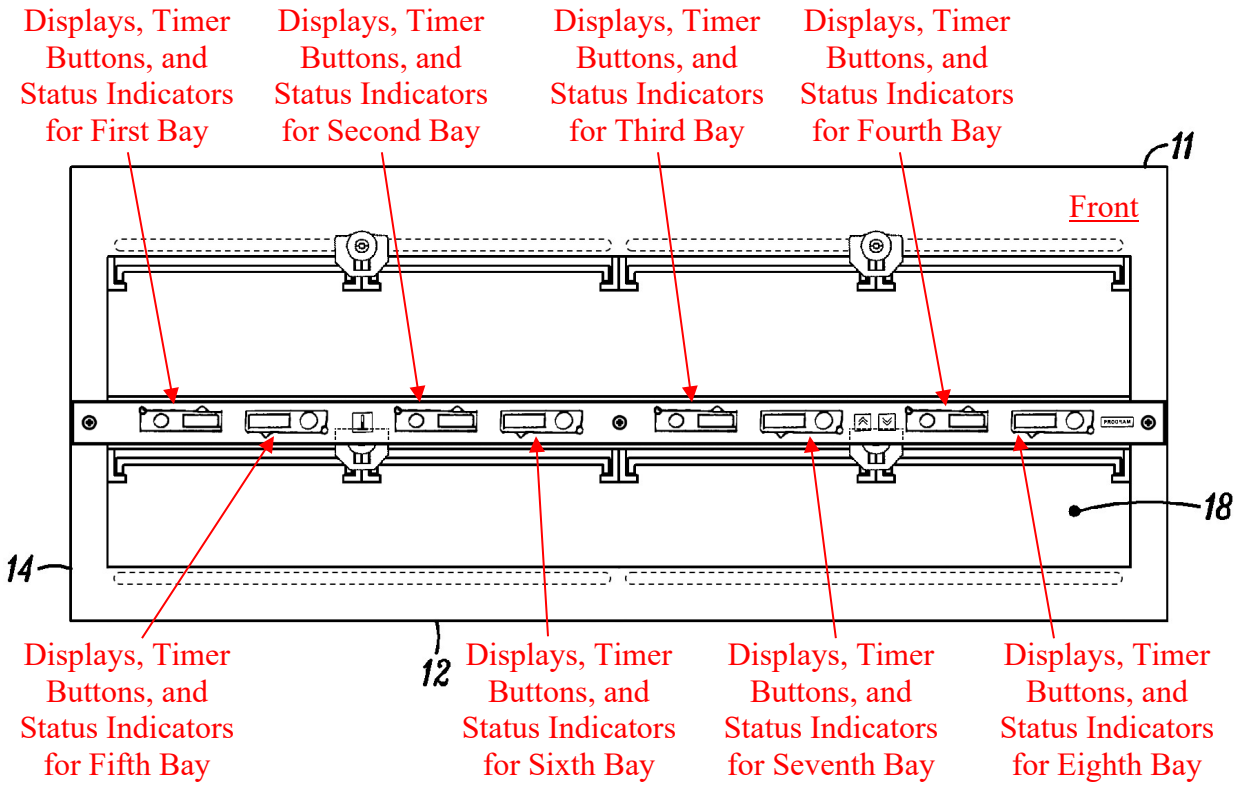
893. Fortmann'748 describes its control system as having "a display that provides an indication of a temperature upon or proximate to each of the plurality of shelves." EX1010: ¶[0027].

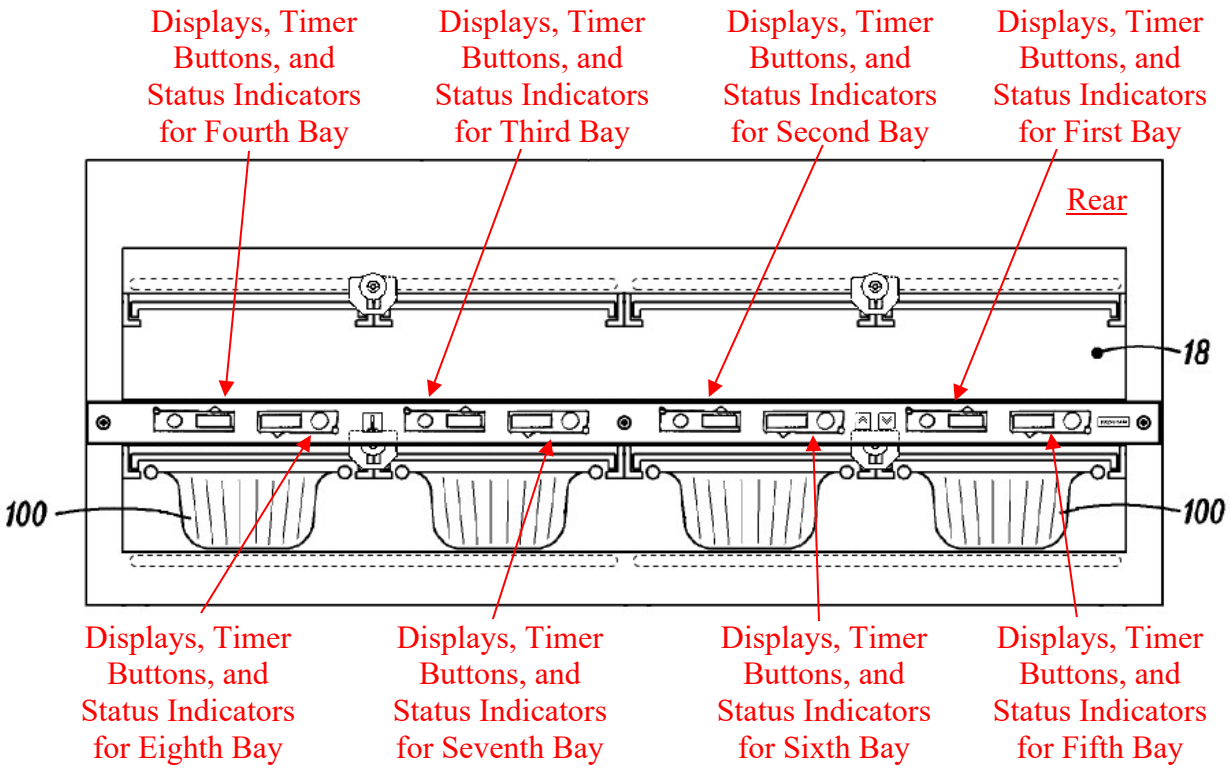
894. As explained by the '363 Patent, a user interface that has displays is a graphical interface. EX1001: 7:11-14 ("[t]he displays and/or controls 93a, 93b can provide a graphical user interface to one or more controllers (not shown) for the cabinet").

895. Vaseloff discloses display/control groups (e.g., display devices, timer status indicators, and timer buttons) for each bay such that such that it would have been obvious to modify Fortmann'748's cabinet to have a Vaseloff's display/control group (user interface) for each bay as explained above in Paragraphs 651-672 (Ground 10, Section XIII(A)(4)).

896. McMillan discloses displaying the food holding temperature of each bay such that it would have been obvious to further modify the added controls of Vaseloff to have each Vaseloff display device display the food holding temperature

of each food holding bay as explained above in Paragraphs 673-691 (Ground 10, Section XIII(A)(5)). EX1019: 10:30-32 ("[w]hen the temperature is set, the message display areas … present a numeric value indicating the current and/or set temperature"). A representation of the resulting modified cabinet of Fortmann'748 in a 2x4 configuration is demonstrated as follows:





EX1010: Figs. 2 and 6 (modified, annotated).

897. Accordingly, the POSA would have found it obvious to combine the teachings and disclosures of Fortmann'748, the IRHS Documents, Jones, Stanger, Loy, Fortmann'197, Fortmann'967, McMillan, Vaseloff, Hartfelder, and/or Shei'099 to arrive at the food holding bin as claimed in Claim 3.

E. Claim 4: the food holding bin of claim 1, further comprising a first bezel attached to the chassis, the first bezel providing at least one user interface comprising dedicated controls and/or dedicated displays for each of the first, second, third, and fourth food holding bays

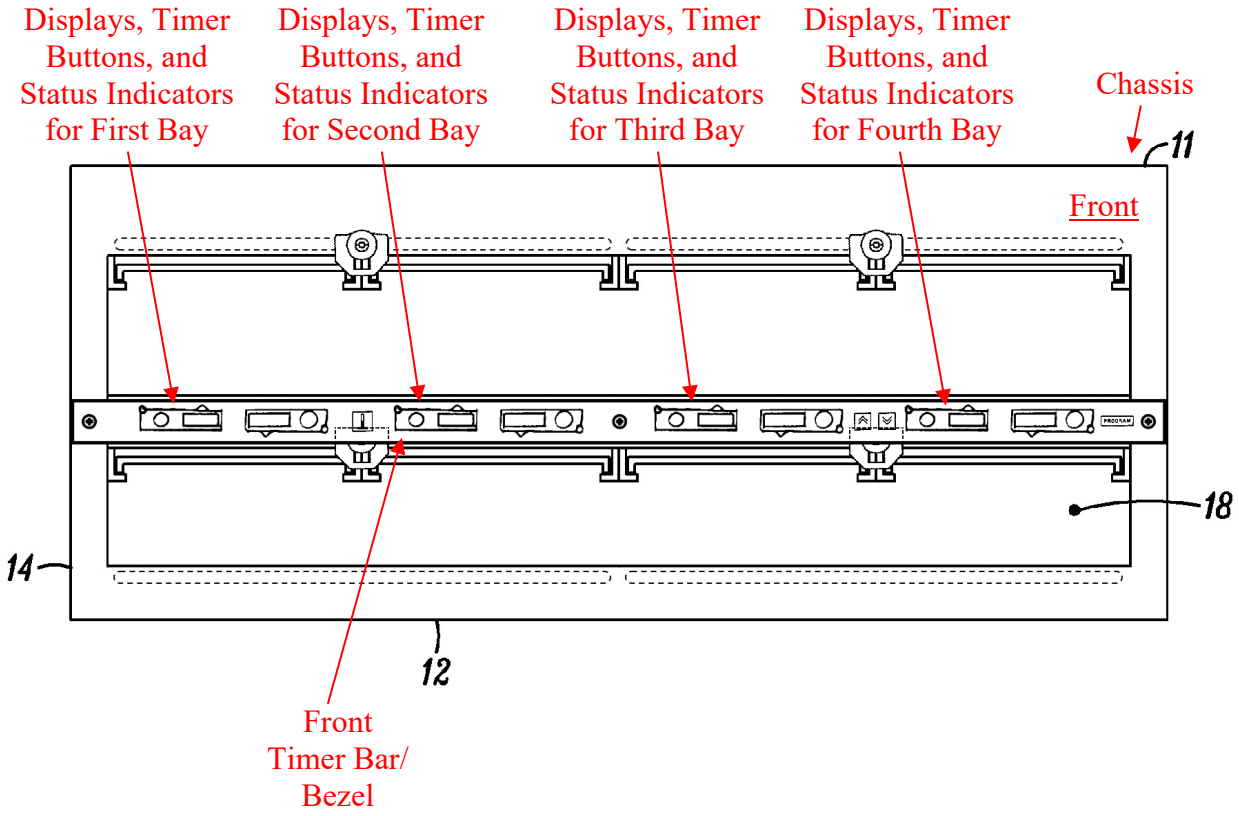
898. As discussed above, the POSA would have found it obvious to modify the multi-zone food holding bin of Fortmann'748 in view of the teachings and

disclosures of the IRHS Documents, Jones, Stanger, Loy, Fortmann'197, Fortmann'967, McMillan, Vaseloff, Hartfelder, and/or Shei'099 to arrive at the claimed food holding bin of Claim 1. The POSA would additionally recognize that the prior art discloses the additional limitation added in Claim 4 requiring the food holding bin to further comprise "a first bezel attached to the chassis, the first bezel providing at least one user interface comprising dedicated controls and/or dedicated displays for each of the first, second, third, and fourth food holding bays."

899. As explained in Paragraphs 692-706 above (Ground 10, Section XIII(A)(6)), each of Fortmann'197 (EX1014), the IRHS Documents (EX1005-EX1008), and Hartfelder (EX1013) teach the inclusion of time bars or time bezels attached to chassis. EX1005: 8; EX1006: 1-2; EX1007: 28, 32, 51; EX1013: Figs. 3, 4, 9; EX1014: 3:28-46, 4:18-37, Figs. 1-3, 5. As further explained in Paragraphs 692-706 above (Ground 10, Section XIII(A)(6)), it would have further been obvious to modify Fortmann'748 such that the cabinet would have front and rear timer bars (front and rear bezels) attached to the chassis.

900. It would have further been obvious for each timer bar to incorporate Vaseloff's display/control groups (*e.g.*, a display device, a timer status indicator, and a timer button) for each pan holding location within the first, second, third, and fourth food holding zones for the reasons explained in Paragraphs 651-672

(Ground 10, Section XIII(A)(4)). EX1026: 3:48-51, 4:5-6, 4:20-33, 4:48-49, Figs. 3, 4, 10. A representation of the resulting modified cabinet of Fortmann'748 in a 2x4 configuration is demonstrated as follows:



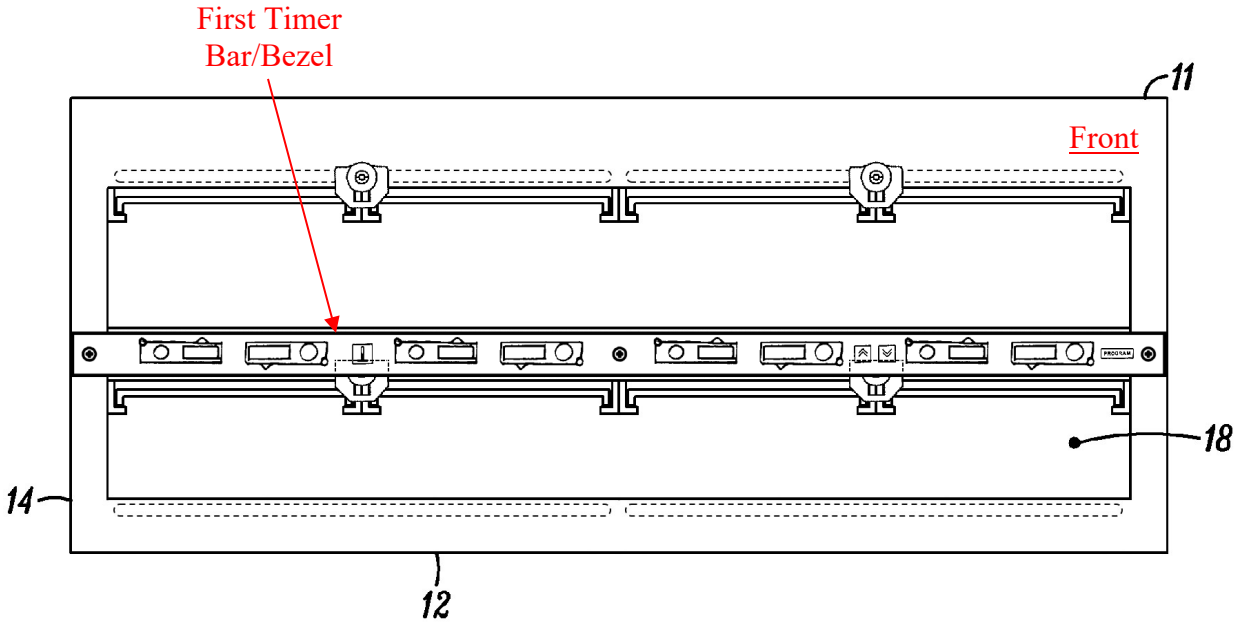
EX1010: Fig. 2 (modified, annotated).

901. Accordingly, the POSA would have found it obvious to combine the teachings and disclosures of Fortmann'748, the IRHS Documents, Jones, Stanger, Loy, Fortmann'197, Fortmann'967, McMillan, Vaseloff, Hartfelder, and/or Shei'099 to arrive at the food holding bin as claimed in Claim 4.

F. Claim 5: the food holding bin of claim 3, wherein the first bezel is set forward from the shelf and defining a space between the first bezel and the front face

902. As discussed above, the POSA would have found it obvious to modify the multi-zone food holding bin of Fortmann'748 in view of the teachings and disclosures of the IRHS Documents, Jones, Stanger, Loy, Fortmann'197, Fortmann'967, McMillan, Vaseloff, Hartfelder, and/or Shei'099 to arrive at the claimed food holding bin of Claim 3. The POSA would additionally recognize that the prior art discloses the additional limitation added in Claim 5 requiring that "the first bezel is set forward from the shelf and defin[es] a space between the first bezel and the front face."

903. As explained in Paragraphs 692-706 above (Ground 10, Section XIII(A)(6)), in modifying the multi-zone food holding bin of Fortmann'748 to add the timer bar/bezel Fortmann'197 (EX1014), the IRHS Documents (EX1005-EX1008), and Hartfelder (EX1013), the added front timer bar/bezel would be spaced forward of the shelf and therefore a space would have been defined between the front timer bar/bezel and the front face (*e.g.*, the portion of the front face formed by the shelf). 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. A representation of the resulting modified cabinet of Fortmann'748 in a 2x4 configuration is demonstrated as follows:



EX1010: Fig. 2 (modified, annotated).

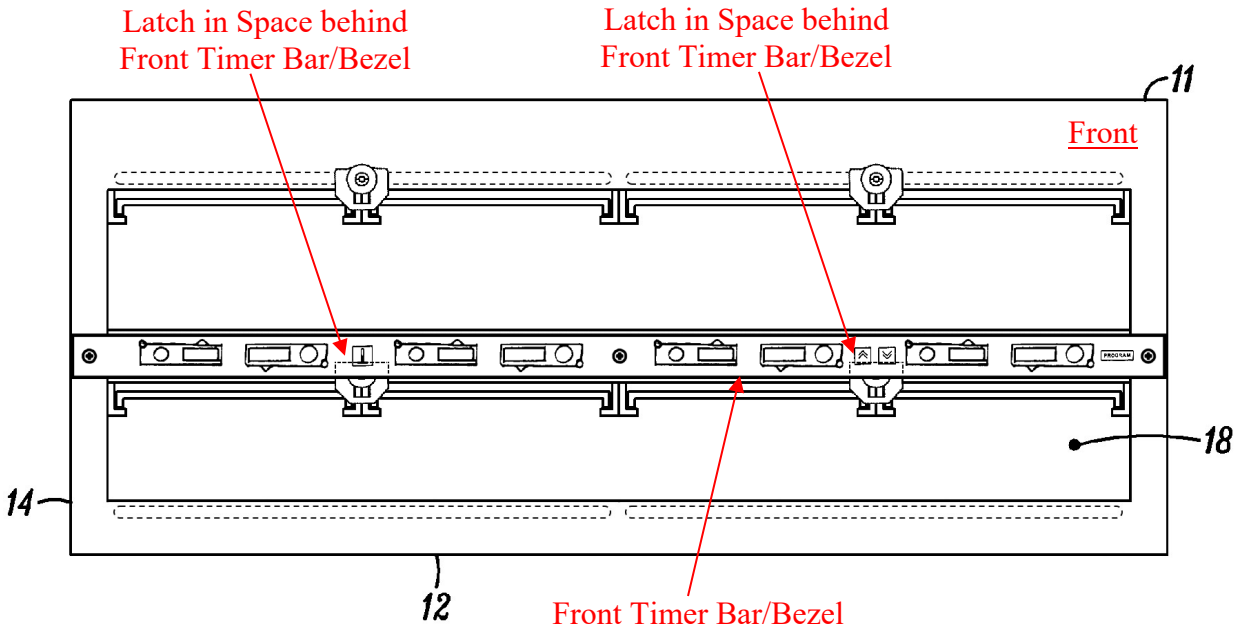
904. Accordingly, the POSA would have found it obvious to combine the teachings and disclosures of Fortmann'748, the IRHS Documents, Jones, Stanger, Loy, Fortmann'197, Fortmann'967, McMillan, Vaseloff, Hartfelder, and/or Shei'099 to arrive at the food holding bin as claimed in Claim 5.

G. Claim 6: the food holding bin of claim 5, further comprising a latch moveable from a locked position to an unlocked position within the space between the first bezel and the front face

905. As discussed above, the POSA would have found it obvious to modify the multi-zone food holding bin of Fortmann'748 in view of the teachings and disclosures of the IRHS Documents, Jones, Stanger, Loy, Fortmann'197, Fortmann'967, McMillan, Vaseloff, Hartfelder, and/or Shei'099 to arrive at the

claimed food holding bin of Claim 5. The POSA would additionally recognize that the prior art discloses the additional limitation added in Claim 6 requiring "a latch moveable from a locked position to an unlocked position within the space between the first bezel and the front face."

906. Under the modification with respect to Claim 5, the Fortmann'748 cabinet would have had a space between the front timer bar and the front face of the chassis. It would have been further obvious to modify Fortmann'748's cabinet to incorporate Hartfelder's stop members (61) or Shei'099's stops (88) (*i.e.*, latches) 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 discussed in Paragraphs 728-738 above (Ground 10, Section XIII(A)(8)).



EX1010: Fig. 2 (modified, annotated).

907. Specifically, the location on the front face of the cabinet is consistent with where both Hartfelder and Shei'099 teach the latches would be positioned—adjacent the openings and lids—to engage and retain the lids. EX1013: Figs. 1 and 9; EX1017: Fig. 1.

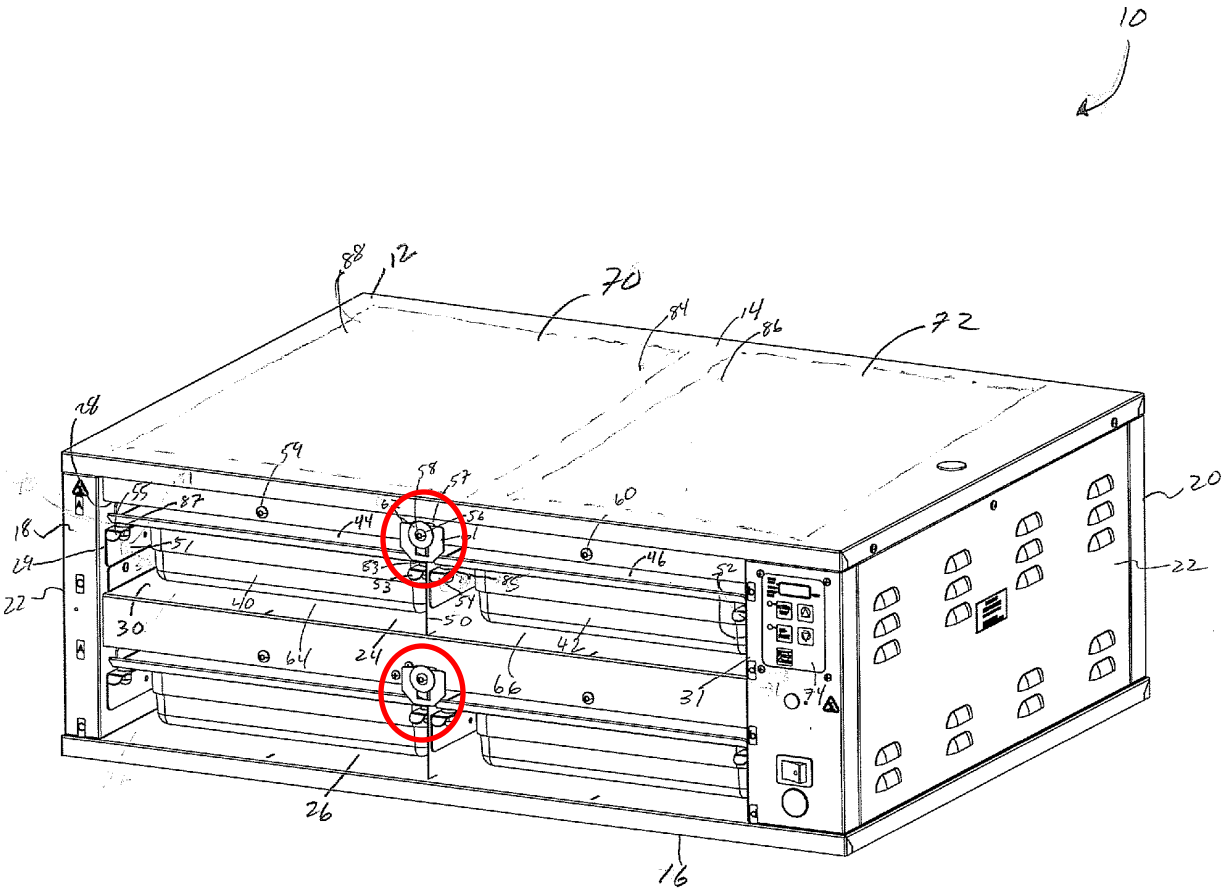
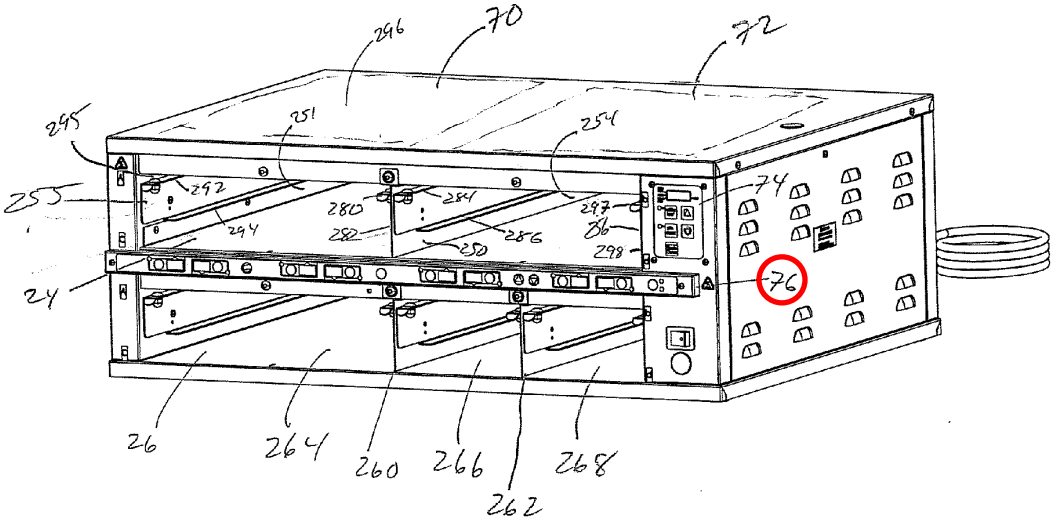

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FIGURE 1


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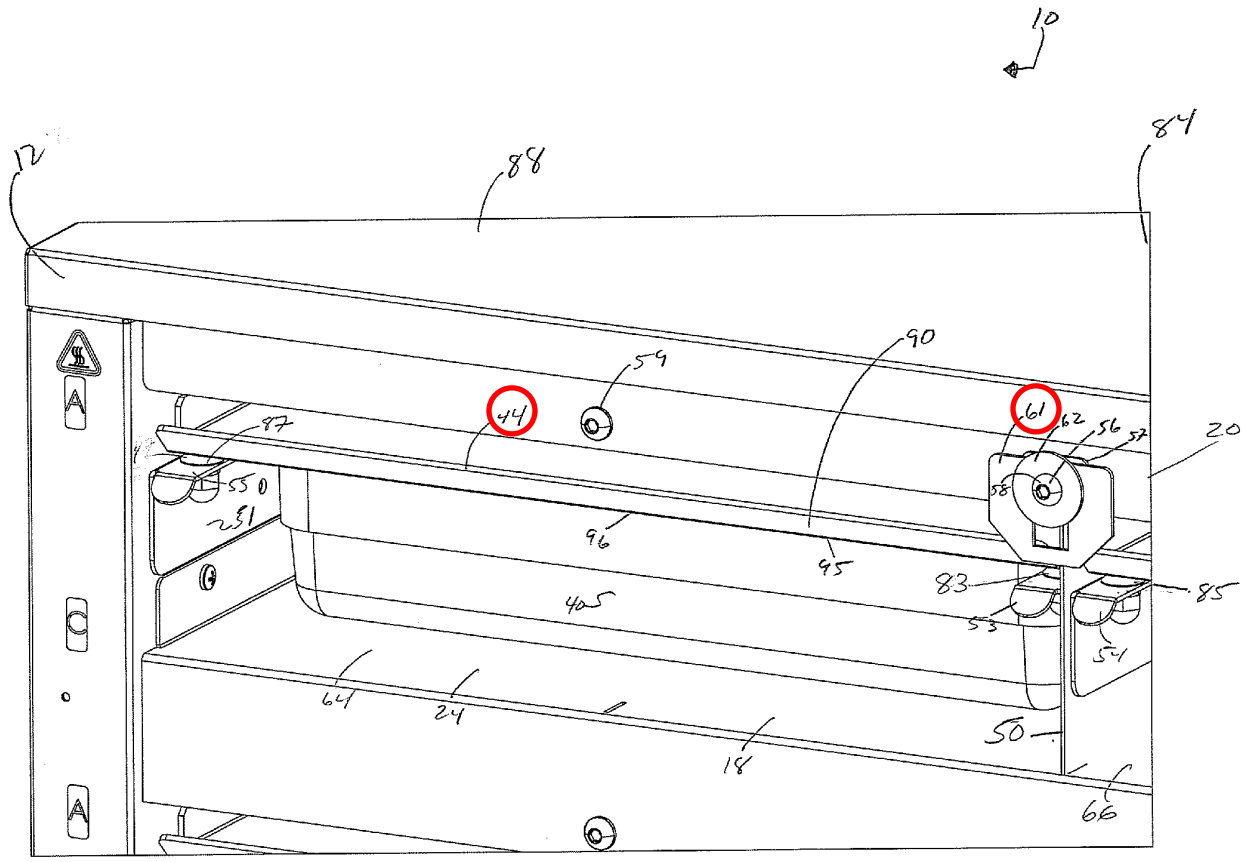


FIGURE 9

EX1013: Figs. 1, 3, and 9 (annotated).

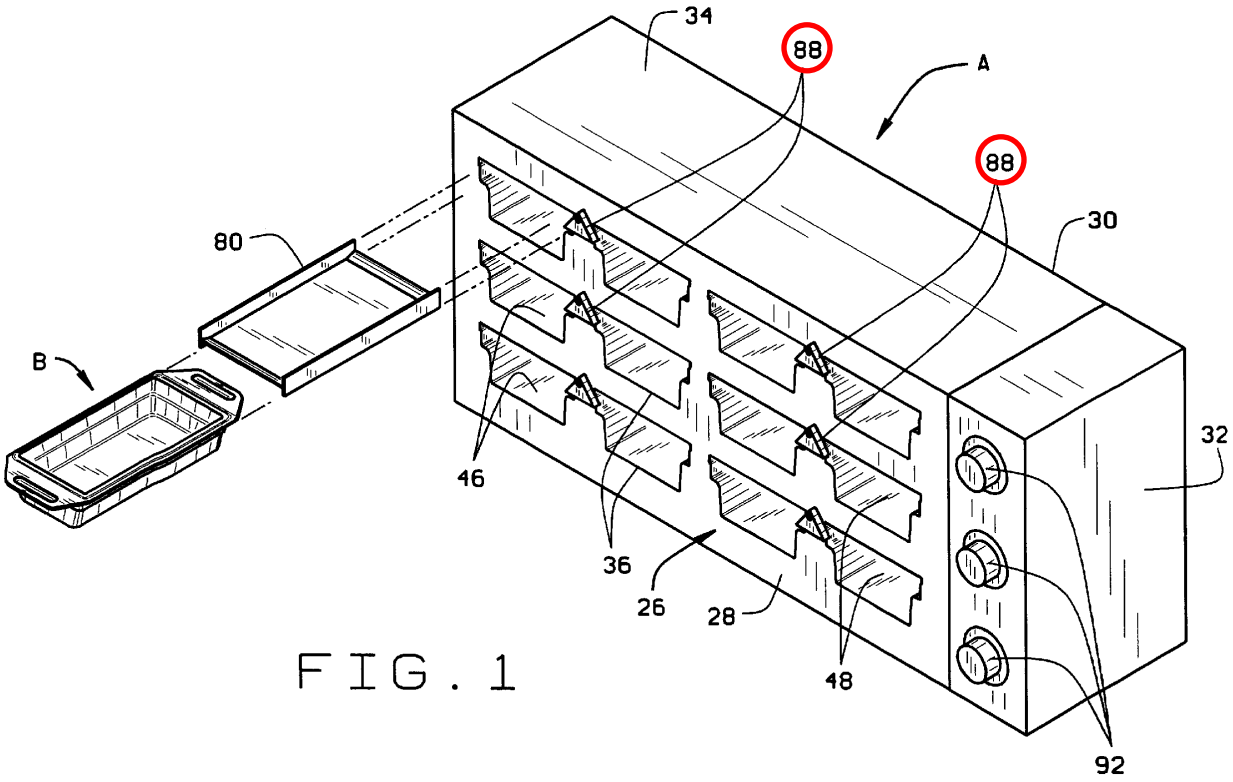


FIG. 1

EX1017: Fig. 1 (annotated).

908. 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.

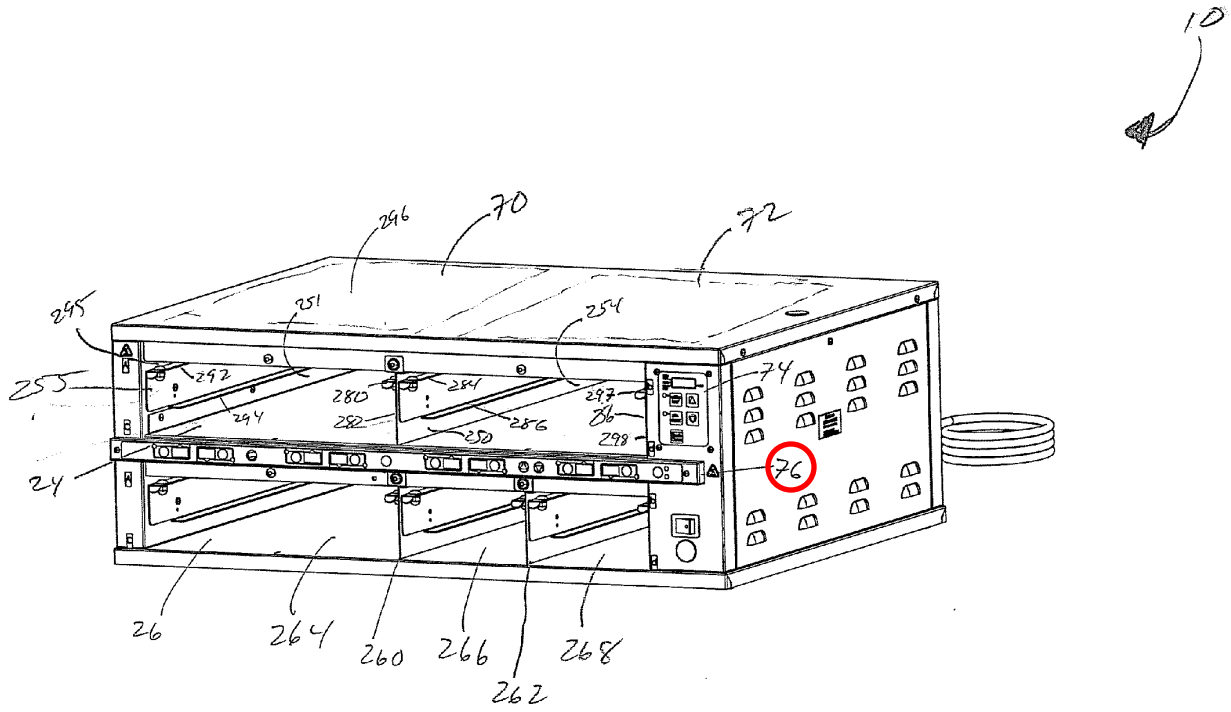
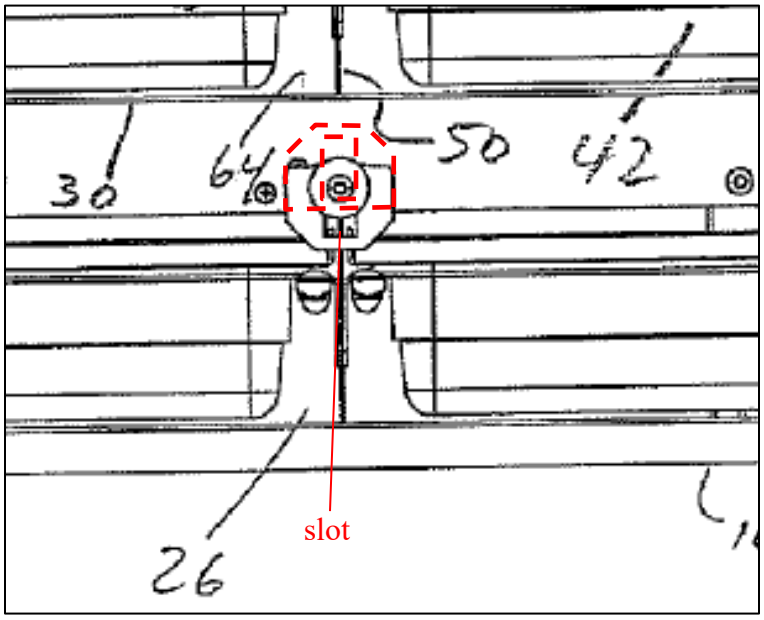


FIGURE 3

EX1013: Fig. 3 (annotated).

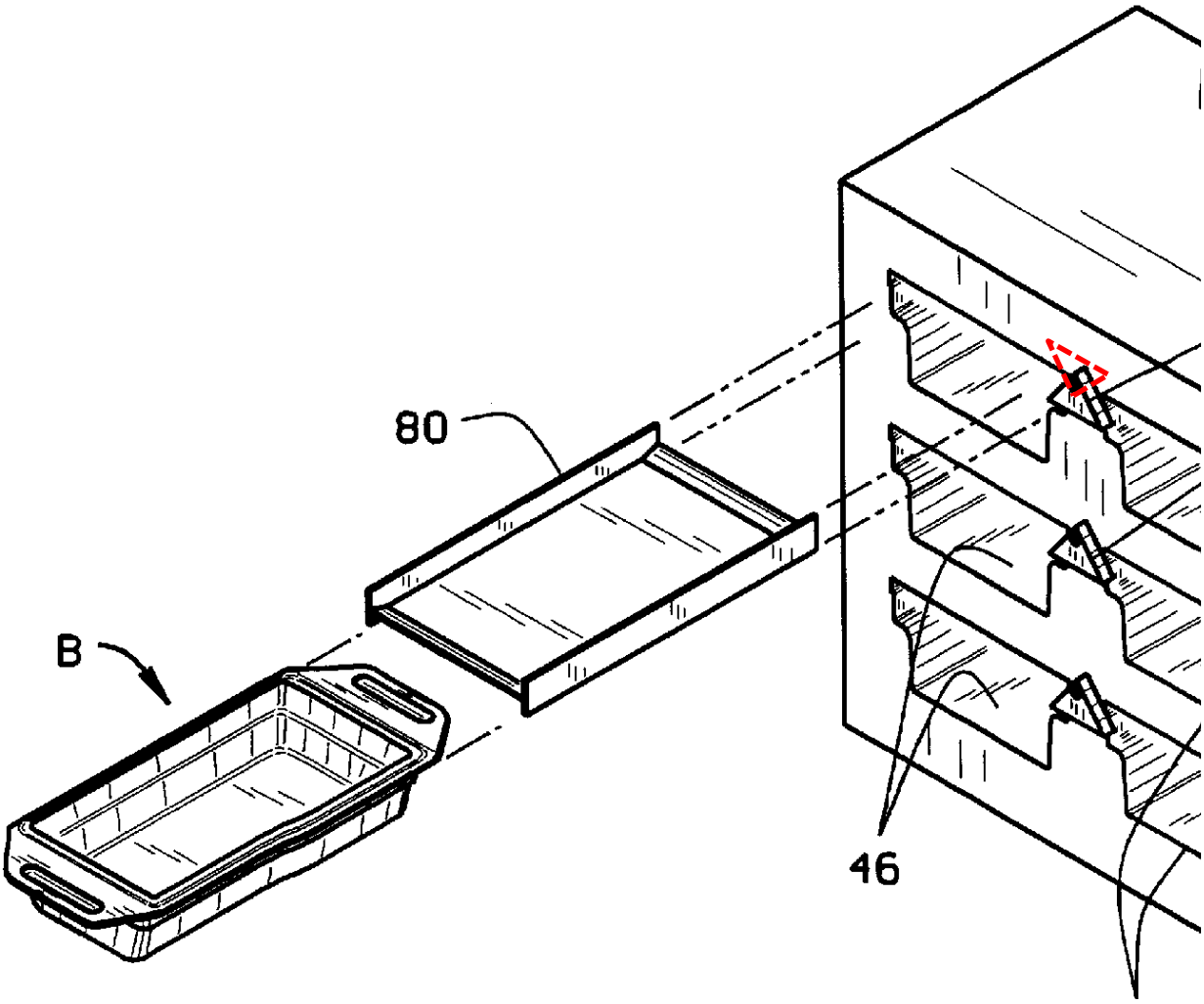
909. The POSA understands Hartfelder's stop members (61) are moveable between locked and unlocked positions. Specifically, the stop members (61) have a vertical slot, through which the fastener (56) extends to connect the stop member to the cabinet (12). The cutout is larger than the fastener (56), thereby allowing the stop member (61) to rotate between the locked position shown in Fig. 9 (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.



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

910. Likewise, Shei'099's stops (88) rotate between locked and unlocked positions. EX1017: 6:9-32.

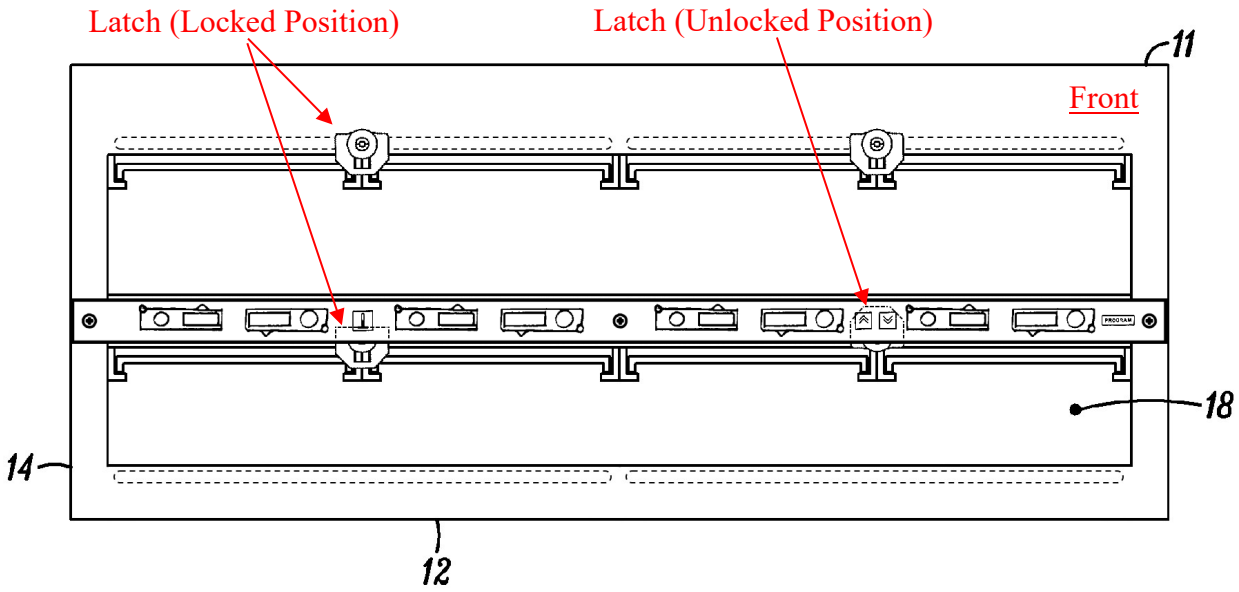


EX1017: Fig. 1 (enlarged, annotated).

911. 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.

912. In modifying Fortmann'748's cabinet to incorporate both latches and time bars/bezels, the latches would thus be located in the space behind the front

timer bar and would rotate in the space between their locked and unlocked positions. A representation of the resulting modified cabinet of Fortmann'748 in a 2x4 configuration is demonstrated as follows:



EX1010: Fig. 2 (modified, annotated).

913. Accordingly, the POSA would have found it obvious to combine the teachings and disclosures of Fortmann'748, the IRHS Documents, Jones, Stanger, Loy, Fortmann'197, Fortmann'967, McMillan, Vaseloff, Hartfelder, and/or Shei'099 to arrive at the food holding bin as claimed in Claim 6.

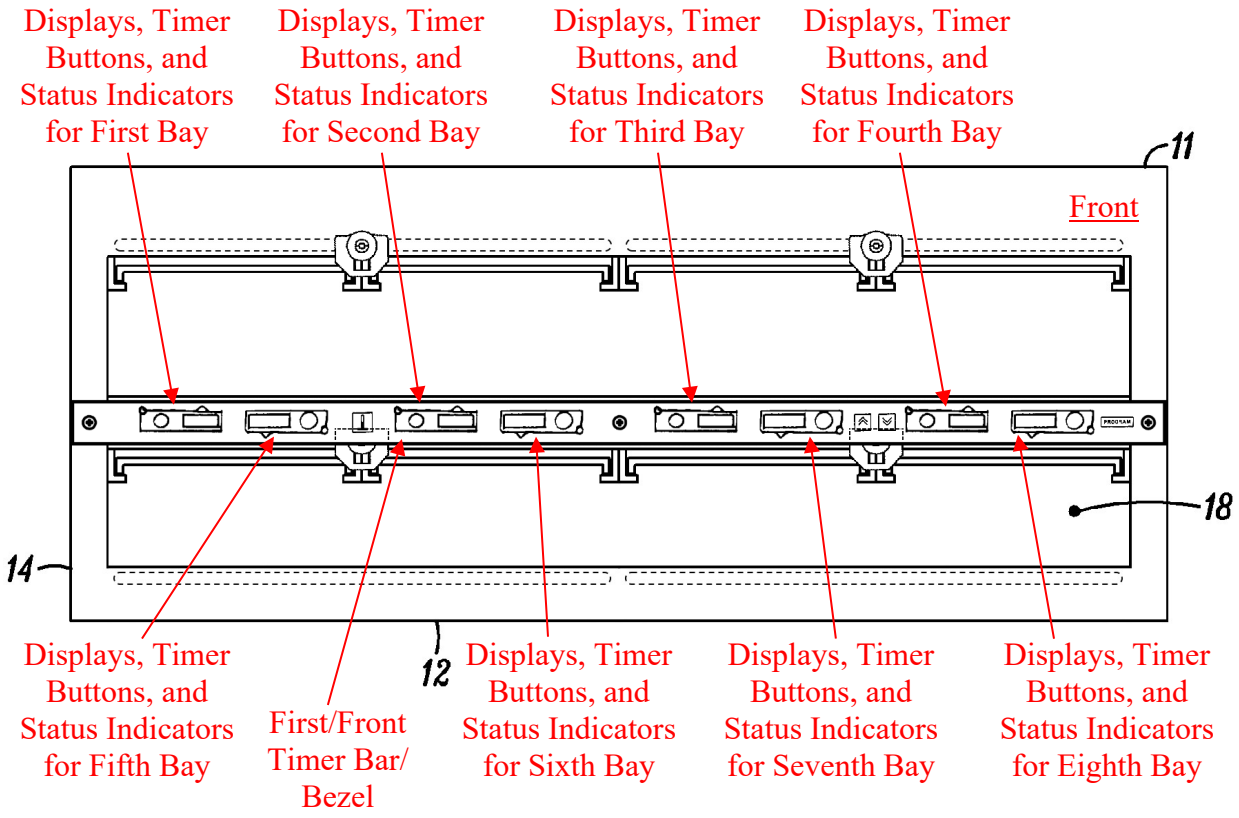
H. Claim 7: the food holding bin of claim 4, wherein the first bezel provides at least one graphical interface comprising at least one dedicated display and the dedicated display displays a temperature setting for a corresponding food holding bay

914. As discussed above, the POSA would have found it obvious to modify the multi-zone food holding bin of Fortmann'748 in view of the teachings and disclosures of the IRHS Documents, Jones, Stanger, Loy, Fortmann'197, Fortmann'967, McMillan, Vaseloff, Hartfelder, and/or Shei'099 to arrive at the claimed food holding bin of Claim 4. The POSA would additionally recognize that the prior art discloses the additional limitation added in Claim 7 requiring "the first bezel provide[] at least one graphical interface comprising at least one dedicated display and the dedicated display display[] a temperature setting for a corresponding food holding bay."

915. In incorporating the front timer bar (first bezel) into Fortmann'748's cabinet it would remain obvious to further incorporate Vaseloff's display/control groups for each food holding bay for the reasons discussed in Paragraphs 651-672 above (Ground 10, Section XIII(A)(4)).

916. It would also remain obvious for each of the display/control groups to have a display device that displays the set temperature of the bay per McMillan as discussed in Paragraphs 673-691 (Ground 10, Section XIII(A)(5)). EX1019: 10:30-32 ("[w]hen the temperature is set, the message display areas … present a numeric value indicating the current and/or set temperature").

917. A representation of the resulting modified cabinet of Fortmann'748 in a 2x4 configuration is demonstrated as follows:



EX1010: Fig. 2 (modified, annotated).

918. Accordingly, the POSA would have found it obvious to combine the teachings and disclosures of Fortmann'748, the IRHS Documents, Jones, Stanger, Loy, Fortmann'197, Fortmann'967, McMillan, Vaseloff, Hartfelder, and/or Shei'099 to arrive at the food holding bin as claimed in Claim 7.

I. Claims 8 and 9: the food holding bin of claim [4, 7], wherein the dedicated display displays additional information about a food item stored in the corresponding food holding bay

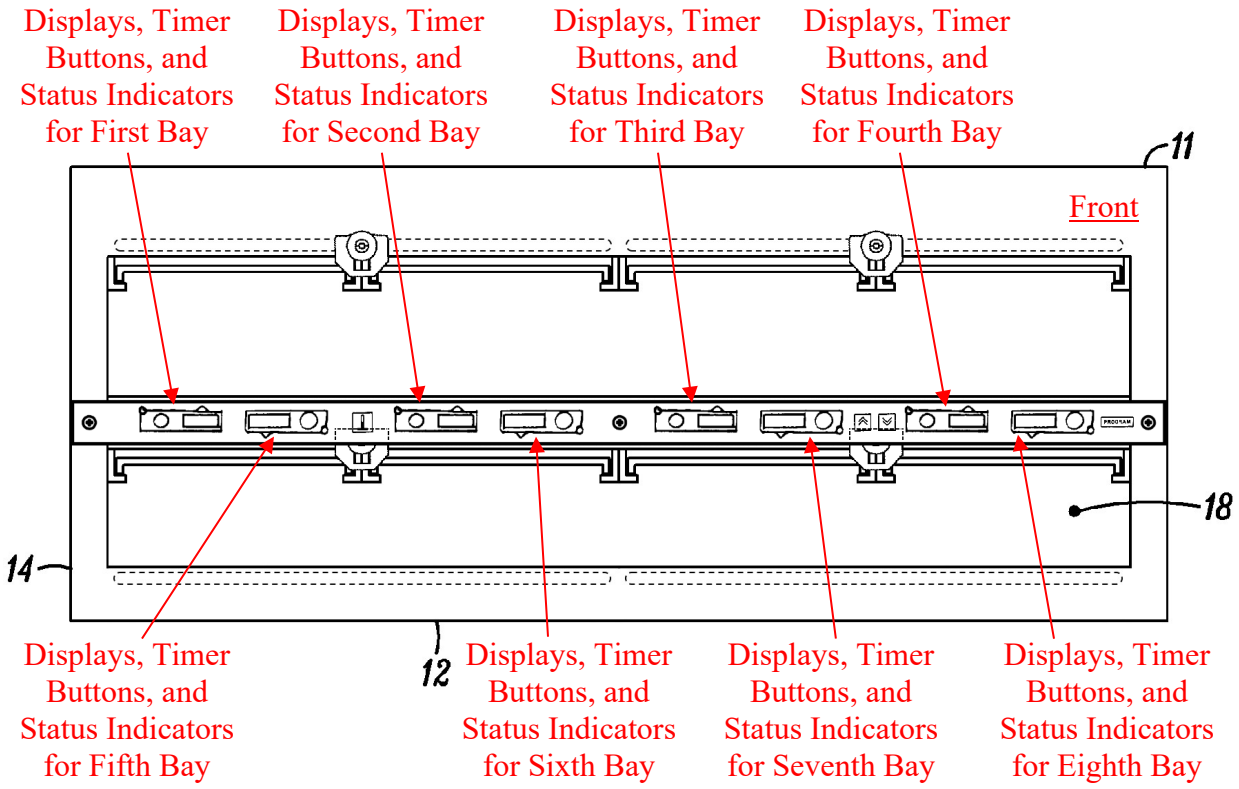
919. Claims 8 and 9 are nearly identical, except that Claim 8 depends from Claim 4, while Claim 9 depends from Claim 7. As discussed above, the POSA

would have found it obvious to modify the multi-zone food holding bin of Fortmann'748 in view of the teachings and disclosures of the IRHS Documents, Jones, Stanger, Loy, Fortmann'197, Fortmann'967, McMillan, Vaseloff, Hartfelder, and/or Shei'099 to arrive at the claimed food holding bin of Claim 4. Likewise, as discussed above, the POSA would have found it obvious to modify the multi-zone food holding bin of Fortmann'748 in view of the teachings and disclosures of the IRHS Documents, Jones, Stanger, Loy, Fortmann'197, Fortmann'967, McMillan, Vaseloff, Hartfelder, and/or Shei'099 to arrive at the claimed food holding bin of Claim 7. The POSA would additionally recognize that the prior art discloses the additional limitation added in Claims 8 and 9 requiring that "the dedicated display displays additional information about a food item stored in the corresponding food holding bay."

920. Vaseloff display devices display the name of the food item stored in the zone/pan holding location. EX1026: 4:5-8 ("display devices 60 display the identity of the food that is held in the holding compartments").

921. By implementing Vaseloff's display devices in Fortmann'748's modified cabinet, the display devices continue to provide the capability of displaying the name of the food item (*i.e.*, additional informaiton about the food item) in the corresponding zone/pan holding location. A representation of the

resulting modified cabinet of Fortmann'748 in a 2x4 configuration is demonstrated as follows:



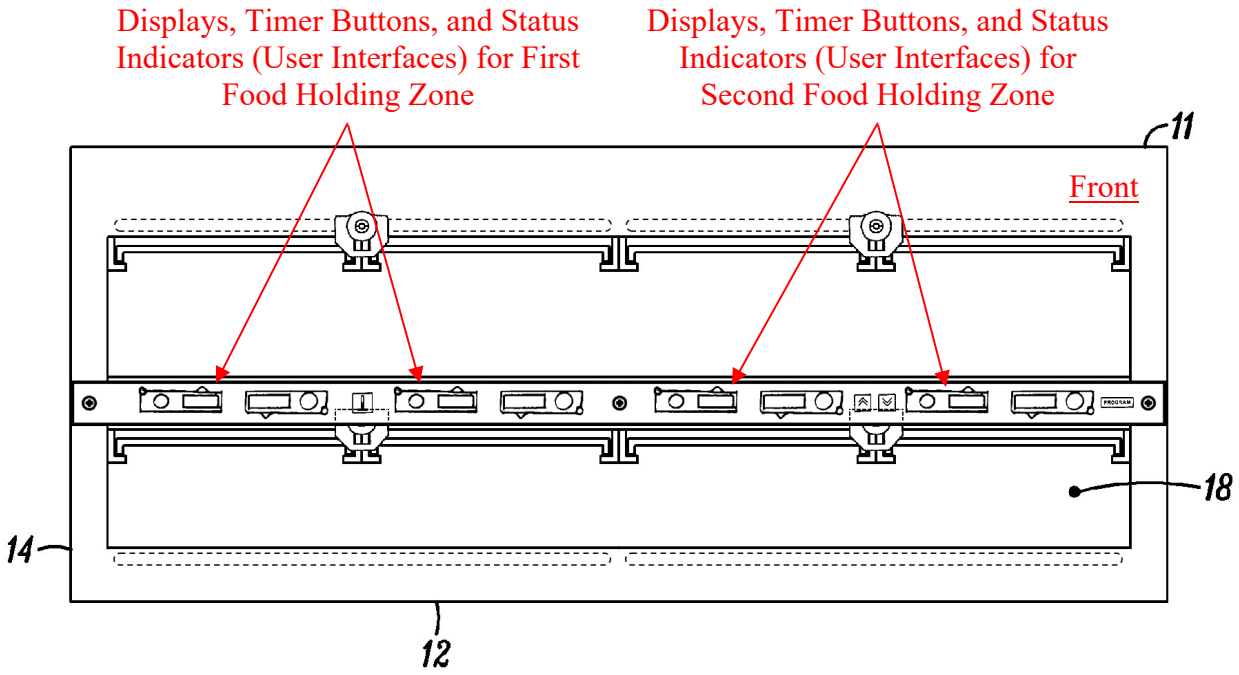
EX1010: Fig. 2 (modified, annotated).

922. Accordingly, the POSA would have found it obvious to combine the teachings and disclosures of Fortmann'748, the IRHS Documents, Jones, Stanger, Loy, Fortmann'197, Fortmann'967, McMillan, Vaseloff, Hartfelder, and/or Shei'099 to arrive at the food holding bin as claimed in Claims 8 and 9.

J. Claim 10: the food holding bin of claim 4, wherein the first bezel provides two user interfaces arranged horizontally beneath the first food holding zone and the second food holding zone, respectively

923. As discussed above, the POSA would have found it obvious to modify the multi-zone food holding bin of Fortmann'748 in view of the teachings and disclosures of the IRHS Documents, Jones, Stanger, Loy, Fortmann'197, Fortmann'967, McMillan, Vaseloff, Hartfelder, and/or Shei'099 to arrive at the claimed food holding bin of Claim 4. The POSA would additionally recognize that the prior art discloses the additional limitation added in Claim 10 requiring "the first bezel provides two user interfaces arranged horizontally beneath the first food holding zone and the second food holding zone, respectively."

924. As explained in Paragraphs 692-706 above (Ground 10, Section XIII(A)(6)), it would have been obvious to modify the multi-zone food holding bin of Fortmann'748 to add the timer bar/bezel Fortmann'197 (EX1014), the IRHS Documents (EX1005-EX1008), and Hartfelder (EX1013) and Vaseloff's display/control groups (user interfaces) for each pan holding location. The resulting modified cabinet of Fortmann'748 would have two user interfaces arranged horizontally beneath the first and second food holding zones. A representation of the resulting modified cabinet of Fortmann'748 in a 2x4 configuration is demonstrated as follows:



EX1010: Fig. 2 (modified, annotated).

925. Accordingly, the POSA would have found it obvious to combine the teachings and disclosures of Fortmann'748, the IRHS Documents, Jones, Stanger, Loy, Fortmann'197, Fortmann'967, McMillan, Vaseloff, Hartfelder, and/or Shei'099 to arrive at the food holding bin as claimed in Claim 10.

K. Claim 11

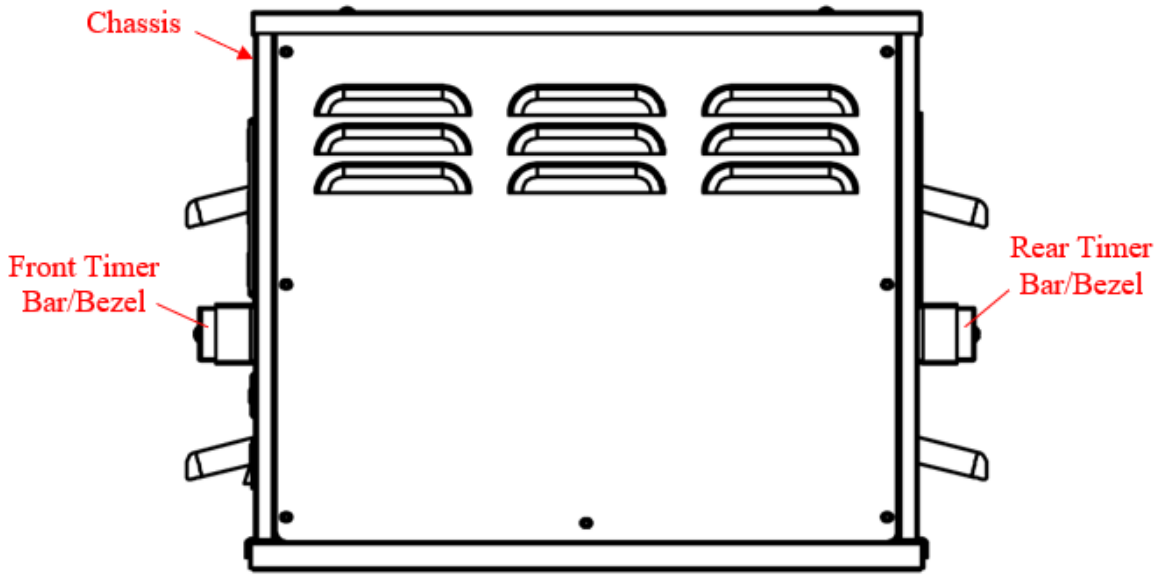
11.a.1: the food holding bin of claim 2, further comprising at least two bezels attached to the chassis

926. As discussed above, the POSA would have found it obvious to combine the teachings and disclosures of Fortmann'748, the IRHS Documents,

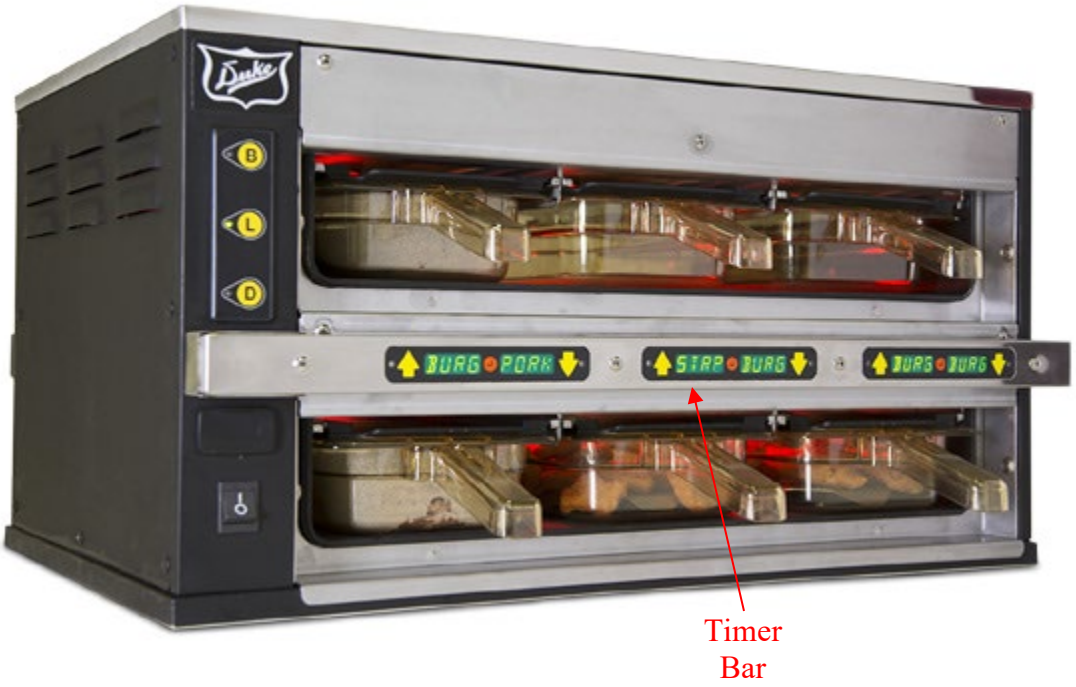
Jones, Stanger, Loy, Fortmann'197, Fortmann'967, McMillan, Vaseloff, Hartfelder, and/or Shei'099 to arrive at the claimed food holding bin of Claim 2.

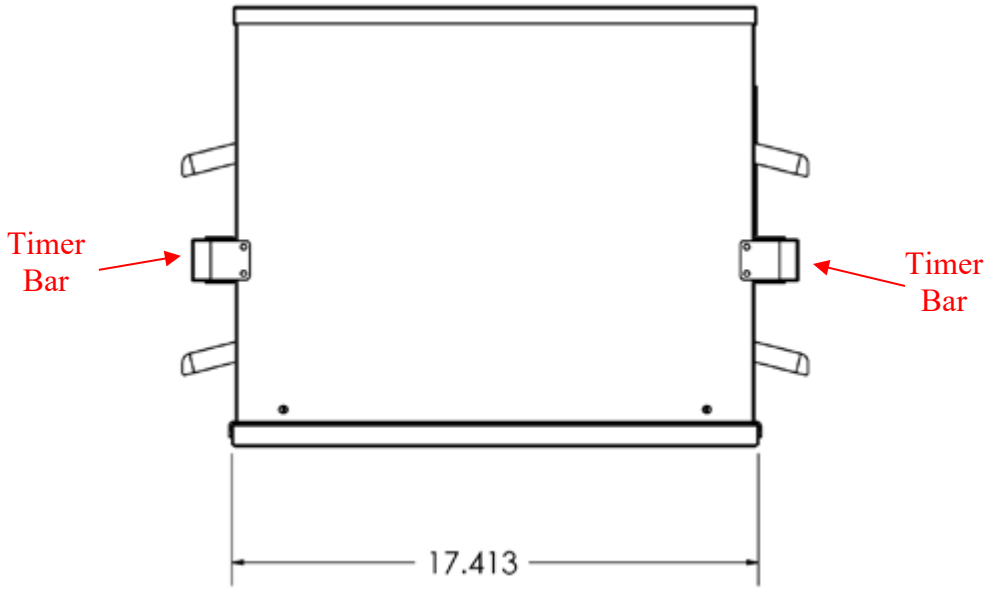
927. As explained in Paragraphs 692-706 above (Ground 10, Section XIII(A)(6)), it would have been obvious to modify the multi-zone food holding bin of Fortmann'748 to add the timer bar/bezel Fortmann'197 (EX1014), the IRHS Documents (EX1005-EX1008), and Hartfelder (EX1013) on both sides (front and rear) of the cabinet.

928. Both the IRHS Documents and Fortmann'197 expressly disclose front and rear timer bars (front and rear bezels) attached to a chassis such that it would have been obvious to include them in Fortmann'748's cabinet. EX1005: 8; EX1006: 1-2; EX1007: 28, 32, 51; EX1014: 3:28-46, 4:18-37, Figs. 1-3, 5.



EX1005: 8 (annotated).





EX1006: 1-2 (annotated).





EX1007: 51, 52 (annotated).

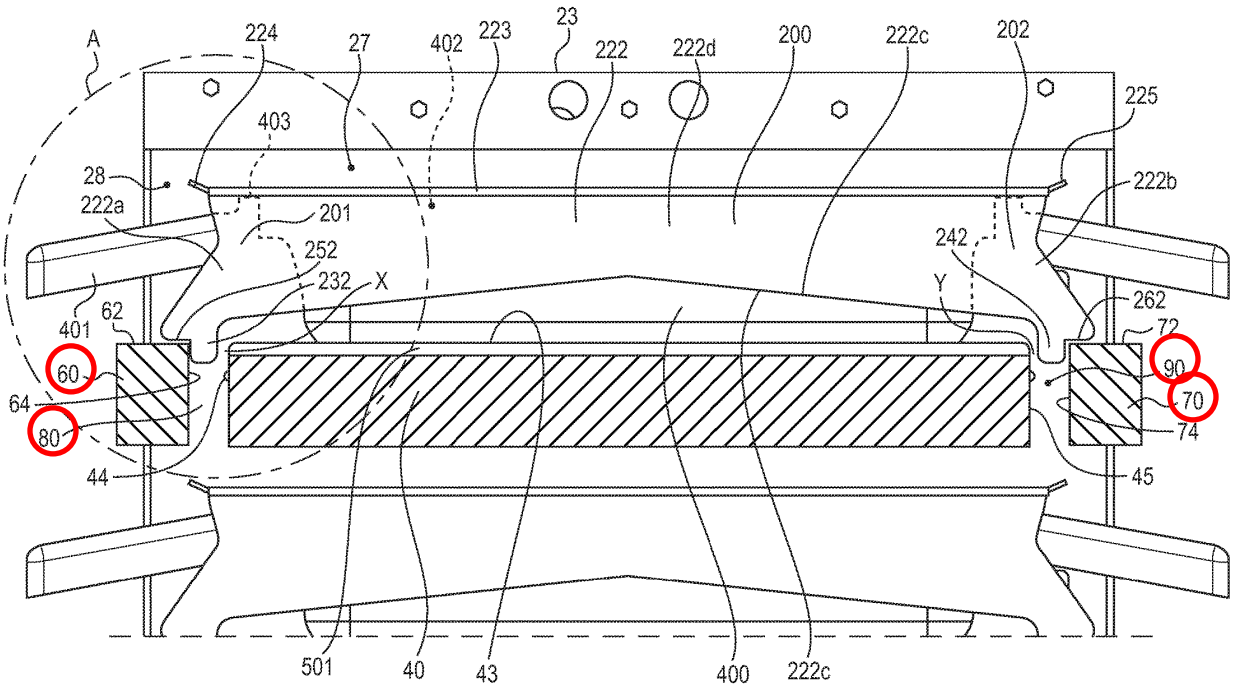
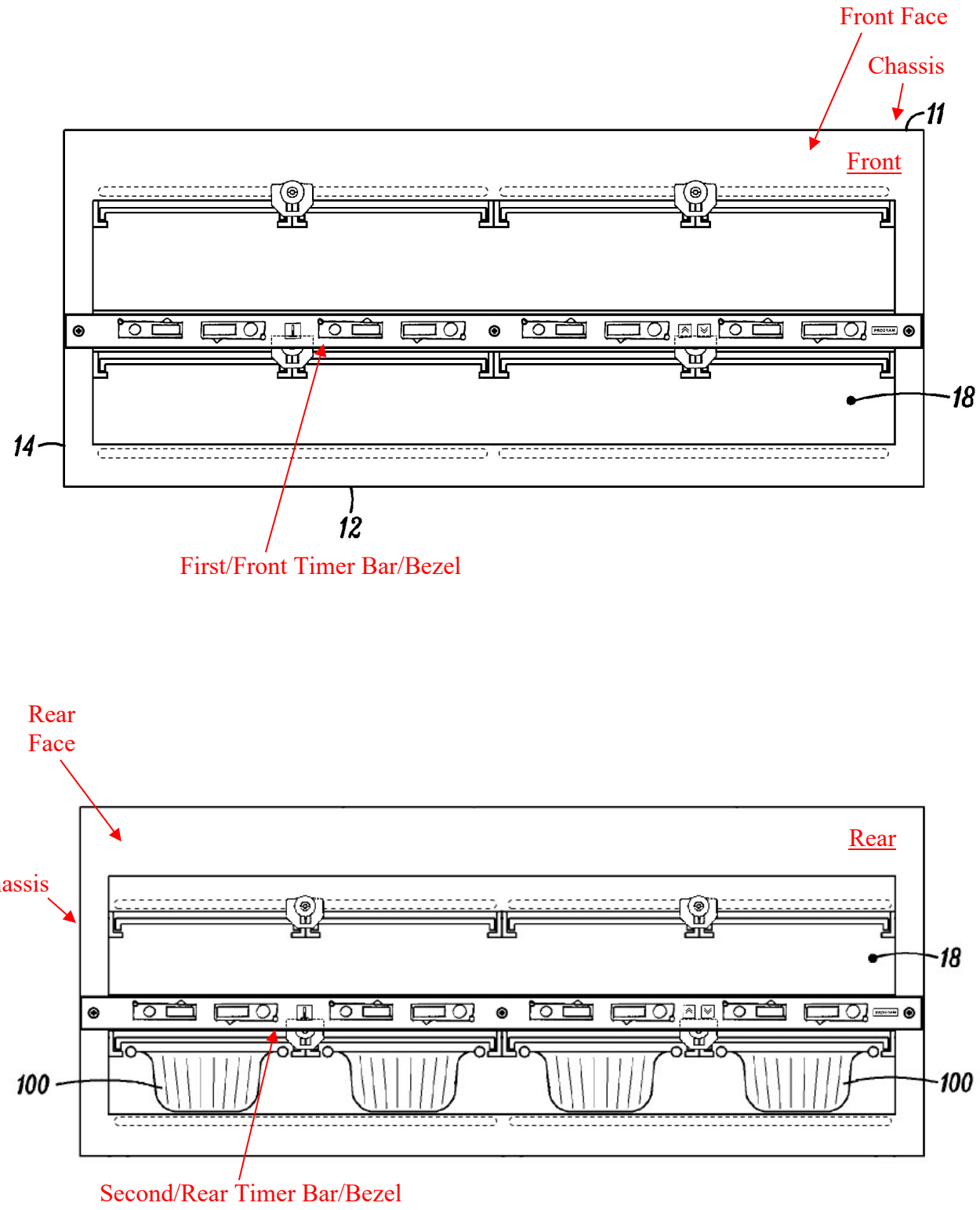


FIG. 5

EX1014: Fig. 5 (annotated).

929. The added front and rear timer bars/bezels would have been attached to Fortmann'748's chassis.

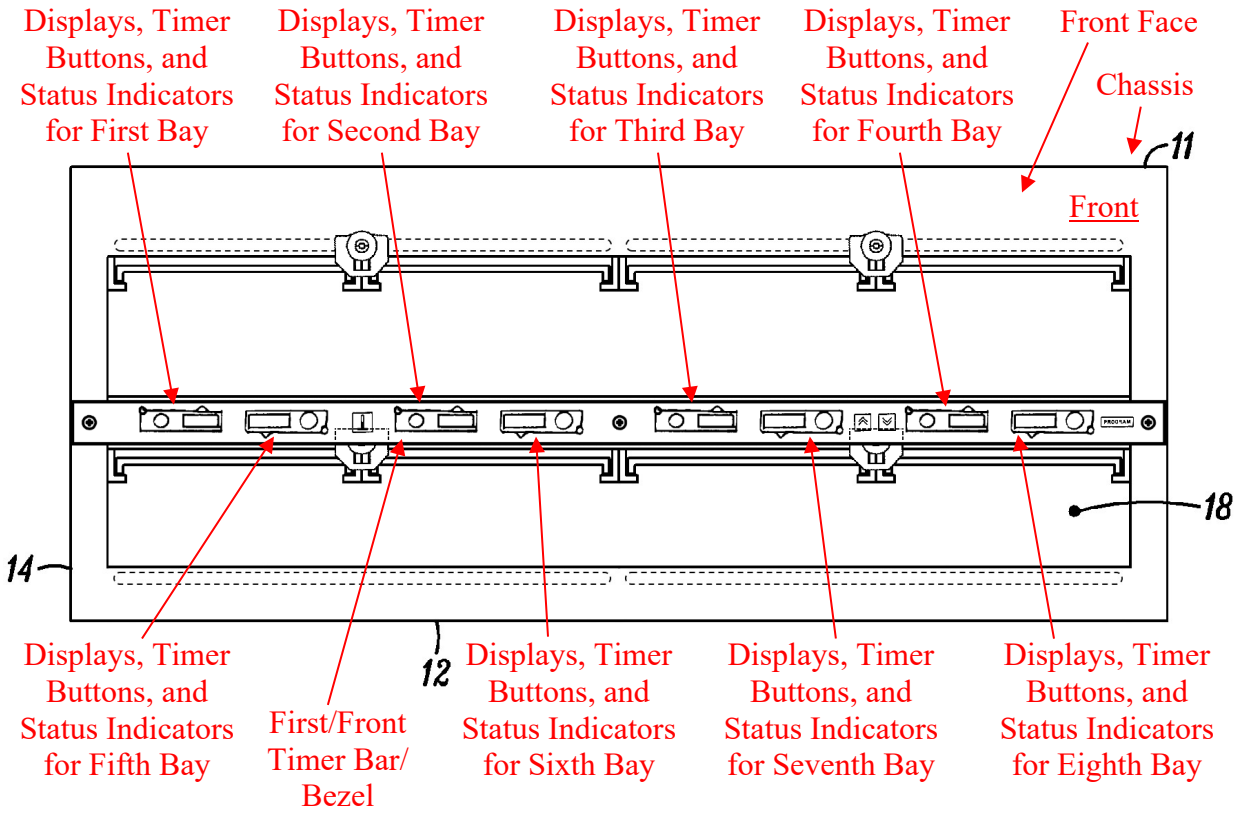


EX1010: Figs. 2 and 6 (modified, annotated).

11.a.2: a first bezel providing at least one user interface comprising dedicated controls and/or dedicated displays for each of the first, second, third, fourth, fifth, sixth, seventh, and eighth food holding bays, the first bezel located proximate the front face of the chassis

930. It would have further been obvious for each timer bar –including the first timer bar/bezel—to incorporate Vaseloff's display/control groups (*e.g.*, a display device, a timer status indicator, and a timer button) for each pan holding location/bay for the reasons explained in Paragraphs 651-672 (Ground 10, Section XIII(A)(4)). EX1026: 3:48-51, 4:5-6, 4:20-33, 4:48-49, Figs. 3, 4, 10.

931. As explained in Paragraphs 692-706 (Ground 10, Section XIII(A)(6)), the front timer bar/bezel would have been proximate the front face of the chassis.



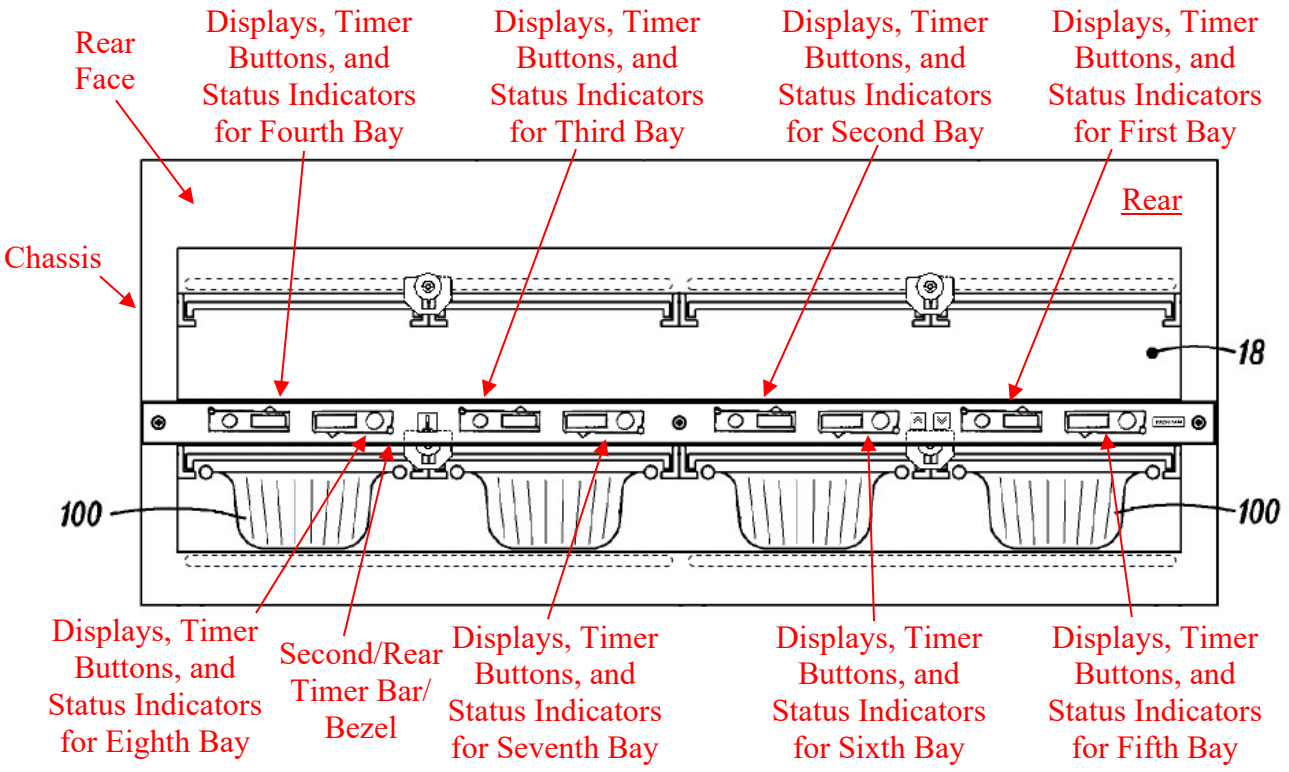
EX1010: Fig. 2 (modified, annotated).

11.a.3: a second bezel attached to the chassis, the second bezel providing at least one user interface comprising dedicated controls and/or dedicated displays for each of the first, second, third, fourth, fifth, sixth, seventh, and eighth food holding bays, the second bezel located proximate the opposing rear face of the chassis

932. As explained in Paragraphs 926-929 (claim limitation 11.a.1) above, the added rear timer bar/bezel would have been attached to the chassis.

933. It would have further been obvious for each timer bar –including the second timer bar/bezel—to incorporate Vaseloff's display/control groups (*e.g.*, a display device, a timer status indicator, and a timer button) for each pan holding location/bay for the reasons explained in Paragraphs 651-672 above (Ground 10, Section XIII(A)(4)). EX1026: 3:48-51, 4:5-6, 4:20-33, 4:48-49, Figs. 3, 4, 10.

934. As explained in Paragraphs 692-706 (Ground 10, Section XIII(A)(6)), the second/rear timer bar/bezel would have been proximate the rear face of the chassis.



EX1010: Fig. 6 (modified, annotated).

935. Accordingly, the POSA would have found it obvious to combine the teachings and disclosures of Fortmann'748, the IRHS Documents, Jones, Stanger, Loy, Fortmann'197, Fortmann'967, McMillan, Vaseloff, Hartfelder, and/or Shei'099 to arrive at the food holding bin as claimed in Claim 11.

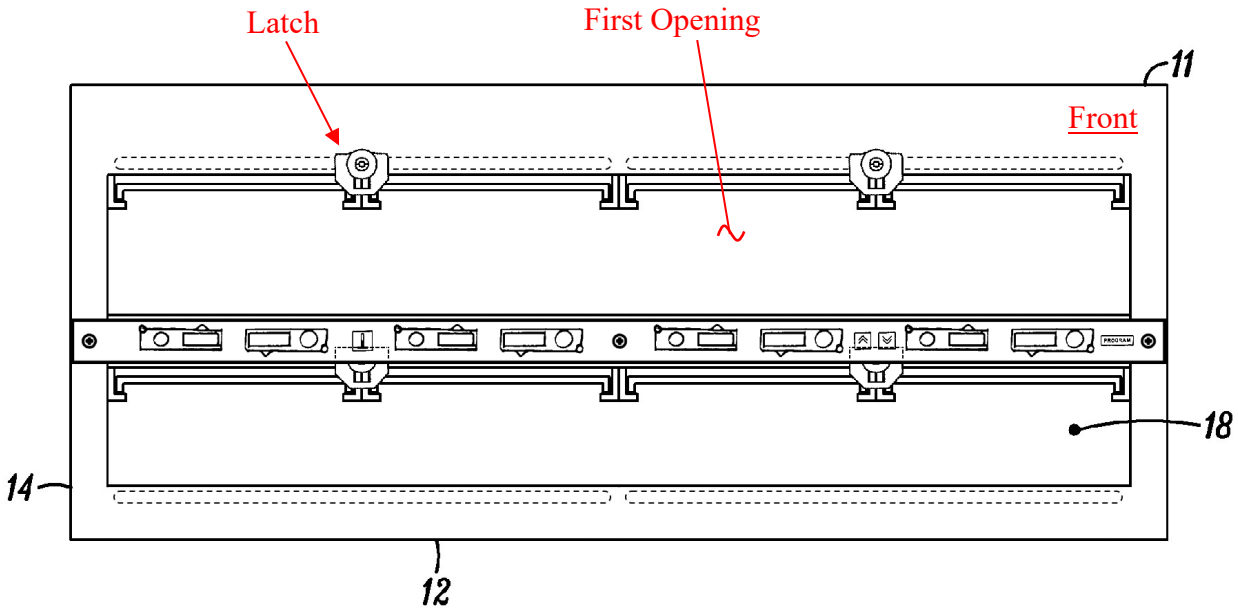
L. Claim 12: the food holding bin of claim 1, further comprising a latch disposed adjacent the first opening

936. As discussed above, the POSA would have found it obvious to modify the multi-zone food holding bin of Fortmann'748 in view of the teachings and disclosures of the IRHS Documents, Jones, Stanger, Loy, Fortmann'197, Fortmann'967, McMillan, Vaseloff, Hartfelder, and/or Shei'099 to arrive at the

claimed food holding bin of Claim 1. The POSA would additionally recognize that the prior art discloses the additional limitation added in Claim 12 requiring "a latch disposed adjacent the first opening."

937. It would have been further obvious to modify Fortmann'748's cabinet to incorporate Hartfelder's stop members (61) or Shei'099's stops (88) (*i.e.*, latches) adjacent the first opening as discussed in Paragraphs 728-738 above (Ground 10, Section XIII(A)(8)). EX1013: ¶[0058]; EX1017: 6:9-32.

938. 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 to engage and retain the lids. EX1013: Figs. 1, 9; EX1017: Fig. 1. A representation of the resulting modified cabinet of Fortmann'748 in a 2x4 configuration is demonstrated as follows:



EX1010: Fig. 2 (modified, annotated).

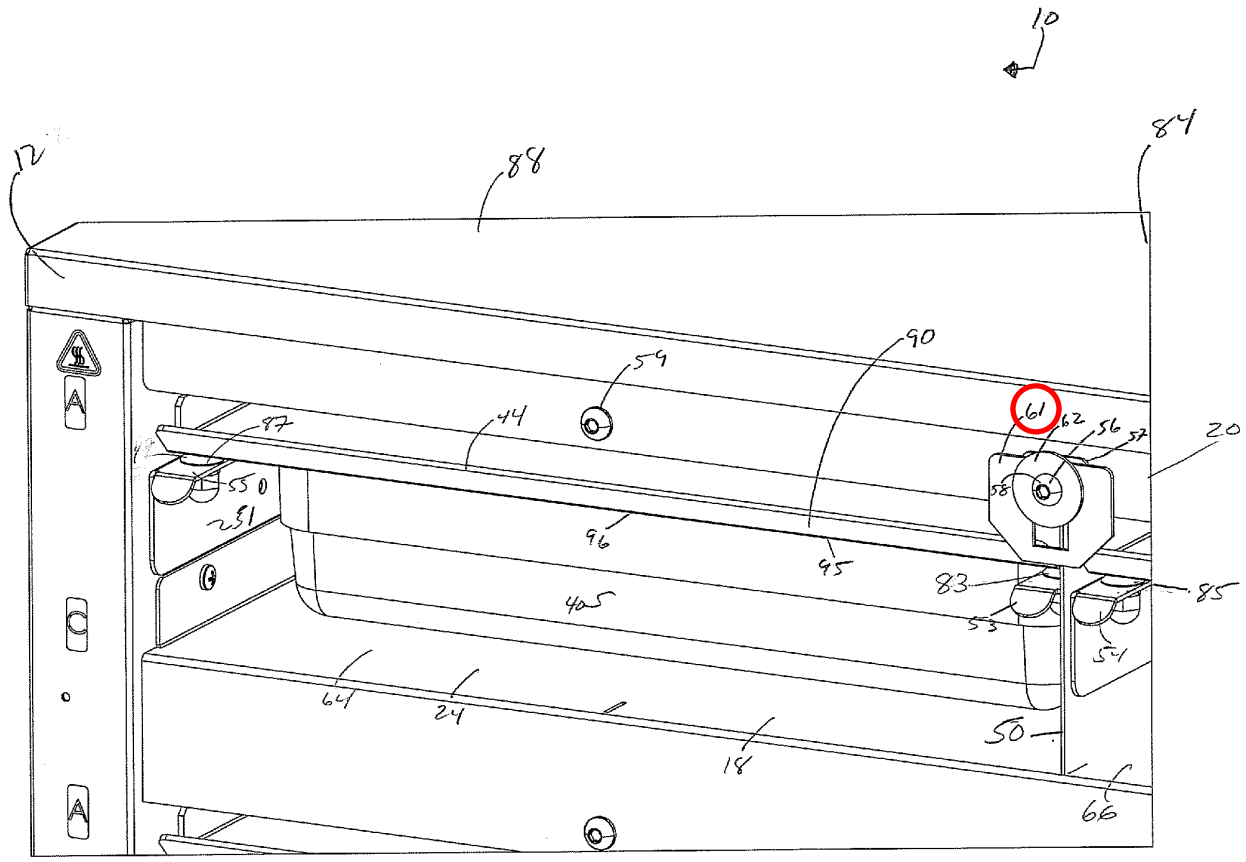


FIGURE 9

EX1013: Fig. 9 (annotated).

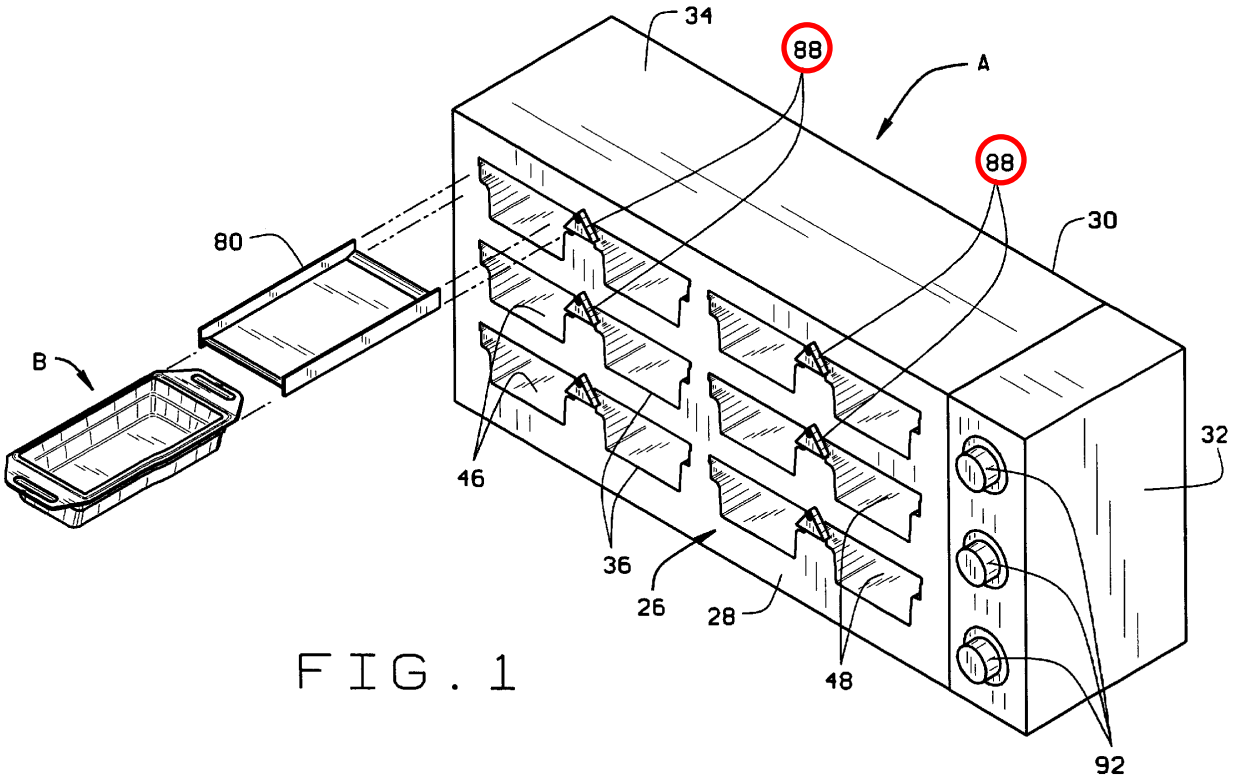


FIG. 1

EX1017: Fig. 1 (annotated).

939. Accordingly, the POSA would have found it obvious to combine the teachings and disclosures of Fortmann'748, the IRHS Documents, Jones, Stanger, Loy, Fortmann'197, Fortmann'967, McMillan, Vaseloff, Hartfelder, and/or Shei'099 to arrive at the food holding bin as claimed in Claim 12.

M. Claim 13: the food holding bin of claim 12, wherein the latch is located between the first food holding bay and the second food holding bay

940. As discussed above, the POSA would have found it obvious to modify the multi-zone food holding bin of Fortmann'748 in view of the teachings and disclosures of the IRHS Documents, Jones, Stanger, Loy, Fortmann'197, Fortmann'967, McMillan, Vaseloff, Hartfelder, and/or Shei'099 to arrive at the

claimed food holding bin of Claim 12. The POSA would additionally recognize that the prior art discloses the additional limitation added in Claim 13 requiring that the latch is "located between the first food holding bay and the second food holding bay."

941. Hartfelder's stop members (61) and Shei'099's stops (88) (*i.e.*, latches) are disclosed as being located between adjacent food holding bay, thus allowing each latch to secure two lids.

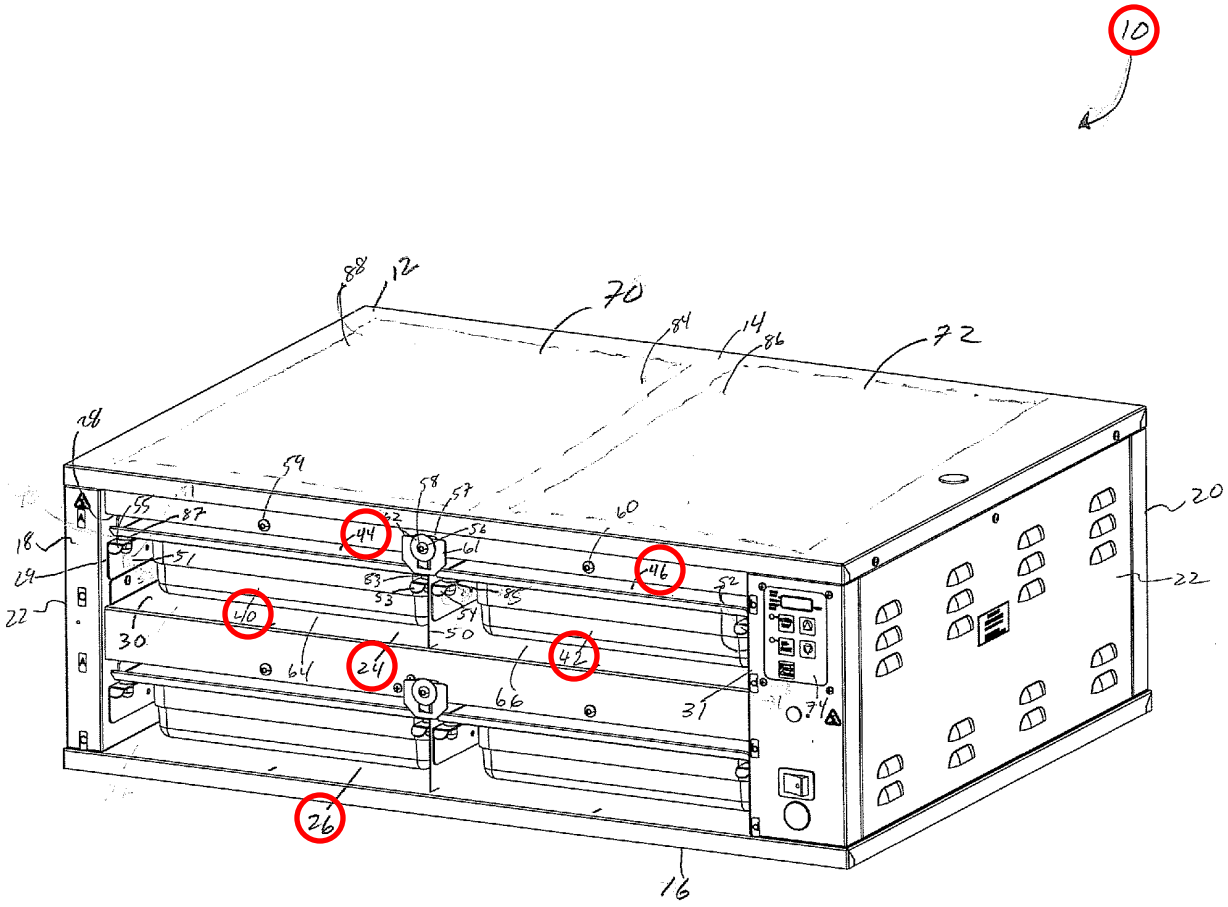


FIGURE 1

EX1013: Fig. 1 (annotated).

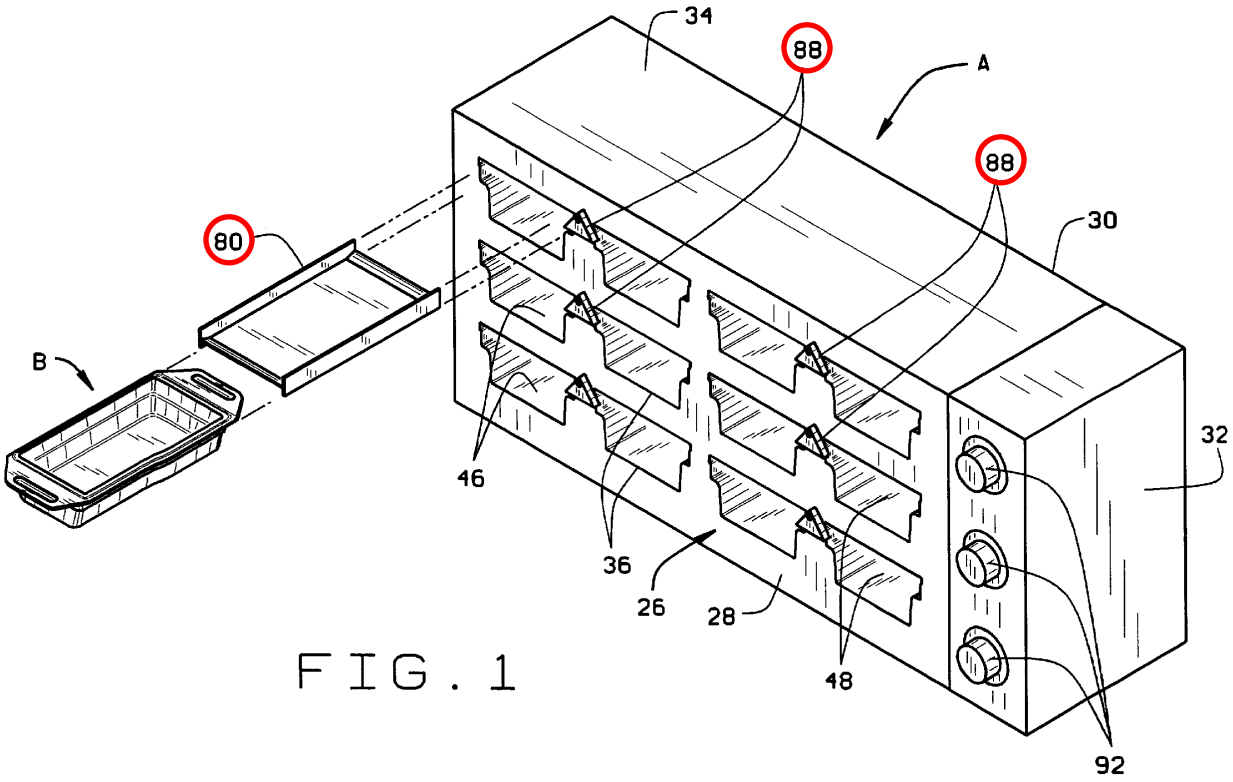
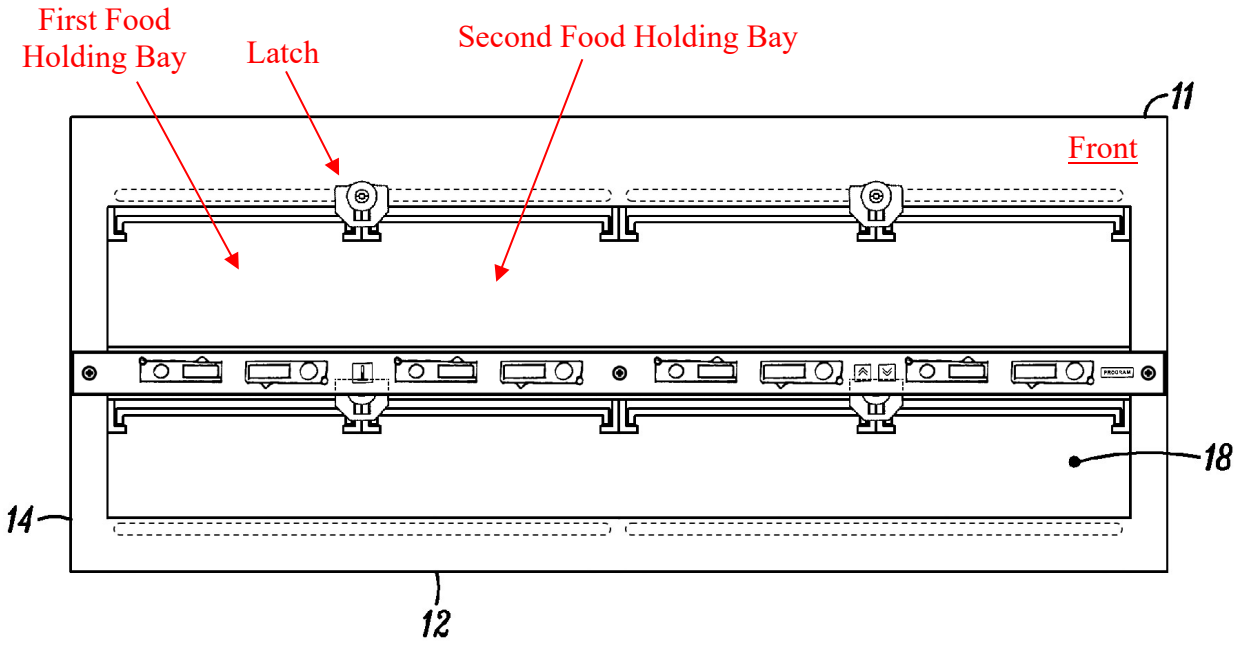


FIG. 1

EX1017: Fig. 1 (annotated).

942. In modifying a Fortmann'748 cabinet having a 2X4 configuration to incorporate Hartfelder's stop members (61) or Shei'099's stops (88) (*i.e.*, latches) as explained in Paragraphs 728-738 above (Ground 10, Section XIII(A)(8)), the latches would be located between adjacent bays (*i.e.*, a first and second food holding bays). EX1013: ¶¶[0039], [0058], Figs. 1-5, 9; EX1017: 6:9-32. A representation of the resulting modified cabinet of Fortmann'748 in a 2x4 configuration is demonstrated as follows:



EX1010: Fig. 2 (modified, annotated).

943. Accordingly, the POSA would have found it obvious to combine the teachings and disclosures of Fortmann'748, the IRHS Documents, Jones, Stanger, Loy, Fortmann'197, Fortmann'967, McMillan, Vaseloff, Hartfelder, and/or Shei'099 to arrive at the food holding bin as claimed in Claim 13.

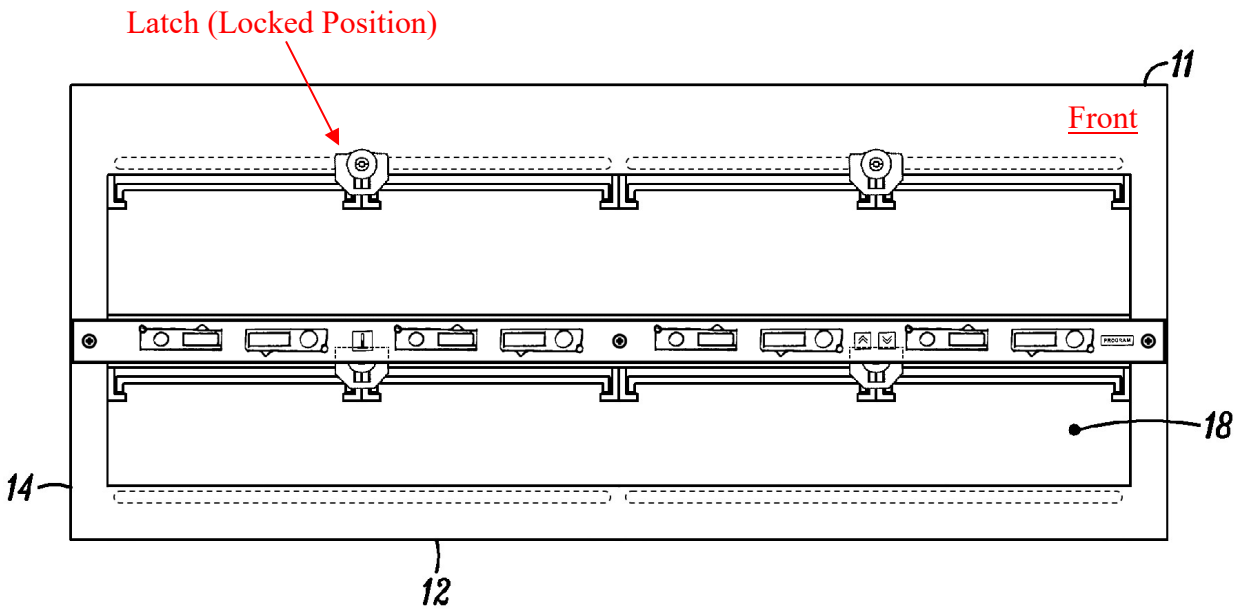
N. Claim 14: the food holding bin of claim 12, wherein the latch is rotatable or translatable from a first position to a second position

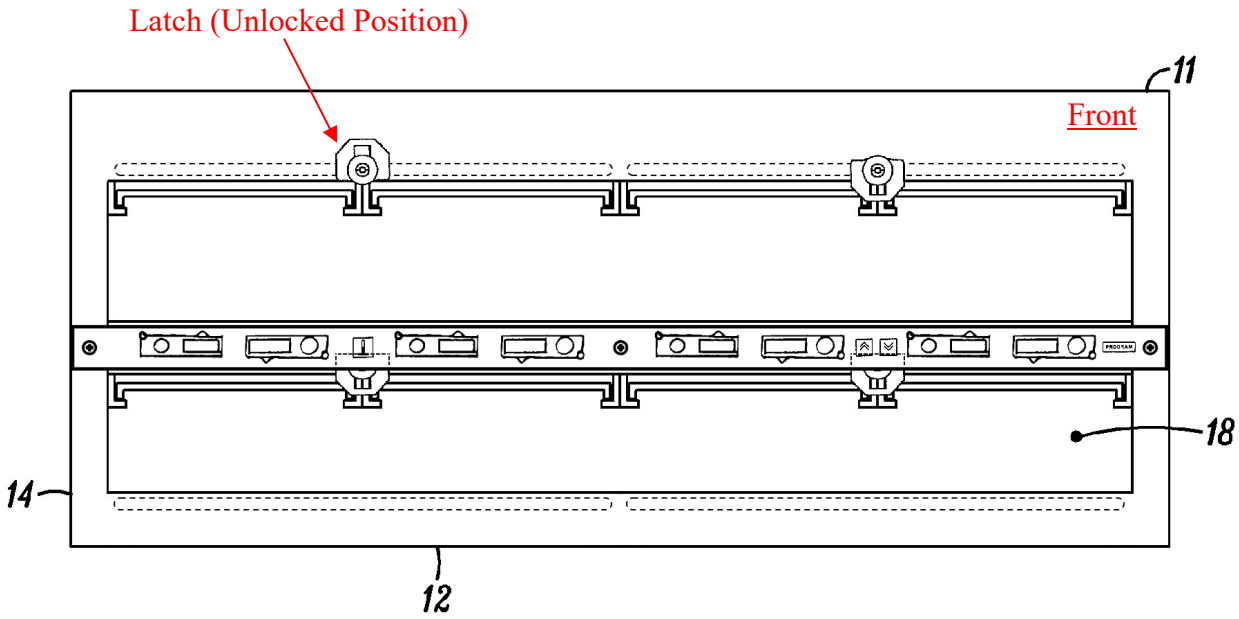
944. As discussed above, the POSA would have found it obvious to modify the multi-zone food holding bin of Fortmann'748 in view of the teachings and disclosures of the IRHS Documents, Jones, Stanger, Loy, Fortmann'197, Fortmann'967, McMillan, Vaseloff, Hartfelder, and/or Shei'099 to arrive at the

claimed food holding bin of Claim 12. The POSA would additionally recognize that the prior art discloses the additional limitation added in Claim 14 requiring that the latch is "rotatable or translatable from a first position to a second position."

945. As explained in Paragraphs 728-738 and 905-913 (Ground 10, Section XIII(A)(8) and Claim 6) above, Hartfelder's stop members (61) or Shei'099's stops (88) (*i.e.*, latches) are rotatable between a locked (first) position and unlocked (second) position. EX1013: Fig. 2; EX1017: 6:9-32, Fig. 1; EX1016: ¶[0043], Fig. 1.

946. In modifying a Fortmann'748 cabinet to incorporate Hartfelder's stop members (61) or Shei'099's stops (88) (*i.e.*, latches), the latches would be rotatable or translatable from a first position to a second position as explained in Paragraphs 728-738 above (Ground 10, Section XIII(A)(8)). A representation of the resulting modified cabinet of Fortmann'748 in a 2x4 configuration is demonstrated as follows:





EX1010: Fig. 2 (modified, annotated).

947. Accordingly, the POSA would have found it obvious to combine the teachings and disclosures of Fortmann'748, the IRHS Documents, Jones, Stanger, Loy, Fortmann'197, Fortmann'967, McMillan, Vaseloff, Hartfelder, and/or Shei'099 to arrive at the food holding bin as claimed in Claim 14.

O. Claim 15: the food holding bin of claim 1, further comprising at least one food holding tray resting on at least one substantially planar surface within one food holding bay

948. As discussed above, the POSA would have found it obvious to modify the multi-zone food holding bin of Fortmann'748 in view of the teachings and disclosures of the IRHS Documents, Jones, Stanger, Loy, Fortmann'197, Fortmann'967, McMillan, Vaseloff, Hartfelder, and/or Shei'099 to arrive at the claimed food holding bin of Claim 1. The POSA would additionally recognize that the prior art discloses the additional limitation added in Claim 15 further requiring "at least one food holding tray resting on at least one substantially planar surface within one food holding bay."

949. Both as disclosed in Fortmann'748 and as modified according to Paragraphs 570-738 (Ground 10, Section XIII(A)) above, the food pans (100) of Fortmann'748 rest on the planar surfaces within the food holding zones/bays. EX1010: ¶¶[0015] ("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"), [0017] ("pan 100 that is placed onto the shelf 21"), Figs. 1 and 6.

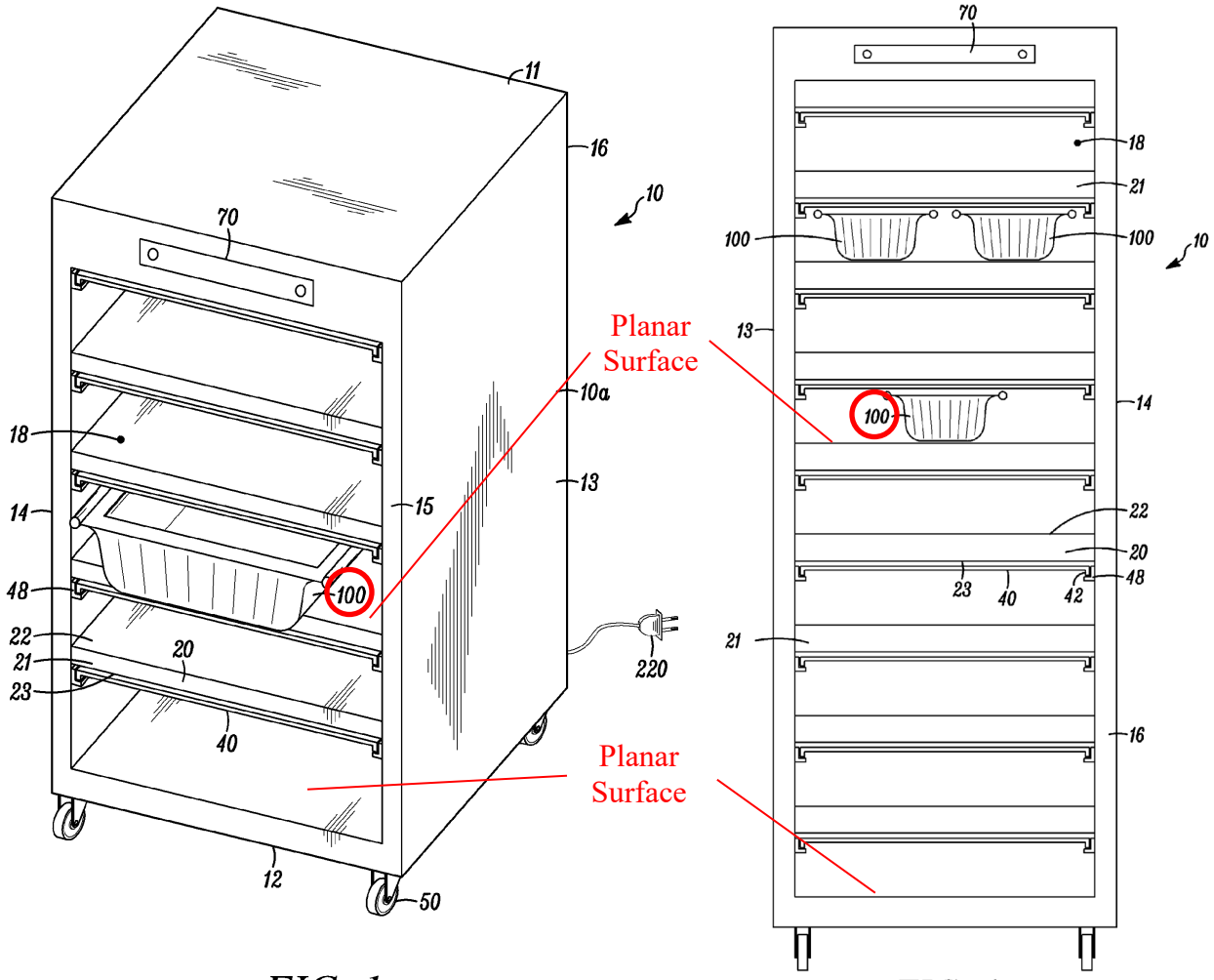
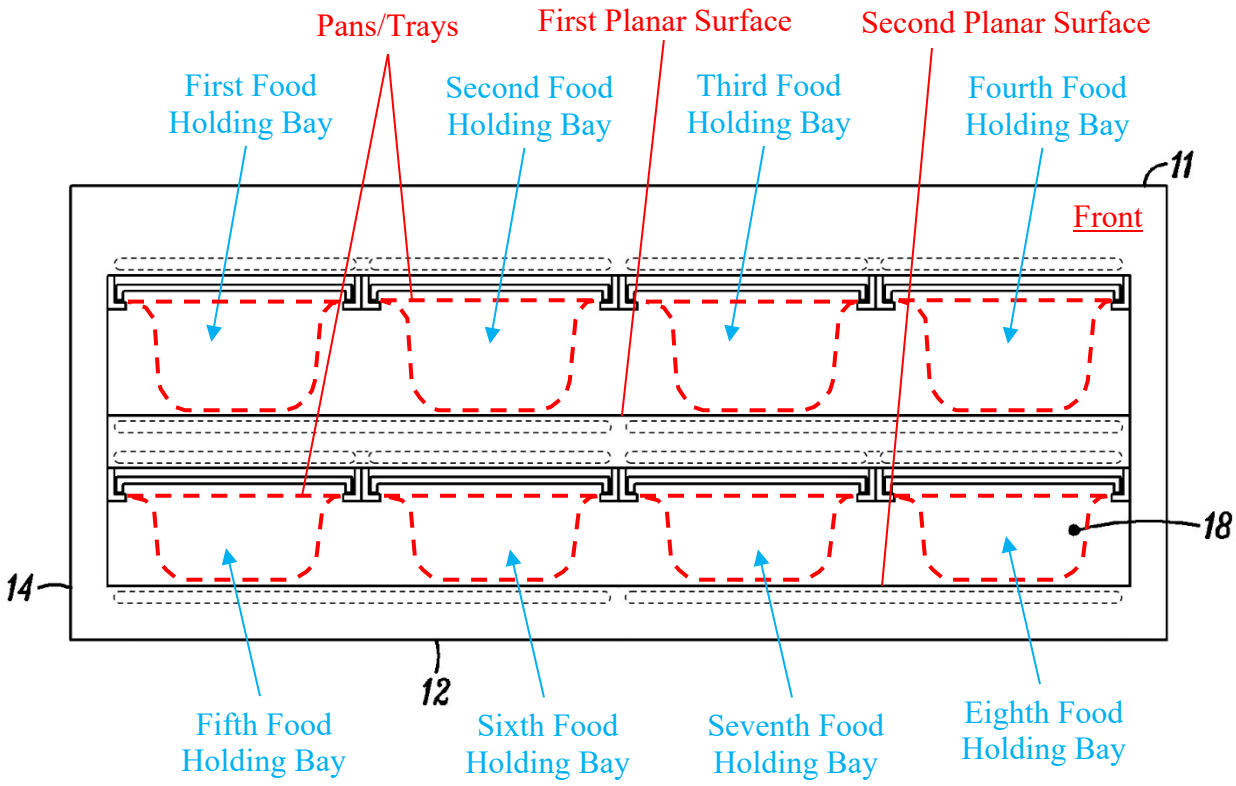
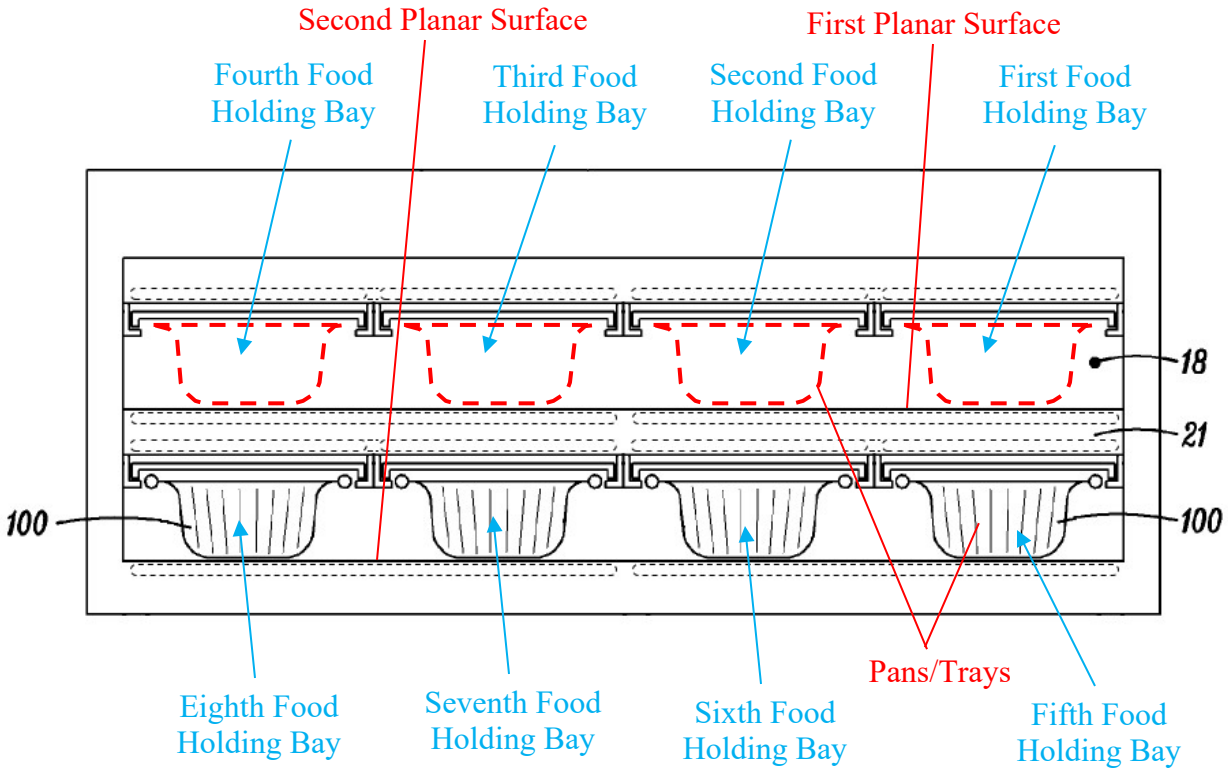


FIG. 1 *FIG. 6*

EX1010: Figs. 1 and 6 (annotated).


Pans/Trays
First Planar Surface
Second Planar Surface
First Food Holding Bay
Second Food Holding Bay
Third Food Holding Bay
Fourth Food Holding Bay
11
Front
18
14
12
Fifth Food Holding Bay
Sixth Food Holding Bay
Seventh Food Holding Bay
Eighth Food Holding Bay



EX1010: Figs. 2 and 6 (modified, annotated).

950. Accordingly, the POSA would have found it obvious to combine the teachings and disclosures of Fortmann'748 the IRHS Documents, Jones, Stanger, Loy, Fortmann'197, Fortmann'967, McMillan, Vaseloff, Hartfelder, and/or Shei'099 to arrive at the food holding bin as claimed in Claim 15.

P. Claim 16: the food holding bin of claim 15, wherein the independently controllable heating elements disposed at the bottom portion of the first and second food holding compartments provide heat energy to at least one food holding tray through conduction

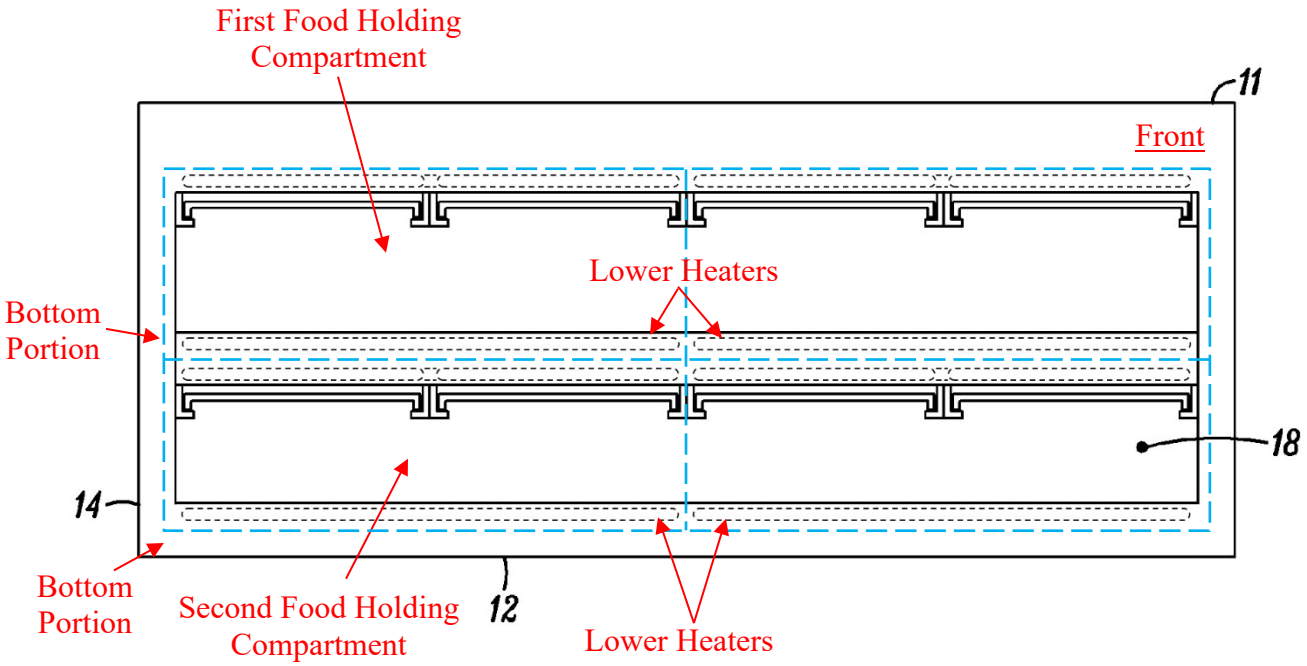
951. As discussed above, the POSA would have found it obvious to modify the multi-zone food holding bin of Fortmann'748 in view of the teachings and

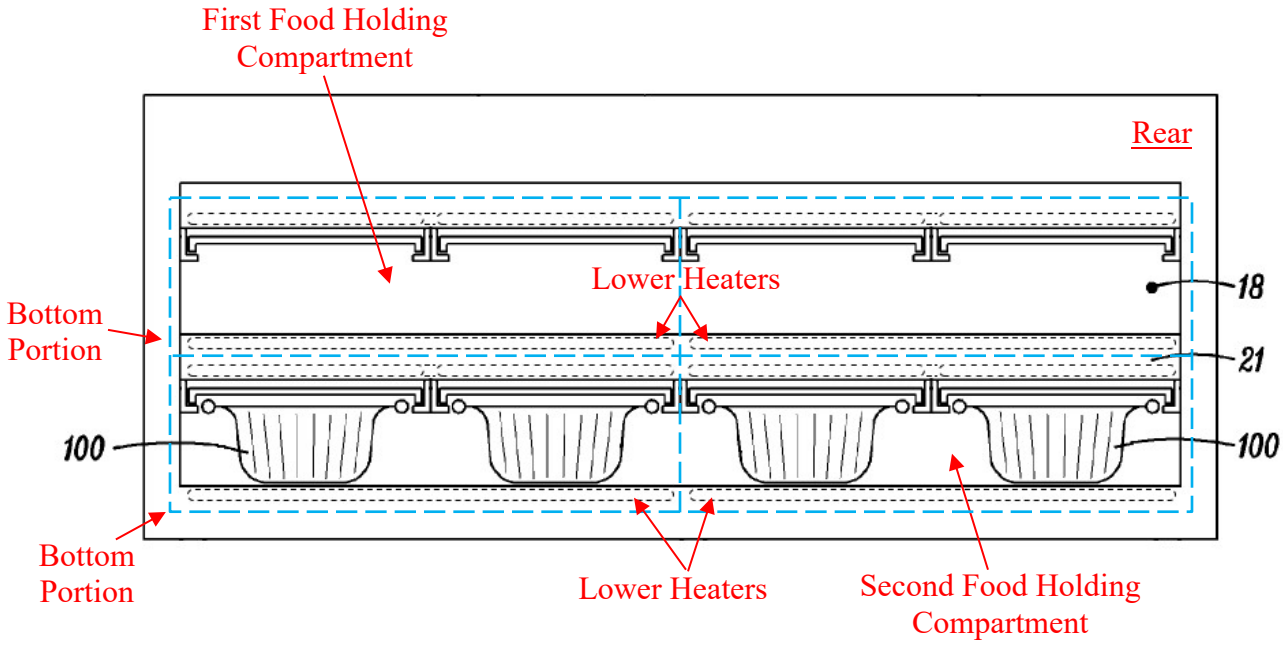
disclosures of the IRHS Documents, Jones, Stanger, Loy, Fortmann'197, Fortmann'967, McMillan, Vaseloff, Hartfelder, and/or Shei'099 to arrive at the claimed food holding bin of Claim 15. The POSA would additionally recognize that the prior art discloses the additional limitation added in Claim 16 further requiring "the independently controllable heating elements disposed at the bottom portion of the first and second food holding compartments provide heat energy to at least one food holding tray through conduction."

952. Fortmann'748 explains the heaters (60) contact the upper sheet forming the planar surface upon which the pans (100) rest to heat the pan by conduction. EX1010: ¶¶[0019] ("the heater 60 makes surface contact with at least the upper sheet 22 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"), [0020] ("a pan 100 disposed within the cart 10 may receive heat from [] the shelf 21 below the pan (by conduction and radiation)").

953. When modifying the heaters (60) of Fortmann'748 to have separate independently controllable upper and lower heaters as explained in Paragraphs 634-650 (Ground 10, Section XIII(A)(3)), the POSA would still follow the teachings of Fortmann'748 and have the lower heaters contact the sheet forming

the planar surfaces the pan rest on to heat the pans by conduction. EX1010: ¶¶[0019]-[0020].





EX1010: Figs. 2 and 6 (modified, annotated).

954. Accordingly, the POSA would have found it obvious to combine the teachings and disclosures of Fortmann'748, the IRHS Documents, Jones, Stanger, Loy, Fortmann'197, Fortmann'967, McMillan, Vaseloff, Hartfelder, and/or Shei'099 to arrive at the food holding bin as claimed in Claim 16.

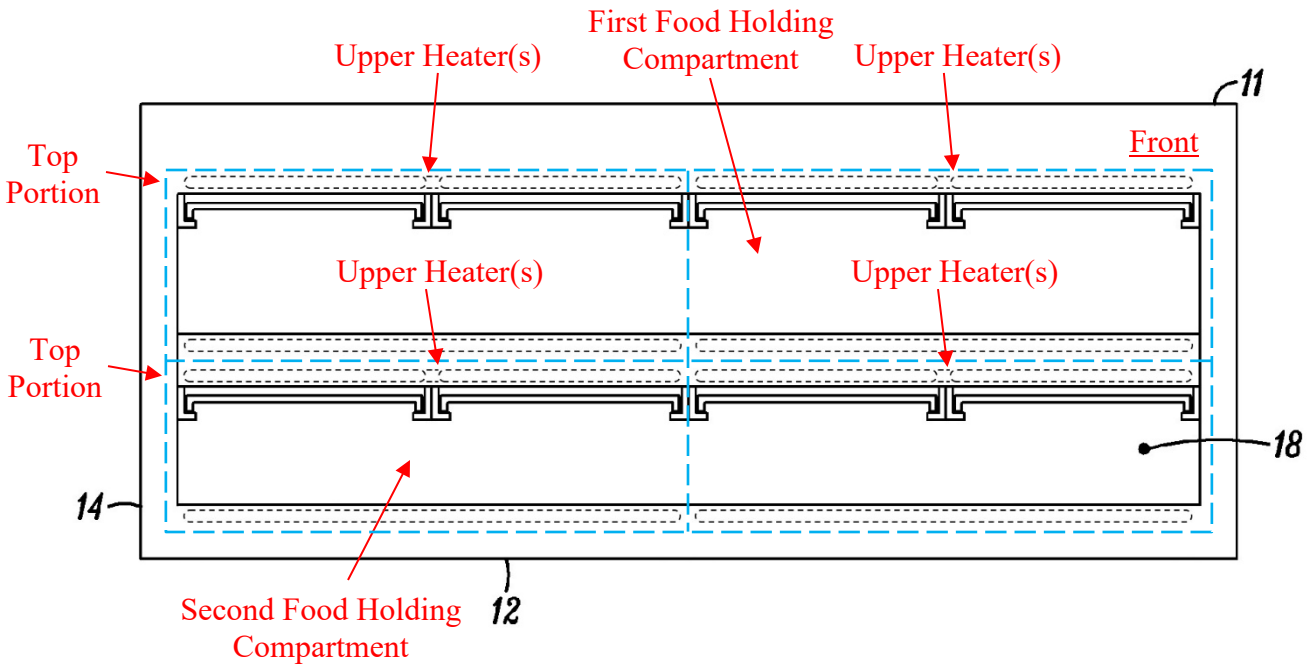
Q. Claim 17: the food holding bin of claim 15, wherein the independently controllable heating elements disposed at the top portion of the first and second food holding compartments provide radiant heat to at least one food holding tray

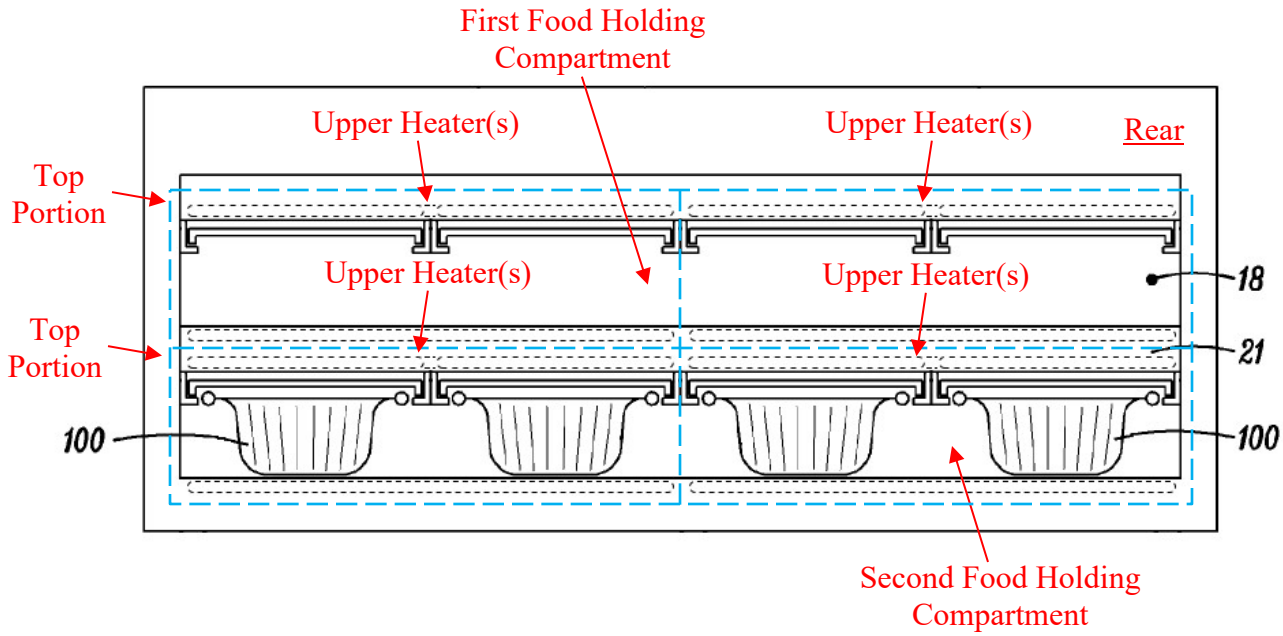
955. As discussed above, the POSA would have found it obvious to modify the multi-zone food holding bin of Fortmann'748 in view of the teachings and disclosures of the IRHS Documents, Jones, Stanger, Loy, Fortmann'197, Fortmann'967, McMillan, Vaseloff, Hartfelder, and/or Shei'099 to arrive at the claimed food holding bin of Claim 15. The POSA would additionally recognize that the prior art discloses the additional limitation added in Claim 17 further requiring "the independently controllable heating elements disposed at the top portion of the first and second food holding compartments provide radiant heat to at least one food holding tray."

956. Fortmann'748 explains the heaters (60) overlying the compartments transfer heat to the pans (100) by radiation. EX1010: ¶[0019] ("[t]he remaining portion of heat generated by the heaters 60 disposed in conjunction with each shelf 21 may be transferred to the shelf 21 by radiation heat transfer."), ¶[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").

957. When modifying the heaters (60) of Fortmann'748, the POSA would follow the teachings of Fortmann'748 and have the upper heaters heat (*e.g.*, via radiation, or conduction and radiation) the top panel and shelf, thereby heating the pans (100) disposed below by radiation. EX1010: ¶¶[0019]-[0020]. Because the tops of the pans (100) are spaced apart from the underside of the top panel and shelf (and thereby the upper heaters as well), the heat generated by the upper heaters will naturally heat the food pans by radiation. Radiation heat transfer occurs regardless of whether the lids are in contact with the underside of the shelf or spaced apart from the shelf. EX1010: ¶[0018].





EX1010: Figs. 2 and 6 (modified, annotated).

958. Accordingly, the POSA would have found it obvious to combine the teachings and disclosures of Fortmann'748, the IRHS Documents, Jones, Stanger, Loy, Fortmann'197, Fortmann'967, McMillan, Vaseloff, Hartfelder, and/or Shei'099 to arrive at the food holding bin as claimed in Claim 17.

R. Claim 18: the food holding bin of claim 15, wherein the independently controllable heating elements disposed at the top portion of the first and second food holding compartments provide radiant heat energy to at least one food holding tray and the independently controllable heating elements disposed at the bottom portion of the first and second food holding compartments provide heat energy through conduction to at least one holding tray

959. As discussed above, the POSA would have found it obvious to modify the multi-zone food holding bin of Fortmann'748 in view of the teachings and disclosures of the IRHS Documents, Jones, Stanger, Loy, Fortmann'197, Fortmann'967, McMillan, Vaseloff, Hartfelder, and/or Shei'099 to arrive at the claimed food holding bin of Claim 15. The additional limitations added in Claim 18 merely combine the limitations added separately in Claims 16 and 17.

960. Specifically, the "independently controllable heating elements disposed at the top portion of the first and second food holding compartments provide radiant heat energy to at least one food holding tray" limitation of Claim 18 is identical in claim scope to the limitation added in Claim 17. Accordingly, this limitation is disclosed by the prior art as explained in Paragraph 955 above.

961. Likewise, the "independently controllable heating elements disposed at the bottom portion of the first and second food holding compartments provide heat energy through conduction to at least one holding tray" limitation of Claim 18 is identical in claim scope to the limitation added in Claim 16. Accordingly, this limitation is disclosed by the prior art as explained in Paragraphs 951-954 above.

962. Accordingly, the POSA would have found it obvious to arrive at the food holding bin as claimed in Claim 18.

S. Claim 20: the food holding bin of claim 1, wherein at least one of the substantially planar surfaces is a continuous surface

963. As discussed above, the POSA would have found it obvious to modify the multi-zone food holding bin of Fortmann'748 in view of the teachings and disclosures of the IRHS Documents, Jones, Stanger, Loy, Fortmann'197, Fortmann'967, McMillan, Vaseloff, Hartfelder, and/or Shei'099 to arrive at the claimed food holding bin of Claim 1. The POSA would additionally recognize that the prior art discloses the additional limitation added in Claim 20 further requiring "at least one of the substantially planar surfaces is a continuous surface."

964. Both as disclosed in Fortmann'748 and as modified according to Paragraphs 570-738 (Ground 10, Section XIII(A)) above, the first and second planar surfaces are continuous.

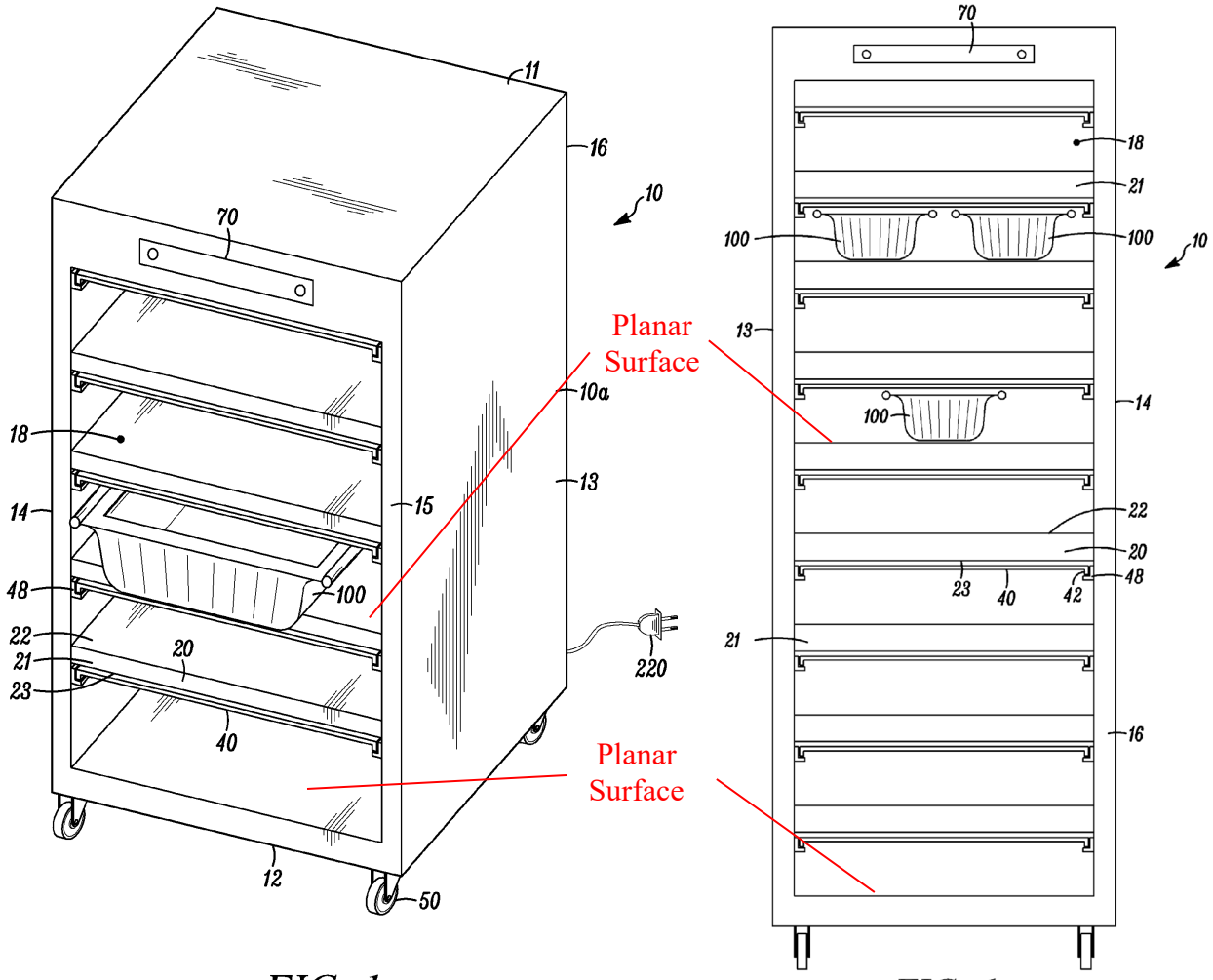
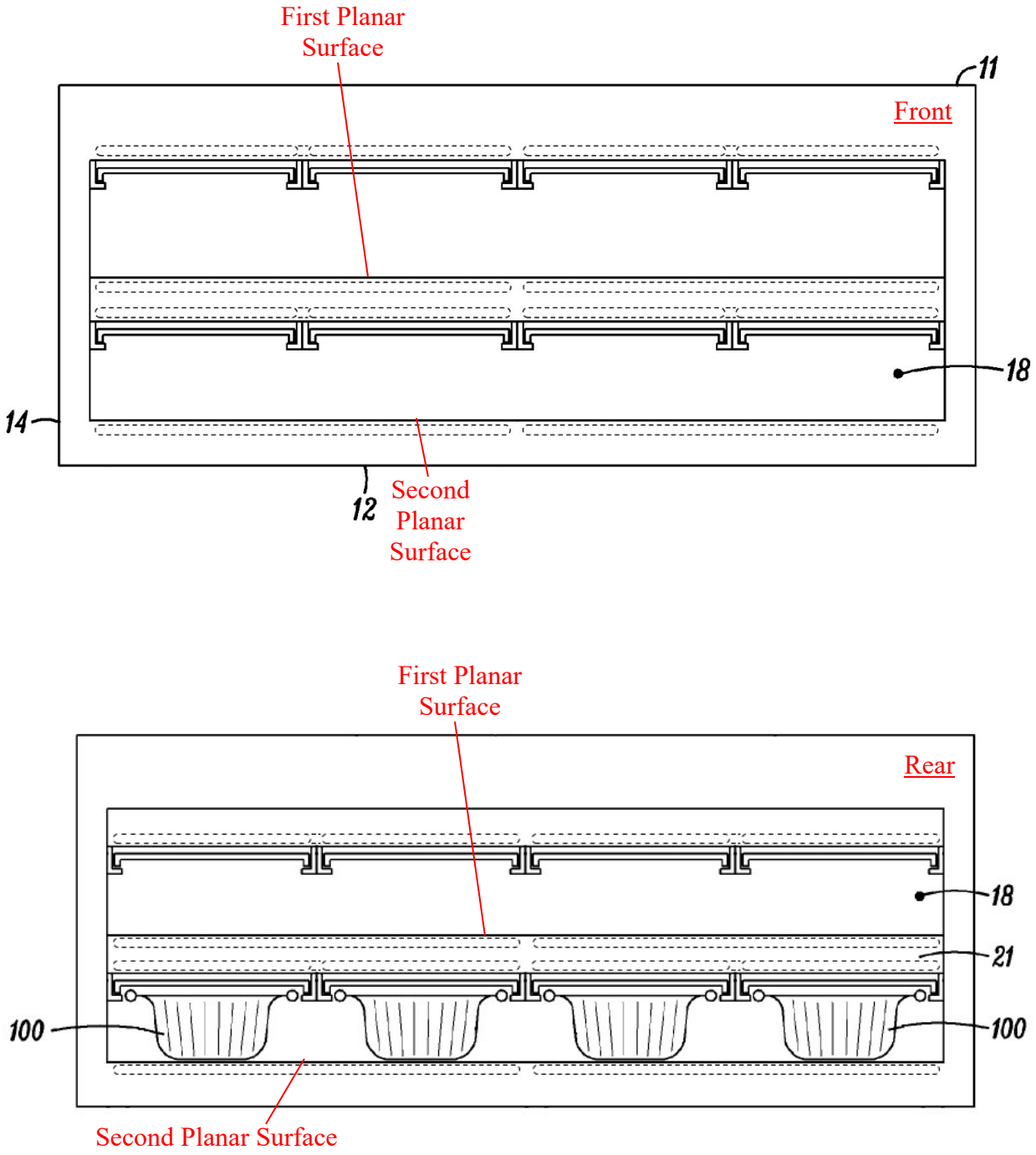


FIG. 1 *FIG. 6*

EX1010: Figs. 1 and 6 (annotated).



EX1010: Figs. 2 and 6 (modified, annotated).

965. Accordingly, the POSA would have found it obvious to combine the teachings and disclosures of Fortmann'748 the IRHS Documents, Jones, Stanger, Loy, Fortmann'197, Fortmann'967, McMillan, Vaseloff, Hartfelder, and/or Shei'099 to arrive at the food holding bin as claimed in Claim 20.

T. Claim 21: the food holding bin of claim 20, wherein at least one of the substantially planar surfaces is substantially free of any dividing walls or other structure between the first, second, third, and fourth food holding bays

966. As discussed above, the POSA would have found it obvious to modify the multi-zone food holding bin of Fortmann'748 in view of the teachings and disclosures of the IRHS Documents, Jones, Stanger, Loy, Fortmann'197, Fortmann'967, McMillan, Vaseloff, Hartfelder, and/or Shei'099 to arrive at the claimed food holding bin of Claim 1. The POSA would additionally recognize that the prior art discloses the additional limitation added in Claim 21 further requiring "at least one of the substantially planar surfaces is substantially free of any dividing walls or other structure between the first, second, third, and fourth food holding bays."

967. Both as disclosed in Fortmann'748 and as modified according to Paragraphs 570-738 (Ground 10, Section XIII(A)) above to specifically include first, second, third, and fourth food holding bays, the first surface is free of any dividing walls or other structures.

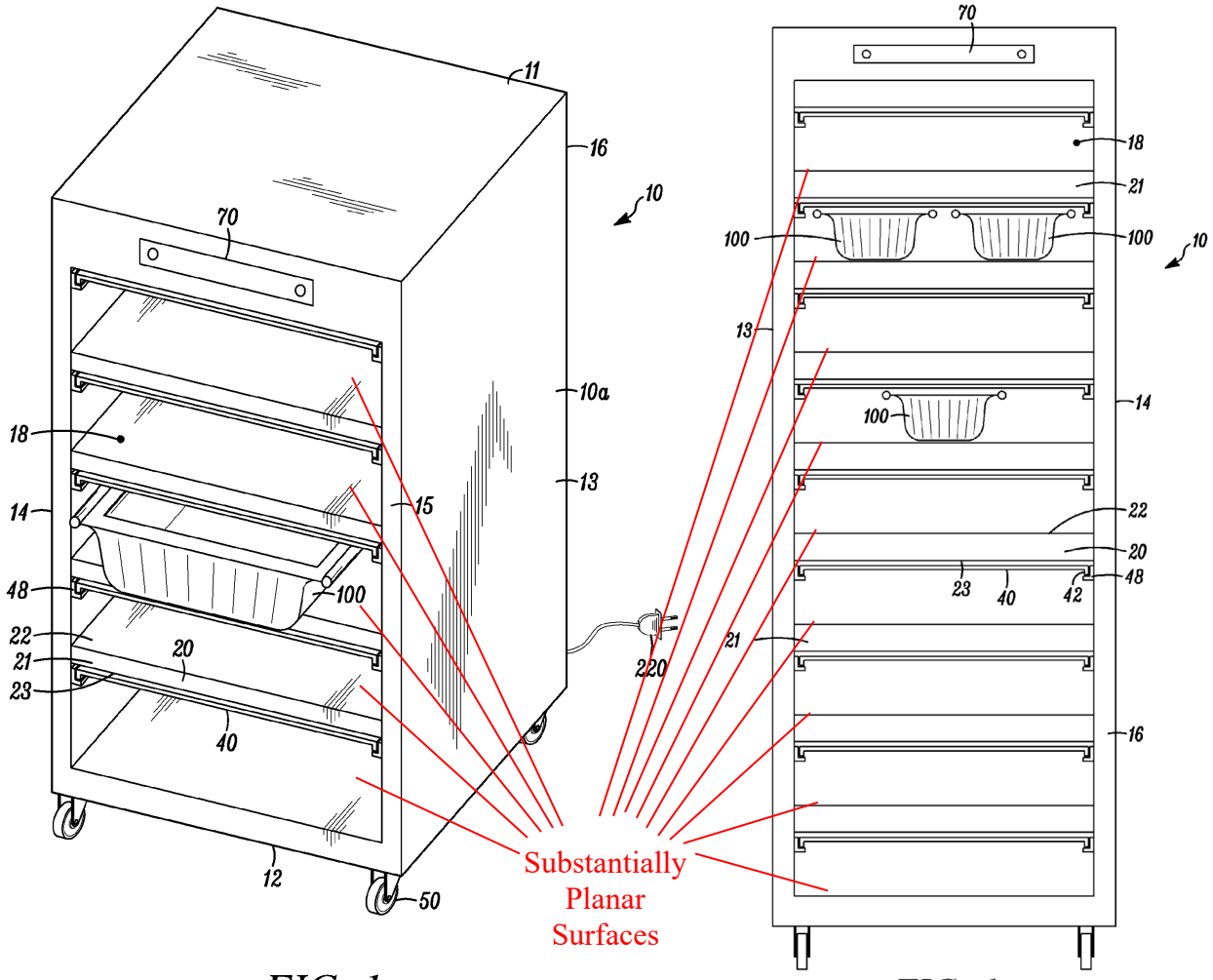
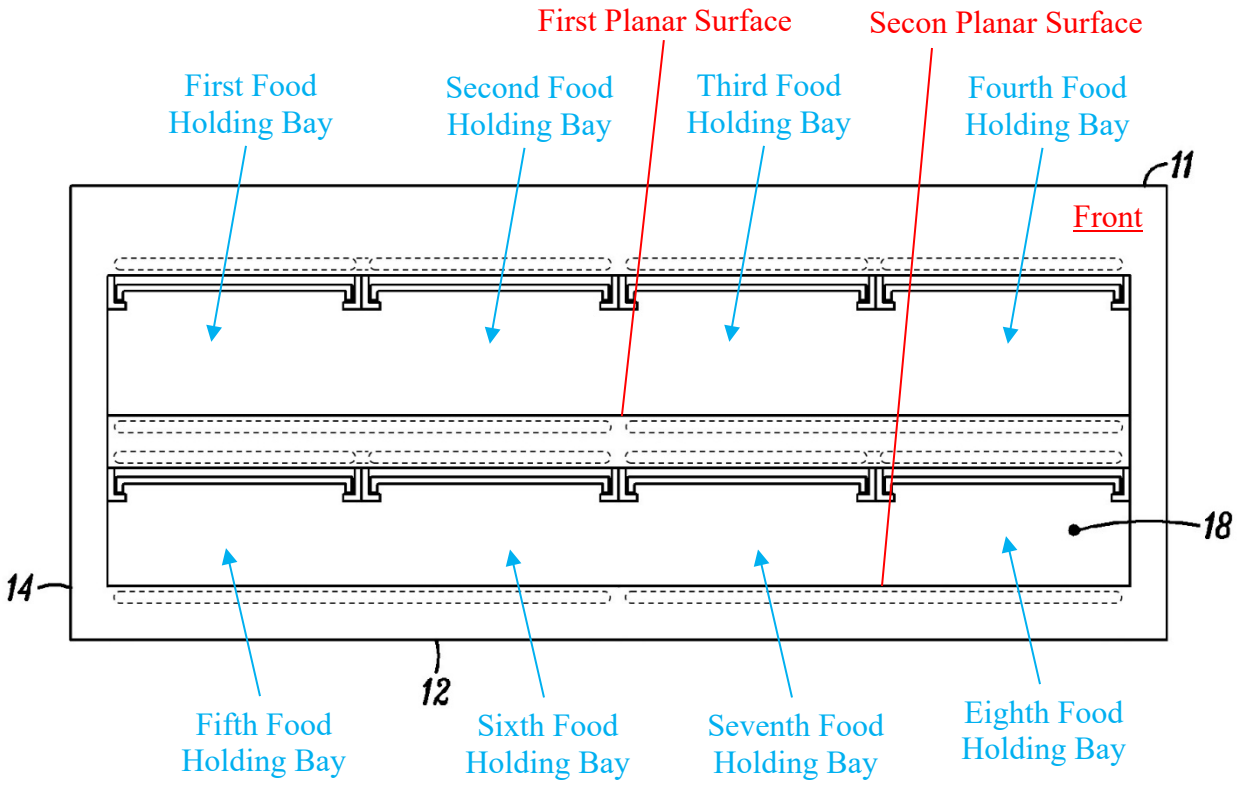
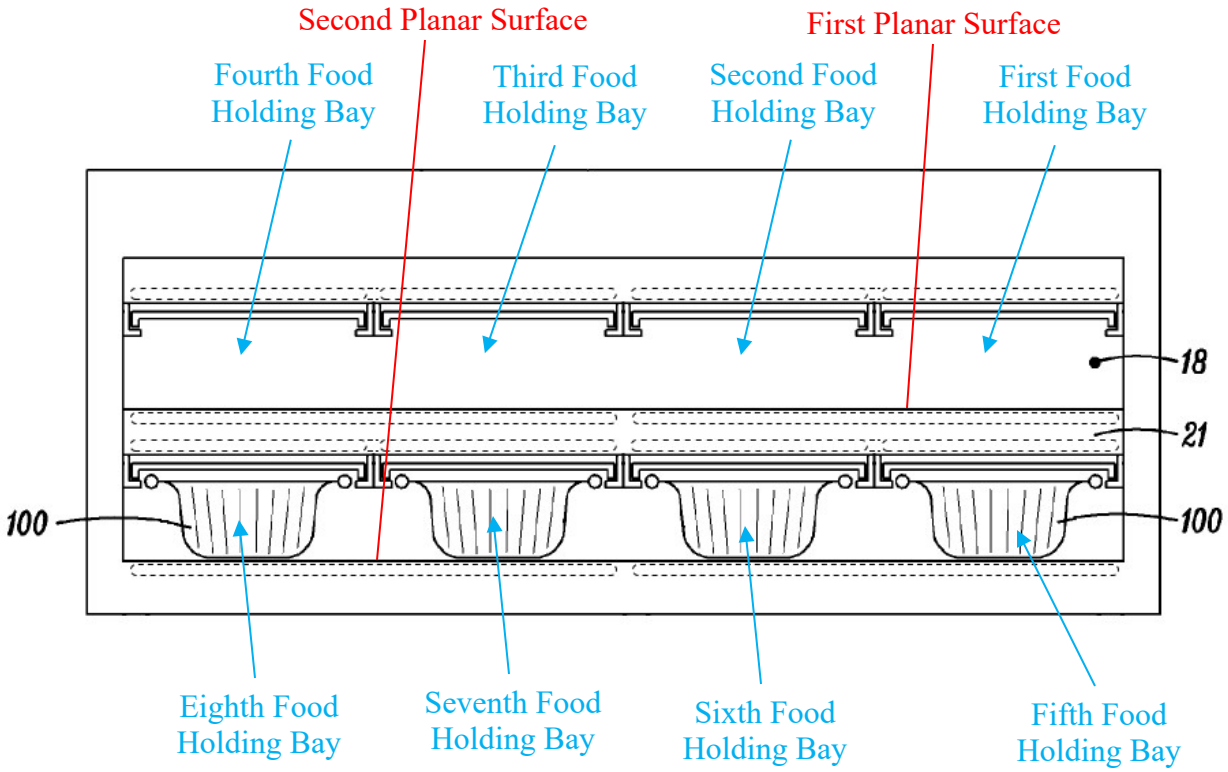


FIG. 1 FIG. 6

EX1010: Figs. 1 and 6 (annotated).


First Planar Surface
Secon Planar Surface
First Food Holding Bay
Second Food Holding Bay
Third Food Holding Bay
Fourth Food Holding Bay
11
Front
18
14
12
Fifth Food Holding Bay
Sixth Food Holding Bay
Seventh Food Holding Bay
Eighth Food Holding Bay



EX1010: Figs. 2 and 6 (modified, annotated).

968. Accordingly, the POSA would have found it obvious to combine the teachings and disclosures of Fortmann'748, the IRHS Documents, Jones, Stanger, Loy, Fortmann'197, Fortmann'967, McMillan, Vaseloff, Hartfelder, and/or Shei'099 to arrive at the food holding bin as claimed in Claim 21.

U. Claim 22: the food holding bin of claim 20, wherein at least one of the substantially planar surfaces is substantially free of any dividing walls or other structure between the fifth, sixth, seventh and eighth food holding bays

969. As discussed above, the POSA would have found it obvious to modify the multi-zone food holding bin of Fortmann'748 in view of the teachings and disclosures of the IRHS Documents, Jones, Stanger, Loy, Fortmann'197,

Fortmann'967, McMillan, Vaseloff, Hartfelder, and/or Shei'099 to arrive at the claimed food holding bin of Claim 20. The POSA would additionally recognize that the prior art discloses the additional limitation added in Claim 22 further requiring "the substantially planar surface[s] is substantially free of any dividing walls or other structure between the fifth, sixth, seventh and eighth food holding bays."

970. Both as disclosed in Fortmann'748 and as modified according to Paragraphs 570-738 (Ground 10, Section XIII(A)) above to specifically include fifth, sixth, seventh and eighth food holding bays, the second surface is free of any dividing walls or other structures.

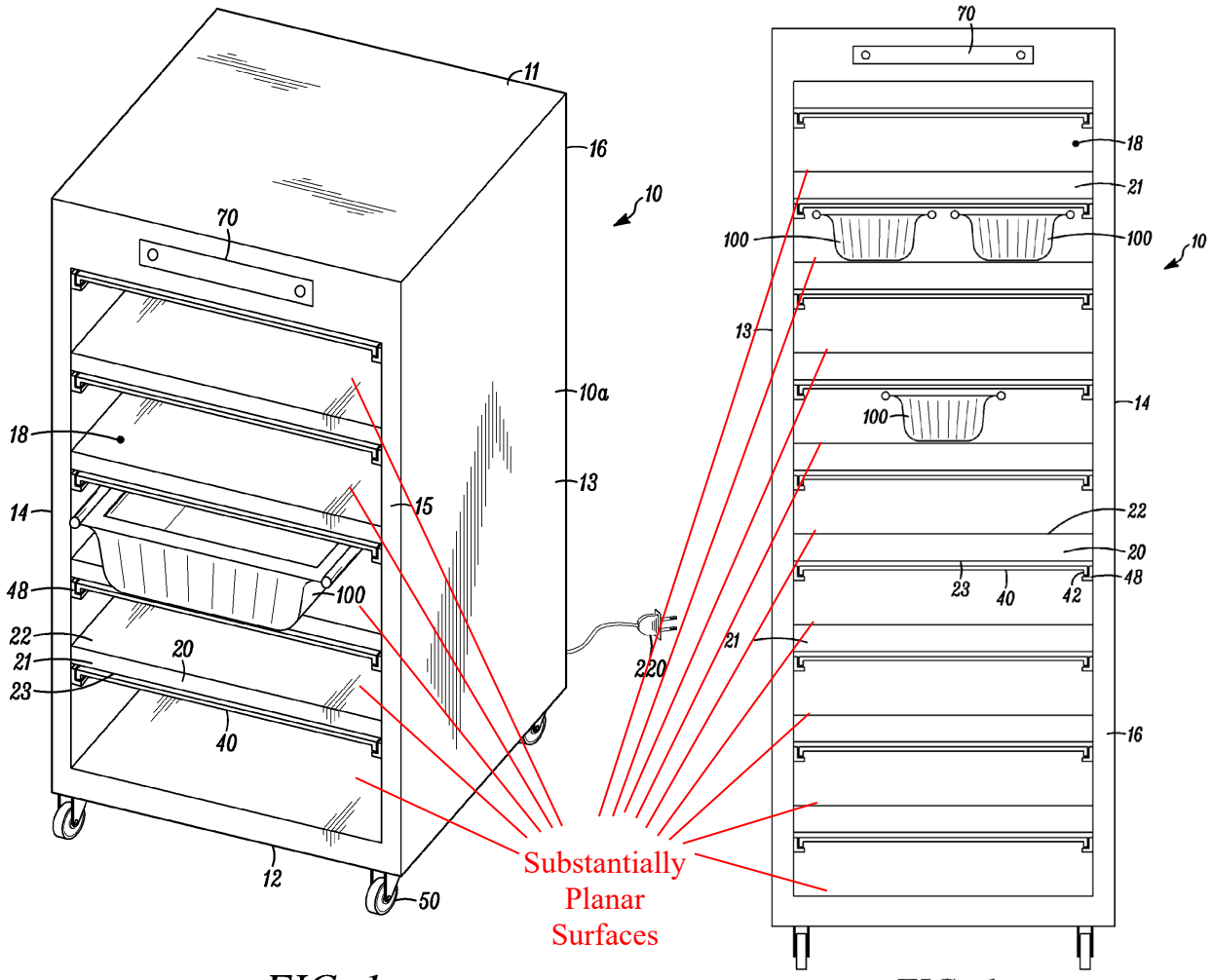
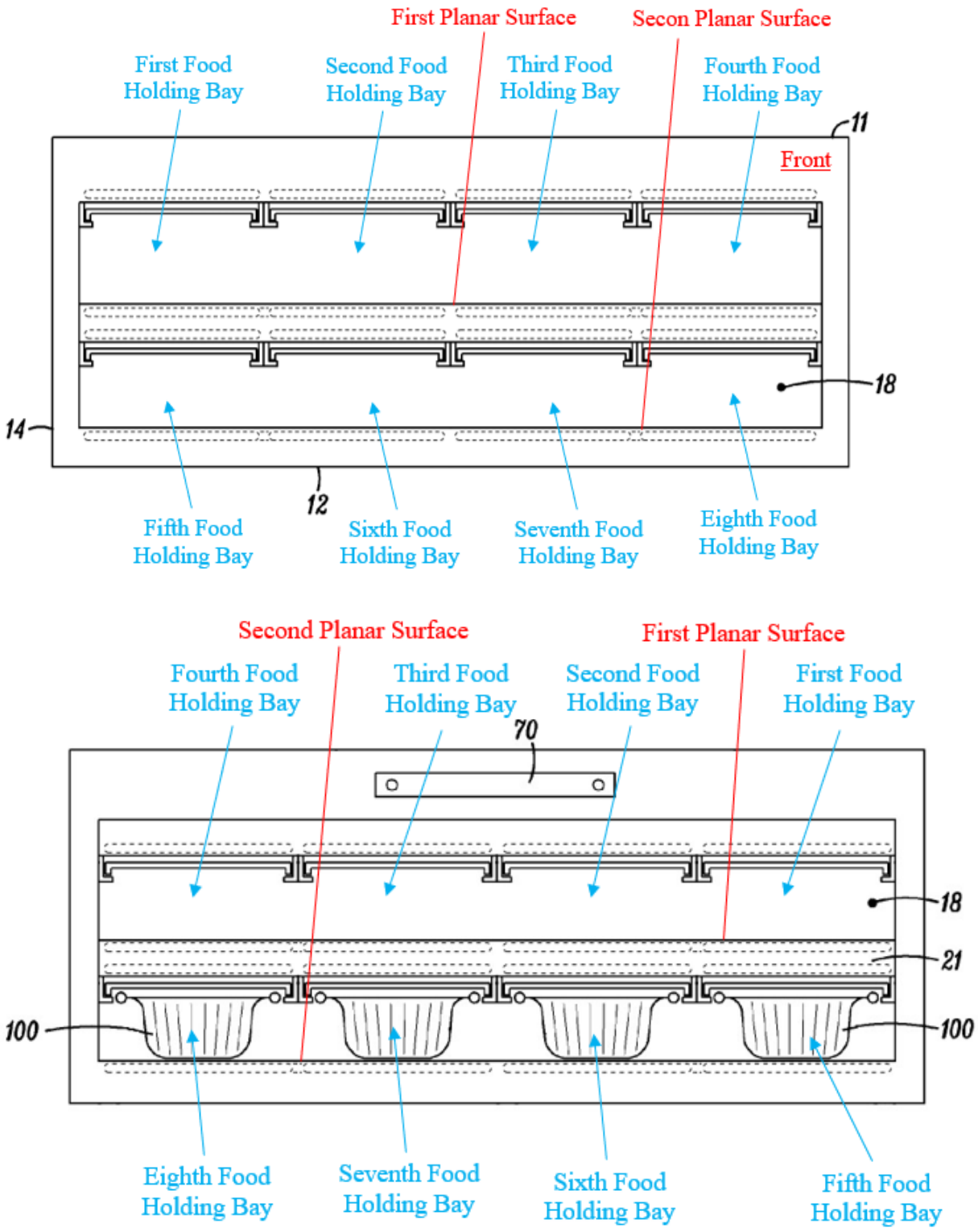


FIG. 1 *FIG. 6*

EX1010: Figs. 1 and 6 (annotated).



EX1010: Figs. 2 and 6 (modified, annotated).

971. Accordingly, the POSA would have found it obvious to combine the teachings and disclosures of Fortmann'748, the IRHS Documents, Jones, Stanger, Loy, Fortmann'197, Fortmann'967, McMillan, Vaseloff, Hartfelder, and/or Shei'099 to arrive at the food holding bin as claimed in Claim 22.

V. Claim 23: the food holding bin of claim 15, wherein each food holding bay further comprises a lid holding shelf elevated above the substantially planar bottom surface in the first food holding compartment and the second food holding compartment, each lid holding shelf being configured to receive and store a lid for the food holding tray

972. As discussed above, the POSA would have found it obvious to modify the multi-zone food holding bin of Fortmann'748 in view of the teachings and disclosures of the IRHS Documents, Jones, Stanger, Loy, Fortmann'197, Fortmann'967, McMillan, Vaseloff, Hartfelder, and/or Shei'099 to arrive at the claimed food holding bin of Claim 15. The POSA would additionally recognize that the prior art discloses the additional limitation added in Claim 23 further requiring "each food holding zone further comprise[] a lid holding shelf elevated above the substantially planar bottom surface in the first food holding compartment and the second food holding compartment, each lid holding shelf being configured to receive and store a lid for the food holding tray."

973. 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.

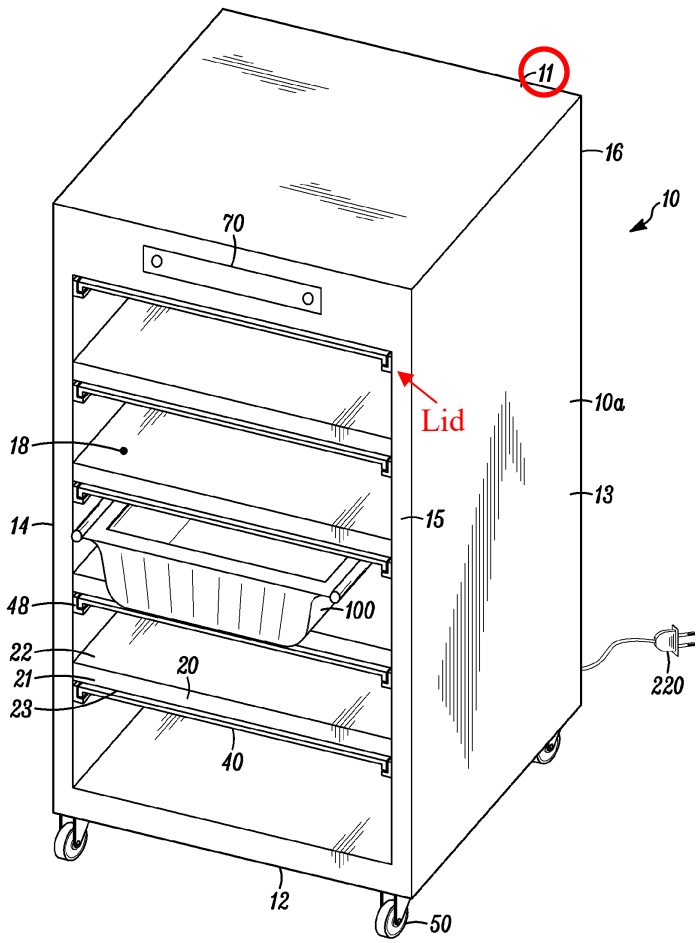


FIG. 1

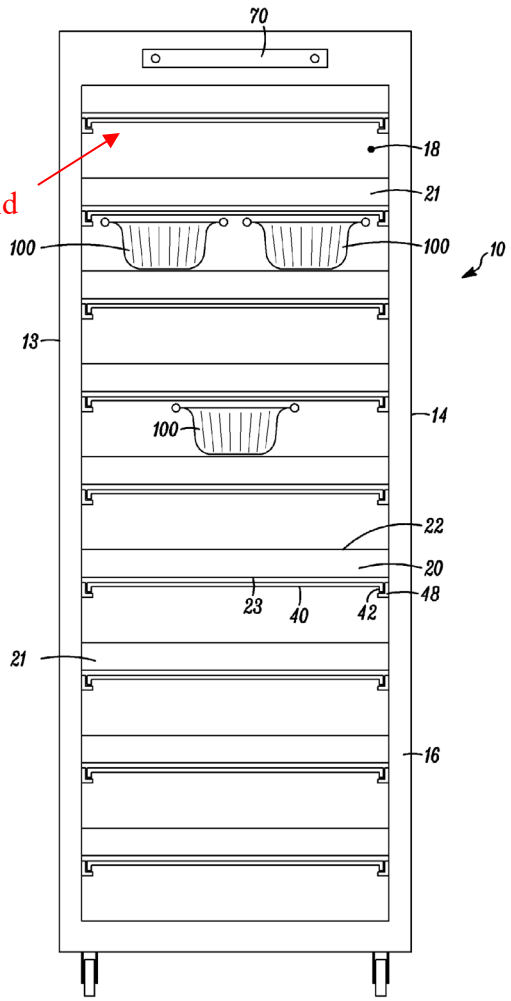


FIG. 6

EX1010: Figs. 1 and 6 (annotated).

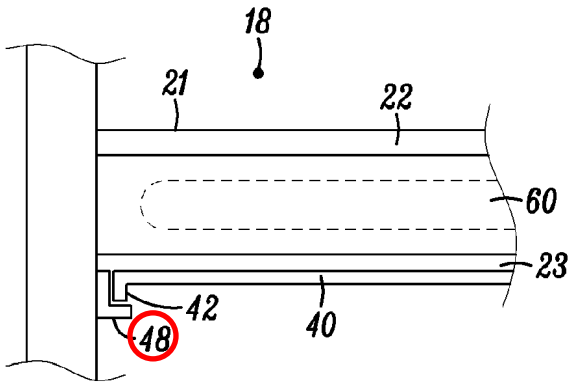
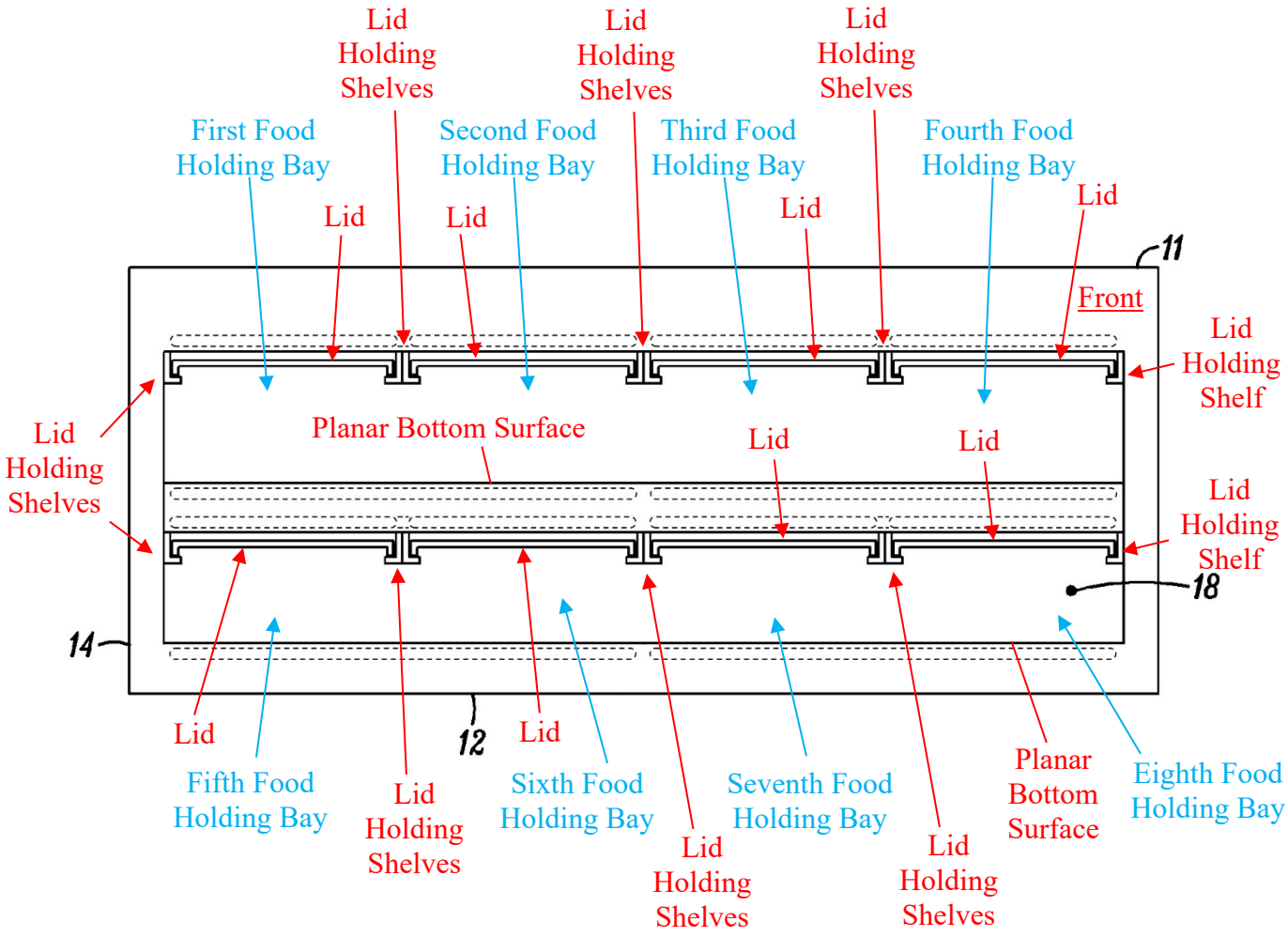


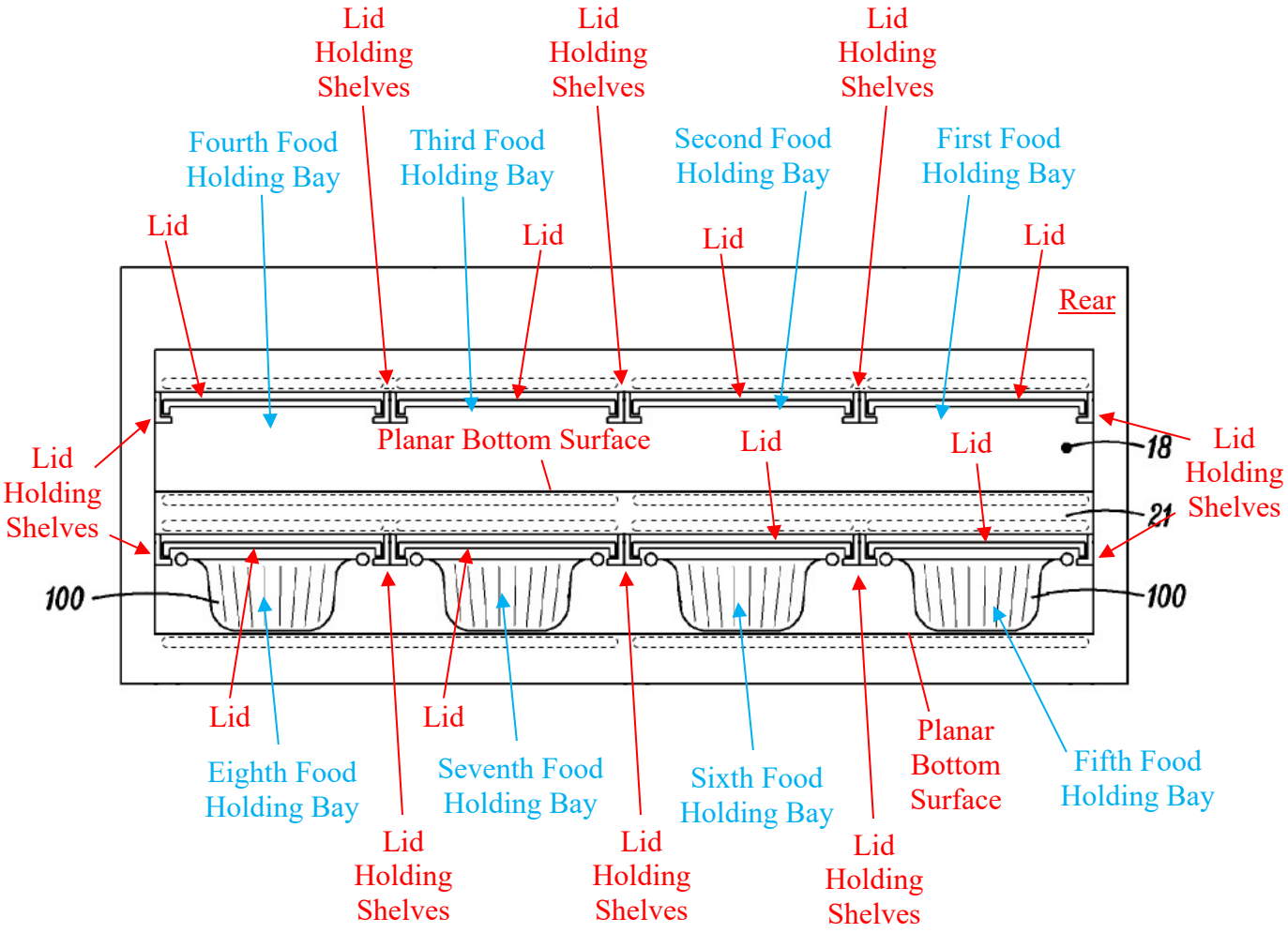
FIG. 3

EX1010: Fig. 3 (annotated).

974. These tracks (48) would be understood to be a lid holding shelf elevated above the substantially planar bottom surface and configured to receive and store a lid for the food holding tray in the context of the '363 Patent.

975. As explained in Paragraphs 707-727 above (Ground 10, Section XIII(A)(7)), it would have been obvious to modify the Fortmann'748 cabinet to have discrete lids for each pan holding location/bay, as taught by Jones, Fortmann'197, and/or 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. In modifying the Fortmann'748 cabinet to incorpate discrete lids, associated tracks (also taught by taught by Jones, Fortmann'197, and/or the IRHS Documents) would be necessary for each pan holding location/bay.


Lid Holding Shelves
Lid Holding Shelves
Lid Holding Shelves
First Food Holding Bay
Second Food Holding Bay
Third Food Holding Bay
Fourth Food Holding Bay
Lid
Lid
Lid
Lid
11
Front
Lid Holding Shelf
Lid Holding Shelves
Planar Bottom Surface
Lid
Lid
Lid Holding Shelf
18
14
12
Lid
Lid
Fifth Food Holding Bay
Lid Holding Shelves
Sixth Food Holding Bay
Seventh Food Holding Bay
Planar Bottom Surface
Eighth Food Holding Bay
Lid Holding Shelves
Lid Holding Shelves



EX1010: Figs. 2 and 6 (modified, annotated).

976. Therefore, each food holding pan holding location/bay would have tracks (lid holding shelves) elevated above the planar bottom surfaces of the compartments. Likewise, each track would be configured to receive and store a lid for a food pan. Accordingly, the POSA would have found it obvious to combine the teachings and disclosures of Fortmann'748, the IRHS Documents, Jones,

Stanger, Loy, Fortmann'197, Fortmann'967, McMillan, Vaseloff, Hartfelder, and/or Shei'099 to arrive at the food holding bin as claimed in Claim 23.

W. Claim 24: the food holding bin of claim 23, wherein a latch is disposed adjacent the first opening and is moveable between a locked position in which the latch prevents a lid from being removed from the lid holding shelf, and an unlocked position in which the latch allows removal of a lid from the lid holding shelf

977. As discussed above, the POSA would have found it obvious to modify the multi-zone food holding bin of Fortmann'748 in view of the teachings and disclosures of the IRHS Documents, Jones, Stanger, Loy, Fortmann'197, Fortmann'967, McMillan, Vaseloff, Hartfelder, and/or Shei'099 to arrive at the claimed food holding bin of Claim 23. The POSA would additionally recognize that the prior art discloses the additional limitation added in Claim 24 requiring "a latch [that] is disposed adjacent the first opening and is moveable between a locked position in which the latch prevents a lid from being removed from the lid holding shelf, and an unlocked position in which the latch allows removal of a lid from the lid holding shelf."

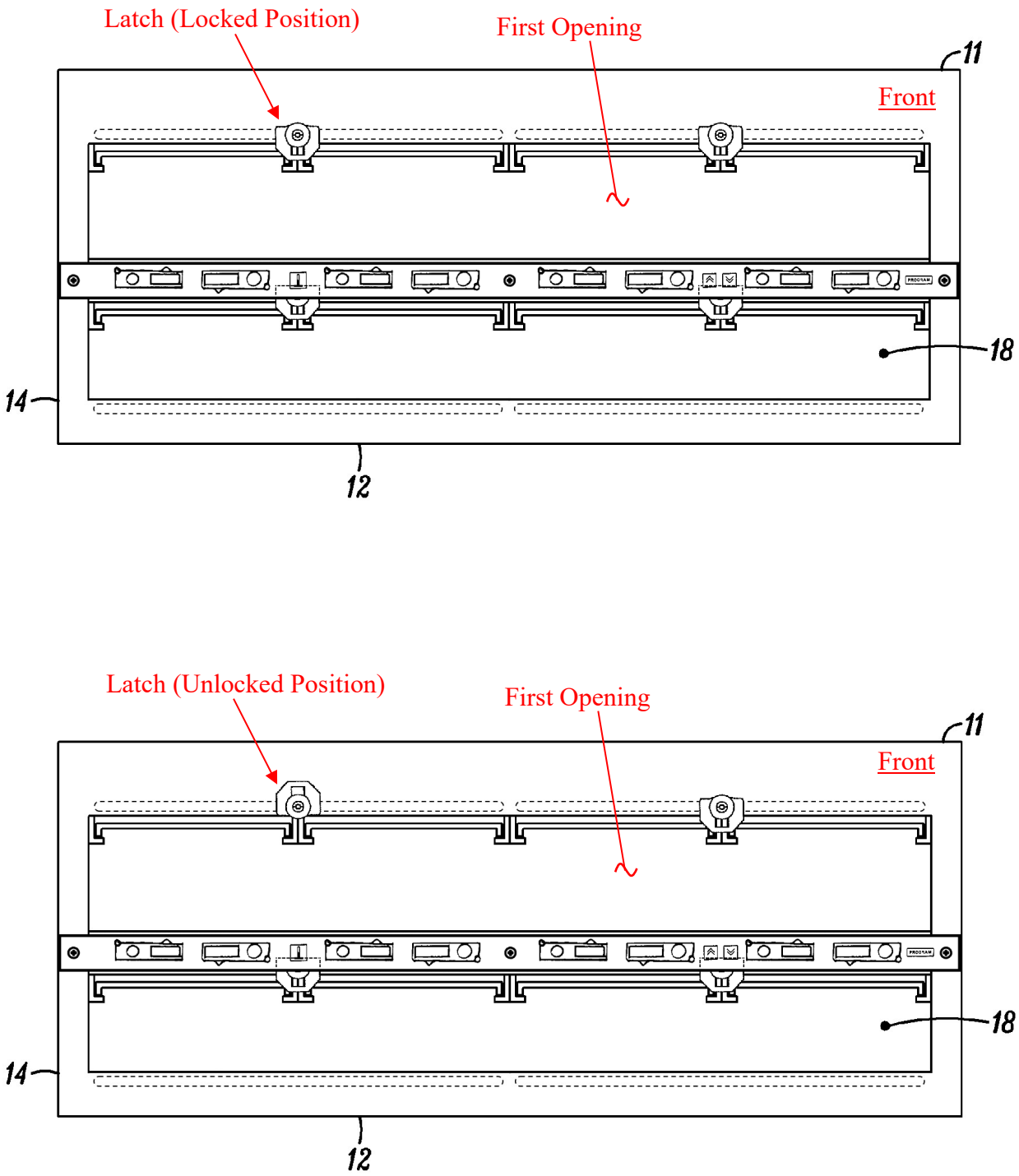
978. This claim is met for the reasons explained in Paragraphs 905-913 and 936-939 above with respect to Claims 6 and 12. As discussed in Paragraphs 728-738 and 936-939 above (Ground 10, Section XIII(A)(8) and Claim 12), it would have been obvious to modify Fortmann'748's cabinet to incorporate Hartfelder's

stop members (61) or Shei'099's stops (88) (*i.e.*, latches) adjacent the first opening.

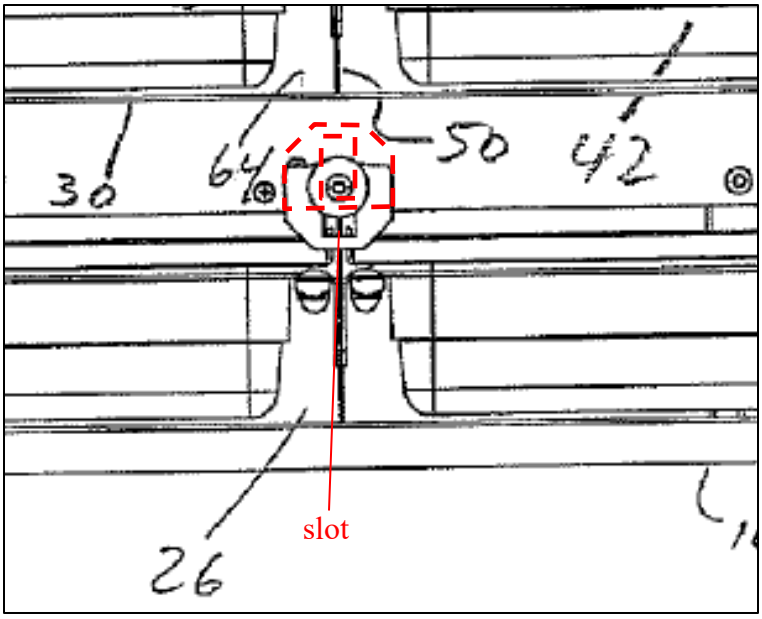
979. Both Hartfelder's stop members (61) and Shei'099's stops (88) (*i.e.*, latches) rotate between a locked position and unlocked position. EX1013: Fig. 2; EX1017: 6:9-32, Fig. 1; EX1016: ¶[0043], Fig. 1.

980. In the locked position, the latches would prevent 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").

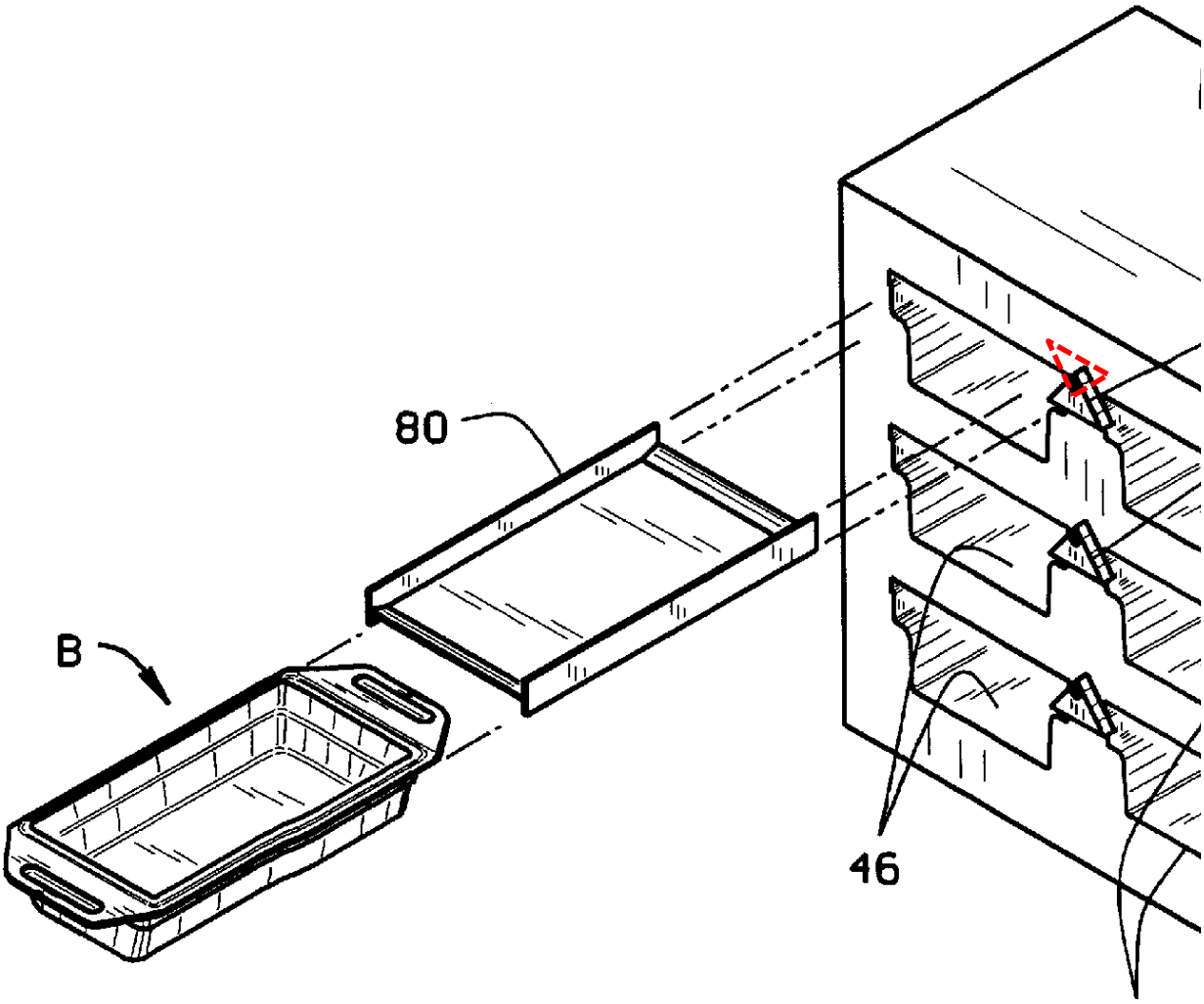
981. In the unlocked position, the latches are rotated (e.g., 45-degrees, 180-degrees (as annotated below)) to allow removal of the lid from the lid holding shelf. EX1013: Fig. 2; EX1017: 6:9-32 ("the stop 88 … is pivoted away from the opening 36 at that heat sink 46 so as to no longer block the opening 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).



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



EX1017: Fig. 1 (enlarged, annotated).

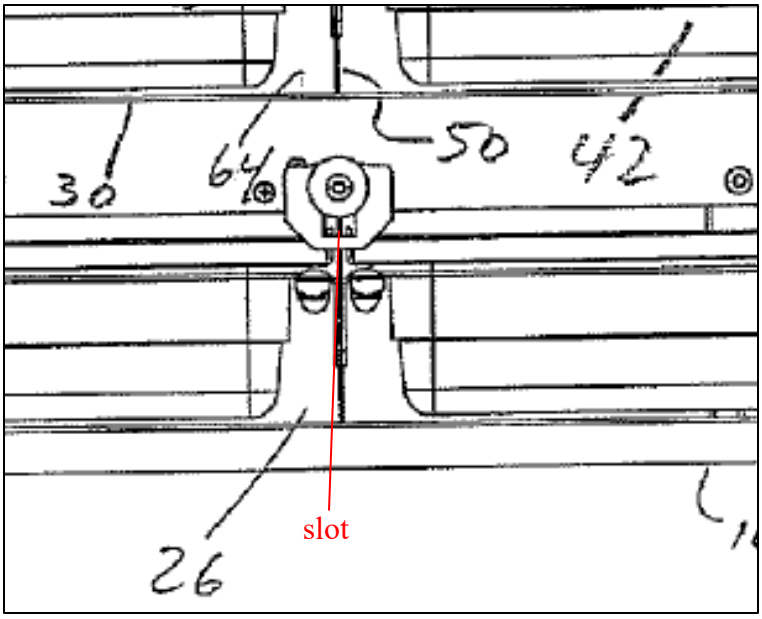
982. Accordingly, the POSA would have found it obvious to combine the teachings and disclosures of Fortmann'748, the IRHS Documents, Jones, Stanger, Loy, Fortmann'197, Fortmann'967, McMillan, Vaseloff, Hartfelder, and/or Shei'099 to arrive at the food holding bin as claimed in Claim 24.

X. Claim 25: the food holding bin of claim 24, wherein the latch is rotatable and is biased into the locked position by gravity.

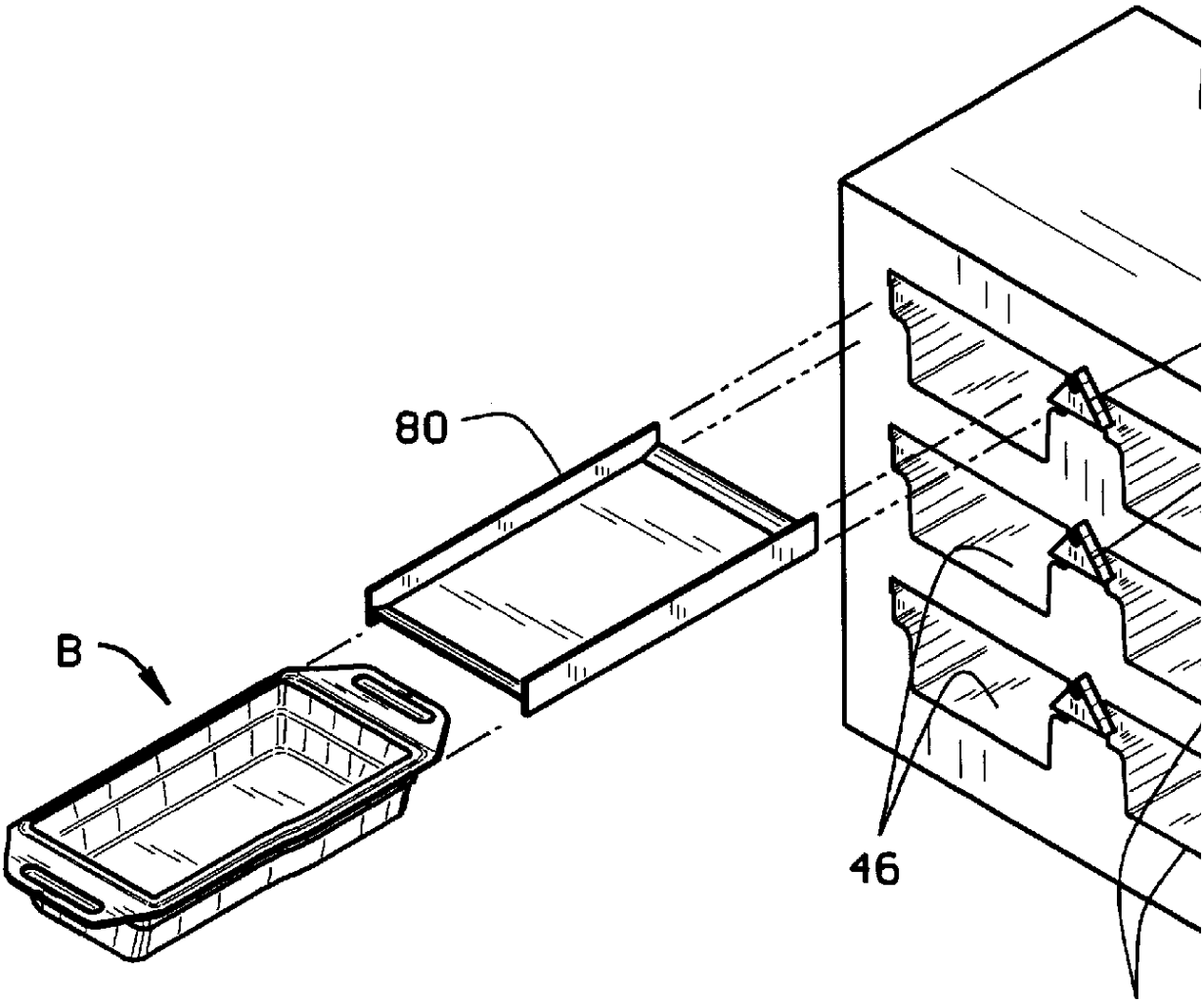
983. As discussed above, the POSA would have found it obvious to modify the multi-zone food holding bin of Fortmann'748 in view of the teachings and disclosures of the IRHS Documents, Jones, Stanger, Loy, Fortmann'197, Fortmann'967, McMillan, Vaseloff, Hartfelder, and/or Shei'099 to arrive at the claimed food holding bin of Claim 24. The POSA would additionally recognize that the prior art discloses the additional limitation added in Claim 25 requiring that the latch "is rotatable and is biased into the locked position by gravity."

984. As explained in Paragraphs 905-913 (Claim 6), Hartfelder's stop members (61) and Shei'099's stops (88) (*i.e.*, latches) are rotatable between a locked position and unlocked position. EX1013: Fig. 2; EX1017: 6:9-32, Fig. 1; EX1016: ¶[0043], Fig. 1.

985. For both Hartfelder's stop members (61) and Shei'099's stops (88), gravity would bias these latches into the locked position 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.



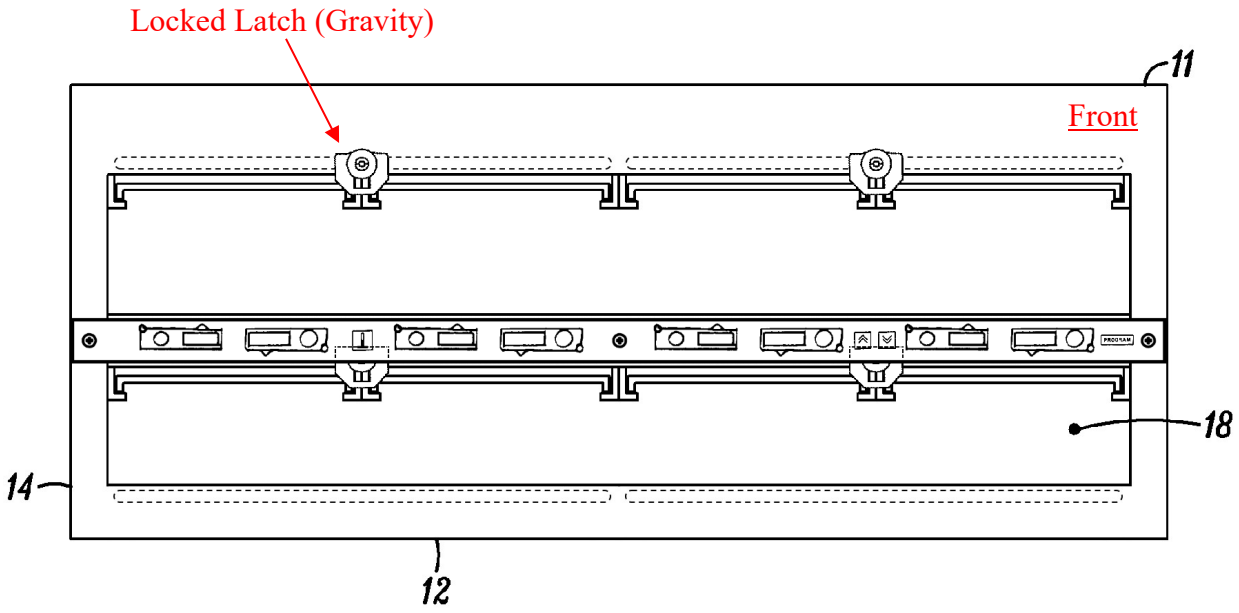
EX1013: Fig. 2 (enlarged, annotated).



EX1017: Fig. 1 (enlarged).

986. For Hartfelder's stop member (61) (latch), the slot results in the fastener being positioned adjacent the top of the stop member, resulting in most of the mass of the stop member (e.g., center of gravity) being below the fastener, thereby biasing the fastener into the locked position. The mass of the stop member (61) moves the stop member downward relative to the fastener, thereby positioning the fastener at the end of the slot. Similarly, the triangle shape of Shei'099's stop

(88) (latch), with the fastener being located at one of the triangle's vertices, results in most of the stop's mass (e.g., center of gravity) being disposed below the fastener (the center of gravity of the stop is spaced apart from the fastener). This arrangement biases the stop toward the locked position.



EX1010: Fig. 2 (modified, annotated

987. Accordingly, the POSA would have found it obvious to combine the teachings and disclosures of Fortmann'748, the IRHS Documents, Jones, Stanger, Loy, Fortmann'197, Fortmann'967, McMillan, Vaseloff, Hartfelder, and/or Shei'099 to arrive at the food holding bin as claimed in Claim 25.

Y. Claim 30: the food holding bin of claim 1, wherein each of the food holding zones are heated to different temperatures

988. As discussed above, the POSA would have found it obvious to modify the multi-zone food holding bin of Fortmann'748 in view of the teachings and disclosures of the IRHS Documents, Jones, Stanger, Loy, Fortmann'197, Fortmann'967, McMillan, Vaseloff, Hartfelder, and/or Shei'099 to arrive at the claimed food holding bin of Claim 1. The POSA would additionally recognize that the prior art discloses the additional limitation added in Claim 30 further requiring that "each of the food holding zones are heated to different temperatures."

989. Fortmann'748's heaters 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: ¶¶[0019], [0021], [0024].

990. As explained in Paragraphs 570-633 (Ground 10, Section XIII(A)(1)-(2)), the POSA would have found it obvious to incorporate multiple temperature zones per compartment as expressly taught by Jones (EX1012), Fortmann'197 (EX1014), the IRHS Documents (EX1005-1008), and McMillan (EX1019). According to this modification, Fortmann'748 cabinet could be adapted to have a 2X4 configuration in which each food holding zone would be independently controllable.

991. Also as explained in Paragraphs 634-650, 820-824, and 875-878 above (Ground 10, Section XIII(A)(3) and claim limitations 1.h.2 and 1.o), the POSA would have found it obvious to implement independently controllable upper and lower heaters for its zones as expressly taught by Jones (EX1012), Fortmann'197 (EX1014), the IRHS Documents (EX1005-1008), and McMillan (EX1019).

992. In modifying the Fortmann'748 cabinet to have upper and lower heating elements which are independently controllable from one another, Fortmann'748's controller would operate the heating elements of the respective food holding zones to heat the zones to different temperatures based on the different heat settings for different food types in the food holding zones. *See* Paragraphs 651-691 (Ground 10, Section XIII(A)(4)-(5)).

993. Jones (EX1012) 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").

994. 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: 4 ("[t]his new technology allows you to precisely control the environment in each pan, allowing customized settings for each food product"), 16 ("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"), 28 ("[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.

995. 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").

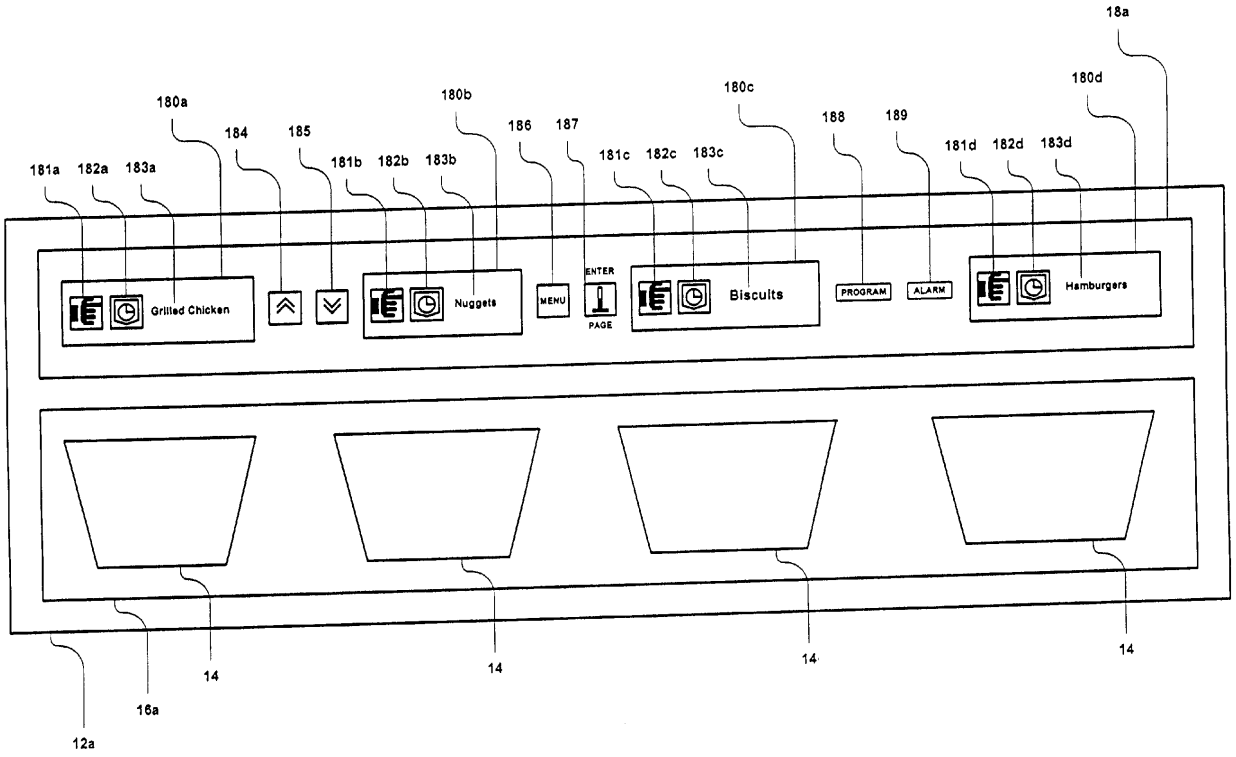


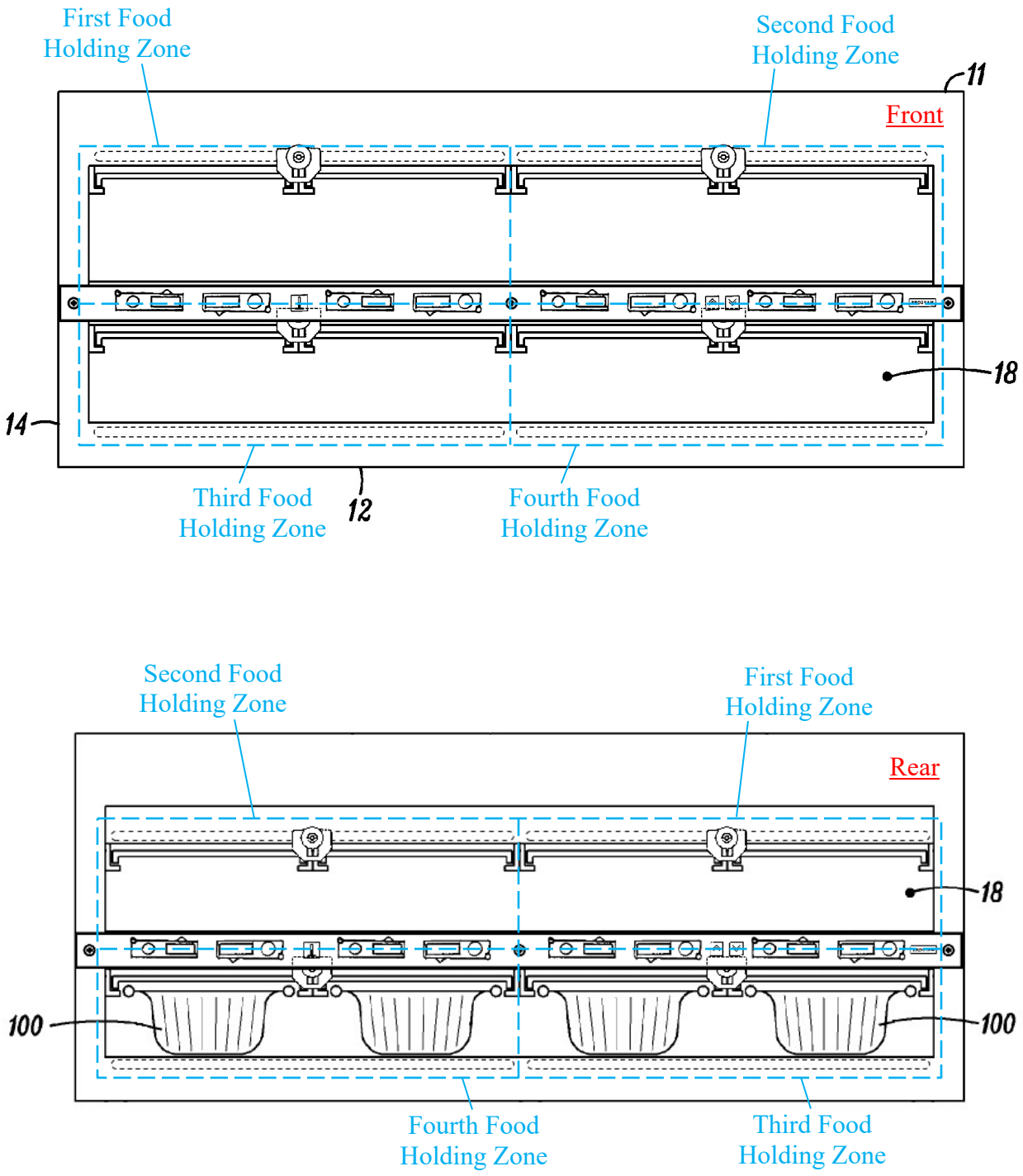
Fig. 5a

EX1019: Fig. 5a.

996. 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").

997. It would have been obvious, per Jones, Fortmann'748, the IRHS Documents, and/or McMillan, to heat the food holding zones to different temperatures 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"). A representation of the resulting modified cabinet of Fortmann'748 in a 2x4 configuration is demonstrated as follows:



EX1010: Figs. 2 and 6 (modified, annotated).

998. This would have been nothing more than the use of a known technique (heating zones to different temperatures 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).

999. As there would have been a high expectation of success modifying Fortmann'748 cabinet as discussed in Paragraphs 581-650 above (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].

1000. Accordingly, the POSA would have found it obvious to combine the teachings and disclosures of Fortmann'748, the IRHS Documents, Jones, Stanger, Loy, Fortmann'197, Fortmann'967, McMillan, Vaseloff, Hartfelder, and/or Shei'099 to arrive at the food holding bin as claimed in Claim 29.

Z. Claim 31: the food holding bin of claim 1, wherein two or more of the food holding zones are each heated to different temperatures

1001. As discussed above, the POSA would have found it obvious to modify the multi-zone food holding bin of Fortmann'748 in view of the teachings and disclosures of the IRHS Documents, Jones, Stanger, Loy, Fortmann'197, Fortmann'967, McMillan, Vaseloff, Hartfelder, and/or Shei'099 to arrive at the

claimed food holding bin of Claim 1. The POSA would additionally recognize that the prior art discloses the additional limitation added in Claim 31 further requiring that "wherein two or more of the food holding zones are each heated to different temperatures."

1002. Notably, the claims scope of Claim 31 is similar to that of Claim 30, except that rather than requiring each of the zones to be heated to different temperatures, Claim 31 only requires at least two of the food holding zones to be heated to different temperatures. This claim is met for the reasons explained in Paragraphs 988-1000 (Claim 30).

1003. Accordingly, the POSA would have found it obvious to combine the teachings and disclosures of Fortmann'748, the IRHS Documents, Jones, Stanger, Loy, Fortmann'197, Fortmann'967, McMillan, Vaseloff, Hartfelder, and/or Shei'099 to arrive at the food holding bin as claimed in Claim 31.

AA. Claim 32: the food holding bin of claim 1, wherein two or more of the food holding zones are each heated to the same temperature

1004. As discussed above, the POSA would have found it obvious to modify the multi-zone food holding bin of Fortmann'748 in view of the teachings and disclosures of the IRHS Documents, Jones, Stanger, Loy, Fortmann'197, Fortmann'967, McMillan, Vaseloff, Hartfelder, and/or Shei'099 to arrive at the claimed food holding bin of Claim 1. The POSA would additionally recognize that the prior art discloses the additional limitation added in Claim 32 further requiring

that "two or more of the food holding zones are each heated to the same temperature."

1005. As explained in Paragraphs 988-1000 above with respect to Claim 30, the POSA would have found it obvious to implement independently controllable upper and lower heaters for its zones as expressly taught by Jones (EX1012), Fortmann'197 (EX1014), the IRHS Documents (EX1005-1008), and McMillan (EX1019) and to operate the heating elements of the respective food holding zones to heat the zones to different temperatures based on the different heat settings for different food types in the food holding zones.

1006. Jones teaches customized temperature settings for each food type, and that the temperature in the tray locations (zones) can be the same 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 <u>same</u> Product Name***, … Heating system maintains Top and Bottom Preset Temps for Product Names").

1007. Vaseloff teaches heating different zones to the same temperatures. EX1026: 3:17-19 (“the user can also set one temperature for the food holding device 30 (i.e., all food holding compartments 34)”).

1008. Likewise, McMillan teaches heating different zones to the same temperatures. EX1019: 4:42-45 (“the top heater plate 27a and the bottom heater plate 27b may be set to maintain the passageway 16a at a constant uniform temperature”).

1009. Also, Fortmann’748 teaches heating different zones to the same temperatures. EX1010: ¶[0024] (“the heaters 60 (or heat zones) are specifically calibrated to generate a uniform temperature within the entire warming volume 18 of the cart”).

1010. In view of Jones, Vaseloff, McMillan, and Fortmann’748, it would have been obvious to heat the food holding zones to the same temperature to accommodate customized heat settings for the same types of food received in each holding zone (e.g., the first, second, third, and fourth holding zones receive the same food types or food types requiring the same heat settings) and/or to increase availability of that food to meet customer demands (two or more zones receive the same food type). 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: 4:42-45 (“the top

heater plate 27a and the bottom heater plate 27b may be set to maintain the passageway 16a at a constant uniform temperature"); EX1010: ¶[0024] ("the heaters 60 (or heat zones) are specifically calibrated to generate a uniform temperature within the entire warming volume 18 of the cart").

1011. This would have been nothing more than the use of a known technique (heating zones to same temperature per Jones, Fortmann'748, Vaseloff, and McMillan) to improve a similar device (Fortmann'748's cabinet) in the same way to operate the heaters of each zone to heat the zones to same temperature.

1012. There would have been a reasonable expectation of success as the heaters of the Fortmann'748 modified cabinet are independently controllable, therefore can be controlled to heat the zones to the same temperatures. See Paragraphs 581-650 (Ground 10, Section XIII(A)(2)-(3)).

1013. Accordingly, the POSA would have found it obvious to combine the teachings and disclosures of Fortmann'748, the IRHS Documents, Jones, Stanger, Loy, Fortmann'197, Fortmann'967, McMillan, Vaseloff, Hartfelder, and/or Shei'099 to arrive at the food holding bin as claimed in Claim 32.

BB. Claim 33

33.a.1: the food holding bin of claim 1, wherein the shelf comprises an upper thermally conductive plate disposed in the shelf and in thermal communication with the first side, a lower thermally conductive plate disposed in the shelf and in thermal communication with the second side

1014. As discussed above, the POSA would have found it obvious to modify the multi-zone food holding bin of Fortmann'748 in view of the teachings and disclosures of the IRHS Documents, Jones, Stanger, Loy, Fortmann'197, Fortmann'967, McMillan, Vaseloff, Hartfelder, and/or Shei'099 to arrive at the claimed food holding bin of Claim 1. The POSA would additionally recognize that the prior art discloses the limitation requiring that "the shelf comprises an upper thermally conductive plate disposed in the shelf and in thermal communication with the first side, a lower thermally conductive plate disposed in the shelf and in thermal communication with the second side."

1015. Fortmann'748's shelf (21) is made of two planar sheets or plates (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"). Fortmann'748 explains the sheets (22, 23) are made of "stainless steel," which is a thermally conductive material. EX1010: ¶[0019].

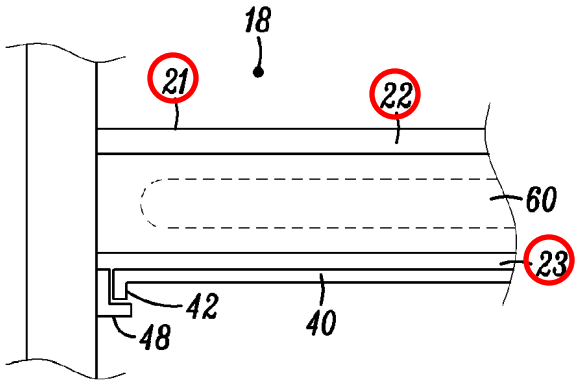


FIG. 3

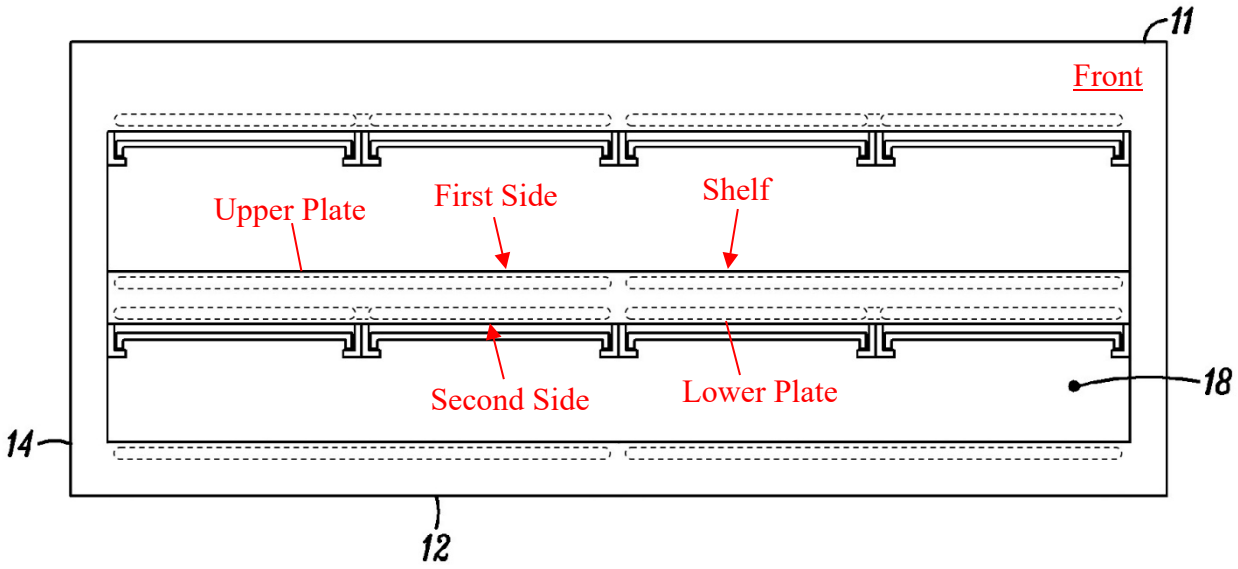
EX1010: Fig. 3 (annotated).

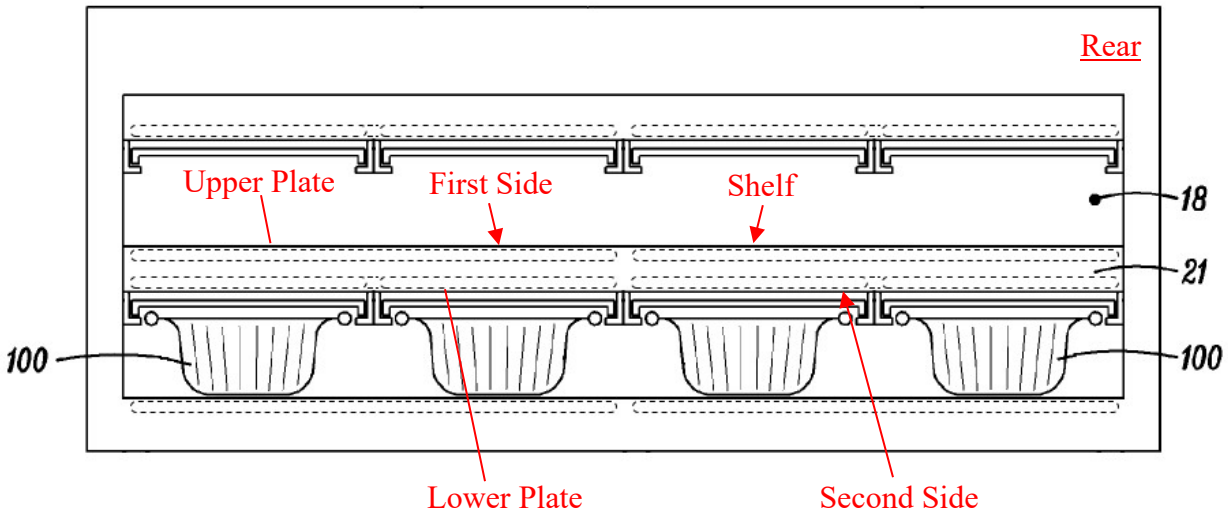
1016. The upper plate (22) forms the first side of the shelf and is thus in thermal communication with the first side. Likewise, the lower plate (23) forms the second side of the shelf and is thus in thermal communication with the second side.

1017. The upper and lower plates (22, 23) are between the first and second sides and thus disposed in the shelf in the context of the '363 Patent. For example, the '363 Patent describes its "upper thermally conductive plate, which forms the continuous planar bottom surface 53 of the first (or upper) food holding compartment 50" and its "lower thermally conductive plate, which forms a continuous planar upper surface 54" as being included within the shelf 52. *See e.g.*, EX1001: 7:54-59 ("the shelf 52 includes an upper thermally conductive plate, which forms the continuous planar bottom surface 53 of the first (or upper) food holding compartment 50 and a lower thermally conductive plate, which forms a

continuous planar upper surface 54 of the second (or lower) food holding compartment 50").

1018. Both as disclosed in Fortmann'748 and as modified according to Paragraphs 570-738 (Ground 10, Section XIII(A)) above, the shelf comprises an upper thermally conductive plate in thermal communication with the first side and a lower thermally conductive plate in thermal communication with the second side.





EX1010: Figs. 2 and 6 (modified, annotated).

33.a.2: a first set of independently controllable heating elements in thermal communication with the upper thermally conductive plate, and a second set of independently controllable heating elements in thermal communication with the lower thermally conductive plate

1019. Fortmann'748's heaters (60) 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 in thermal communication via conduction to 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").

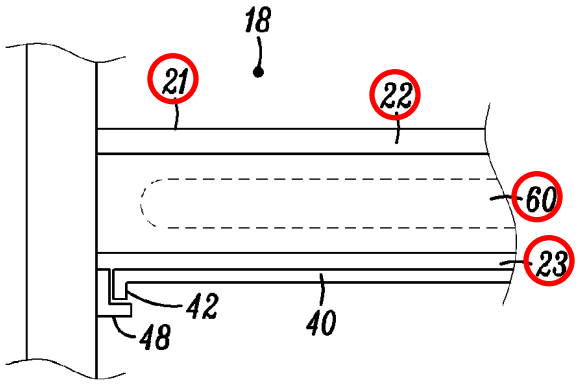
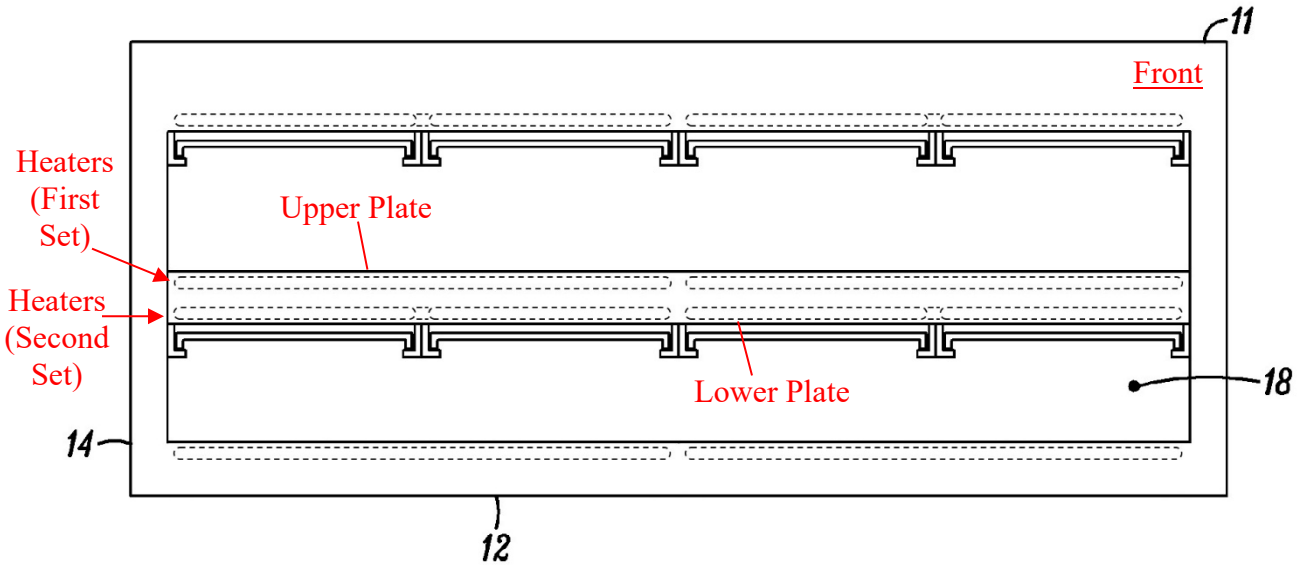


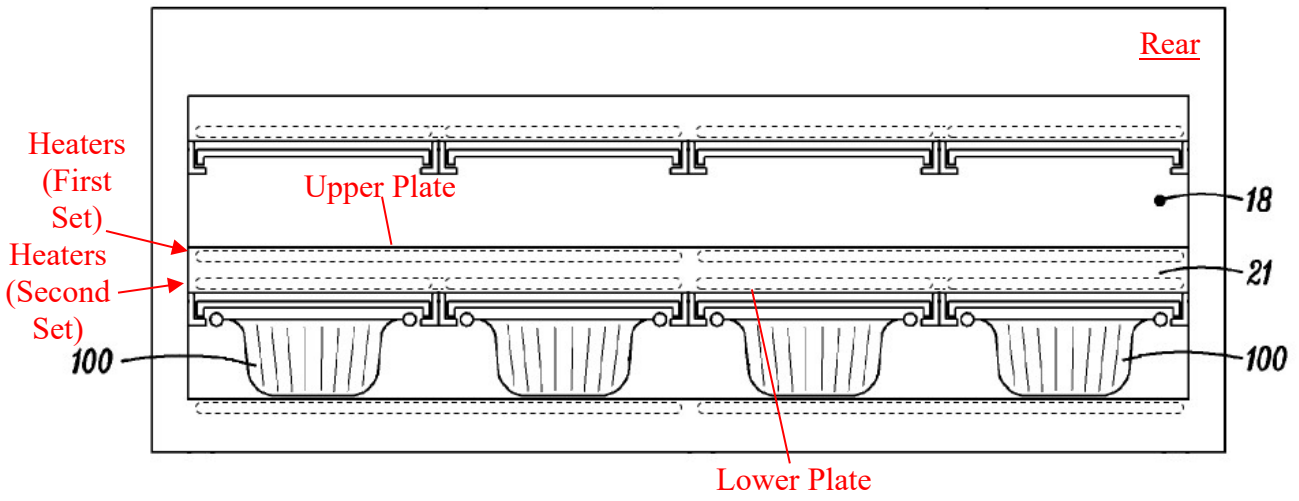
FIG. 3

EX1010: Fig. 3 (annotated).

1020. When modifying the heaters (60) of Fortmann'748 to have independently controllable upper and lower heaters explained above in Paragraphs 581-633, 820-824, 834-837, 847-850, and 859-862 (Ground 10, Section XIII(A)(2) and claim limitations 1.h.2, 1.i.2, 1.k.2, and 1.l.2), the POSA would have followed the teachings of Fortmann'748 and have the lower heaters (which form the first set) in the shelf contact the upper sheet to be in conductive thermal communication with the upper sheet and the upper heaters (which form the second set) in the shelf contact the lower sheet to be in conductive thermal communication with the lower sheet. EX1010: ¶¶[0019]-[0020]. The upper and lower heaters are independently controllable for the reasons explained above in Paragraphs 820-824 (claim

limitation 1.h.2). A representation of the resulting modified cabinet of Fortmann'748 in a 2x4 configuration is demonstrated as follows:

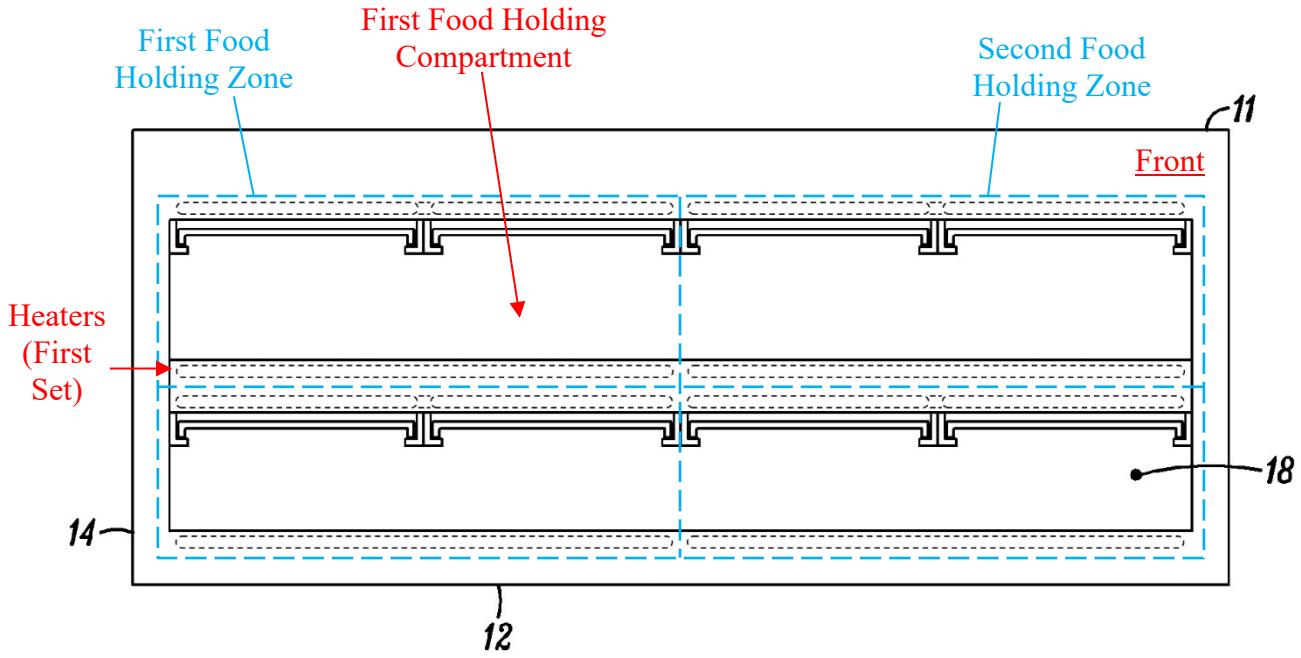


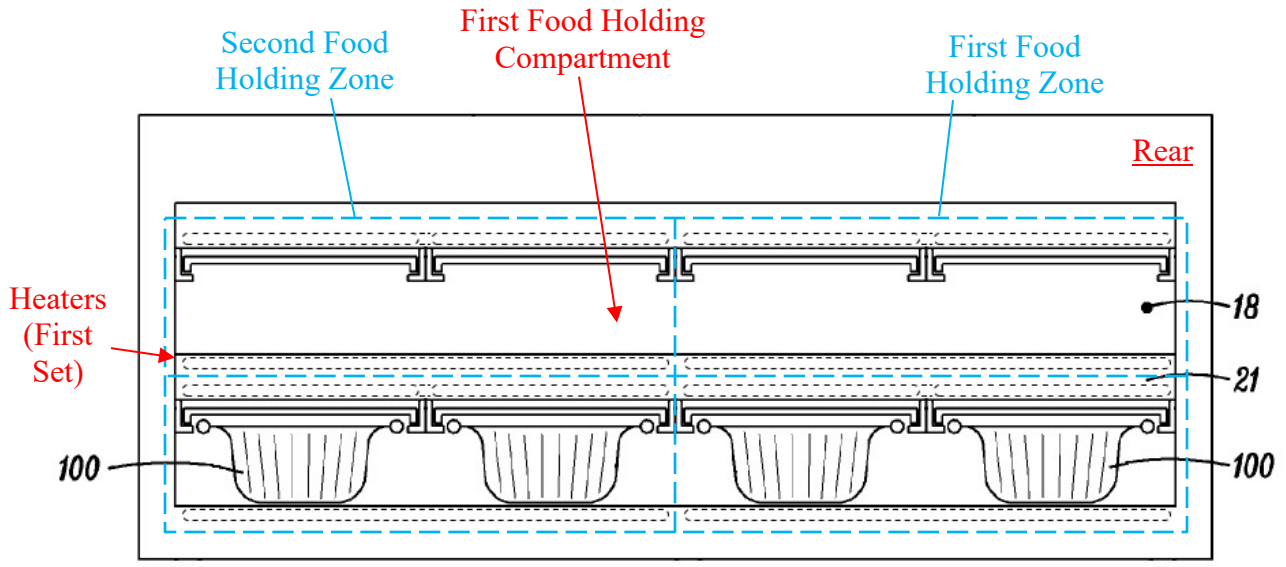


EX1010: Figs. 2 and 6 (modified, annotated).

33.b: wherein the first set of independently controllable heating elements are capable of providing different amounts of heat energy into the first and second food holding zones of the first food holding compartment

1021. As modified in Paragraphs 581-650, 820-824, and 875-878 above (Ground 10, Section XIII(A)(2)-(3) and claim limitations 1.h.2 and 1.o), the upper (first) compartment's lower heating elements (first set) would have been independently controllable from one another via Fortmann'748's controller. Thus, the upper compartment's lower heating elements would be capable of providing different amounts of heat energy into the first and second food holding zones to maintain the zones at different setpoint temperatures. *See also*, Paragraphs 988-1000 (Claim 30). Different setpoint temperatures corresponds to different amounts of heat energy. A representation of the modified cabinet of Fortmann'748 is demonstrated as follows:





EX1010: Figs. 2 and 6 (modified, annotated).

1022. Having the lower heating elements in the shelf output different amounts of heat energy would be a natural result of the first and second food holding zones receiving different kinds of food requiring different bottom temperatures.

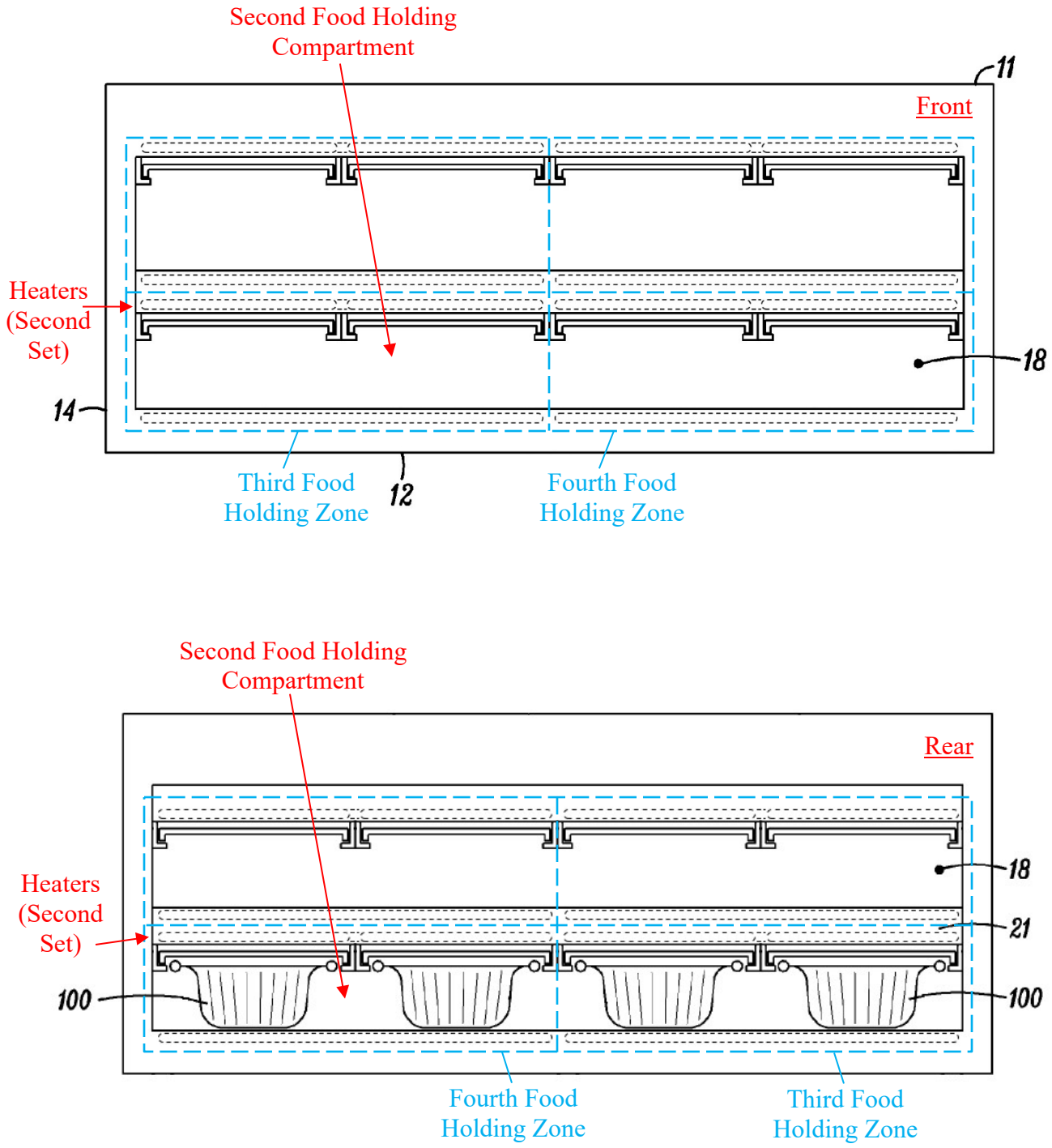
1023. Specifically, it would have been obvious, per Jones, Fortmann'748, the IRHS Documents, and/or McMillan to heat the food holding zones to different temperatures to accommodate customized heat settings for different types of food received in each holding zone (*e.g.*, the first, second, third, and 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").

1024. For example, if the first food holding zone receives pans of cooked eggs and the second food holding zone receives pans of bacon, the lower heating element in the first food holding zone would output less heat energy for warming eggs than the lower heating element in the second food holding zone for warming bacon. EX1028: 39 (teaching 180°F for eggs and 200°F for bacon).

33.c: wherein the second set of independently controllable heating elements are capable of providing different amounts of heat energy into the third and fourth food holding zones of the second food holding compartment

1025. As modified in Paragraphs 581-650, 820-824, and 875-878 above (Ground 10, Section XIII(A)(2)-(3) and claim limitations 1.h.2 and 1.o), the lower (second) compartment's upper heating elements (second set) would have been independently controllable from one another via Fortmann'748's controller. Thus, the lower compartment's upper heating elements would be capable of providing different amounts of heat energy into the third and fourth food holding zones to maintain the zones at different setpoint temperatures. *See also*, Paragraphs 988-1000 (Claim 30). A representation of the modified cabinet of Fortmann'748 is demonstrated as follows:



EX1010: Figs. 2 and 6 (modified, annotated).

1026. For the same reasons as discussed in Paragraphs 1021-1024 (claim limitation 33.b), having the upper heating elements in the shelf output different amounts of heat energy would be a natural result of the third and fourth food holding zones receiving different kinds of food requiring different upper temperatures.

1027. For example, if the third food holding zone receives pans of cooked eggs and the fourth food holding zone receives pans of bacon, the upper heaters in the third food holding zone would output less heat energy for warming eggs than the upper heaters in the fourth food holding zone for warming bacon. EX1007: 10; EX1028: 39 (teaching 160°F for eggs and 200°F for bacon).

1028. Accordingly, the POSA would have found it obvious to combine the teachings and disclosures of Fortmann'748, the IRHS Documents, Jones, Stanger, Loy, Fortmann'197, Fortmann'967, McMillan, Vaseloff, Hartfelder, and/or Shei'099 to arrive at the food holding bin as claimed in Claim 33.

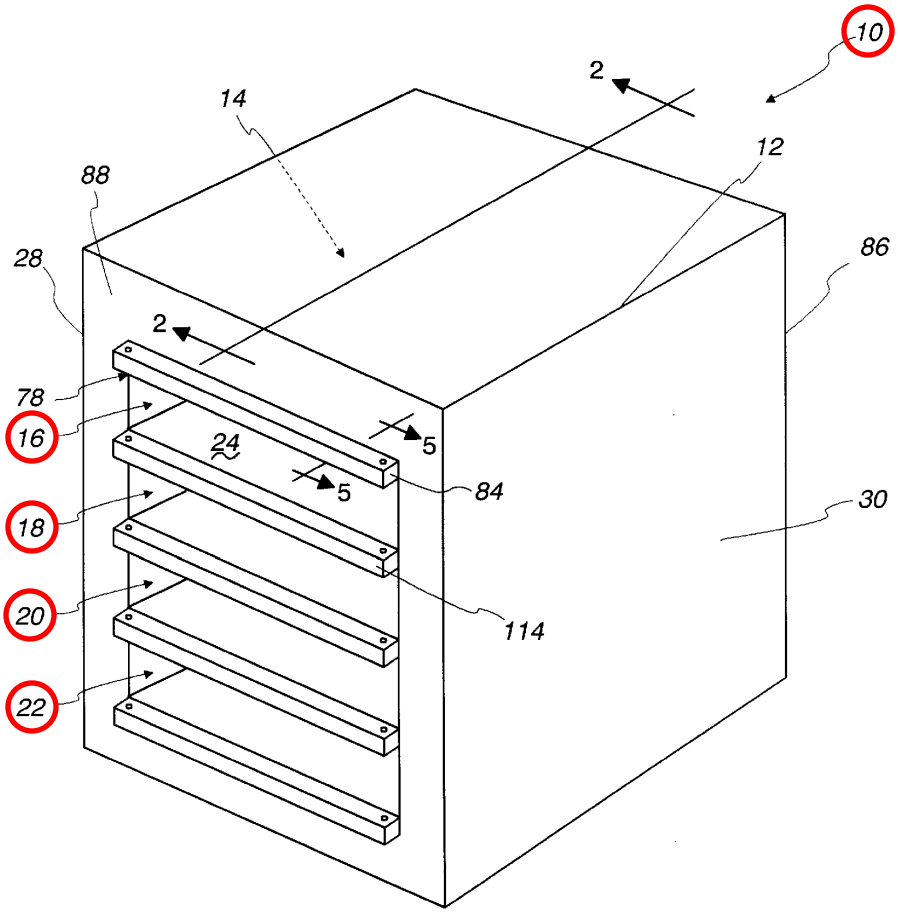
CC. Claim 34: the food holding bin of claim 33, wherein an insulating material is provided between the first and second sets of independently controllable heating elements

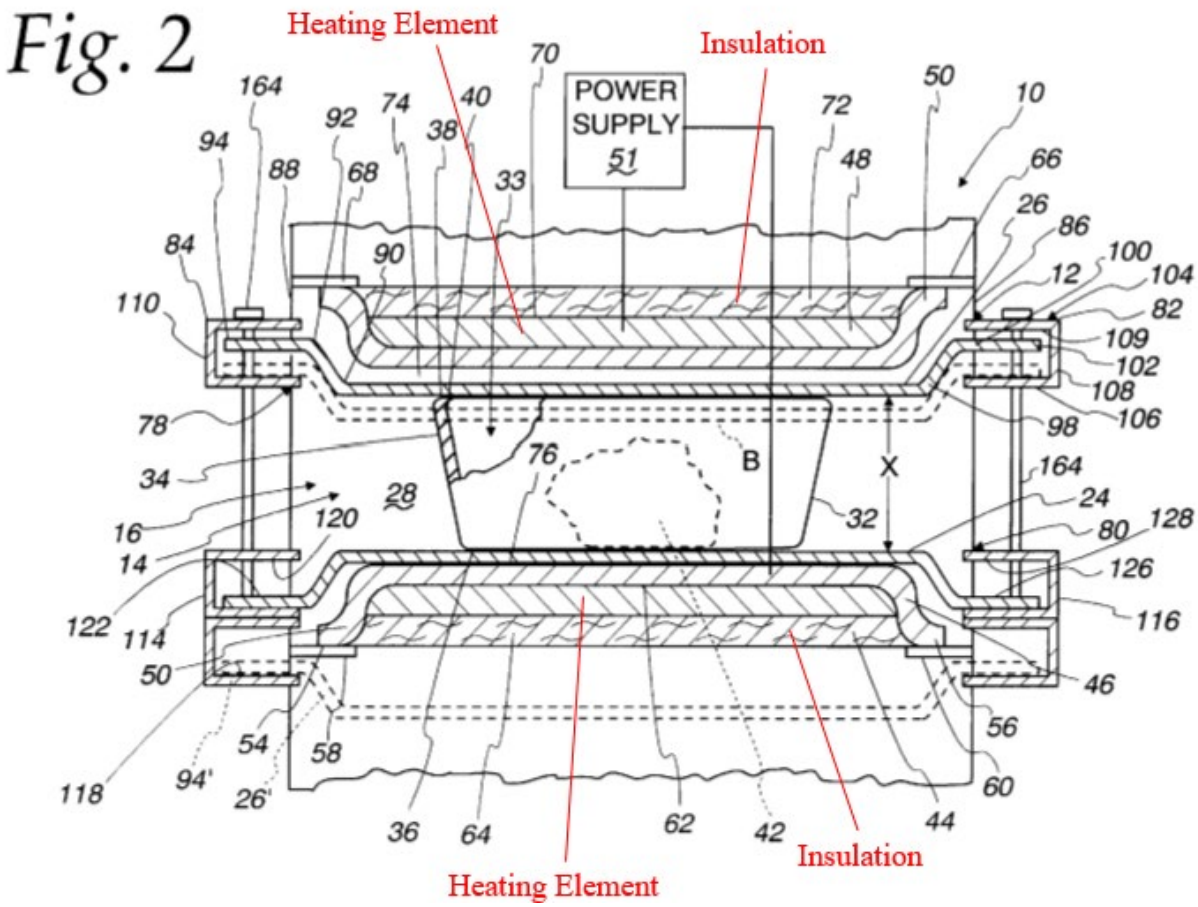
1029. As discussed above, the POSA would have found it obvious to modify the multi-zone food holding bin of Fortmann'748 in view of the teachings and disclosures of the IRHS Documents, Jones, Stanger, Loy, Fortmann'197, Fortmann'967, McMillan, Vaseloff, Hartfelder, and/or Shei'099 to arrive at the

claimed food holding bin of Claim 33. The POSA would additionally recognize that the prior art discloses the additional limitation added in Claim 34 further requiring that "insulating material is provided between the first and second sets of independently controllable heating elements."

1030. Similar to Fortmann'748, the system (10) of Fortmann'967 has a plurality of vertically stacked food treatment spaces (16, 18, 20, 22) that receive a receptacle or tray (32) of food. EX1018: 3:64-65, 4:4-11, Fig. 2. Each food treatment space (16, 18, 20, 22) of Fortmann'967 has two heaters (44, 48) which heat the top and bottom of the receptacle (32). EX1018: 4:22-26 ("a heater 44, which conducts heat through a heat sink 46 to the bottom wall 24, and a separate heater 48 which conducts heat through a heat sink 50 to the top wall 26"), Fig. 2.

Fig. 1





EX1018: Figs. 1 and 2 (annotated).

1031. Each heater (44, 48) is backed by insulation (64, 72), which directs the heat from the heaters into the food treatment space (16, 18, 20, 22). EX1018: 4:33-38 ("An insulation layer 64 fills the space 62 beneath the heater 44.… The heater 48 is nested in a space 70 defined by the heat sink 50 and covered by an insulation layer 72."), Fig. 2.

1032. Similarly, 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.

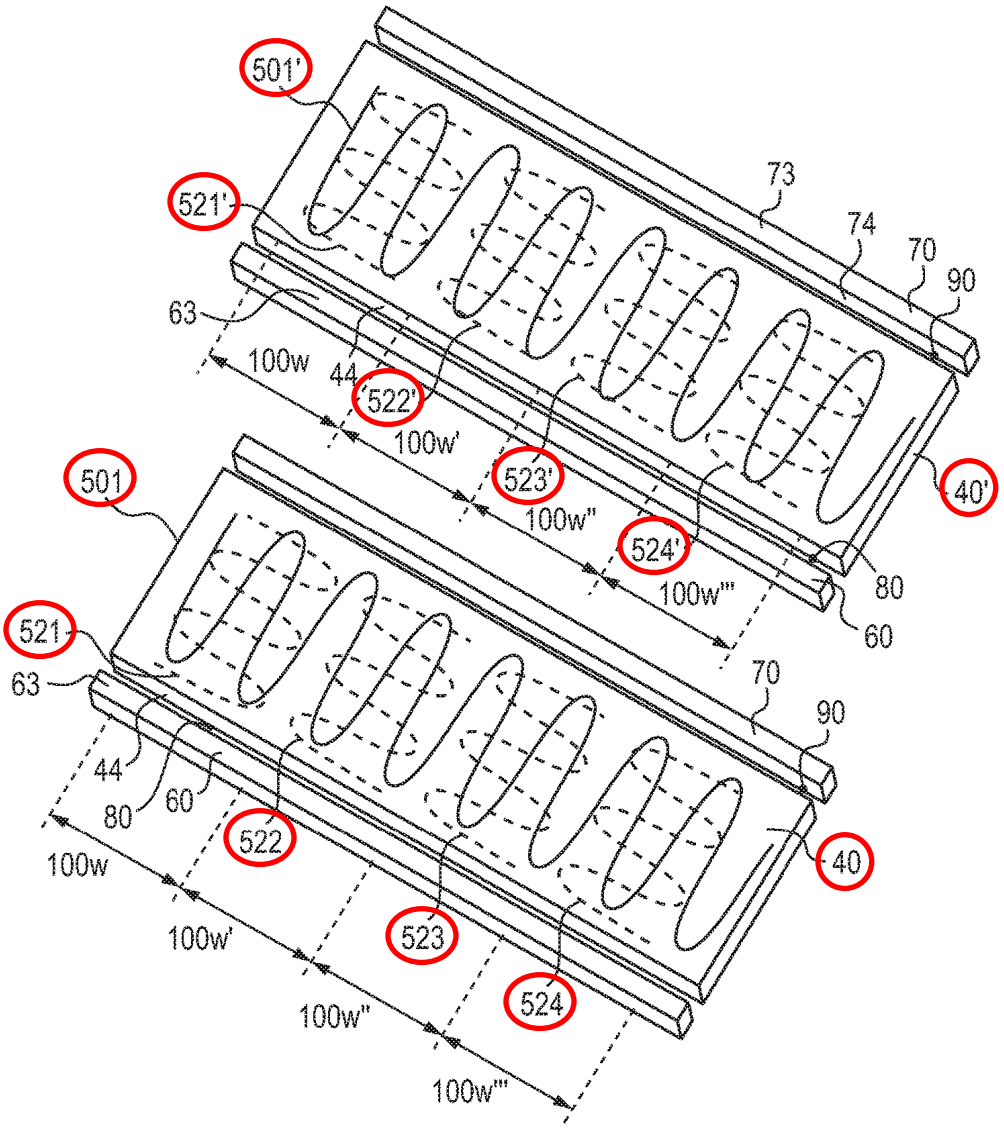
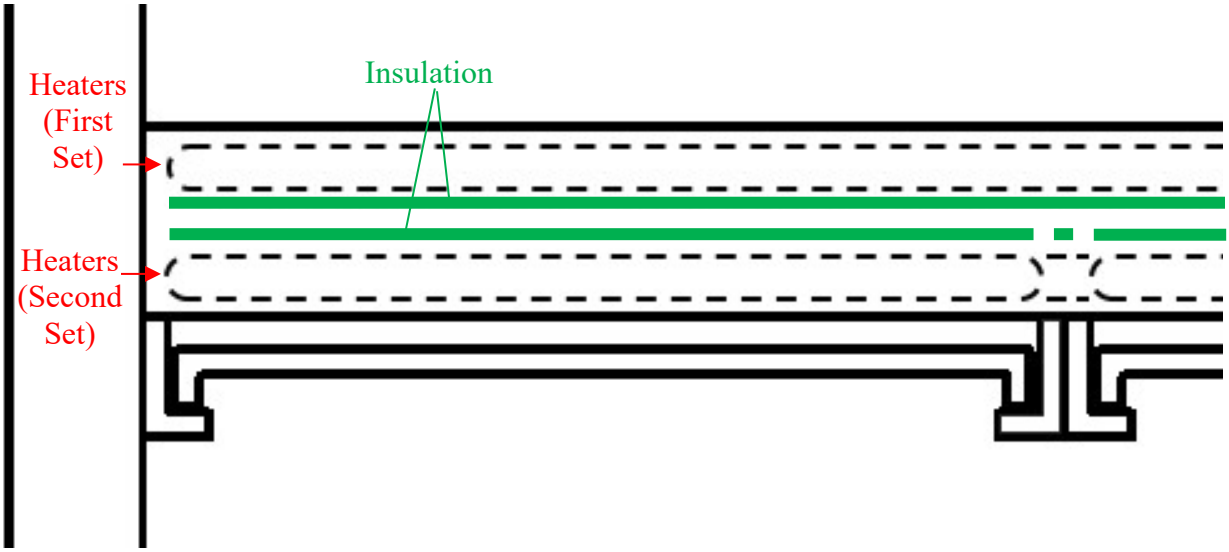


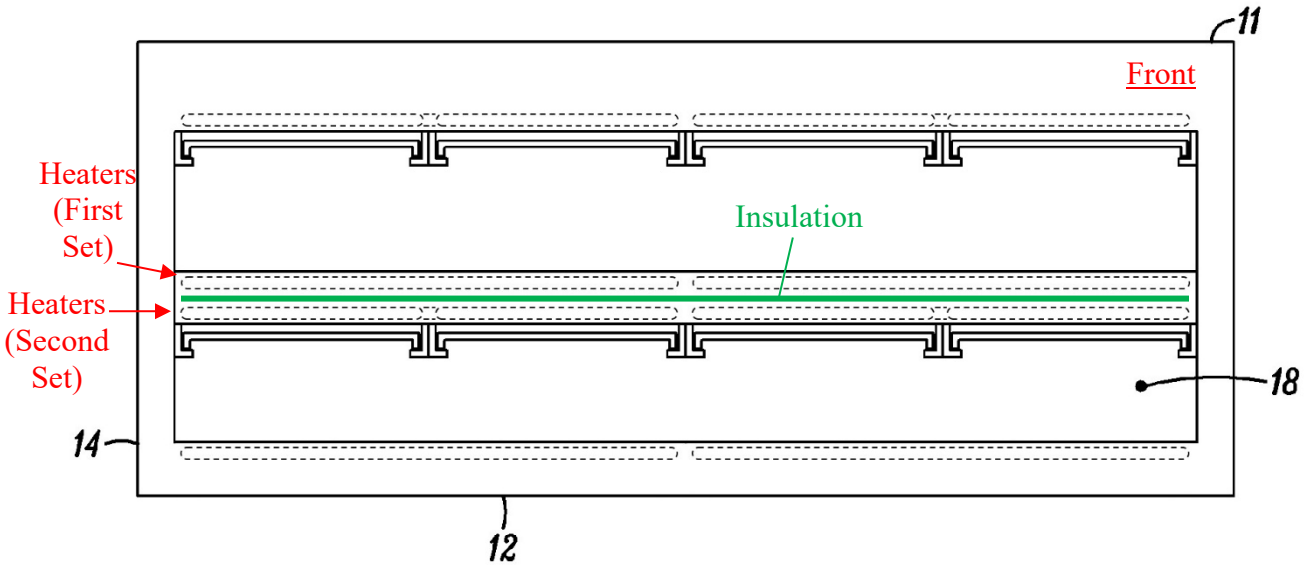
FIG. 10

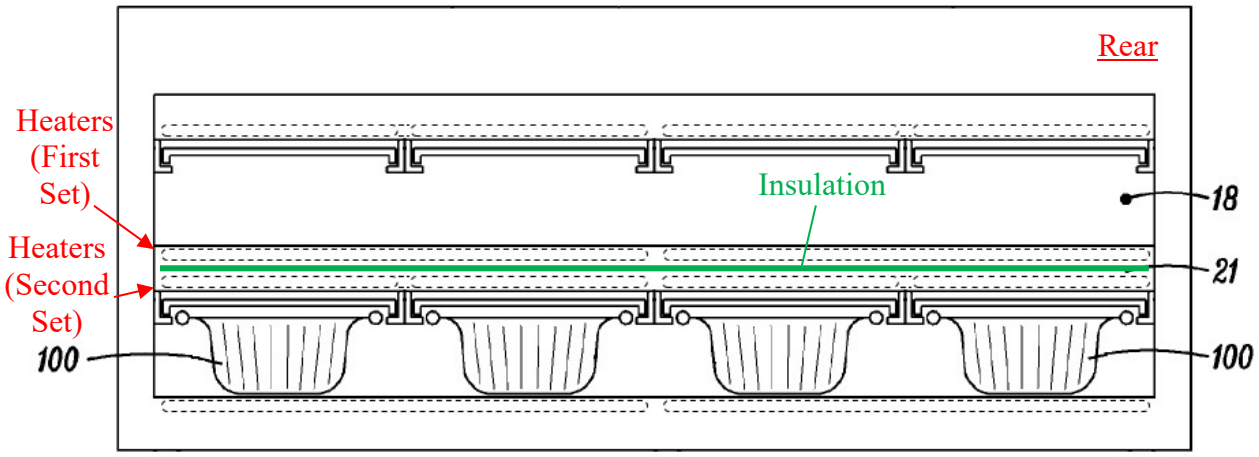
EX1014: Fig. 10 (annotated).

1033. As explained in Paragraphs 739-751 above (Ground 10, Section XIII(A)(9)), it would have been obvious to modify the Fortmann'748 cabinet to have insulation in the shelf arranged between a first and second sets of heaters.



EX1010: Fig. 2 (modified, annotated, enlarged).





EX1010: Figs. 2 and 6 (modified, annotated).

1034. Accordingly, the POSA would have found it obvious to combine the teachings and disclosures of Fortmann'748, the IRHS Documents, Jones, Stanger, Loy, Fortmann'197, Fortmann'967, McMillan, Vaseloff, Hartfelder, and/or Shei'099 to arrive at the food holding bin as claimed in Claim 34.

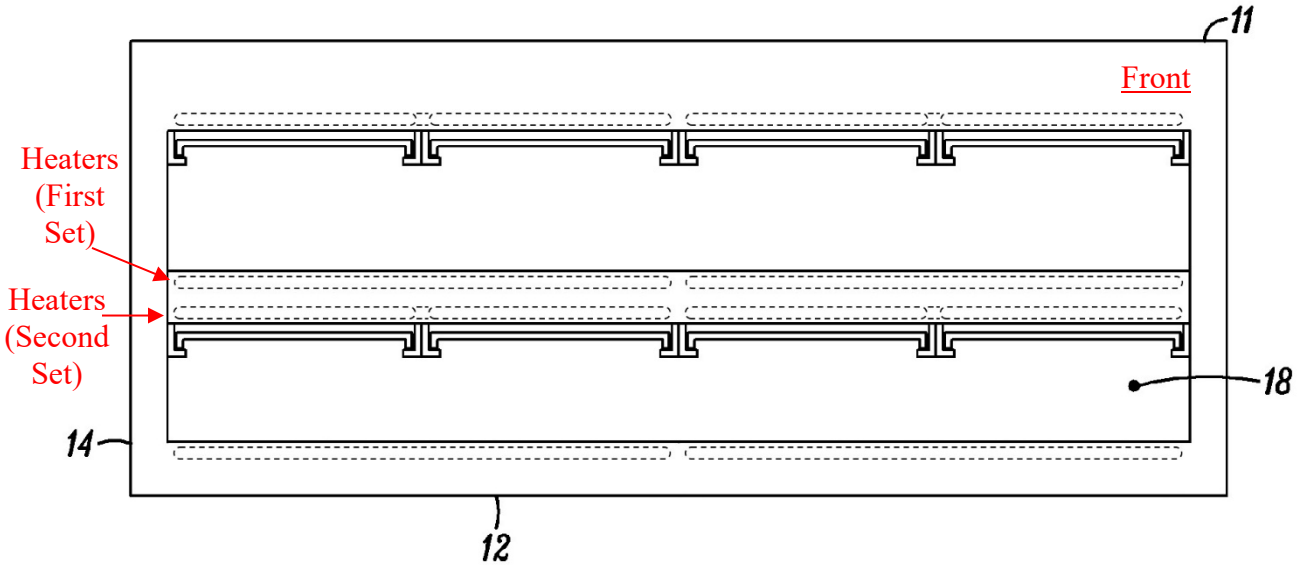
DD. Claim 35: the food holding bin of claim 33, wherein each of the first and second sets of independently controllable heating elements comprise two heating elements

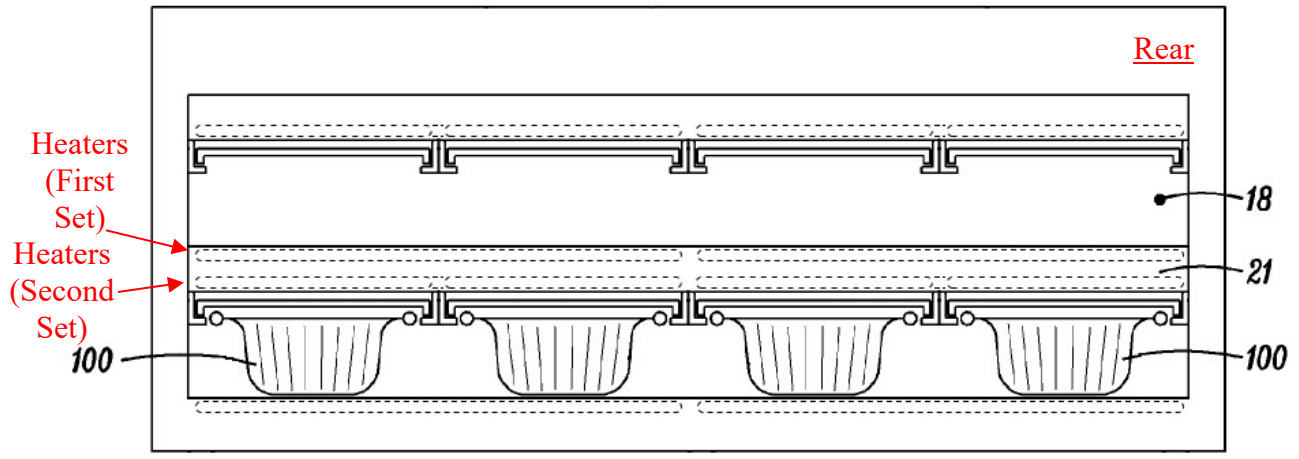
1035. As discussed above, the POSA would have found it obvious to modify the multi-zone food holding bin of Fortmann'748 in view of the teachings and disclosures of the IRHS Documents, Jones, Stanger, Loy, Fortmann'197, Fortmann'967, McMillan, Vaseloff, Hartfelder, and/or Shei'099 to arrive at the claimed food holding bin of Claim 33. The POSA would additionally recognize that the prior art discloses the additional limitation added in Claim 35 further

requiring that "each of the first and second sets of independently controllable heating elements comprise two heating elements."

1036. With respect to the modified Fortmann'748 cabinet as discussed with respect to Claim 30, the first set of heaters would comprise at least two heating elements. As explained in Paragraphs 581-633 above (Ground 10, Section XIII(A)(2)), it would have been obvious to modify the first set of heaters (lower heaters) to comprise two heaters in view of the Jones, Hartfelder, Stanger, Loy, and/or the IRHS Documents. EX1005: 16, 20, 25; EX1006: 1; EX1007: 53; EX1012: ¶¶[0072], [0073], [0096], [0098], [0130]; EX1013: ¶[0037]; EX1042: ¶[0055]; EX1043: Fig. 17.

1037. With respect to the modified Fortmann'748 cabinet as discussed with respect to Claim 30, the second set of heaters also comprises at least two heating elements. As explained in Paragraphs 581-633 above (Ground 10, Section XIII(A)(2)), it would have been obvious to modify the second set of heaters (upper heaters) to comprise two heaters in view of Jones, Hartfelder, Stanger, Loy, or four heaters in view of the IRHS Documents. EX1005: 16, 20, 25; EX1006: 1; EX1007: 53; EX1012: ¶¶[0072], [0073], [0096], [0098], [0130]; EX1013: ¶[0037]; EX1042: ¶[0055]; EX1043: Fig. 17. Either case meets the claim limitation. A representation of the resulting modified cabinet of Fortmann'748 in a 2x4 configuration is demonstrated as follows:



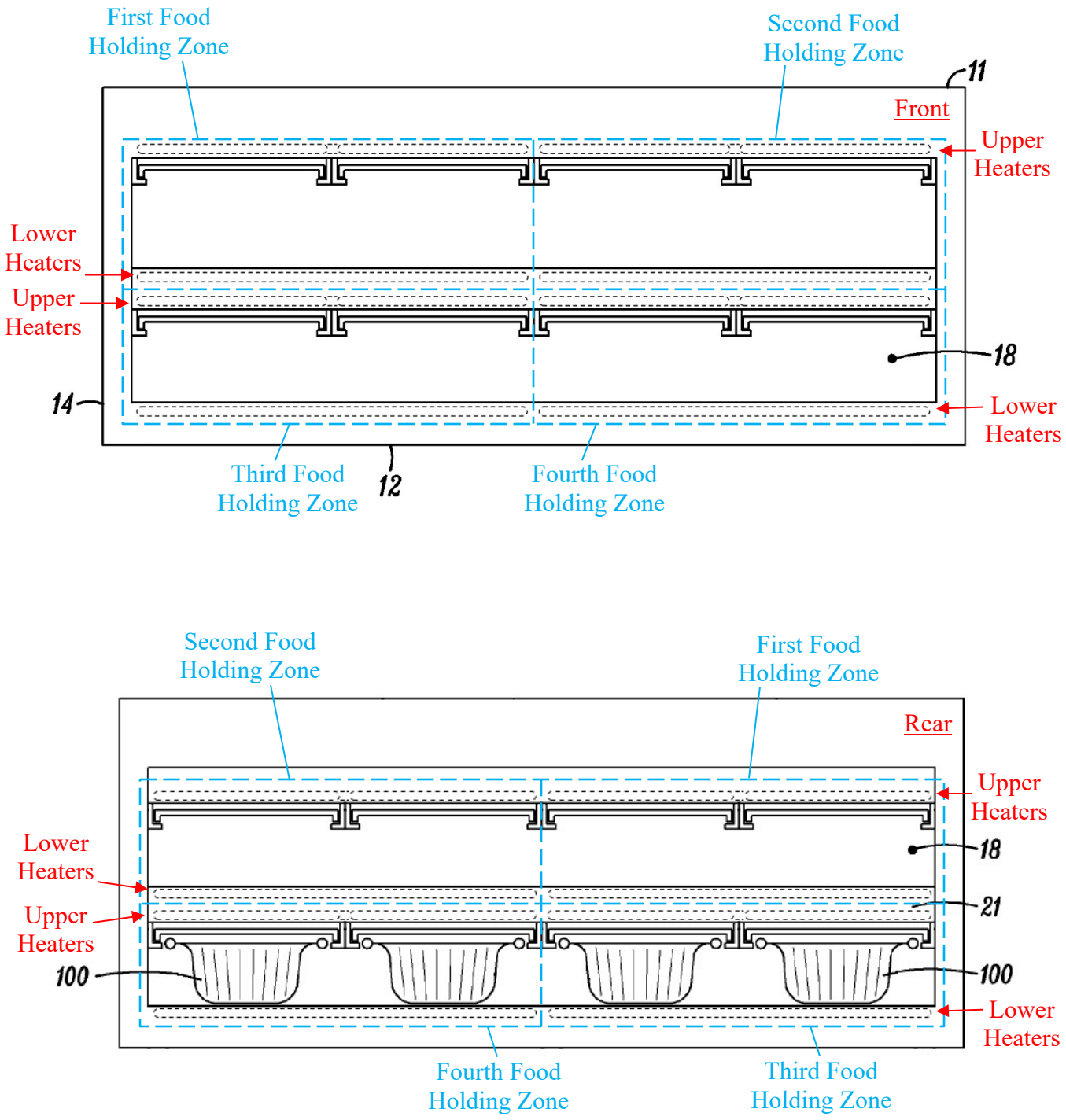


EX1010: Figs. 2 and 6 (modified, annotated).

1038. Accordingly, the POSA would have found it obvious to combine the teachings and disclosures of Fortmann'748, the IRHS Documents, Jones, Stanger, Loy, Fortmann'197, Fortmann'967, McMillan, Vaseloff, Hartfelder, and/or Shei'099 to arrive at the food holding bin as claimed in Claim 35.

EE. Claim 36: the holding bin of claim 1, wherein the at least one user interface is configured to set the food holding temperature of each food holding zone, and the first food holding zone is maintained at first set food holding temperature, the second food holding zone is maintained at a second set food holding temperature, the third food holding zone is maintained at a third set food holding temperature, and the fourth food holding zone is maintained at a fourth food set holding temperature

1039. As discussed above, the POSA would have found it obvious to modify the multi-zone food holding bin of Fortmann'748 in view of the teachings and disclosures of the IRHS Documents, Jones, Stanger, Loy, Fortmann'197, Fortmann'967, McMillan, Vaseloff, Hartfelder, and/or Shei'099 to arrive at the claimed food holding bin of Claim 1. A representation of the resulting modified cabinet of Fortmann'748 in a 2x4 configuration per Claim 1 is demonstrated as follows:



EX1010: Figs. 2 and 6 (modified, annotated).

1040. Fortmann'748 describes its control system as having a generic "input device for the user to select the desired temperature [] within the heating zone." EX1010: ¶[0027].

1041. Vaseloff discloses display/control groups (e.g., display devices, timer status indicators, and timer buttons) for each bay (and thereby each food holding zone) such that such that it would have been obvious to modify Fortmann'748's cabinet to have a Vaseloff's display/control group (user interface) for each bay/zone as explained above in Paragraphs 651-672 above (Ground 10, Section XIII(A)(4)).

1042. McMillan discloses setting or controlling the food holding temperature of each bay/zone (specifically, pan holding location/bay) such that it would have been obvious to further modify the added controls of Vaseloff to set or control the food holding temperature of each food holding bay (and thereby each food holding zone) as explained above in Paragraphs 673-691 (Ground 10, Section XIII(A)(5)). EX1019: 10:43-58 ("[t]he 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.").

1043. As explained in Paragraphs 581-691, 825-828, 838-840, 851-853, 863-865, 875-877, and 988-1000 (Ground 10, Section XIII(A)(2)-(5), claim limitations 1.h.3, 1.i.3, 1.k.3, 1.l.3, and 1.o, and Claim 30), it would have been

obvious to hold different food types in the different zones and for Fortmann'748's controller to have maintained each food holding zone at each zone's respective same/different set food holding temperature. EX1010: ¶[0027] ("a control system configured to adjust the heat output within each zone to achieve the desired temperature").

1044. As explained in Paragraphs 988-1000 (Claim 30), the temperature of each zone can be different, per Jones, Fortmann'748, the IRHS Documents, and/or McMillan. For example, the controller would operate the heating elements associated with the first heating zone to maintain 160°F/180°F for eggs, operate the heating elements associated with the second heating zone to maintain 200°F for bacon, operate the heating elements associated with the third heating zone to maintain 190°F for fish, and operate the heating elements associated with the fourth heating zone to maintain 220°F for meatballs. EX1028: 39.

1045. As explained in Paragraphs 581-691, 825-828, 838-840, 851-853, 863-865, 875-877, and 988-1000 (Ground 10, Section XIII(A)(2)-(5), claim limitations 1.h.3, 1.i.3, 1.k.3, 1.l.3, and 1.o, and Claim 30), the controller would have maintained each food holding zone at each zone's respective set food holding temperature (*e.g.*, heatsink temperature). EX1010: ¶[0027] ("a control system configured to adjust the heat output within each zone to achieve the desired temperature").

1046. Accordingly, the POSA would have found it obvious to combine the teachings and disclosures of Fortmann'748, the IRHS Documents, Jones, Stanger, Loy, Fortmann'197, Fortmann'967, McMillan, Vaseloff, Hartfelder, and/or Shei'099 to arrive at the food holding bin as claimed in Claim 36.

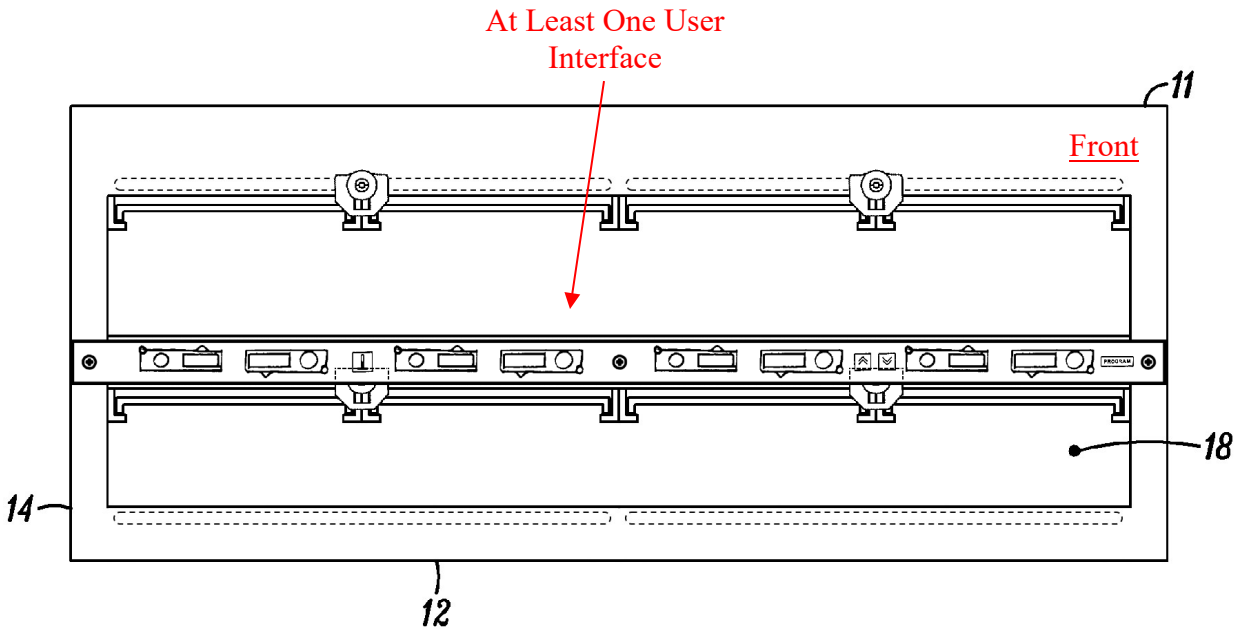
FF. Claim 37: the holding bin of claim 1, wherein the at least one user interface is configured to set the food holding temperature of each food holding zone and the controller independently operates each heating element such that each food holding zone is maintained at an independently set food holding temperature

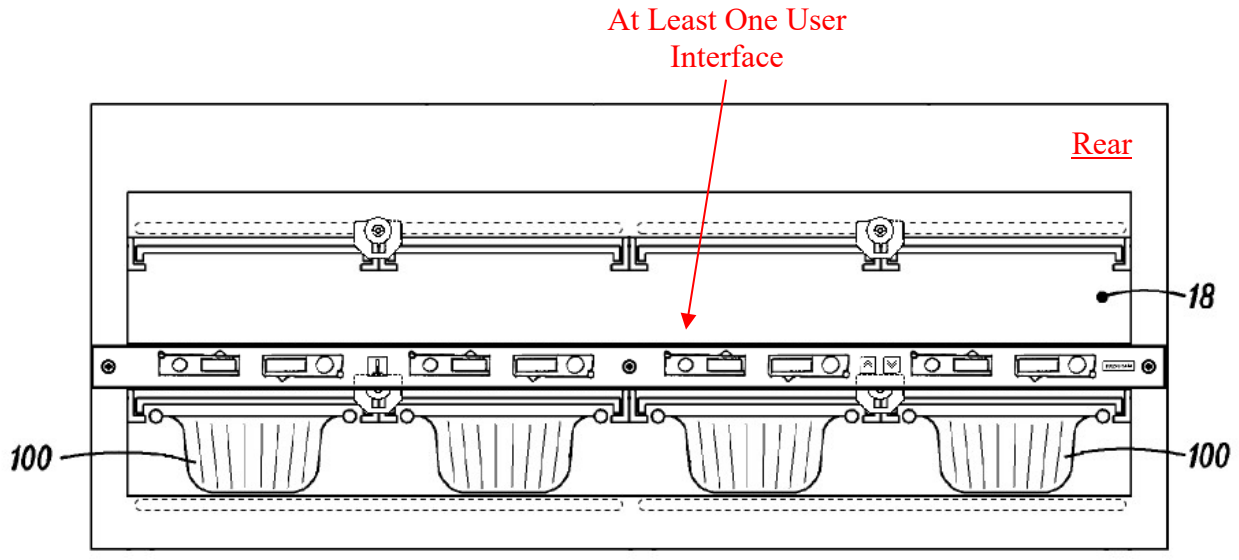
1047. As discussed above, the POSA would have found it obvious to modify the multi-zone food holding bin of Fortmann'748 in view of the teachings and disclosures of the IRHS Documents, Jones, Stanger, Loy, Fortmann'197, Fortmann'967, McMillan, Vaseloff, Hartfelder, and/or Shei'099 to arrive at the claimed food holding bin of Claim 1.

1048. With respect to the modified Fortmann'748 cabinet as discussed with respect to Claim 1, the cabinet the cabinet would have at least one user interface in the form of Vaseloff's display/control groups (*e.g.*, display devices, timer status indicators, and timer buttons), further modified in view of McMillan to set or control the food holding temperature of each food holding zone. *See* Paragraphs 651-691 (Ground 10, Section XIII(A)(4)-(5)); EX1019: 10:43-58 ("[t]he 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.").

1049. As explained in Paragraphs 673-691 and 870-874 (Ground 10, Section XIII(A)(5) and claim limitation 1.n)), it would have been obvious to modify the Fortmann'748 control system such that it would have at least one user interface in the form of Vaseloff's display/control groups (*e.g.*, display devices, timer status indicators, and timer buttons) for each holding zone.

1050. As explained in Paragraphs 673-691 and 870-874 above (Ground 10, Section XIII(A)(5) and claim limitation 1.n)), it would have further been obvious to modify the Fortmann'748 control system in view of McMillan to affirmatively have the capability to set or control the food holding temperature of each food holding zone. EX1019: 10:43-58 ("[t]he 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."). A representation of the resulting modified cabinet of Fortmann'748 in a 2x4 configuration is demonstrated as follows:





EX1010: Figs. 2 and 6 (modified, annotated)

1051. As explained with respect claim limitations 1.h.3, 1.i.3, 1.k.3, 1.l.3, and 1.o above (Paragraphs 825-828, 838-840, 851-853, 863-865, and 875-877), each food holding zone would have its own controllable food holding temperature such that the controller configured to independently operate each heating element such the controller would independently operate each heating element such that each food holding zone is maintained at an independently set food holding temperature.

1052. As explained in Paragraphs 1039-1046 above (Claim 36) the temperature of each zone can be different, per Jones, Fortmann'748, the IRHS Documents, and/or McMillan. For example, the controller would operate the heating elements associated with the first heating zone to maintain 160°F/180°F for eggs, operate the heating elements associated with the second heating zone to maintain 200°F for bacon, operate the heating elements associated with the third heating zone to maintain 190°F for fish, and operate the heating elements associated with the fourth heating zone to maintain 220°F for meatballs. EX1028: 39

1053. Accordingly, the POSA would have found it obvious to combine the teachings and disclosures of Fortmann'748, the IRHS Documents, Jones, Stanger, Loy, Fortmann'197, Fortmann'967, McMillan, Vaseloff, Hartfelder, and/or Shei'099 to arrive at the food holding bin as claimed in Claim 37.

XIV. GROUND 11: Claims 19 and 29 Would Have Been Obvious Over Fortmann'748 in view of the IRHS Documents, Jones, Stanger, Loy, Fortmann'197, Fortmann'967, McMillan, Vaseloff, Hartfelder, Shei'099, Veltrop, and/or Shei'155

A. Claim 19: the food holding bin of claim 1, wherein the independently controllable heating elements comprise a resistive wire

1054. As discussed above, the POSA would have found it obvious to modify the multi-zone food holding bin of Fortmann'748 in view of the teachings and disclosures of the IRHS Documents, Jones, Stanger, Loy, Fortmann'197, Fortmann'967, McMillan, Vaseloff, Hartfelder, and/or Shei'099 to arrive at the claimed food holding bin of Claim 1.

1055. Fortmann'748 does not describe the construction of its heaters (60) but explains the heaters are in "electrical communication" with the control system. EX1010: ¶[0004].

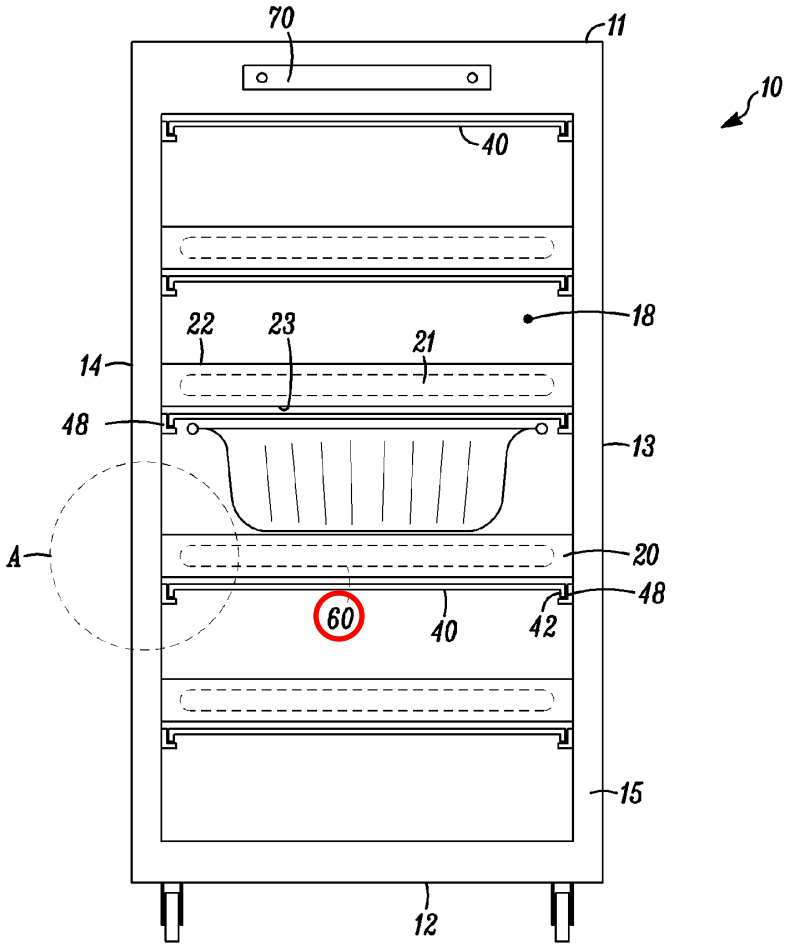


FIG. 2

EX1010: Fig. 2 (annotated).

1056. While Fortmann'748 is silent as to the construction of the heating elements, the POSA would additionally recognize that other prior art references disclose the additional limitation added in Claim 19 further requiring the independently controllable heating elements "comprise a resistive wire."

1057. For example, Veltrop teaches a food holding cabinet (10) with shelves (52) having heaters in the form of 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.

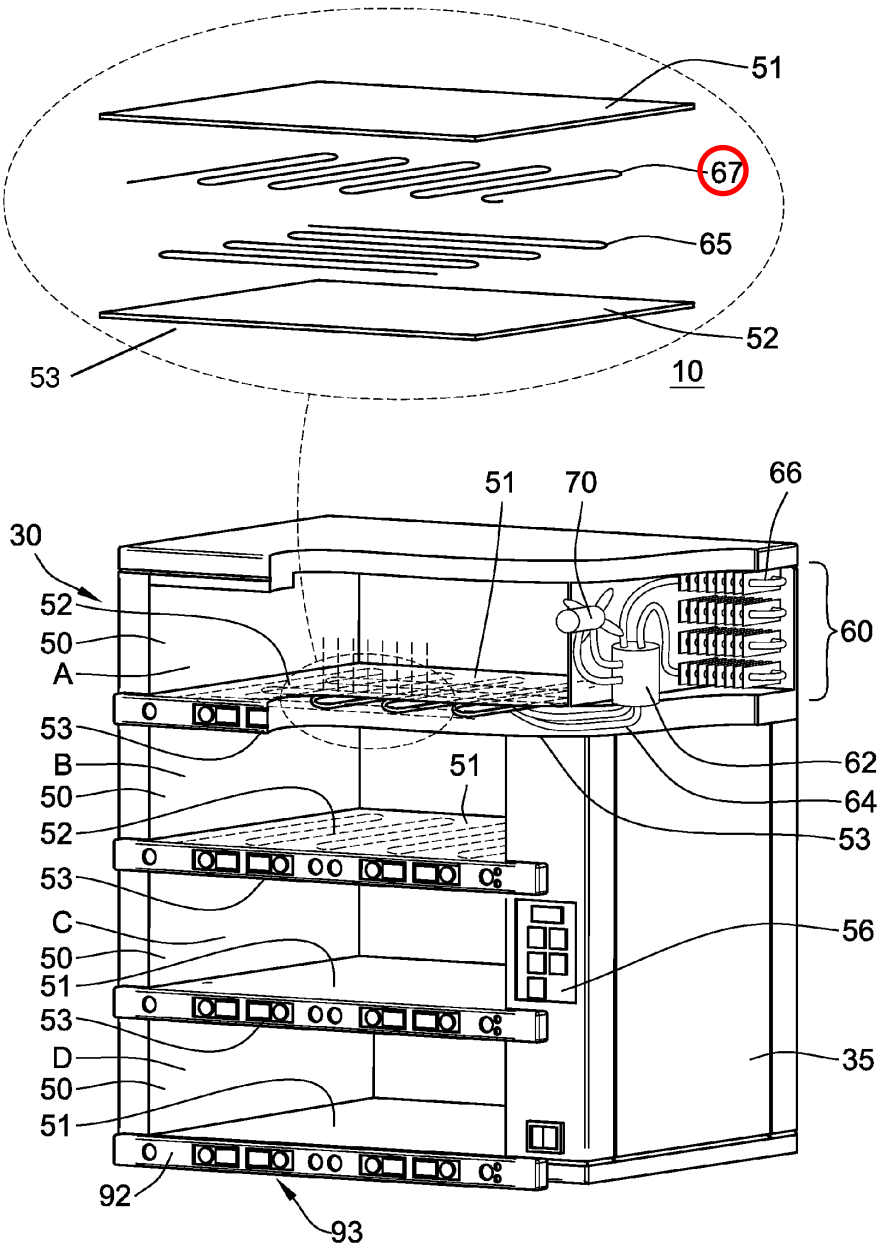


FIG. 2

EX1022: Fig. 2 (annotated).

1058. It would have been obvious to have Fortmann'748's heaters comprise an electrically resistive heater wire in view of Veltrop to generate the heat for the compartments.

1059. While Fortmann'748 does not describe how its heaters generate heat, the POSA would understand Veltrop's electrically resistive heater wire (67) is a suitable source of heat for the heaters of food warming cabinets like Fortmann'748's cabinet. EX1022: ¶[0025] ("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"). Further, Veltrop's electrically resistive heater wire (67) is electrically controlled, thus enabling Fortmann'748's control system (*e.g.*, controller) to operate it. EX1022: ¶[0025].

1060. This would have been nothing more than specifying the use of a known technique (electrically resistive heater wire of Veltrop) to for use with a similar device (a food warming cabinet with generically recited heaters of Fortmann'748) in the same way (electrically resistive heater wire to heat compartments containing food).

1061. There would have been a high expectation of success given that Fortmann'748's heaters—though not specifically identified as being electrically

resistive heater wire heaters—are disclosed as being electrically controlled and Fortmann'748 and Veltrop are both food warming cabinets.

1062. When implementing this modification, each heater (60) of Fortmann'748's modified cabinet (10) would comprise Veltrop's electrically resistive heater wire.

1063. Accordingly, the POSA would have found it obvious to combine the teachings and disclosures of Fortmann'748, the IRHS Documents, Jones, Stanger, Loy, Fortmann'197, Fortmann'967, McMillan, Vaseloff, Hartfelder, Shei'099, Veltrop, and/or Shei'155 to arrive at the food holding bin as claimed in Claim 19.

B. Claim 29: the food holding bin of claim 1, wherein at least one substantially planar surface comprises aluminum

1064. As discussed above, the POSA would have found it obvious to modify the multi-zone food holding bin of Fortmann'748 in view of the teachings and disclosures of the IRHS Documents, Jones, Stanger, Loy, Fortmann'197, Fortmann'967, McMillan, Vaseloff, Hartfelder, and/or Shei'099 to arrive at the claimed food holding bin of Claim 1.

1065. Fortmann'748 teaches that its first planar surface (22) of the shelf (21) and the second planar surface of the bottom panel (12) are made of stainless steel. EX1010: ¶[0019] ("the shelves 21 may include two planar sheets of thin material (such as stainless steel)"); *see also*, Paragraphs 783-785 and 793-802 (Ground 10, claim limitations 1.d.2 and 1.e.1).

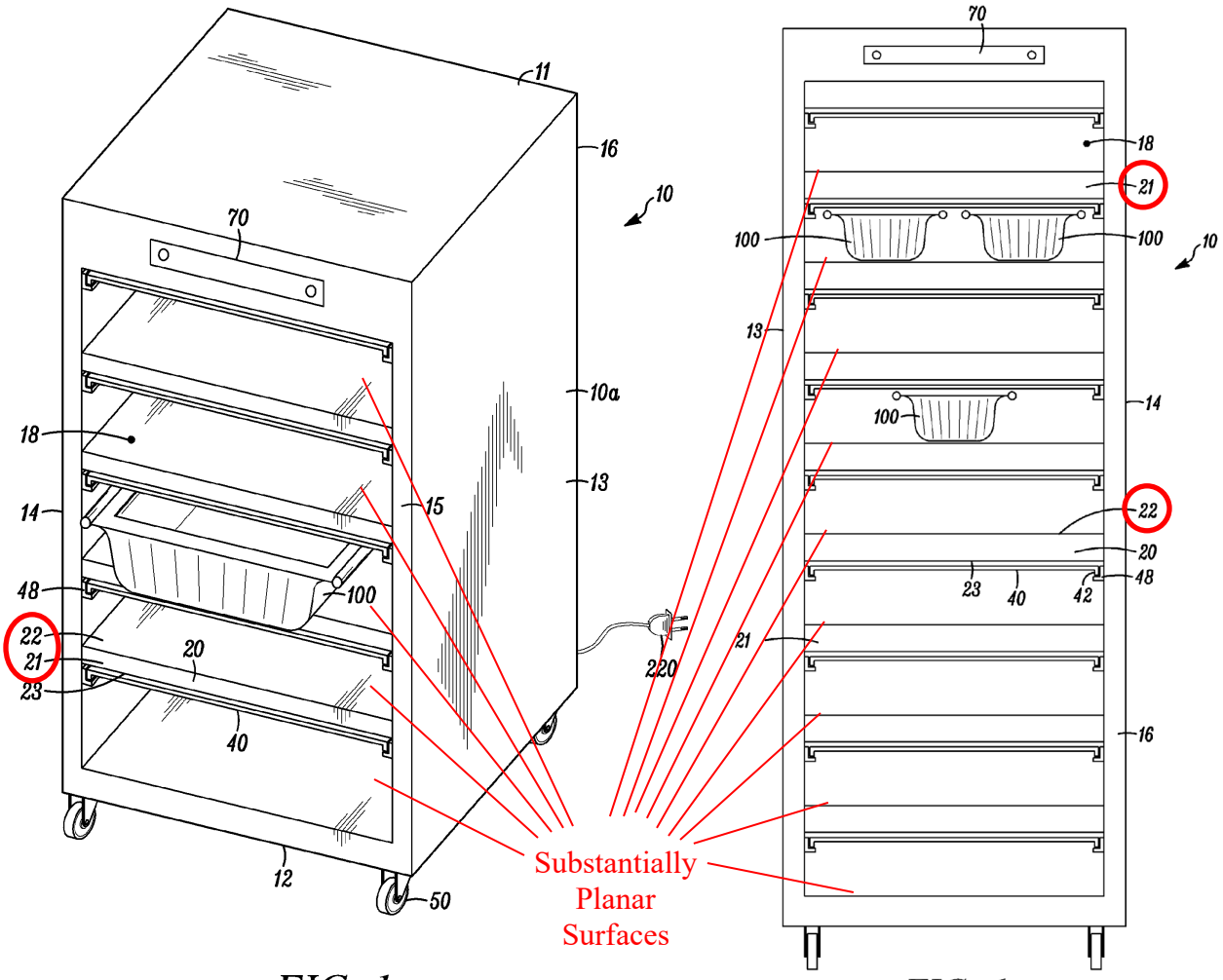


FIG. 1 *FIG. 6*

EX1010: Figs. 1 and 6 (annotated).

1066. While Fortmann'748 teaches the use of stainless steel, the POSA would additionally recognize that other prior art references disclose the additional limitation added in Claim 29 further requiring that "at least one substantially planar surface comprises aluminum."

1067. For example, Veltrop (EX1022) 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.

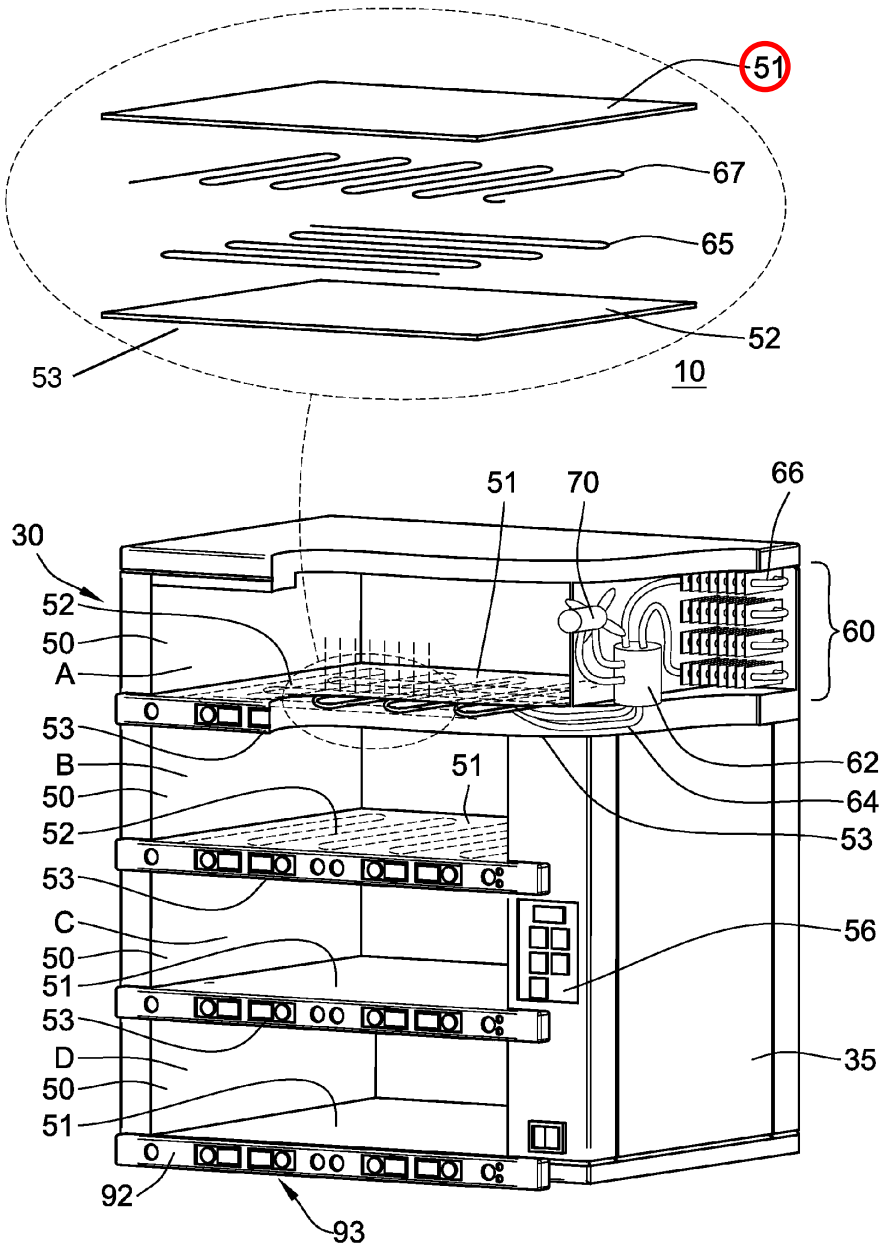
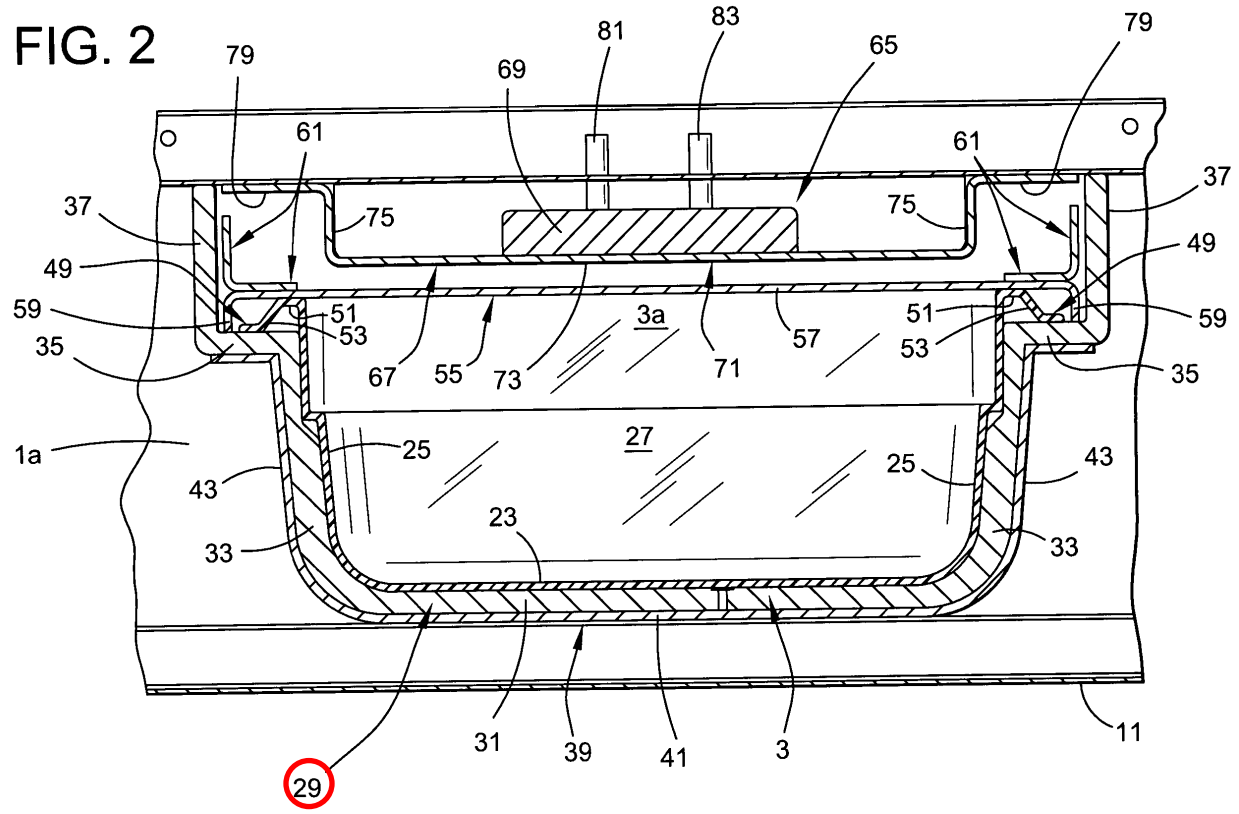


FIG. 2

EX1022: Fig. 2 (annotated).

1068. 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).

1069. It would have been obvious to make the upper plates of Fortmann'748's shelf and bottom panel out of 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").

1070. Further, the use of aluminum, instead of heavier materials such as glass and stainless steel, would reduce the weight of the unit (making it easier to ship) and reduce cost.

1071. This would have been nothing more than the use of a known technique (aluminum from Veltrop and Shei'155) to improve a similar device (the construction of Fortmann'748) in the same way (the use of a thermally conductive material for supporting food tray/pans for localized heating).

1072. There would have been a high expectation of success given (1) each of Fortmann'748, Veltrop, and Shei'155 are food warming cabinets, (2) the well-known suitability of aluminum in the art for heat sinks, including heat sinks with zoned heating. EX1006: 1 ("Anodized aluminum HeatSink"); EX1007: 53 ("HeatSink"); EX1016: ¶[0039] ("heat sink 29, which is made of aluminum");

EX1020: ¶[0021] (“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] (“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”); EX1022: ¶[0023] (“thermally-conductive plates 51 and 53 are preferably made of aluminum”).

1073. 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.

1074. 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.").

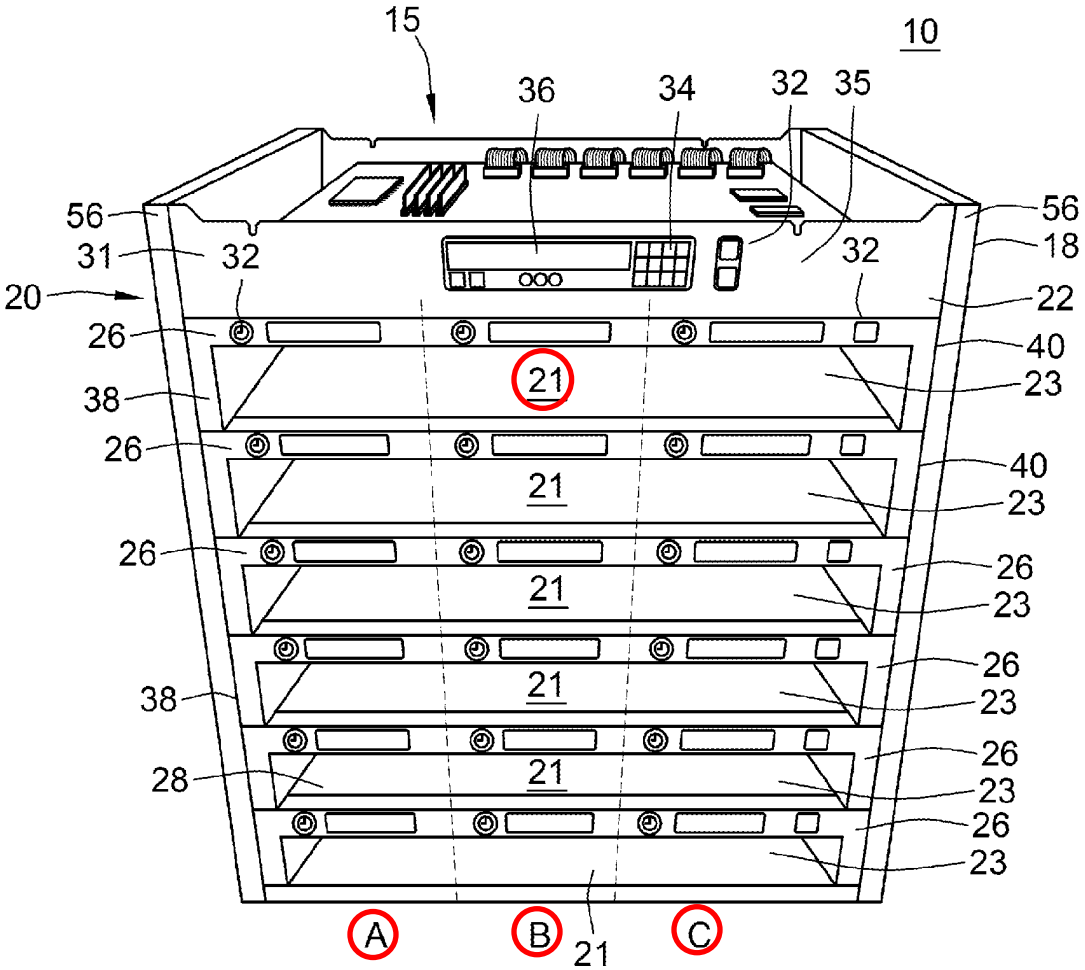
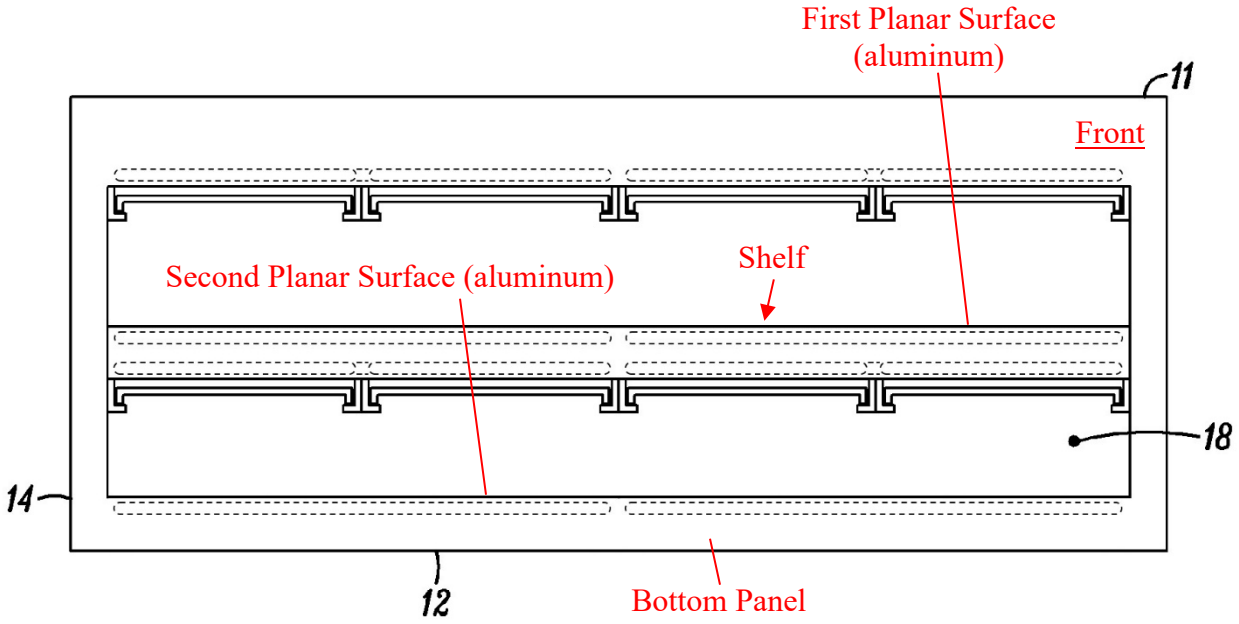


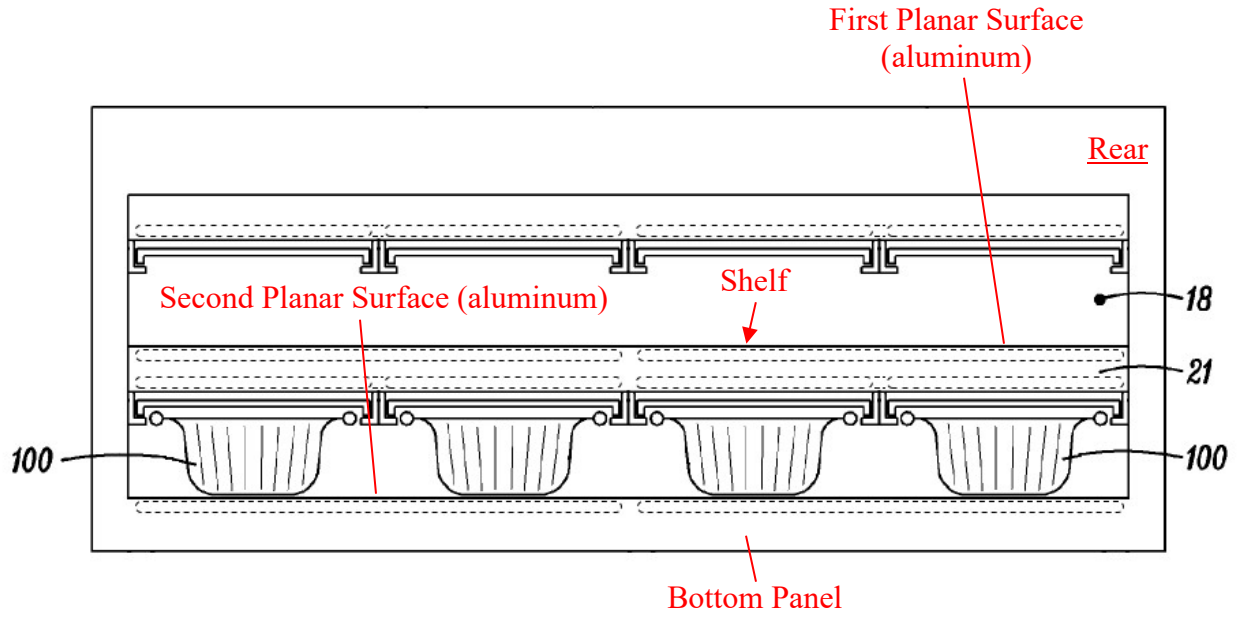
FIG. 2

EX1020: Fig. 2 (annotated).

1075. In making this modification, the upper plates (22) of the shelf (21) and the bottom panel (12) of Fortmann'748's modified cabinet would be made of aluminum. The upper plate (22) of the shelf (21) forms the first planar surface and the upper plate of the bottom panel (12) forms of the second planar surface. A

representation of the resulting modified cabinet of Fortmann'748 in a 2x4 configuration is demonstrated as follows:





EX1010: Figs. 2 and 6 (modified, annotated).

1076. Accordingly, the POSA would have found it obvious to combine the teachings and disclosures of Fortmann'748, the IRHS Documents, Jones, Stanger, Loy, Fortmann'197, Fortmann'967, McMillan, Vaseloff, Hartfelder, Shei'099, Veltrop, and/or Shei'155 to arrive at the food holding bin as claimed in Claim 29.

XV. GROUND 12: Claim 26 Would Have Been Obvious Over Fortmann'748 in view of IRHS Documents, Jones, Stanger, Loy, Fortmann'197, Fortmann'967, McMillan, Vaseloff, Hartfelder, Shei'099, Shei'821, and/or Shei'155

A. Claim 26: the food holding bin of claim 23, wherein the lid holding shelf comprises sheet metal

1077. As discussed above, the POSA would have found it obvious to modify the multi-zone food holding bin of Fortmann'748 in view of the teachings and disclosures of the IRHS Documents, Jones, Stanger, Loy, Fortmann'197, Fortmann'967, McMillan, Vaseloff, Hartfelder, and/or Shei'099 to arrive at the claimed food holding bin of Claim 23.

1078. Fortmann'748 does not describe the material of the tracks (48), but the tracks are shown in the figures as an L-shaped flange or bracket, consistent with having been made from sheet metal. EX1010: ¶[0018], Figs. 1-6.

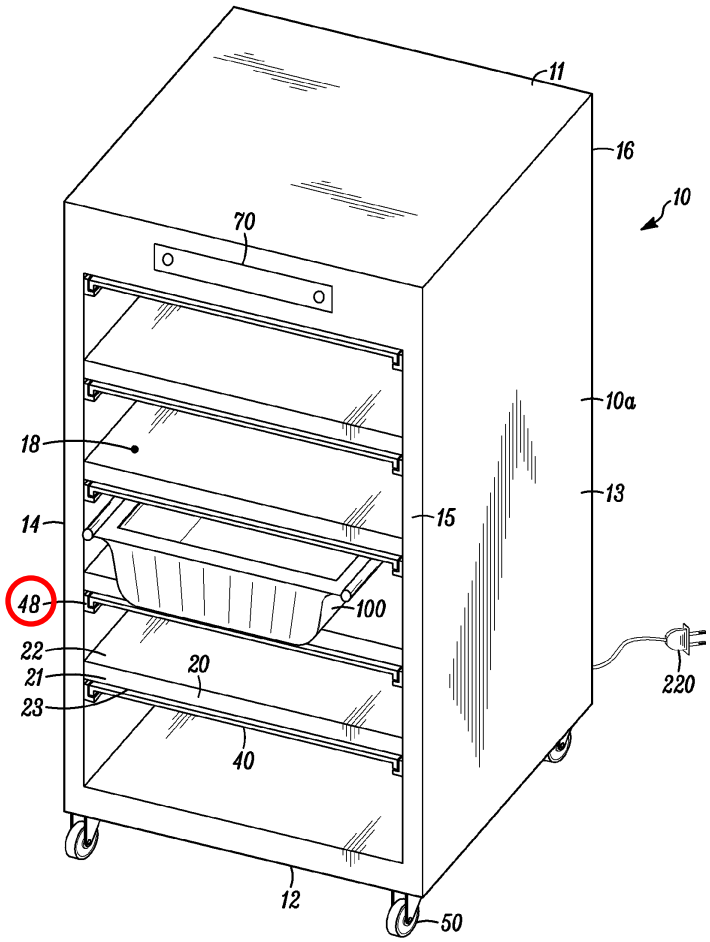


FIG. 1

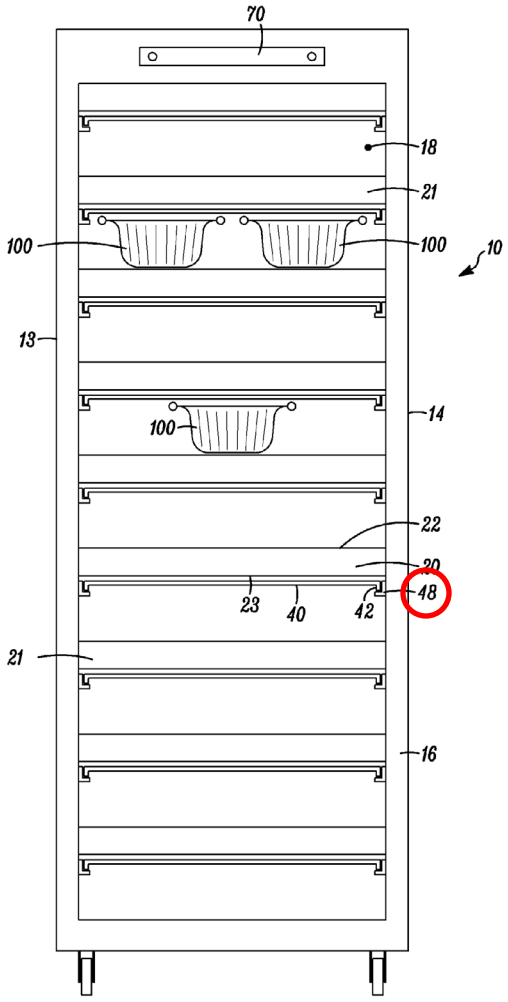


FIG. 6

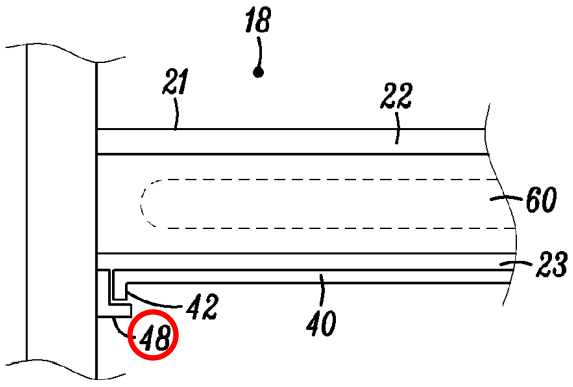
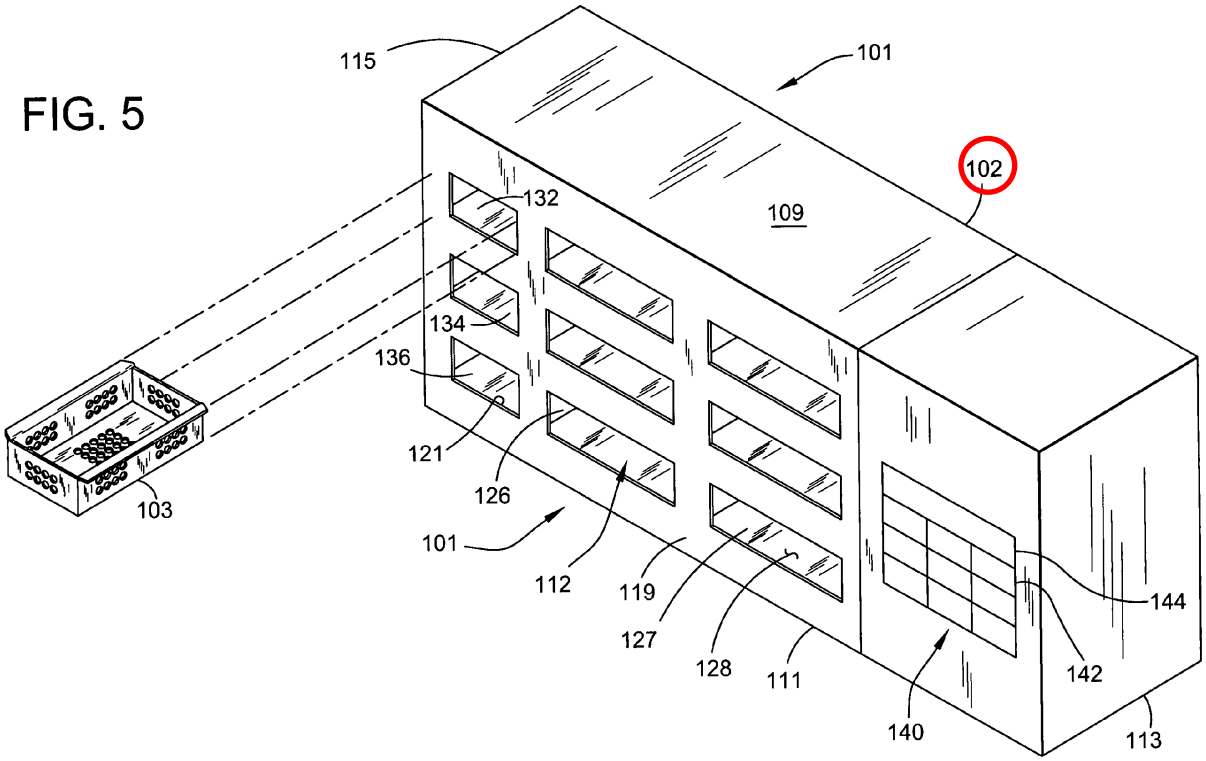


FIG. 3

EX1010: Figs. 1, 3, and 6 (annotated).

1079. Even to the extent that the POSA would not simply assume that Fortmann'748's lid-holding shelves were not already comprised of sheet metal, it would have still been obvious for the lid-holding shelves to comprise sheet metal in view of Shei'821 and/or Shei'155.

1080. Shei'155 (EX1016) teaches a holding cabinet (102) entirely fabricated by sheet metal. EX1016: ¶[0046] ("the entire cabinet 102 is fabricated of sheet metal").



EX1016: Fig. 5 (annotated).

1081. Shei'821 (EX1011) teaches a pan storage apparatus (10) which lid supports (36A) for supporting lid (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"). The lid supports (36A) are shown a thin bent sheets of material, and Shei'821 discloses the material as being metal. EX1011: ¶[0039], Figs. 1, 7, and 8.

FIG. 1

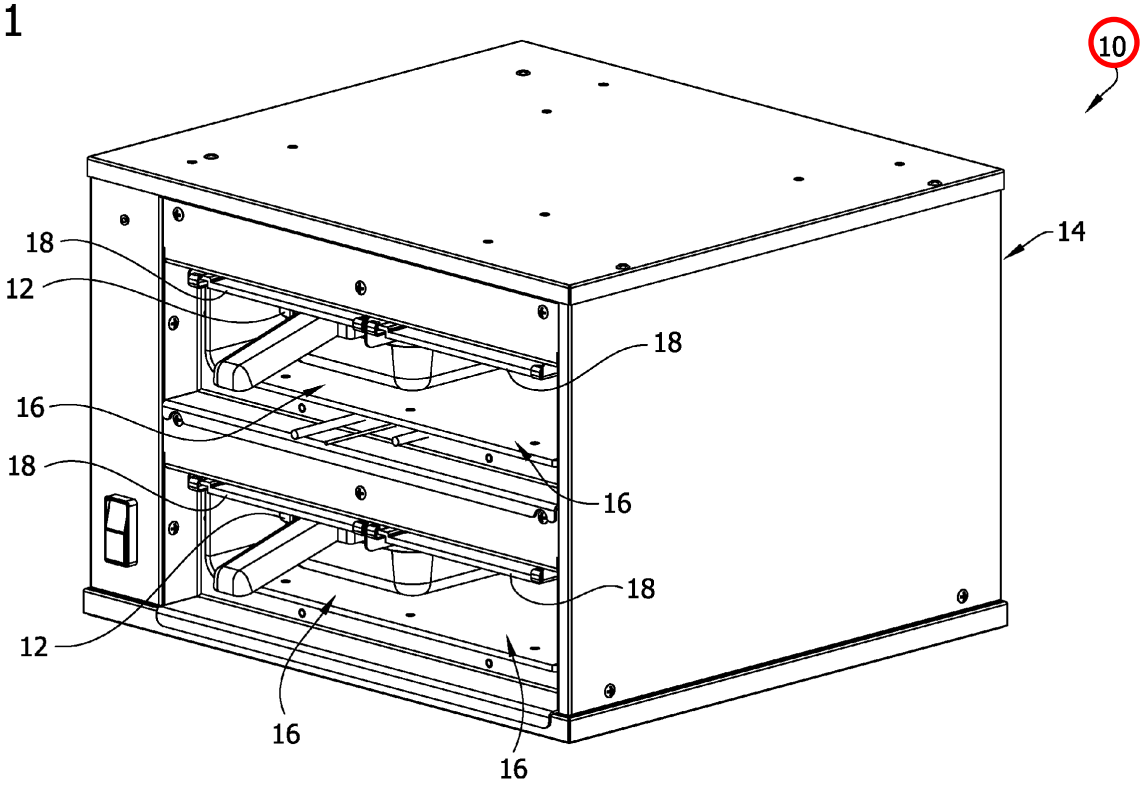


FIG. 7

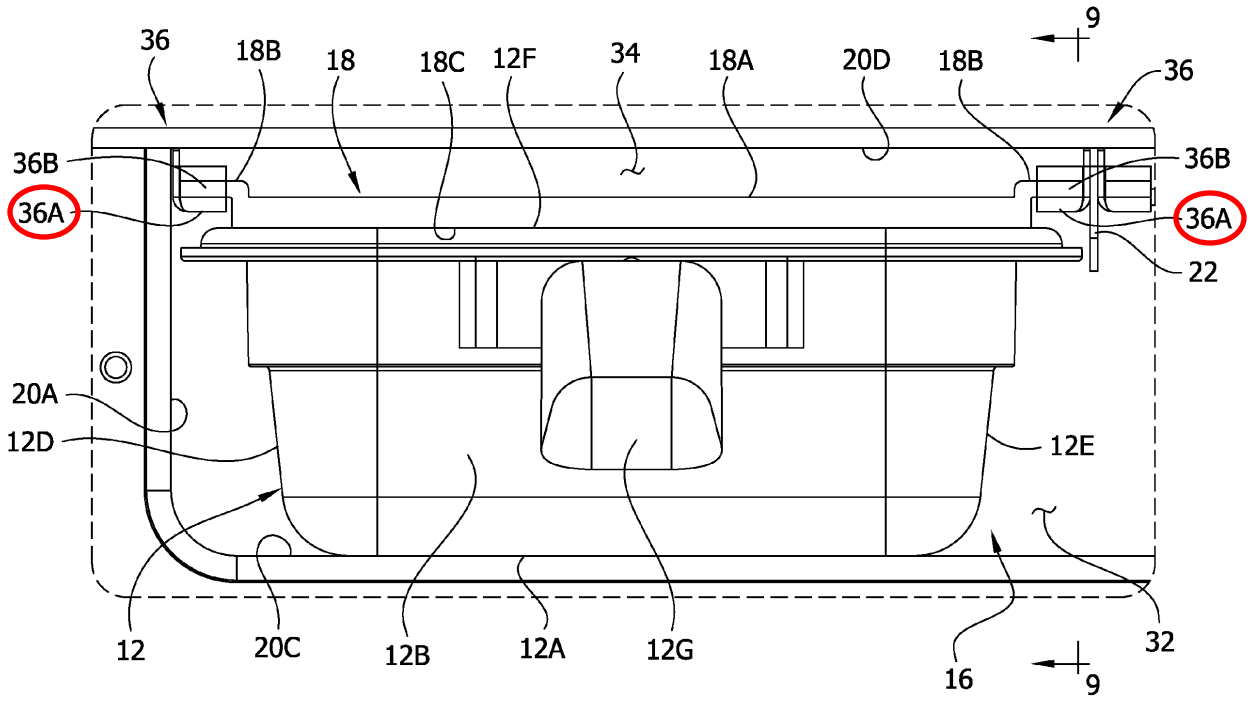
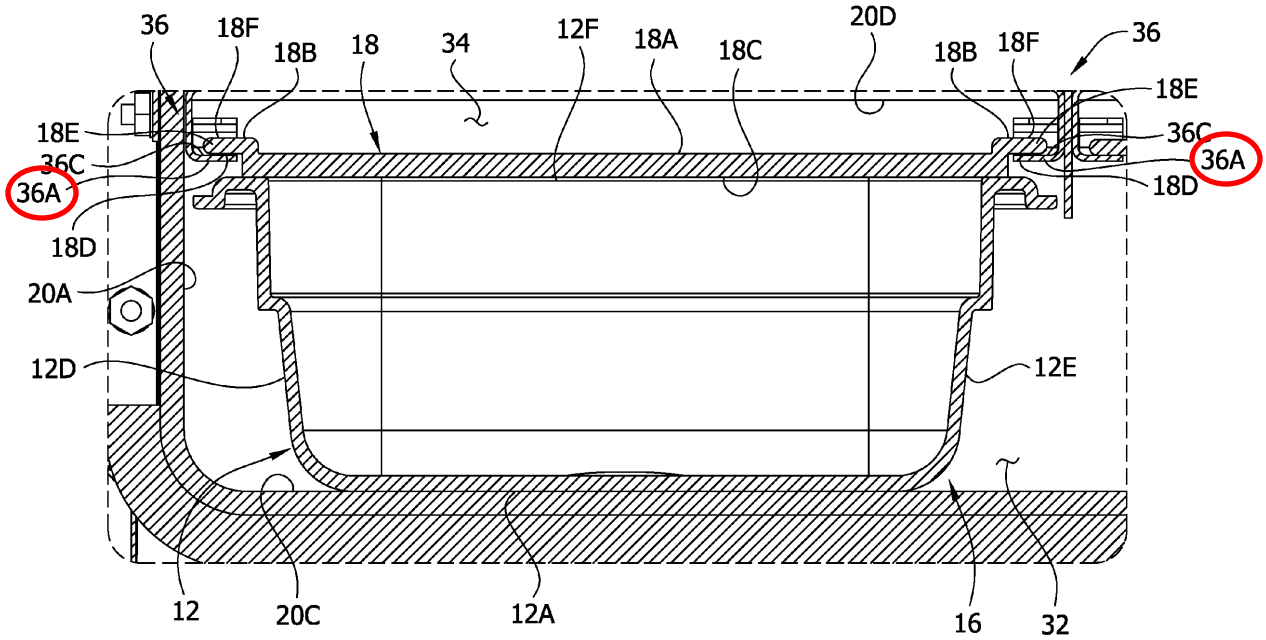


FIG. 8



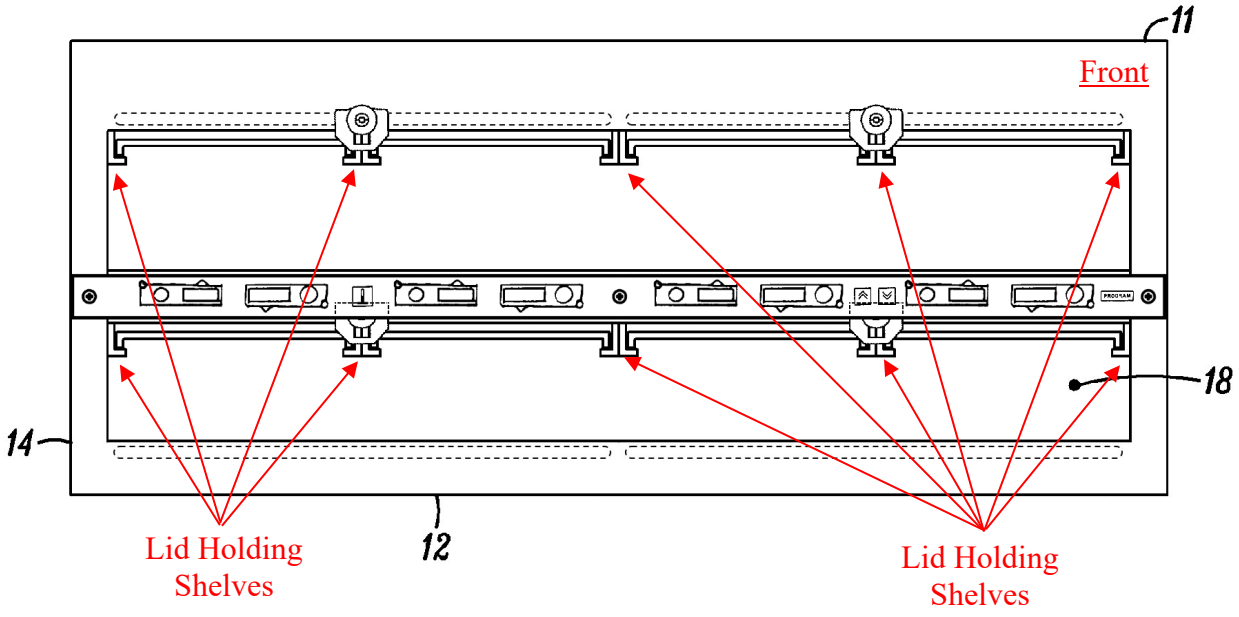
EX1011: Figs. 1 (annotated).

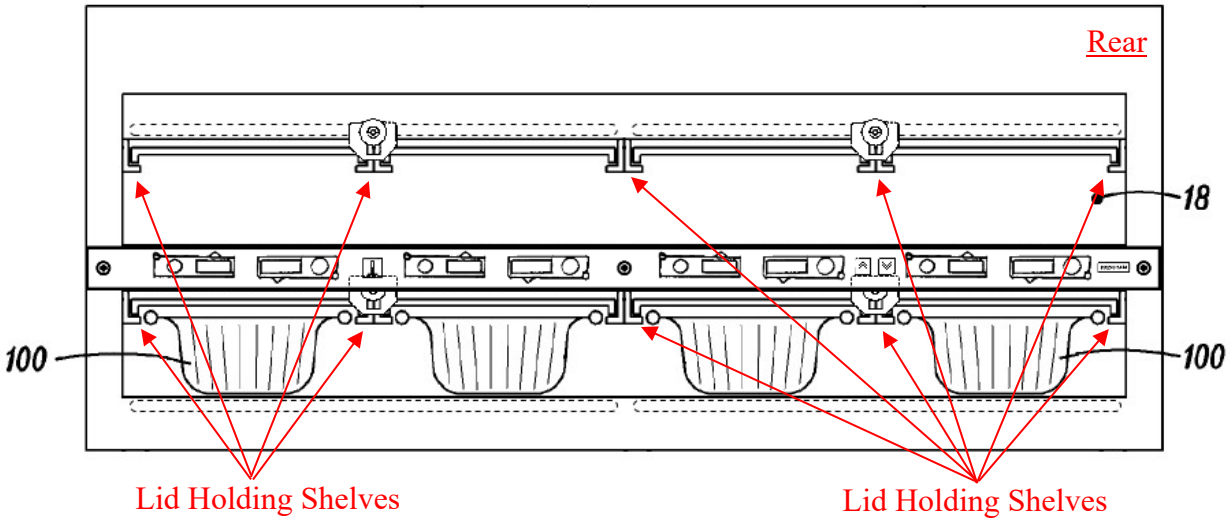
1082. It would have been obvious to make Fortmann'748's tracks out of sheet metal in view of Shei'821 and/or Shei'155. While Fortmann'748 does not expressly teach a material of its tracks, the POSA would understand from Shei'821 and/or Shei'155 that sheet metal is a suitable material and would have been a natural design choice for constructing Fortmann'748 cabinet and its tracks. EX1016: ¶[0046] ("the entire cabinet 102 is fabricated of sheet metal"); EX1011: ¶[0039] ("the cover supports 36A and the cover retainers 36B, including the keepers 36E, are formed as one piece of metal").

1083. This modification is nothing more than combining known elements (specifically, the inclusion of lid-holding shelves with the use of sheet metal as the material of construction) according to known methods (the construction taught by Fortmann'748) to yield predictable results of sturdy and durable lid-holding shelves capable of supporting the lids. This modification is also nothing more than the use of a known technique (using sheet metal) from a similar food holding unit in the same way to construct lid-holding shelves capable of supporting the lids. This modification is also nothing more than a simple selection of one known alternative (sheet metal) where Fortmann'748's does not expressly identify the material lid-holding shelves are made of.

1084. Given that the POSA would already have presumed that the Fortmann'748's lid-holding shelves were formed by bending pieces of sheet metal

given their shape, the POSA would have had a high expectation of success forming Fortmann'748's tracks from sheet metal. EX1010: Fig. 3. In making this material selection/modification, each track (lid holding shelf) of Fortmann'748's modified cabinet would be made of sheet metal.





EX1010: Figs. 2 and 6 (modified, annotated).

1085. Accordingly, the POSA would have found it obvious to combine the teachings and disclosures of Fortmann'748, the IRHS Documents, Jones, Stanger, Loy, Fortmann'197, Fortmann'967, McMillan, Vaseloff, Hartfelder, Shei'099, Shei'821, and/or Shei'155 to arrive at the food holding bin as claimed in Claim 26.

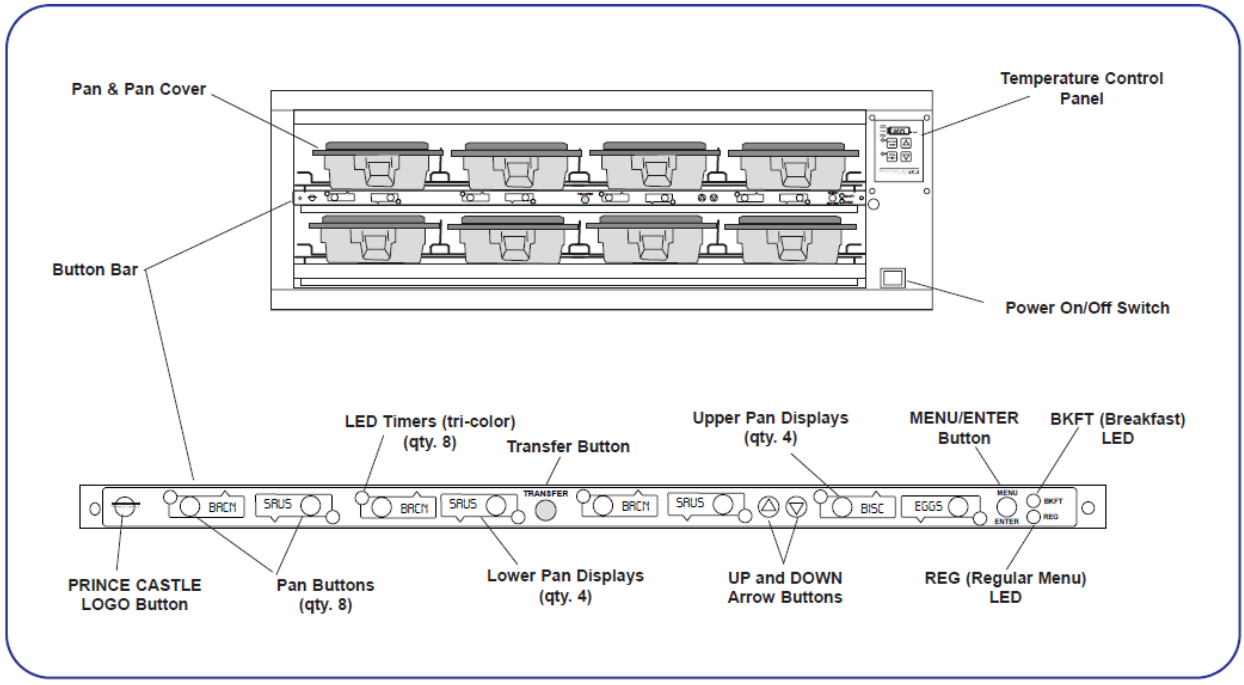
XVI. GROUND 13: Claim 28 Would Have Been Obvious Over Fortmann'748 in view of IRHS Documents, Jones, Stanger, Loy, Fortmann'197, Fortmann'967, McMillan, Vaseloff, Hartfelder, Shei'099, and Prince Castle

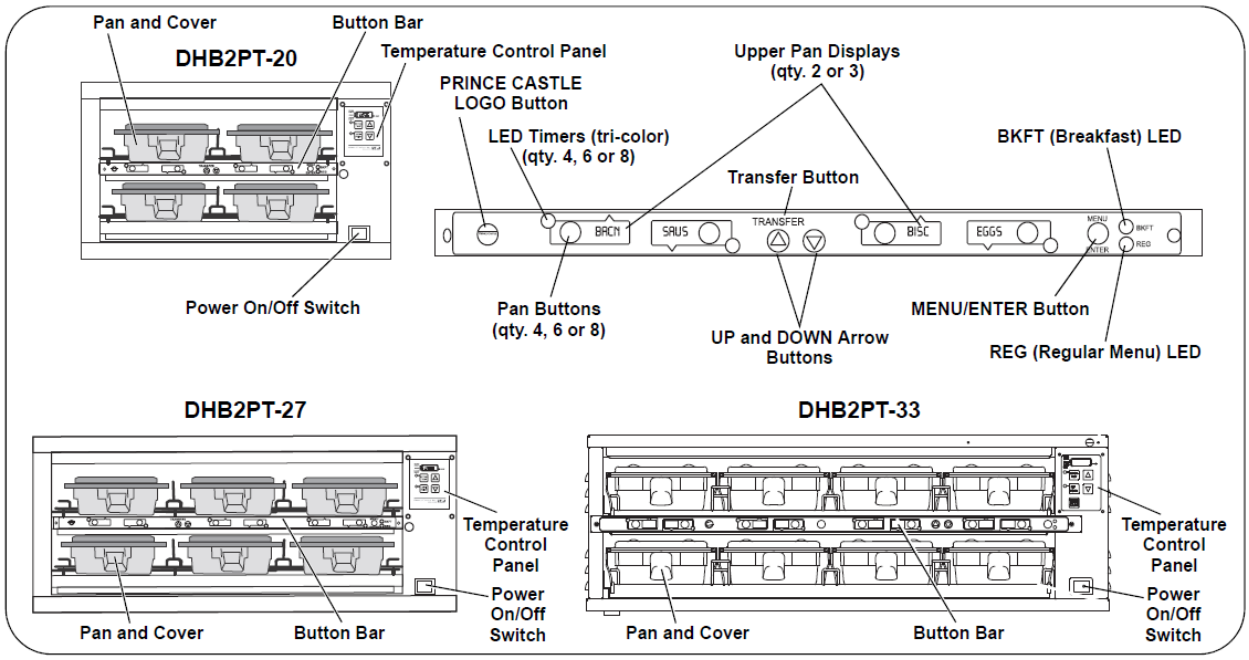
A. Claim 28: the food holding bin of claim 1, wherein each independently controllable heating element disposed at the top portion of the first and second food holding compartments is adapted to output more heat energy than the independently controllable heating elements disposed at the bottom portion of the first and second food holding compartments

1086. As discussed above, the POSA would have found it obvious to modify the multi-zone food holding bin of Fortmann'748 in view of the teachings and disclosures of the IRHS Documents, Jones, Stanger, Loy, Fortmann'197, Fortmann'967, McMillan, Vaseloff, Hartfelder, and/or Shei'099 to arrive at the claimed food holding bin of Claim 1.

1087. As explained in Paragraphs 820-824 and 875-878 above (Ground 10, claim limitation 1.h.2 and 1.o), it would have been obvious to modify the Fortmann'748 cabinet such that the upper and lower heating elements are independently controllable from one another via the controller.

1088. Prince Castle (EX1009) further teaches that it would be desirable for the controller to have the capability of operating the upper heating elements to output more heat energy than the lower heating elements. Specifically, Prince Castle teaches a Product Holding Bin where each compartment has "an upper and lower heater." EX1009: 22, 40.

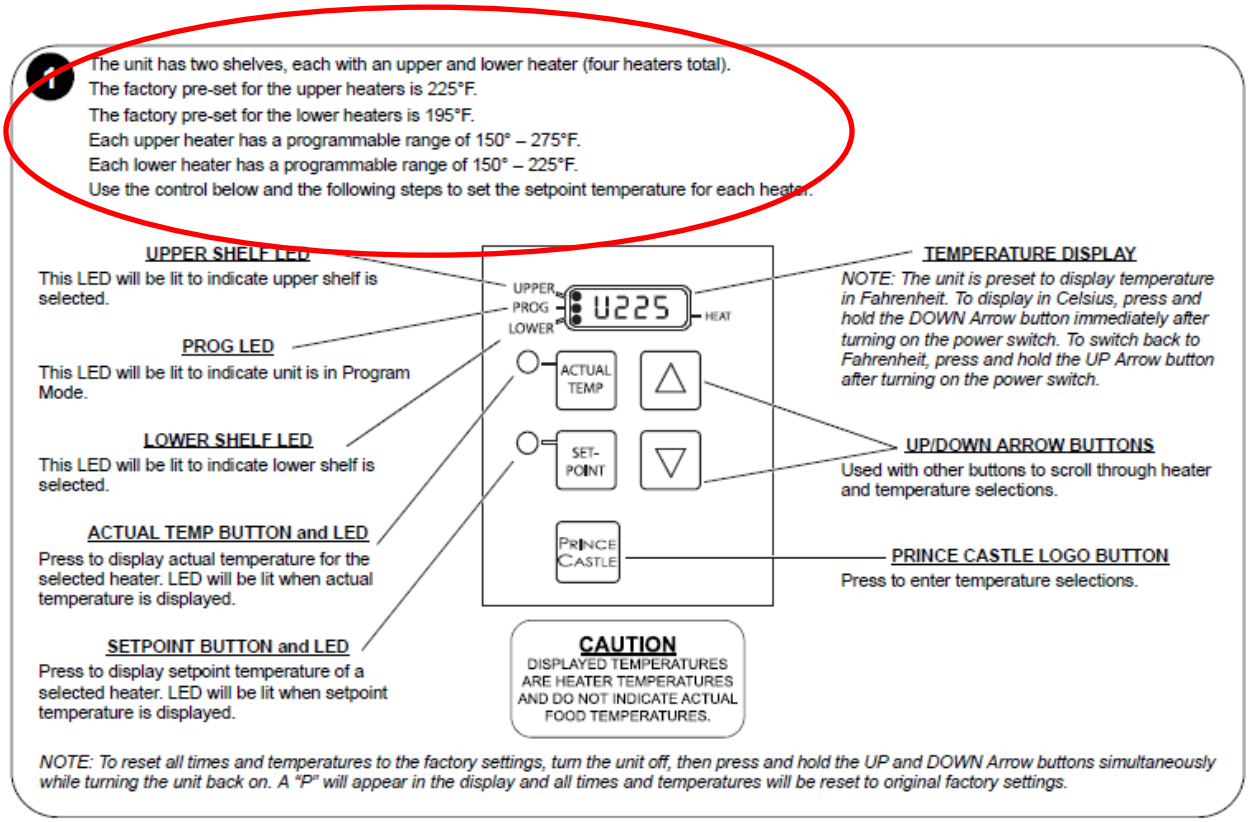




EX1009: 19, 36.

1089. The 2006 and 2010 Operation Manuals of Prince Castle both explain that the maximum programmable temperature is greater for the upper heaters than

for the lower heaters (275°F v. 225°F). EX1009: 22, 40. Moreover, Prince Castle teaches upper heating elements set or adapted to output more heat energy as a factory preset. EX1009: at 22 ("[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."), 40 (same). The maximum setting of the upper heaters is 275°F and the maximum setting of the lower heaters is 225°F. EX1009: 22, 40.



EX1009: 40 (annotated).

1090. Notably, higher temperatures mean more heat energy. Having the upper radiant heating elements operate at a higher setpoint temperature than the lower heating elements means the upper radiant heating elements are outputting

more heat energy to maintain the higher temperature than the lower heating elements.

1091. It would have been obvious to have each upper heating element of the Fortmann'748's modified cabinet be adapted to output more heat energy than each lower heating element of Fortmann'748's modified cabinet (higher setpoint temperature, higher maximum temperature setting, and/or higher wattage rating) in view of Prince Castle. Given that it was well known and taught to customize upper and lower heating for each food product (*see* Paragraphs 634-650 above (Ground 10, Section XIII(A)(3))), adapting (e.g., setting) the upper heating elements to output more heat energy than the lower heating elements would have been an obvious design choice from a set of finite, predictable solutions (upper heat greater than lower heat, upper heat equal to lower heat, or upper heat less than lower heat).

1092. Each upper heating element 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"). Each upper heating element heats 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"). When modifying Fortmann'748 to have independently controllable upper and lower heaters, it would have been desirable for the upper heating

elements for the food holding zone to be adapted to output more heat energy than the lower heating elements to overcome several issues.

1093. The upper heating elements are spaced apart from the food. Because radiant energy intensity drops significantly as distance increases (even over a few inches), the upper heating elements must output much more heat energy than the lower heating elements (with nearly 100% of the heat energy being transferred by direct conduction) to ensure enough radiant energy "hits" the food.

1094. In addition, as food sits, moisture evaporates from the surface, which creates a cooling effect. The upper heating elements have to provide enough energy to counteract this surface cooling and keep the top of the food at a warm temperature. Moreover, bottom heat would be kept lower just to maintain internal temperature, while the upper heating elements do the heavy lifting of maintaining surface temperature and texture (keeping fried foods crispy, for example).

1095. 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 heating elements at higher heat energy output levels.

1096. This would also allow more direct heat on the top of the food to "provide optimum environment" while "minimiz[ing] temperature distribution from top to bottom." EX1006: 1 ("Upper IR emitters provide optimum

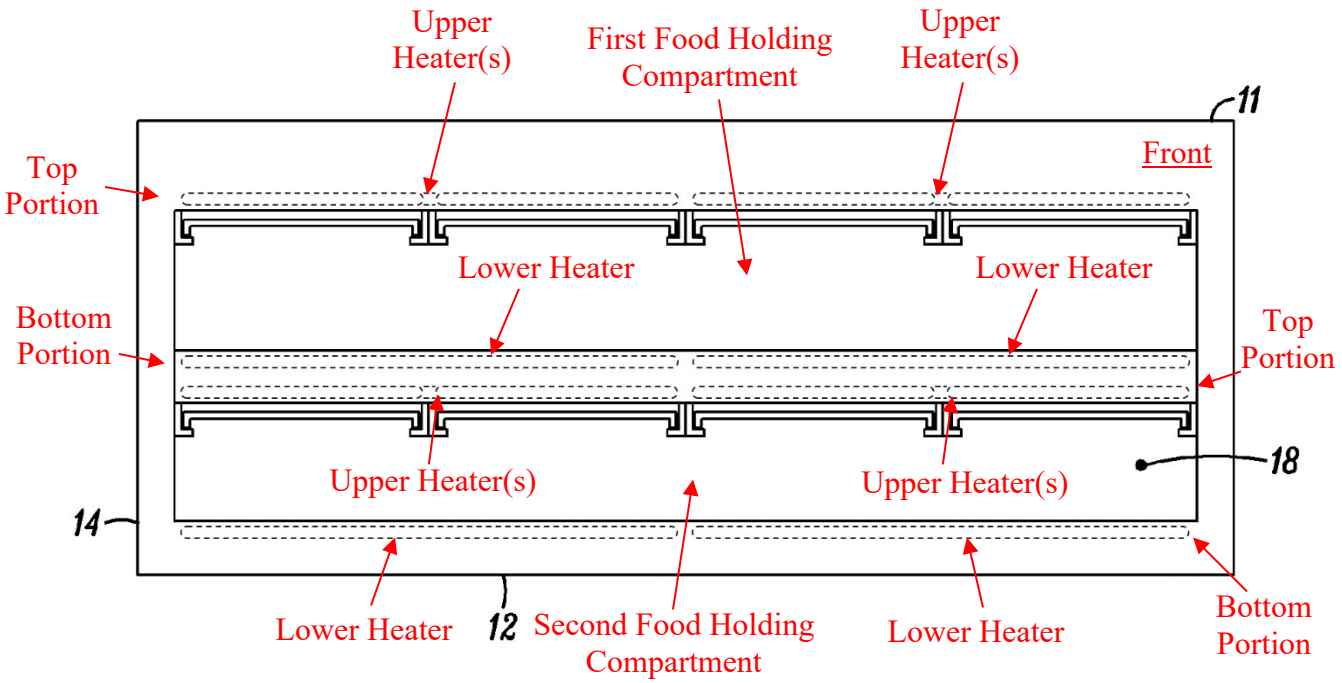
environment for holding of all fried foods resulting in extended hold time, moist protein, and crispy breading" and "[d]ual technology heating to reduce temperature variance from top to bottom"); EX1007: 10 ("Tailor each well specifically to the products within them, providing unlimited flexibility per well"), 51 ("deliver a consistently hot pan of product, from top to bottom").

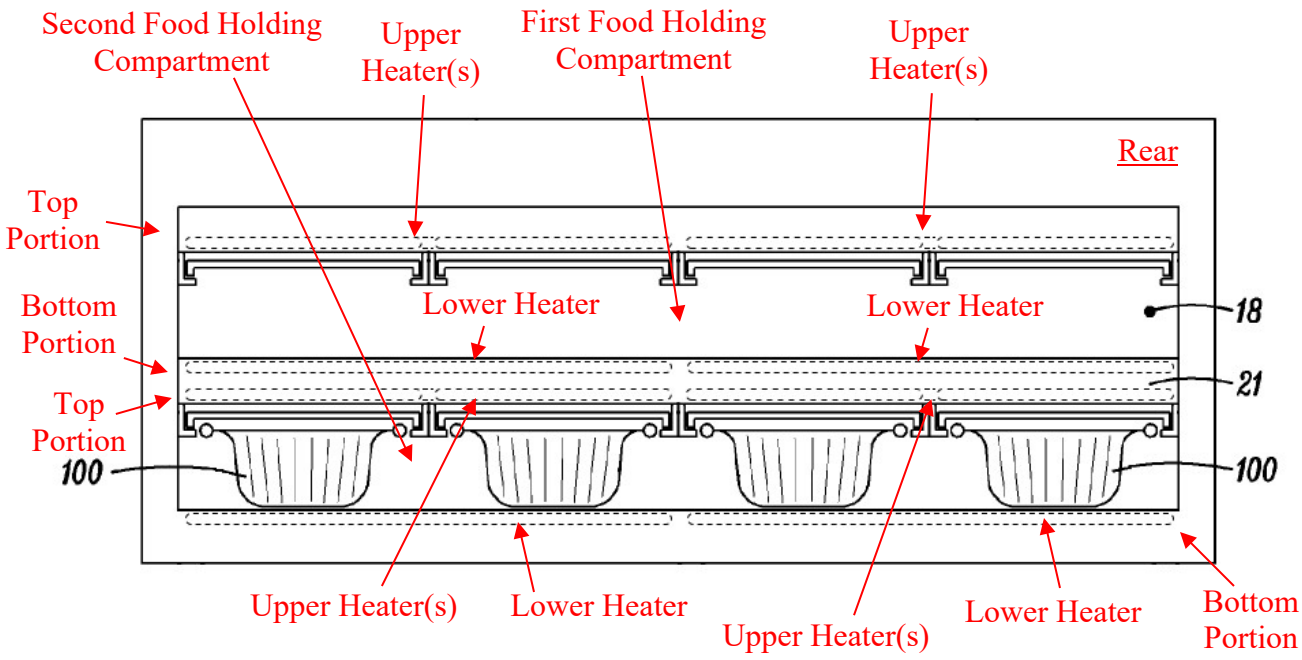
1097. The POSA would have been further motivated to have the capability to set the upper heating elements to output more heat energy than the lower heating elements and/or "to re-crisp breaded (fried) food, to melt cheese on fries, to melt cheese on burger patties, to brown grilled food products, and/or to brown burger patties" with the upper heating elements. *See e.g.*, EX1027: ¶[0021].

1098. 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).

1099. Once the Fortmann'748 cabinet is modified Fortmann'748 to have independently controllable upper and lower heaters—which itself had a high expectation of success implanting—the POSA would have had a high expectation of success in providing the capability of operating the upper heating elements to output more heat energy than the lower heating elements.

1100. In implementing this modification, each upper heating element of Fortmann'748 modified cabinet would be adapted to output more heat energy than each lower heating element via having a higher setpoint temperature, higher maximum temperature setting, and/or higher wattage rating.





EX1010: Figs. 2 and 6 (modified, annotated).

1101. Accordingly, the POSA would have found it obvious to combine the teachings and disclosures of Fortmann'748, the IRHS Documents, Jones, Stanger, Loy, Fortmann'197, Fortmann'967, McMillan, Vaseloff, Hartfelder, Shei'099, and Prince Castle to arrive at the food holding bin as claimed in Claim 28.

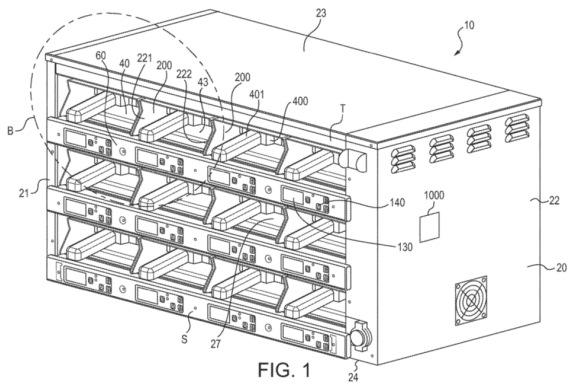
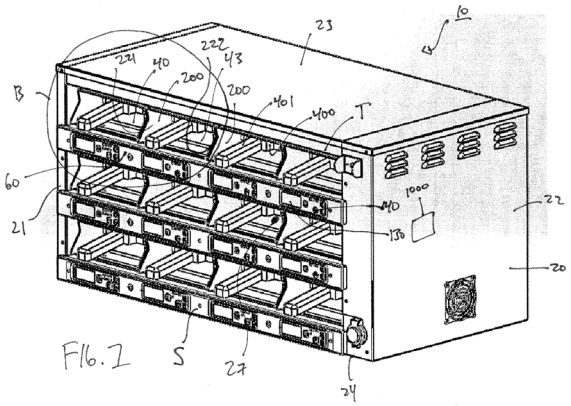
XVII. Fortmann'197 is Supported by its Provisional Application

1102. I understand that the non-provisional application that issued as Fortmann'197 was filed after the earliest priority date of the '363 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 '363 Patent.

1103. 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 '363 Patent, the provisional application must describe the subject matter in Fortmann'197 used in the invalidity positions herein.

1104. 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].

1105. 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	

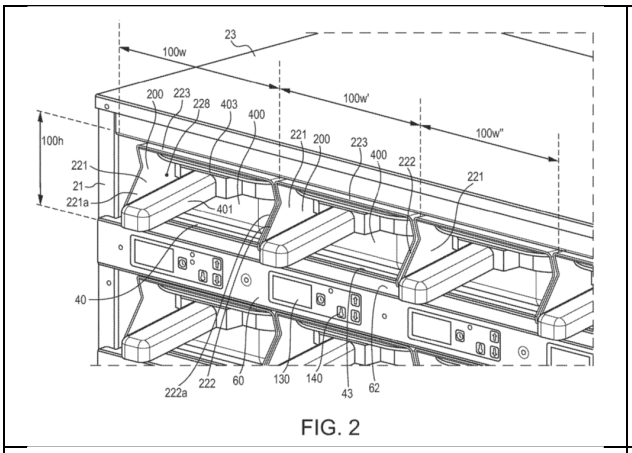


FIG. 2

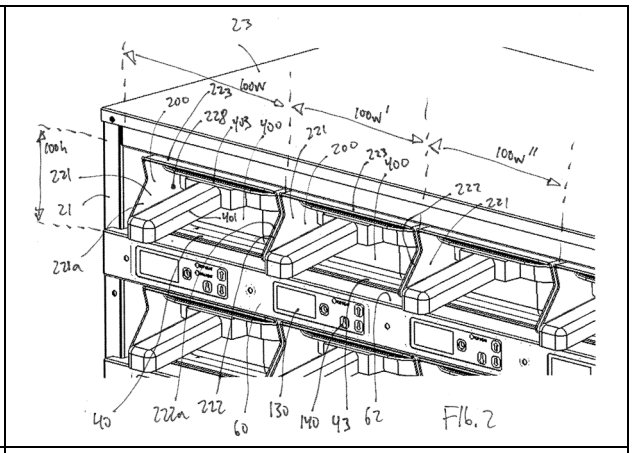


Fig. 2

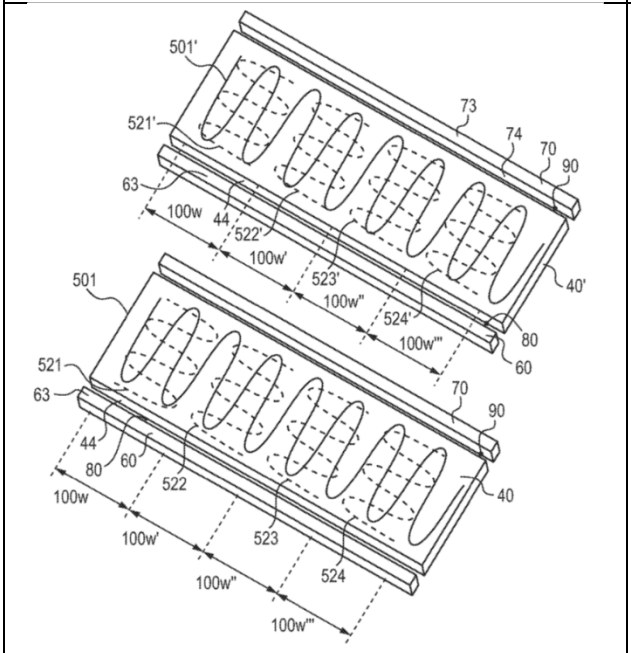


FIG. 10

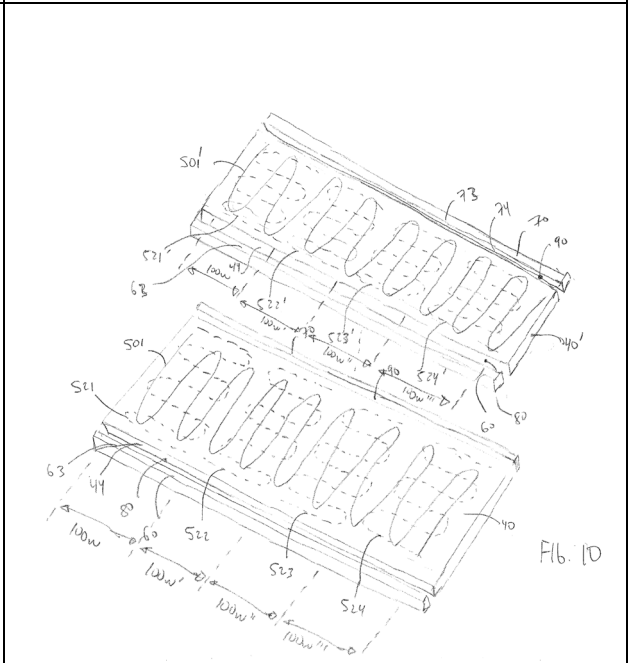


Fig. 10

1106. Therefore, in my opinion, the ’992 Provisional describes the subject matter relied upon in Fortmann’197 establishing the invalidity positions described herein.

1107. 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 1st day of October, 2026.

By Glenn Vallee: 