UNITED STATES PATENT AND TRADEMARK OFFICE

_____

BEFORE THE PATENT TRIAL AND APPEAL BOARD

_____

DUKE MANUFACTURING CO.
Petitioner

v.

MARMON FOODSERVICE TECHNOLOGIES, INC.
Patent Owner

_____

Case: IPR2026-00479
Patent No. 10,841,981

PETITION FOR INTER PARTES REVIEW
OF U.S. PATENT NO. 10,841,981

TABLE OF CONTENTS

I. INTRODUCTION 1

II. CHALLENGE IDENTIFICATION 2

A. Prior Art Identification 2
B. Statutory Grounds for Challenge 6
C. POSA 7

III. CLAIM CONSTRUCTION 8

IV. GROUND 1: Claims 1, 3-13, 27, 29, 31-54, and 56-66 are Obvious Over the IRHS Documents 8

A. Combination of the IRHS Documents 8
B. Independent Claim 1/Claims 13/41/53/66 16

1.P 16
1.a 18
1.b.1 19
1.b.2 20
1.c.1 22
1.c.2 23
1.c.3 24
1.d.1/1.e.1 25
1.d.2/1.e.2 26
1.f 32
1.g.1 36
1.g.2/13/41/53/66 37

C. Independent Claims 27/42/54 42

27.g 42
42.g 45
54.g.1 46
54.g.2 47
54.h 49
54.i.1 51
54.i.2 53
54.i.3 56
54.j.1 57
54.j.2 63

54.j.3 67
54.j.4 71

D. Claims 3/31/43/56 74
E. Claims 4/32/44/57 77
F. Claims 5/33/45/58 82
G. Claims 6/34/46/59 85
H. Claims 7/35/47/60 87

7.a/35.a/47.a/60.a 87
7.b/35.b/47.b/60.b 94

I. Claims 8/36/48/61 96

8.a.1/36.a.1/48.a.1/61.a.1 96
8.a.2/36.a.2/48.a.2/61.a.2 98
8.b/36.b/48.b/61.b 99

J. Claims 9/37/49/62 102
K. Claims 10/38/50/63 102
L. Claims 11/39/51/64 103
M. Claims 12/40/52/65 103
N. Claim 29 104

V. GROUND 2: Claims 2, 14, 16-26, and 28 Are Obvious Over the IRHS Documents, Hartfelder, and/or Shei'099 105

A. Modification based on Hartfelder and/or Shei'099 105
B. Claim 2 111
C. Independent Claim 14 119

14.c 119

D. Claims 16-26 120
E. Claim 28 120

28.a 120
28.b 122

VI. GROUND 3: Claims 3, 31, 43, and 56 are Obvious Over the IRHS Documents, Veltrop, and Poole (If Necessary) 124

VII. GROUND 4: Claim 16 is Obvious Over the IRHS Documents, Hartfelder, Shei'099, Veltrop, and Poole (If Necessary) 128

VIII. GROUND 5: Claim 29 is Obvious Over the IRHS Documents, Shei'821, and/or Shei'155 (If Necessary) 129

IX. GROUND 6: Claim 55 is Obvious Over the IRHS Documents, Fortmann'967, and/or Fortmann'197 133

X. GROUND 7: Claims 42-53 are Obvious Over the IRHS Documents, Prince Castle, and Reese (If Necessary) 137

A. 42.g 138

XI. GROUND 8: Claim 15 is Obvious Over the IRHS Documents, Hartfelder, Shei'099, Jones, Fortmann'197, and/or McMillan 140

XII. GROUND 9: Claims 1-29 and 31-66 are Obvious Over the IRHS Documents, Hartfelder, Shei'099, Veltrop, Poole, Shei'821, Shei'155, Fortmann'967, Fortmann'197, Prince Castle, Reese, Jones, and McMillan (If Necessary) 146

XIII. GROUND 10: Claims 1-29 and 31-66 are Obvious Over the IRHS Documents, Hartfelder, Shei'099, Veltrop, Poole, Shei'821, Shei'155, Fortmann'967, Fortmann'197, Prince Castle, Reese, Jones, and McMillan (If Necessary) 150

XIV. GROUND 11: Claims 5-6, 8, 18-19, 21, 33-34, 36, 45-46, 48, 58-59, and 61 are Obvious Over the IRHS Documents, Hartfelder, Shei'099, Veltrop, Poole, Shei'821, Shei'155, Fortmann'967, Fortmann'197, Prince Castle, Reese, Jones, McMillan, and Vaseloff (If Necessary) 157

XV. GROUND 12: Claims 1-2, 4-10, 12-15, 17-23, 25-28, 32-38, 40-41, 54-55, 57-63, and 65-66 are Obvious Over Fortmann'748, IRHS Documents, Jones, Fortmann'197, Fortmann'967, McMillan, Vaseloff, Hartfelder, and/or Shei'099 165

A. Modifications of Fortmann'748 165

1. 2x4 Configuration 165
2. Multiple Temperature Zones per Compartment 170
3. Independently Controllable Top and Bottom Heaters per Zone 179
4. Modified Controls 183
5. Temperature Control 187
6. Timer Bar/Bezel 191
7. Discrete Lids for Each Bay 203

8. Latches 213
9. Insulation 219

B. Independent Claim 1/Claims 13/26/41/66 222

1.P 222
1.a 224
1.b.1 227
1.b.2 228
1.c.1 230
1.c.2 232
1.c.3 234
1.d.1/1.e.1 236
1.d.2/1.e.2 237
1.f 239
1.g.1 240
1.g.2/13/26/41/66 242

C. Independent Claims 14/27/54 246

14.c 246
27.g 248
54.g.1 251
54.g.2 253
54.h 254
54.i.1 255
54.i.2 257
54.i.3 259
54.j.1 261
54.j.2 262
54.j.3 264
54.j.4 266

D. Claim 2 267
E. Claims 4/17/32/57 277
F. Claims 5/18/33/58 279
G. Claims 6/19/34/59 280
H. Claims 7/20/35/60 281

7.a/20.a/35.a/60.a 281
7.b/20.b/35.b/60.b 284

I. Claims 8/21/36/61 286

8.a.1/21.a.1/36.a.1/61.a.1/8.b/21.b/36.b/61.b 286

8.a.2/21.a.2/36.a.2/61.a.2 287

J. Claims 9/22/37/62 288
K. Claims 10/23/38/63 290
L. Claims 12/25/40/65 292
M. Claim 15 294
N. Claim 28 297

28.a 297
28.b 300

O. Claim 55 302

XVI. GROUND 13: Claims 42, 44-50, 52, and 53 are Obvious Over Fortmann'748, IRHS Documents, Jones, Fortmann'197, Fortmann'967, McMillan, Vaseloff, Hartfelder, Shei'099, and/or Prince Castle.....304

A. Independent Claim 42 304

42.g 305

B. Claims 44-50/52/53 308

XVII. GROUND 14: Claims 3, 11, 16, 24, 31, 39, 56, and 64 are Obvious Over Fortmann'748, IRHS Documents, Jones, Fortmann'197, Fortmann'967, McMillan, Vaseloff, Hartfelder, Shei'099, Veltrop and/or Shei'155. 308

A. Claims 3/16/31/56 308
B. Claims 11/24/39/64 310

XVIII. GROUND 15: Claims 43 and 51 are Obvious Over Fortmann'748, IRHS Documents, Jones, Fortmann'197, Fortmann'967, McMillan, Vaseloff, Hartfelder, Shei'099, Prince Castle, Veltrop and/or Shei'155. 315

XIX. GROUND 16: Claim 29 is Obvious Over Fortmann'748, IRHS Documents, Jones, Fortmann'197, Fortmann'967, McMillan, Vaseloff, Hartfelder, Shei'099, Shei'821, and/or Shei'155.....315

XX. MANDATORY NOTICES UNDER 37 C.F.R. §42.8.....320

A. Real Parties-In-Interest under 37 C.F.R. §42.8(b)(1) 320
B. Related Matters under 37 C.F.R. §42.8(b)(2) 320
C. Designation of Lead and Back-Up Counsel under 37 C.F.R. §42.8(b)(3).....321
D. Service Information (37 C.F.R. §42.8(b)(4)): 321

E. Payment Information Under 37 C.F.R. §§42.15(a) and 42.103(a) ...321

XXI. GROUNDS FOR STANDING.....321

XXII. CONCLUSION.....322

TABLE OF AUTHORITIES

Cases **Page(s)**

Ex parte Gehring,
Appeal No. 2014-004556 (P.T.A.B. June 14, 2016) 131, 318

GoPro, Inc. v. Contour IP Holding LLC,
908 F.3d 690 (Fed. Cir. 2018) 3

Haliburton Energy Servs., Inc. v. Dynamic 3D Geosolutions LLC,
IPR2014-01186, Paper 13 (P.T.A.B. Jan. 12, 2015) 15

In re Harza,
274 F.2d 669 (C.C.P.A. 1960) 178, 209

In re Leshin,
277 F.2d 197 (CCPA 1960) 131, 318

Penumbra, Inc. v. Rapidpulse Inc.,
IPR2021-01466, Paper 34 (P.T.A.B. Mar. 10, 2023) 5

Roku v. Universal Electronics,
No. 2024-1188, 2025 WL 1692663 (Fed. Cir. 2025) 3

Uber Techs., Inc. v. X One, Inc.,
957 F.3d 1334 (Fed. Cir. 2020) 167, 306

Weber, Inc. v. Provisur Technologies, Inc.,
92 F.4th 1059 (Fed. Cir. 2024) 3

Other Authorities

37 C.F.R. §42.8 320-321

37 C.F.R. §42.10 321

37 C.F.R. §42.15 321

37 C.F.R. § 42.103 321

EXHIBIT LIST

Exhibit No.	Description
1001	U.S. Patent No. 10,841,981 ("the '981 Patent")
1002	Prosecution History of the '981 Patent
1003	Declaration of Glenn Vallee
1004	*Curriculum Vitae* of Glenn Vallee
1005	Infrared Heatsink Holding Unit Operators Manual ("IRHS Manual")
1006	Infra Red Heat Sink Specifications ("IRHS Specifications")
1007	bk.dukemfg.com ("Duke Website")
1008	Infrared Heatsink Holding Unit Service Manual ("IRHS Service Manual")
1009	Prince Castle Holding Bins ("Prince Castle")
1010	U.S. Patent Publication No. 2010/0288748 ("Fortmann'748")
1011	U.S. Patent Publication No. 2016/0073821 ("Shei'821")
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")

Exhibit No.	Description
1019	U.S. Patent No. 6,658,994 (“McMillan”)
1020	U.S. Patent Publication No. 2011/0114618
1021	U.S. Patent Publication No. 2011/0114624
1022	U.S. Patent Publication No. 2011/0252813 (“Veltrop”)
1023	U.S. Provisional Patent Application No. 62/193,992 (“the ’992 Provisional”)
1024	U.S. Patent No. 6,119,587
1025	U.S. Patent No. 3,461,275 (“Poole”)
1026	U.S. Patent No. 7,258,064 (“Vaseloff”)
1027	U.S. Patent Publication No. 2014/0130684 (“Reese”)
1028	Merco Holding Cabinets
1029	U.S. Patent No. 6,011,243
1030	Declaration of Kathryn Veder
1031	E-mail Collection (Trade Show Related)
1032	E-mail Collection (IRHS Manual Related)
1033	E-mail Collection (IRHS Specifications Related)
1034	E-mail Collection (IRHS Service Manual Related)
1035	Flame Magazine
1036	Declaration of Natasha Zerbey
1037	Declaration of Arthur Lemley

Exhibit No.	Description
1038	Declaration of Sheldon Coach
1039	IRHS Sales Spreadsheet
1040	Proposed Protective Order - Clean
1041	Proposed Protective Order - Marked-Up

Emphasis added throughout unless indicated otherwise.

Figures annotated throughout unless indicated otherwise.

I. INTRODUCTION

U.S. Patent No. 10,841,981 (the ’981 Patent) pertains to heated food-holding bins for fast-food restaurants. EX1001: Abstract, 1:64-65; EX1003: ¶¶31-33.

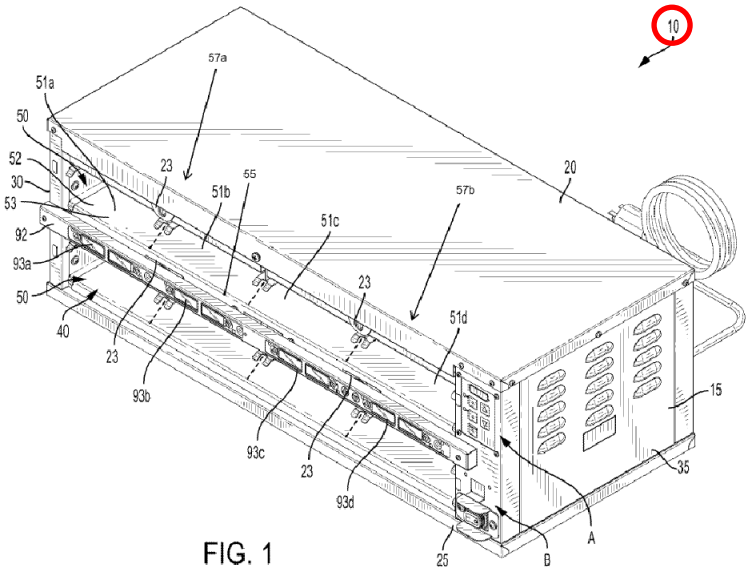


FIG. 1

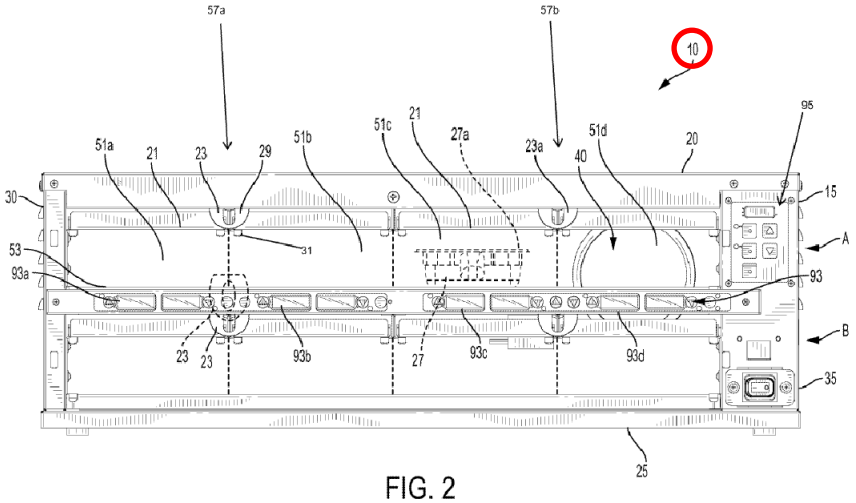


FIG. 2

EX1001.

The ’981 Patent uses known features (2x4 bay configuration, independent temperature control, heating element arrangement, control locations, lids, lid shelves, and lid latches) according to established functions. EX1003: ¶¶34-35.

Duke Manufacturing Co. ("Duke") respectfully requests *inter partes* review of claims 1-29 and 31-66. Two sets of grounds are presented: a first based on related non-patent literature; and a second demonstrating the '981 Patent cobbles together well-known warming cabinet features, like adding common automobile options (heated seats, etc.) to a base automobile.

II. CHALLENGE IDENTIFICATION

A. Prior Art Identification

The '981 Patent's priority date is April 19, 2016.

These references are prior art under §102(a)(1):

- Fortmann'748
- Jones
- Fortmann'967
- Hartfelder
- Veltrop
- Shei'821
- Shei'155
- Poole
- McMillan
- Shei'099
- Vaseloff
- Reese
- IRHS Manual
- IRHS Specifications
- Duke Website
- IRHS Service Manual

- Prince Castle

The IRHS Manual, IRHS Specifications, Duke Website, and IRHS Service Manual (collectively "IRHS Documents", each an "IRHS Document") are printed publications as publicly accessible to the interested public prior to April 19, 2016. *GoPro, Inc. v. Contour IP Holding LLC*, 908 F.3d 690, 693-95 (Fed. Cir. 2018) (focusing on interested (not general) public). IRHS products were marketed and commercially successful, which drove attention to associated printed publications. EX1030: ¶¶19-36; EX1031. IRHS Manual was publicly disseminated (shipped with 360+ units to customers from February 18, 2014 to September 3, 2014). EX1030: ¶¶33, 37-39; EX1032; EX1036; EX1037; EX1038; EX1039; *Weber, Inc. v. Provisur Technologies, Inc.*, 92 F.4th 1059, 1067-69 (Fed. Cir. 2024) (finding operating manuals publicly accessible). IRHS Specifications was publicly disseminated (available for trade shows, emailed to 20+ organizations (customers, manufacturer's representatives)). EX1030: ¶¶40-44; EX1033. Duke Website was publicly accessible and advertised (industry publications, tradeshow). EX1030: ¶¶27-29; EX1007: 1-2; EX1035: 5; EX1003: ¶56; *Roku v. Universal Electronics*, No. 2024-1188, 2025 WL 1692663, *1-*3 (Fed. Cir. 2025). IRHS Service Manual was available from Duke and emailed to 6+ organizations (service providers, Whataburger, Burger King franchisee). EX1030: ¶¶34, 45-48; EX1034.



For the past 12 years, Duke has a proven record in approximately 80% of all BURGER KING® restaurants worldwide. Now we introduce our best effort yet – our new **InfraRed HeatSink™** holding unit, designed to provide you with hot quality food **all day long.** The IRHS gives restaurant owners the flexibility to hold prepared food items at the ideal flavor, texture, and temperature, ready and waiting to serve customers quickly. Experience the Duke difference...

DUKE INFRARED HEATSINK™ (IRHS):

Duke heavyweight construction, **built to last**
Dual heat technology: Top - **sealed solid state InfraRed**; Bottom - **HeatSink™**
No hot air and **no moving parts, no fans**
Fully sealed, **easily cleaned** top compartments
Unlimited IR settings for **complete product recipe flexibility**
Fully independent pans for flexible product location
Smooth corners **easy to clean**
Robust Duke timer bar **for long life**; full **Kitchen Minder® compatibility available**
Thick, durable HeatSink™ **aluminum pan cover** for broiled products
Power management & idle mode for **energy conservation**

EX1035: 5.

Prince Castle is a printed publication as a publicly accessible website maintained by Patent Owner prior to April 19, 2016. EX1030: ¶¶15-17; EX1009: 1-2; EX1003: ¶111.

Fortmann'197 is prior art under §102(a)(2) as effectively filed as of the '992 Provisional's filing, before the '981 Patent. The "ministerial requirements" of §120 were met and the provisional "'describe[d] the subject matter' relied upon." *Penumbra, Inc. v. Rapidpulse Inc.*, IPR2021-01466, Paper 34 at 32 (P.T.A.B. Mar. 10, 2023) (precedential). Fortmann'197 meets the "ministerial requirements" by claiming benefit of (EX1014: 1:6-8), being co-pending with (EX1014: (22)), and sharing common inventors with the '992 Provisional (EX1014: (72); EX1023: 1). The '992 Provisional describes the subject matter in Fortmann'197 forming this Petition's grounds because Fortmann'197's and the '992 Provisional's specifications and figures are essentially identical (compare EX1014: 1:13-10:9 with EX1023: ¶¶[0001]-[0055], and compare EX1014: Figs. 1-10 with EX1023: Figs. 1-10); EX1003: ¶¶1339-1343.

The references pertain to food holding and heating and are in the same field of endeavor with each other and the '981 Patent. EX1001: 1:64-2:24; 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]; EX1003: ¶¶37-116.

B. Statutory Grounds for Challenge

Basis for all grounds is §103.

Ground	References	Claims Challenged
1	IRHS Manual, IRHS Specifications, Duke Website, IRHS Service Manual	1, 3-13, 27, 29, 31-54, 56-66
2	IRHS Manual, IRHS Specifications, Duke Website, IRHS Service Manual, Hartfelder, Shei'099	2, 14, 16-26, 28
3	IRHS Manual, IRHS Specifications, Duke Website, IRHS Service Manual, Veltrop, Poole	3, 31, 43, 56
4	IRHS Manual, IRHS Specifications, Duke Website, IRHS Service Manual, Hartfelder, Shei'099, Veltrop, Poole	16
5	IRHS Manual, IRHS Specifications, Duke Website, IRHS Service Manual, Shei'821, Shei'155	29
6	IRHS Manual, IRHS Specifications, Duke Website, IRHS Service Manual, Fortmann'967, Fortmann'197	55
7	IRHS Manual, IRHS Specifications, Duke Website, IRHS Service Manual, Prince Castle, Reese	42-53
8	IRHS Manual, IRHS Specifications, Duke Website, IRHS Service Manual, Hartfelder, Shei'099, Jones, Fortmann'197, McMillan	15
9	IRHS Manual, IRHS Specifications, Duke Website, IRHS Service Manual, Hartfelder, Shei'099, Veltrop, Poole, Shei'821, Shei'155, Fortmann'967, Fortmann'197, Prince Castle, Reese, Jones, McMillan	1-29, 31-66
10	IRHS Manual, IRHS Specifications, Duke Website, IRHS Service Manual, Hartfelder,	1-29, 31-66

	Shei'099, Veltrop, Poole, Shei'821, Shei'155, Fortmann'967, Fortmann'197, Prince Castle, Reese, Jones, McMillan	
11	IRHS Manual, IRHS Specifications, Duke Website, IRHS Service Manual, Hartfelder, Shei'099, Veltrop, Poole, Shei'821, Shei'155, Fortmann'967, Fortmann'197, Prince Castle, Reese, Jones, McMillan, Vaseloff	5-6, 8, 18-19, 21, 33-34, 36, 45-46, 48, 58-59, 61
12	Fortmann'748, IRHS Manual, IRHS Specifications, Duke Website, IRHS Service Manual, Jones, Fortmann'197, Fortmann'967, McMillan, Vaseloff, Hartfelder, Shei'099	1-2, 4-10, 12-15, 17-23, 25-28, 32-38, 40-41, 54-55, 57-63, 65-66
13	Fortmann'748, IRHS Manual, IRHS Specifications, Duke Website, IRHS Service Manual, Jones, Fortmann'197, Fortmann'967, McMillan, Vaseloff, Hartfelder, Shei'099, Prince Castle	42, 44-50, 52-53
14	Fortmann'748, IRHS Manual, IRHS Specifications, Duke Website, IRHS Service Manual, Jones, Fortmann'197, Fortmann'967, McMillan, Vaseloff, Hartfelder, Shei'099, Veltrop, Shei'155	3, 11, 16, 24, 31, 39, 56, 64
15	Fortmann'748, IRHS Manual, IRHS Specifications, Duke Website, IRHS Service Manual, Jones, Fortmann'197, Fortmann'967, McMillan, Vaseloff, Hartfelder, Shei'099, Prince Castle, Veltrop, Shei'155	43, 51
16	Fortmann'748, IRHS Manual, IRHS Specifications, Duke Website, IRHS Service Manual, Jones, Fortmann'197, Fortmann'967, McMillan, Vaseloff, Hartfelder, Shei'099, Shei'821, Shei'155	29

C. POSA

The person having ordinary skill in the art ("POSA") would have an engineering degree and/or 4 years' experience in design and/or manufacture of food service equipment. POSA would be familiar with existing food service

equipment in 2016—including food holding cabinets—and would know how to modify food service equipment based on various design criteria. EX1003: ¶¶1-30.

III. CLAIM CONSTRUCTION

Plain and ordinary meaning is applied.

IV. GROUND 1: Claims 1, 3-13, 27, 29, 31-54, and 56-66 are Obvious Over the IRHS Documents

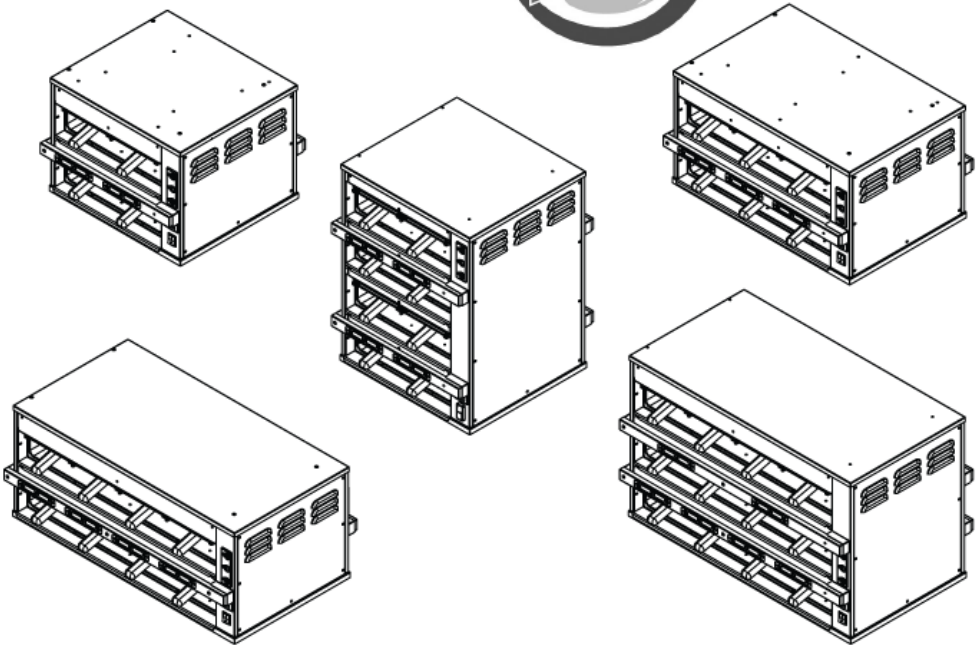
A. Combination of the IRHS Documents

The IRHS Documents describe the same Duke products: Infrared Heatsink Holding Units ("IRHS"). EX1003: ¶¶117-118.

Your Solutions Partner

OPERATORS MANUAL

INFRARED HEATSINK ™ HOLDING UNIT



MODELS

IRHS22
IRHS23
IRHS24
IRHS34
IRHS42

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

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

P/N 229945D
02/18/14

EX1005: 1.

Your Solutions Partner

Specifications

F.O.B Sedalia, Missouri 65302



IRHS - 23

OPTIONS:

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

AGENCY LISTING:

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

800.735.3853 Toll Free
314.231.5074 Fax
www.dukemfg.com

Approval Stamp(s):

PRODUCT INFORMATION:

PROJECT: _____
ITEM: _____
QUANTITY: _____

MODEL:

Product Holding Unit - Infra Red Heat Sink

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

BODY:

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

HEATING:

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

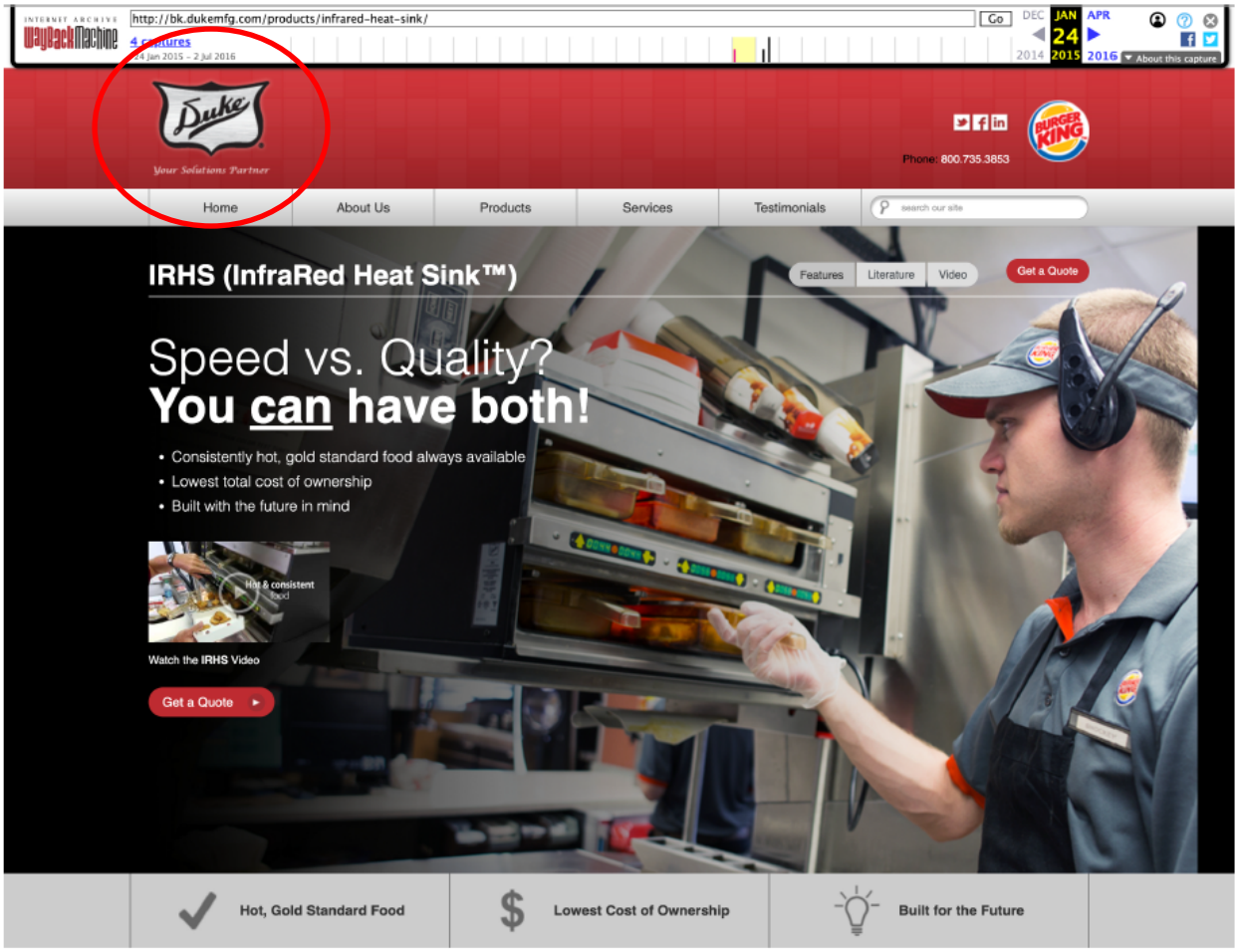
CONTROLS

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

SHORT FORM SPECIFICATIONS:

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

EX1006: 1.


http://bk.dukemfg.com/products/infrared-heat-sink/
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.

Service Manual

Your Solutions Partner

INFRARED HEATSINK™ HOLDING UNIT

Includes Standalone, Kitchen Minder and VISOR models

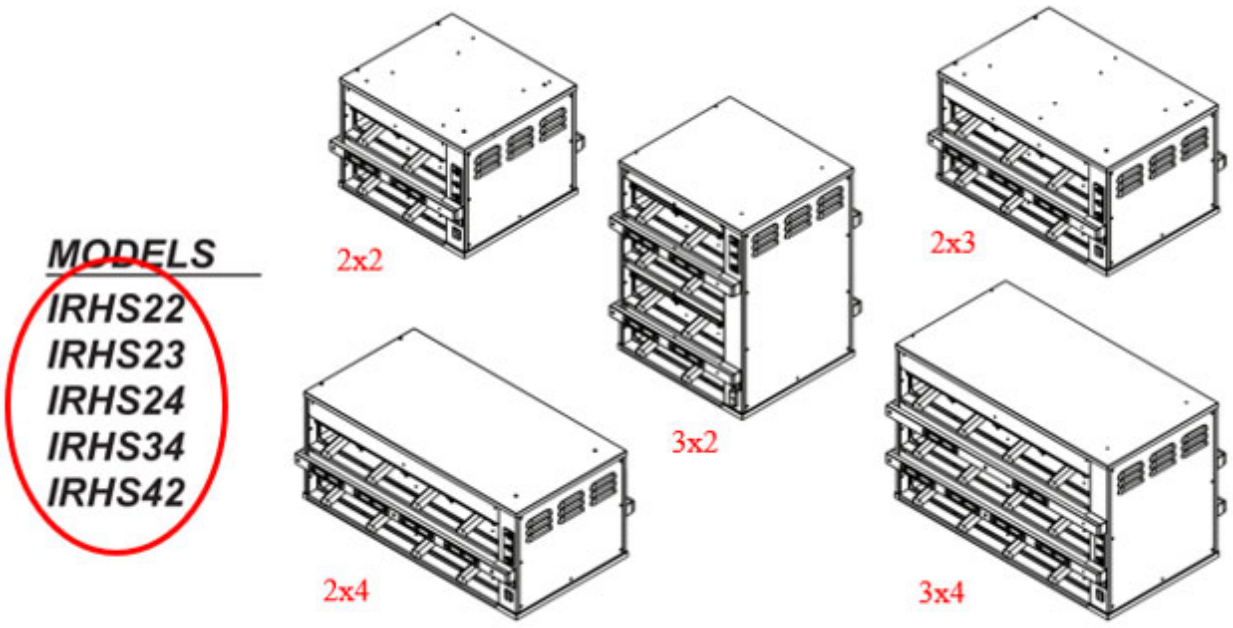
MODELS
IRHS22
IRHS23
IRHS24
IRHS34
IRHS42



EX1008: 1.

The IRHS Documents use the same model numbers (e.g., IRHS24).

EX1005: 1, 6-10; EX1006: 1-2; EX1007: 54-57; EX1008: 1, 5-9; EX1003: ¶¶119-120.



EX1005: 1.

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.

Part #'s	Controls	Stand-Alone/ Master/Satellite	Electrical Requirements			
			Voltage	Hz	Amps	NEMA
IRHS24-**XXX**4T1N	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.

POSA understands the IRHS Documents describe the same Duke IRHS products. EX1005: 6-10; EX1006: 1-2; EX1007: 55-57; EX1008: 1, 5-9; EX1003: ¶122. Duke produced all the IRHS Documents, which include Duke trademarks. EX1005: 1; EX1006: 1; EX1007: 26, 54, 57; EX1008: 1; EX1003: ¶121. The IRHS Documents describe the same IRHS product lines, using similar images, specifications, and descriptions (model numbers, name ("InfraRed HeatSink"), etc.). EX1005: 6-10; EX1006: 1-2; EX1007: 55-57; EX1008: 5-9; EX1003: ¶122.

It would have been obvious to combine the IRHS Documents' teachings because they describe the same IRHS products. EX1003: ¶¶123-124; *Haliburton Energy Servs., Inc. v. Dynamic 3D Geosolutions LLC*, IPR2014-01186, Paper 13 at 19-20 (P.T.A.B. Jan. 12, 2015). POSA would combine the IRHS Documents' teachings to form IRHS products having all features described by the IRHS Documents, meeting customer demands, increasing diverse food holding capacity, and providing customized/improved holding environments. EX1007: 17; EX1019: 1:35-49; EX1003: ¶124.

POSA would view the IRHS Documents together as describing Duke's IRHS features. EX1003: ¶125. POSA would apply or supplement IRHS features taught by one IRHS Document into IRHS products taught by other IRHS

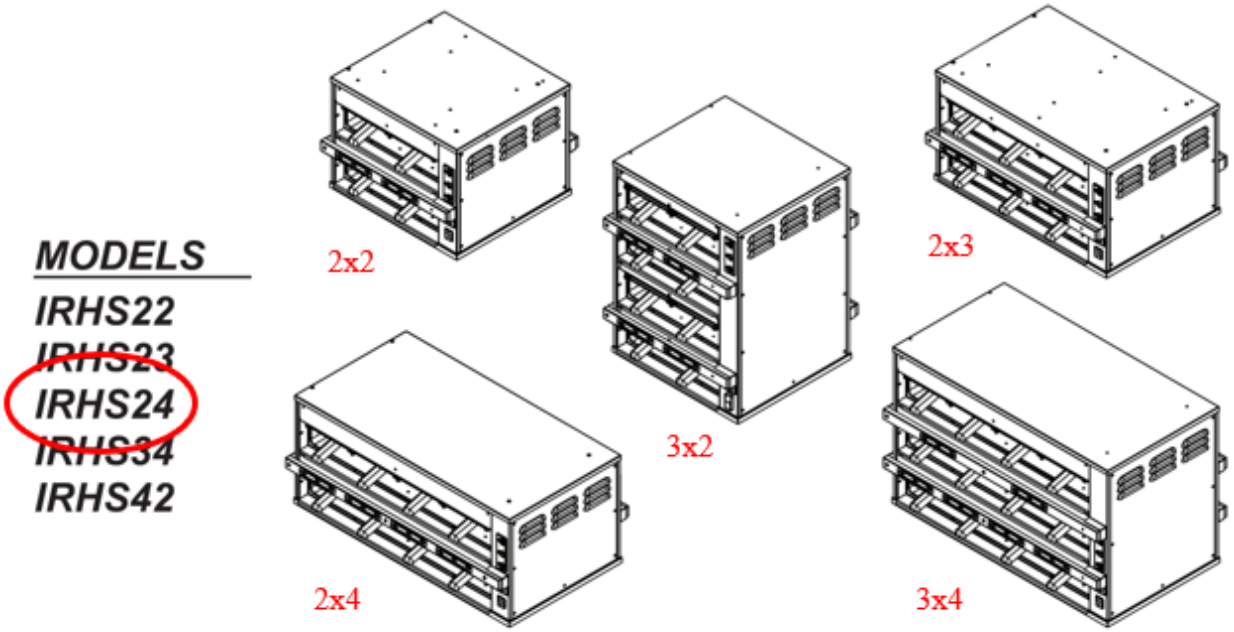
Documents. EX1003: ¶125. If a feature was not clearly described in one IRHS Document, POSA would look to other IRHS Documents. EX1003: ¶125.

There is a reasonable expectation of success because the IRHS Documents describe the same/related products. EX1003: ¶126.

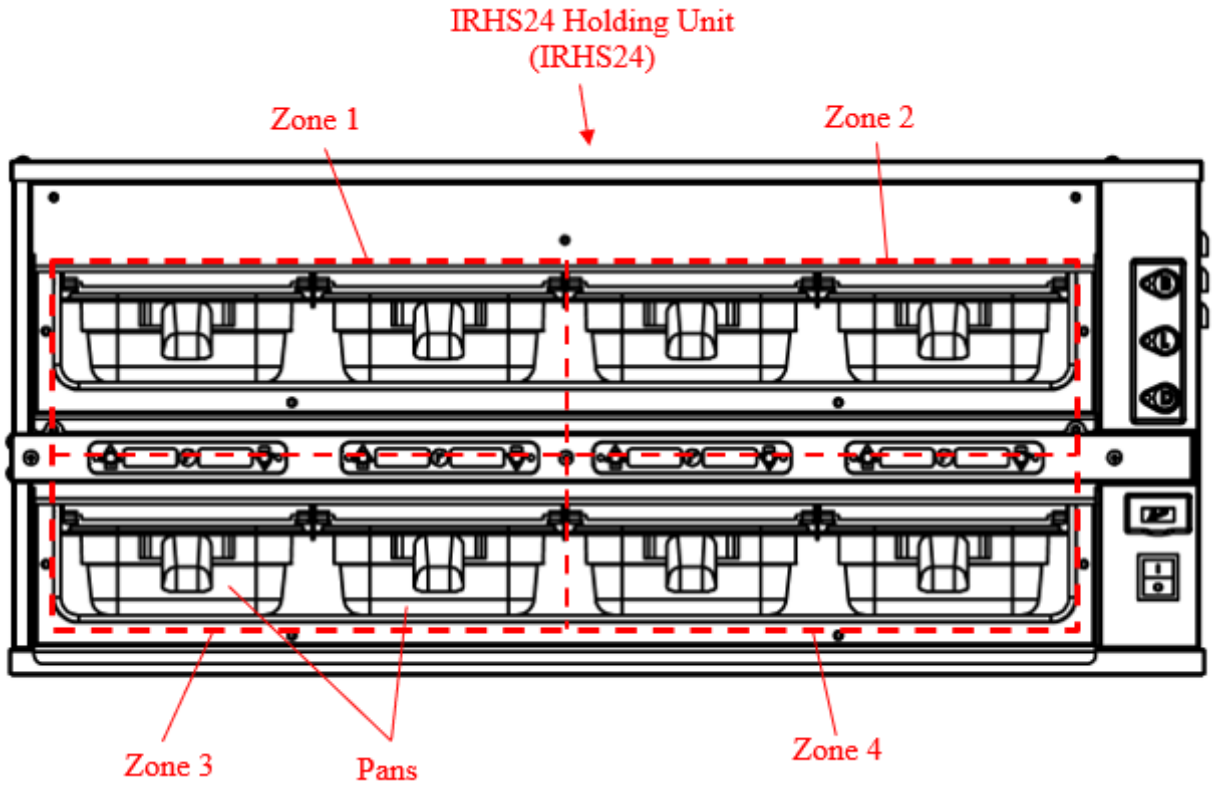
B. Independent Claim 1/Claims 13/41/53/66

1.P

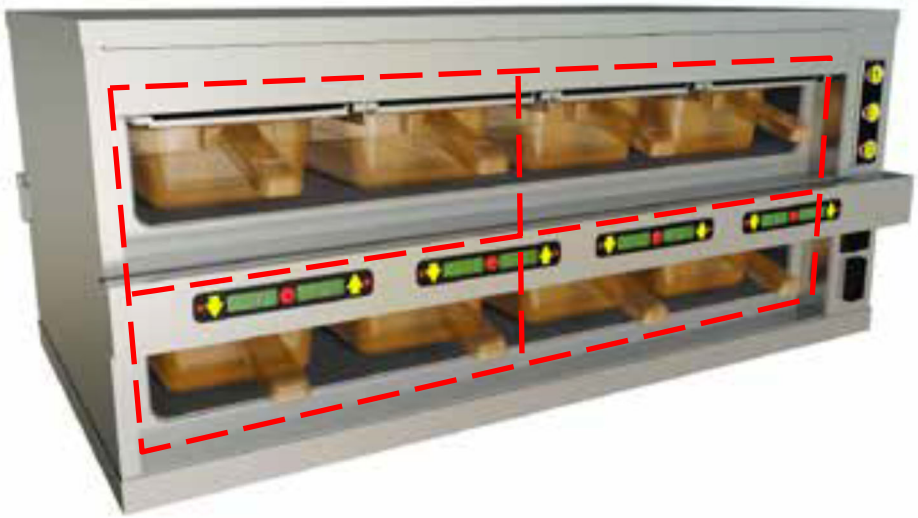
The IRHS Documents disclose a 2x4 IRHS (the "IRHS24")[1] having multiple zones for heating food pans. EX1005: 4, 8; EX1006: 1; EX1007: 51, 56; EX1008: 1; Section IV(B)(1.d.1/1.e.1); EX1003: ¶127.



[1] "IRHS24" refers to IRHS Documents' disclosure not a commercial product.



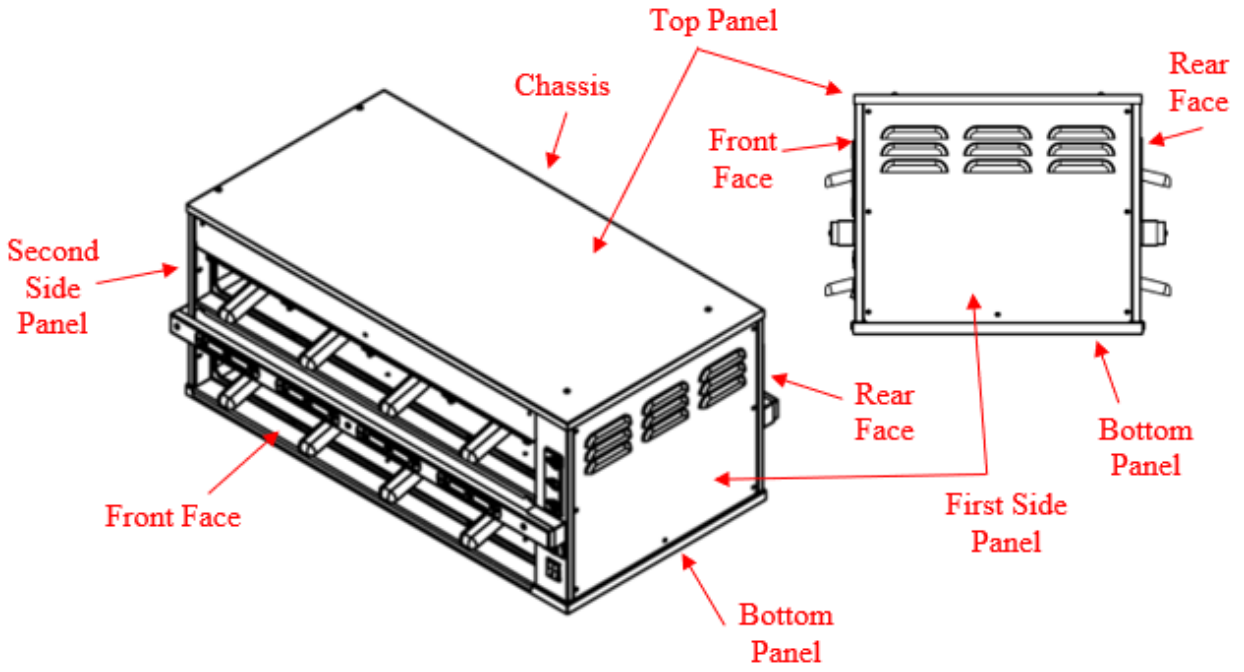
EX1005: 1, 8.

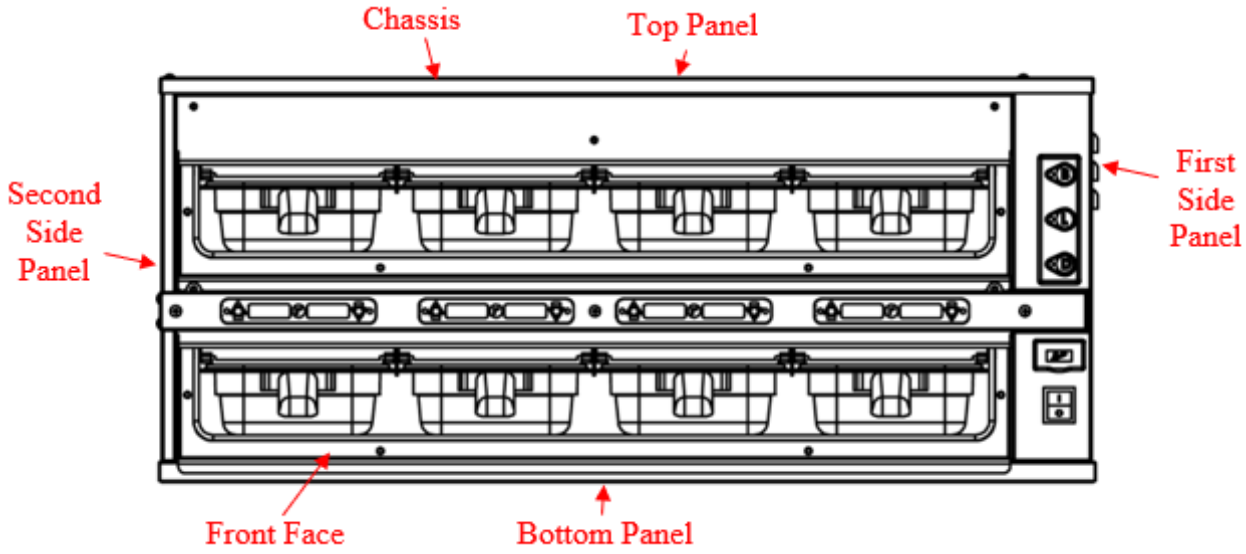


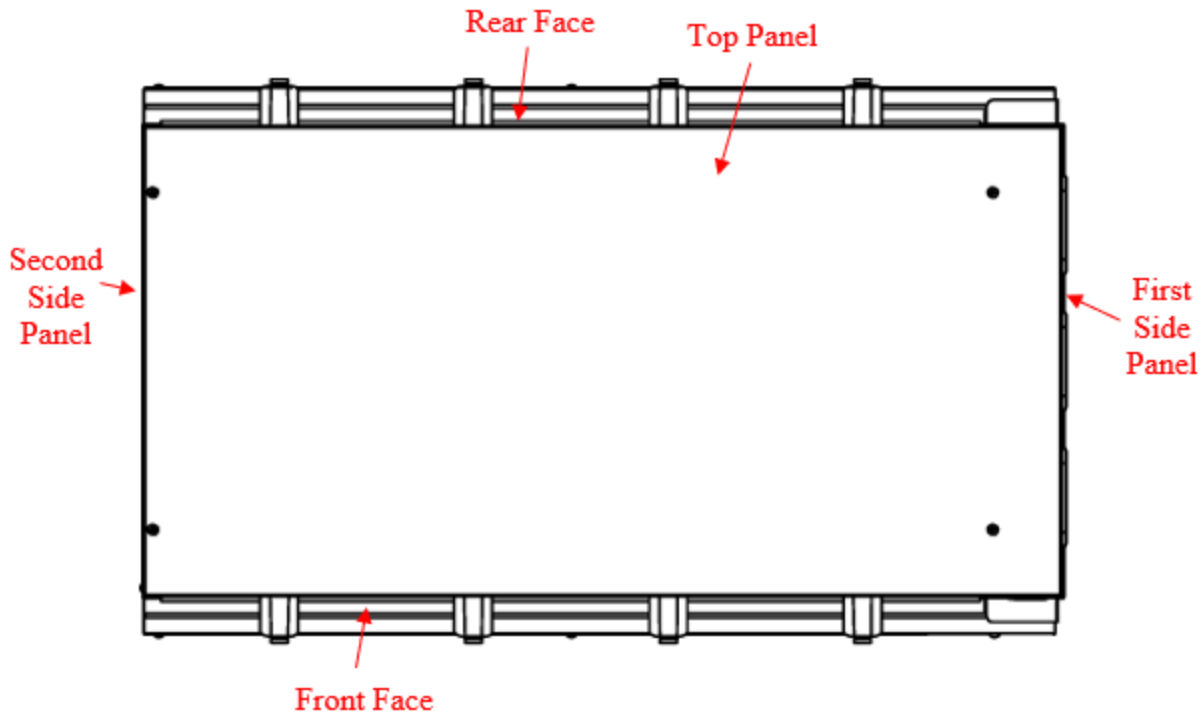
EX1007: 56.

1.a

A chassis has top, first side, second side, and bottom panels, and opposite front and rear faces. EX1006: 1; EX1007: 51; EX1003: ¶128.



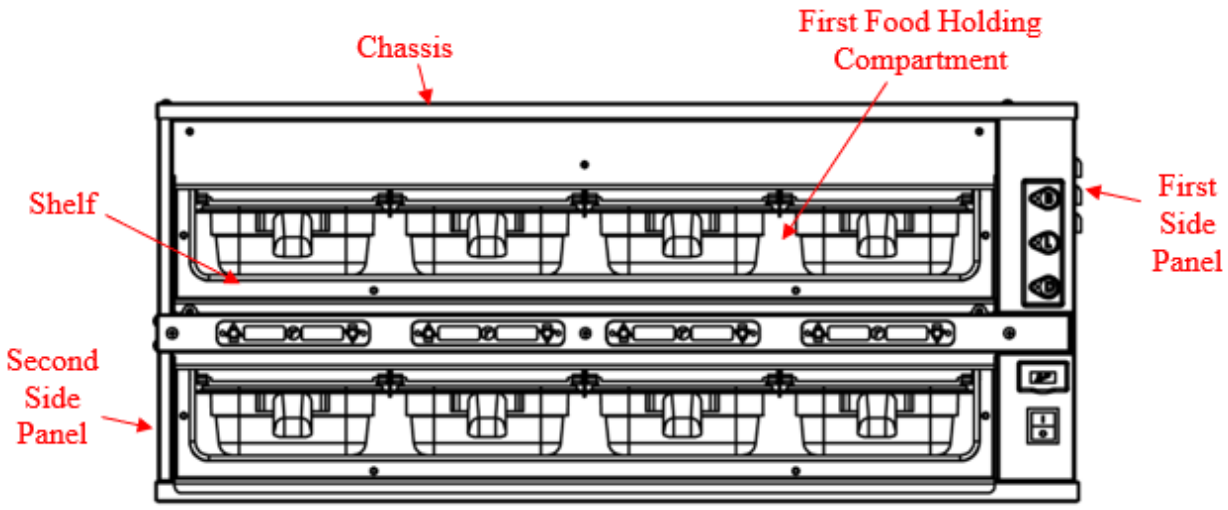




EX1005: 8.

1.b.1

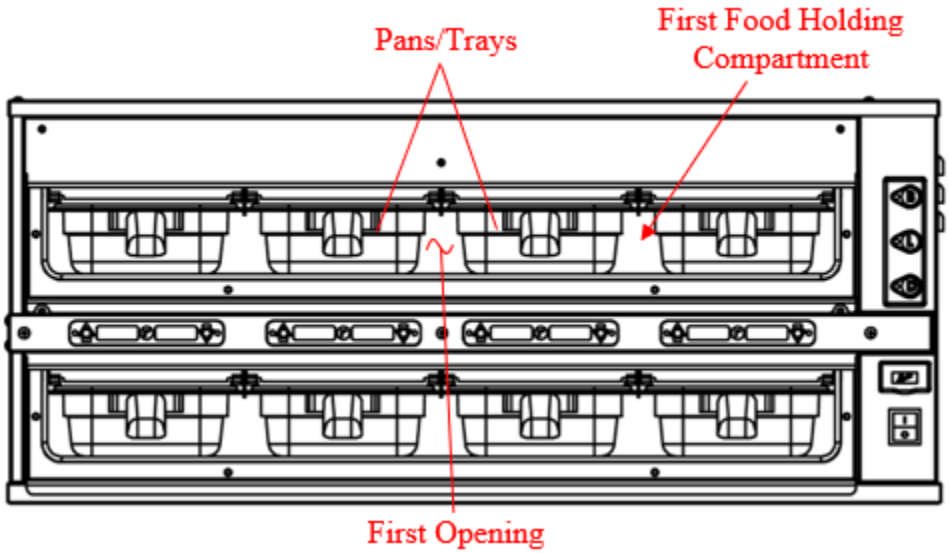
The first and second side panels and shelf define an upper/first food holding compartment within the chassis. EX1003: ¶129.



EX1005: 8.

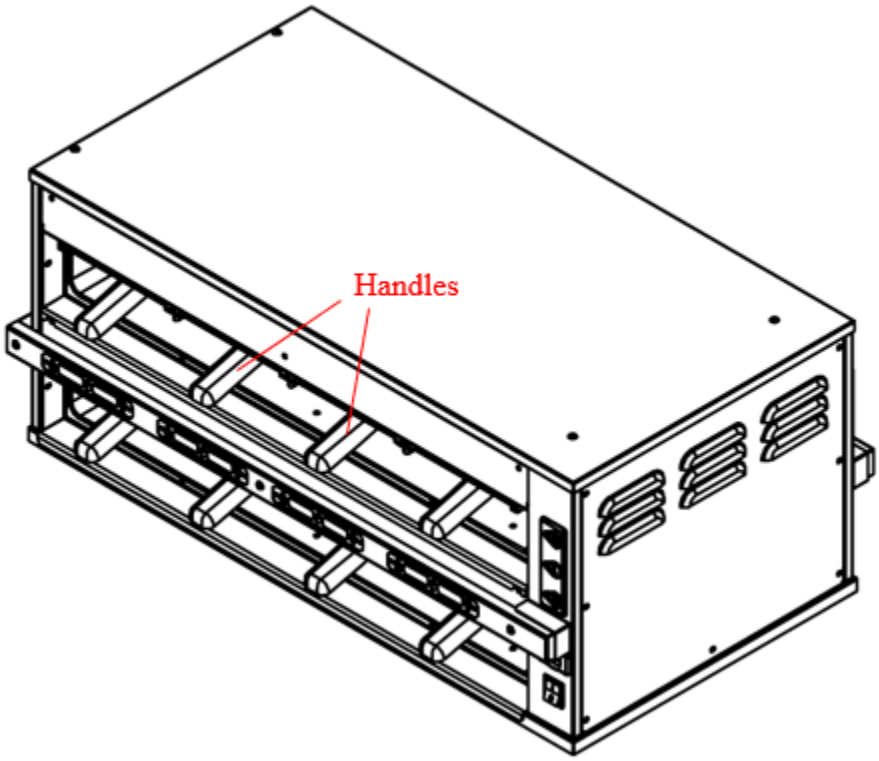
1.b.2

The first compartment has a first opening allowing food pans to be placed into and removed from the compartment. EX1003: ¶130.



EX1005: 8.

Pan handles protrude from the first opening for pan insertion and removal therethrough. EX1007: 52; EX1003: ¶130.



EX1005: 8.



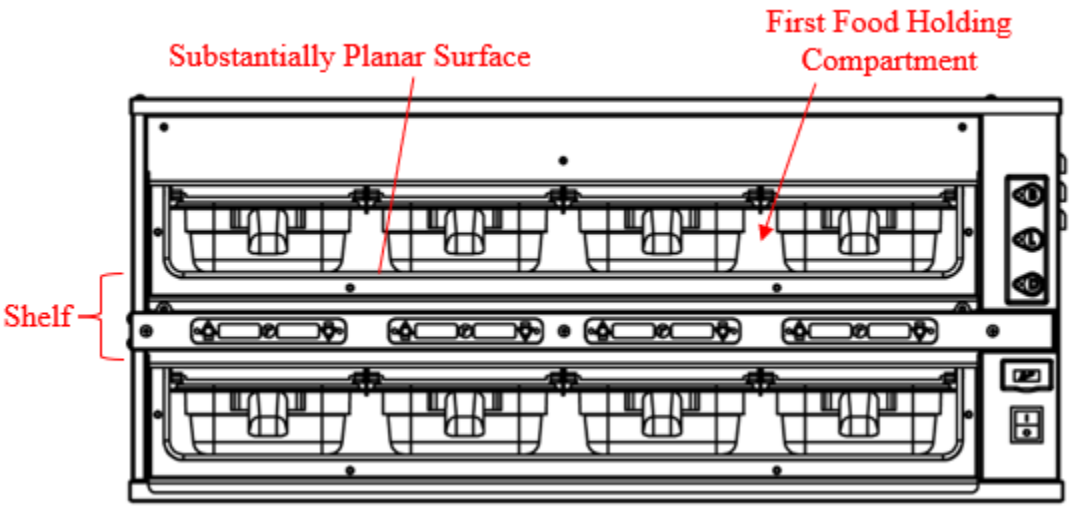
EX1007: 58.



EX1007: 52.

1.c.1

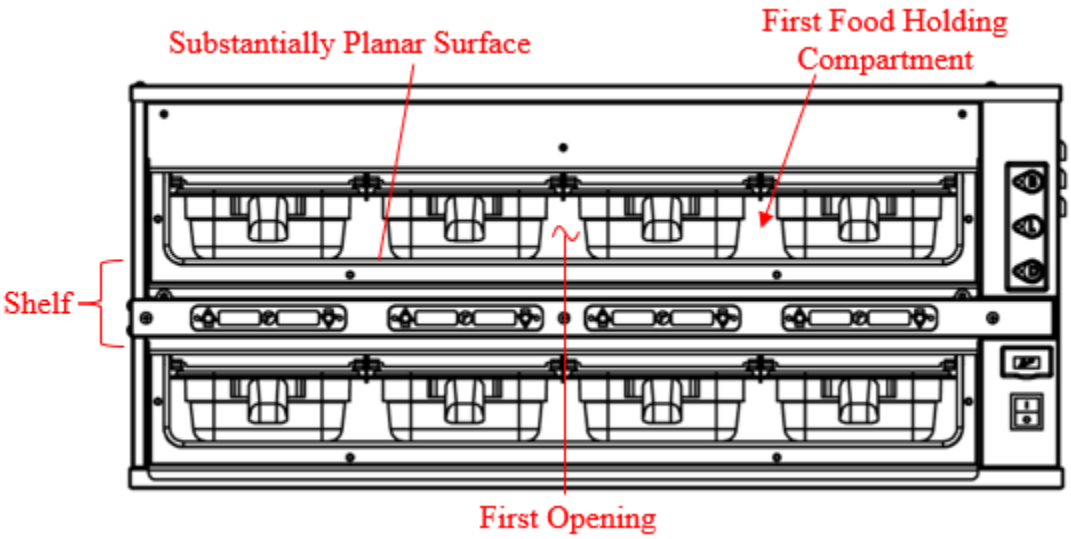
The shelf includes a substantially planar surface forming its top surface and the compartment's bottom surface. EX1003: ¶131.



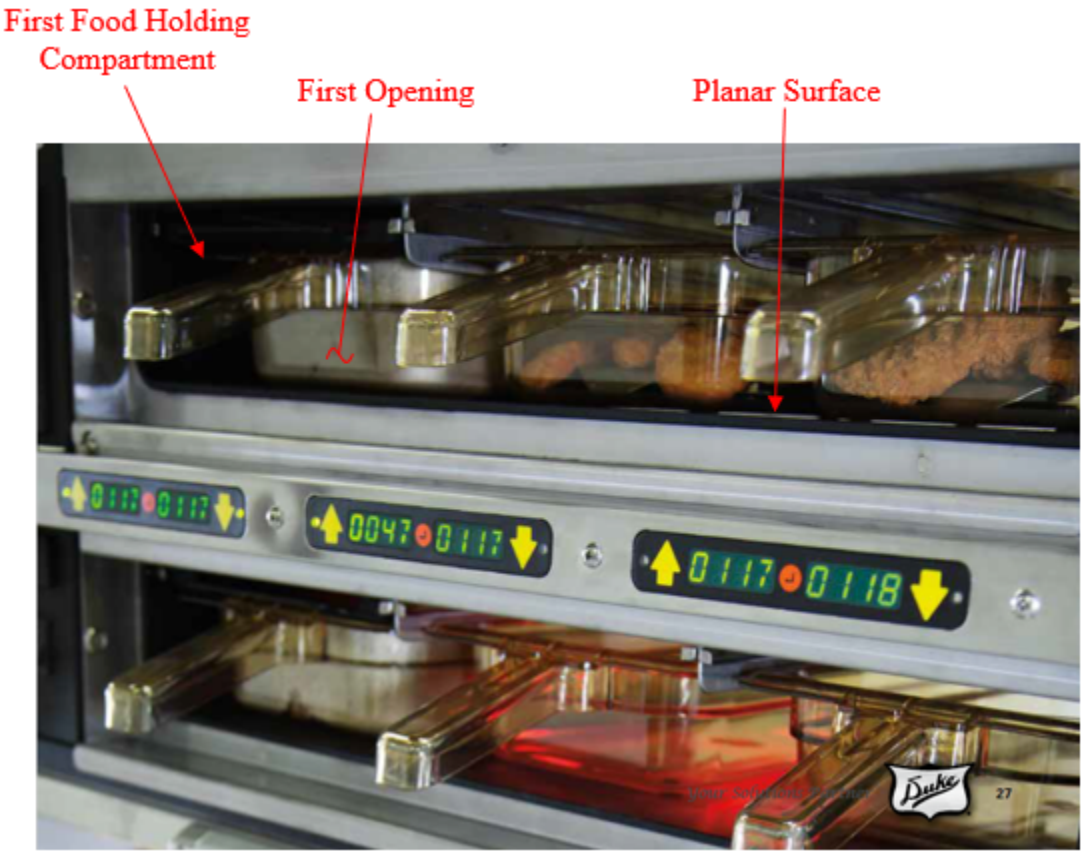
EX1005: 8.

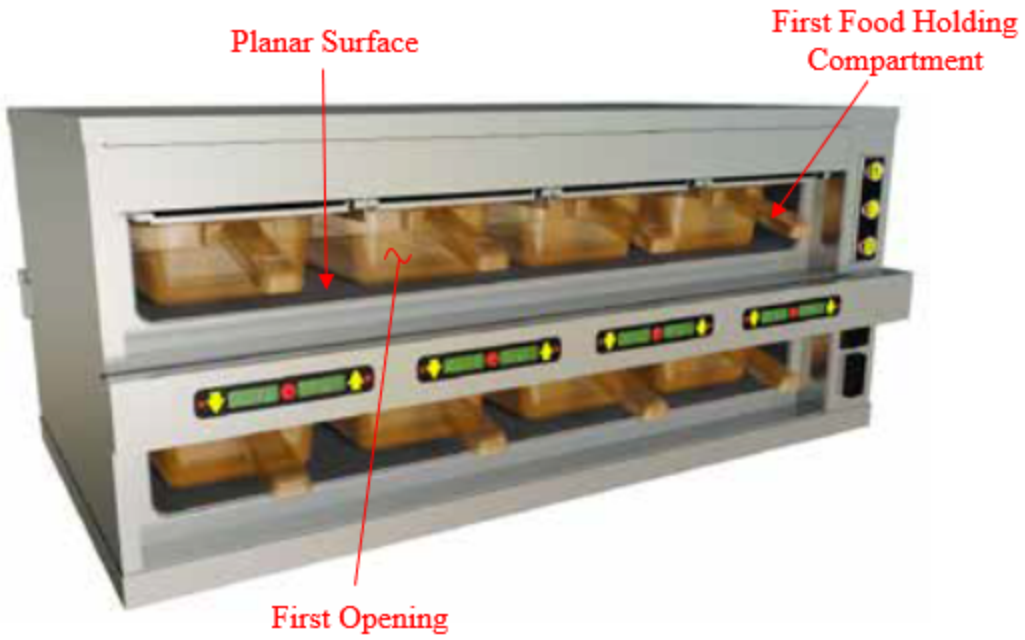
1.c.2

The planar surface extends completely to the first opening. EX1003: ¶132.



EX1005: 8.

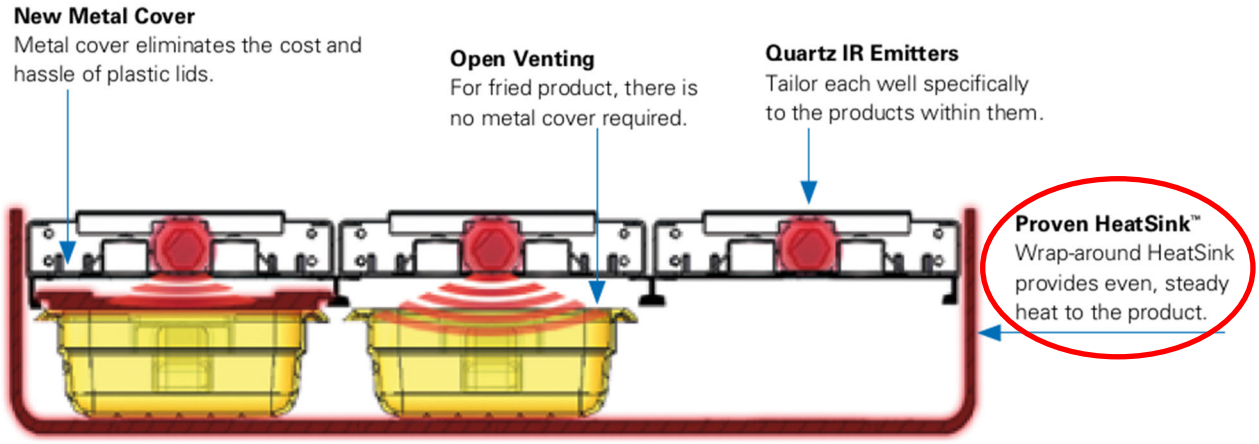




EX1007: 52, 56.

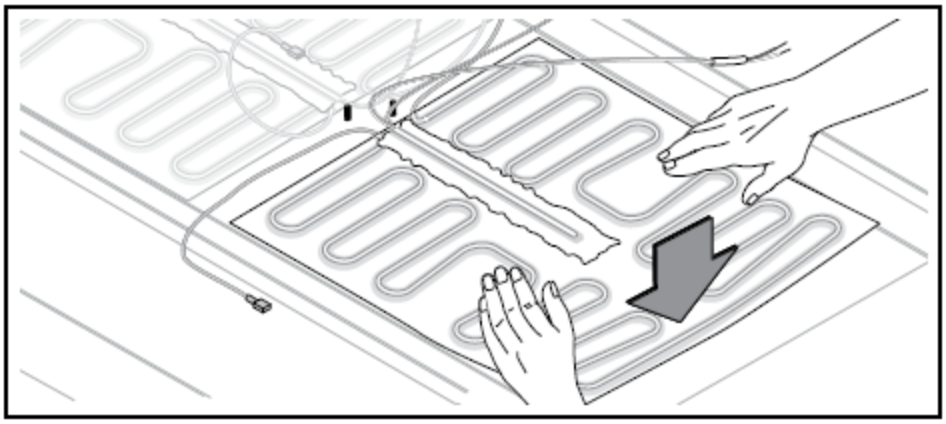
1.c.3

The planar surface is part of IRHS24's HeatSink and is made of thermally conductive aluminum. EX1006: 1; EX1007: 51; EX1005: 16; EX1003: ¶¶133-135.



EX1007: 53.

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.

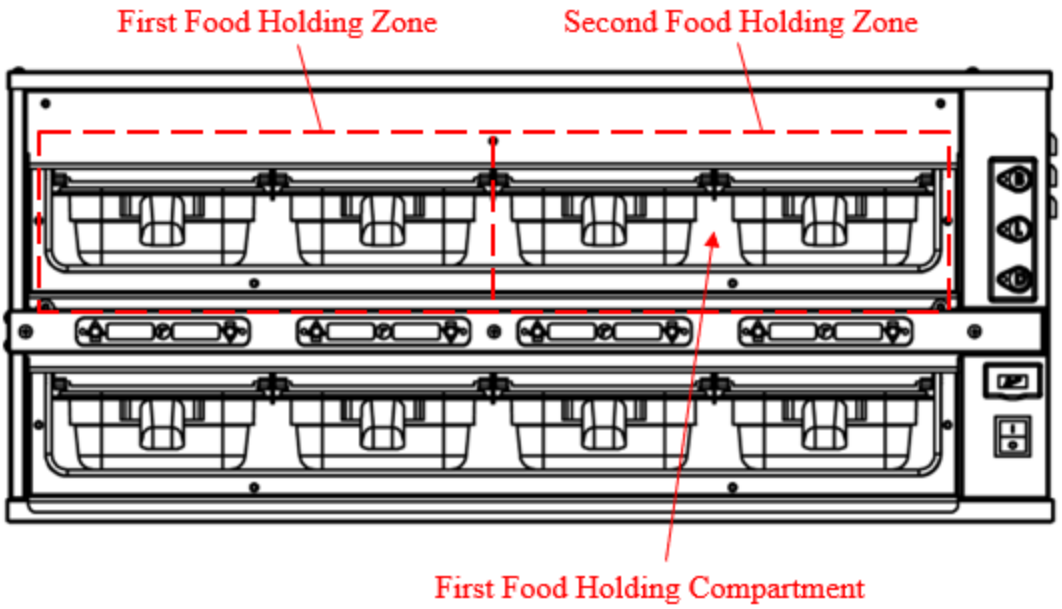


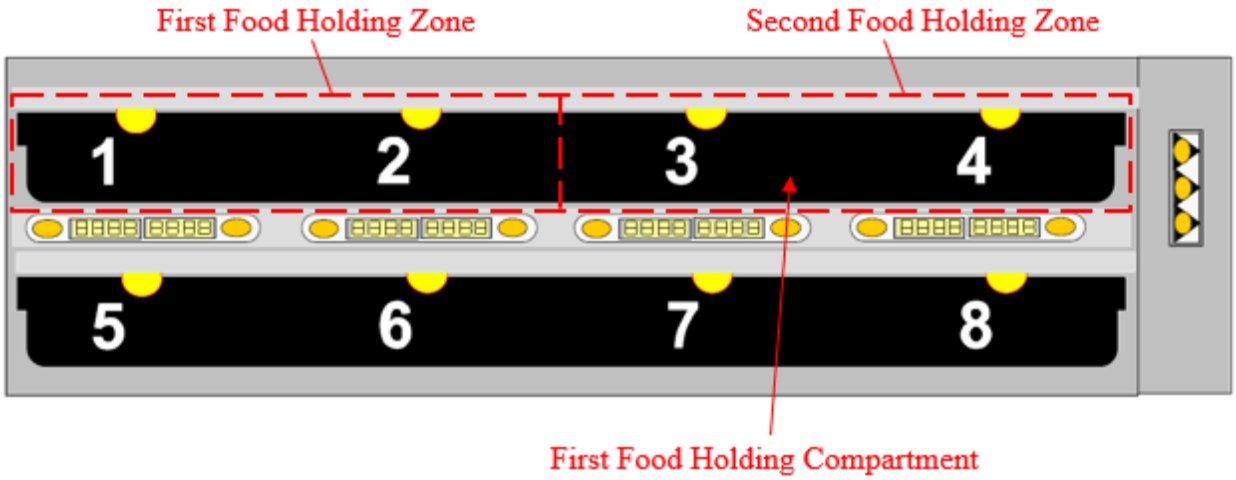
EX1008: 23.

Moreover, it would have been obvious to make the heatsink plates/planar surface from aluminum, like aluminum pan covers/lids, for durability and good heat transfer, with reasonable expectation of success (known suitability for zoned/heated shelves). EX1005: 4, 8, 20-21; EX1007: 53, 58; EX1020: ¶¶[0021]-[0023] ; EX1003: ¶136.

1.d.1/1.e.1

The first compartment has first and second food holding zones. EX1003: ¶¶137, 163.

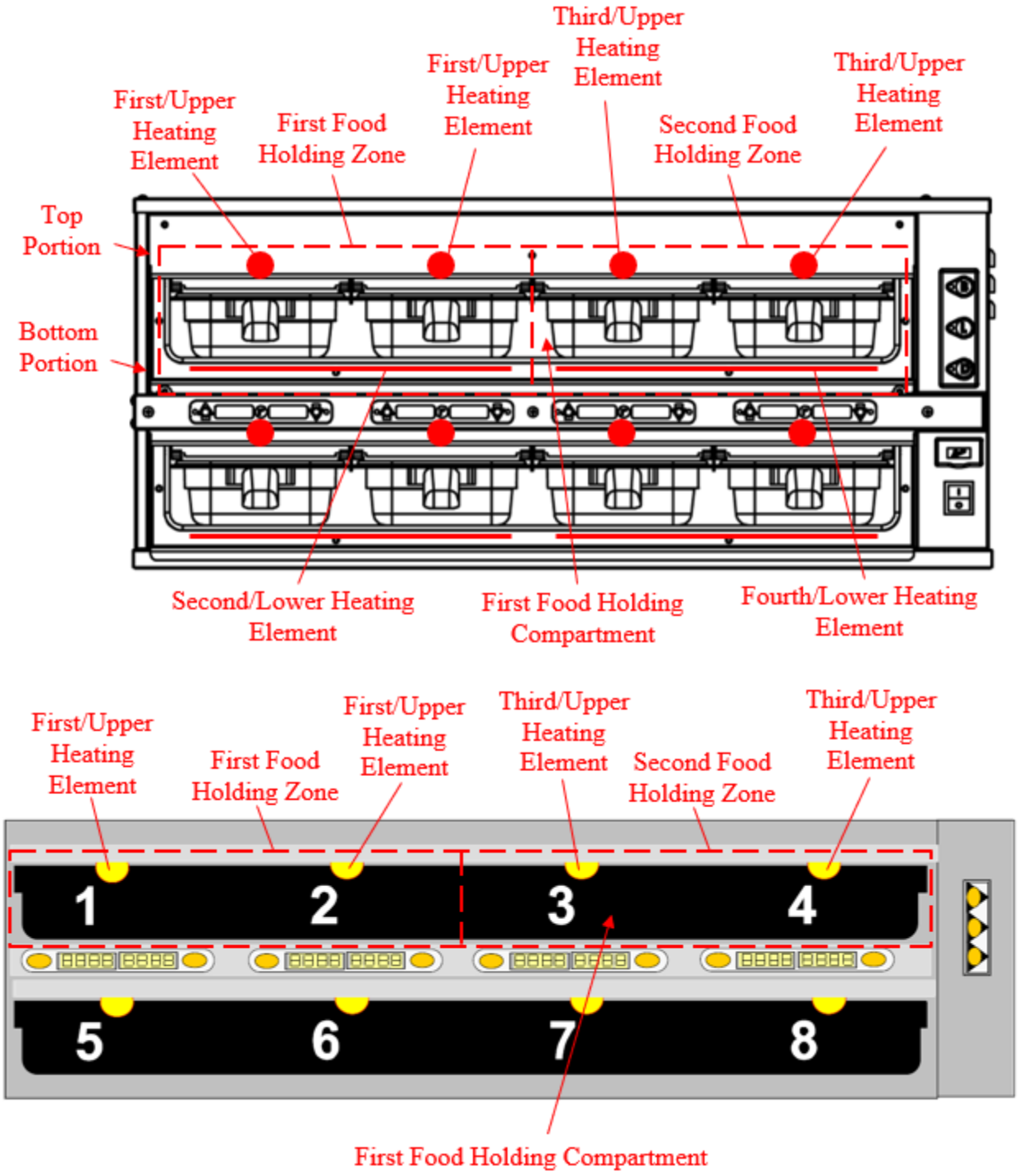




EX1005: 8, 25.

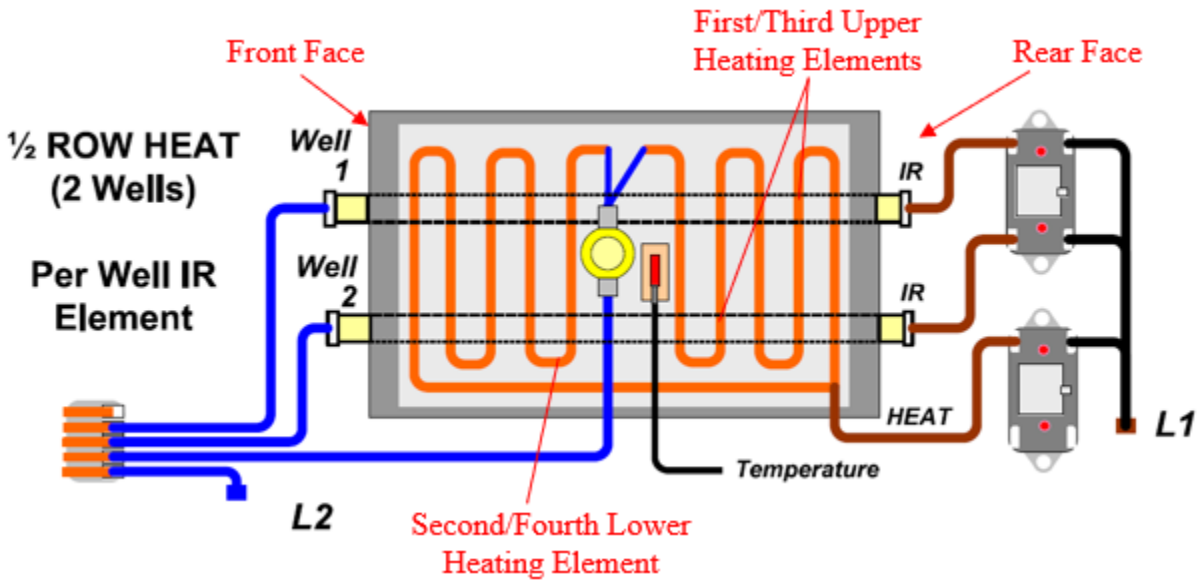
1.d.2/1.e.2

IRHS24's first and second zones have independently controllable first and third heating elements (IR bulbs) and independently controllable second and fourth heating elements (electrical heating elements) at respective top and bottom portions of the first compartment. EX1003: ¶¶138-139, 164-165.


First/Upper Heating Element
First Food Holding Zone
First/Upper Heating Element
Third/Upper Heating Element
Second Food Holding Zone
Third/Upper Heating Element
Top Portion
Bottom Portion
Second/Lower Heating Element
First Food Holding Compartment
Fourth/Lower Heating Element
First/Upper Heating Element
First Food Holding Zone
First/Upper Heating Element
Third/Upper Heating Element
Second Food Holding Zone
Third/Upper Heating Element
1
2
3
4
5
6
7
8
First Food Holding Compartment

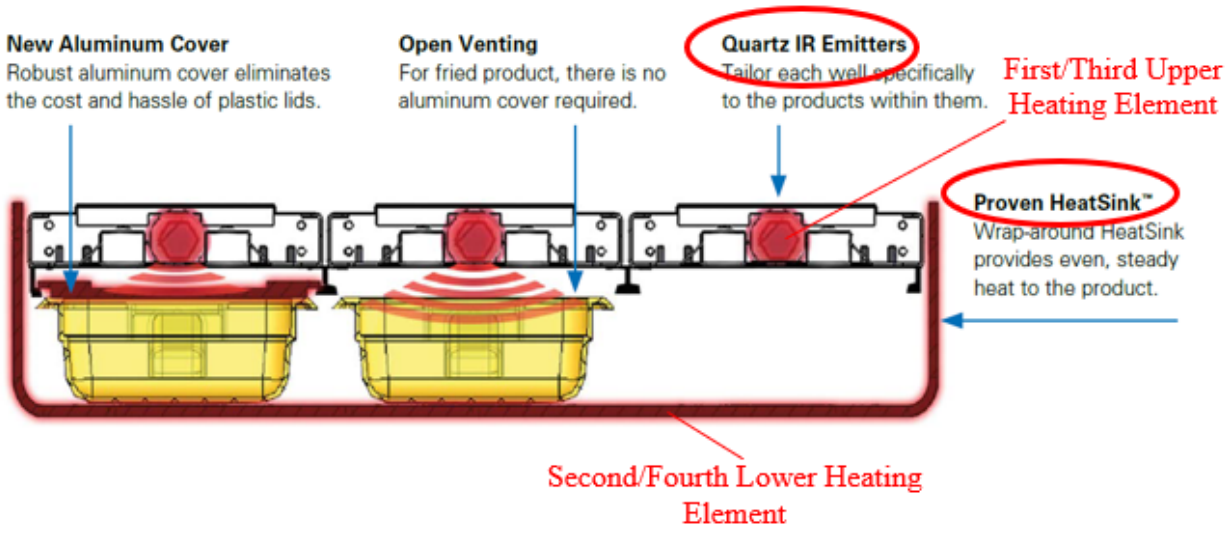
EX1005: 8, 25.

IRHS24 has four food holding zones. EX1003: ¶¶140, 166. The schematic below shows the upper (first/third) and lower (second/fourth) heating elements for *one* zone. EX1005: 21, 25; EX1007: 53; EX1003: ¶¶140, 166.

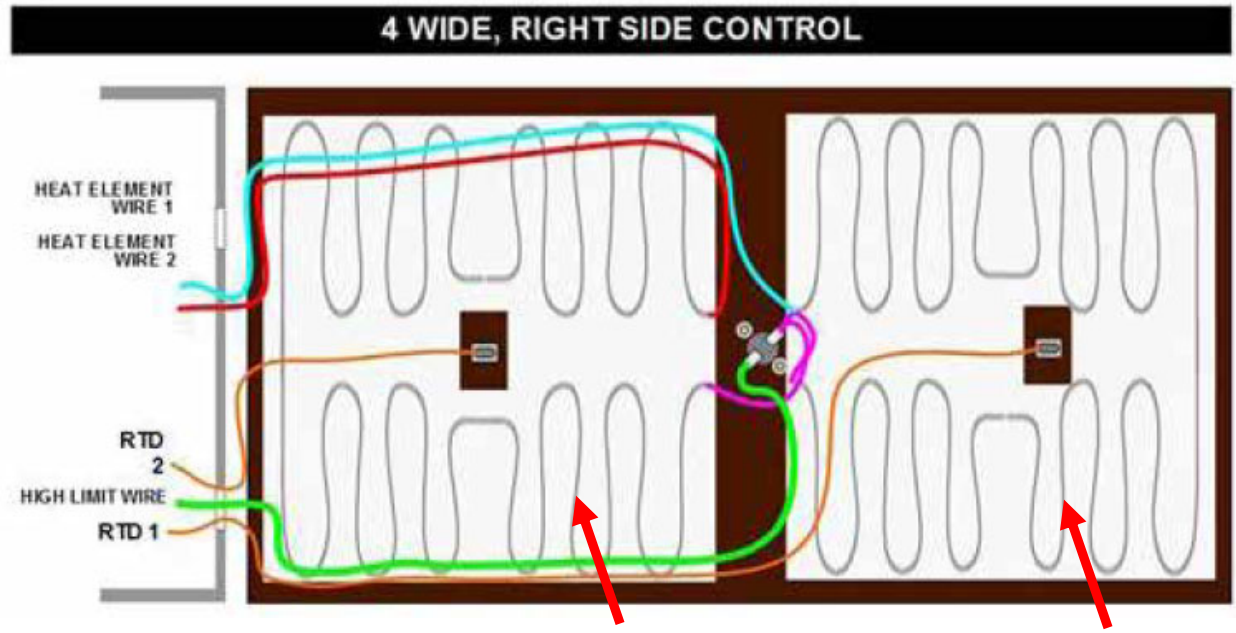


EX1005: 25.

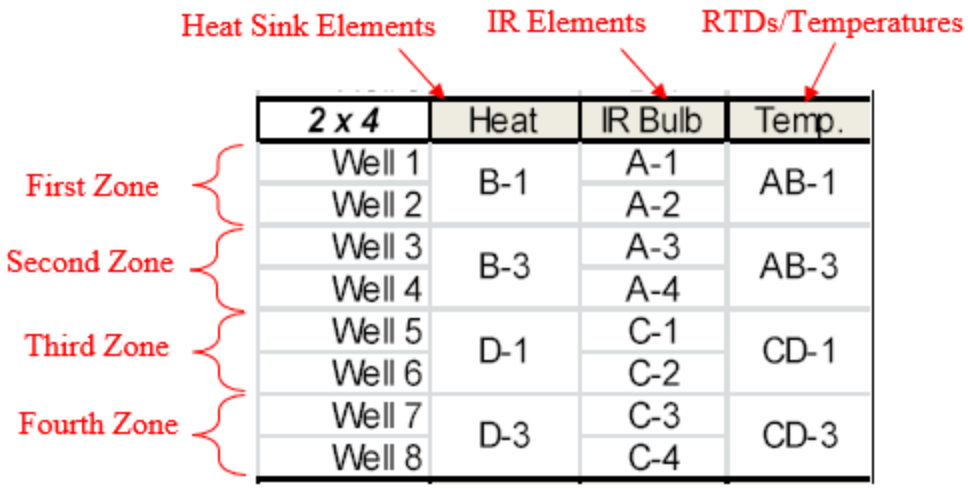
IRHS24 has two IR upper elements per zone (one per bay/well), and a single lower heating element per zone. EX1003: ¶¶141-144. The IR upper (first/third) heating elements are at a top portion of the first compartment, and the lower (second/fourth) heating elements are at a bottom portion of the first compartment. EX1006: 1; EX1007: 53; EX1003: ¶¶141, 165.



EX1007: 53.



EX1008: 58.

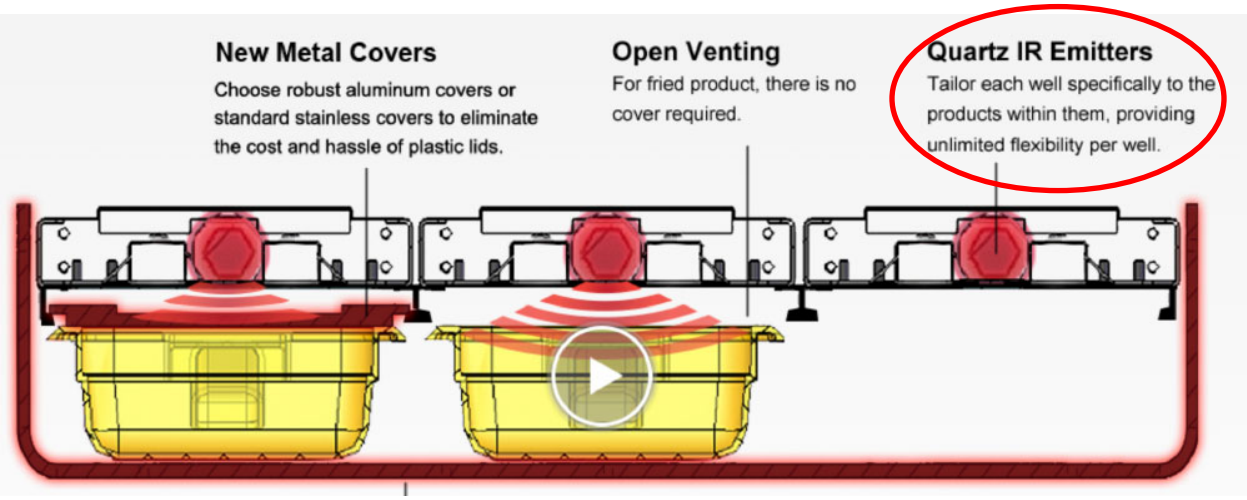


2 x 4	Heat	IR Bulb	Temp.
Well 1	B-1	A-1	AB-1
Well 2		A-2	
Well 3	B-3	A-3	AB-3
Well 4		A-4	
Well 5	D-1	C-1	CD-1
Well 6		C-2	
Well 7	D-3	C-3	CD-3
Well 8		C-4	

EX1008: 64.

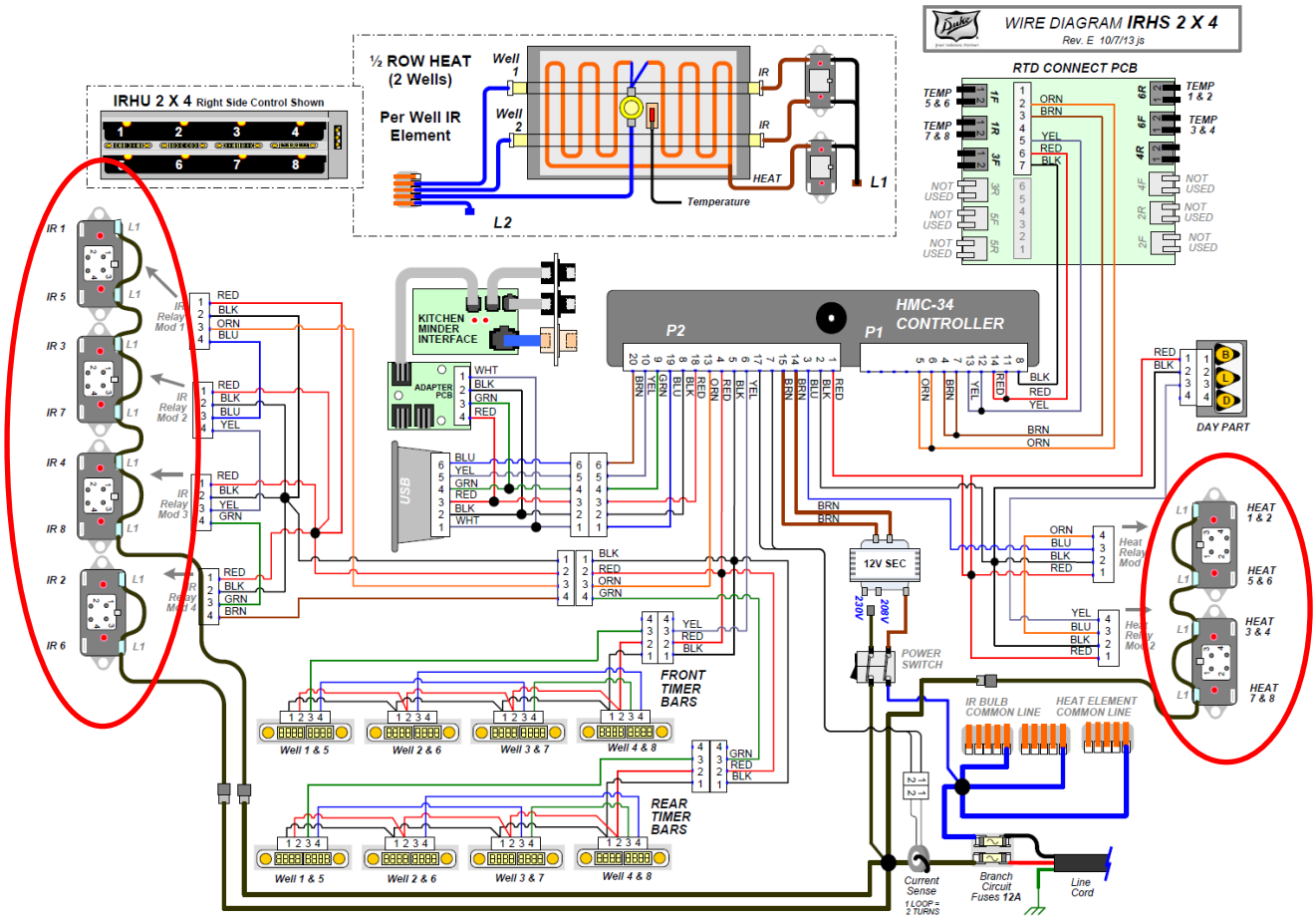
The upper (first/third) and lower (second/fourth) heating elements are independently controllable from each other and other zones' heating elements. EX1005: 16, 25; EX1006: 1; EX1007: 53; EX1003: ¶¶145, 167.

IRHS24 has "[z]oned bottom heat" ("1/2 ROW HEAT (2 Wells)") for "holding environment customization" and "individually controlled IR emitters" that "pulse on and off for optimum … energy … to the food." EX1006: 1; EX1007: 10, 53; EX1005: 15, 25-26; EX1003: ¶146. The IR bulbs operate independently of the lower heating elements via "IR Turbo Boost" for an "instant shot of IR energy." EX1006: 1; EX1007: 22, 53; EX1003: ¶147.



EX1007: 10.

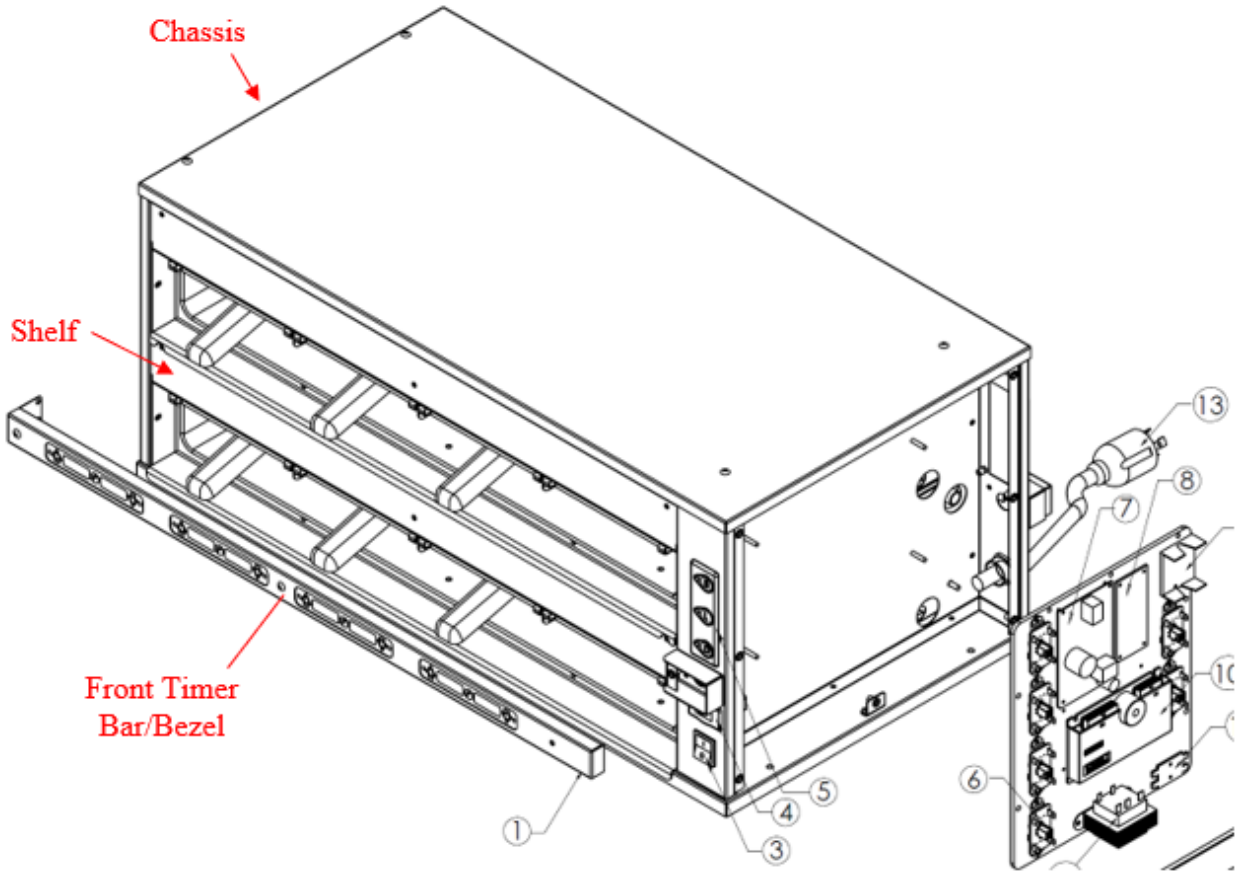
The wiring diagram shows independent control for every heating element via the controller independently operating each heating element's relay. EX1003: ¶¶148, 152-159.

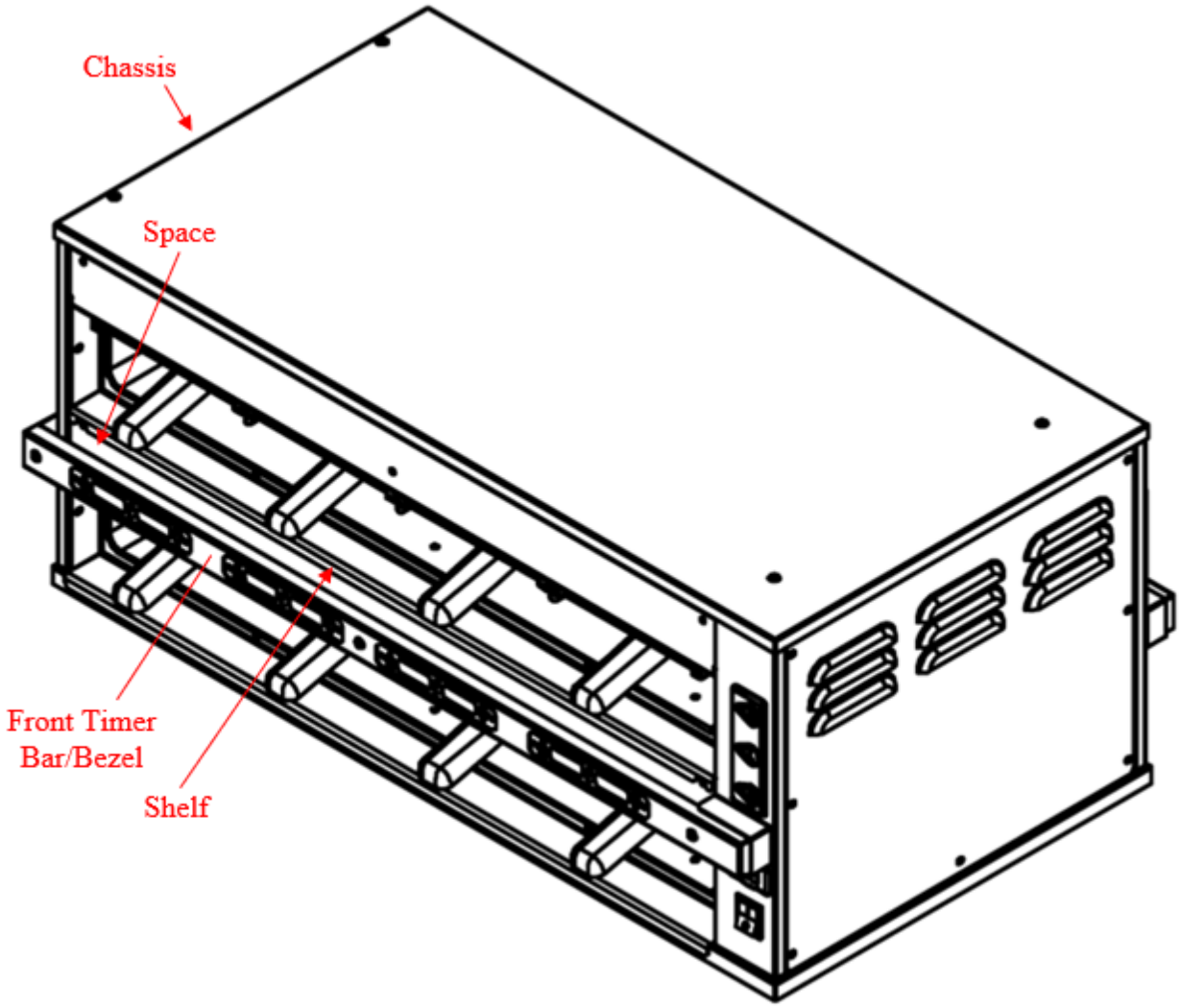


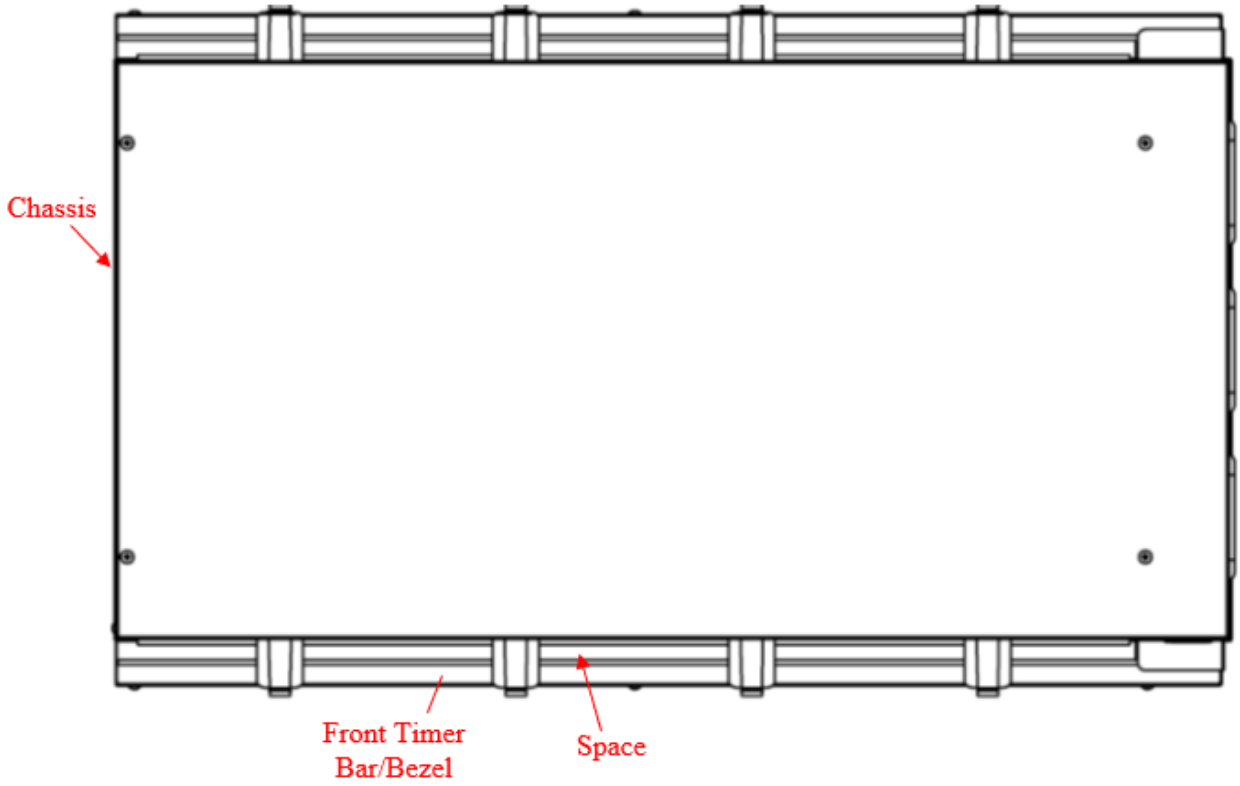
EX1005: 25.

1.f

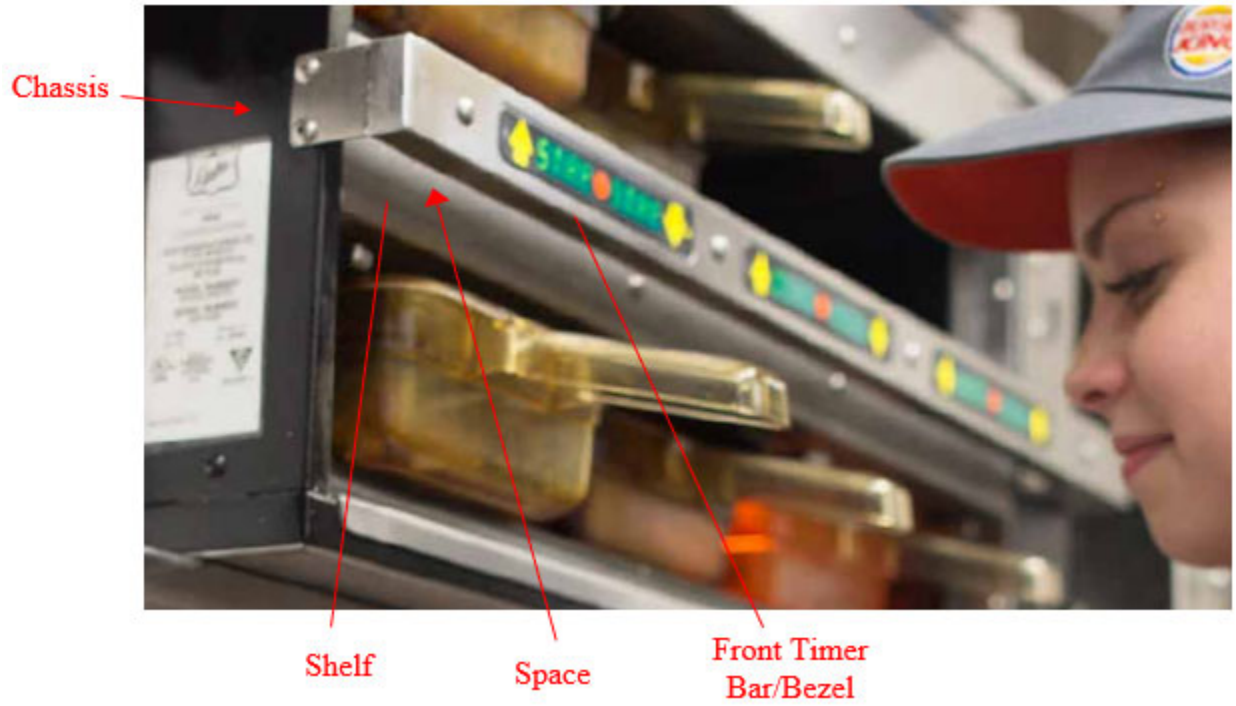
A front timer bar/bezel is attached to the chassis and spaced forward from the shelf. EX1003: ¶168.


Chassis
Shelf
Front Timer
Bar/Bezel
1
3
4
5
6
7
8
13


Chassis
Space
Front Timer
Bar/Bezel
Shelf


Chassis
Front Timer Bar/Bezel
Space

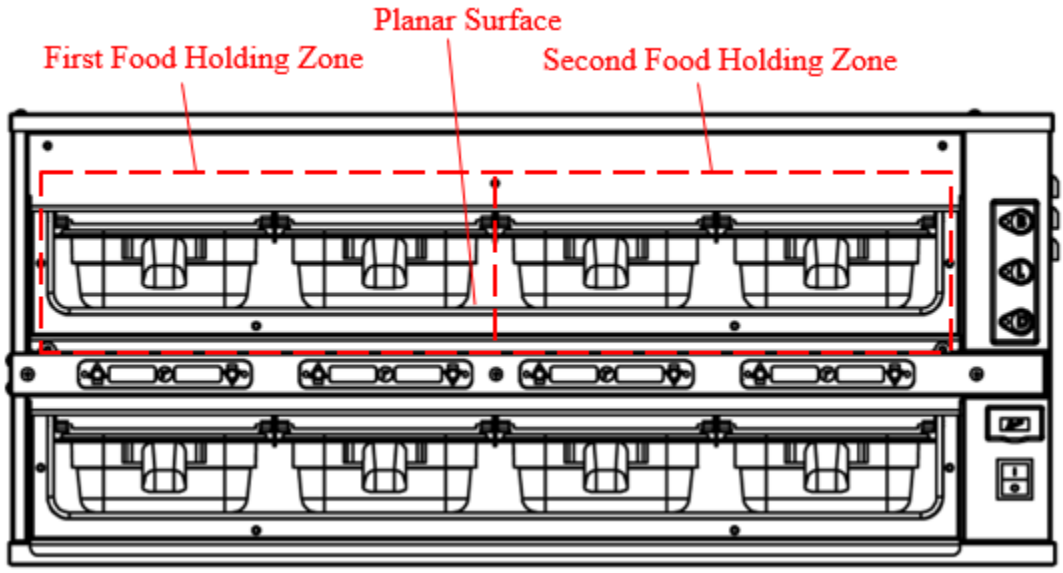
EX1005: 8, 19.

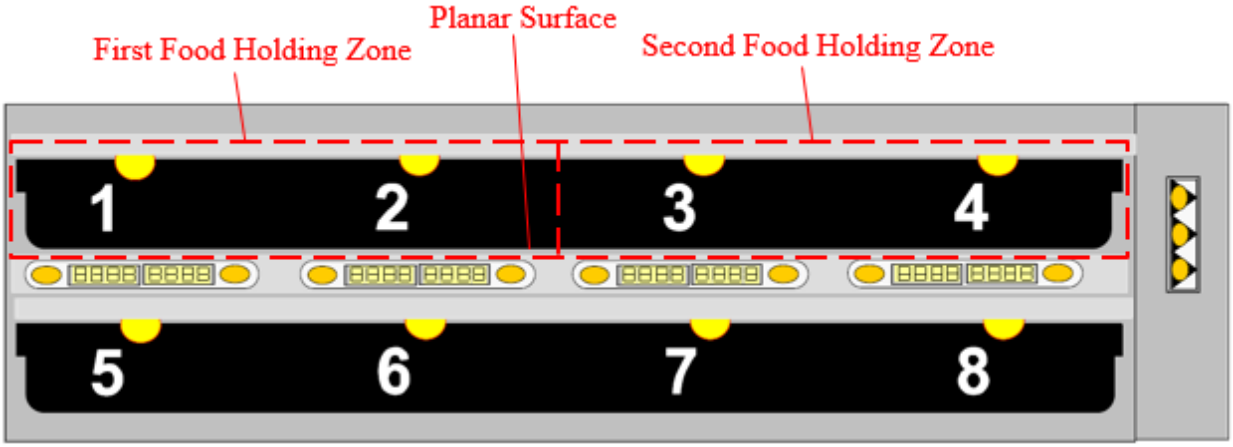

Chassis
Shelf
Space
Front Timer Bar/Bezel

EX1007: 28.

1.g.1

The first and second zones are adjacent across the planar surface. EX1003: ¶169.

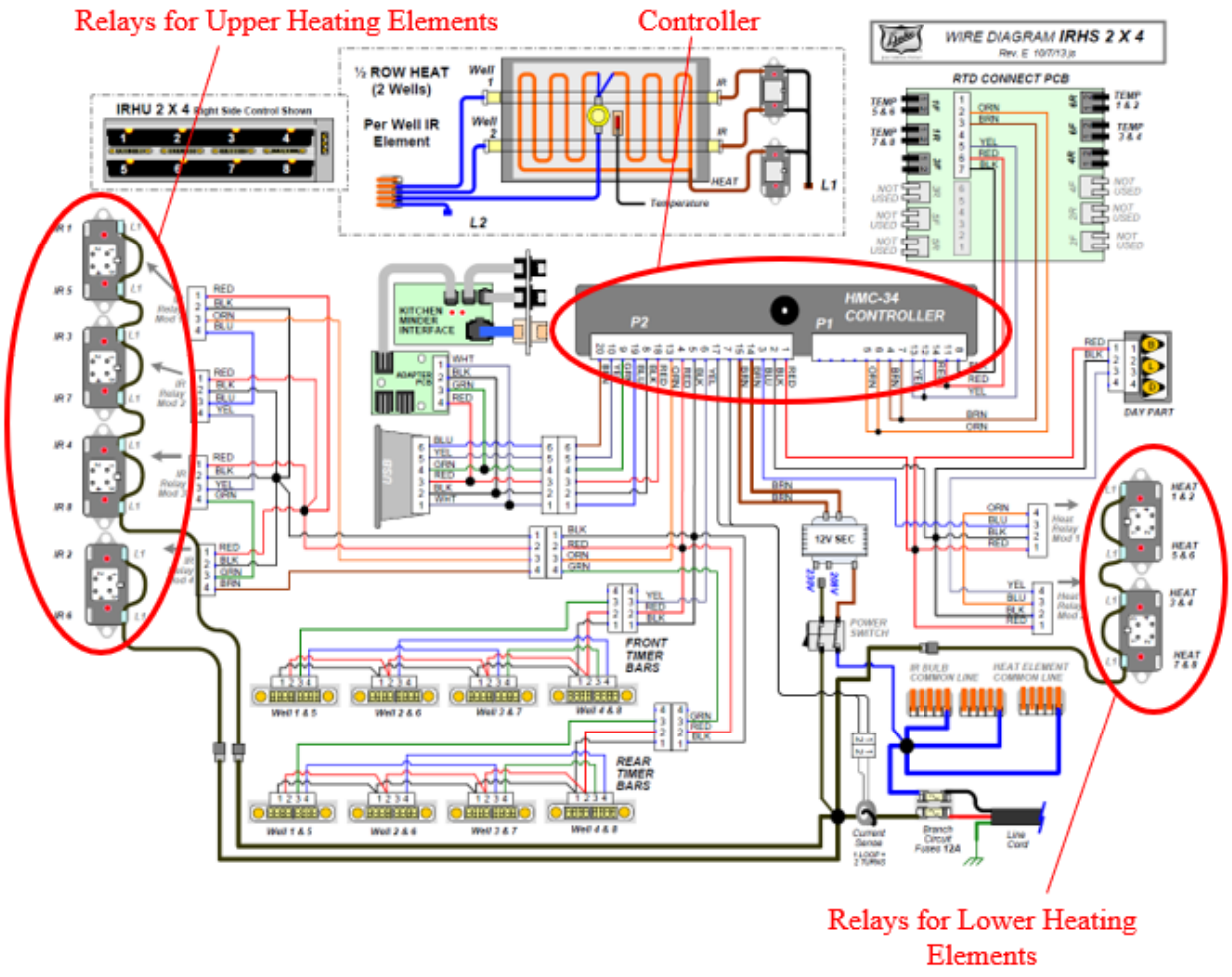




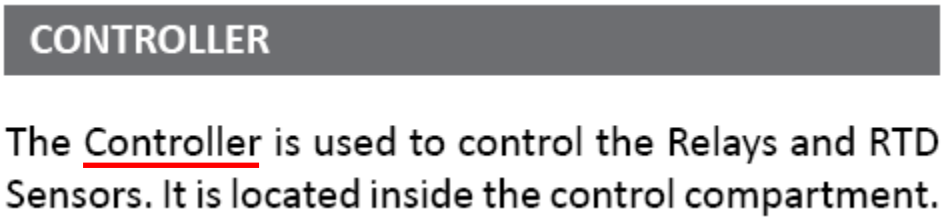
EX1005: 8, 25.

1.g.2/13/41/53/66

Per Section IV(B)(1.d.2/1.e.2), the upper and lower heating elements of each zone are independently controllable from each other and other zones' heating elements. EX1003: ¶¶170-171, 255-257. The wiring diagram shows a controller connected to each heating element for independent operation. EX1005: 16; EX1006: 1; EX1007: 53; EX1003: ¶¶172-173. Thus, each zone can have a different temperature. EX1003: ¶173.



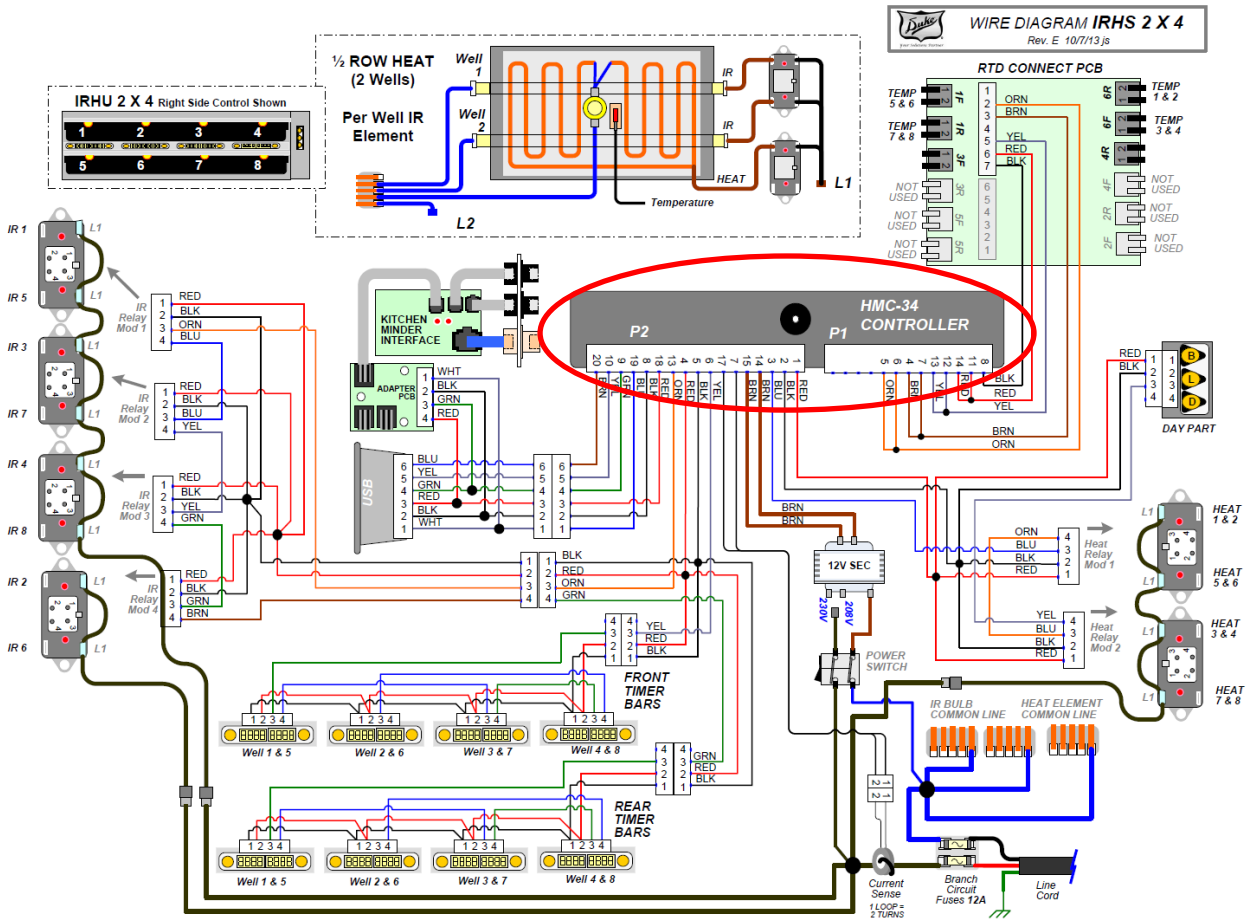
EX1005: 25.



EX1008: 30.

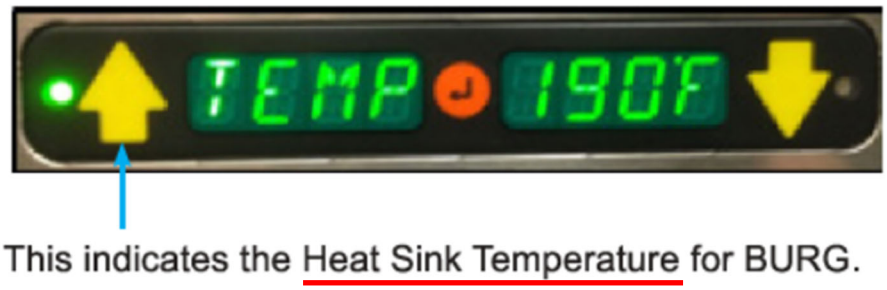
The IR emitters individually "pulse on and off" and the bottom heat is zoned to independently control the zones' temperatures. EX1005: 25; EX1006: 1; EX1007: 10; EX1003: ¶174.

Each zone's heating elements are operated based on specific food type(s) assigned to the bay/zone to provide/maintain different temperatures for each zone. EX1006: 1; EX1005: 4, 16, 25; EX1007: 10, 51, 53; EX1003: ¶¶175-177. The controller independently operates the heating elements to control each zone's vertical temperature profile. EX1006: 1; EX1007: 51; EX1005: 16, 25; EX1003: ¶¶178-179, 258.



EX1005: 25.

For example, a maintainable bottom temperature for each zone is via sensor feedback and food type temperature setting. EX1005: 16, 25; EX1006: 1; EX1007: 53; EX1003: ¶180.

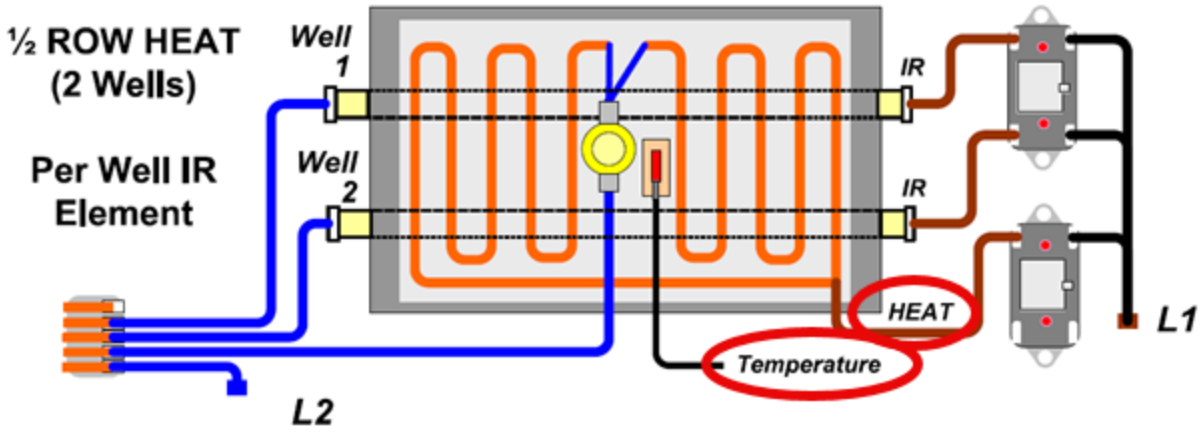


SENS – SENSOR FAULT

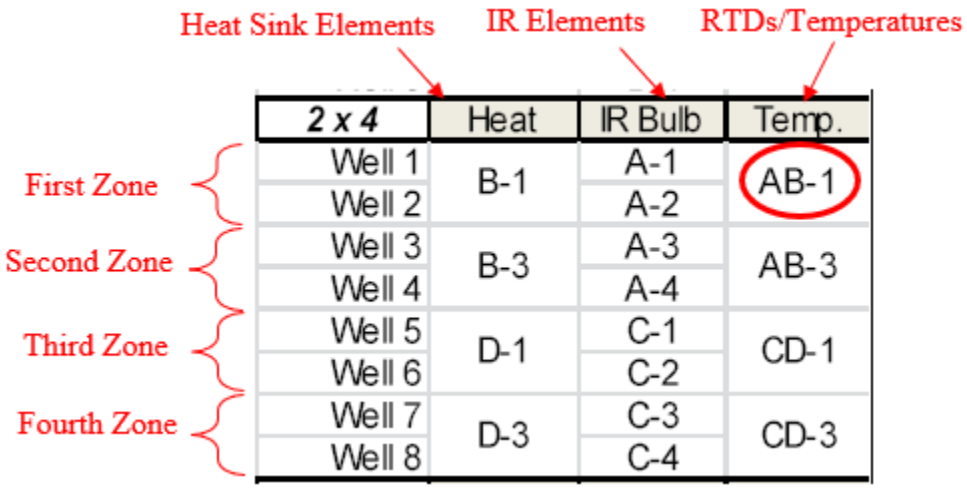
- May indicate the unit has been programmed improperly (i.e. loading a 2x4 product configuration file into a 2x2 unit). An attempt to properly reprogram the unit should be made.
- May indicate a fault with a heat sink temperature sensor. The affected pan location is not available for timing product and 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: 17, 15, 25.



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.

The IRHS Documents teach customized temperature settings by food type and zones having different food types. EX1006: 1; EX1005: 4, 16; EX1007: 51, 53; EX1003: ¶¶181, 259. Temperature settings for each zone are independent of food types in other zones. EX1005: 25; EX1006: 1; EX1007: 53; EX1003: ¶¶181, 260.



EX1007: 12.

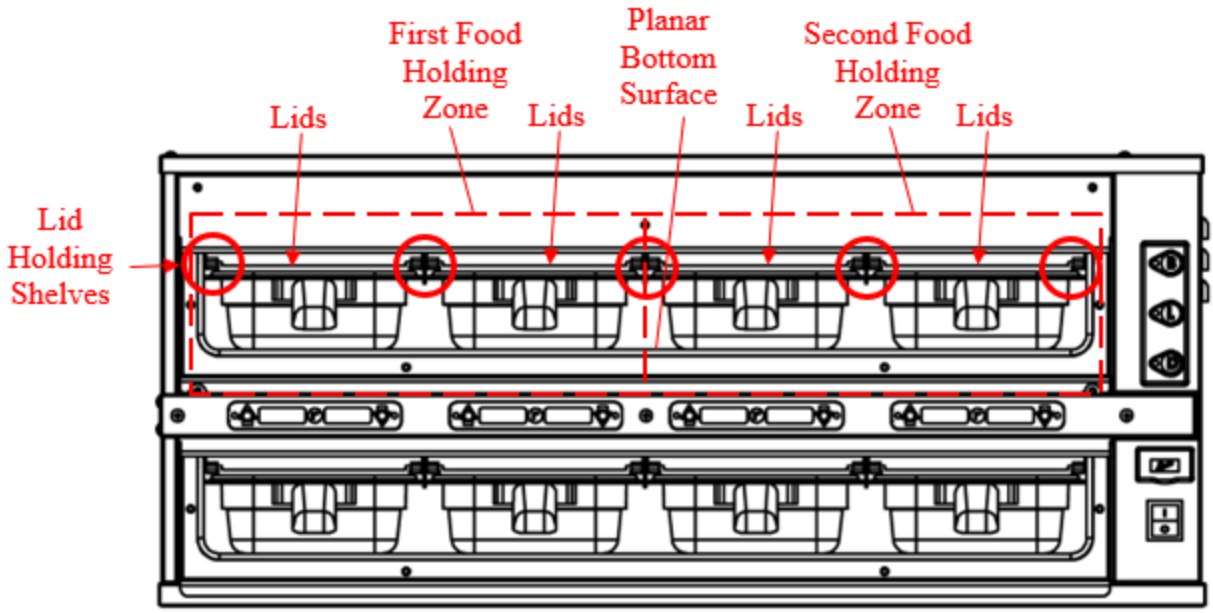
It would have been obvious per the IRHS Documents to heat the zones (first and second zones) to different temperatures for customized heat settings for different food types in each zone and to hold more/different food types to meet customer demands, with reasonable expectation of success (IRHS Documents' teachings and known suitability of heated multi-zone shelves). EX1028: 30, 14, 39; EX1019: 1:17-45, 4:36-59; EX1010: ¶[0024]; EX1020: ¶¶[0021]-[0023]; EX1012: ¶¶[0069], [0072], [0096]; EX1003: ¶¶182-184, 261-262, 314-316, 365-367, 459-461.

C. Independent Claims 27/42/54

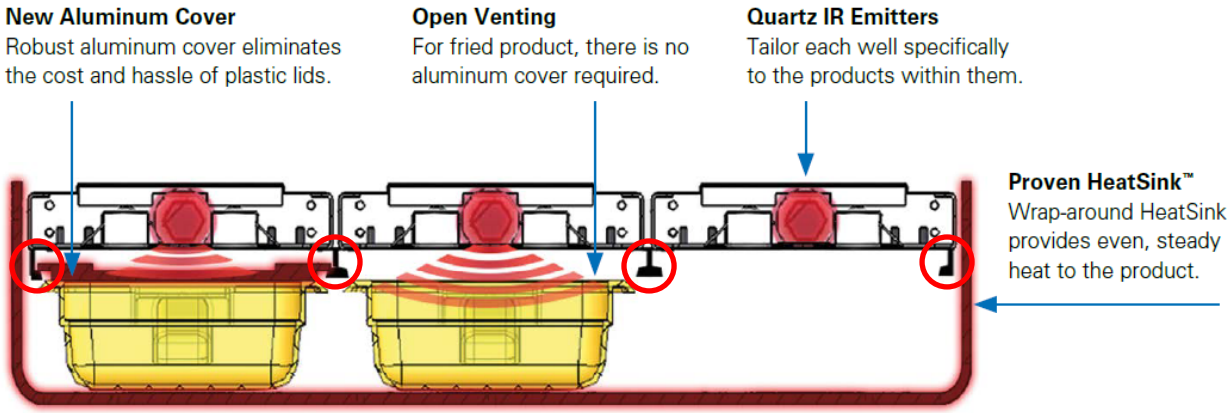
Limitations 27.P-27.f.2, 42.P-42.f.2, and 54.P-54.f.2 are met per Sections IV(B)(1.P-1.e.2), IV(B)(1.g.1)-(1.g.2/13/41/53/66). EX1003: ¶¶263-264, 317-318, 368-369.

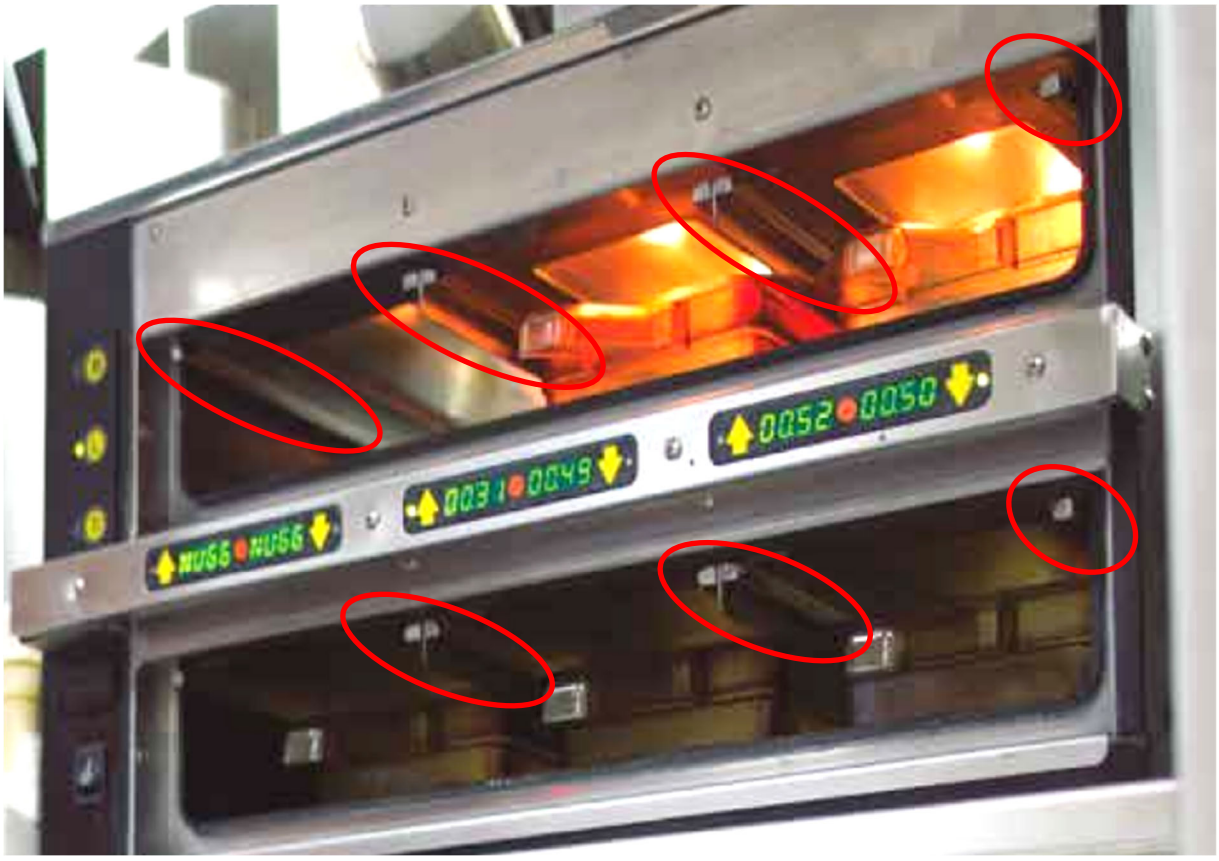
27.g

IRHS24 includes lids for each pan/bay. EX1005: 4, 8, 20-21; EX1007: 53, 56, 58; EX1003: ¶¶265-266. IRHS24's zones comprise dedicated lid-holding shelves elevated above the planar bottom surface in the compartment for receiving/storing lids. EX1003: ¶¶265-267.

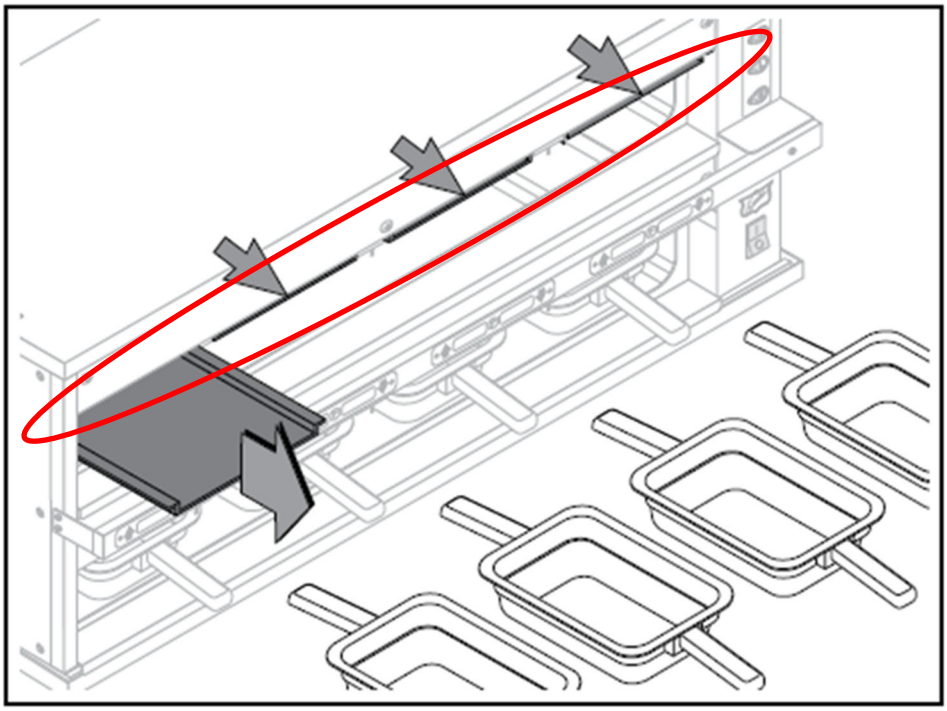

First Food Holding Zone
Planar Bottom Surface
Second Food Holding Zone
Lids
Lids
Lids
Lids
Lid Holding Shelves

EX1005: 8.


New Aluminum Cover
Robust aluminum cover eliminates the cost and hassle of plastic lids.
Open Venting
For fried product, there is no aluminum cover required.
Quartz IR Emitters
Tailor each well specifically to the products within them.
Proven HeatSink™
Wrap-around HeatSink provides even, steady heat to the product.



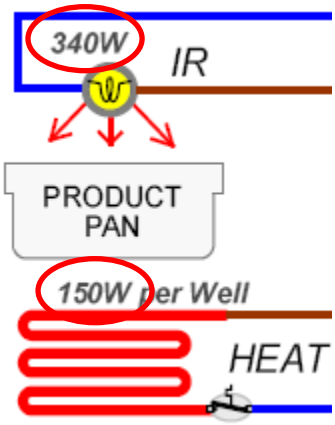
EX1007: 53, 36.



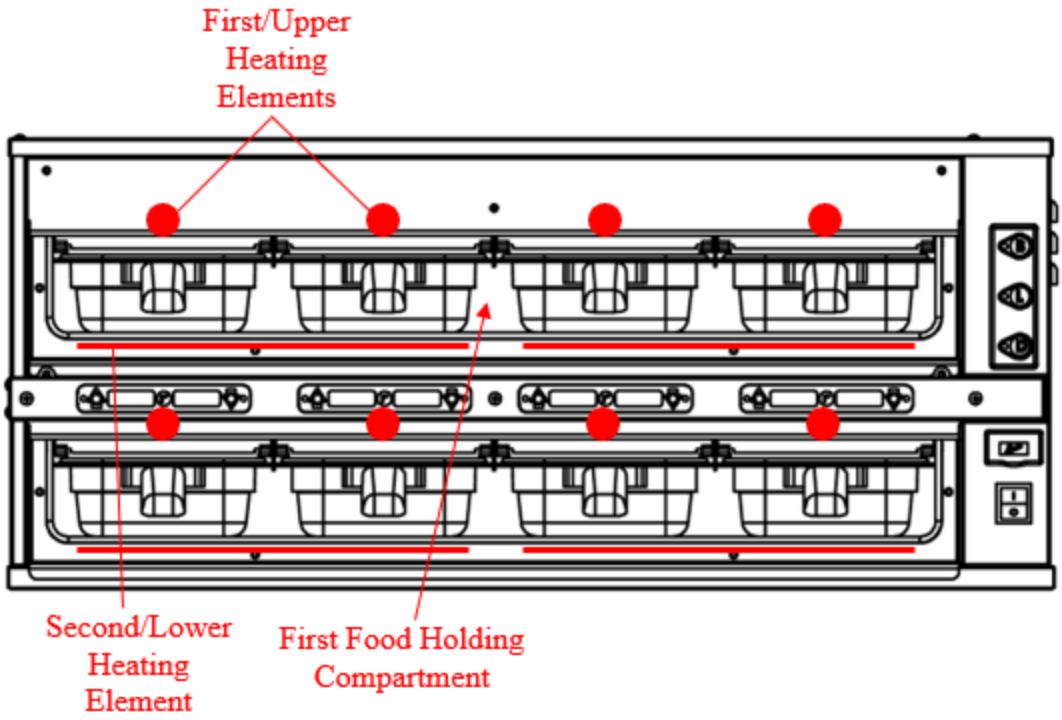
EX1008: 16.

42.g

Per Sections IV(B)(1.d.2/1.e.2) and IV(B)(1.g.2/13/41/53/66), the first/upper and second/lower heating elements are independently controllable. EX1003: ¶¶319-320. The IR first/upper heating elements are controllable via controller (adapted) to output more heat energy than the second/lower heating element. EX1003: ¶320. Moreover, each first/upper heating element is rated (adapted) for more wattage (340W) than the second/lower heating element (300W). EX1008: 64; EX1003: ¶321. Further, the first/upper element performs "IR Turbo Boost for [an] instant shot of IR energy," while the second/lower element "provides ***gentle*** heat." EX1006: 1; EX1007: 22; EX1003: ¶322. The first/upper elements output more heat energy than the "gentle" second/lower element at least during IR Turbo Boost. EX1003: ¶¶322-324.



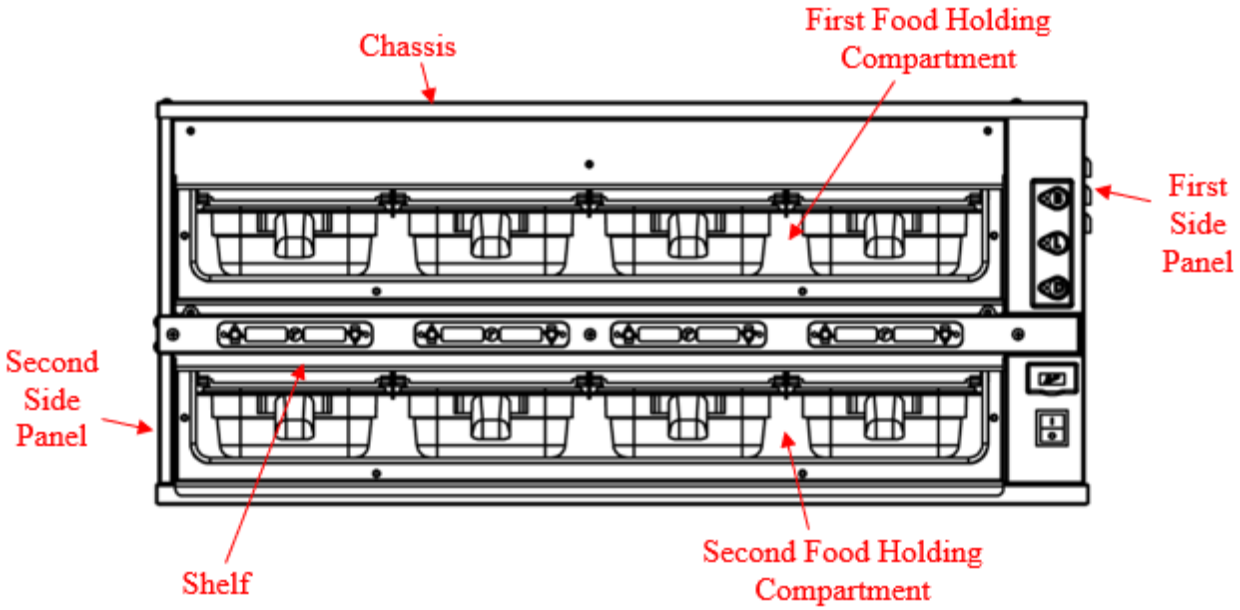
EX1008: 64.



EX1005: 8.

54.g.1

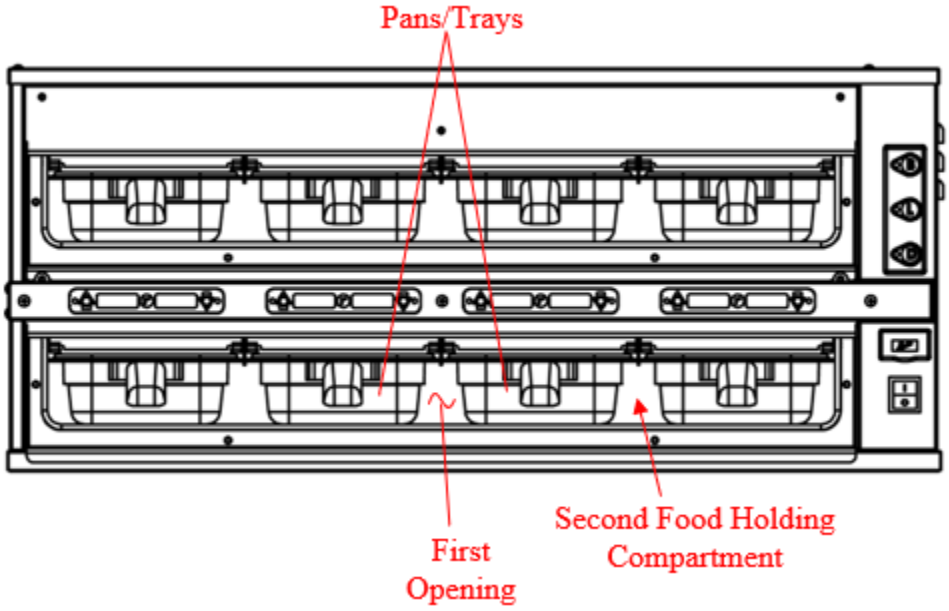
The first and second side panels and shelf define a second food holding compartment within the chassis below the first compartment. EX1003: ¶¶370-371.



EX1005: 8.

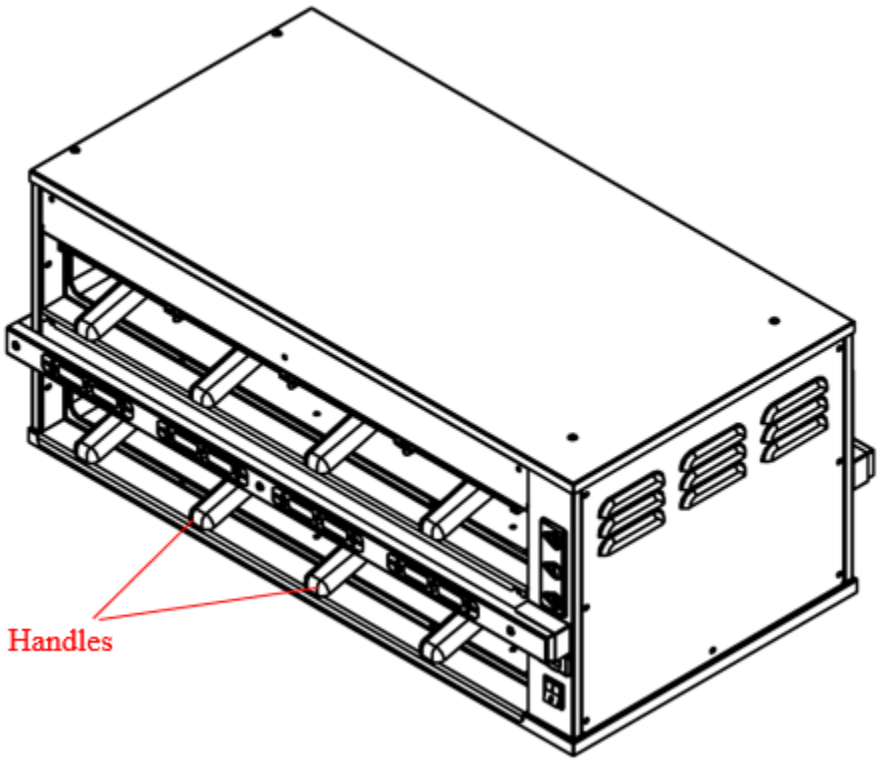
54.g.2

The second compartment's first opening allows insertion/removal of the pans of food into/from the second compartment. EX1003: ¶¶372-373.



EX1005: 8.

Pan handles protrude from the first opening for insertion/removal of pans therethrough. EX1007: 52; EX1003: ¶374.



EX1005: 8.



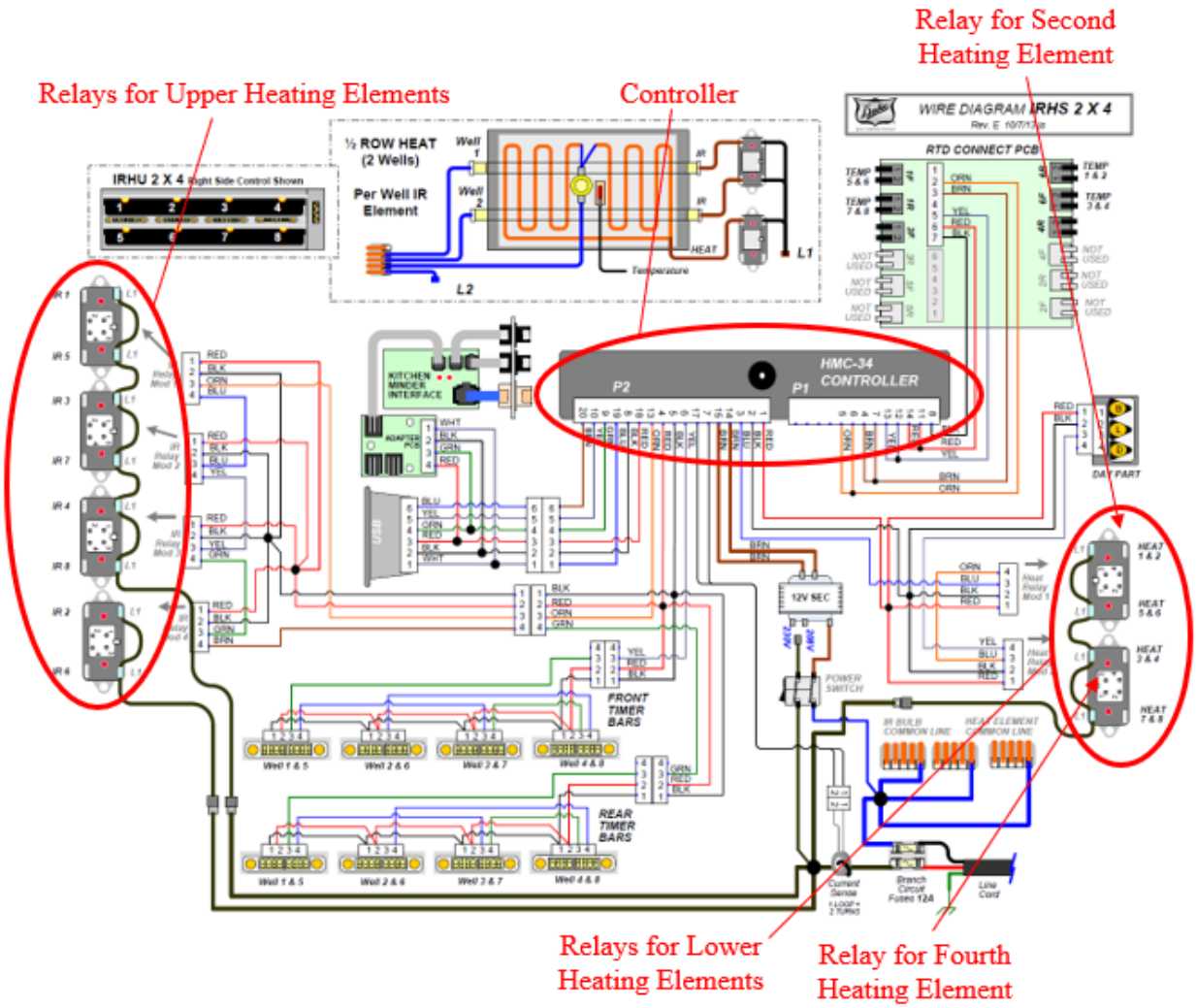
EX1007: 58.



EX1007: 52.

54.h

A controller is operatively coupled to the second and fourth heating elements. EX1005: 25; EX1003: ¶¶375-376.



EX1005: 25.

CONTROLLER

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

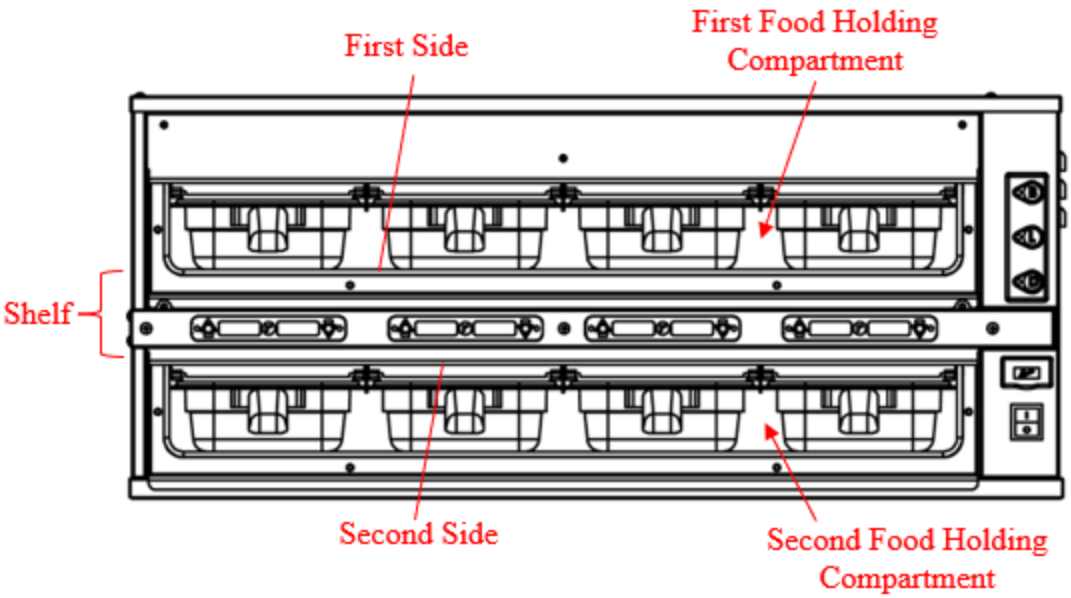
EX1008: 30.

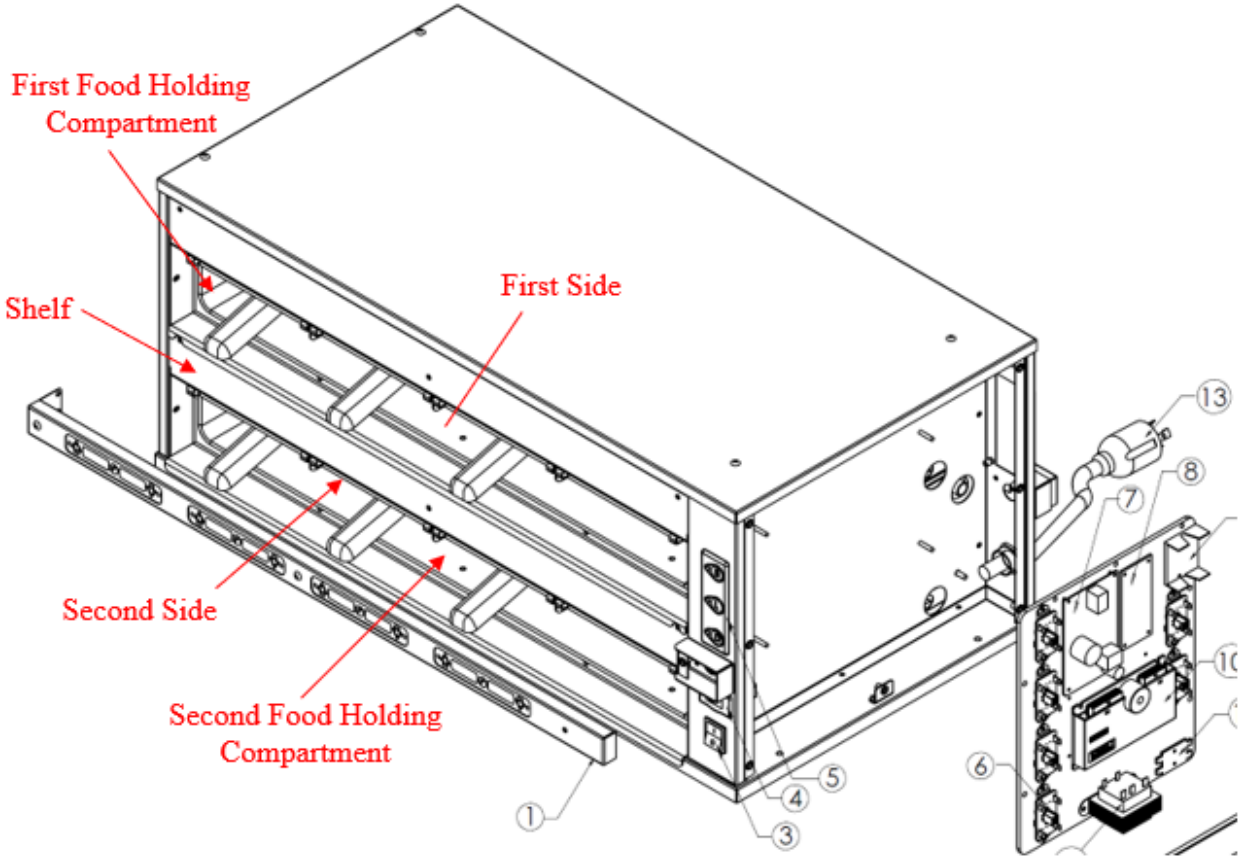
Per Sections IV(B)(1.d.2/1.e.2), the second and fourth elements are independently controllable so each zone has an independently controlled food

holding temperature. EX1005: 16; EX1006: 1; EX1007: 53; EX1003: ¶377. The controller's connection to each heating element enables independent heating/operation. EX1003: ¶¶378-379. The second and fourth elements of each zone are operated independently per the specific food product type(s) assigned to the bay/zone. EX1006: 1; EX1005: 4, 16, 25; EX1007: 10, 51, 53; EX1003: ¶¶380-381.

54.i.1

The shelf is between the first and second compartments, with first and second sides facing into the first and second compartments, respectively. EX1003: ¶¶382-383.

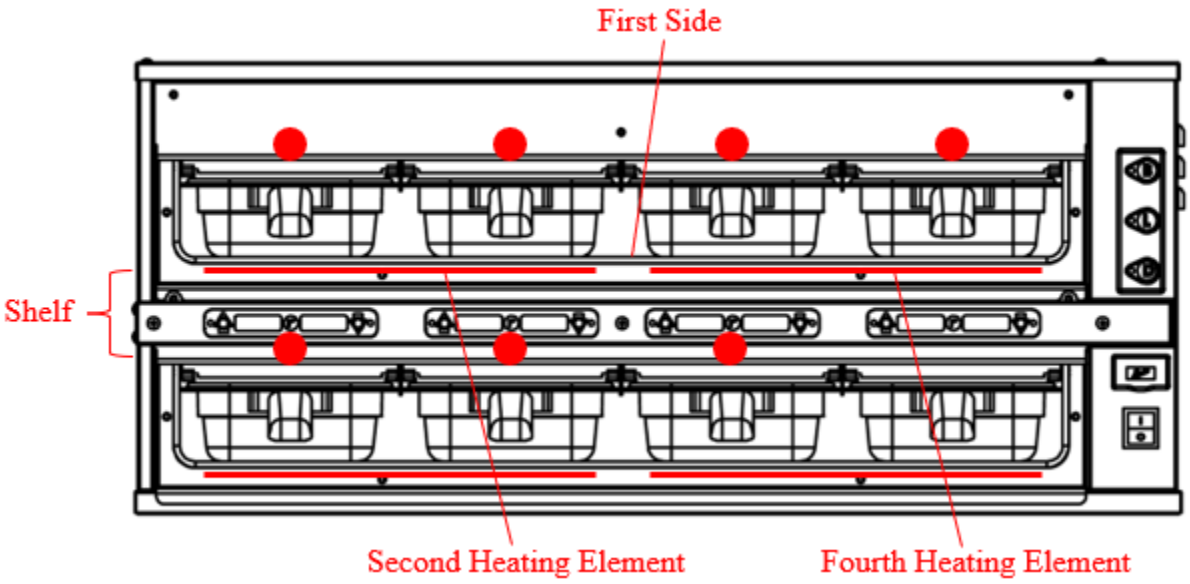

First Side
First Food Holding Compartment
Shelf
Second Side
Second Food Holding Compartment


First Food Holding Compartment
Shelf
First Side
Second Side
Second Food Holding Compartment
13
8
7
10
6
5
4
3
1

EX1005: 8, 20.

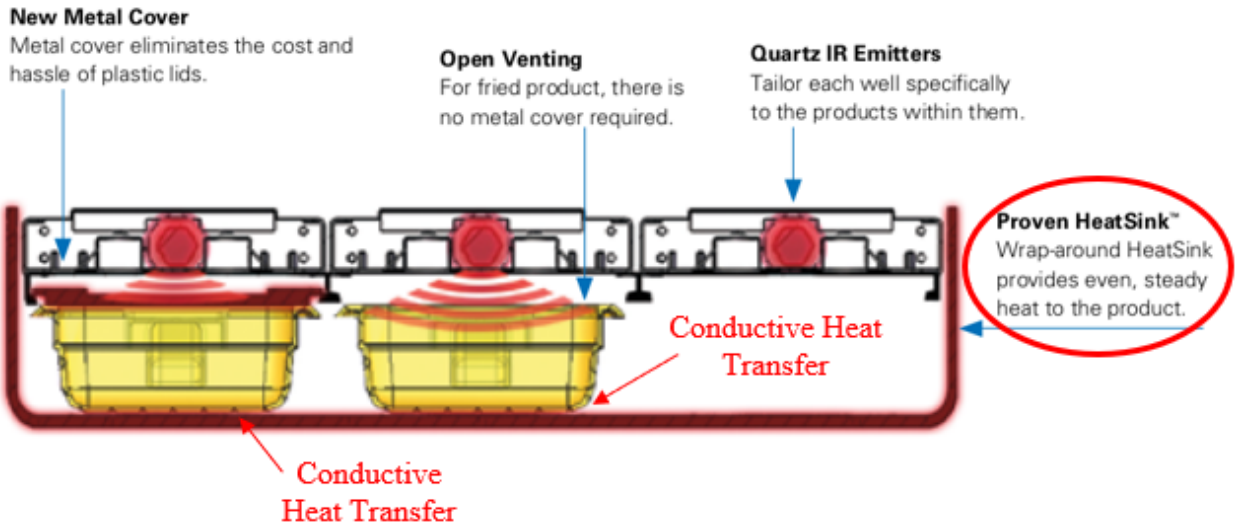
54.i.2

POSA understands the second and fourth heating elements are in the shelf below the planar surface forming the first side. EX1007: 51, 53; EX1016: Fig. 2, ¶[0039]; EX1017: Fig. 3, 4:51-53; EX1003: ¶¶384-385.



EX1005: 8.

The second and fourth heating elements are each part of the HeatSink for heating pans from underneath. EX1007: 51; EX1003: ¶386.



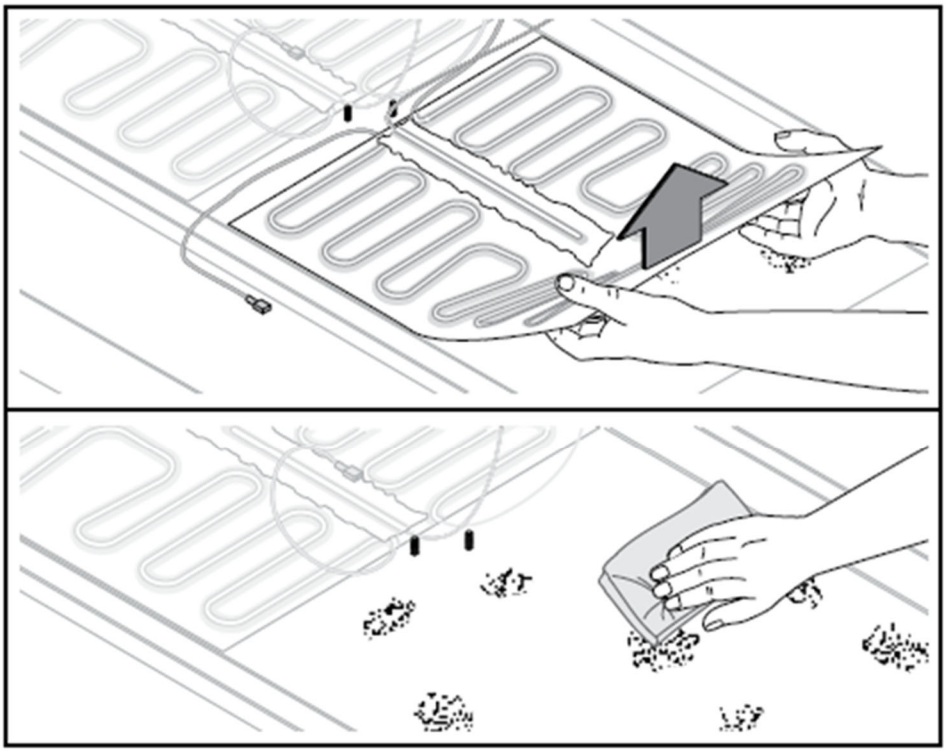
EX1007: 53.

HEAT ELEMENTS

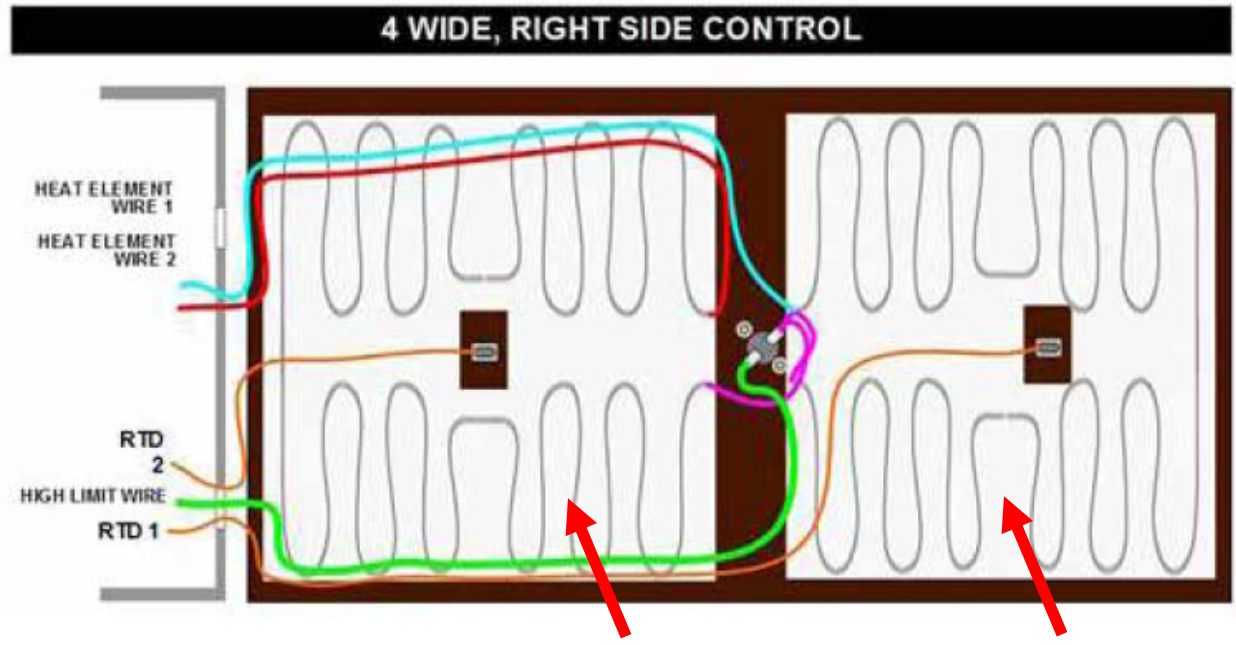
The Heat Elements provide the heating required to keep the heating wells at proper operating temperatures. The quantity varies depending on model and are affixed to the bottom of each Heat Sink.

EX1008: 21.

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



EX1008: 22.



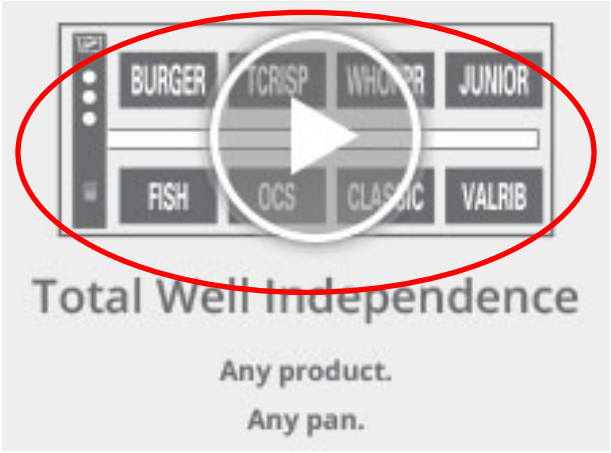
EX1008: 58.

POSA understands the second and fourth heating elements heat the shelf's first side and thus are in thermal communication with the first side. EX1007: 51, 53; EX1016: Fig. 2, ¶[0039]; EX1017: Fig. 3, 4:51-53; EX1003: ¶387.

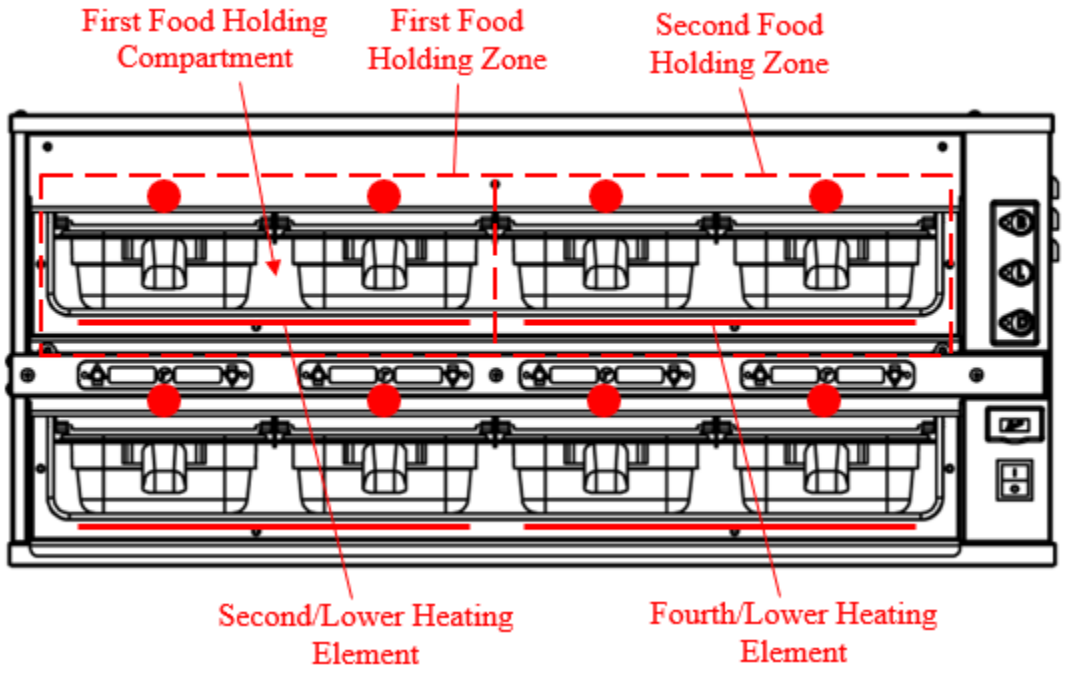
54.i.3

The second and fourth heating elements are independently controllable and thus capable of providing different heat energy amounts into the first and second zones. Section IV(B)(1.g.2/13/41/53/66); EX1005: 16, 25; EX1006: 1; EX1007: 53; EX1003: ¶¶388-390.

The controller operates the second and fourth heating elements to heat the zones to different temperatures (different heat energy amounts) via the different/customized heat settings for different food types. EX1003: ¶¶391, 394. The IRHS Documents teach customized temperature settings by food type and independently heating zones (first and second) having different food types. EX1006: 1; EX1005: 4, 16, 25; EX1007: 51, 53; EX1003: ¶¶392-393.



EX1007: 12.

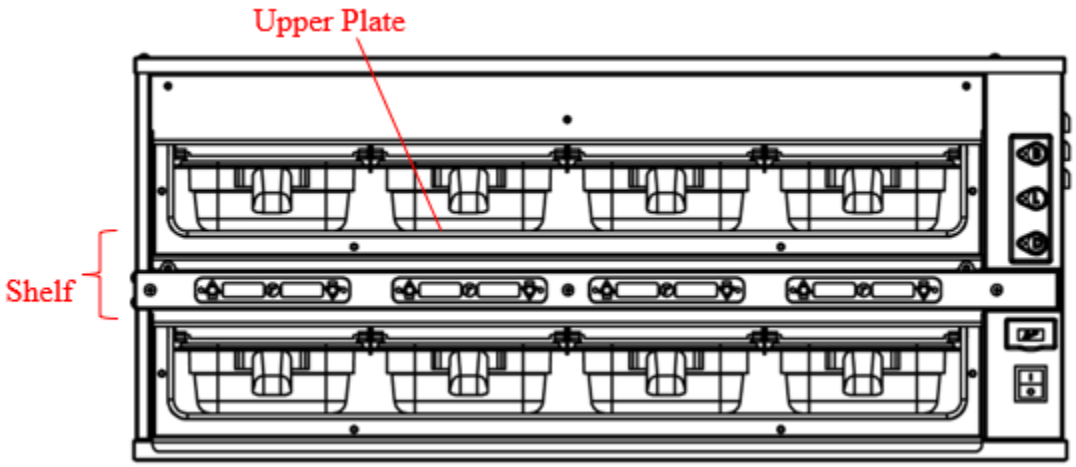


EX1005: 8.

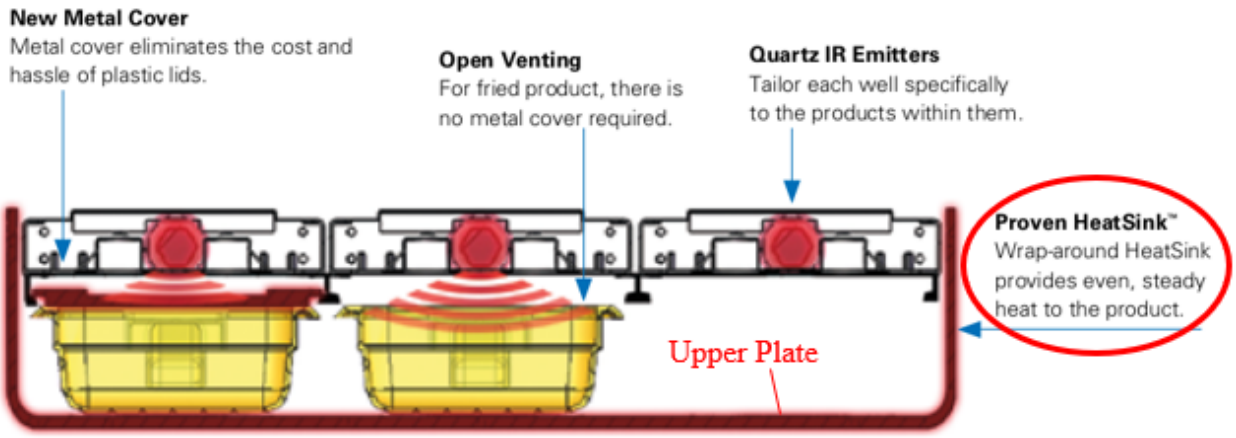
54.j.1

The shelf comprises a thermally conductive aluminum upper plate forming HeatSink's first planar surface or this is obvious per Section IV(B)(1.c.3).

EX1006: 1; EX1003: ¶¶395-396.

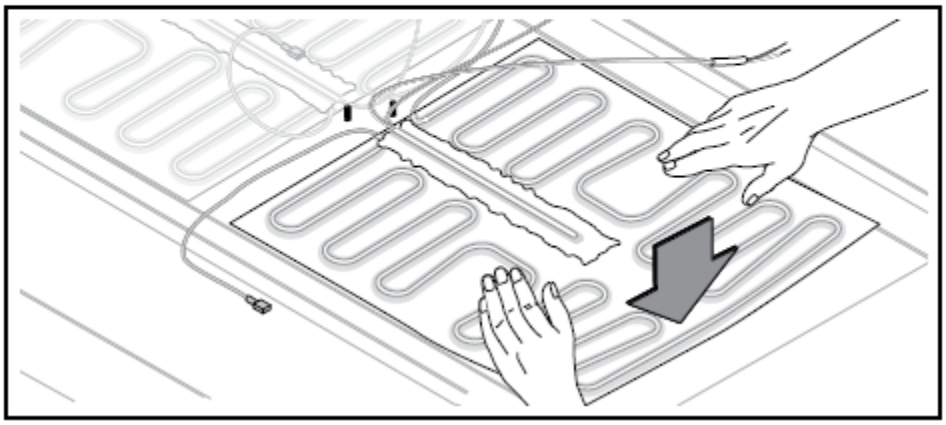


EX1005: 8.



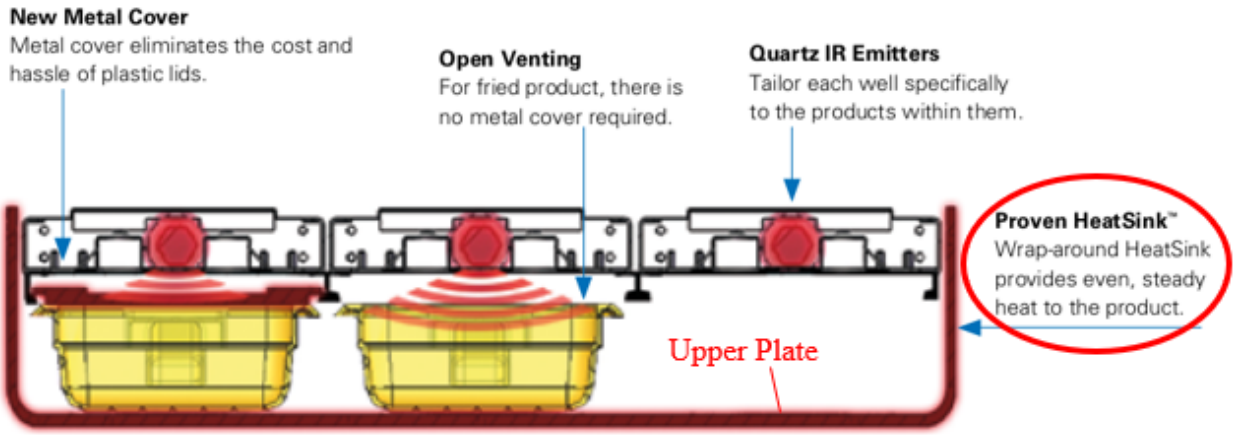
EX1007: 53.

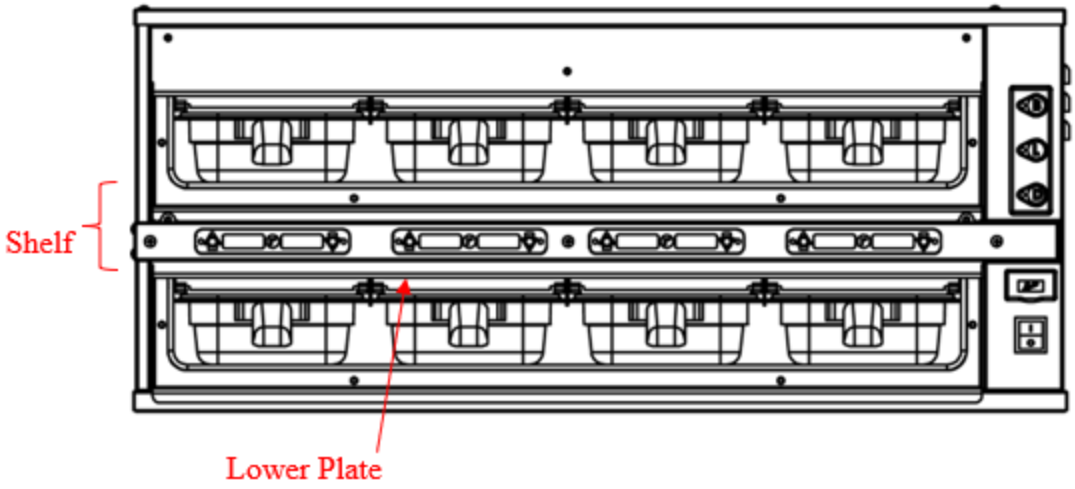
14. Peel the adhesive tape cover off the replacement Heat Element and press in place on the heat sink, ensuring all air bubbles are smoothed out.



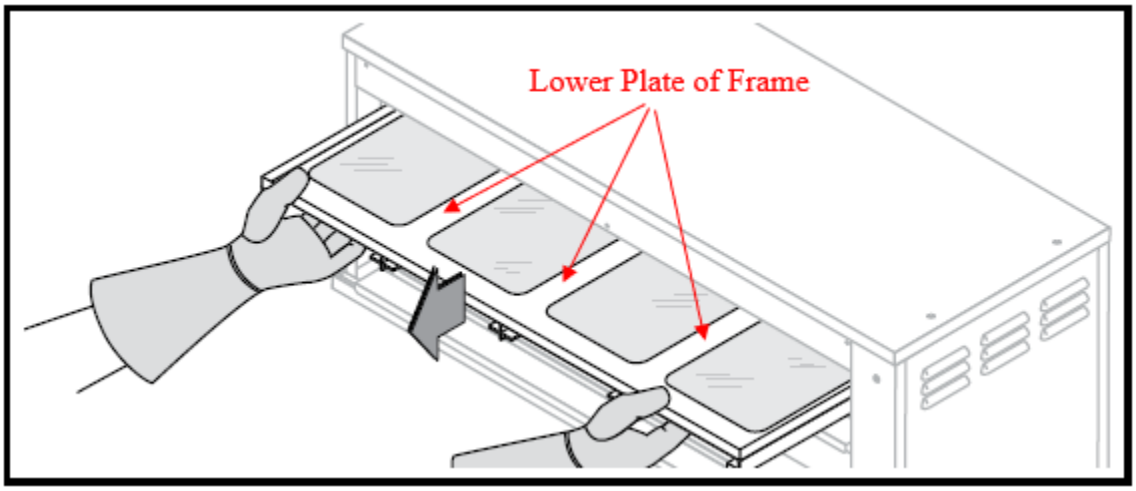
EX1008: 23.

The shelf comprises a glass support frame including a flat sheet metal plate with IR window cutouts. EX1005: 14, 19-20; EX1003: ¶397. 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. EX1003: ¶397.

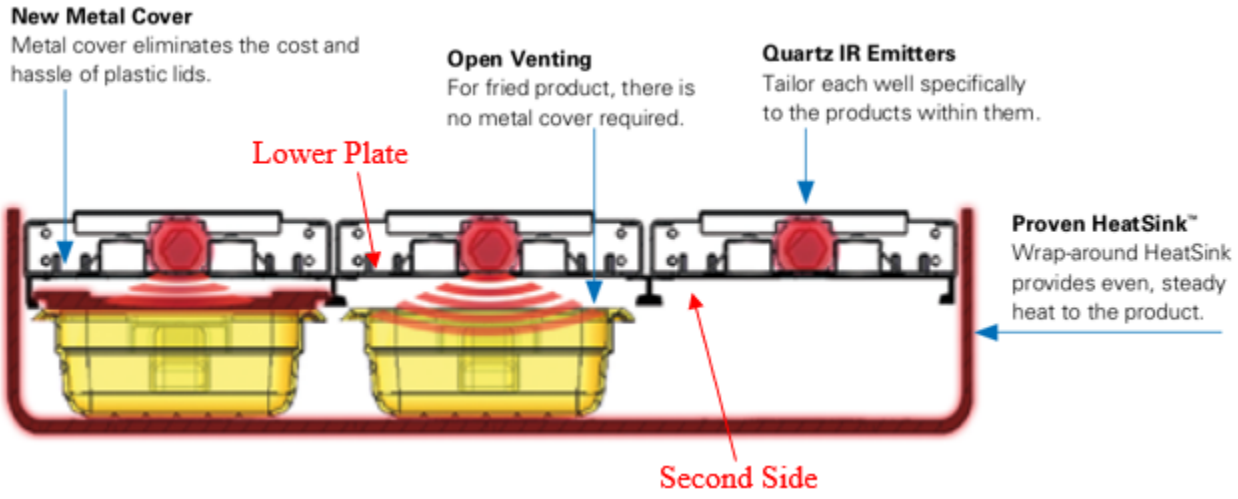

New Metal Cover
Metal cover eliminates the cost and hassle of plastic lids.
Open Venting
For fried product, there is no metal cover required.
Quartz IR Emitters
Tailor each well specifically to the products within them.
Proven HeatSink™
Wrap-around HeatSink provides even, steady heat to the product.
Upper Plate


Shelf
Lower Plate

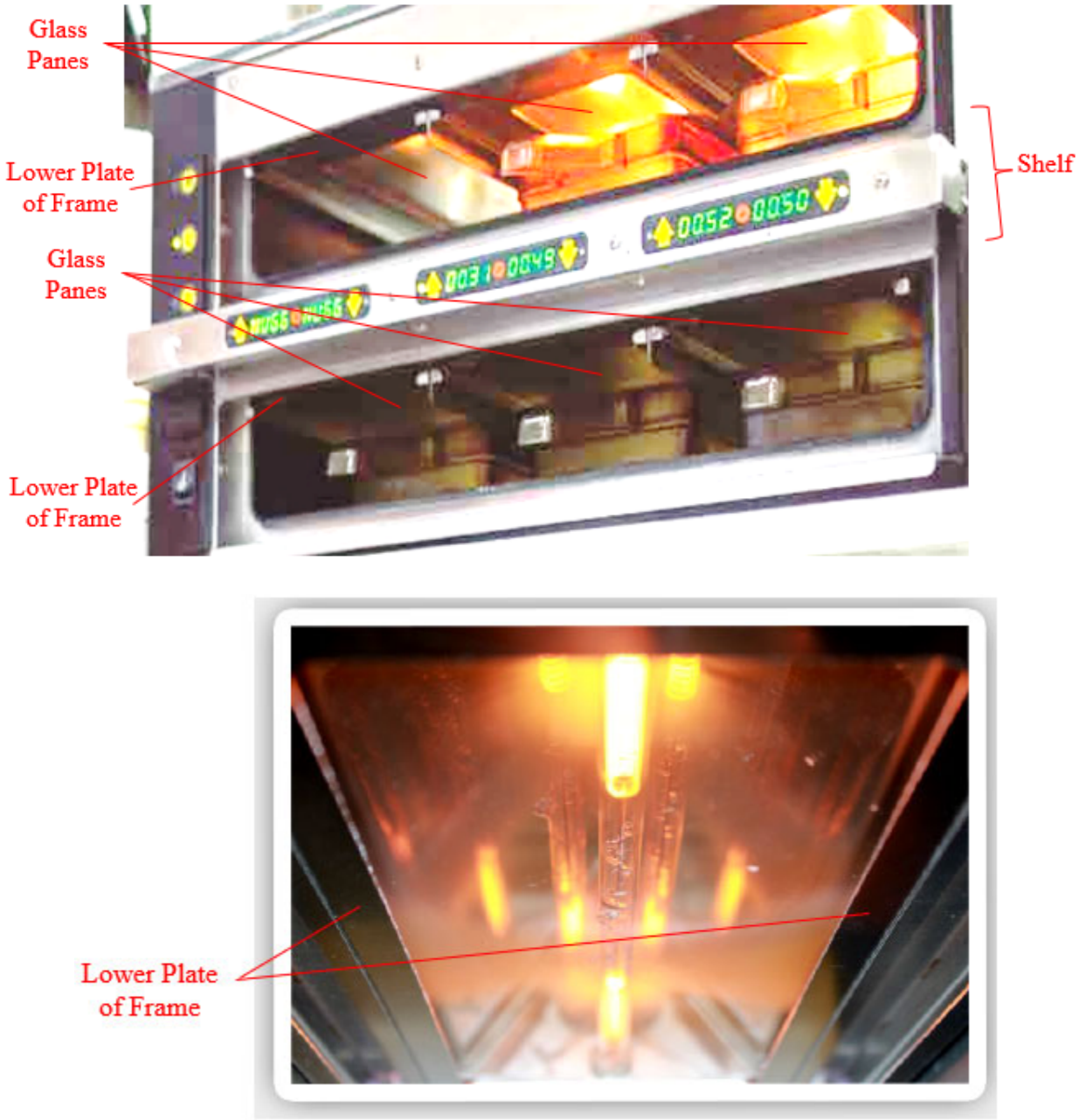
EX1005: 19, 8.


Lower Plate of Frame

EX1008: 25.


New Metal Cover
Metal cover eliminates the cost and hassle of plastic lids.
Open Venting
For fried product, there is no metal cover required.
Quartz IR Emitters
Tailor each well specifically to the products within them.
Lower Plate
Proven HeatSink™
Wrap-around HeatSink provides even, steady heat to the product.
Second Side

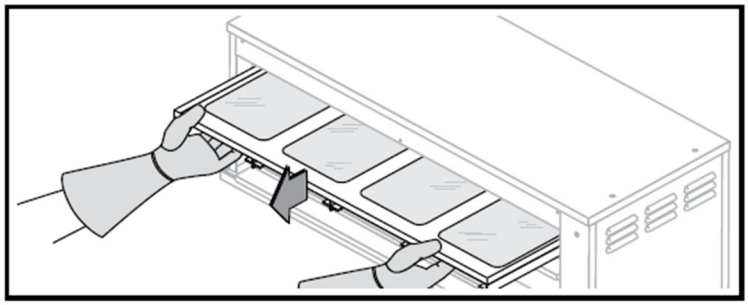

Shelf
Lower Plate



EX1007: 53, 32, 36, 11.

The sheet metal plate is thermally conductive. EX1008: 25, 27; EX1003: ¶398.

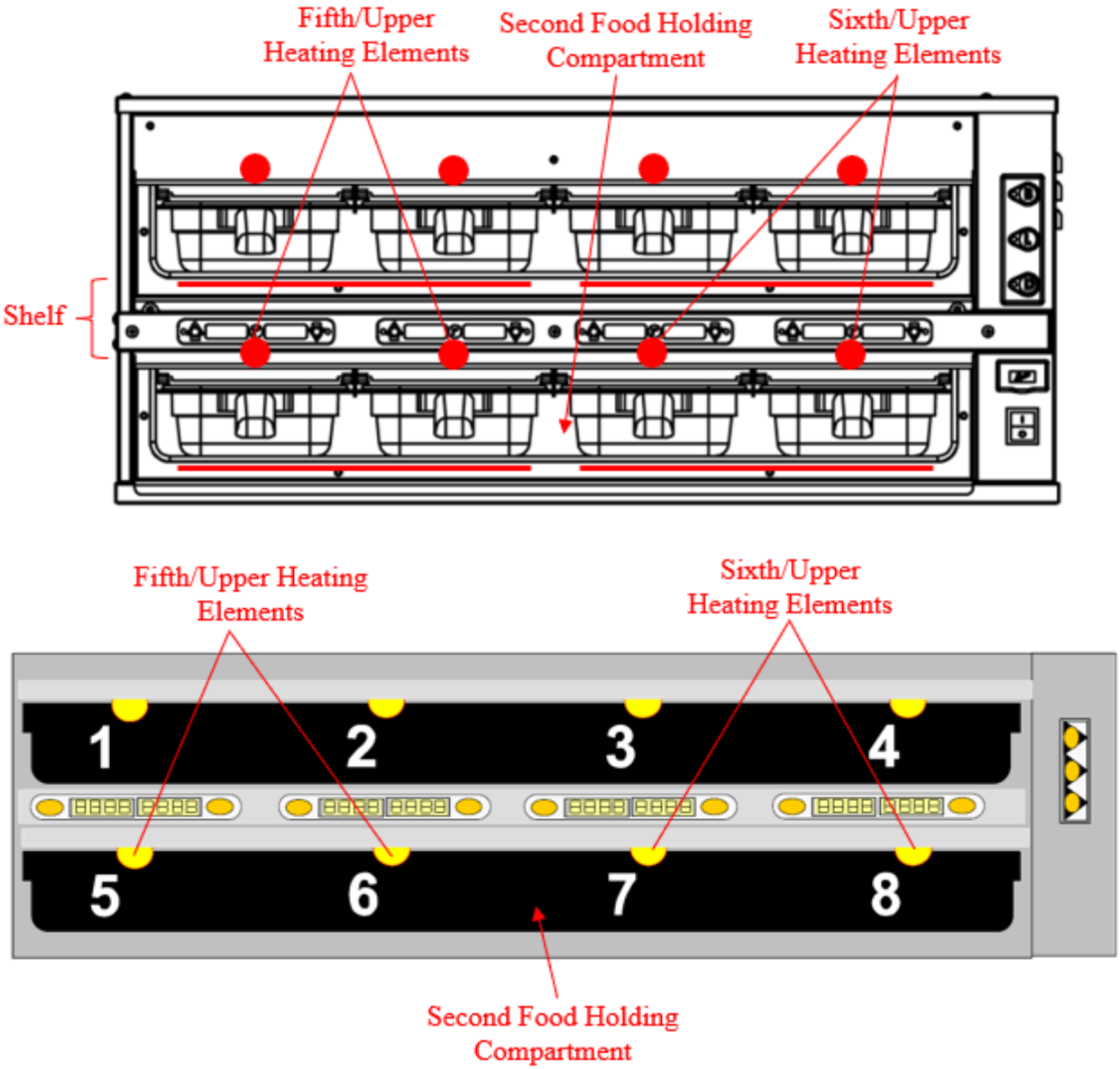
NOTE: Make sure the glass has cooled off sufficiently to avoid burns to bare skin. Use gloves if necessary.



EX1008: 27.

Moreover, it would have been obvious to make the plate from stainless steel, a thermally conductive material, for durability, cleanability, and rust resistance, with reasonable expectation of success (IRHS's existing stainless steel construction). EX1005: 13; EX1006: 1; EX1007: 53, 58; EX1003: ¶399.

The shelf includes IR bulbs as fifth and sixth heating elements for heating zones of the second/lower compartment. Section IV(B)(1.d.2/1.e.2); EX1003: ¶400.



EX1005: 8, 25.

54.j.2

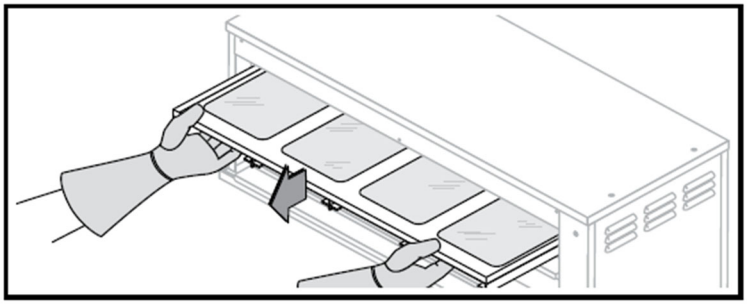
The shelf's IR bulbs (fifth and sixth heating elements) are between the upper and lower plates. EX1003: ¶¶401-402.

EMITTERS (IR BULBS)

The Emitters heat the top of each well. The quantity varies (depending on model) and are held in place by two Emitter Sockets at the top of each heating well.

5. Slide the IR glass frame assembly out of the liner deck assembly below the Emitter to be replaced.

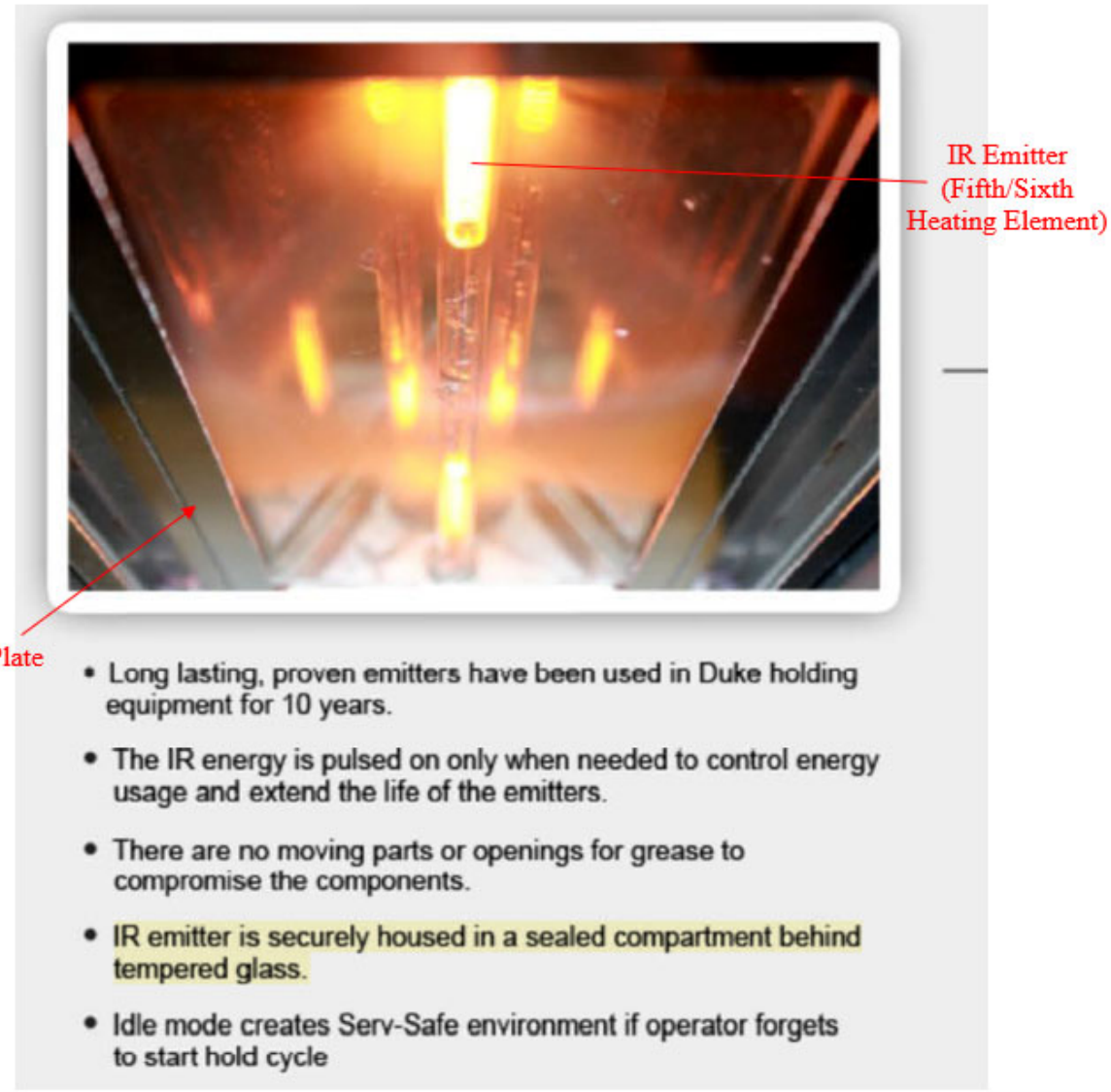
NOTE: Make sure the glass has cooled off sufficiently to avoid burns to bare skin. Use gloves if necessary.



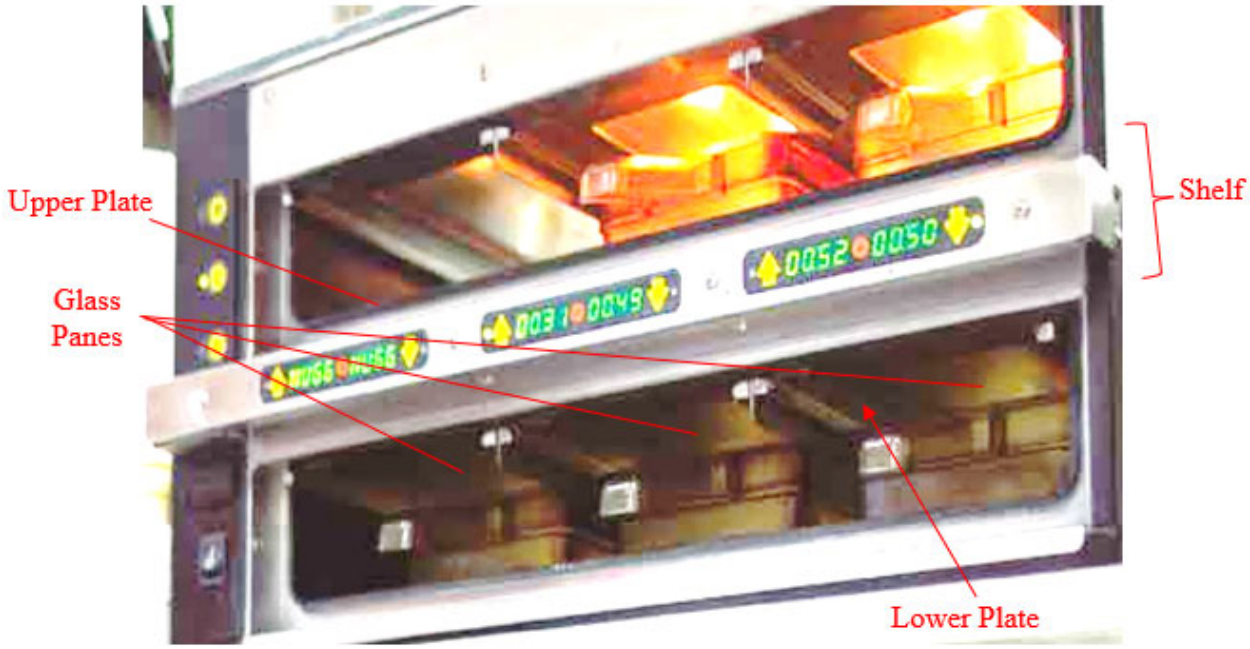
6. The Emitter Sockets are spring-loaded. Push the Emitter towards the rear socket until the Emitter is free from the front socket and carefully remove.

EX1008: 27.

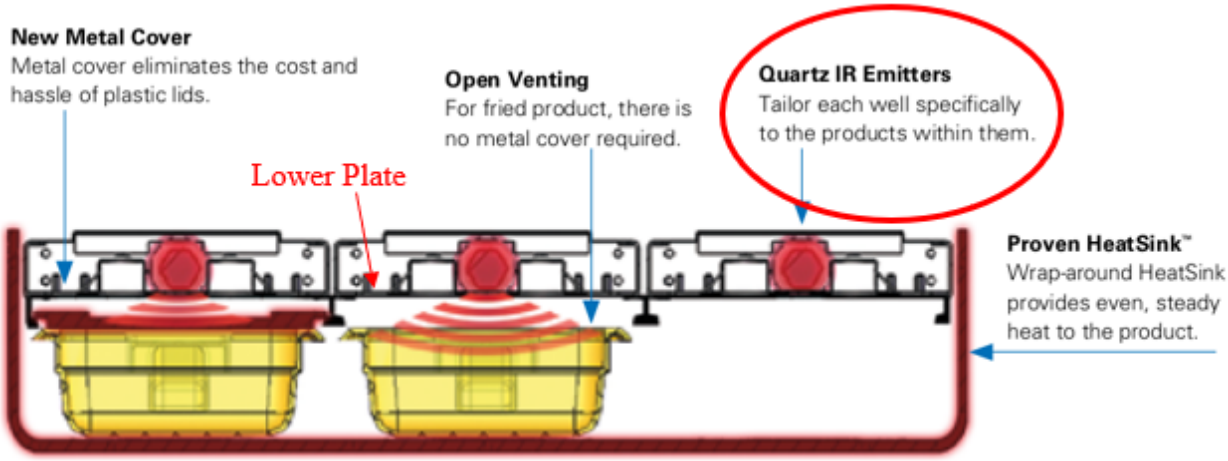
The IR bulbs are between the HeatSink (upper plate) and the glass support frame's sheet metal plate. EX1003: ¶403.


IR Emitter
(Fifth/Sixth
Heating Element)
Lower Plate
• 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

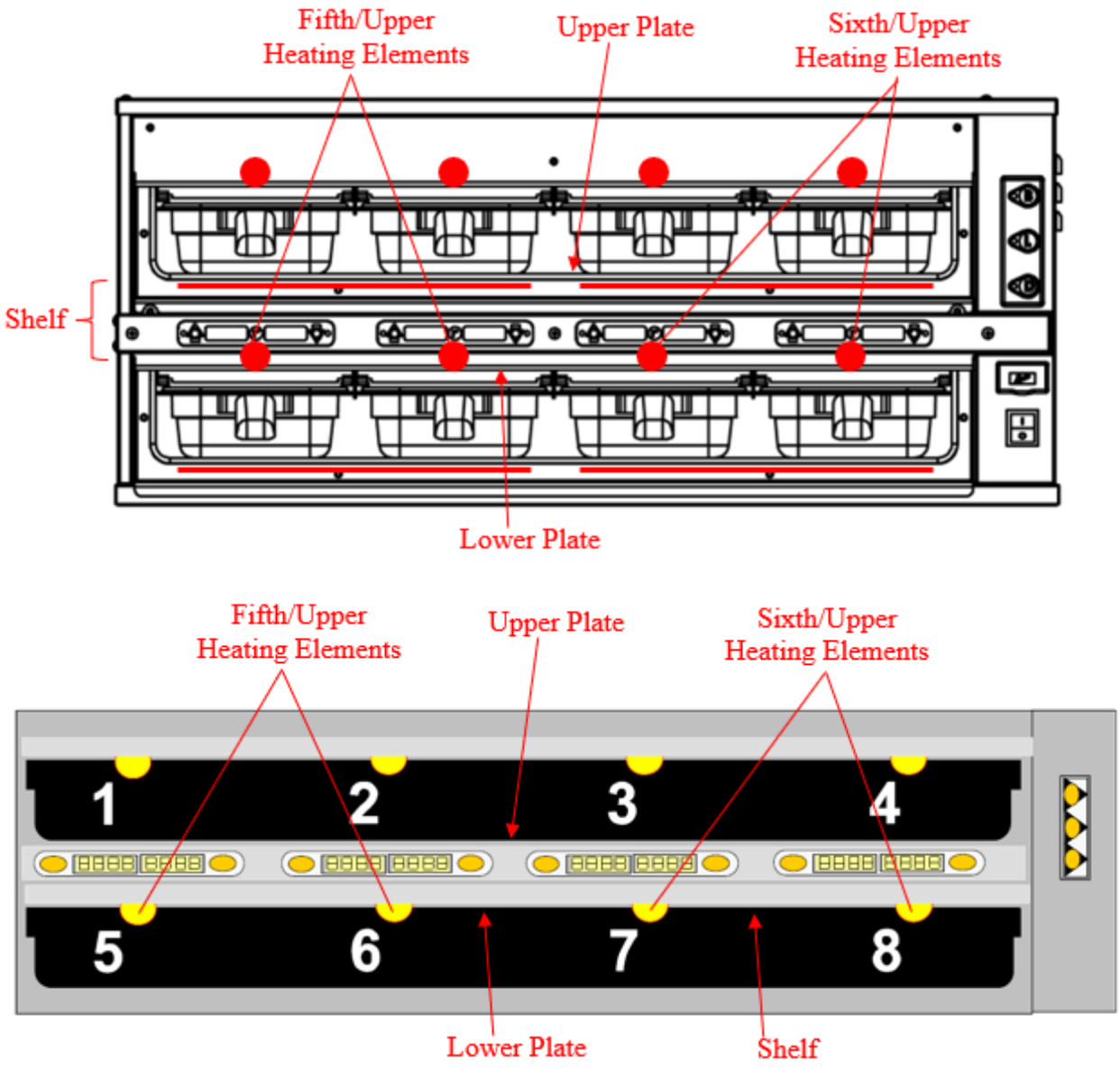
EX1007: 11.



EX1007: 36.



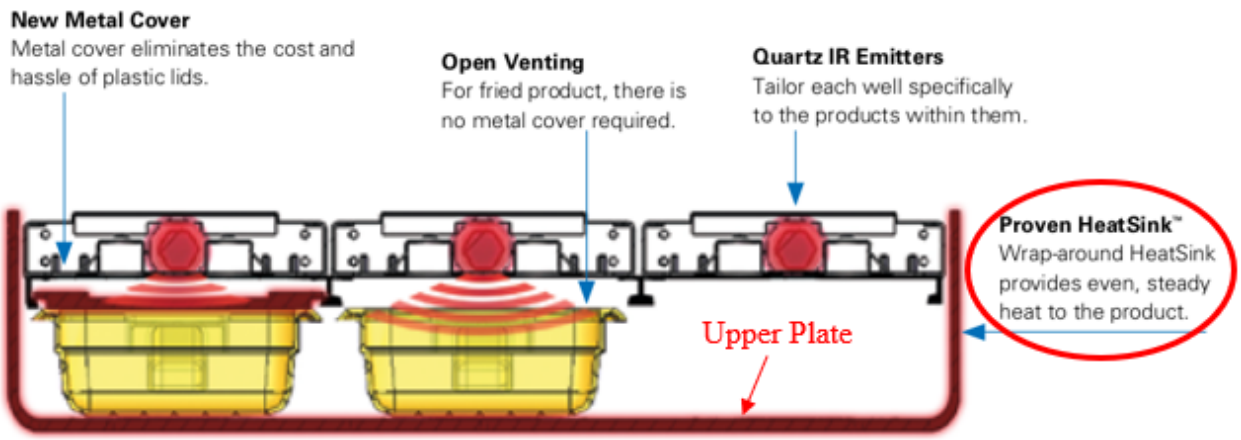
EX1007: 53.



EX1005: 8, 25.

54.j.3

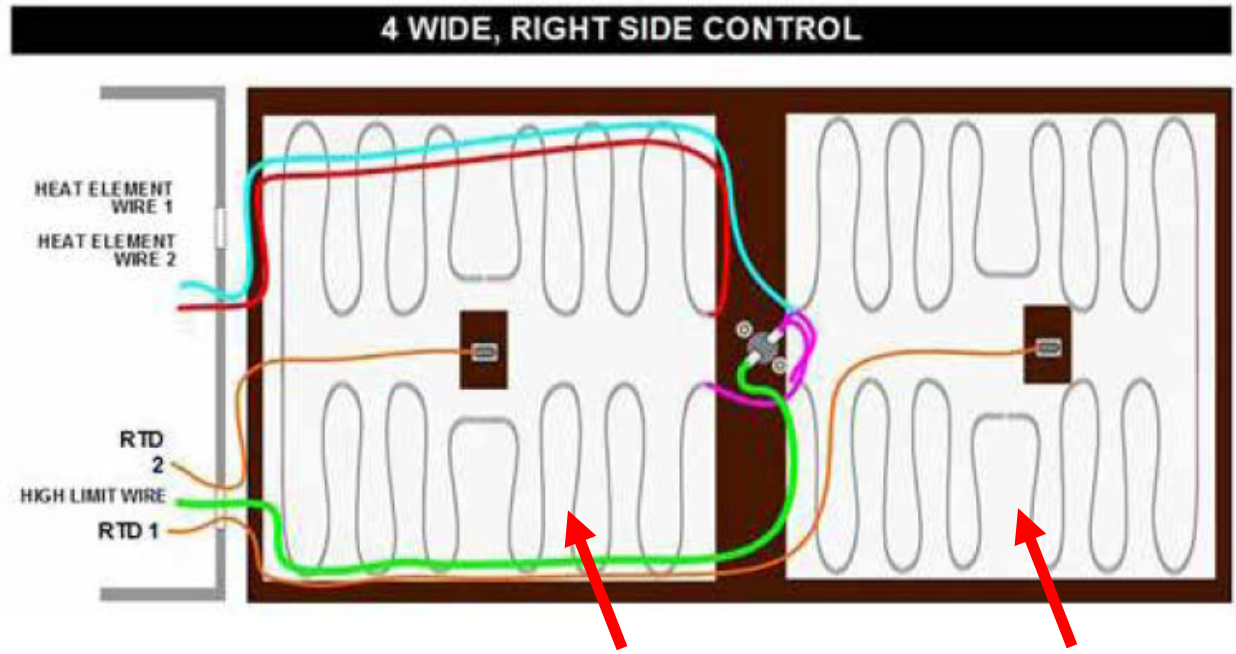
The second and fourth lower heating elements are part of the HeatSink for the upper/first compartment heating pans from underneath. EX1007: 51; EX1003: ¶¶404-405.



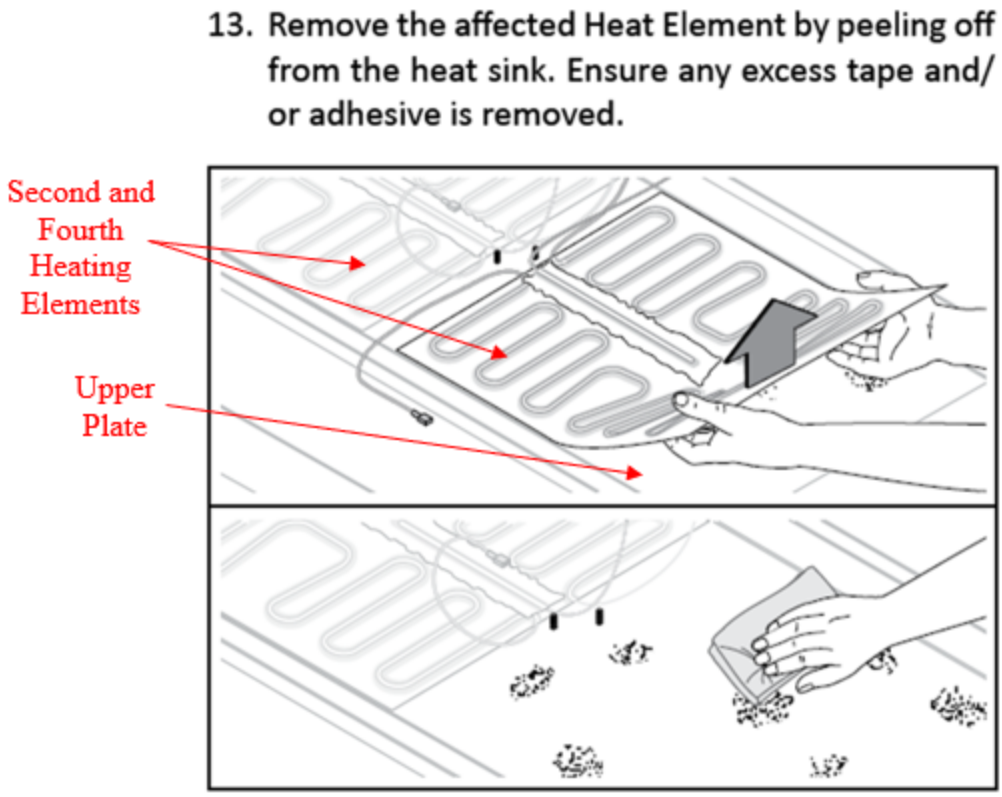
EX1007: 53.

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.



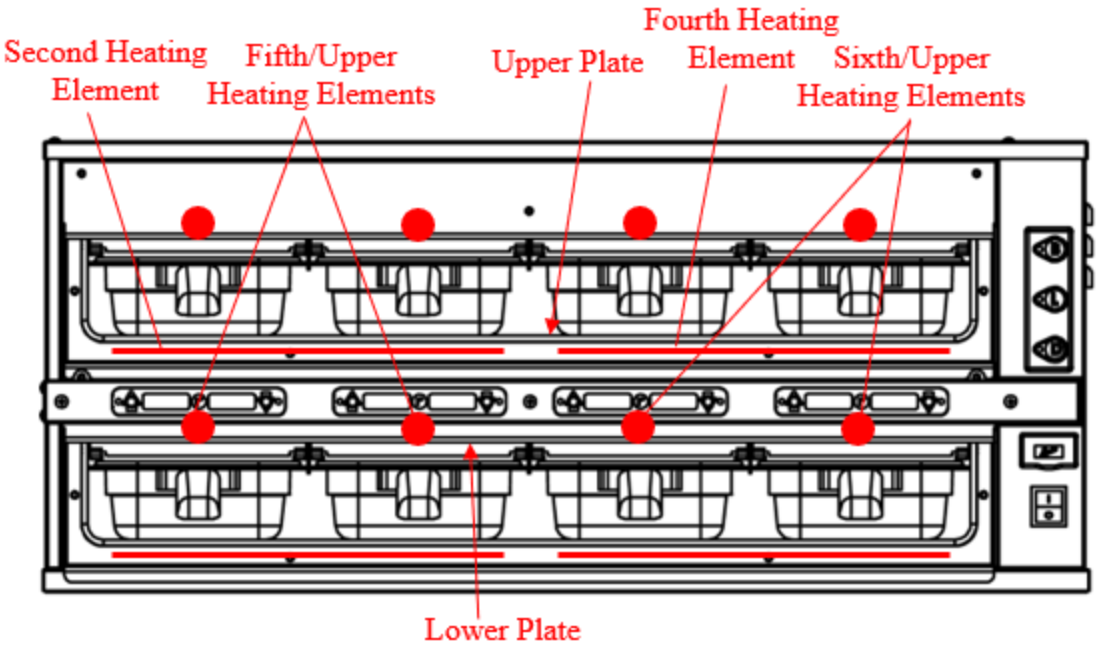
EX1008: 21, 58.



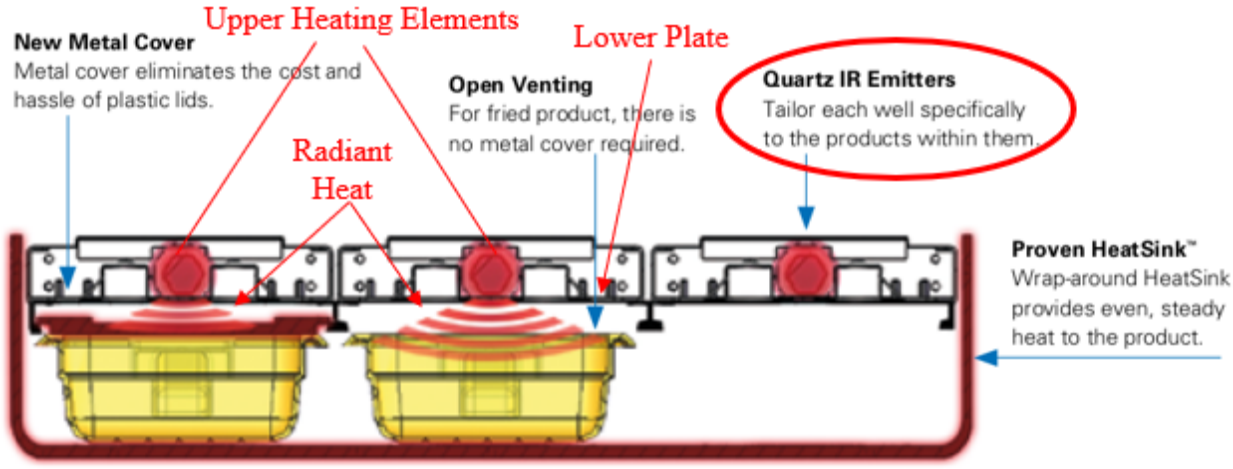
EX1008: 22.

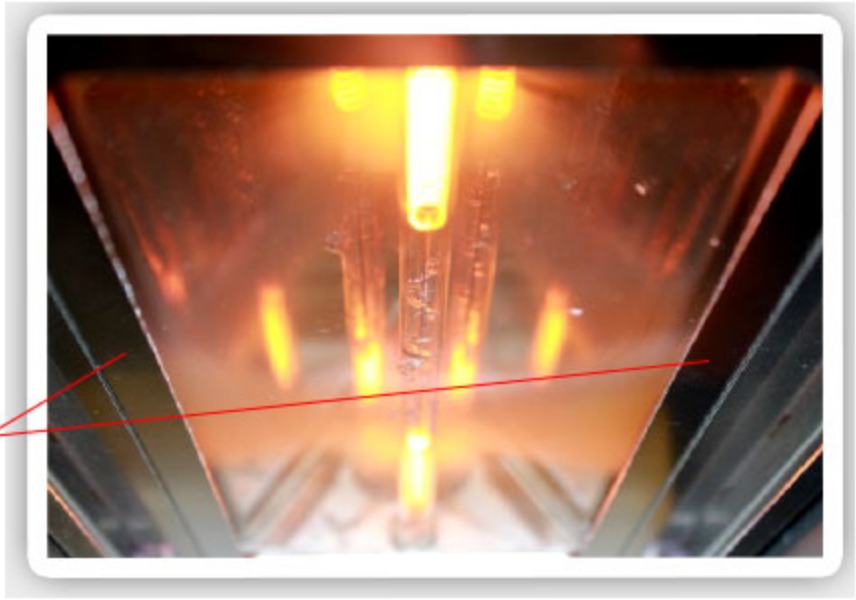
POSA understands the second and fourth lower heating elements heat the HeatSink plate and thus are in thermal communication with the upper plate. EX1007: 51, 53; EX1016: Fig. 2, ¶[0039]; EX1017: Fig. 3, 4:51-53; EX1003: ¶406.

The lower plate (sheet metal plate of glass support frame) is directly below the shelf's fifth and sixth IR heating elements. EX1003: ¶407. These elements are in thermal communication with the lower plate because they heat it. EX1003: ¶¶408-409.


Second Heating Element
Fifth/Upper Heating Elements
Upper Plate
Fourth Heating Element
Sixth/Upper Heating Elements
Lower Plate

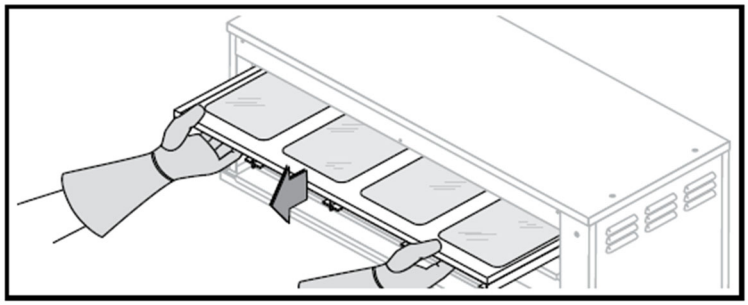
EX1005: 8.


New Metal Cover
Metal cover eliminates the cost and hassle of plastic lids.
Upper Heating Elements
Lower Plate
Open Venting
For fried product, there is no metal cover required.
Quartz IR Emitters
Tailor each well specifically to the products within them.
Radiant Heat
Proven HeatSink™
Wrap-around HeatSink provides even, steady heat to the product.



EX1007: 53, 11.

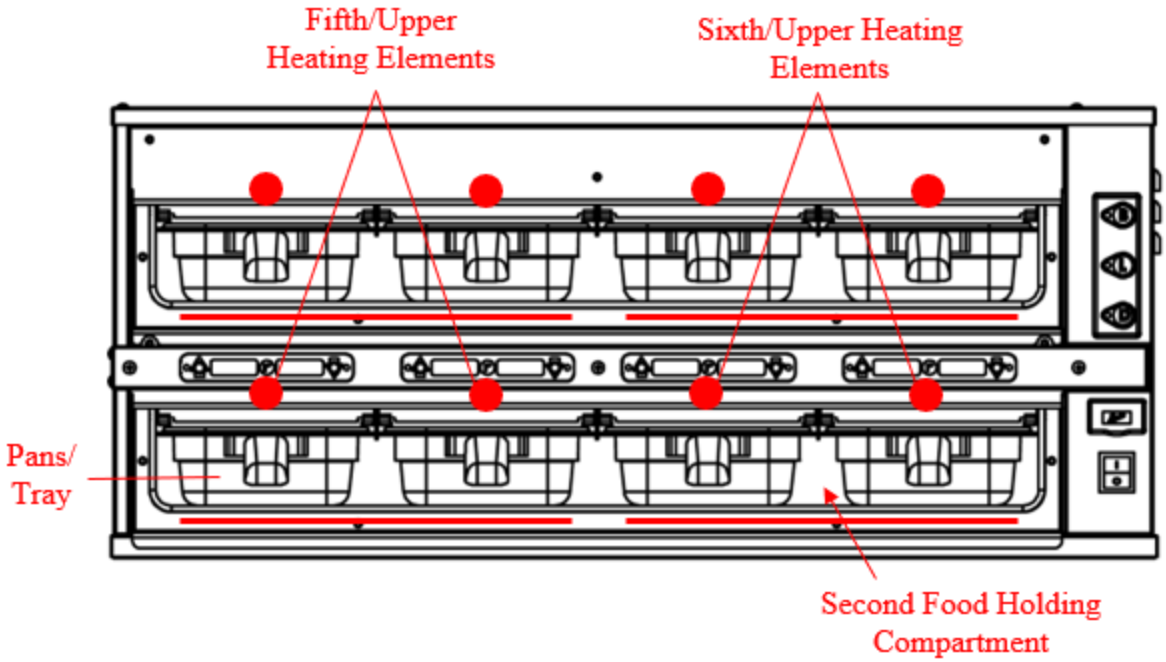
NOTE: Make sure the glass has cooled off sufficiently to avoid burns to bare skin. Use gloves if necessary.



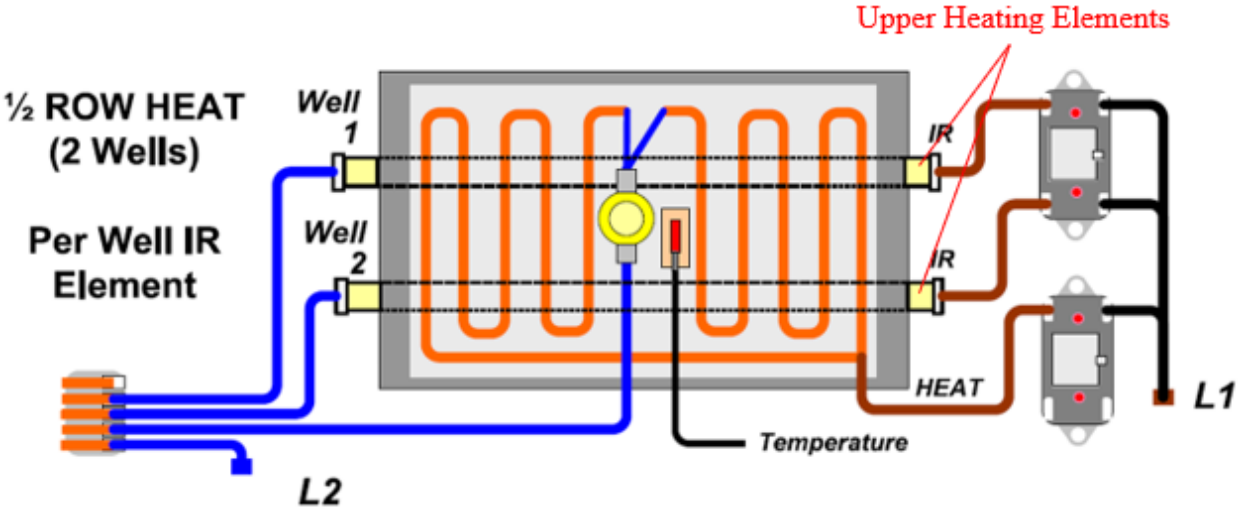
EX1008: 25.

54.j.4

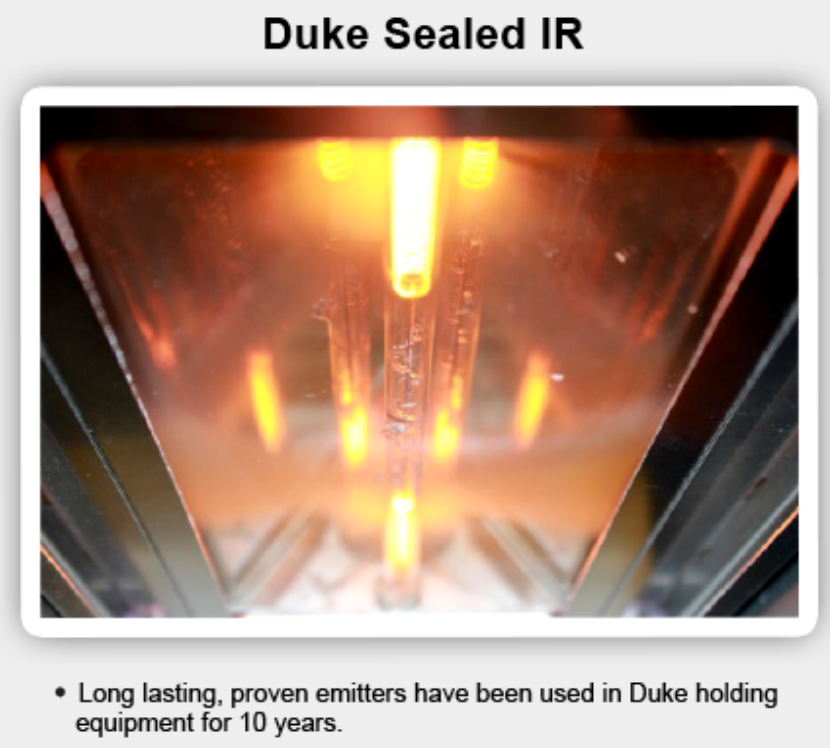
The fifth and sixth heating elements (IR bulbs) radiantly heat the second/lower compartment. EX1005: 20; EX1007: 51; Section IV(B)(1.d.2/1.e.2); EX1003: ¶¶410-413.



EX1005: 8.

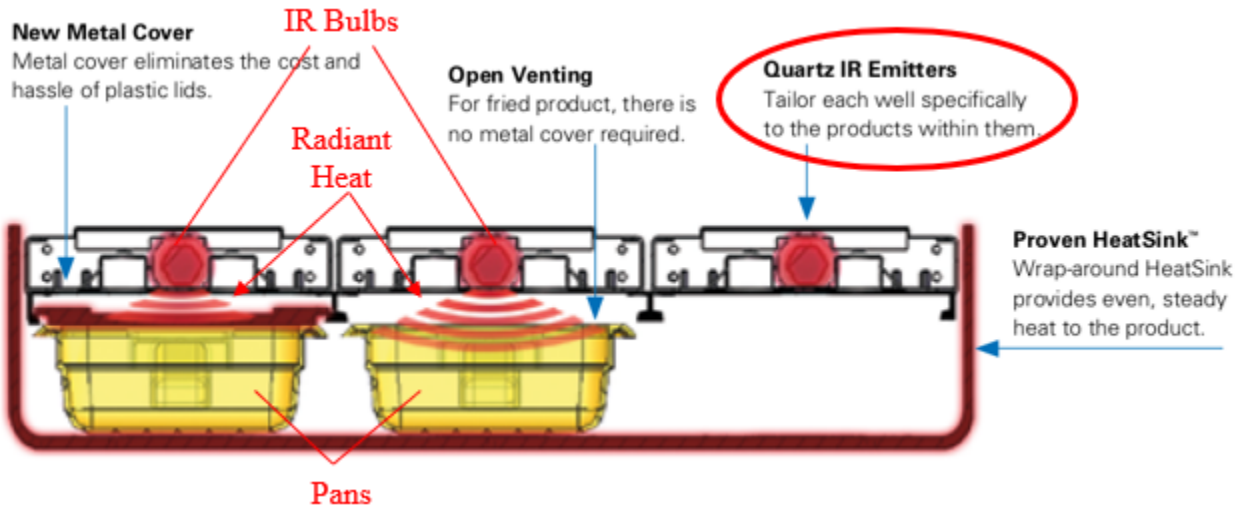


EX1005: 25.


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


0052 0050
0031 0049
HU66 HU66

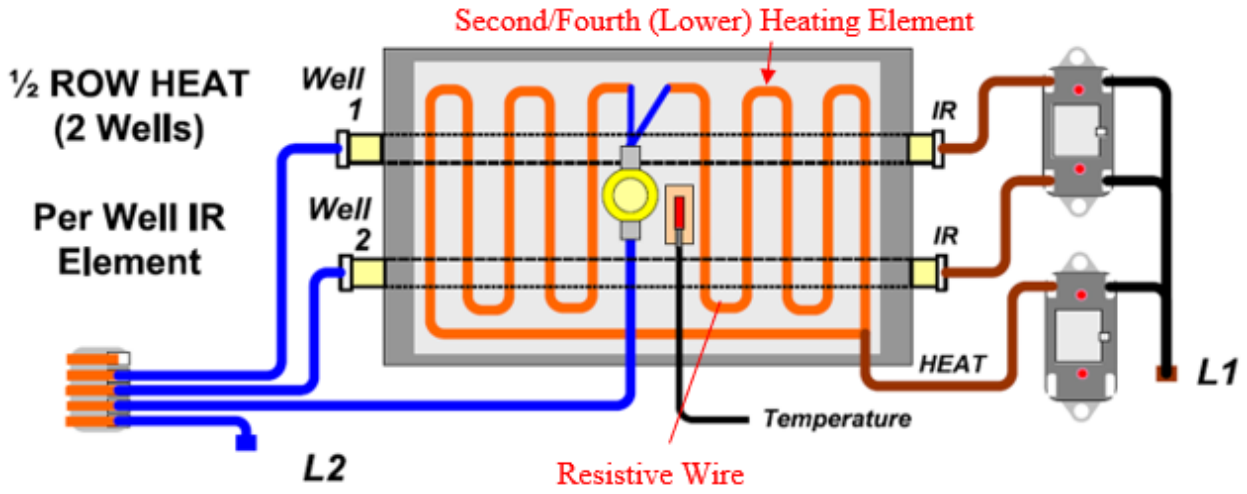
EX1007: 11, 36.



EX1007: 53.

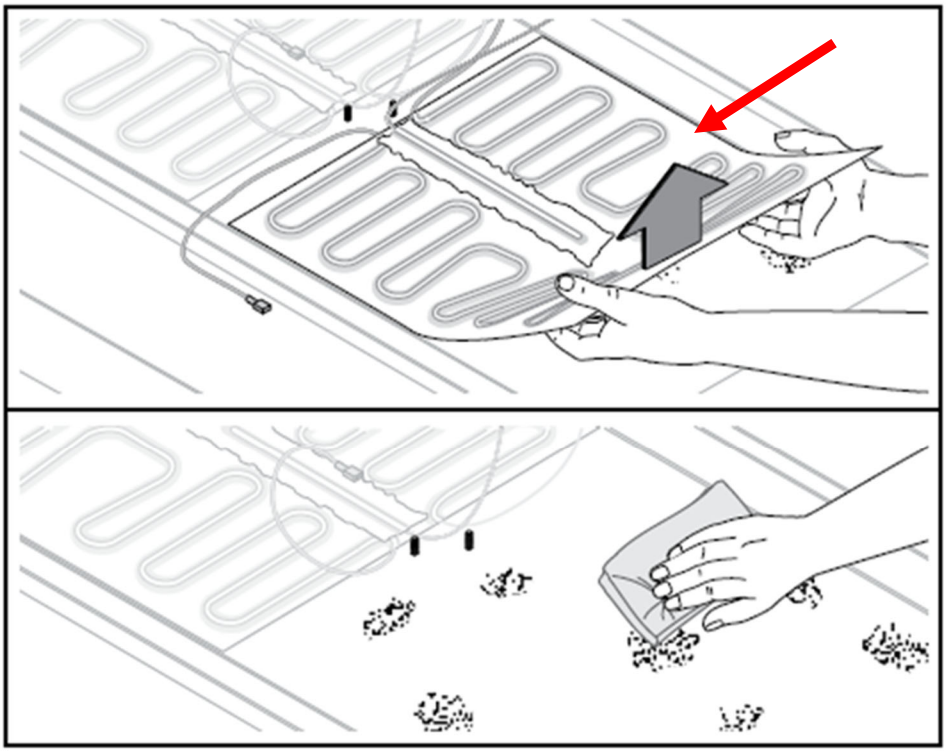
D. Claims 3/31/43/56

The second and fourth heating elements comprise a resistive wire. EX1003: ¶¶185-188, 274-276, 325-327.



EX1005: 25.

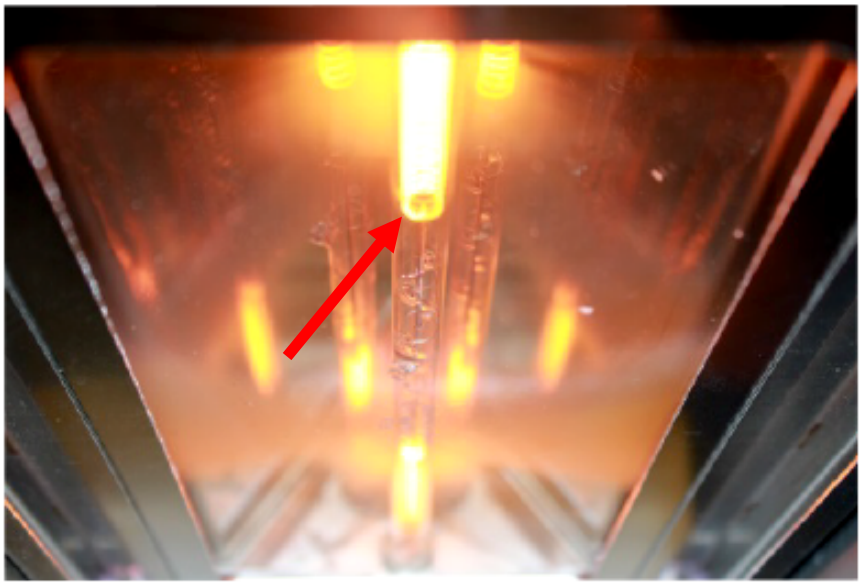
13. Remove the affected Heat Element by peeling off from the heat sink. Ensure any excess tape and/ or adhesive is removed.



EX1008: 22 (showing the flexible resistive wire).

Each first, third, fifth, and sixth heating element is a Quartz IR Bulb having a coiled resistive wire (glowing/hot). EX1007: 53; EX1025: 1:29-30; EX1003: ¶¶189-190, 274-276, 325-327, 414-418.

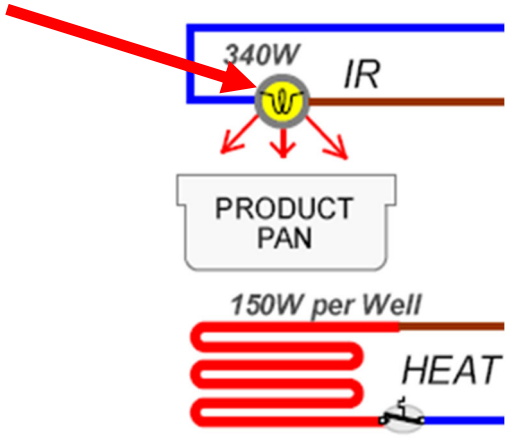
Duke Sealed IR



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



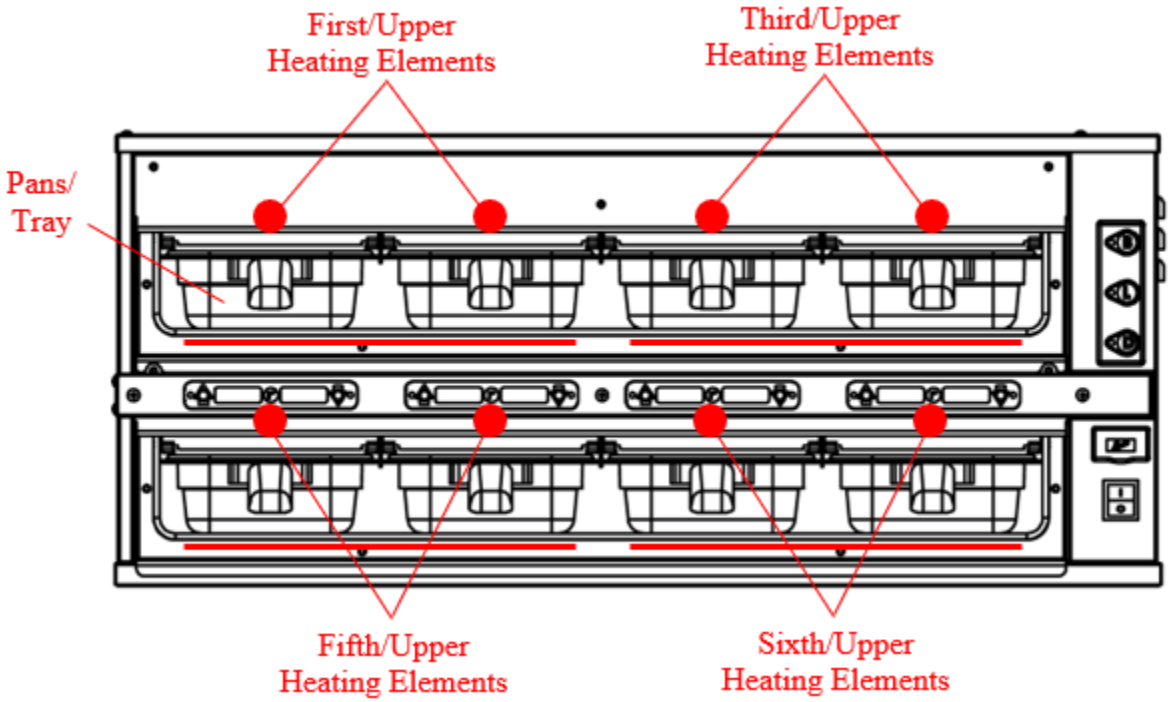
EX1007: 11, 36.

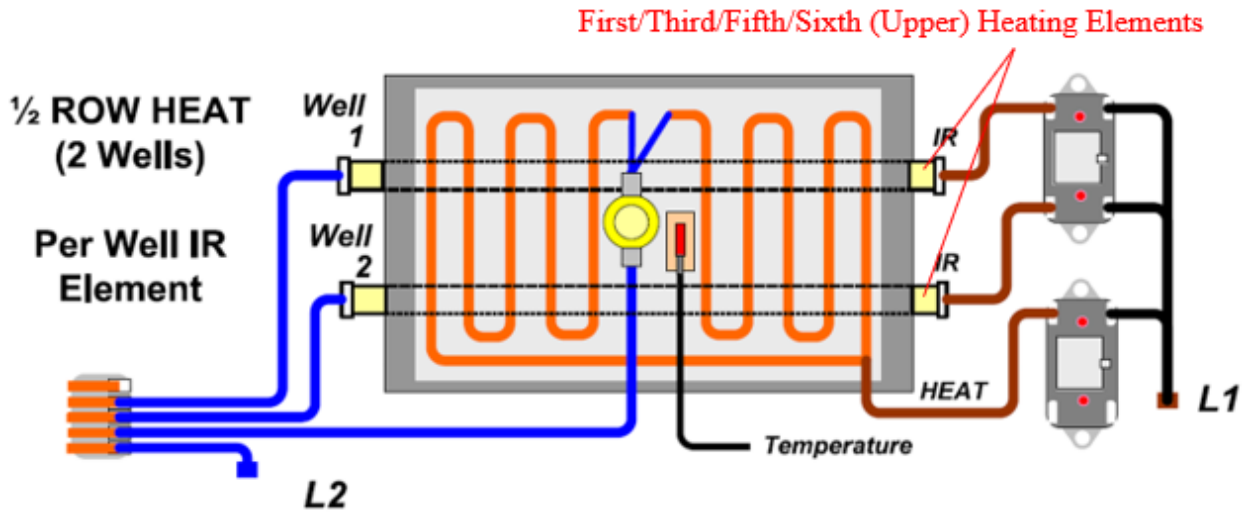


EX1008: 64 (showing schematic coiled resistive wire).

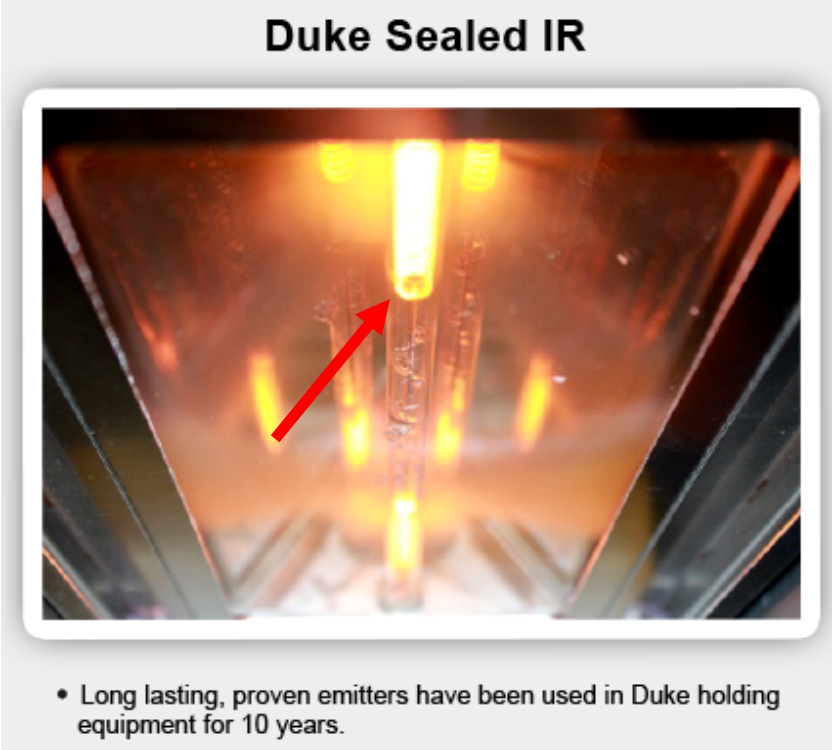
E. Claims 4/32/44/57

The first, third, fifth, and sixth heating elements (IR bulbs) provide radiant heat. EX1005: 20; EX1007: 51; EX1003: ¶¶191-193, 277-279, 328-330, 419-424.

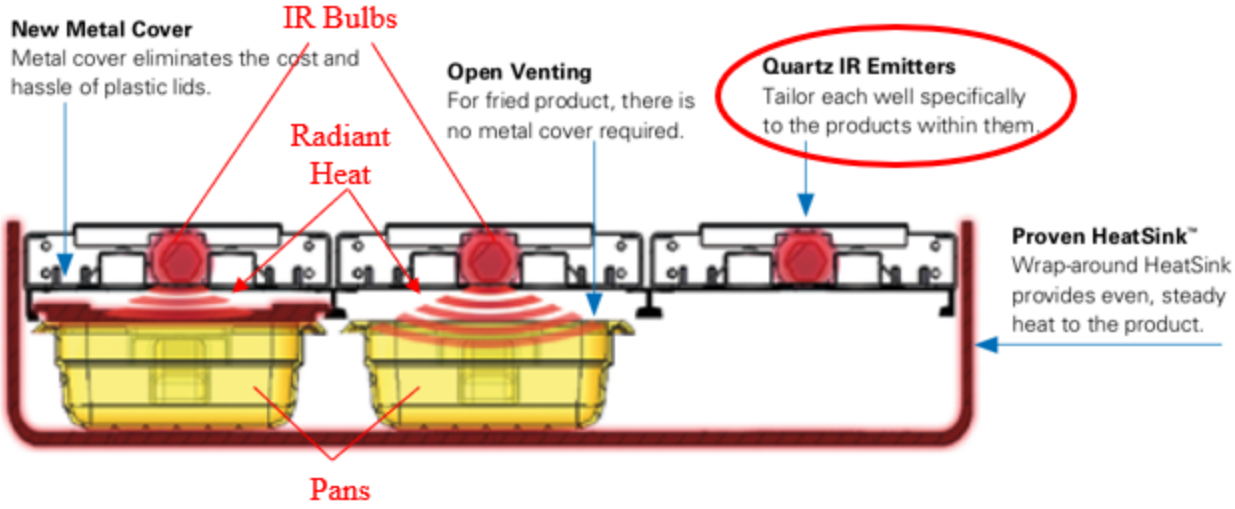



First/Third/Fifth/Sixth (Upper) Heating Elements
½ ROW HEAT
(2 Wells)
Per Well IR
Element
Well
1
Well
2
IR
IR
HEAT
L1
Temperature
L2

EX1005: 8, 25.

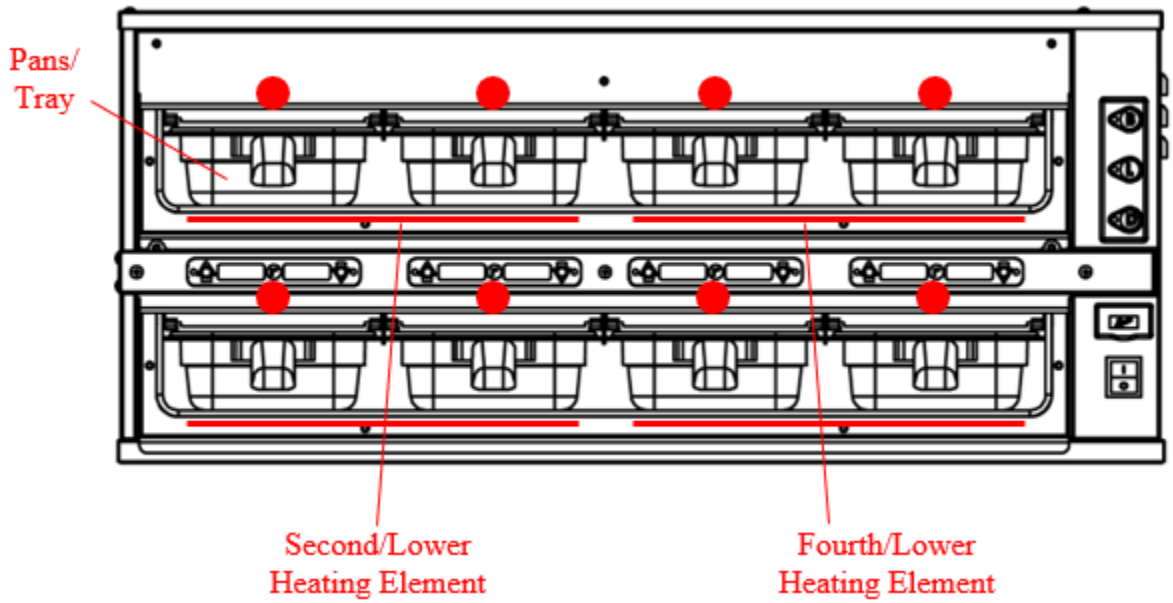

Duke Sealed IR
• Long lasting, proven emitters have been used in Duke holding equipment for 10 years.



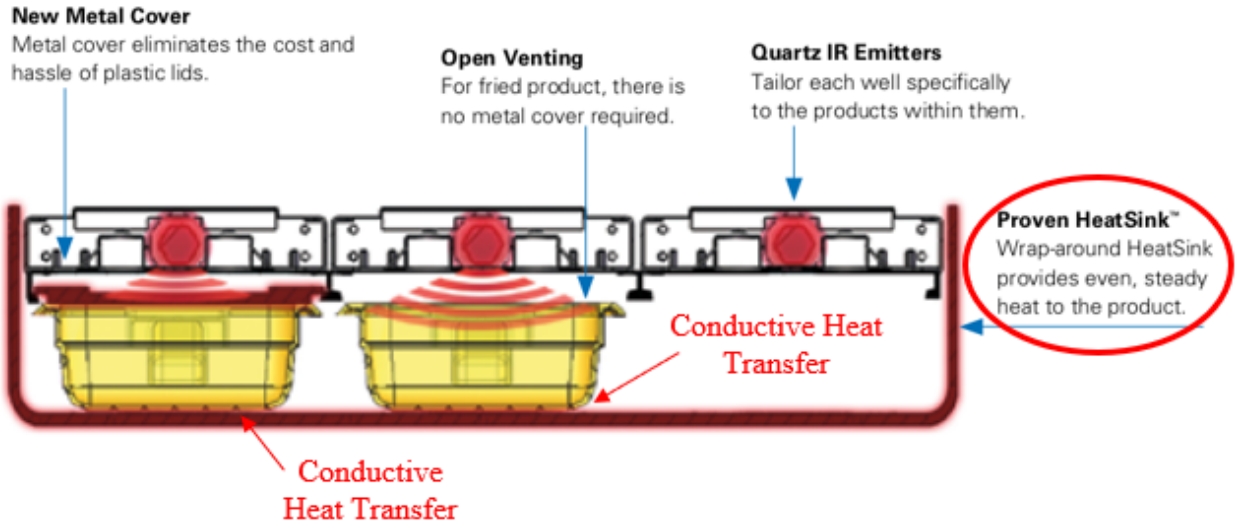


EX1007: 11. 36, 53.

The second and fourth heating elements are part of the HeatSink and conductively heat pans/trays on the planar surface. EX1007: 51; EX1016: Fig. 2, ¶[0039]; EX1017: Fig. 3, 4:51-53; EX1003: ¶¶194-197, 277-279, 328-330.



EX1005: 8.



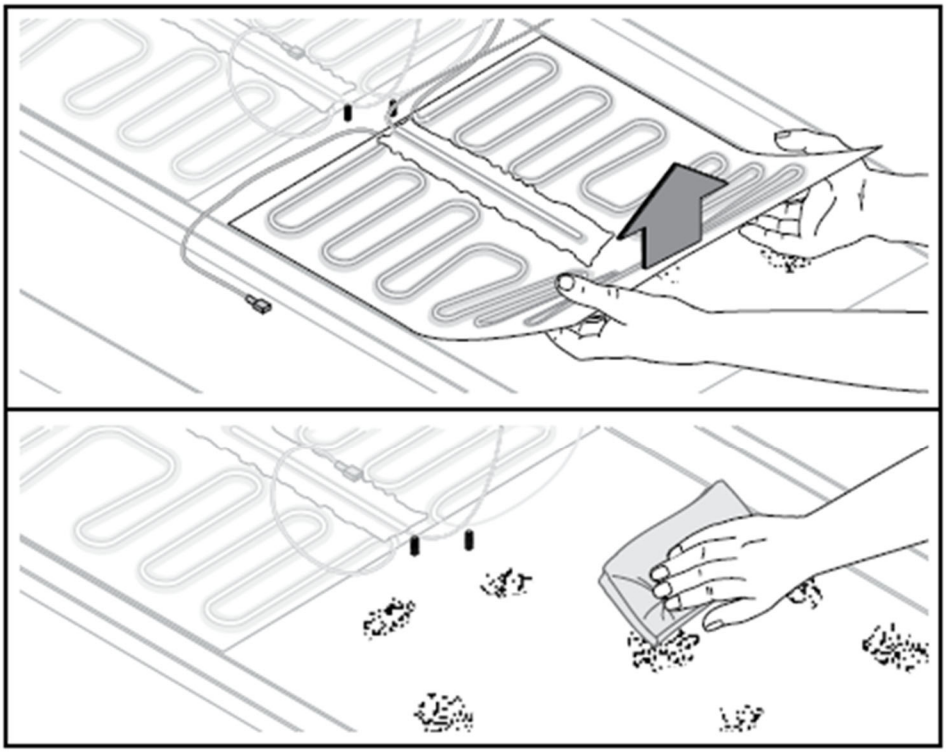
EX1007: 53.

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.

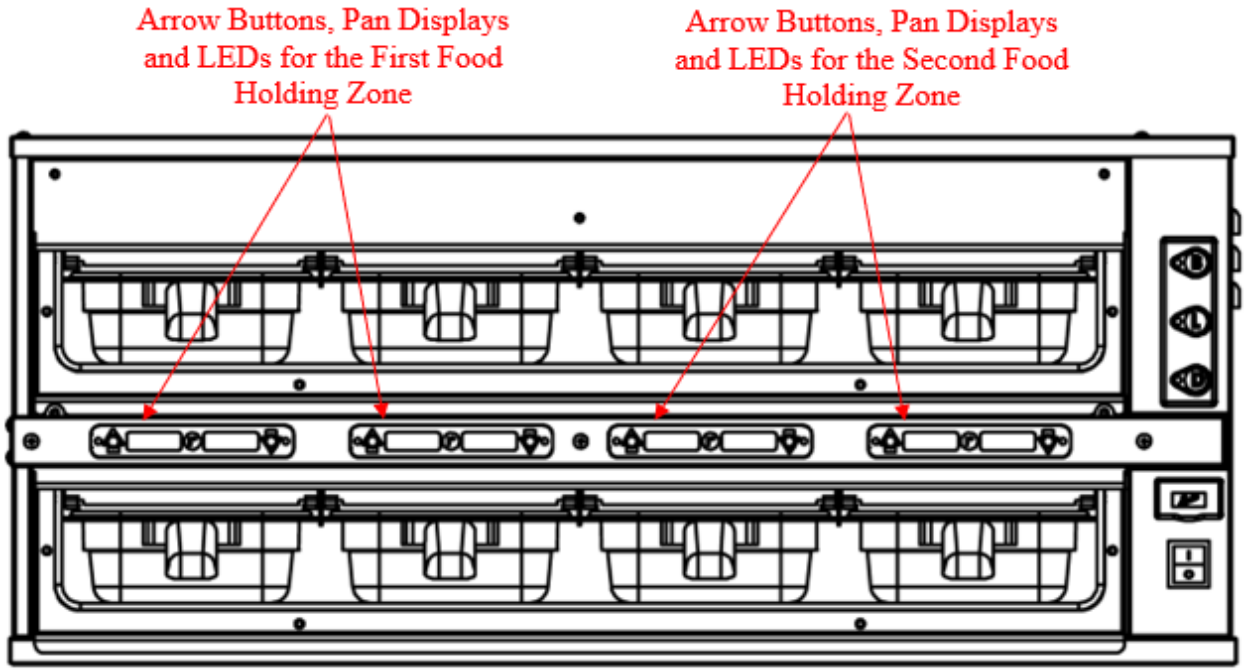
13. Remove the affected Heat Element by peeling off from the heat sink. Ensure any excess tape and/or adhesive is removed.



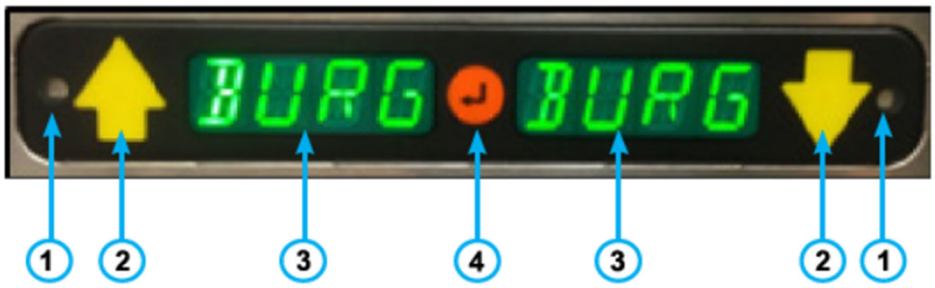
EX1008: 22.

F. Claims 5/33/45/58

The front timer bar/bezel is attached to the chassis and provides dedicated controls (arrow buttons) and dedicated displays (LEDs and pan displays) for each zone/bay. Section IV(B)(1.f); EX1003: ¶¶198-201, 280-282, 331-333, 425-427. Each arrow button points to a corresponding bay/zone for an LED and pan display. EX1005: 16; EX1003: ¶201. Each pan display displays its bay's/zone's temperature setting. EX1006: 1; EX1005: 16, 17; EX1008:47; EX1003: ¶¶202-203, 283-286, 334-337, 428-431.



OPERATION – TIMER BAR FUNCTIONALITY



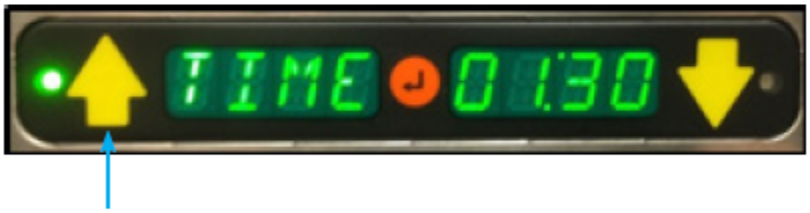
2. Arrow Buttons
   a. Used for Starting / Stopping / Resetting Timer.
   b. Used to access MENU MODE.
   c. Indicate which pan the adjacent Status LED and Pan Display are linked to.
3. Pan Display
   a. Displays Product Name and Hold Time Remaining (alternates between the two when Timer is active).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

MENU MODE – DISPLAY LINK, HOLD TIME, TEMPERATURE

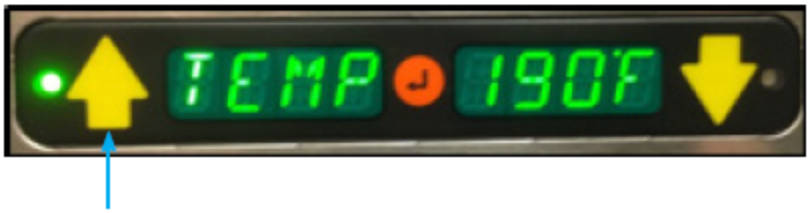
1. Press the UP Arrow Button repeatedly to scroll up or down through “LINK”, “TIME”, and “TEMP”. The DOWN Arrow button can be used to cycle the opposite direction.



This indicates all products named BURG are linked pan locations.



This indicates the hold time for BURG.



This indicates the Heat Sink Temperature for BURG.

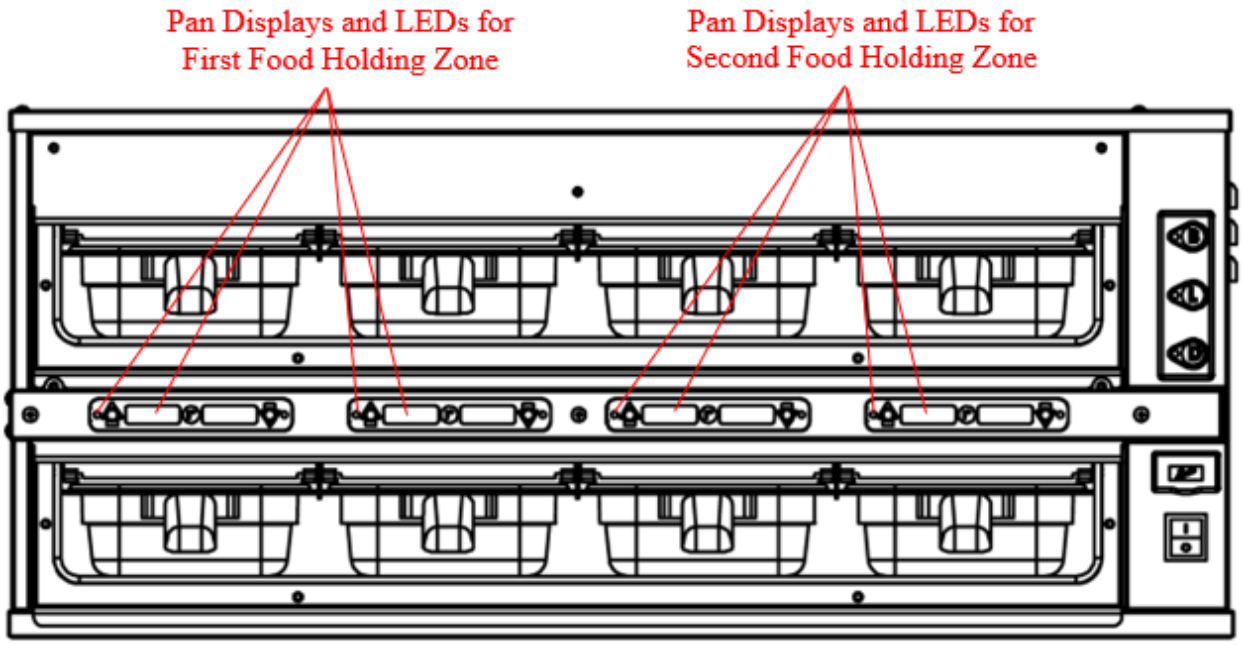
EX1005: 8, 16-17.



EX1007: 10-11, 52.

G. Claims 6/34/46/59

LEDs and pan displays display additional food item information (inactive/active, "use first", food name, hold time) about the food in the bays/zones. EX1006: 1; EX1005: 16; EX1003: ¶¶204-208, 287-289, 338-340, 432-434.

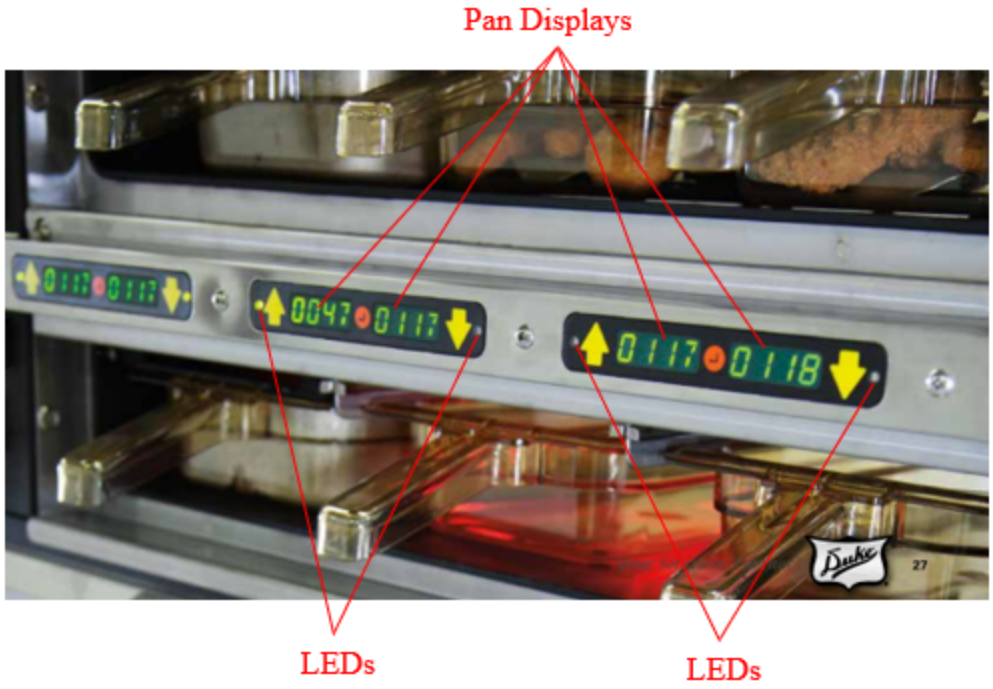


OPERATION – TIMER BAR FUNCTIONALITY



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: 8, 16.





More Product Information at Each Well

(Product, Hold Time Remaining, Temperature)

EX1007: 10-11, 52.

H. Claims 7/35/47/60

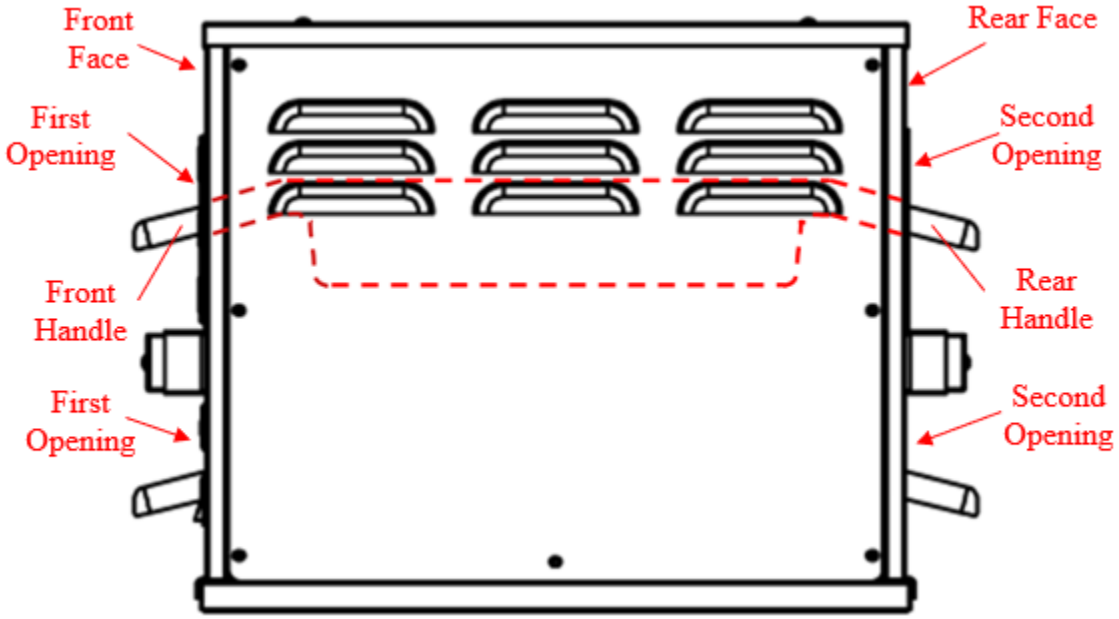
7.a/35.a/47.a/60.a

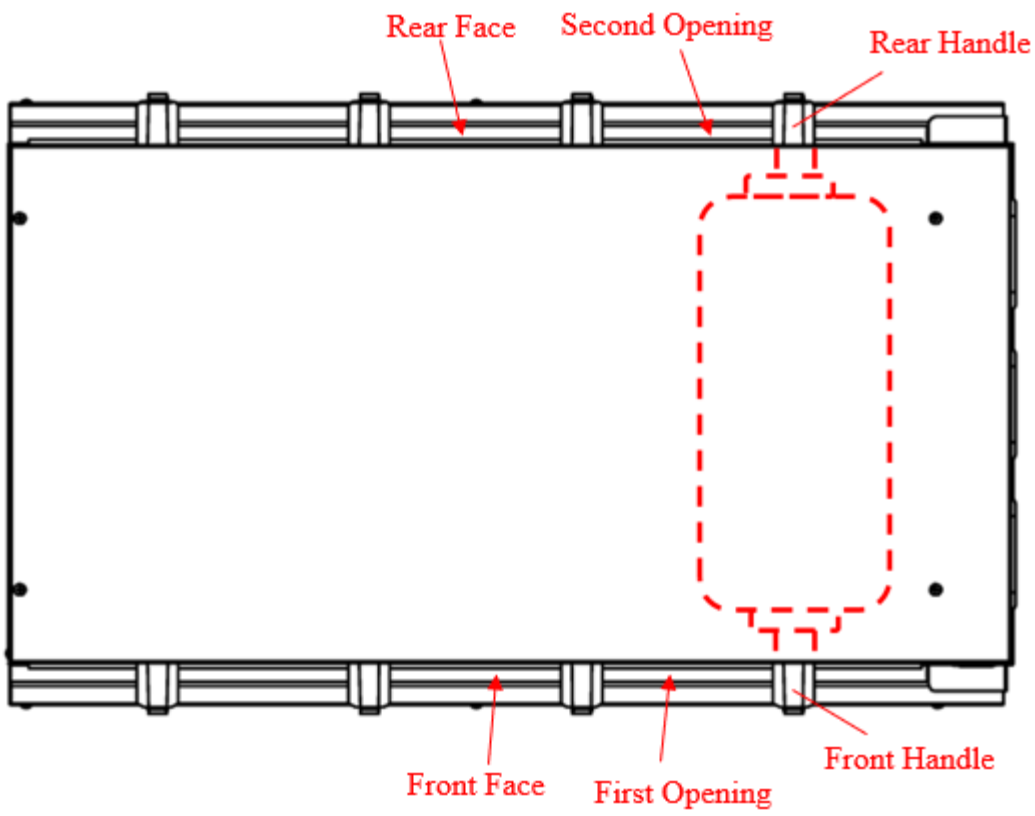
POSA understands the IRHS24's front and rear are generally mirror images. EX1008: 12; EX1003: ¶¶209-211.

Pan handles extend out the front and rear faces. EX1003: ¶¶216-217.


Front
Handle
Rear
Handle
Pan: #156634

EX1007: 58.


Front
Face
Rear Face
First
Opening
Second
Opening
Front
Handle
Rear
Handle
First
Opening
Second
Opening



EX1005: 8.

The chassis has a second opening along the rear face that is uncovered (like the first opening) through which the handles extend. EX1003: ¶¶218-219.

This makes IRHS24 a pass-through unit allowing front/rear access. EX1007: 67; EX1003: ¶215. POSA understands the second openings are uncovered similar to the first openings. EX1010: Figs. 1, 6, ¶[0014]; EX1011: Figs. 1-2; EX1014: Figs. 5, 8; EX1003: ¶220.

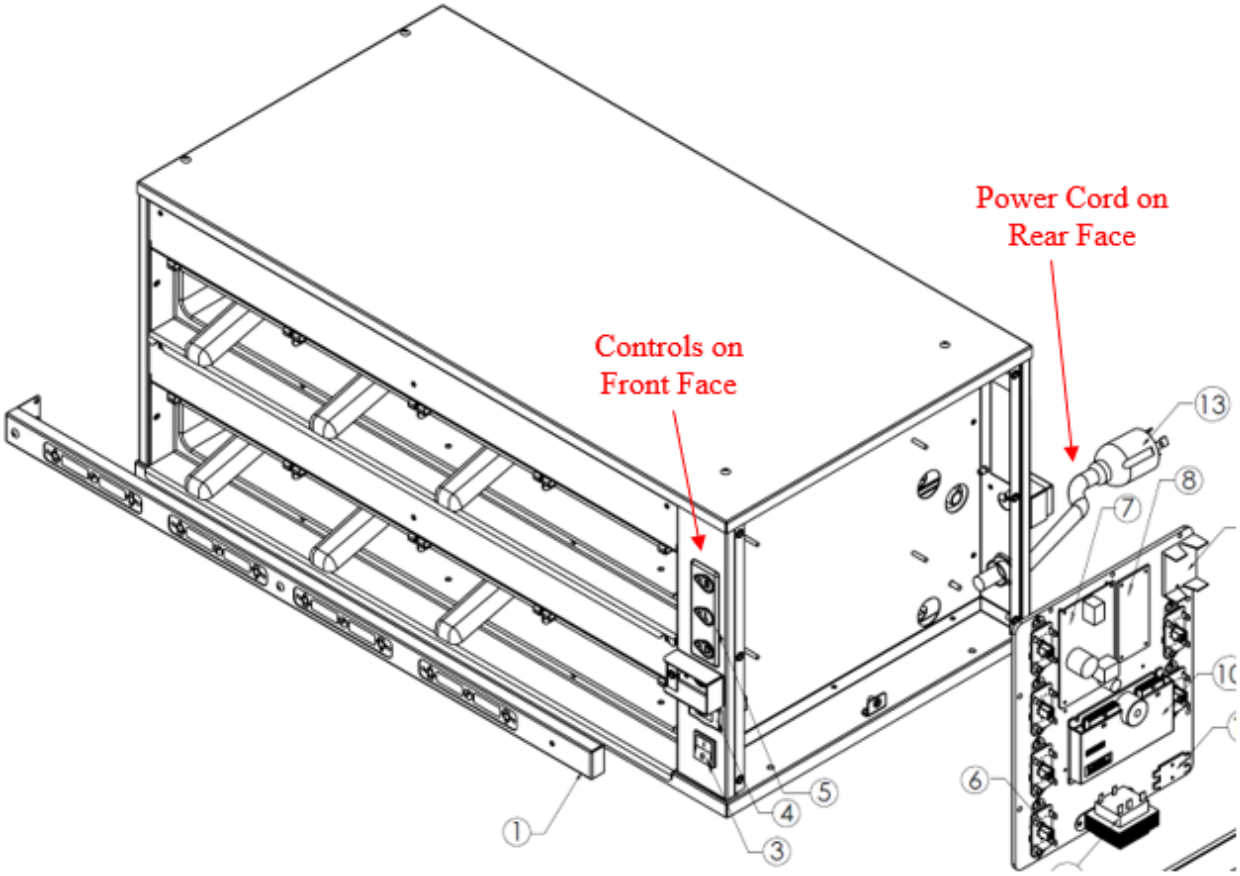
Moreover, the IRHS Documents illustrate the front and rear faces as generally mirror images (front including side panel controls, rear including a power cord). EX1003: ¶¶212-215.


Controls on Front Face
Front Face


Rear Face
Power Cord on Rear Face



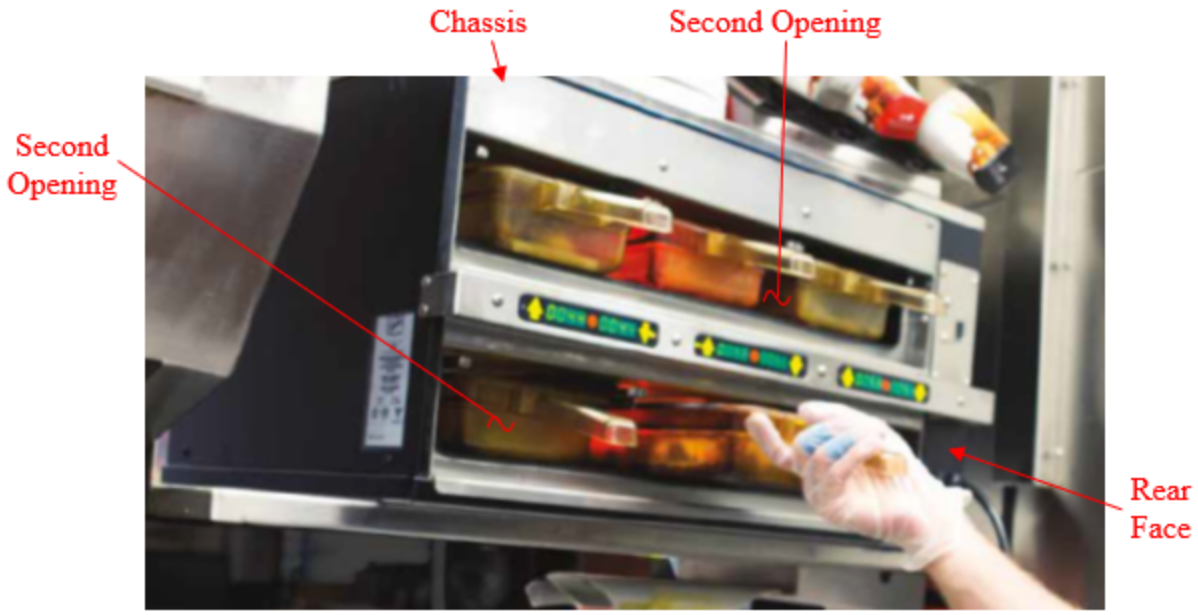
EX1007: 28, 51, 52.



EX1005: 19.

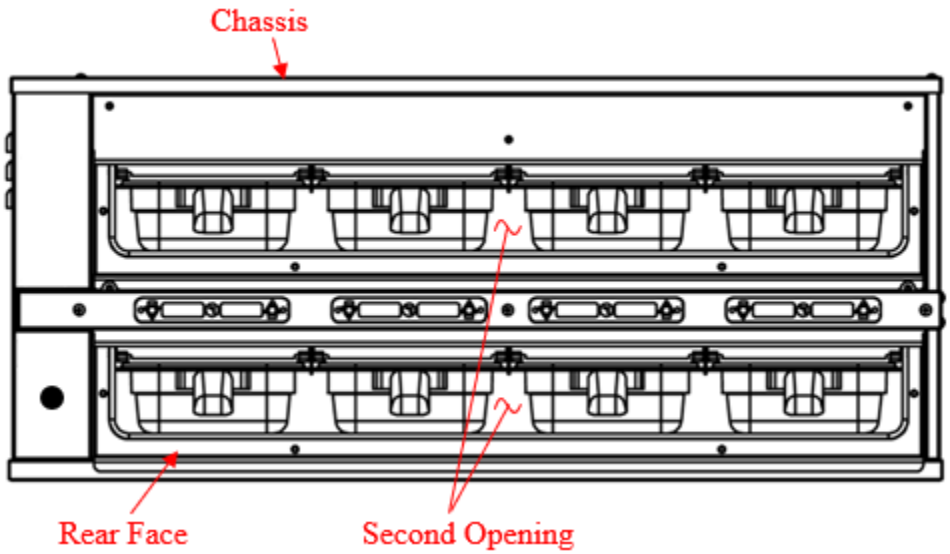
The rear face has uncovered second openings for each compartment.

EX1003: ¶220.



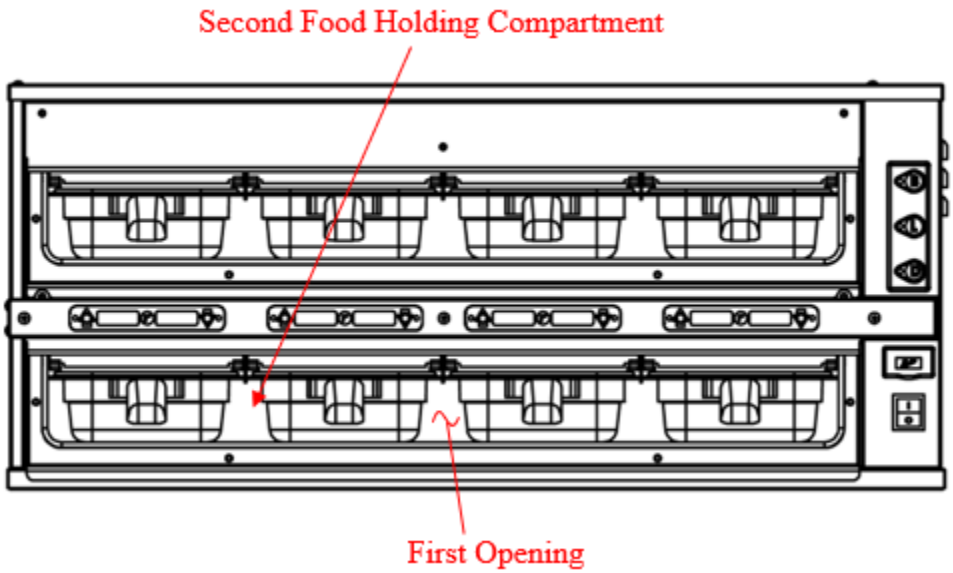
EX1007: 52.

POSA understands this construction applies to IRHS24, a representative rear elevation of which below shows each compartment having an uncovered second opening at the chassis' rear face. EX1003: ¶¶221, 290-292, 341-343, 435-437.



EX1005: 8 (modified to represent rear elevation).

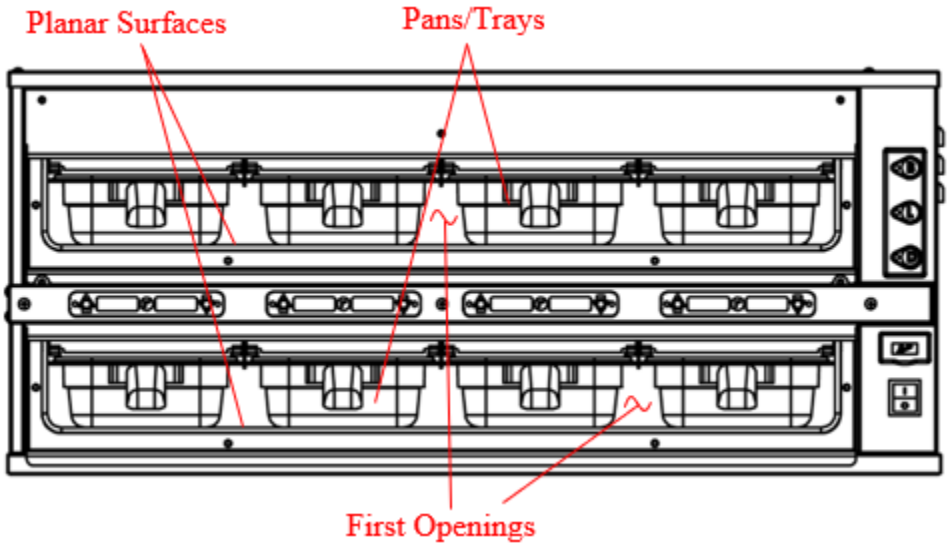
The second compartment has a first opening. EX1003: ¶221.



EX1005: 8.

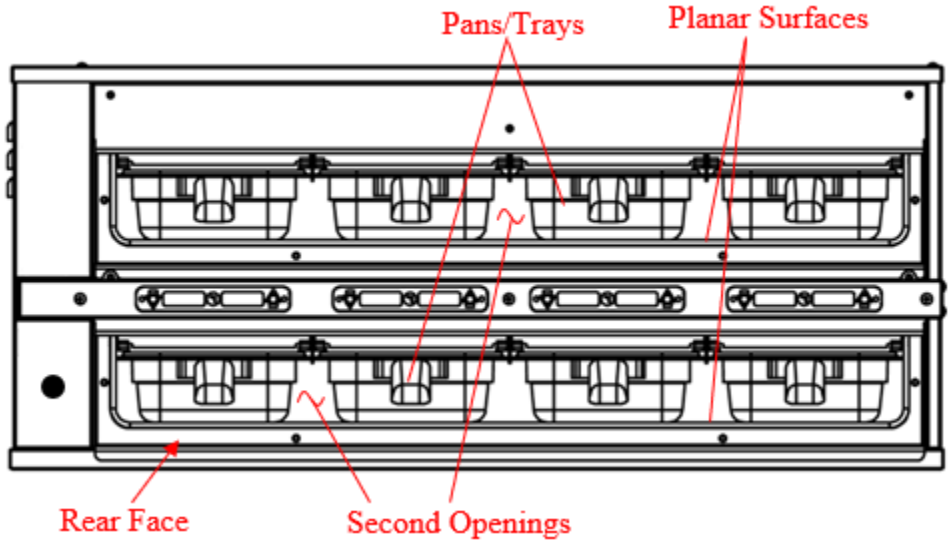
7.b/35.b/47.b/60.b

The planar bottom surface allows pans of food to be placed thereon through the first opening. Section IV(B)(1.b.2); EX1003: ¶¶222-224.

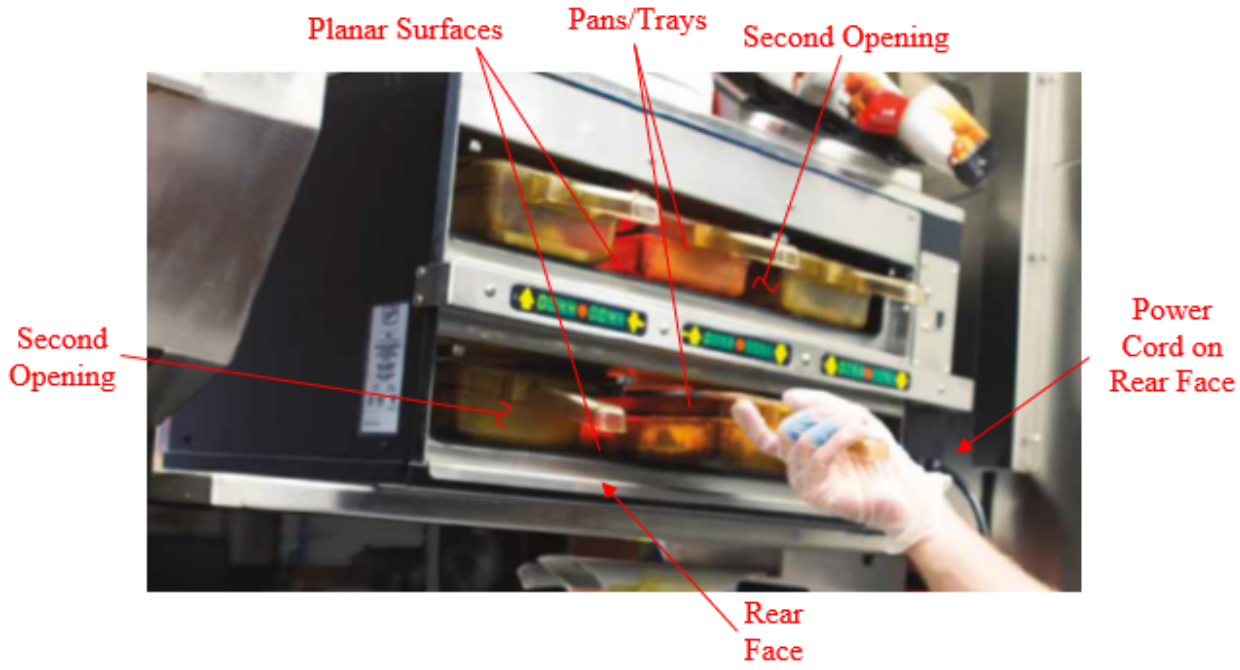


EX1005: 8.

As a pass-through unit, the first and second compartments' planar bottom surfaces allow the pans of food to pass through the first opening to rest on the planar bottom surface and to be removed from the planar bottom surface through the second opening. EX1003: ¶¶225-230, 293-294, 344-345, 438-439.



EX1005: 8 (modified to represent rear elevation).



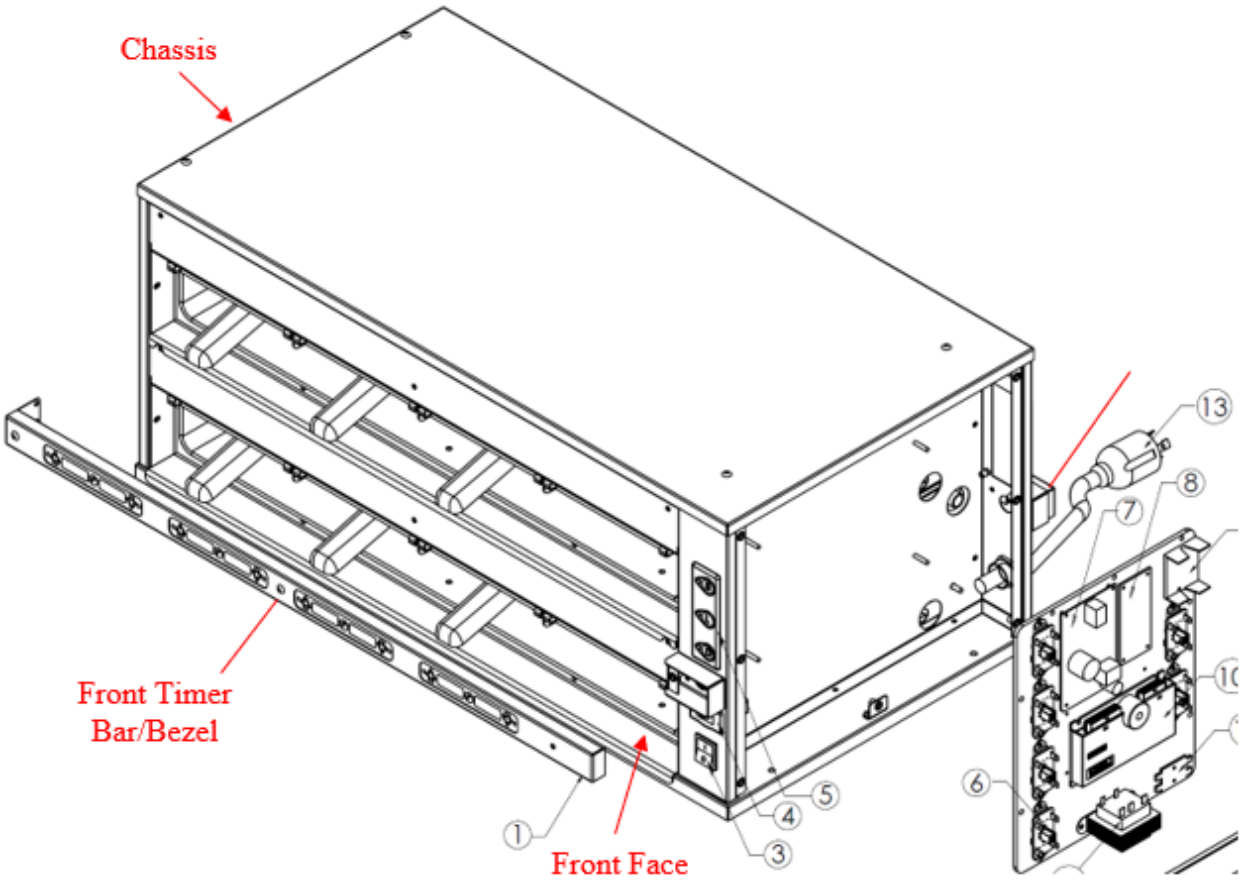
EX1007: 36, 52.

I. Claims 8/36/48/61

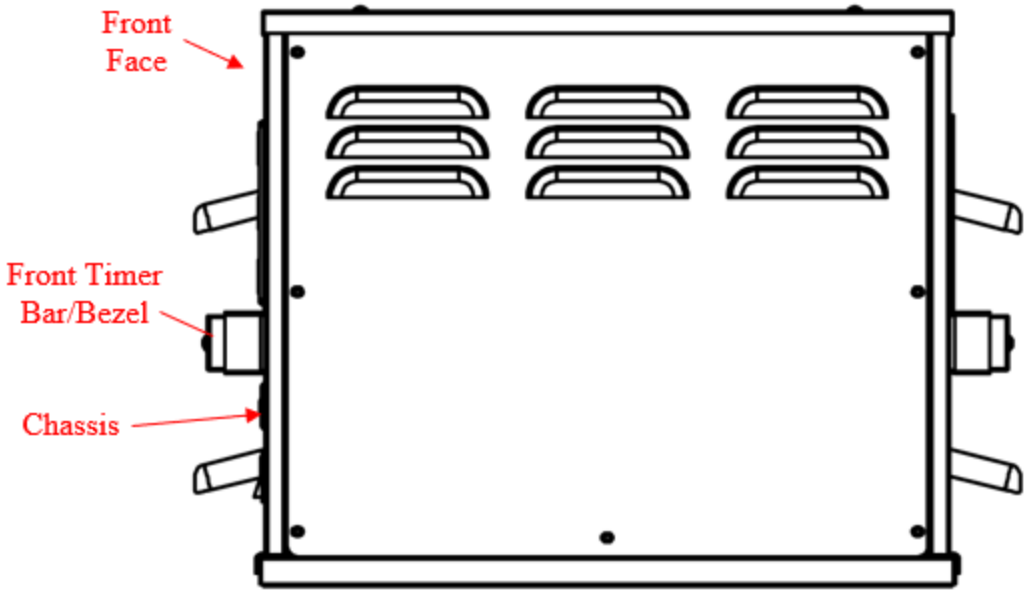
8.a.1/36.a.1/48.a.1/61.a.1

The front timer bar/bezel is attached to the chassis proximate the front face.

EX1003: ¶¶231-233, 295-297, 346-348, 440-442.



EX1005: 19.



EX1005: 8.

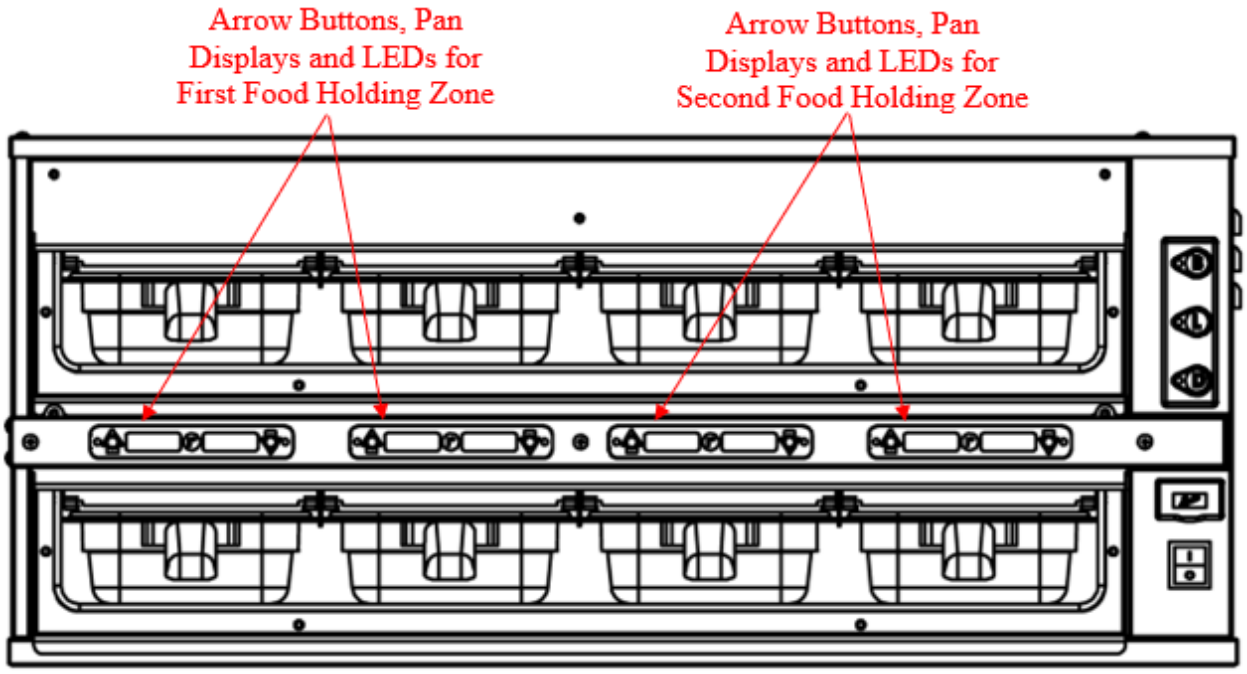
MENU BA RS

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.

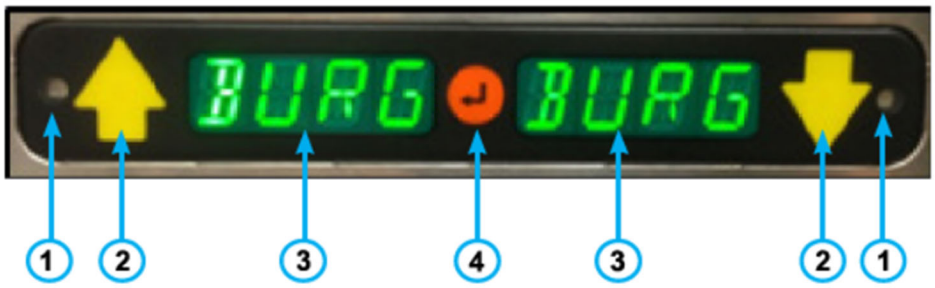
8.a.2/36.a.2/48.a.2/61.a.2

The front timer bar/bezel provides dedicated controls (arrow buttons) and dedicated displays (LEDs and pan displays) for each zone's bay. EX1003: ¶¶234, 298-299, 349-350, 443-444. Each arrow button points to a corresponding bay/zone for an LED and pan display. EX1005: 16; EX1003: ¶234.



EX1005: 8.

OPERATION – TIMER BAR FUNCTIONALITY

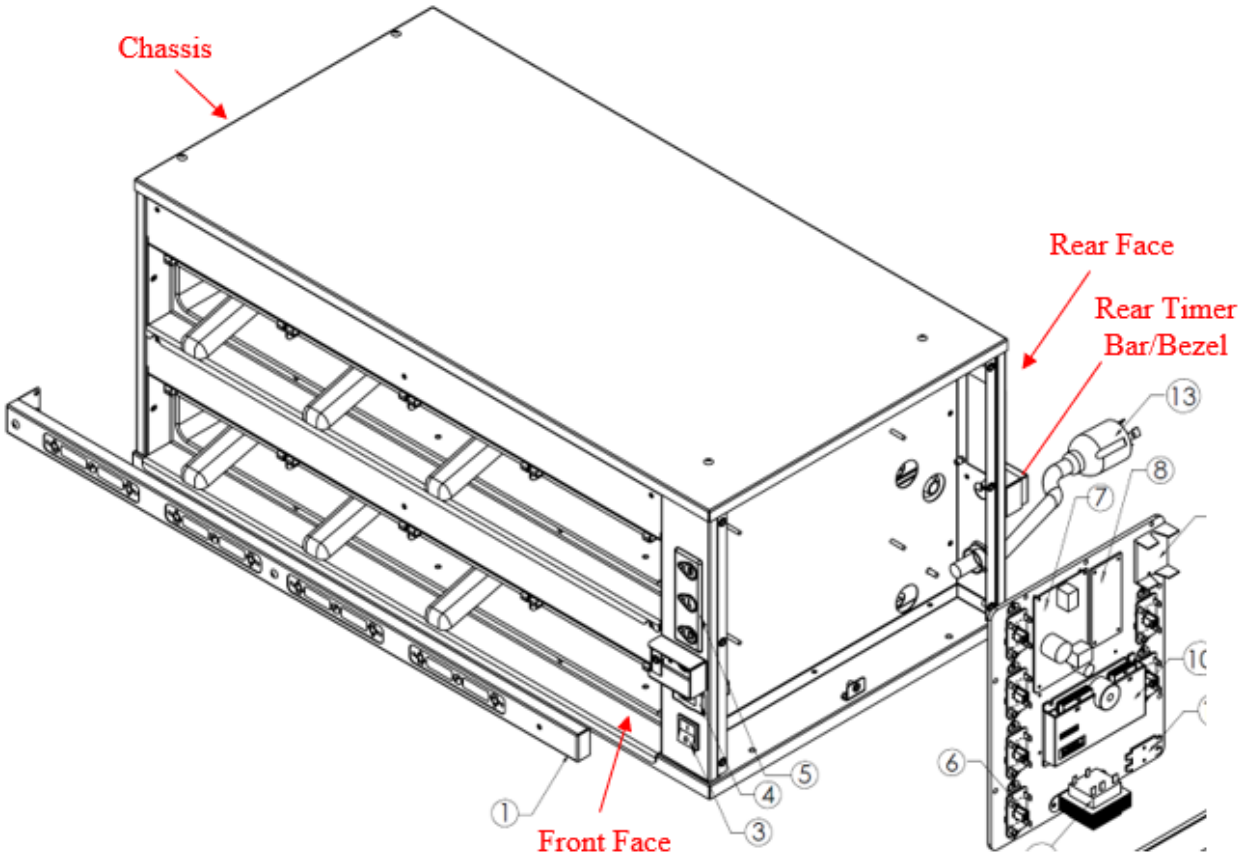


2. Arrow Buttons
   a. Used for Starting / Stopping / Resetting Timer.
   b. Used to access MENU MODE.
   c. Indicate which pan the adjacent Status LED and Pan Display are linked to.
3. Pan Display
   a. Displays Product Name and Hold Time Remaining (alternates between the two when Timer is active).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

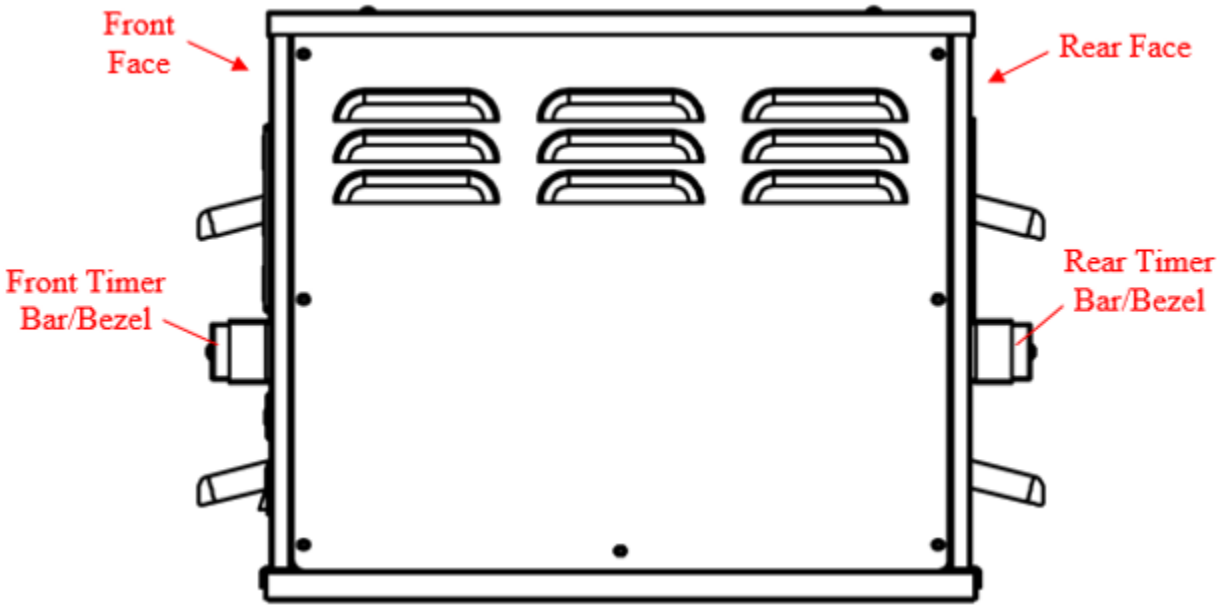
EX1005: 16.

8.b/36.b/48.b/61.b

A rear timer bar/bezel is proximate the rear face. EX1003: ¶¶235-237, 300-301, 351-352, 445-446.



EX1005: 19.



EX1005: 8.





EX1007: 51-52.

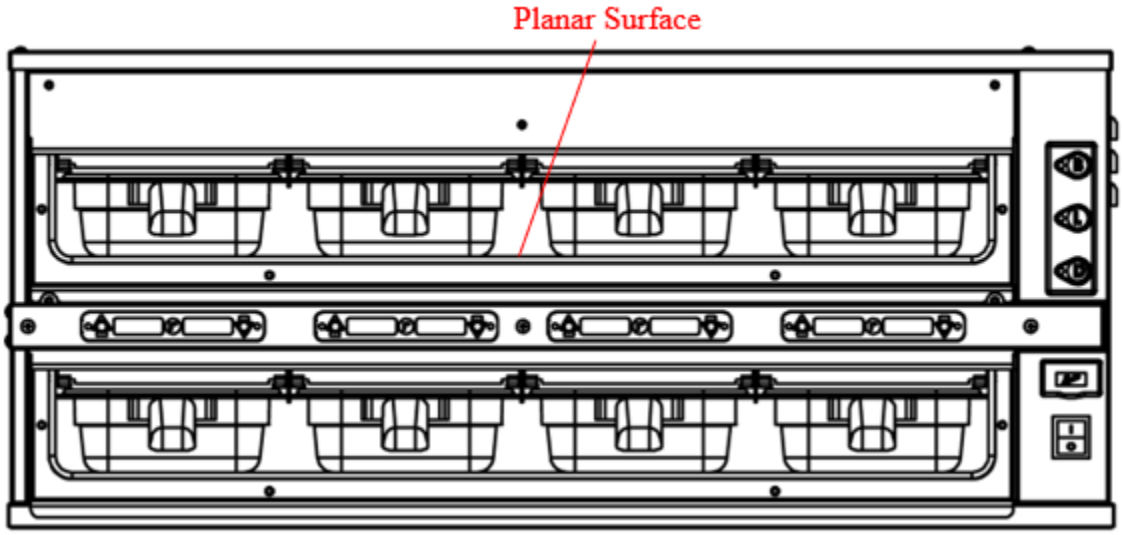
MENU BA RS

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.

J. Claims 9/37/49/62

The planar surface is continuous. EX1003: ¶¶238-241, 302-304, 353-355, 447-449.

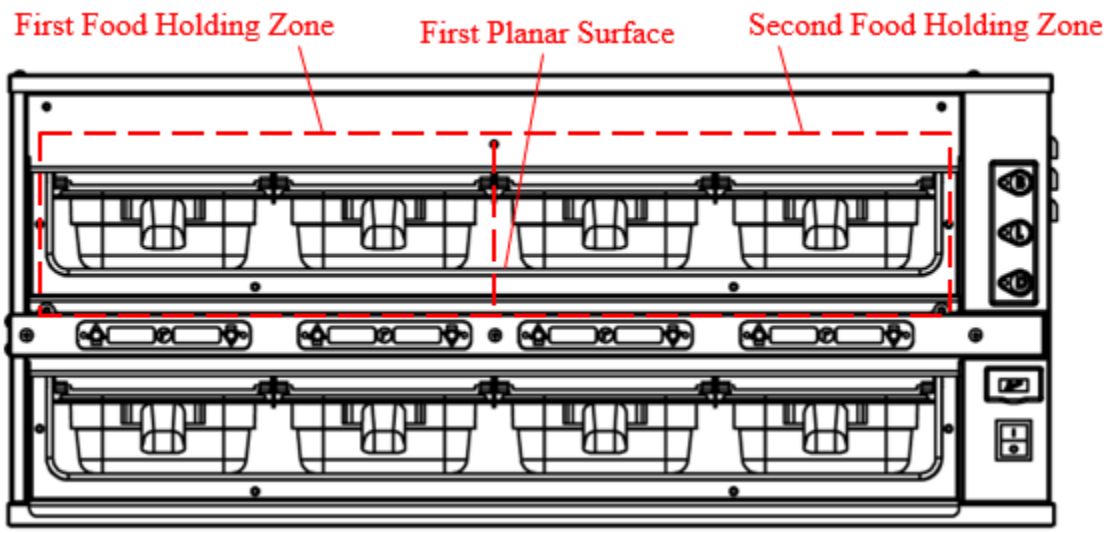


EX1005: 8.

K. Claims 10/38/50/63

The planar surface is free of dividing walls/structures between zones.

EX1003: ¶¶242-245, 305-307, 356-358, 450-452.



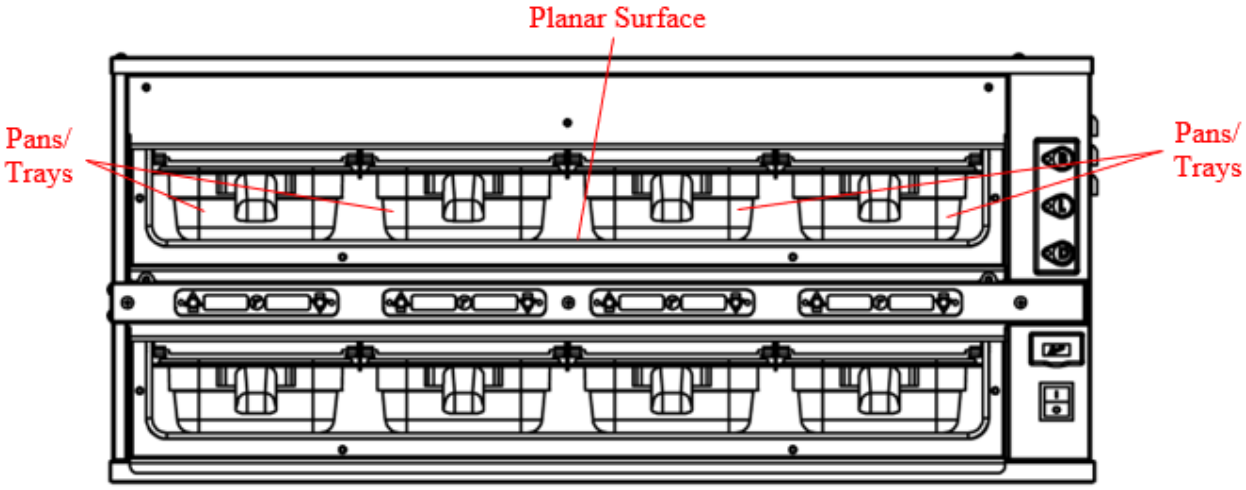
EX1005: 8.

L. Claims 11/39/51/64

The planar surface comprises aluminum or such construction is obvious. EX1006: 1; EX1005: 4, 8, 20-21; EX1007: 53, 58; Section IV(B)(1.c.3); EX1003: ¶¶246-250, 308-310, 359-361, 453-455.

M. Claims 12/40/52/65

Pans/trays rest on the planar surface. EX1003: ¶¶251-254, 311-313, 362-364, 456-458.

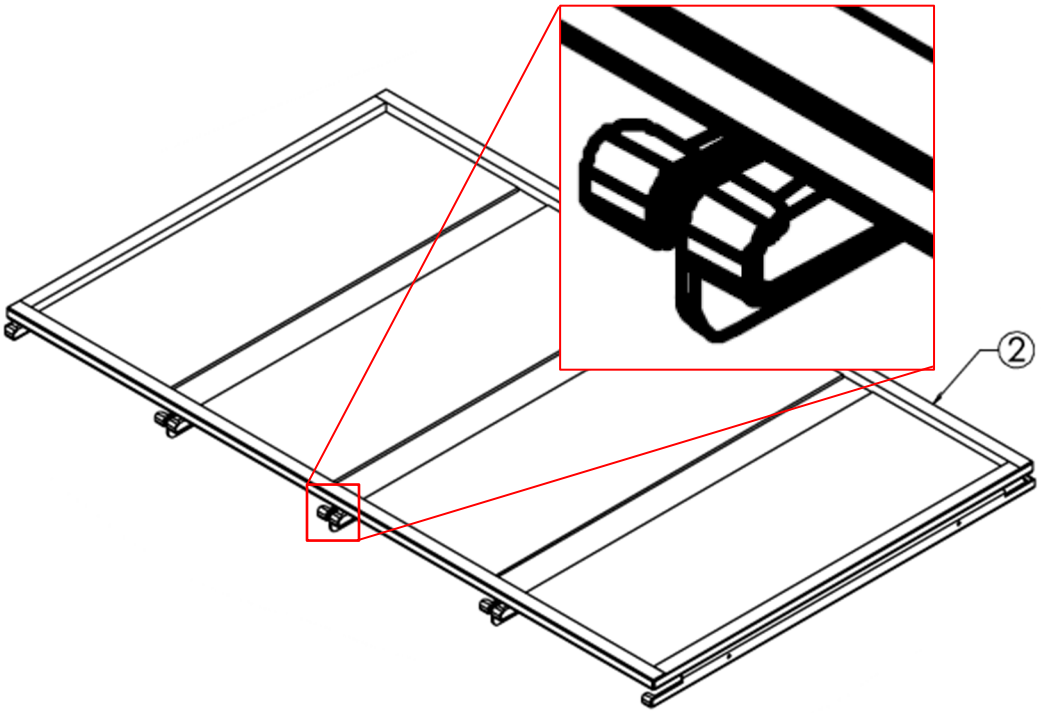


EX1005: 8.

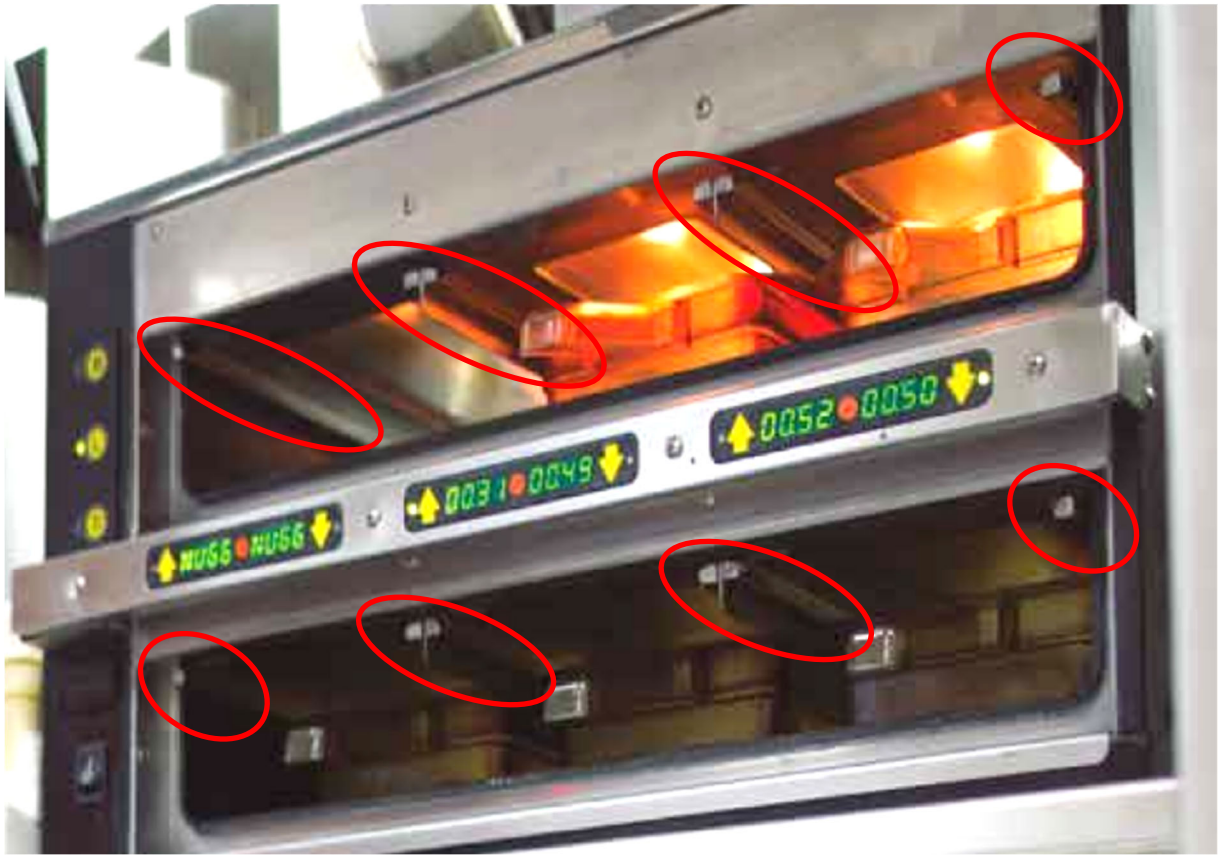
N. Claim 29

POSA understands IRHS24's lid-holding shelves comprise sheet metal.

EX1003: ¶¶270-273.



EX1005: 19.

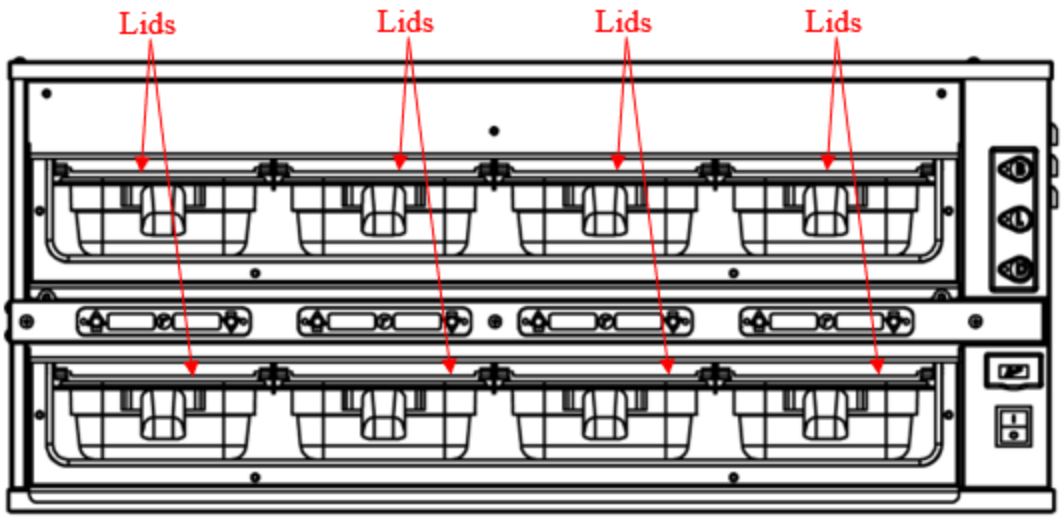


EX1007: 36.

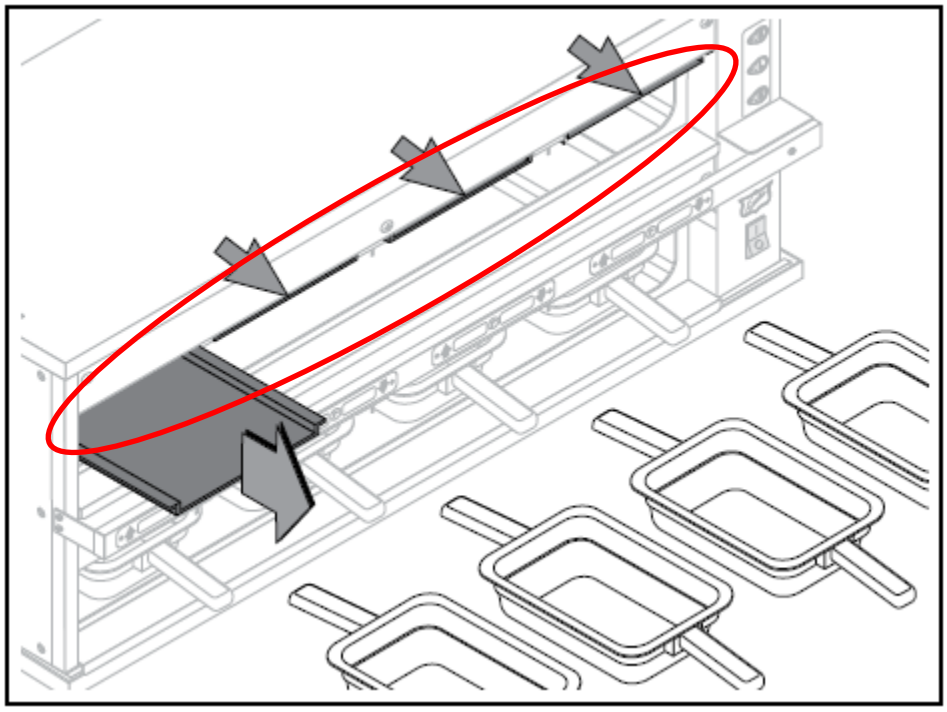
V. GROUND 2: Claims 2, 14, 16-26, and 28 Are Obvious Over the IRHS Documents, Hartfelder, and/or Shei'099

A. Modification based on Hartfelder and/or Shei'099

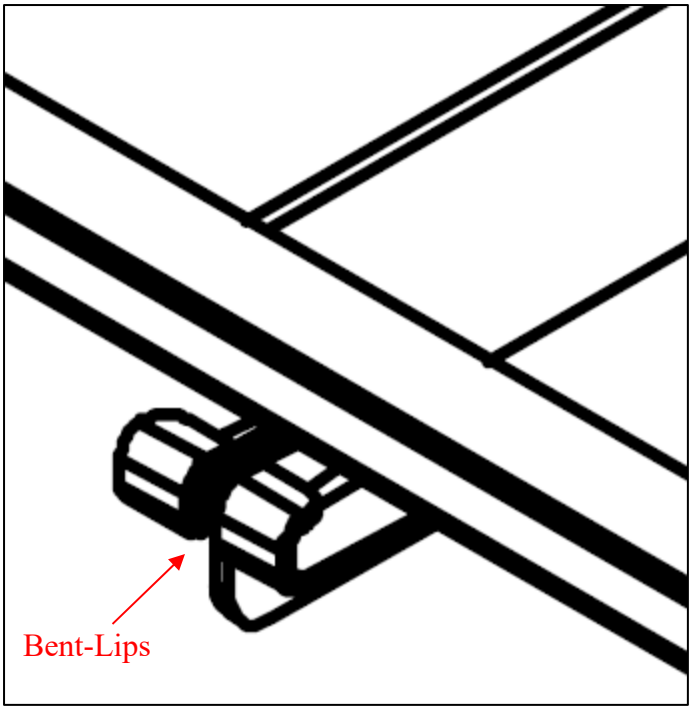
IRHS24 includes lids above each pan/bay and bent-lip lid retainers. EX1005: 4, 8, 20-21; EX1007: 53, 56, 58; EX1003: ¶¶462-466.



EX1005: 8.



EX1008: 16.



EX1005: 19 (enlarged).

Hartfelder and Shei'099 disclose stops (61)/(88) for retaining lids (44, 46, 80). EX1013: ¶[0058]; EX1017: 6:9-32; EX1003: ¶¶467-469.

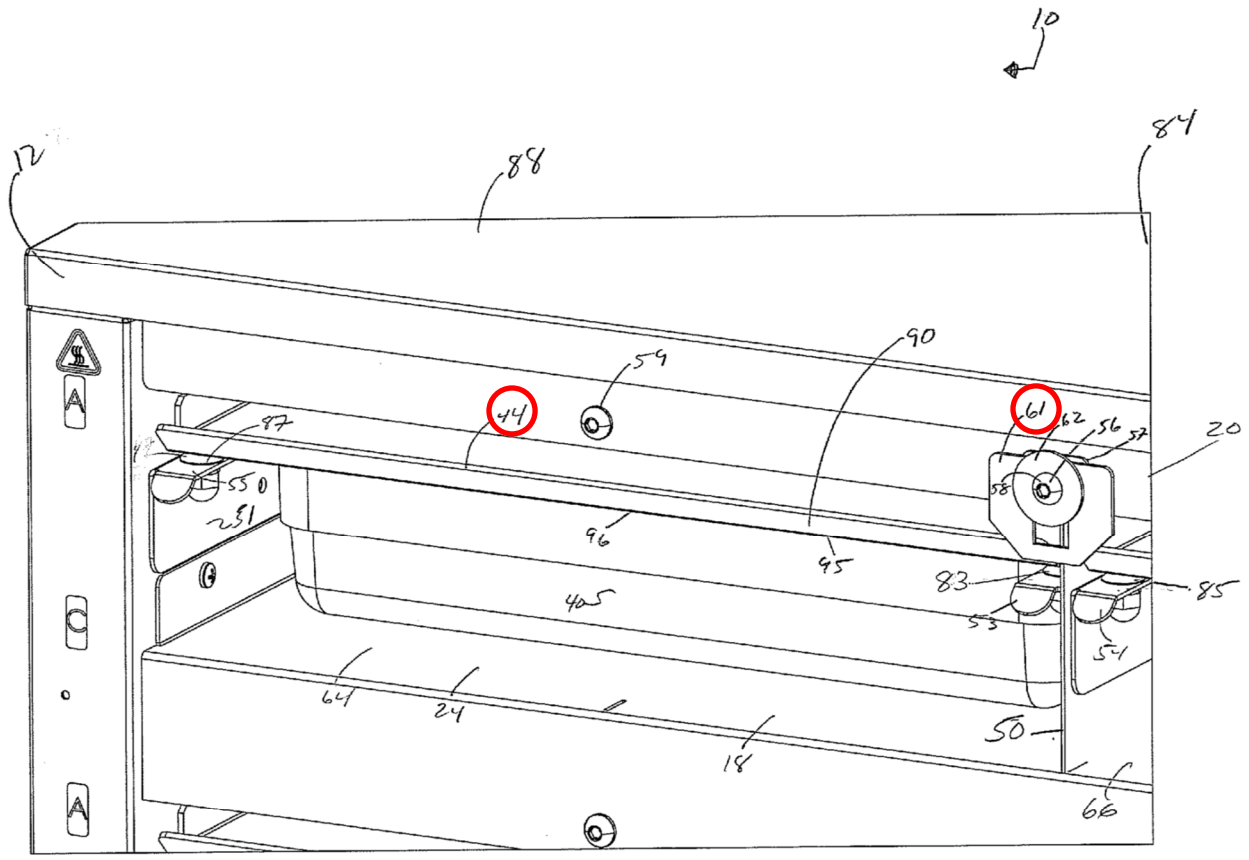


FIGURE 9

EX1013.

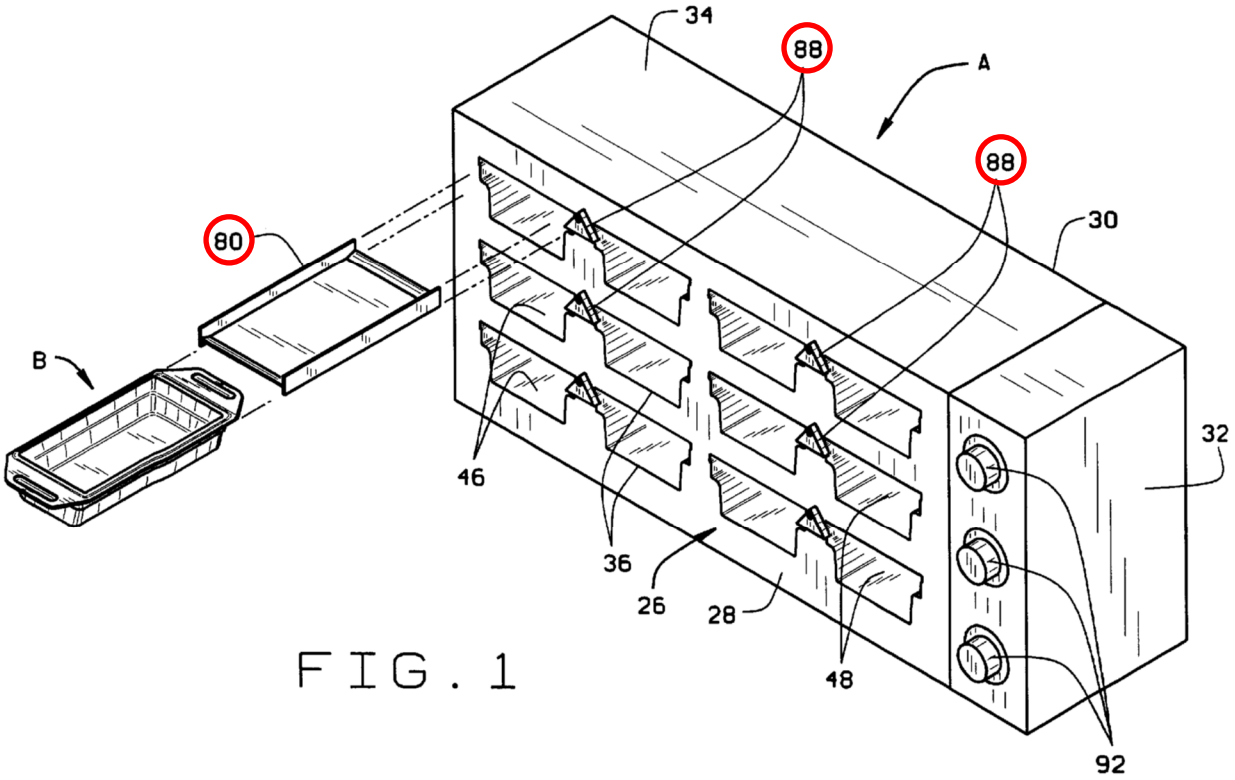


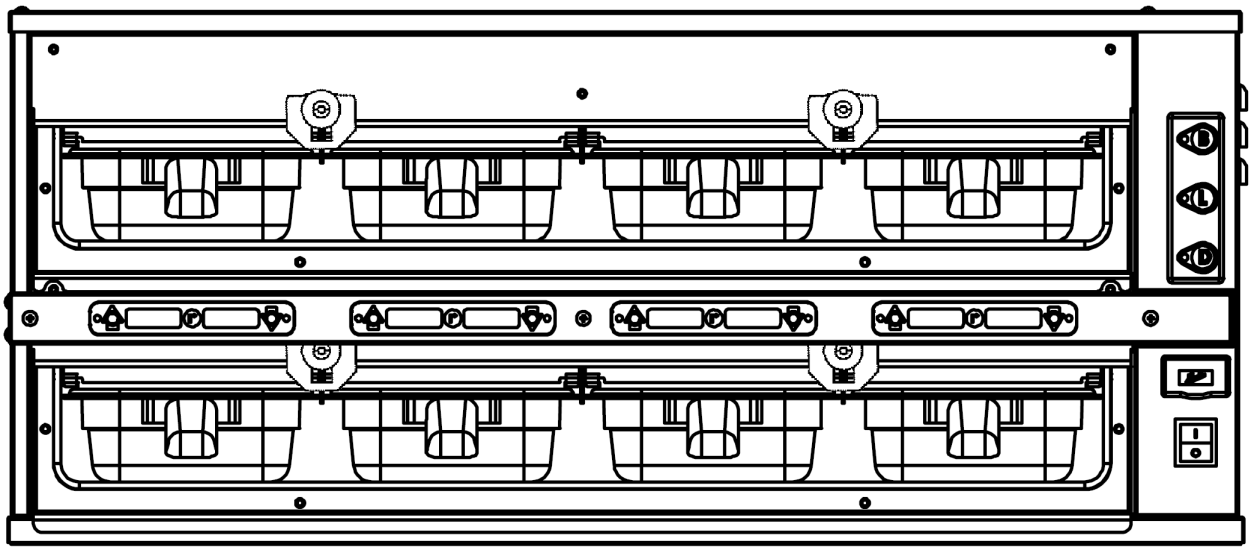
FIG. 1

EX1017.

It would have been obvious to modify IRHS24 to include Hartfelder's or Shei'099's stops for retaining IRHS24's lids on the lid-holding shelves. EX1013: ¶[0058]; EX1003: ¶470. The stops would prevent the lids from moving (inadvertent lid removal/displacement) with pans being inserted and removed. EX1013: ¶[0058]; EX1017: 6:19-22; EX1003: ¶471. This would maintain lid position for covering pans. EX1003: ¶471. The stops would replace IRHS's existing bent-lips (easier to clean, manufacture, and/or replace) or be added as backup for them. EX1005: 19, 13-14; EX1017: 7:30-35; EX1011: ¶¶[0035]-[0037], Figs. 9-14; EX1003: ¶¶472-474.

This uses a known technique/alternative (stops to retain lids) to improve a similar device (IRHS24) in the same way with predictable results (retaining lids in place while inserting/removing pans) with reasonable expectation of success (stops performing the same lid retention function in similar units). EX1013: ¶[0058]; EX1003: ¶¶475-476.

Each stop would be on the face of the chassis/shelf between two lids as in Hartfelder and Shei'099. EX1003: ¶477. A representative illustration of IRHS24 including Hartfelder's stops is below. EX1003: ¶478. A modification implementing Shei'099's stops would be similar but with Shei'099's stops. EX1003: ¶478.

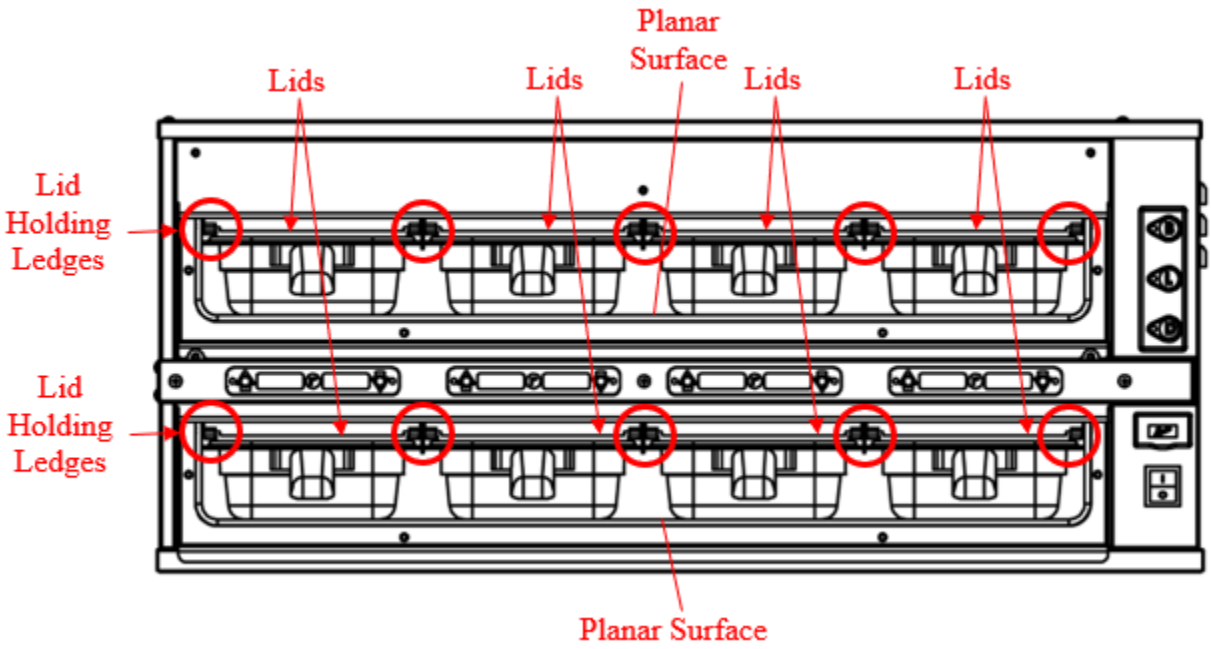


EX1005: 8 (modified, unannotated).

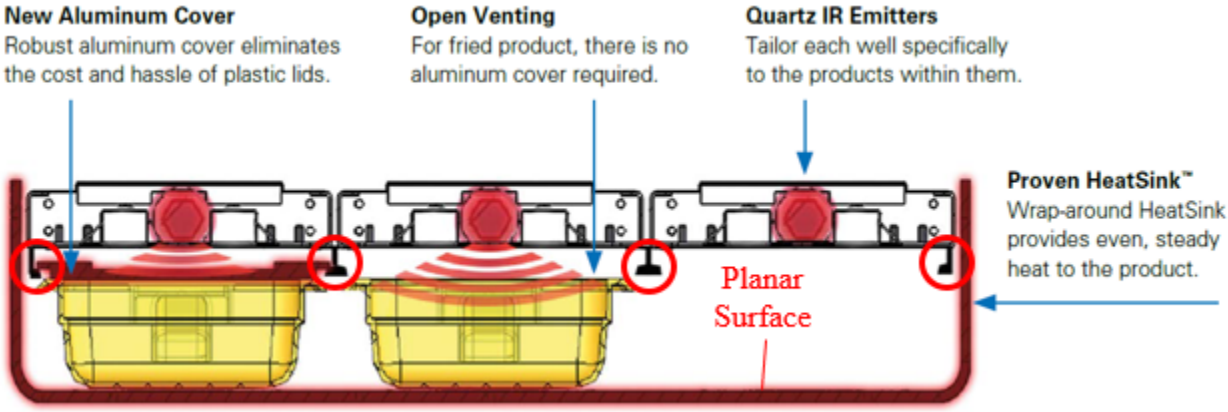
B. Claim 2

IRHS24 includes lids on lid-holding ledges/shelves above the planar surface.

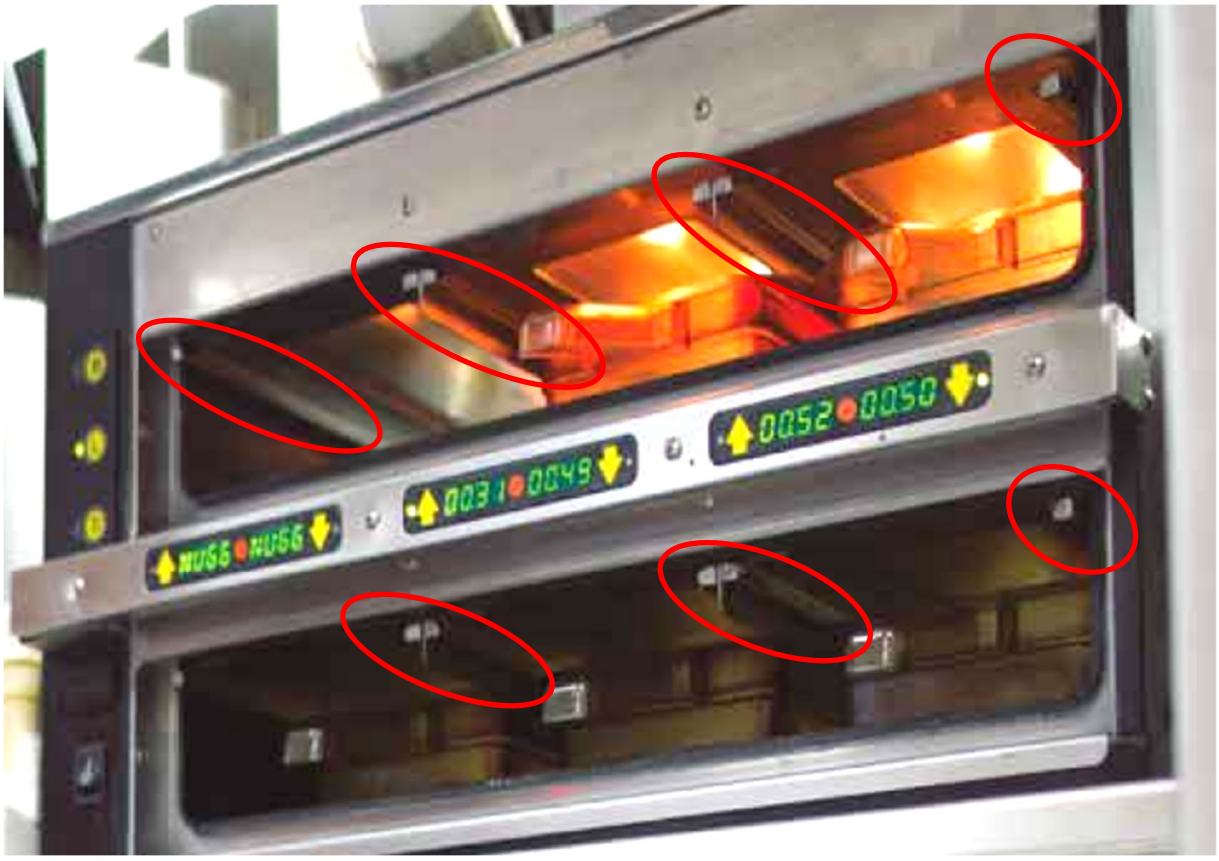
EX1005: 4, 8, 20-21; EX1007: 53, 56, 58; EX1003: ¶¶479-481.



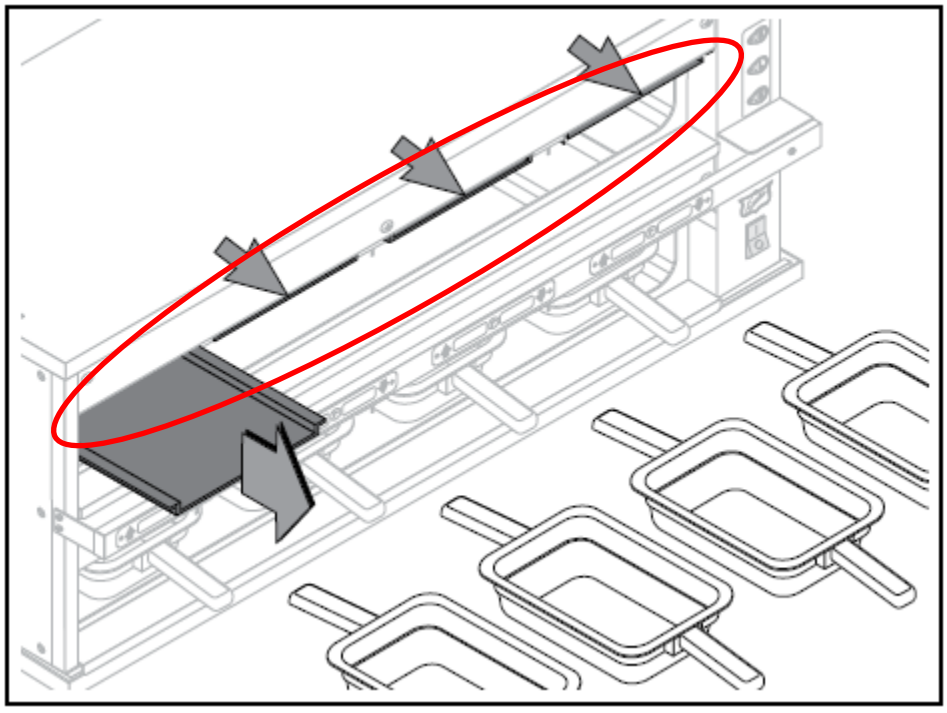
EX1005: 8.



EX1007: 53.

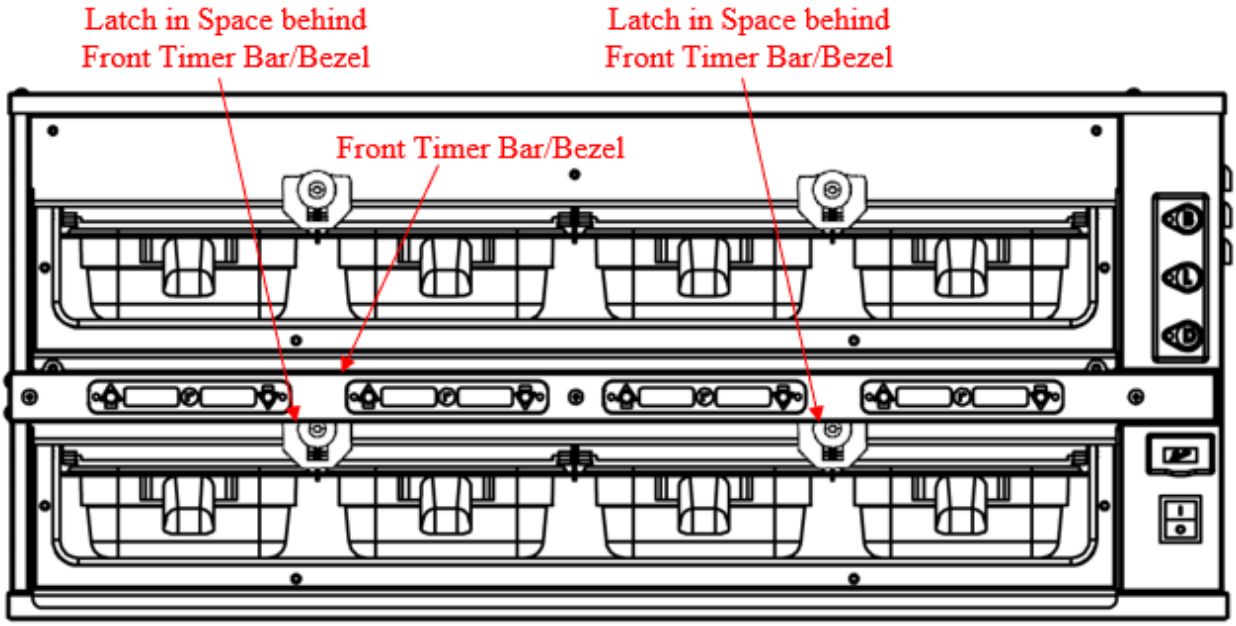


EX1007: 36.



EX1008:16.

IRHS24 has a front timer bar/bezel spaced forward from the shelf. Section IV(B)(1.f); EX1003: ¶482. Per Hartfelder and/or Shei'099, the stops (latches) would be rotatable in this space. Section V(A); EX1003: ¶483.



EX1005: 8 (modified).

It would be obvious to locate the latches here (adjacent openings and lids) to engage and retain lids per Hartfelder/Shei'099 (even with a bezel (76)). EX1013: Figs. 1-5, 9, ¶[0039]; EX1003: ¶¶484-485.

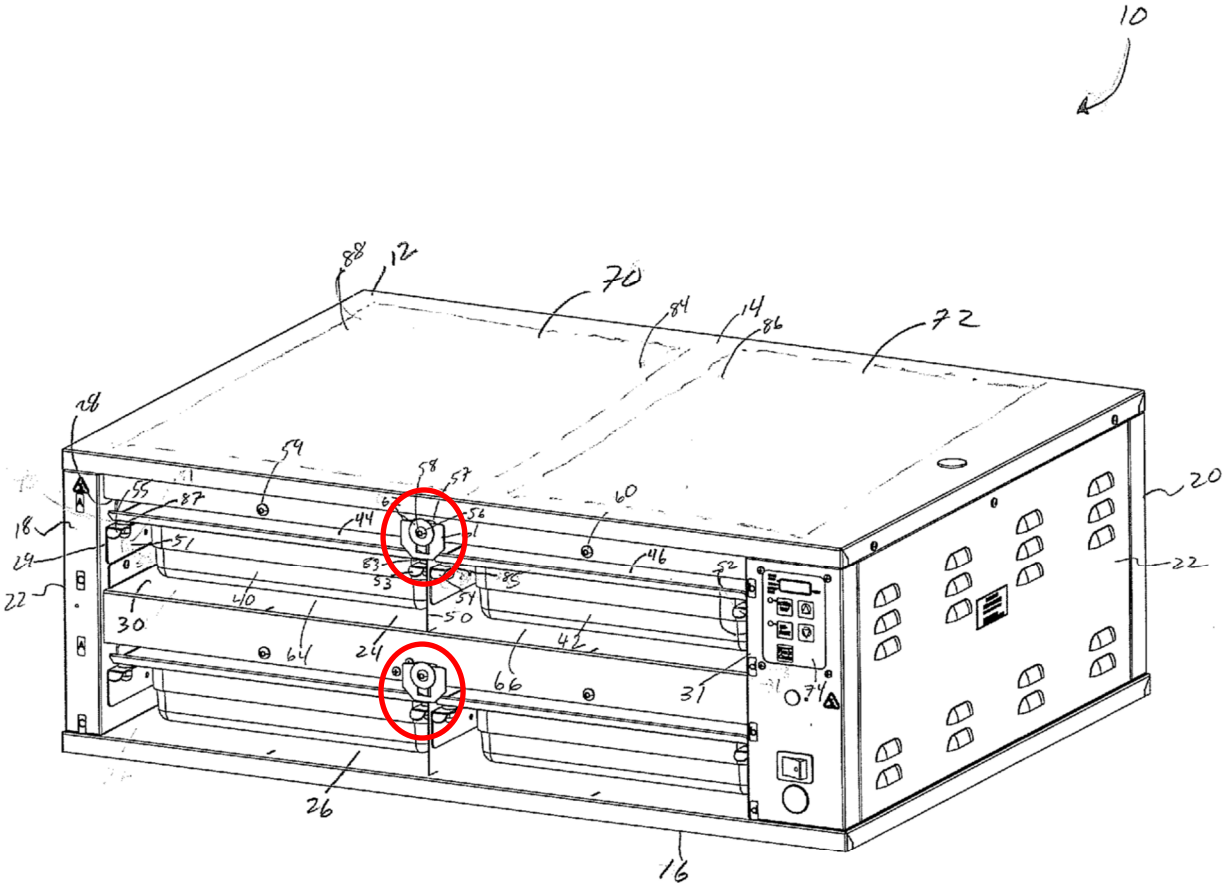
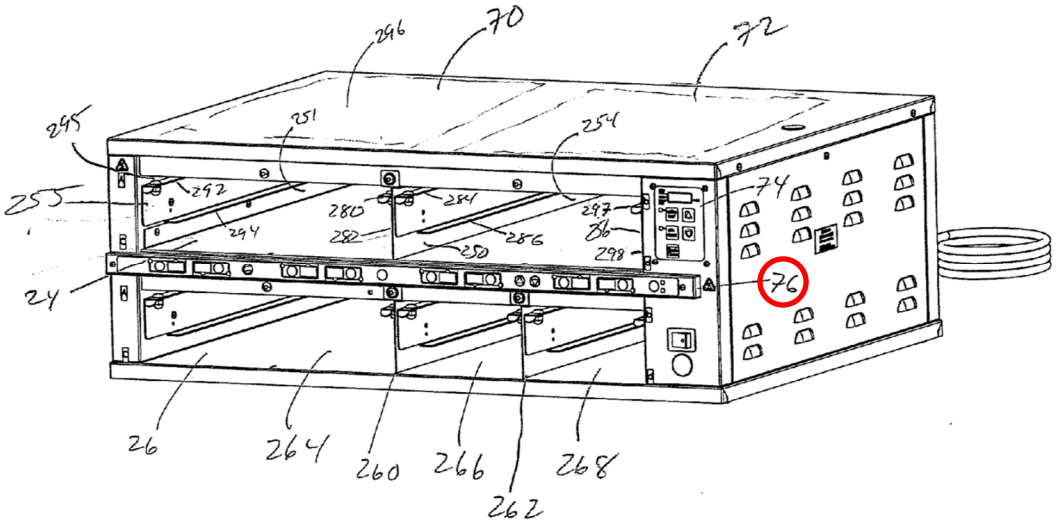

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FIGURE 1


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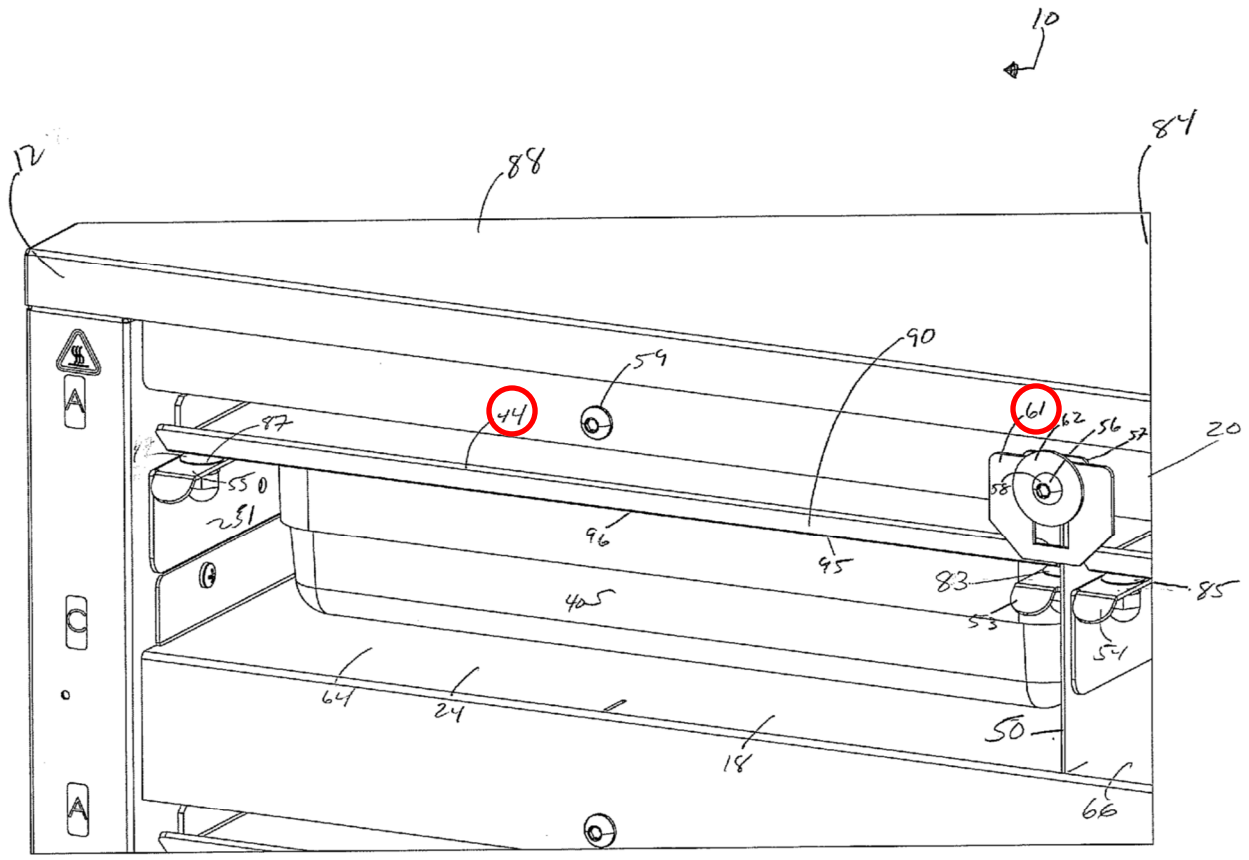


FIGURE 9

EX1013: Figs. 1, 3, 9.

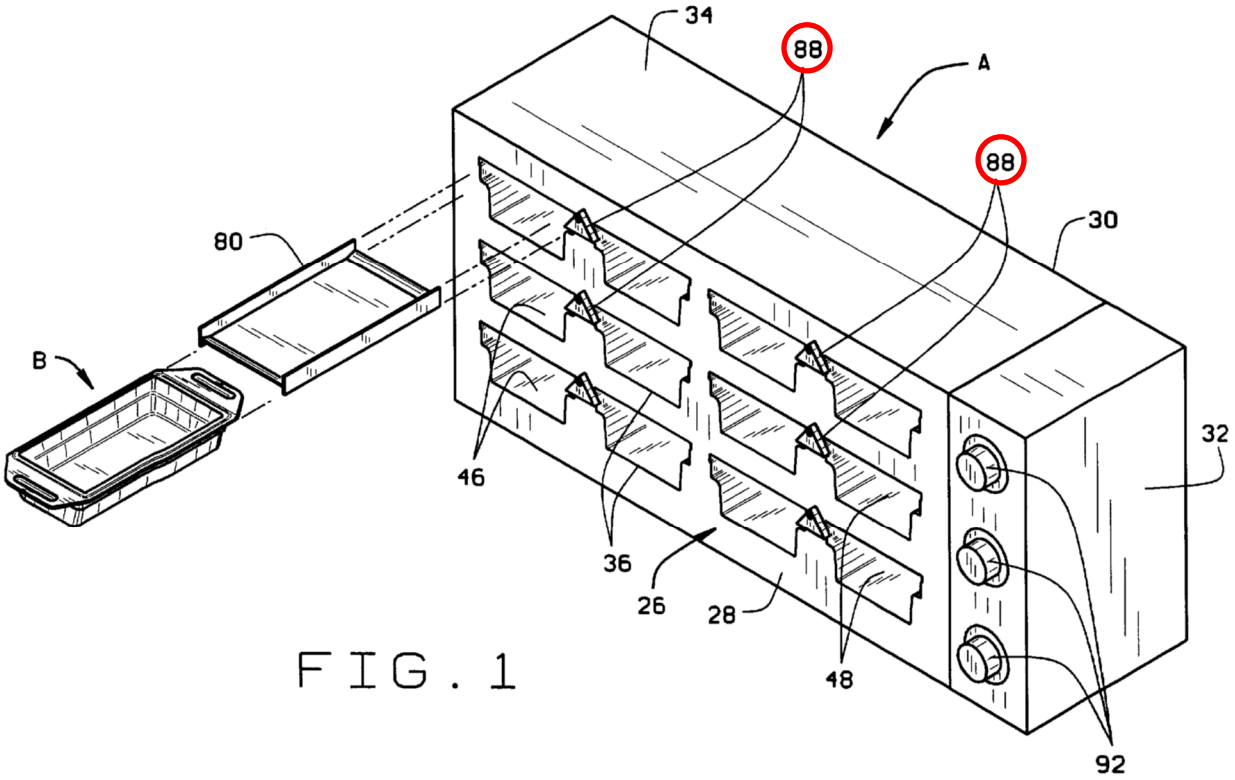
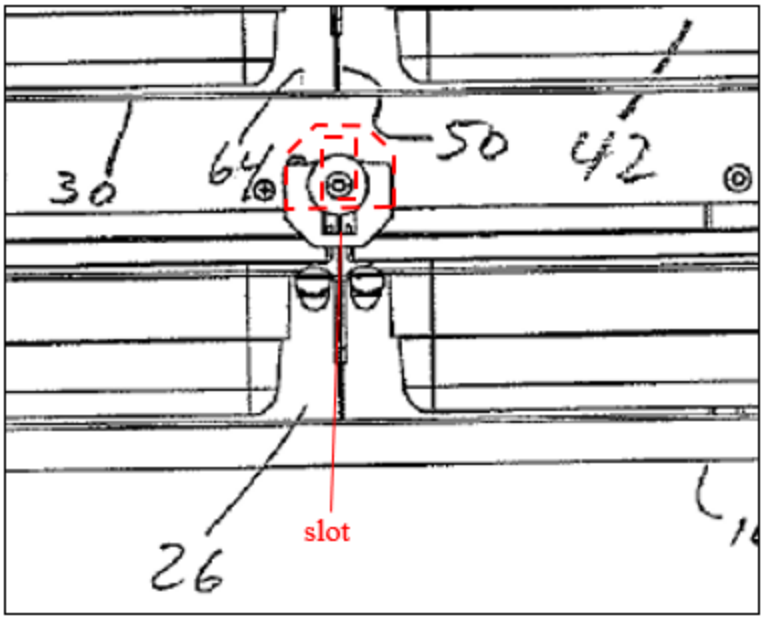


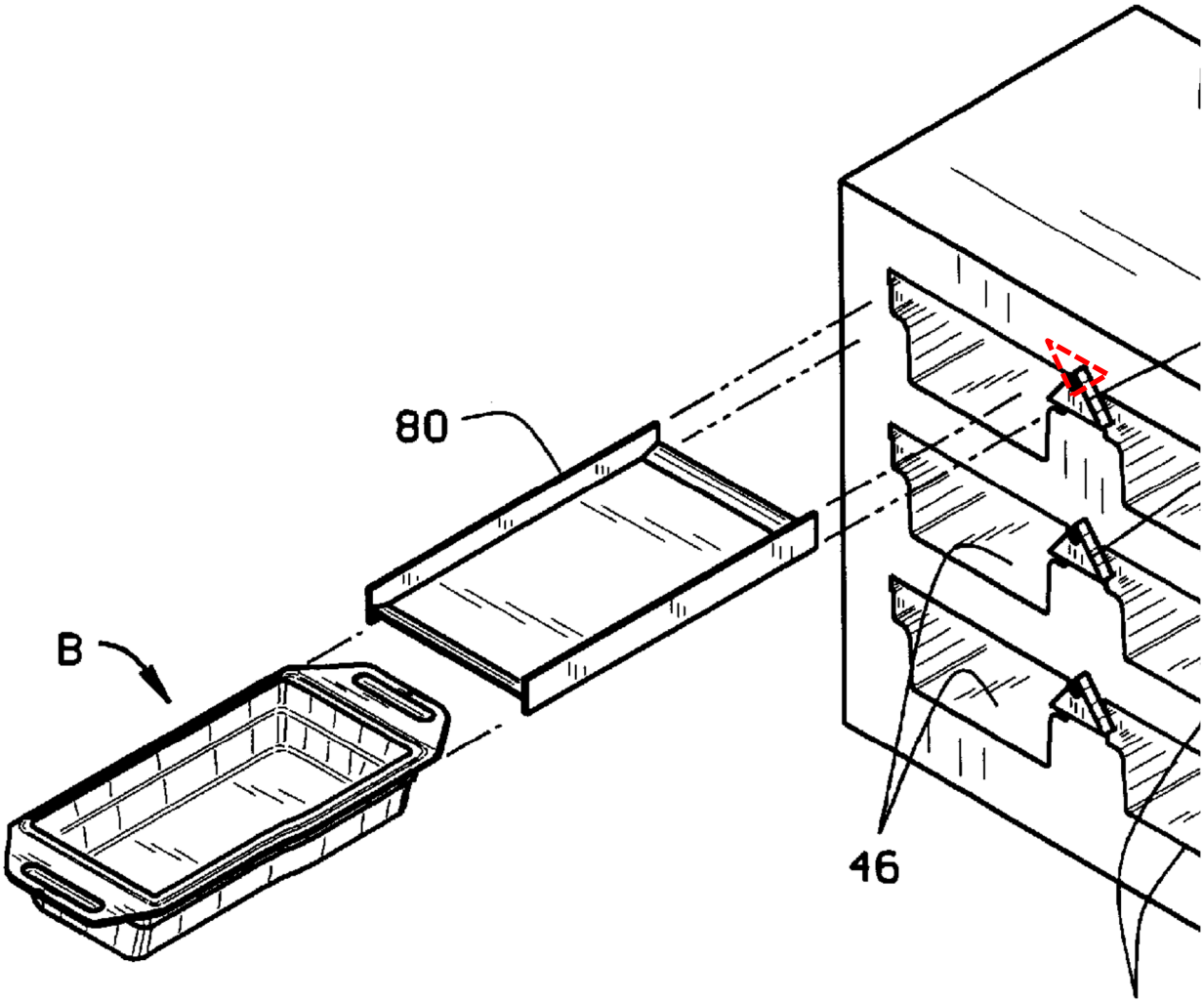
FIG. 1

EX1017.

Per Hartfelder and Shei'099, the stops/latches would be moveable/rotatable between locked and unlocked positions. EX1017: 6:9-32, Fig. 1; EX1016: ¶[0043], Fig. 1; EX1003: ¶¶486-489.

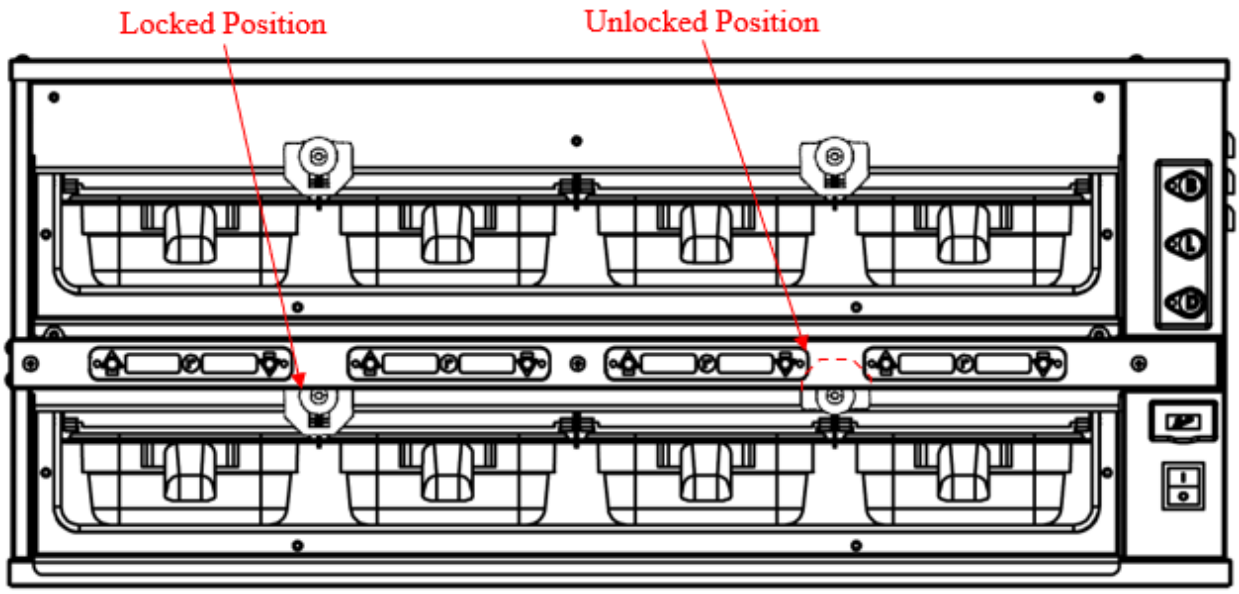


EX1013: Fig. 2 (enlarged).



EX1017: Fig. 1 (enlarged).

Therefore, latches rotatable between locked and unlocked positions in the space between the timer bar/bezel and shelf to release lids held on lid-holding ledges would be obvious. EX1003: ¶¶490-491.



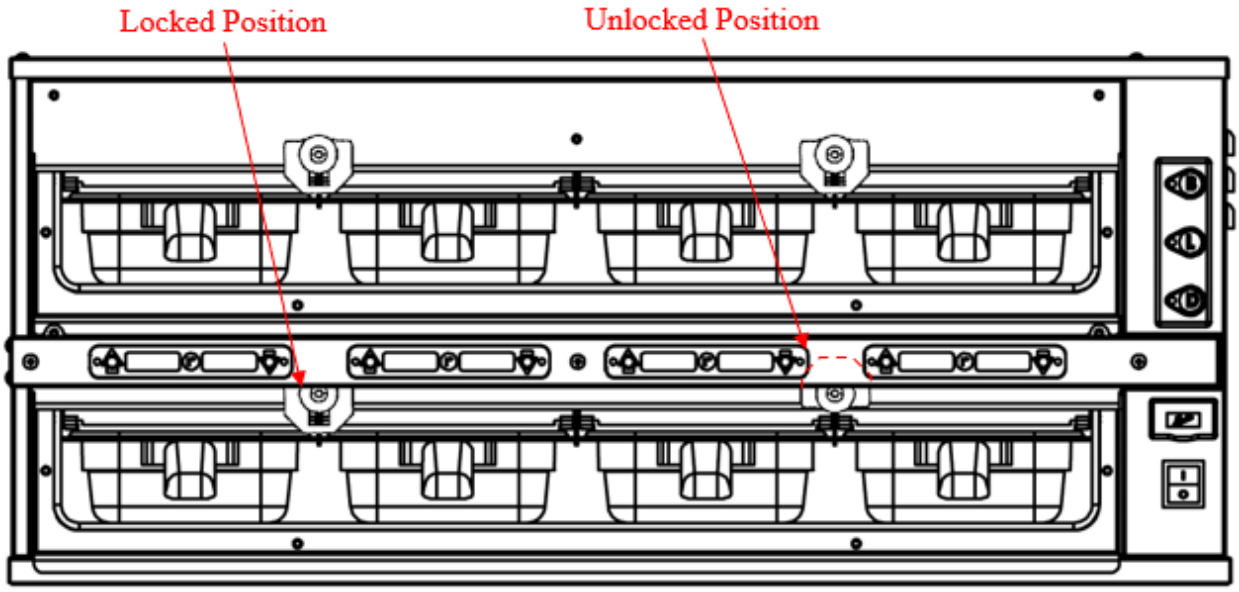
EX1005: 8 (modified).

C. Independent Claim 14

Limitations 14.P-14.b.2 and 14.d.1-14.g.2 are met per Sections IV(B)(1.P-1.e.2), IV(B)(1.g.1-1.g.2/13/41/53/66). EX1003: ¶¶492-493.

14.c

Hartfelder and Shei'099 disclose rotatable latches adjacent openings such that it would have been obvious to modify IRHS24 to have rotatable latches adjacent the first opening. Sections V(A)-(B); EX1013: ¶[0058]; EX1017: 6:9-32; EX1016: ¶[0043]; EX1003: ¶494. 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; EX1003: ¶¶495-497.



EX1005: 8 (modified).

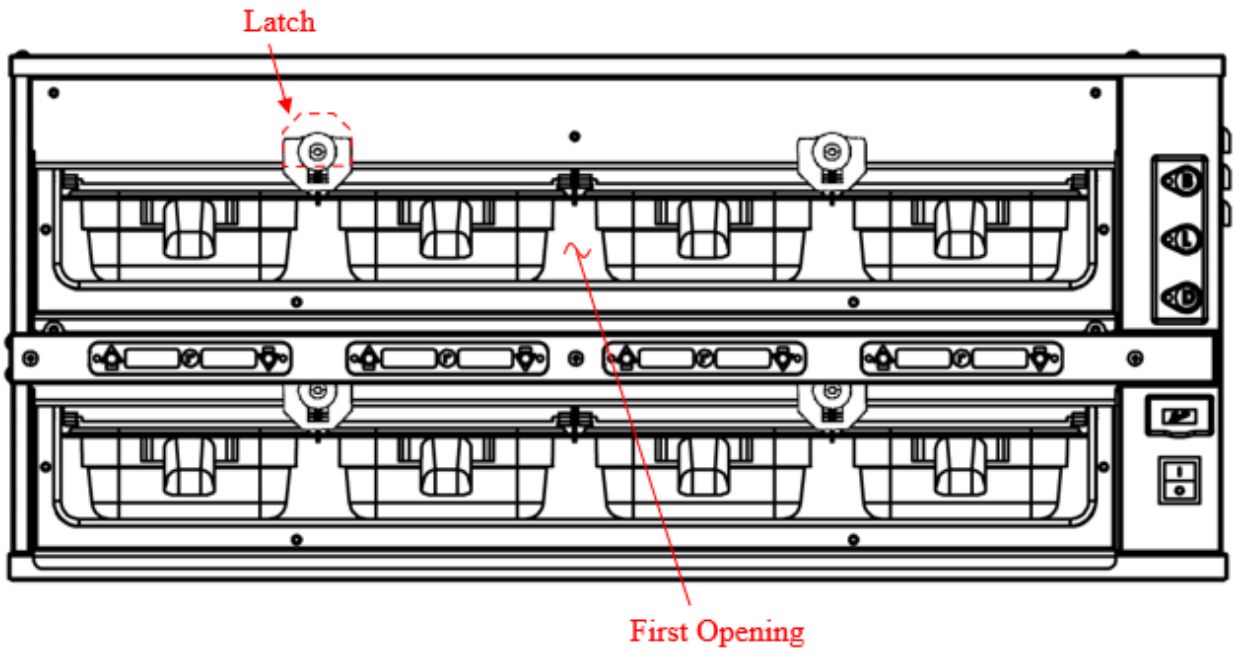
D. Claims 16-26

Met per Sections IV(B)(1.f), IV(B)(1.g.2/13/41/53/66), IV(D)-(M). EX1003: ¶¶498-540.

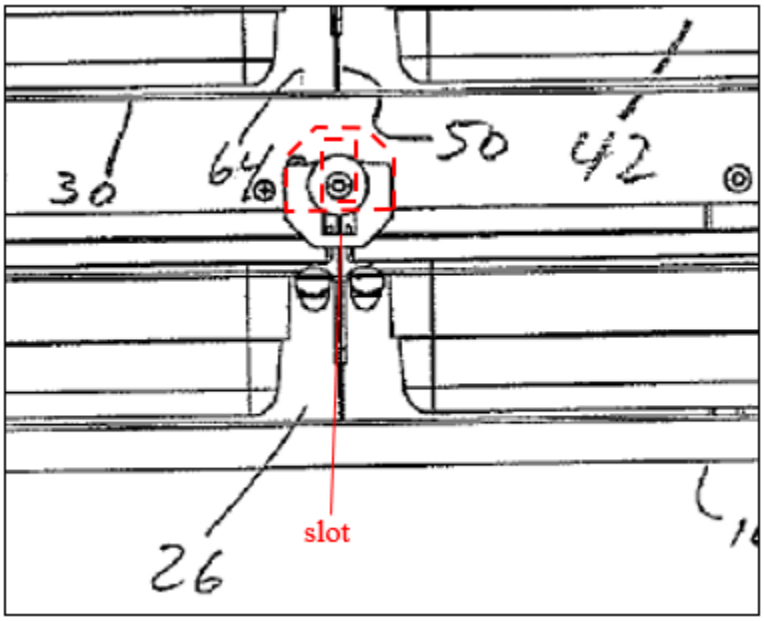
E. Claim 28

28.a

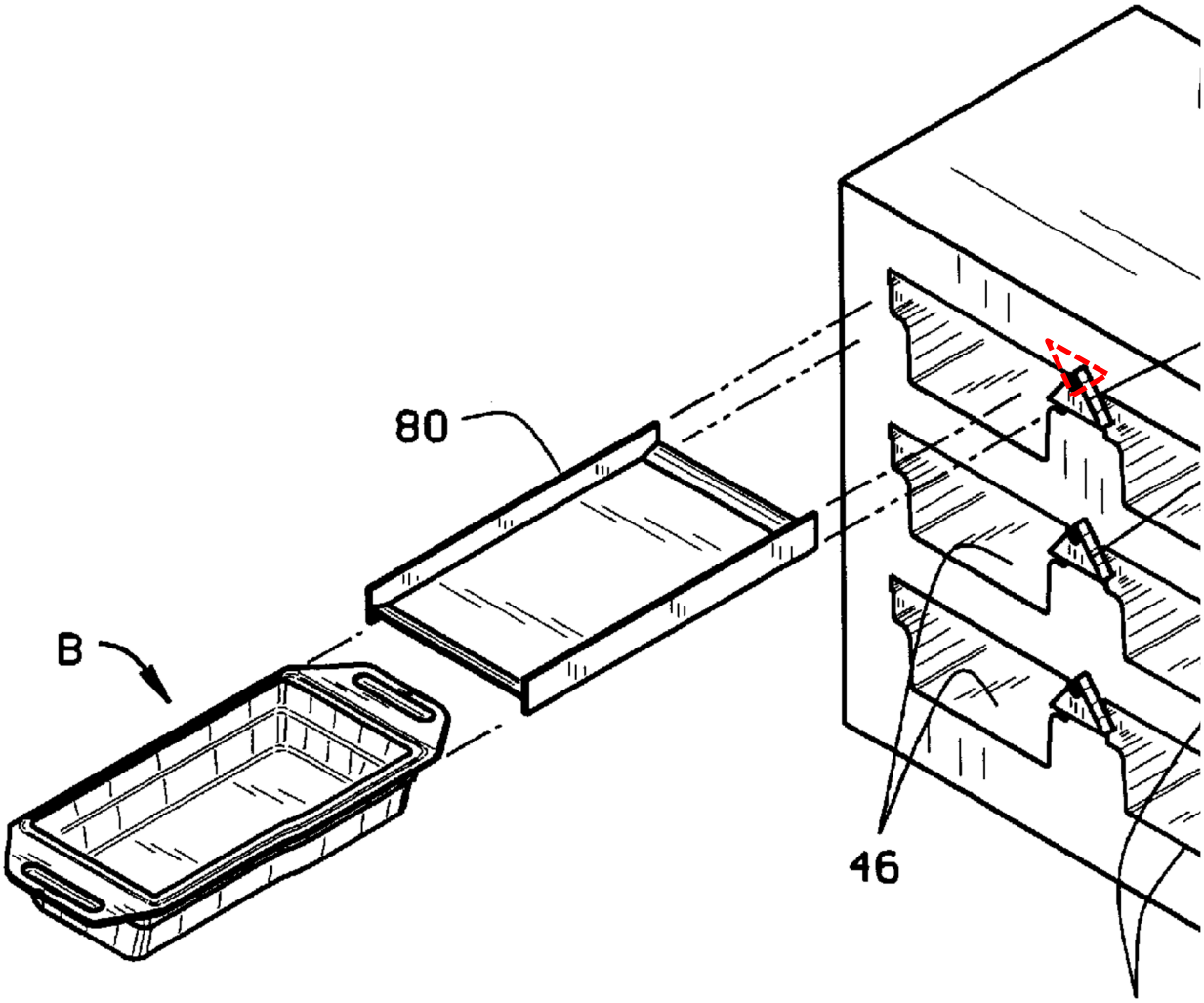
Met per Sections V(B), V(C)(14.c). EX1003: ¶¶541-543. In the locked position, the latch would be positioned (gravity/at rest) to block/prevent lid removal. EX1013: ¶[0058], Fig. 2; EX1017: 6:19-21; EX1016: ¶[0043], Fig. 1; EX1003: ¶544. In the unlocked position, the latch would be rotated (45-degrees, 180-degrees (annotated)) to allow lid removal. EX1013: Fig. 2; EX1017: 6:9-32, Fig. 1; EX1016: ¶[0043], Fig. 1; EX1003: ¶545.



EX1005: 8 (modified).



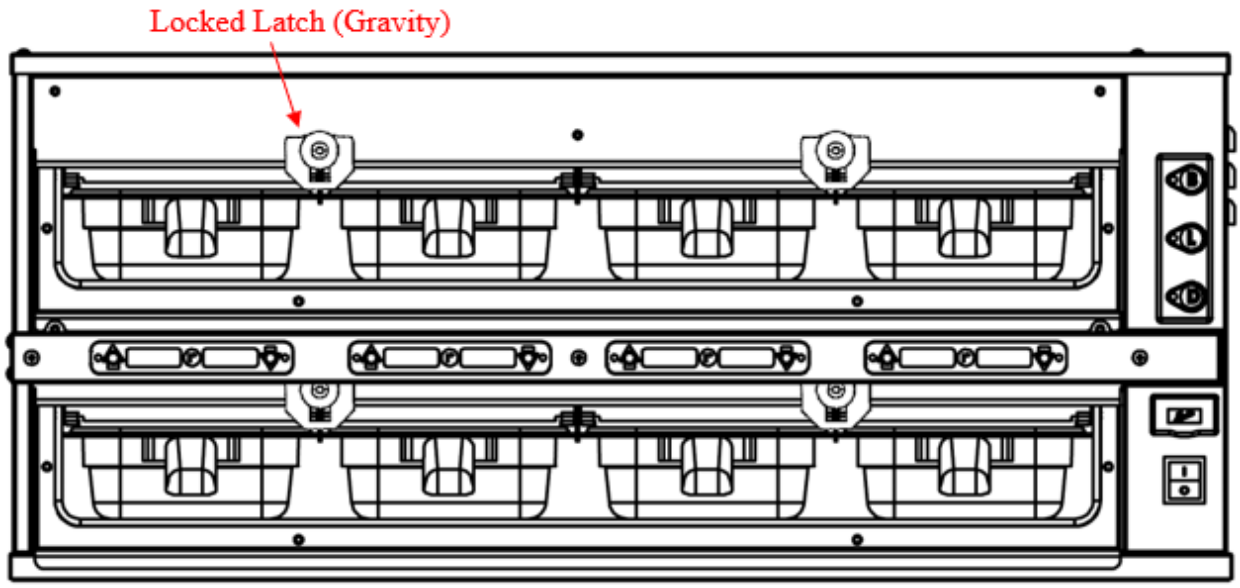
EX1013: Fig. 2 (enlarged).



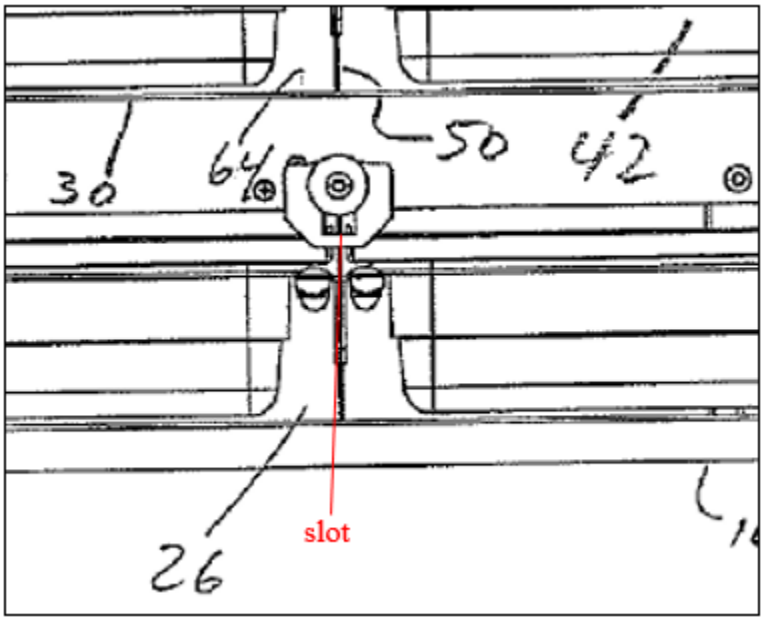
EX1017: Fig. 1 (enlarged).

28.b

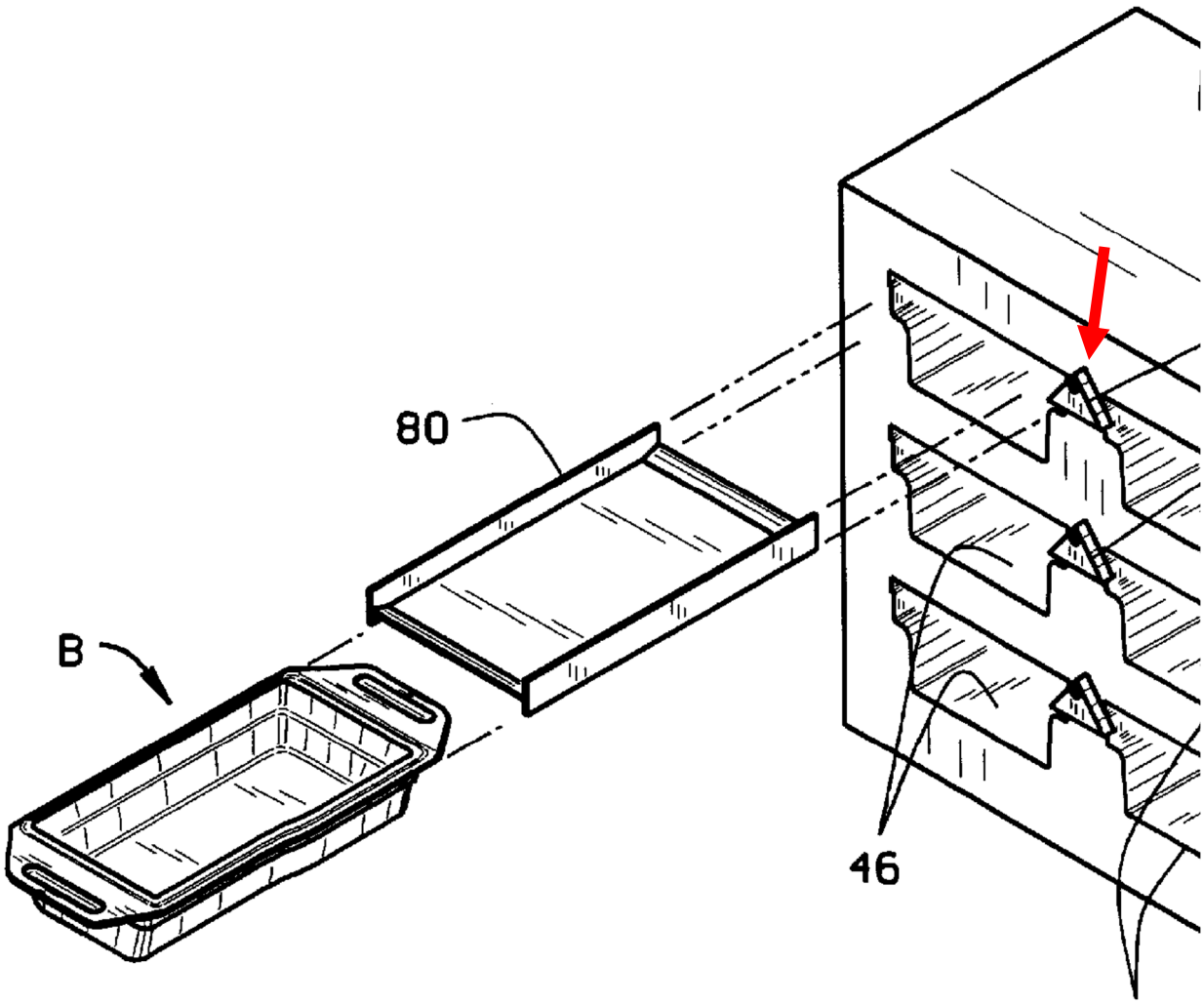
Gravity would bias the rotatable latch into the locked position (latch's center of gravity below the fastener). Section V(B); EX1013: Figs. 2, 9; EX1017: 6:9-32, Fig. 1; EX1016: ¶[0043], Fig. 1; EX1003: ¶¶546-549.



EX1005: 8 (modified).



EX1013: Fig. 2 (enlarged).



EX1017: Fig. 1 (enlarged).

VI. GROUND 3: Claims 3, 31, 43, and 56 are Obvious Over the IRHS Documents, Veltrop, and Poole (If Necessary)

If it is determined the IRHS24's heating elements do not comprise resistive wires, such a configuration would have been obvious. EX1003: ¶¶550-551. In this ground, the claims are obvious as addressed in Grounds 1, 7, and 9-10, with claims 3, 31, 43, and 56 being further obvious as explained below.

Veltrop's cabinet has electrically-resistive heater wires (67). EX1022: ¶¶[0010], [0025], Fig. 2; EX1003: ¶552.

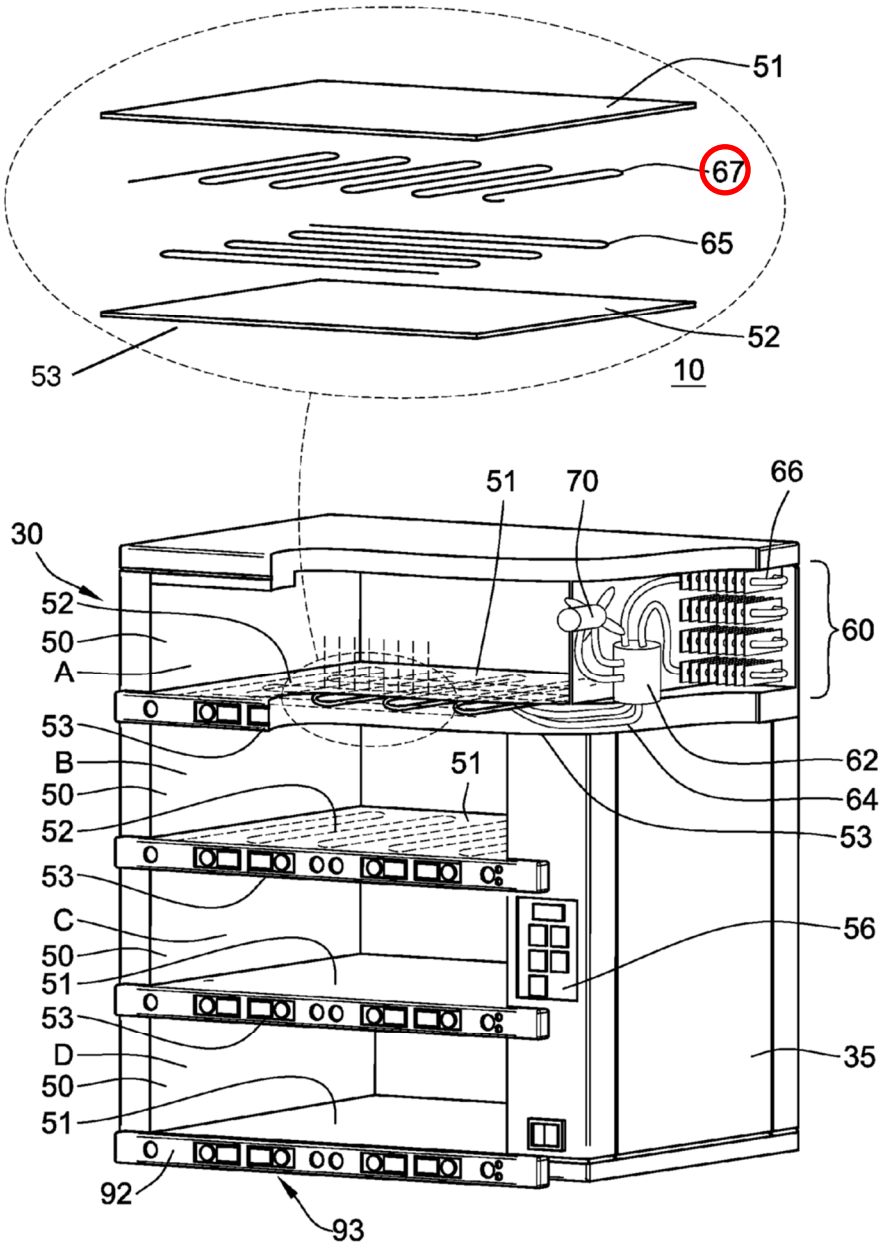
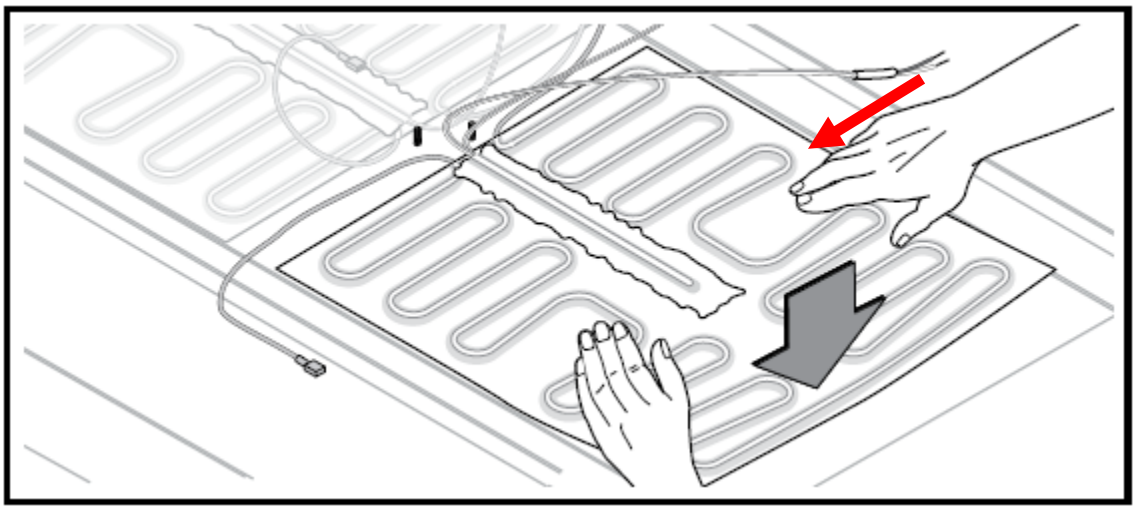


FIG. 2

EX1022.

Per Veltrop, it would have been obvious for IRHS24's second and fourth heating elements to comprise electrically-resistive heater wire to generate heat. EX1003: ¶553. IRHS24 teach electrical heating elements. EX1003: ¶554. POSA would understand an electrically-resistive wire is a suitable heat source for IRHS24. EX1022: ¶[0025]; EX1003: ¶¶554-555.

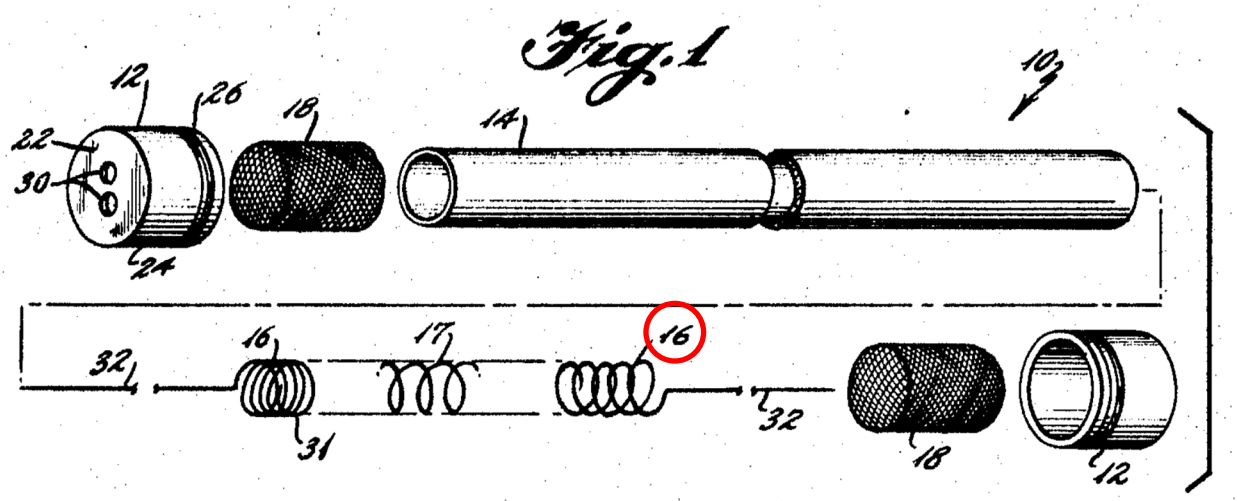


EX1008: 23.

This uses a known technique (electrically-resistive heater wire) to improve a similar device (IRHS24's lower heating elements) in the same way (electrically-resistive heater wire to heat compartment/food) with reasonable expectation of success (electrically controlled heating elements in food warming cabinets). EX1022: ¶[0025]; EX1003: ¶¶556-557.

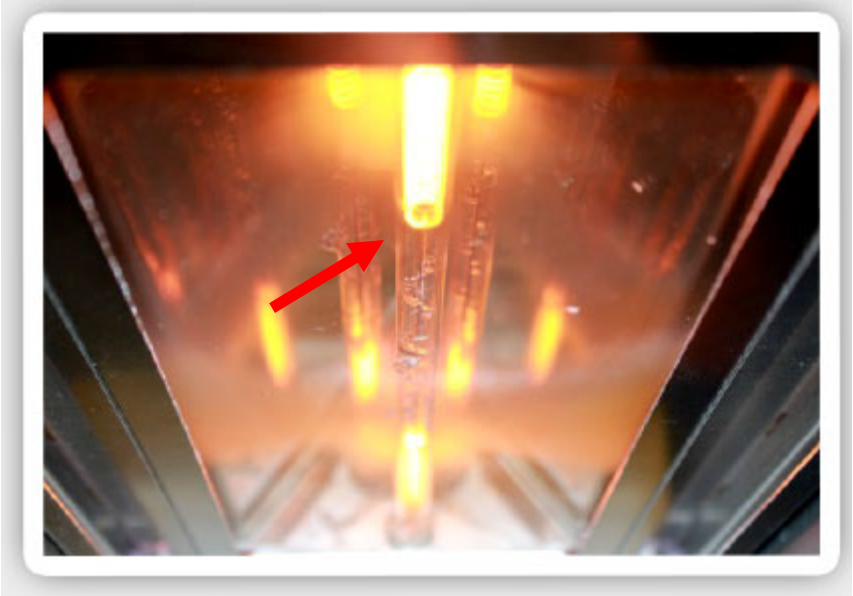
This renders obvious the second and fourth heating elements comprising electrically-resistive heater wire. EX1003: ¶558.

Poole teaches an "infrared quartz heater" with a resistance wire (16). EX1025: Title, 1:29-30, 2:6-7; EX1003: ¶559.



EX1025.

Per Poole, it would have been obvious to use infrared quartz heaters including resistive wires as the IR bulbs (first, third, fifth, sixth heating elements) to generate IR heat. EX1003: ¶560. Infrared quartz heaters have a "long operating life" with a "low failure rate" and lower cost. EX1025: 1:49-50, 3:1, 3:4; EX1003: ¶560. IRHS24 disclose using quartz IR bulbs and Poole discloses suitable quartz IR bulbs. EX1003: ¶561.



EX1007: 11.

This substitutes one known element (infrared quartz heater) for another (IRHS24's IR bulbs) to obtain predictable results (IR food heating) with reasonable expectation of success (IRHS24 disclose quartz IR heaters). EX1007: 53; EX1003: ¶562.

This renders obvious the first, third, fifth, and sixth heating elements comprising an infrared quartz heater with resistive wire. EX1003: ¶¶563-564.

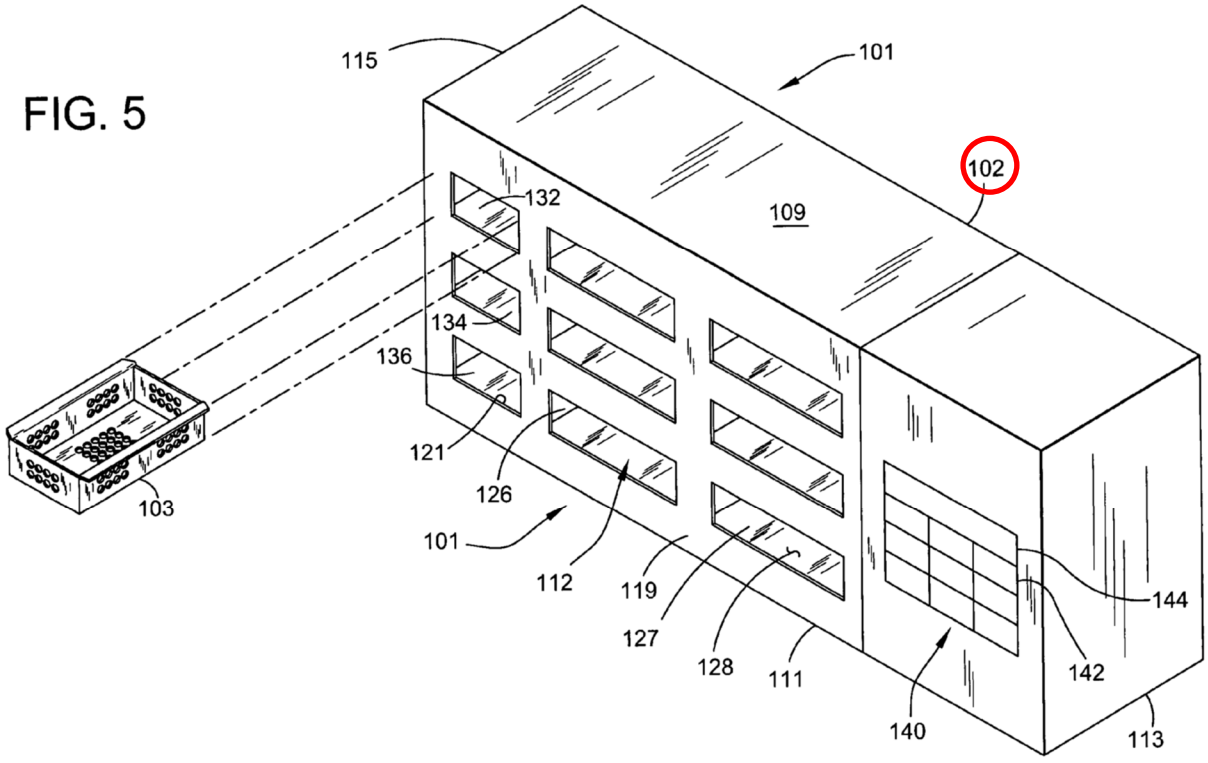
VII. GROUND 4: Claim 16 is Obvious Over the IRHS Documents, Hartfelder, Shei'099, Veltrop, and Poole (If Necessary)

Claim 16 is identical to claim 3 but depends from claim 14 and is obvious for the reasons explained in Grounds 1-3 (and 9-10). EX1003: ¶¶565-568.

VIII. GROUND 5: Claim 29 is Obvious Over the IRHS Documents, Shei'821, and/or Shei'155 (If Necessary)

If it is determined the IRHS24's lid-holding shelves do not comprise sheet metal, such a configuration would have been obvious. EX1003: ¶¶569-571. In this ground, claims 27 and 29 are obvious as addressed in Grounds 1 and 9-10, with claim 29 being further obvious as explained below.

Shei'155 and Shei'821 teach fabricating holding cabinets (102, 10) and lid shelves (36A) from sheet metal. EX1016: ¶[0046]; EX1011: ¶¶[0024], [0035], [0039]; EX1003: ¶¶572-574.



EX1016.

FIG. 1

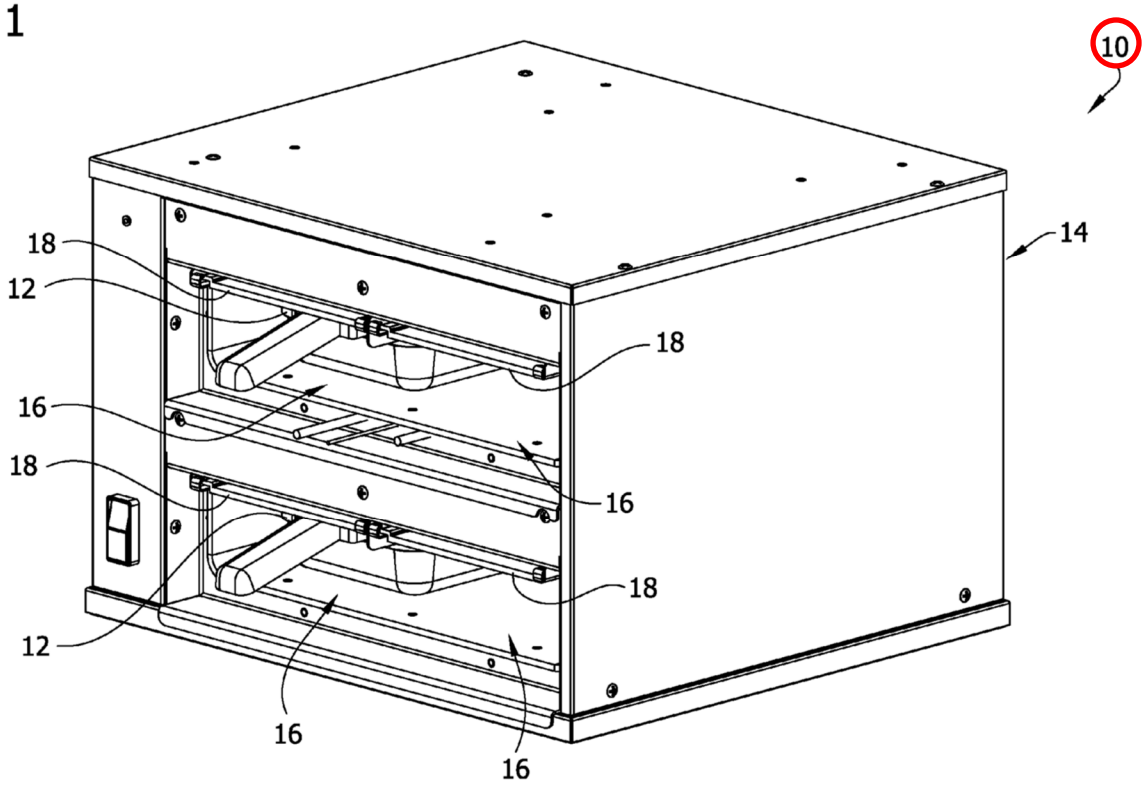

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FIG. 7

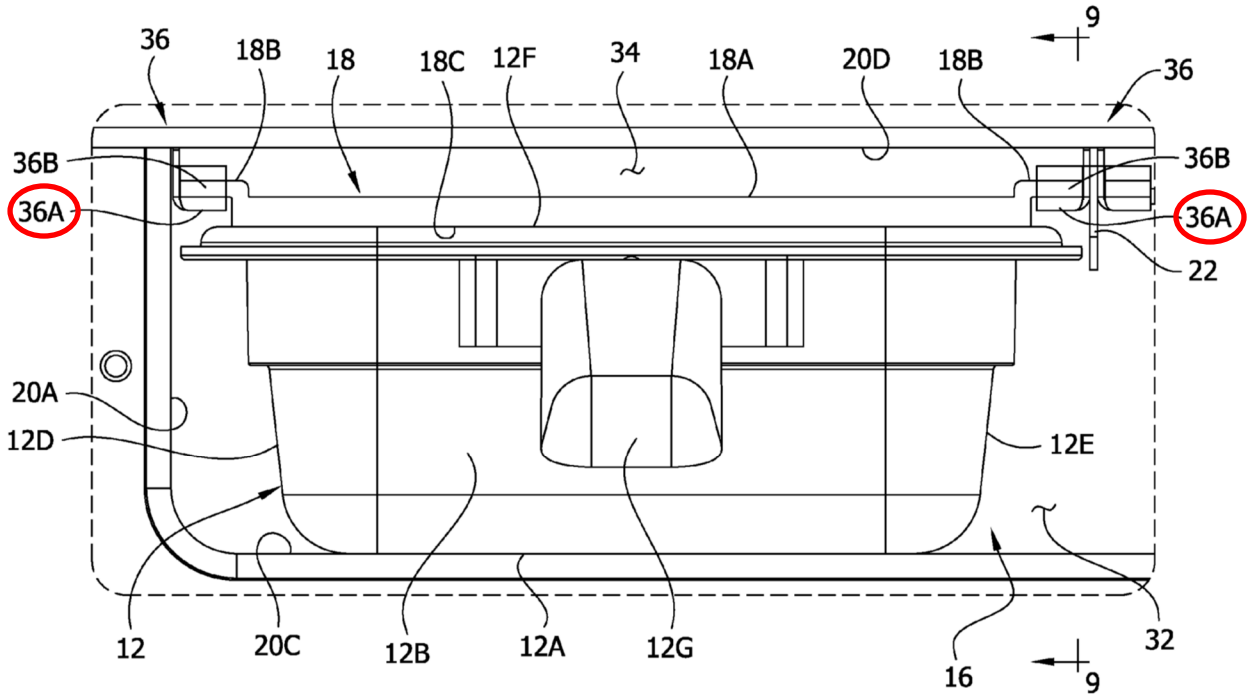
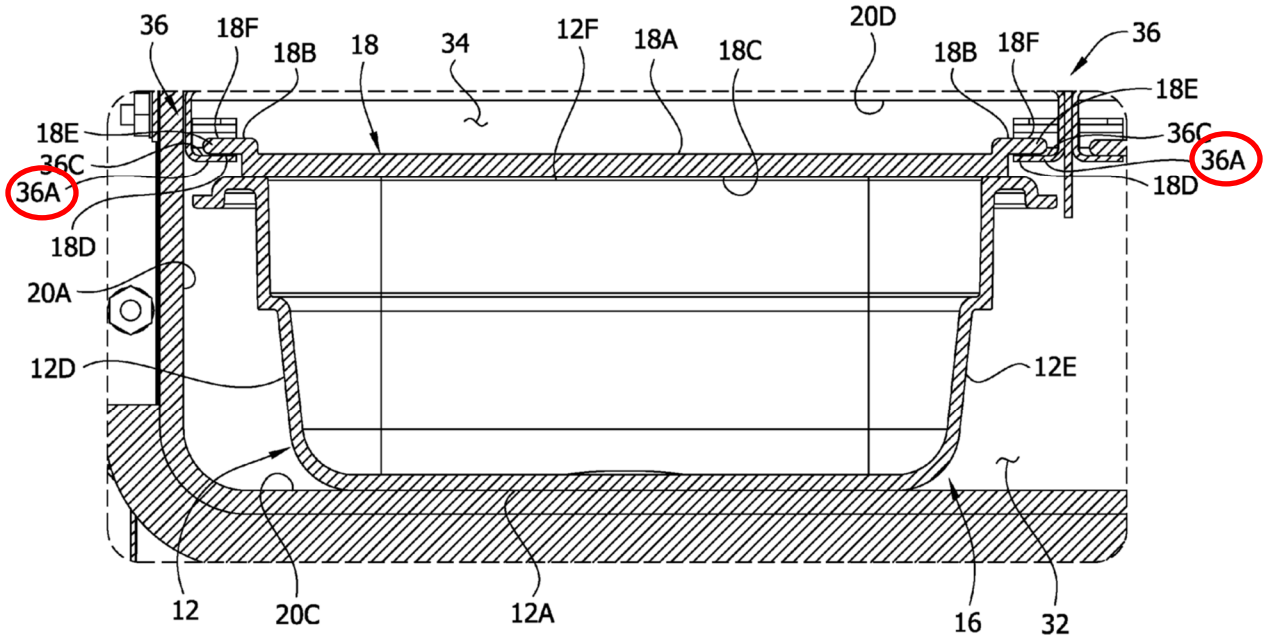

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FIG. 8



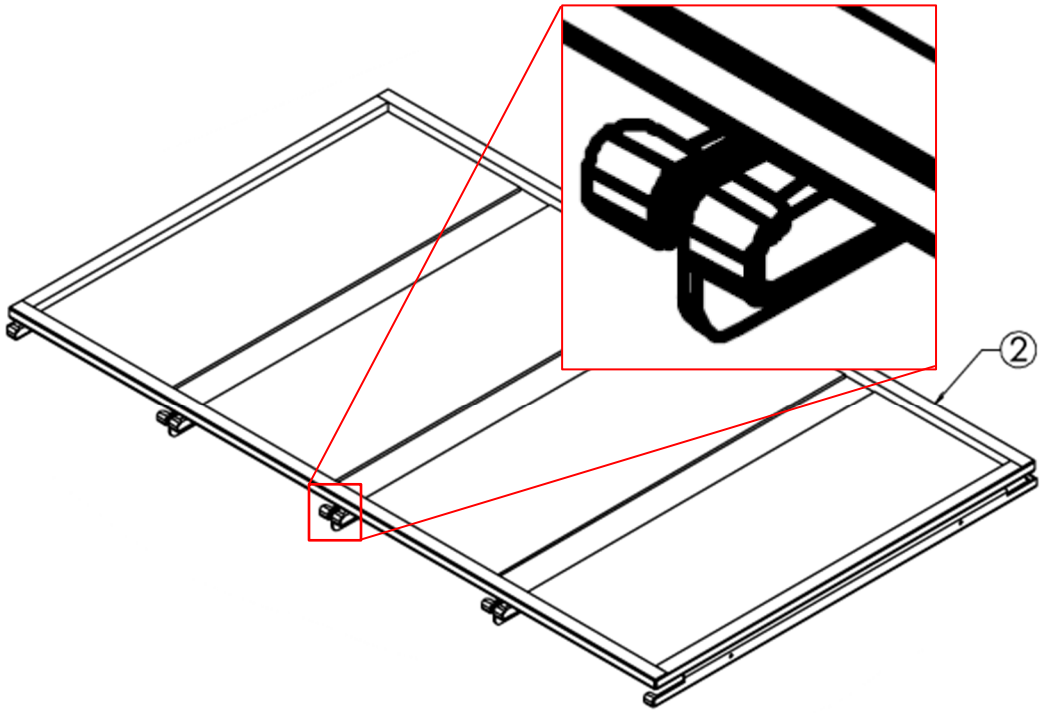
EX1011.

It would have been obvious to make IRHS24 lid-holding shelves from sheet metal per Shei'821 and/or Shei'155 as a known suitable material for constructing shelves. EX1016: ¶[0046]; EX1011: ¶[0039]; EX1003: ¶575.

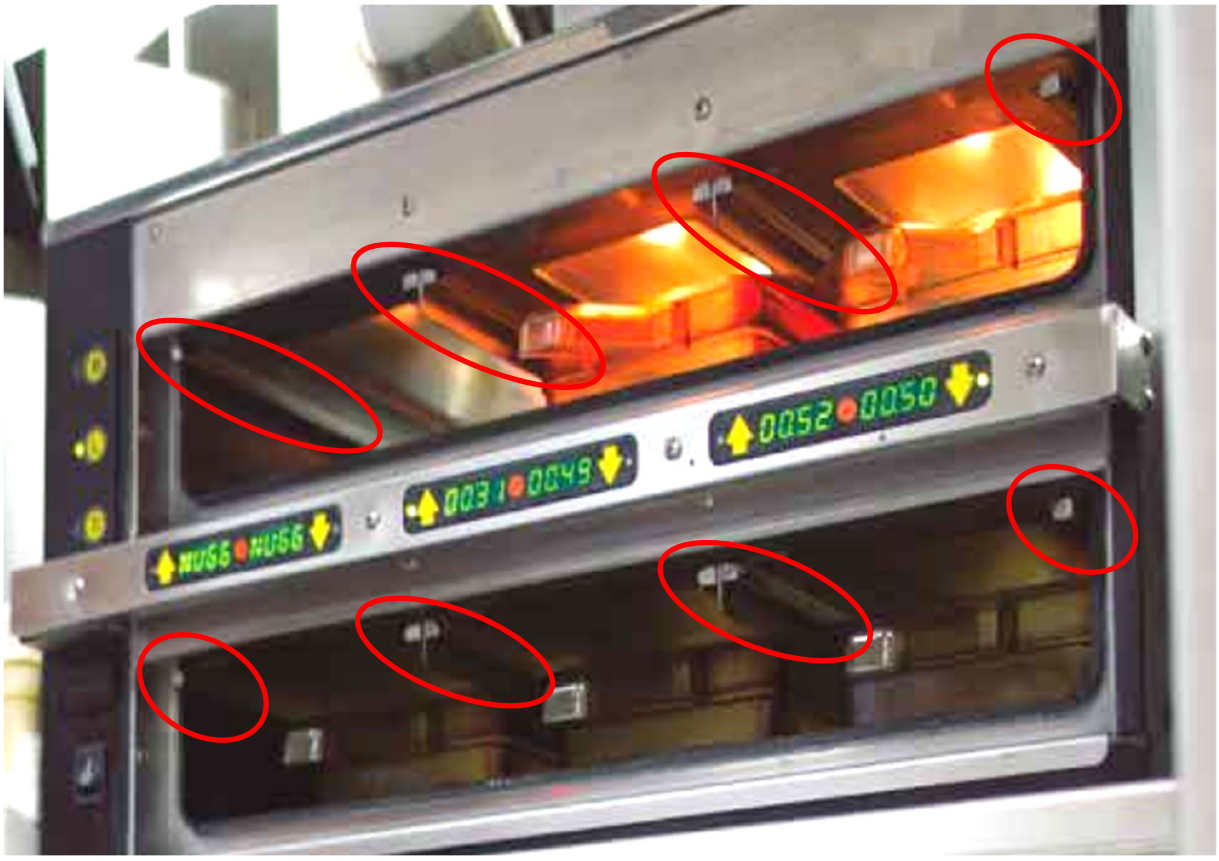
Moreover, constructing shelves from sheet metal is an obvious design choice. *In re Leshin*, 277 F.2d 197, 199 (CCPA 1960) ("selection of known plastics …, would be entirely obvious"); *Ex parte Gehring*, Appeal No. 2014-004556 at 6 (P.T.A.B. June 14, 2016) ("selection of a suitable material is [an] obvious design choice"); EX1003: ¶576.

This combines known elements (sheet metal and IRHS24's shelves) according to known methods (IRHS24 construction) and/or the simple substitution

of one known alternative (sheet metal) for another (IRHS24 shelf material) to yield predictable results (shelves supporting lids) with reasonable expectation of success (IRHS24's existing shelf shape is suitable for sheet metal). EX1003: ¶¶577-579.



EX1005: 19 (enlarged).



EX1007: 36.

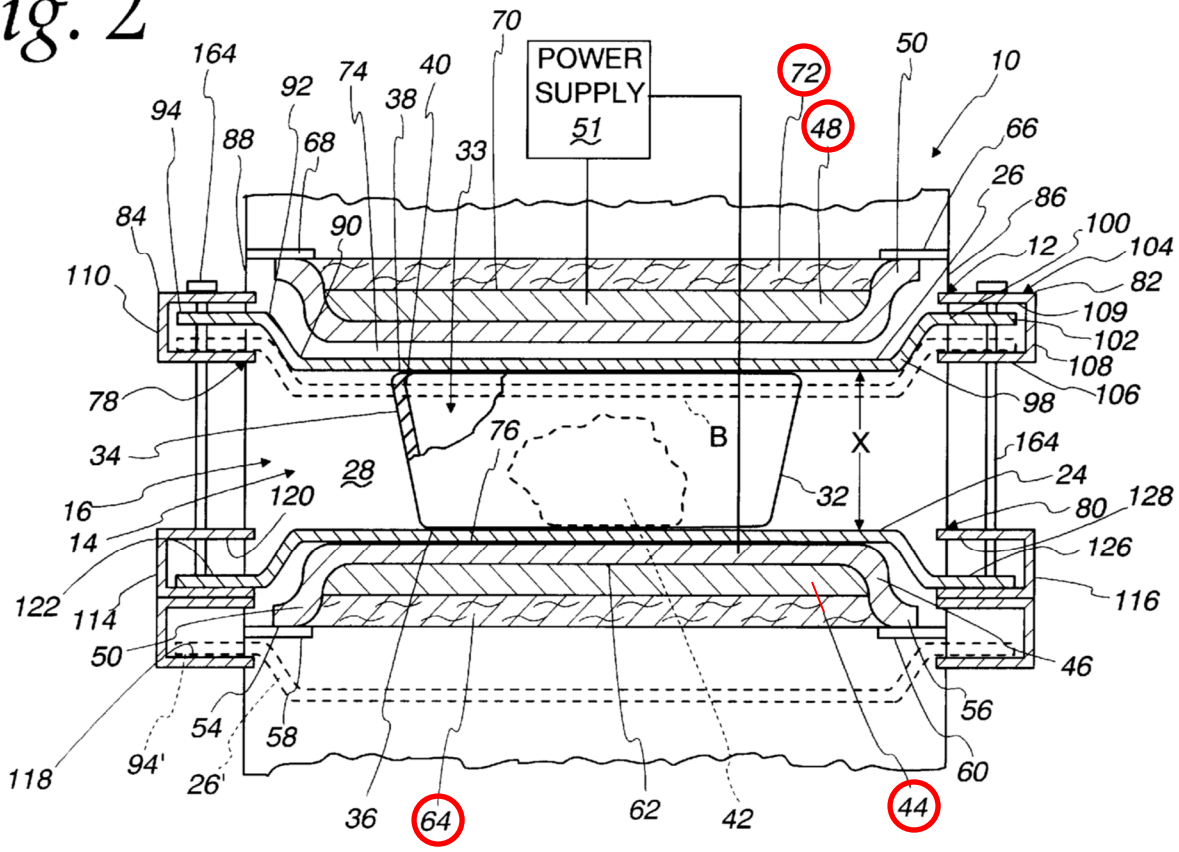
This renders obvious each lid-holding shelf comprising sheet metal.

EX1003: ¶579.

IX. GROUND 6: Claim 55 is Obvious Over the IRHS Documents, Fortmann'967, and/or Fortmann'197

Fortmann'967 and Fortmann'197 teach insulation (64, 72) backing and between heating elements (44, 48, 501, 521-524). EX1018: 3:64-65, 4:4-38, Fig. 2; EX1014: 9:32-37, Figs. 1, 10; EX1003: ¶¶580-587.

Fig. 2


POWER SUPPLY 51
70
72
48
50
10
66
26
86
100
12
104
82
109
102
108
106
98
164
24
128
80
126
116
46
56
60
44
42
62
64
36
118
94'
26'
54
58
50
114
122
14
16
34
78
84
110
94
164
92
74
40
38
33
68
88
90
120
28
76
B
X
32

EX1018.

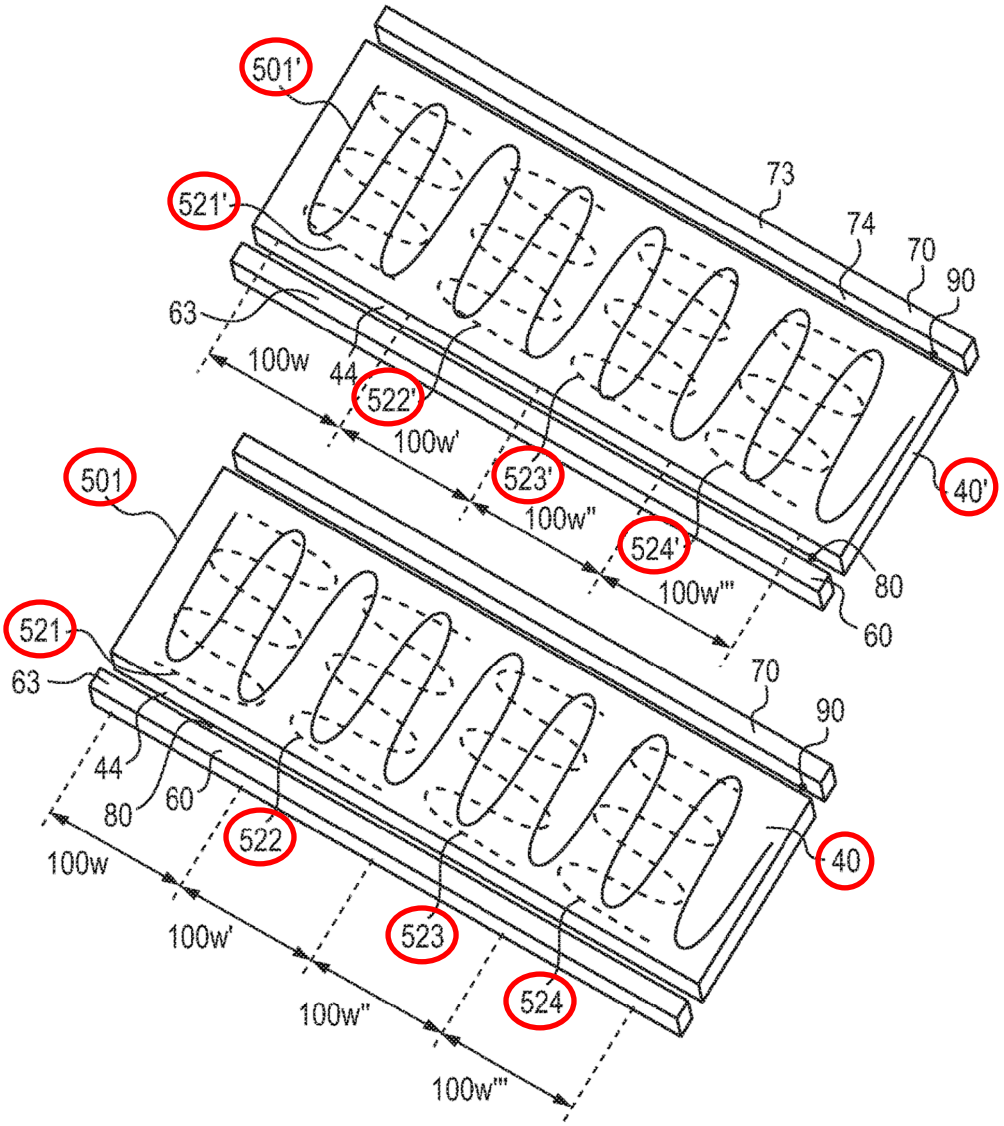


FIG. 10

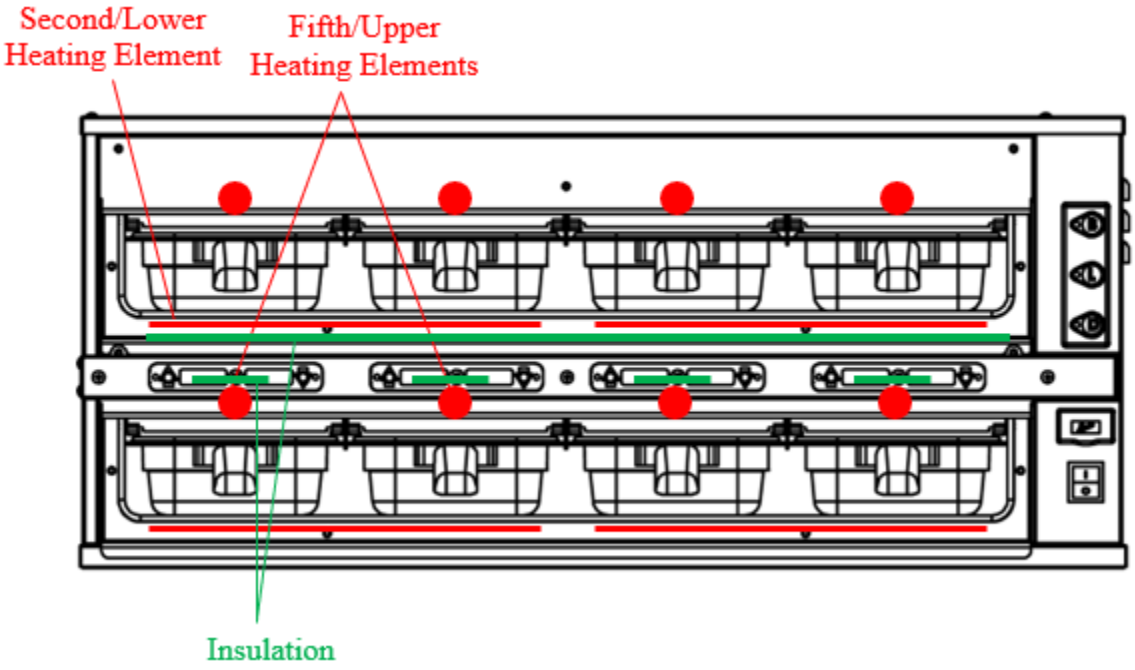
EX1014.

It would have been obvious to arrange insulation in IRHS24's shelf between the second and fifth heating elements to direct heat from the lower/second heating element into the first compartment and direct heat from the upper/fifth heating

element into the second compartment. EX1014: 9:32-37; EX1022: ¶[0025]; EX1003: ¶588. Insulation increases compartment thermal separation, heating accuracy, and efficiency, and reduces power consumption. EX1003: ¶589.

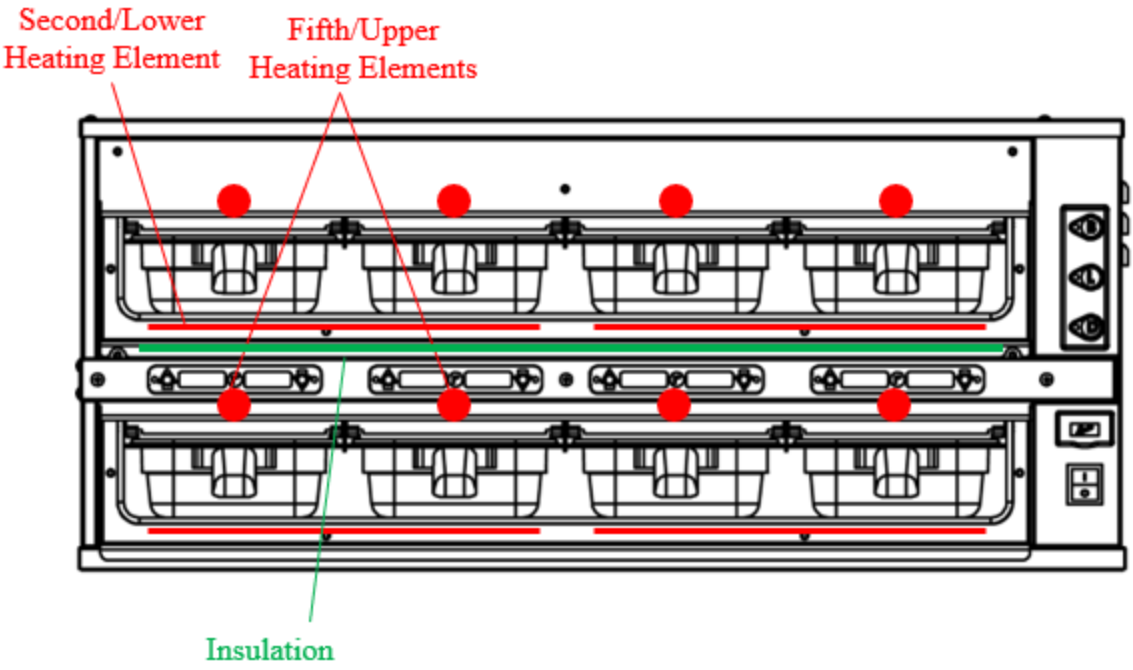
This uses a known technique (insulation) to improve a similar device (IRHS24) in the same way (Fortmann'967's and/or Fortmann'197's arrangement) with reasonable expectation of success (similar units using insulation as intended). EX1018: 4:33-38; EX1014: 9:32-37; EX1003: ¶¶590-592.

Insulation backing heating elements per Fortmann'967 is illustrated below. EX1018: 4:33-38; EX1003: ¶593.



EX1005: 8 (modified).

Insulation between heating elements per Fortmann'197 is illustrated below. EX1014: 9:32-37; EX1003: ¶594.



EX1005: 8 (modified).

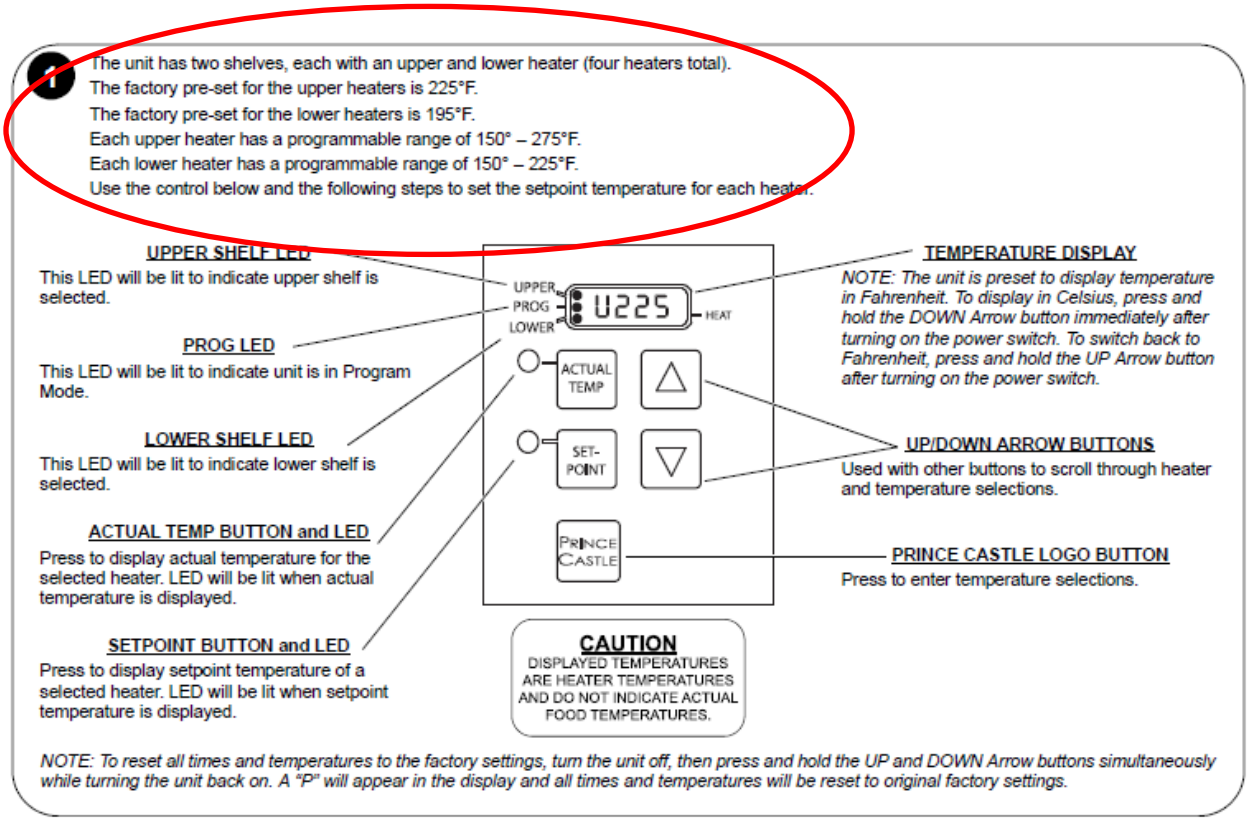
Either configuration renders obvious insulative material between second and fifth heating elements. EX1003: ¶¶595-596.

X. GROUND 7: Claims 42-53 are Obvious Over the IRHS Documents, Prince Castle, and Reese (If Necessary)

If it is determined the IRHS24's first heating element is not adapted to output more heat energy than the second heating element, such a relationship would have been obvious. EX1003: ¶¶597-598. In this ground, claims 42-53 are obvious as addressed in Grounds 1, 3, and 9-11, with limitation 42.g being further obvious as explained below.

A. 42.g

Prince Castle teaches default presets 225°F for upper heaters (275°F maximum) and 195°F for lower heaters (225°F maximum). EX1009: 22, 40; EX1003: ¶¶599-601.



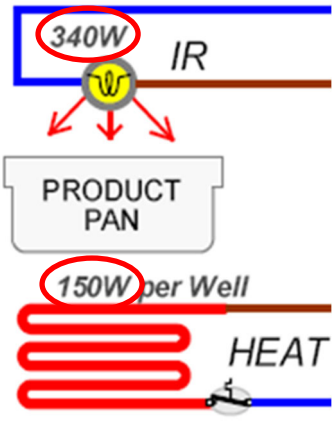
EX1009: 40.

Reese teaches turbo boost functions for upper IR. EX1027: ¶¶[0001], [0019], [0021], [0025]; EX1003: ¶¶602-604.

Per Prince Castle, IRHS Documents, and/or Reese, it would have been obvious to adapt each upper (first) IR element to output more heat energy than the

respective lower (second) heating element (higher target temperature, turbo boost heat, and/or higher wattage rating (EX1008: 64)) to overcome distance between the upper IR element and food, counteract evaporative cooling, maintain food surface temperature/texture, compensate for upper IR energy radiating in all directions, and/or permit the cook "to re-crisp [fried] food," "melt cheese," and/or "brown [food]" with the IR element. EX1027: ¶[0021]; EX1006: 1; EX1003: ¶¶605-611. This would help "provide optimum environment" and "minimize temperature distribution from top to bottom." EX1006: 1; EX1007: 51; EX1003: ¶612.

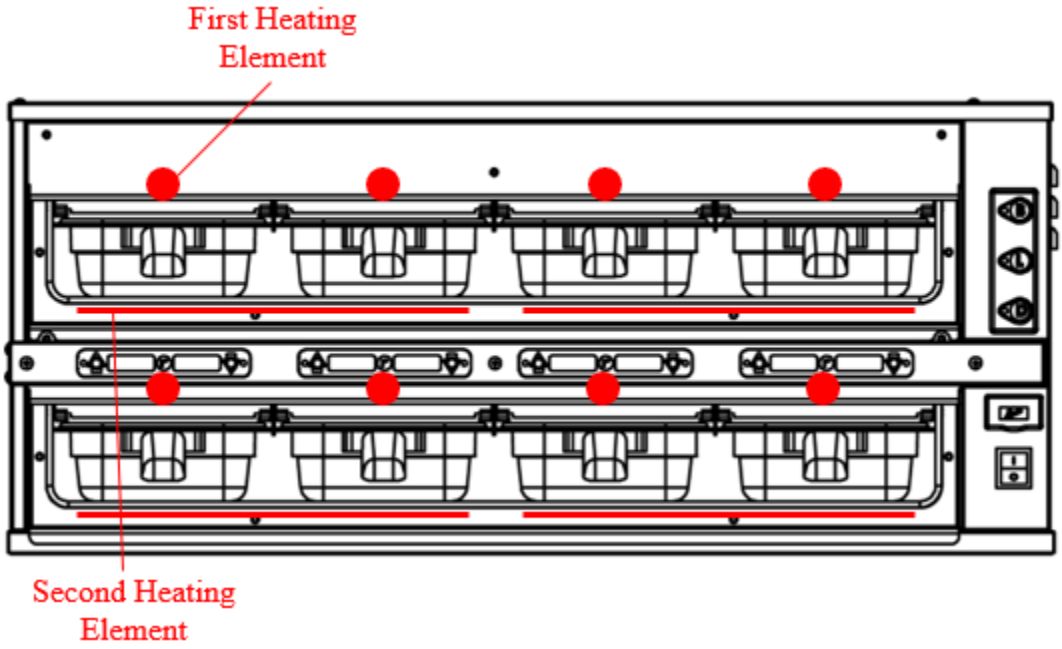
This applies a known technique (upper heaters outputting more heat than lower heaters) to improve a similar device (IRHS24) in the same way (higher setpoint temperatures for upper heating elements than lower heating elements) with reasonable expectation of success (independent operation of IR upper elements that can pulse on/off as needed and are higher wattage (340W) than the lower elements (300W)). EX1006: 1; EX1003: ¶¶613-614.



EX1008: 64.

This renders obvious the first heating element being adapted to output more heat energy than the second heating element (higher target temperature, turbo boost functionality, and/or higher wattage rating). EX1003: ¶¶615-619.

Remaining limitations of claims 42-53 are met per Sections IV(B)-(M), VI, XII, XIII, and XIV. EX1003: ¶620.



EX1005: 8.

XI. GROUND 8: Claim 15 is Obvious Over the IRHS Documents, Hartfelder, Shei'099, Jones, Fortmann'197, and/or McMillan

Jones, Fortmann'197, and McMillan teach each pan/bay being a heating zone via independently controllable heating elements per pan/bay. EX1012: ¶[0096]; EX1014: 3:6-26, 8:63-67, 9:1-19; EX1019: 4:36-52; EX1003: ¶¶621-629.

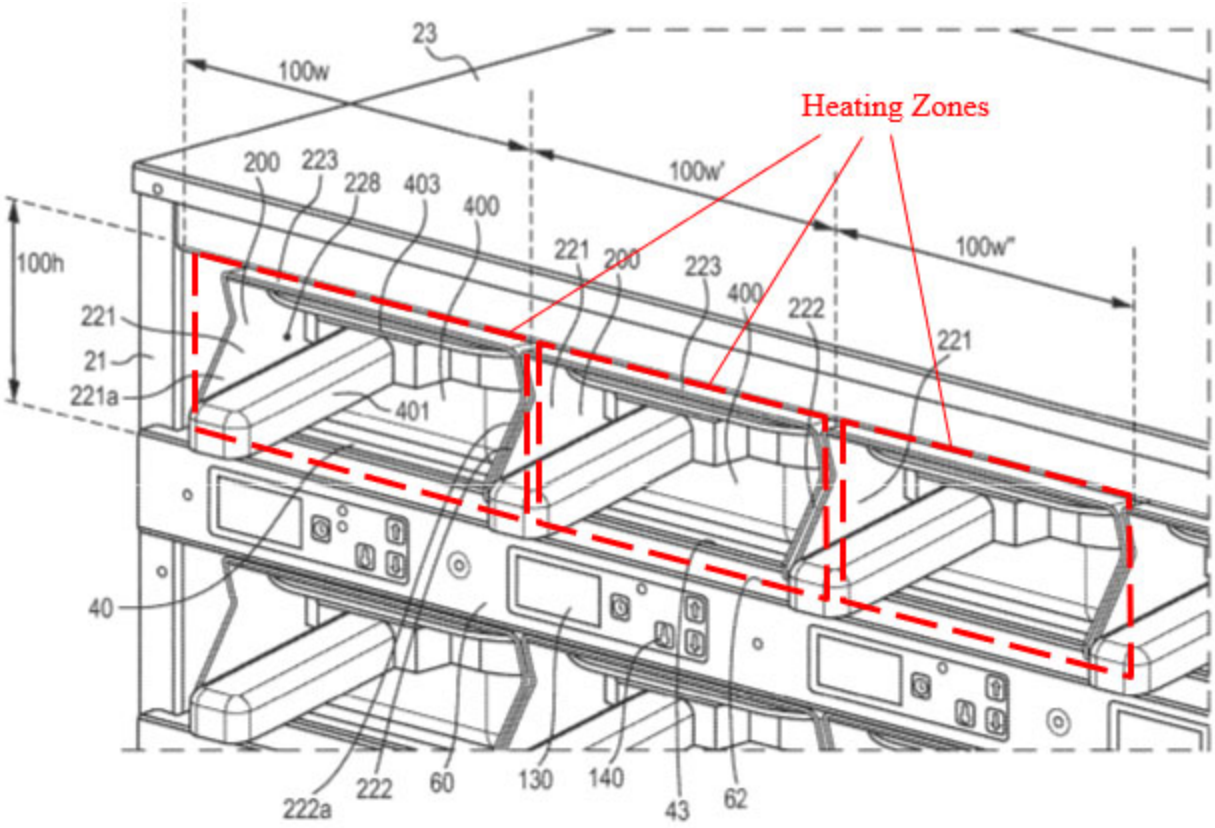

23
100w
Heating Zones
200
223
228
403
400
100w'
100w"
100h
221
200
223
400
222
221
21
221a
401
40
222a
222
60
130
140
43
62

FIG. 2

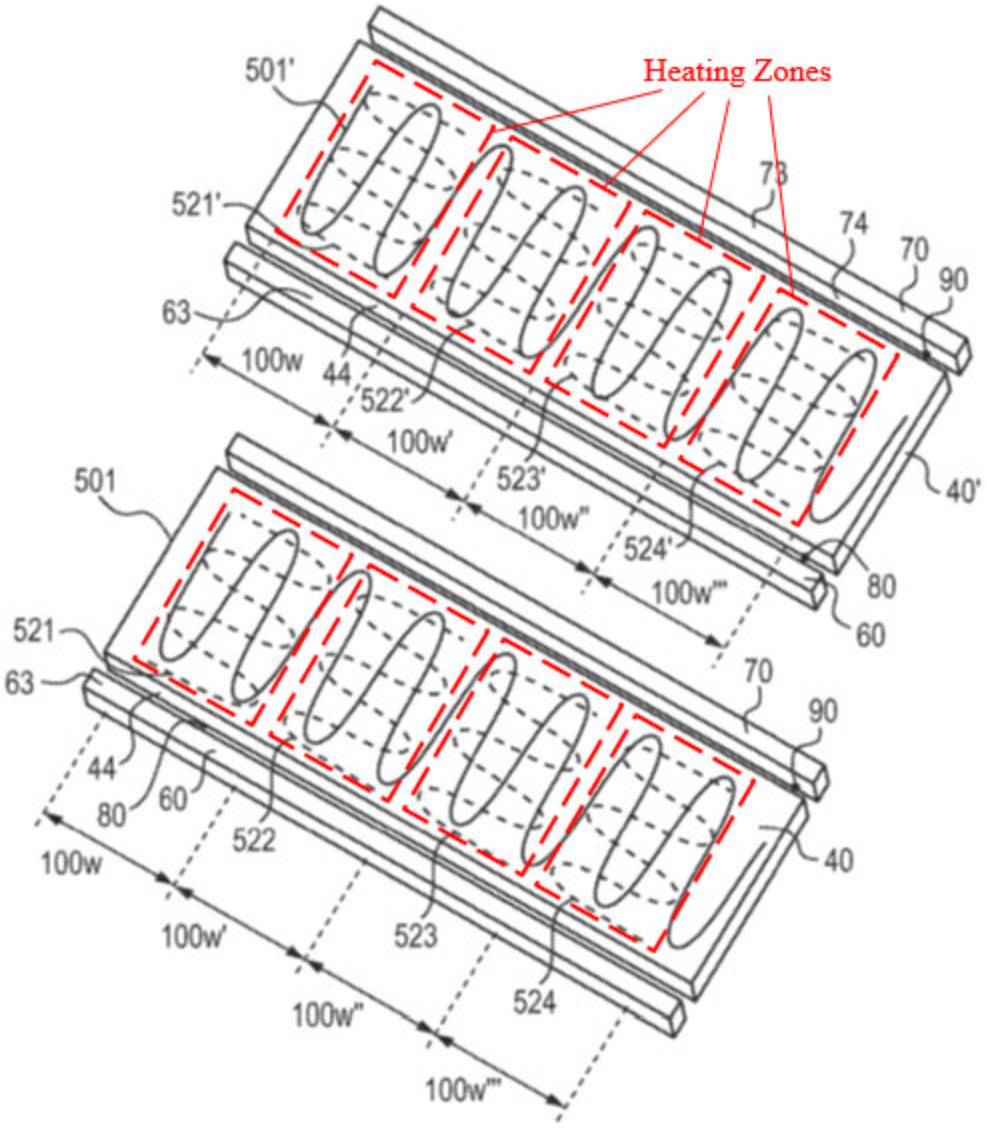


FIG. 10

EX1014.

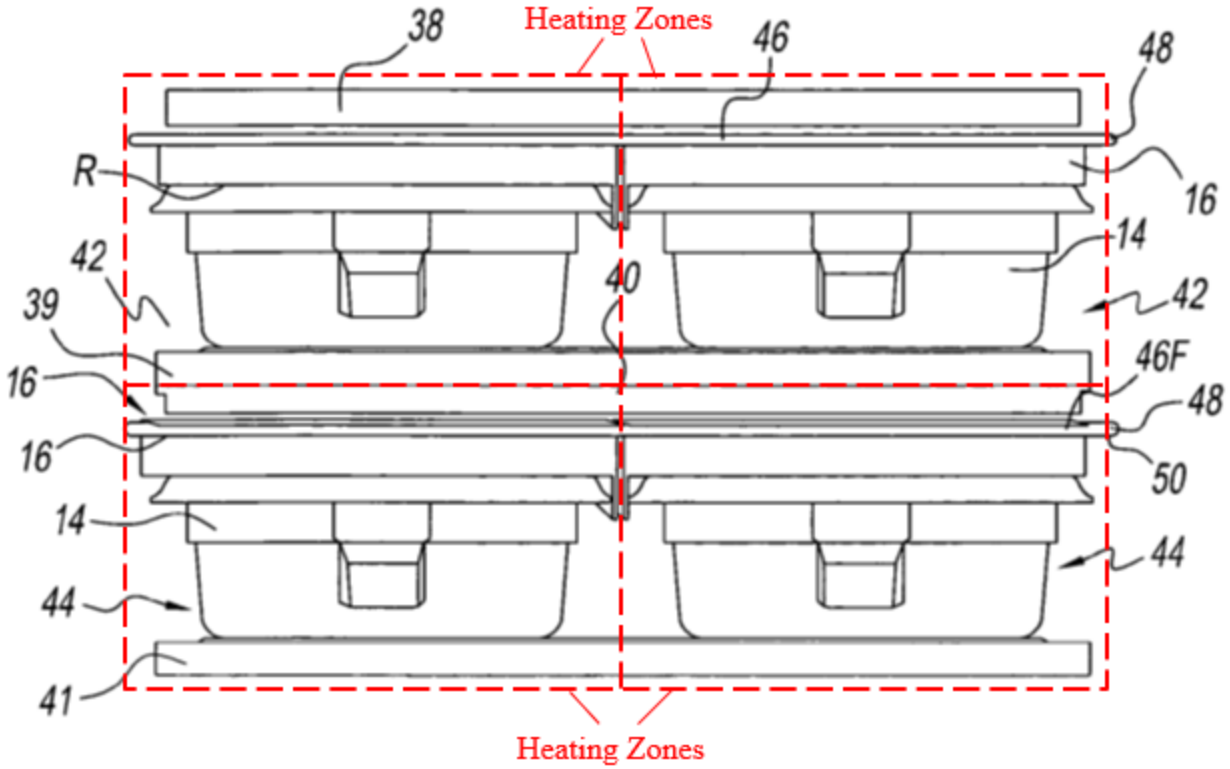


Fig. 1G

EX1012.

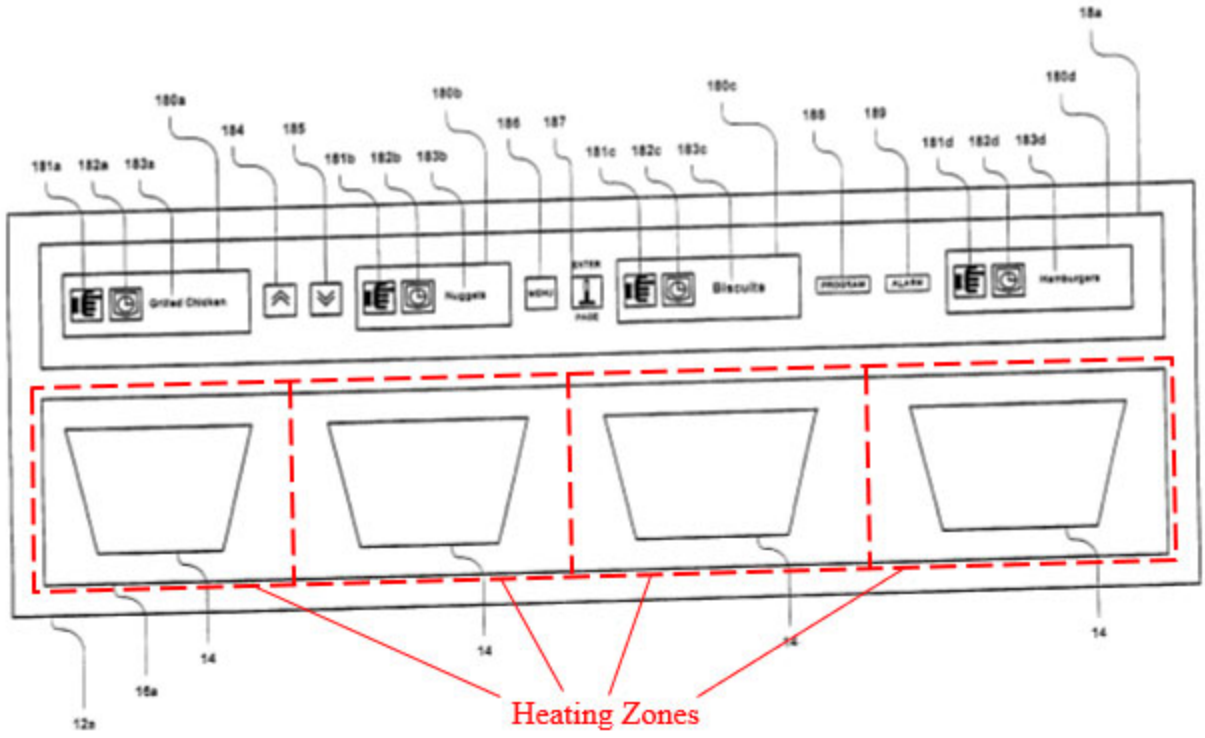


Fig. 5a

EX1019.

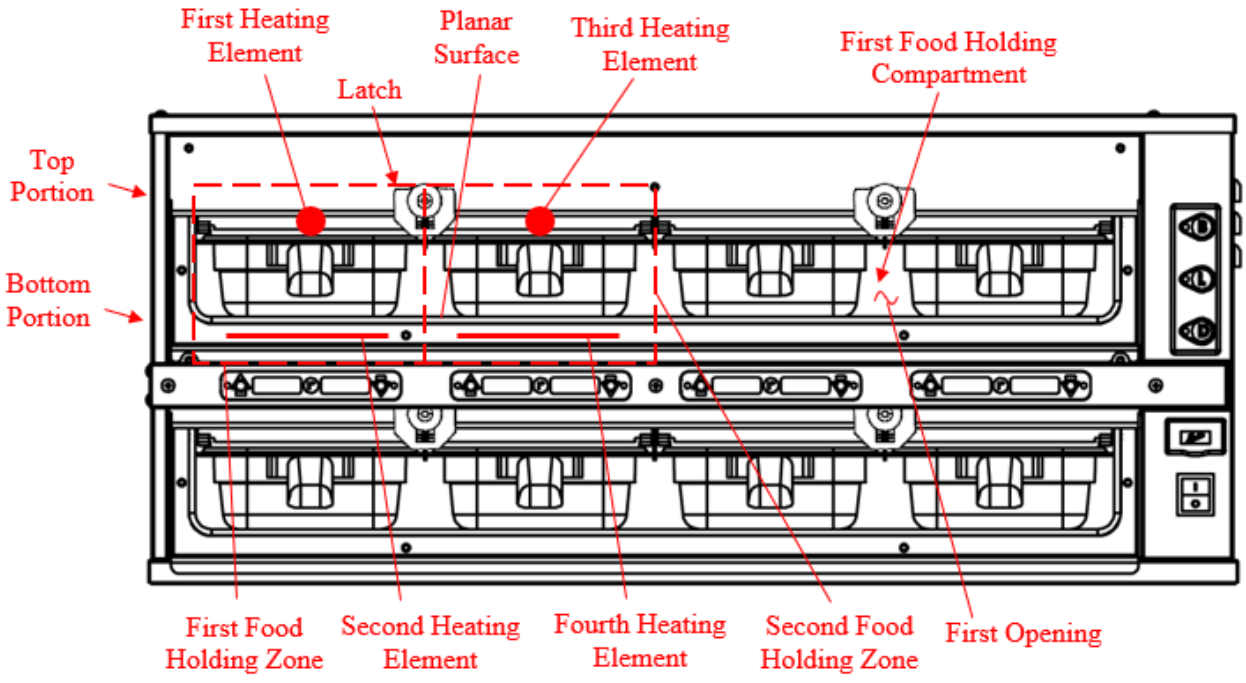
It would have been obvious to modify IRHS24 to make each pan/bay a heating zone by having independently controllable upper and lower heating elements for each pan/bay, per Jones, Fortmann'197, and/or McMillan. EX1003: ¶630. This furthers IRHS24's goal of "precisely controlling the environment in each pan, allowing for customized settings for each food product." EX1005: 16; EX1007: 51, 53; EX1003: ¶631.

This would increase amount of temperature zones, increasing food holding flexibility. EX1019: 1:36-45, 1:46-48, 4:45-52; EX1003: ¶632.

This applies a known technique (independent upper and lower heating elements for each bay) to improve a similar device (IRHS24) in the same way (each bay a heating zone) with a reasonable expectation of success (references demonstrating bays being zones was possible in similar units). EX1012: ¶[0096]; EX1014: 3:6-26, 8:63-67, 9:1-19; EX1019: 4:36-52; EX1003: ¶¶633-634.

IRHS24's existing lower heating elements would be resized to extend under only one bay and duplicated for each bay (connecting the additional heating elements to the controller to maintain independent control). EX1003: ¶635.

Claim 14 is obvious for at least the reasons explained in Section V(C), with at least limitations 14.c, 14.e.1-14.e.2, and 14.f.1-14.f.2, and claim 15 further being obvious as described above and demonstrated below. EX1003: ¶¶636-637.



EX1005: 8 (modified).

XII. GROUND 9: Claims 1-29 and 31-66 are Obvious Over the IRHS Documents, Hartfelder, Shei'099, Veltrop, Poole, Shei'821, Shei'155, Fortmann'967, Fortmann'197, Prince Castle, Reese, Jones, and McMillan (If Necessary)

It would have been obvious to conductively couple IRHS24's lower heating elements to aluminum heatsink plates/planar surfaces (if such construction is determined not to be met). EX1003: ¶¶638-640.

Veltrop and Shei'155 teach conductively coupling heating elements (67, 39) to an aluminum upper plate or aluminum heatsink (51, 29). EX1022: ¶¶[0023], [0025], [0050]; EX1016: ¶[0039]; EX1003: ¶¶640-642, 647-648.

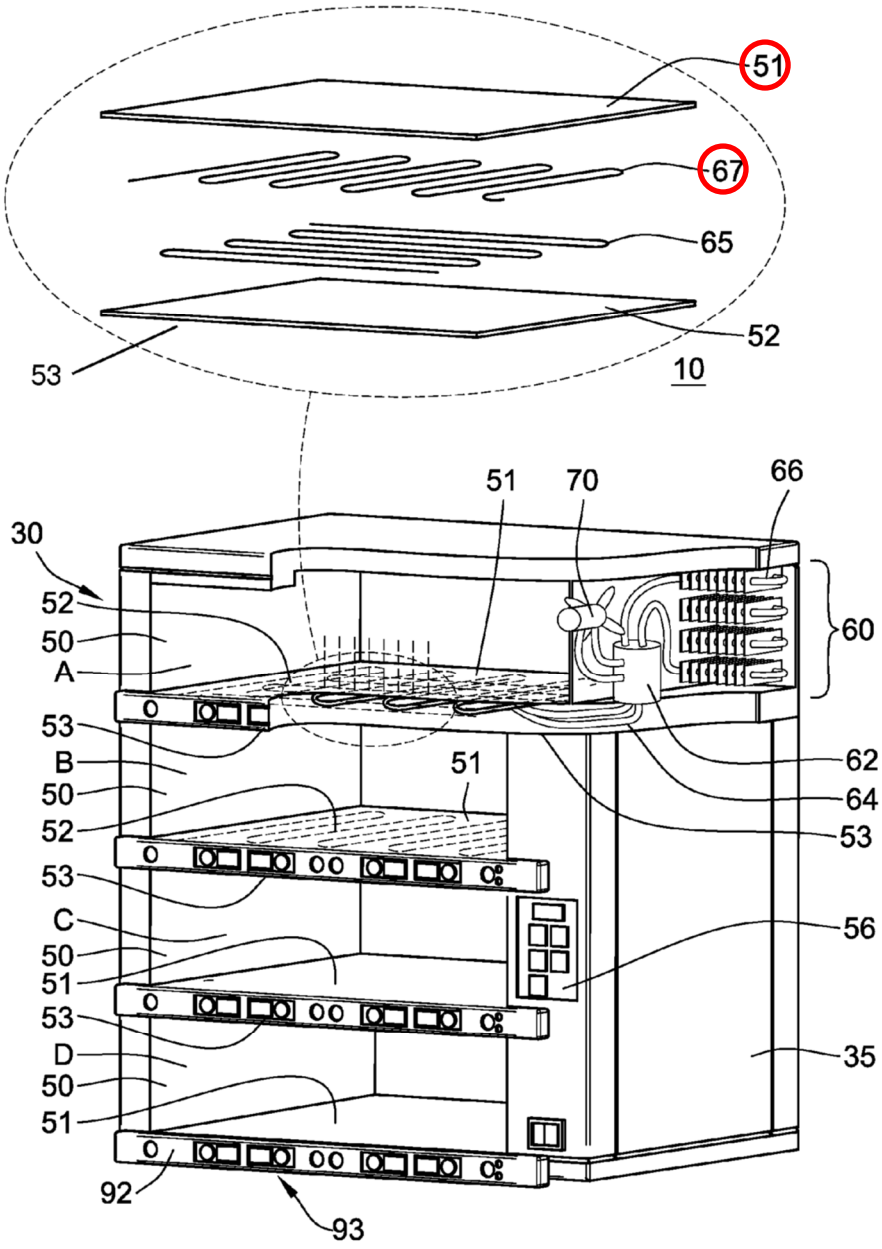
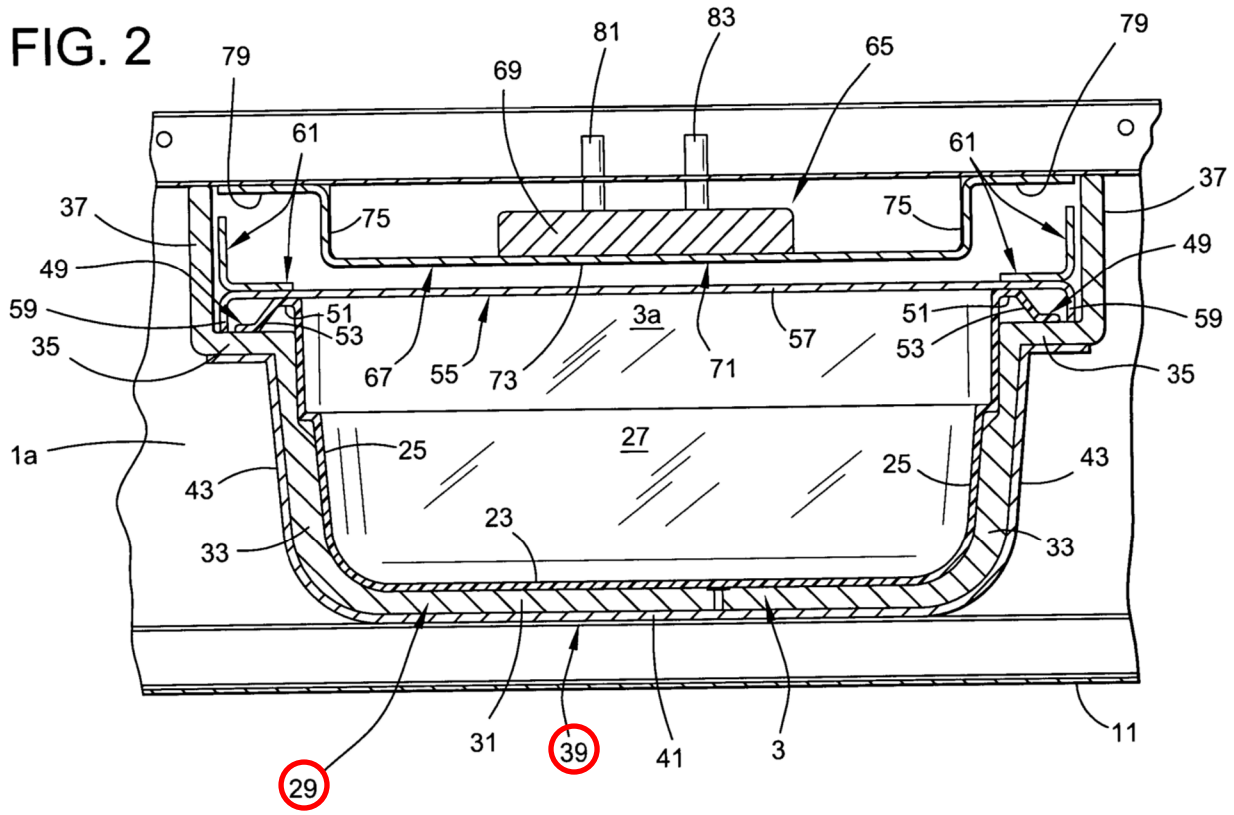

51
67
65
52
53
10
51
70
66
30
52
50
A
60
53
B
51
62
50
64
52
53
53
C
56
50
51
53
D
35
50
51
92
93

FIG. 2

EX1022.



EX1016.

Per Veltrop and/or Shei'155, it would have been obvious for IRHS24's second and fourth heating elements to be conductively coupled to the heatsink plates because conduction effectively and efficiently transfers heat to heatsinks and pans. EX1010: ¶[0020]; EX1016: Fig. 2, ¶[0039]; EX1017: Fig. 3, 4:51-53; EX1022: ¶[0050]; EX1003: ¶643.

This uses a known technique (Veltrop's and Shei'155's construction) to improve a similar device (IRHS24's heatsink) in the same way (conductive heat transfer from heating elements to heatsink and food) with reasonable expectation of success (conduction heating being well-known). EX1010: ¶[0020]; EX1016:

Fig. 2, ¶[0039]; EX1017: Fig. 3, 4:51-53; EX1020: ¶[0020]; EX1022: ¶[0050]; EX1003: ¶¶644-645.

This renders obvious IRHS24's lower heating elements heating the heatsink plates and pans through conduction. EX1003: ¶646.

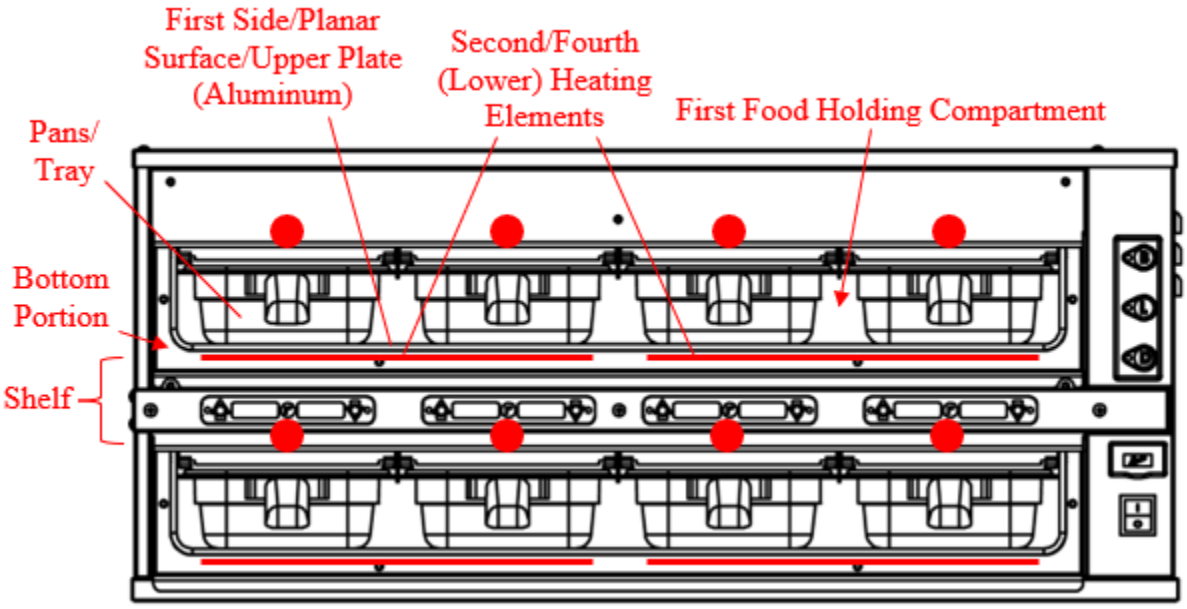
Moreover, per Veltrop and/or Shei'155, it would have been obvious to make IRHS24's heatsink plates from aluminum as preferred material that "conducts heat well." EX1017: 3:32-33; EX1022: ¶[0023]; EX1020: ¶¶[0021]-[0023]; EX1021: ¶¶[0020]-[0022]; EX1003: ¶649. Aluminum is relatively lightweight (easier to ship) and inexpensive. EX1003: ¶650.

This uses a known technique (aluminum) to improve a similar device (IRHS24's heatsink) in the same way (aluminum surfaces supporting pans for localized heating) with reasonable expectation of success (known suitability of aluminum shelves having multiple zones in warming cabinets). EX1016: ¶[0039]; EX1020: ¶¶[0021]-[0023]; EX1021: ¶¶[0020]-[0022]; EX1022: ¶[0023]; EX1003: ¶¶651, 653-655.

This renders obvious the planar surfaces and upper plate (formed by IRHS24's heatsinks) comprising thermally conductive aluminum. EX1003: ¶652.

In this ground, claims 1-29 and 31-66 are obvious for at least the reasons explained in Grounds 1-8 and 10-11, with at least limitations/claims 1.c.3, 4, 11, 14.d.3, 17, 24, 27.c.3, 32, 39, 42.c.3, 44, 51, 54.c.3, 54.i.2, 54.j.1, 57, and 64

further being obvious as described above and demonstrated below. EX1003: ¶¶656-657.

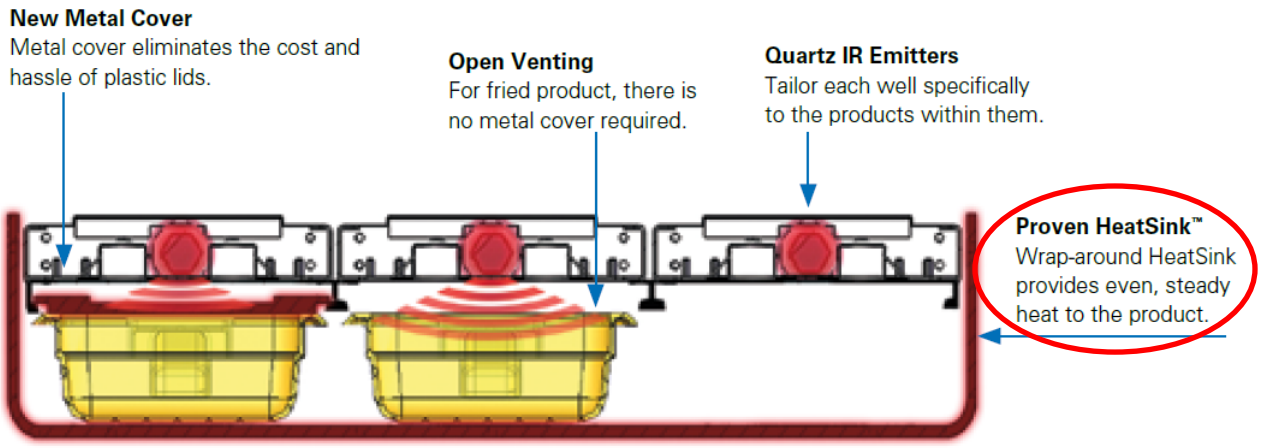


EX1005: 8.

XIII. GROUND 10: Claims 1-29 and 31-66 are Obvious Over the IRHS Documents, Hartfelder, Shei'099, Veltrop, Poole, Shei'821, Shei'155, Fortmann'967, Fortmann'197, Prince Castle, Reese, Jones, and McMillan (If Necessary)

If it is determined certain limitations pertaining to "panels" and "planar surfaces" are not met, such limitations would have further been obvious. EX1003: ¶¶658-660.

IRHS24's heatsink sides extend upwardly. EX1003: ¶659.



EX1007: 53.

Hartfelder and Veltrop teach flat heatsinks (30, 51). EX1013: ¶¶[0030], [0037]; EX1022: ¶¶[0016], [0022], [0025]; EX1003: ¶¶660-662.

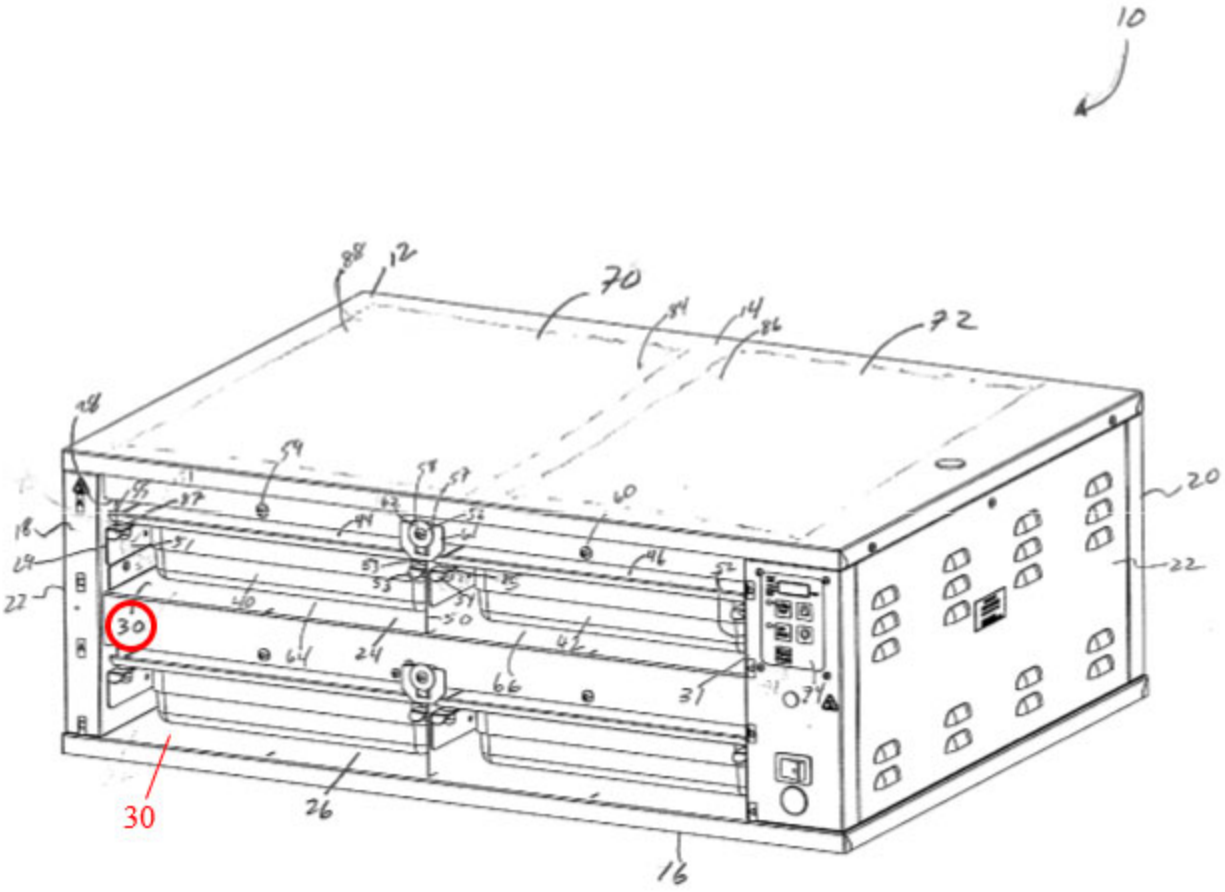


FIGURE 1

EX1013.

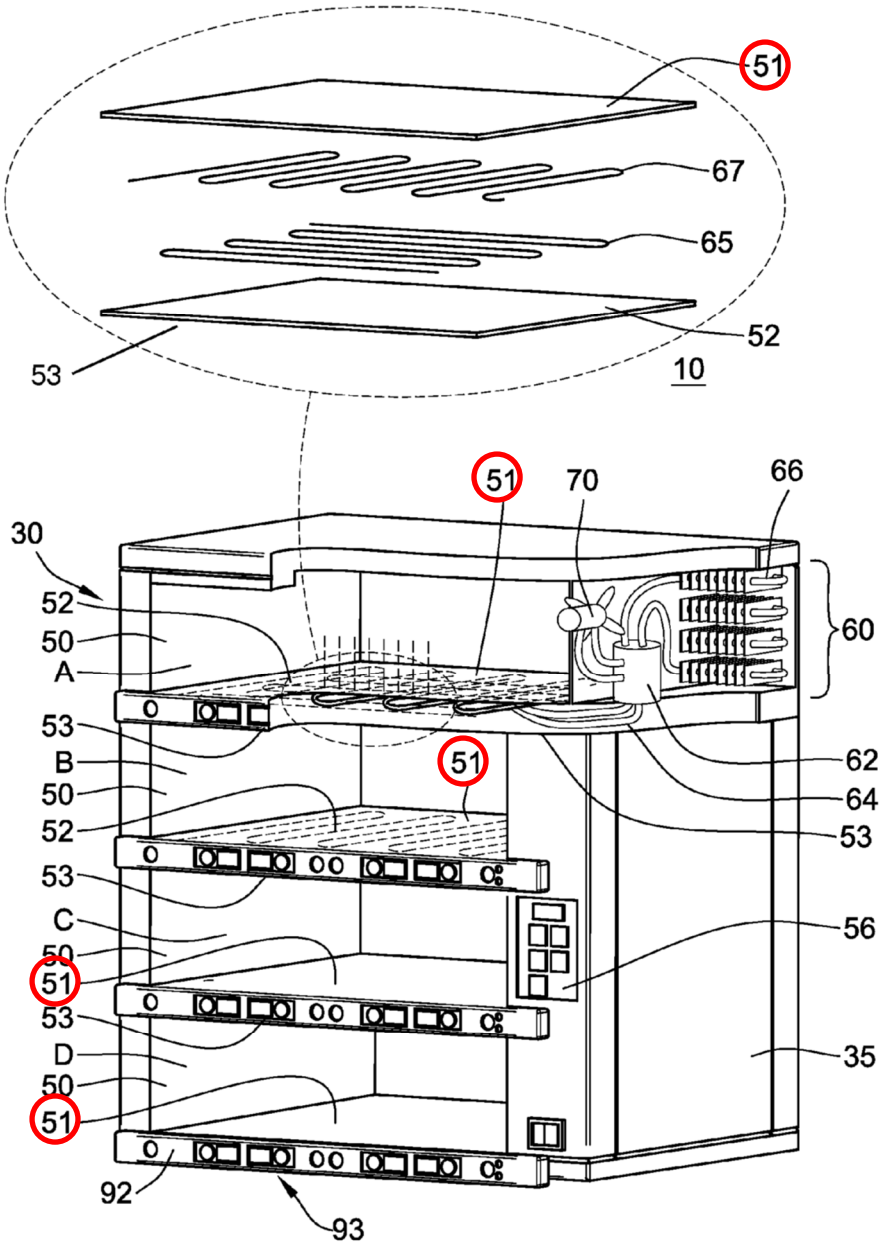


FIG. 2

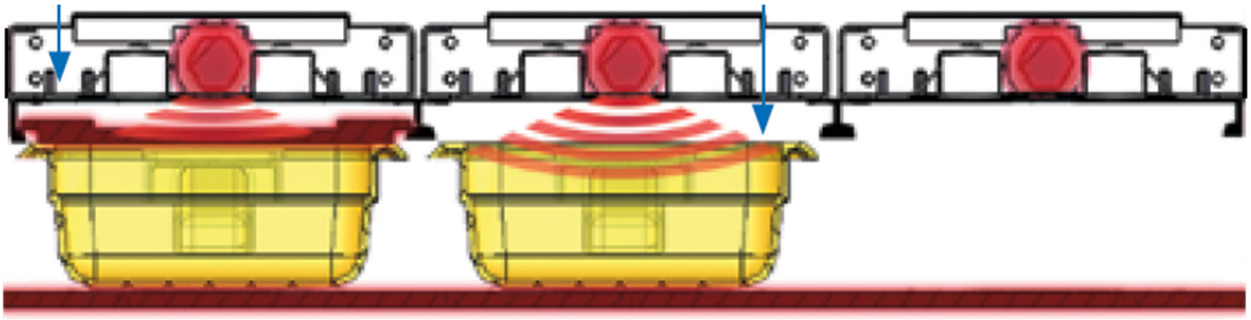
EX1022.

Per Hartfelder and/or Veltrop, it would have been obvious to modify IRHS24's heatsinks to be planar (omitting upward sides). EX1003: ¶663. This

would reduce IRHS24's width, furthering the small footprint goal. EX1007: 53; EX1003: ¶664. This would also be cheaper to manufacture (less material, easier to construct) and cheaper to ship (smaller package, less weight) and provide better heating consistency (compartment sides vs. middle). EX1003: ¶¶665-669.

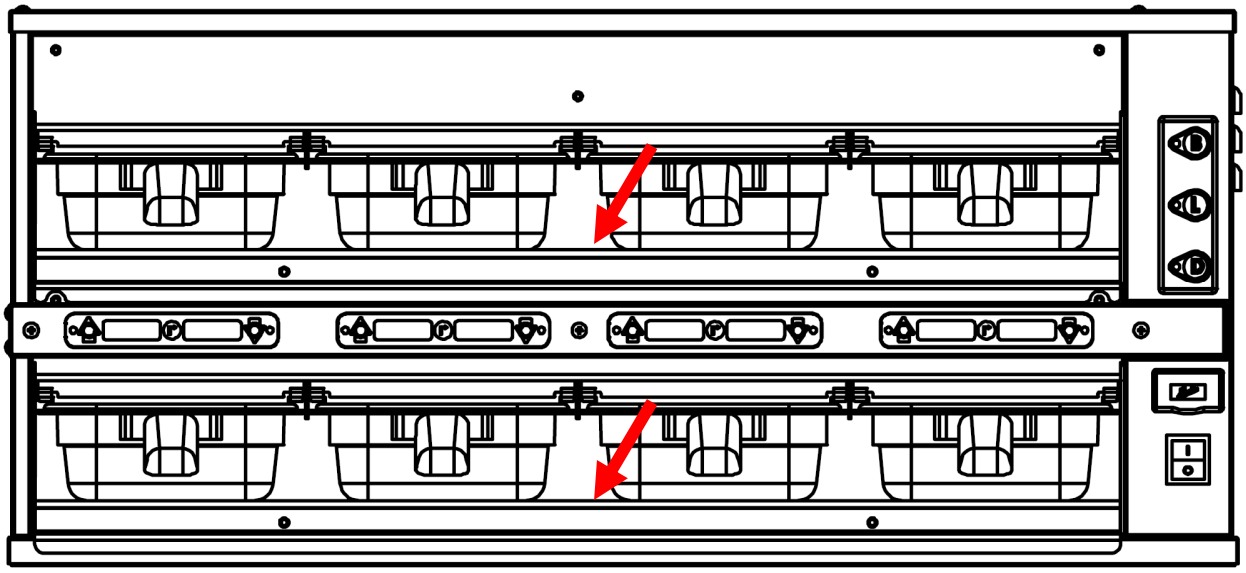
This applies a known technique (flat heatsink) to improve a similar device (IRHS24) in the same way (flat heatsinks) with reasonable expectation of success (minor reconfigurations demonstrated in the art). EX1013: Fig. 1; EX1022: Fig. 2; EX1020: ¶¶[0021]-[0023]; EX1003: ¶¶670-671.

IRHS24's modified heatsink is represented below. EX1003: ¶672.

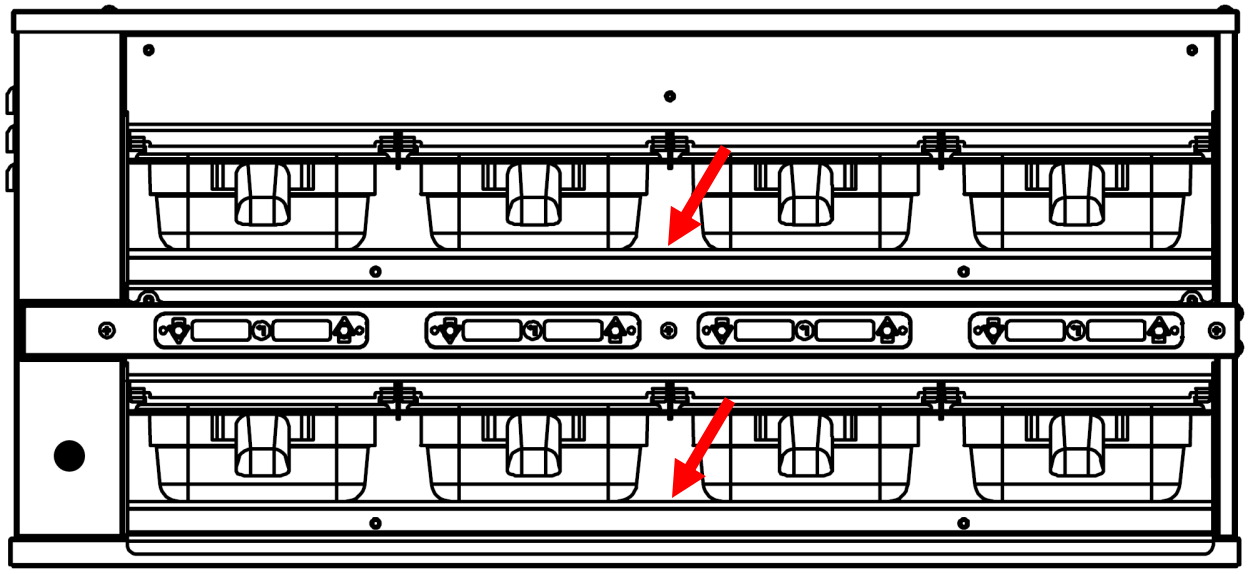


EX1007: 53 (modified)

Modified IRHS24 is shown below. EX1003: ¶673.



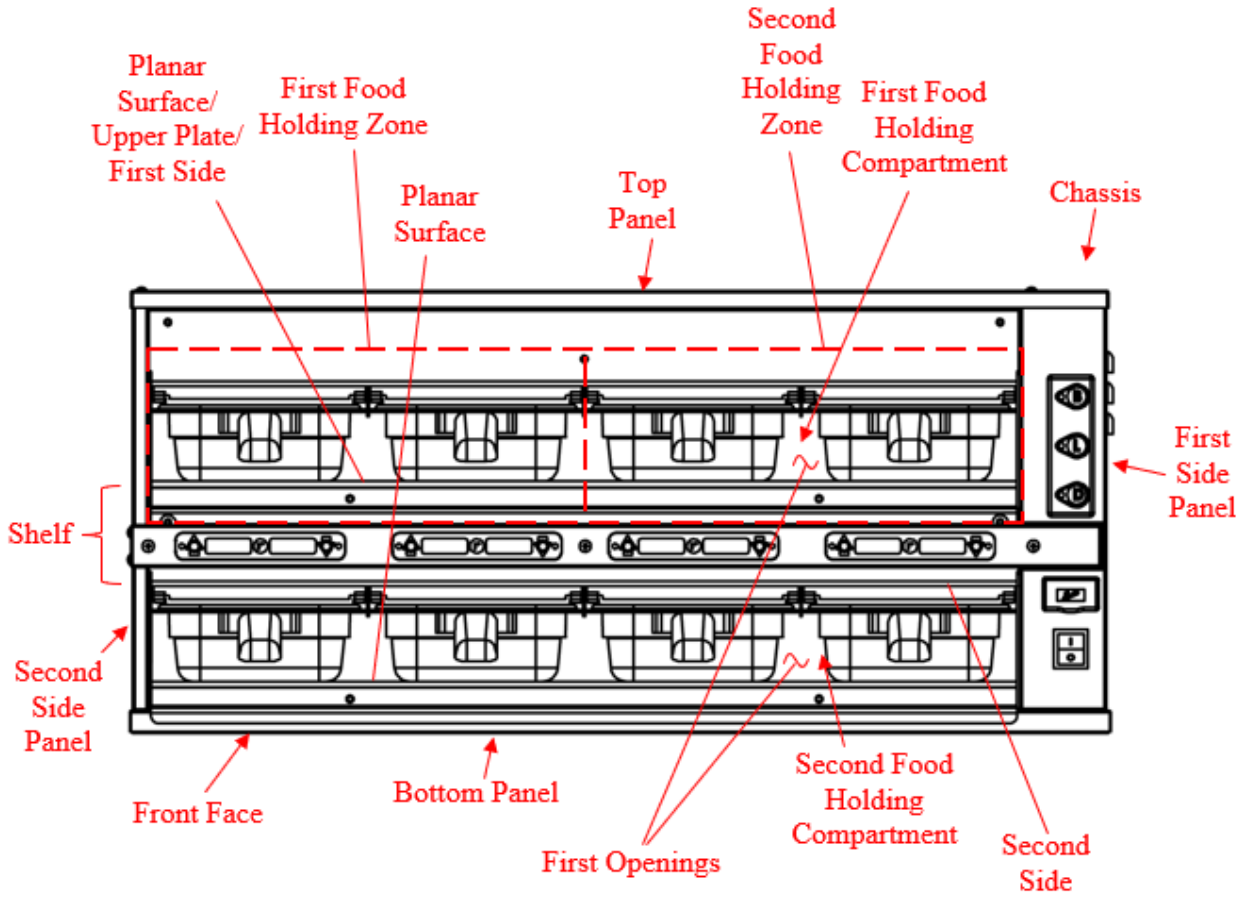
EX1005: 8 (modified-front).



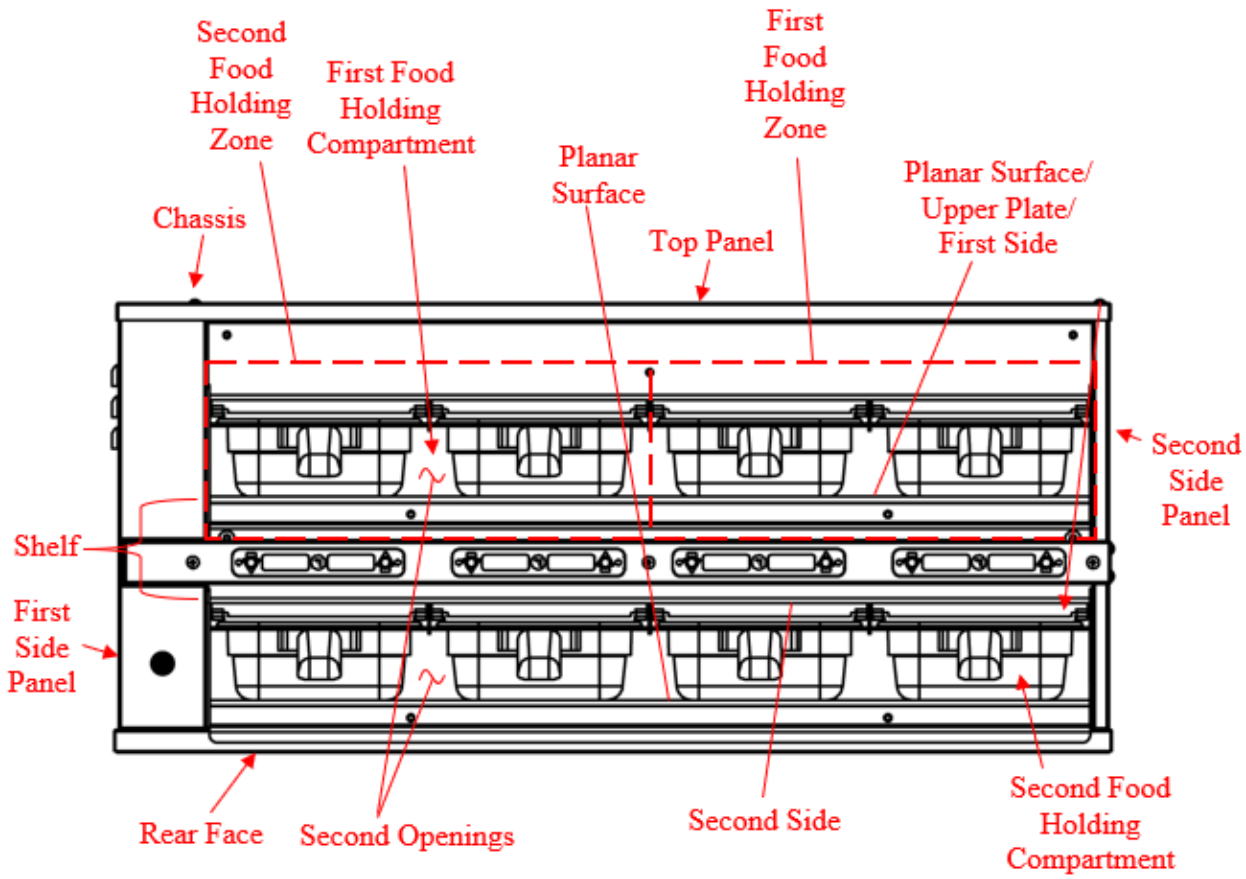
EX1005: 8 (modified-rear).

In this ground, claims 1-29 and 31-66 are obvious for at least the reasons explained in Grounds 1-9 and 11, with at least the limitations/claims 1.a, 1.b.1, 1.c.1, 1.g.1, 7.b, 9, 10, 14.a, 14.b.1, 14.d.1, 14.g.1, 20.b, 22, 23, 27.a, 27.b.1, 27.c.1, 27.f.1, 35.b, 37, 38, 42.a, 42.b.1, 42.c.1, 42.f.1, 47.b, 49, 50, 54.a, 54.b.1,

54.c.1, 54.f.1, 54.g.1, 54.i.1, 54.j.1, 60.b, 62, and 63 further being obvious as demonstrated below. EX1003: ¶674.



EX1005: 8 (modified-front).



EX1005: 8 (modified-rear).

XIV. GROUND 11: Claims 5-6, 8, 18-19, 21, 33-34, 36, 45-46, 48, 58-59, and 61 are Obvious Over the IRHS Documents, Hartfelder, Shei'099, Veltrop, Poole, Shei'821, Shei'155, Fortmann'967, Fortmann'197, Prince Castle, Reese, Jones, McMillan, and Vaseloff (If Necessary)

If it is determined that certain limitations pertaining to the user/graphical interface and displays are not met, such limitations would have been obvious.

EX1003: ¶¶675-677.

Each bay (34) of Vaseloff's cabinet has a corresponding display/control group (display device (60), timer status indicator (62), timer button (64)).

EX1026: 2:60-63, 3:48-51, 4:5-6, 4:20-33, 4:48-49, 6:51-52, Fig. 4; EX1003: ¶¶678-685.

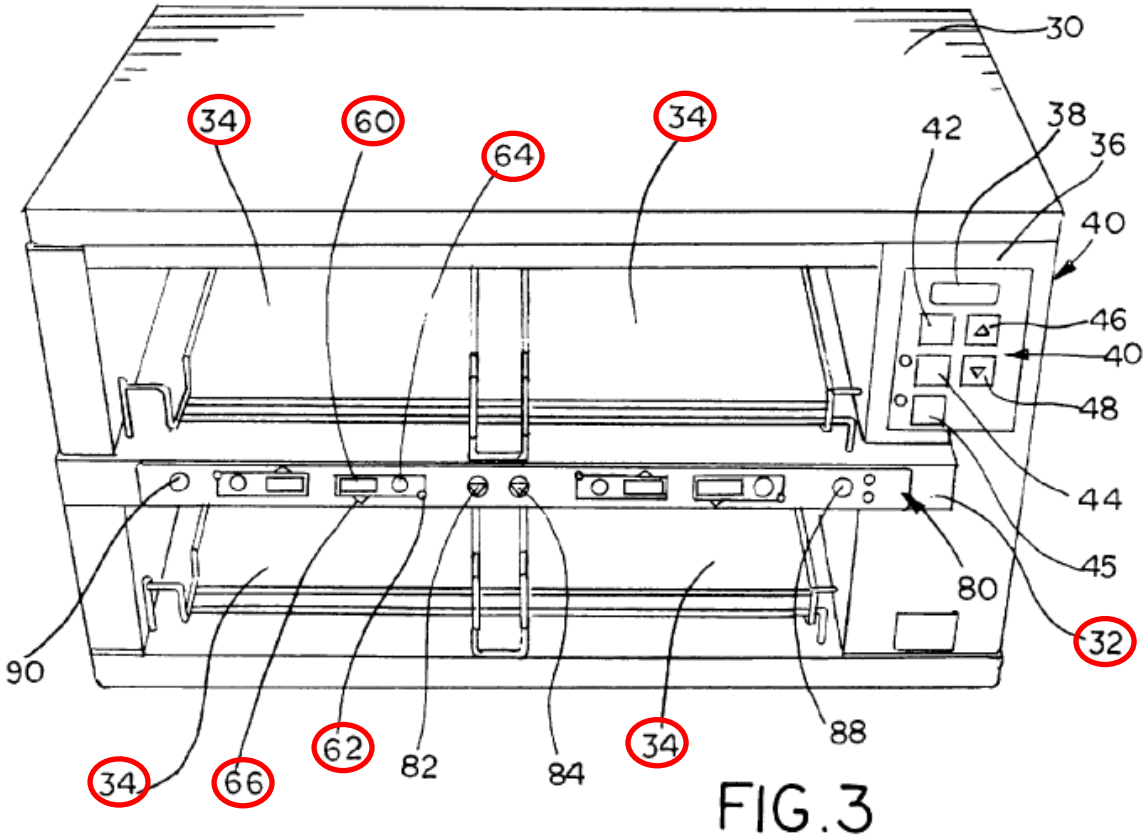


FIG.3

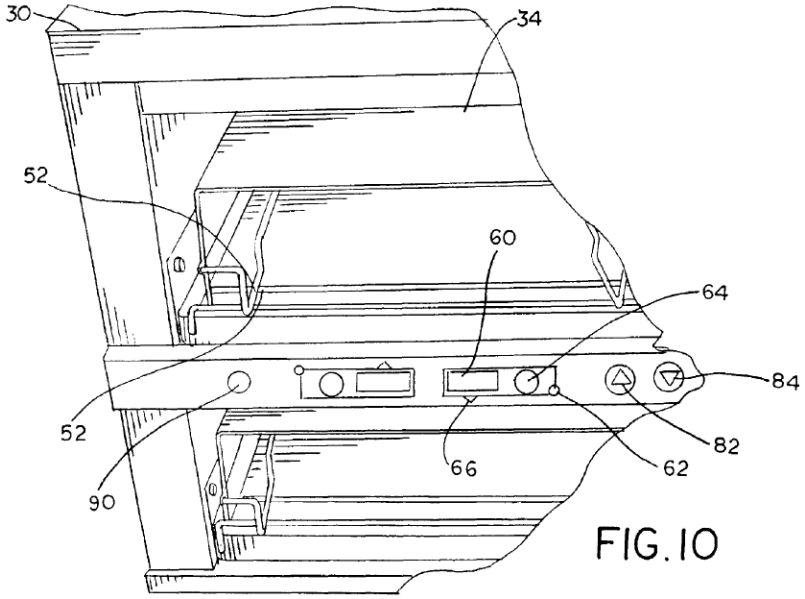


FIG.10

EX1026.

Transfer button (90) transfers pan and associated information (hold time, temperature settings) from one bay to another, and the arrow buttons (82, 84) increase/decrease parameters. EX1026: 6:51-7:32, 9:27-64, 10:26-33; EX1003: ¶686.

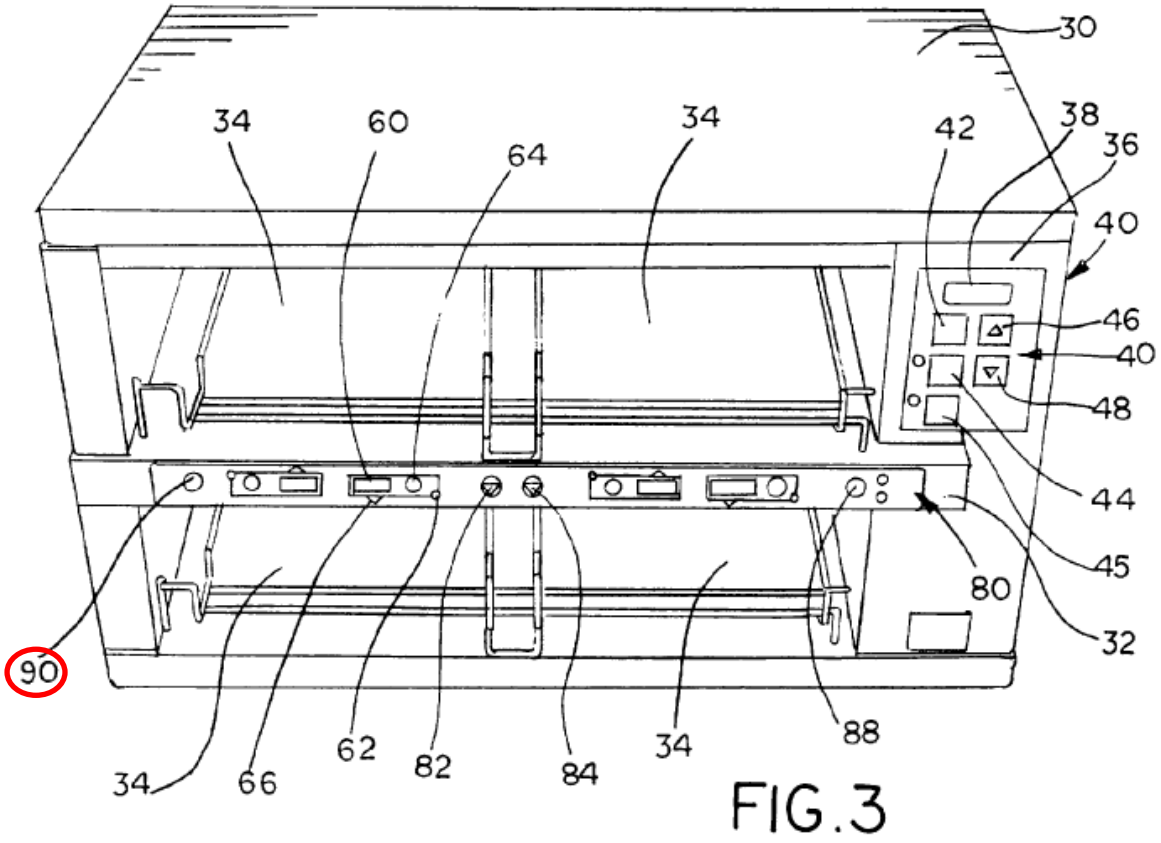
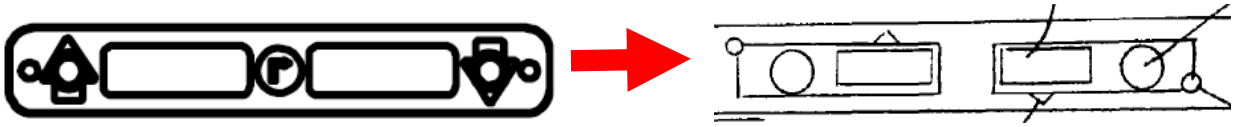


FIG.3

EX1026.

Per Vaseloff, it would have been obvious to replace the controls of IRHS24 timer bars with Vaseloff's timer module controls (in IRHS24's timer bar housing). EX1003: ¶687. Each IRHS24 control/display group (below left) would be

replaced by two groups (below right) of Vaseloff's display devices, timer status indicators, timer buttons, and indicator arrows. EX1003: ¶¶687-688.



EX1007: 8. EX1026: Fig. 10.

Vaseloff's controls would add convenience, flexibility, and pan transfer capability, and some users may find Vaseloff's controls to be more intuitive, to display more information, and/or to more clearly display or associate information with respective pan bays/zones. EX1026: 4:20-22, 4:26-29, 4:57-58, 6:1-25, 6:65-7:20; 11:35-38; EX1003: ¶¶689-690. This applies a known technique (timer bar controls) to improve a similar device (IRHS24's timer bars) in the same way (displays and controls for each bay/zone). EX1003: ¶691.

POSA would have had reasonable expectation of success because Vaseloff's "food timing system [] can be applied to any food preparation and storage device." EX1026: 11:35-38; EX1003: ¶692. Vaseloff's controls would be connected to IRHS24's controller (POSA modifying any connections/programming as needed). EX1005: 25; EX1003: ¶693.

McMillan teaches message areas (183a-d) for each bay to display actual and setpoint temperatures via temperature key (187) and change setpoint temperatures

via program and arrow keys (184, 185, 188). EX1019: 4:36-59, 10:10-33, 10:43-58; EX1003: ¶¶694-699.

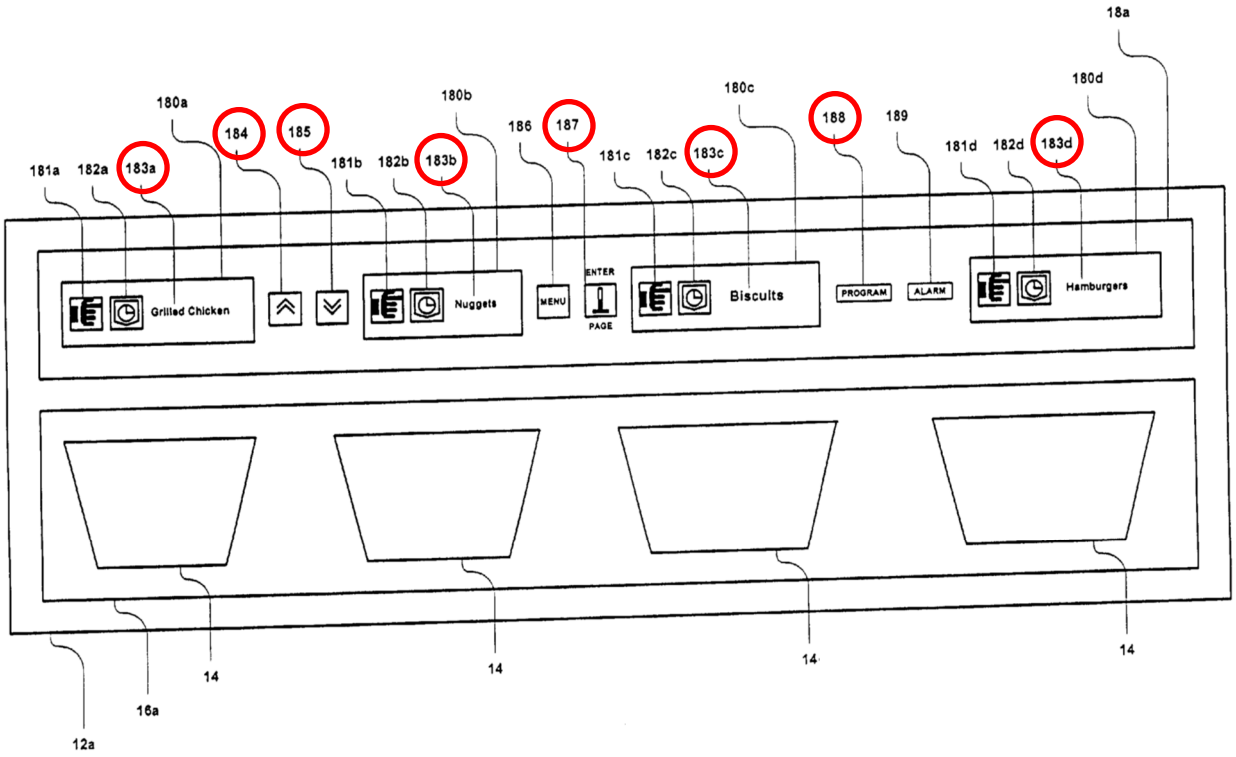


Fig. 5a

EX1019.

Per McMillan, it would have been obvious to modify the IRHS24/Vaseloff timer bars to display current and setpoint temperatures in Vaseloff's display device for each bay, and change setpoint temperatures. EX1019: 10:30-32; EX1003: ¶¶700-701. POSA would have implemented Vaseloff's arrow buttons (82, 84) (for increasing/decreasing parameters) or McMillan's arrow keys (184, 185) to "increase and decrease displayed values (e.g., temperature, time)," per McMillan. EX1019: 10:46-48; EX1026: 7:30-32; EX1003: ¶702. Incorporating McMillan's

arrow, temperature, and/or program key(s)/button(s) "allow[s] a user to display temperature information, enter operational changes, and/or … change or select … holding temperatures." EX1019: 10:52-58; EX1003: ¶703. POSA would know how to implement the keys/buttons as physical buttons. EX1026: 2:60-3:19; EX1003: ¶704.[2]

POSA would program the IRHS24/Vaseloff timer bars to show current and setpoint temperatures for each pan bay/zone in the associated display and change the setpoint temperature for bays/zones via the arrow, temperature, and/or program buttons, similar to McMillan. EX1019: 10:6-8, 10:20-33, 10:42-58; EX1003: ¶¶707-708. This would provide easy, fast, and intuitive ways to view current and setpoint temperatures and change setpoint temperatures where easily associated with the corresponding bay/zone. EX1019: 1:29-35, 1:38-49, 10:6-10; EX1026: 4:20-22, 4:25-30; EX1003: ¶¶709-710.

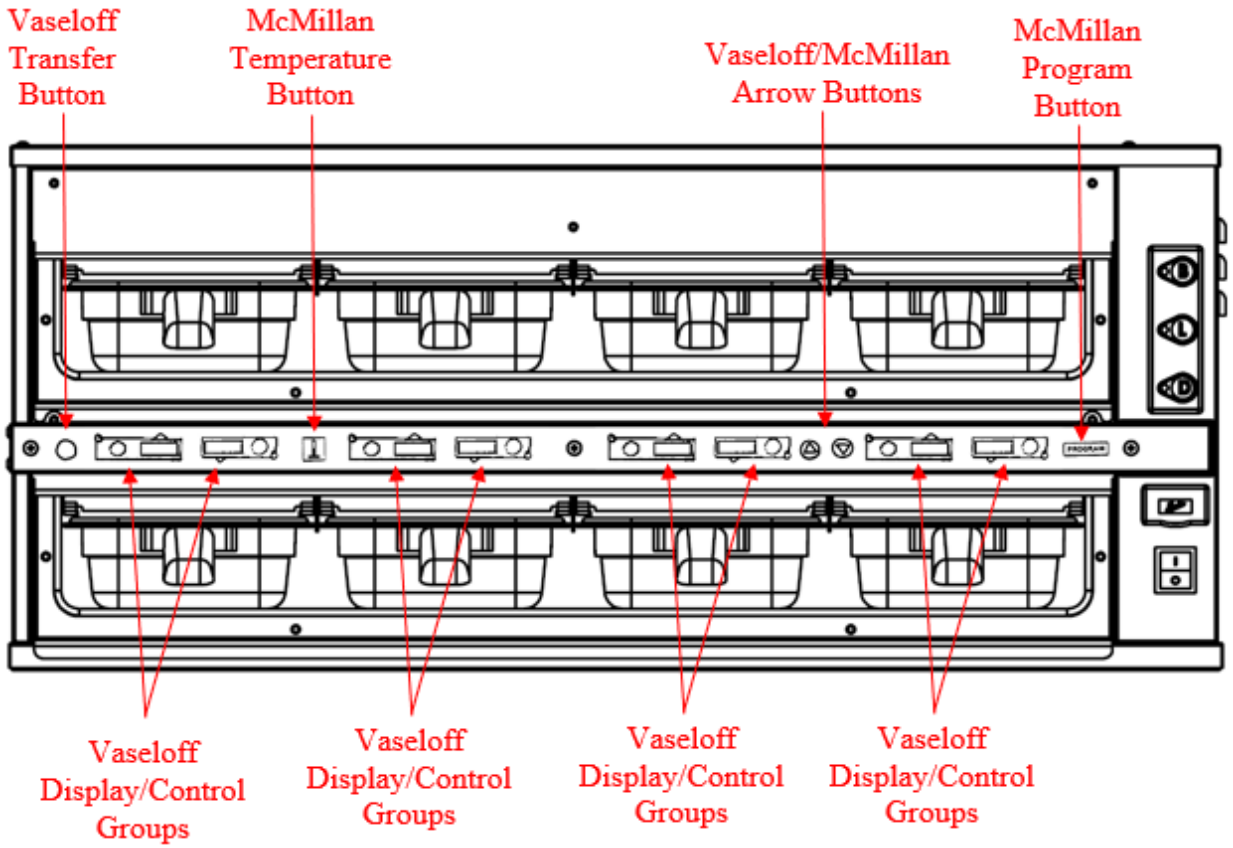
This applies a known technique (actual and setpoint temperature display, changing setpoint temperature) to improve a similar device (IRHS24/Vaseloff) in the same way (displaying actual and setpoint temperatures and setting temperature)

[2] Vaseloff's activity button would be replaced with McMillan's temperature and/or program button(s) or omitted for IRHS24's daypart interface. EX1026: 7:46-8:39; EX1003: ¶¶705-706.

with reasonable expectation of success (Vaseloff's displays show parameter modifications via arrow buttons). EX1026: 4:10-12, 7:26-32; EX1003: ¶¶711-712.

POSA would have connected arrow, temperature, and/or program button(s) to IRHS24's controller (modifying any connections/programming as needed to display and change temperature). EX1005: 25; EX1019: 6:15-19; EX1003: ¶712.

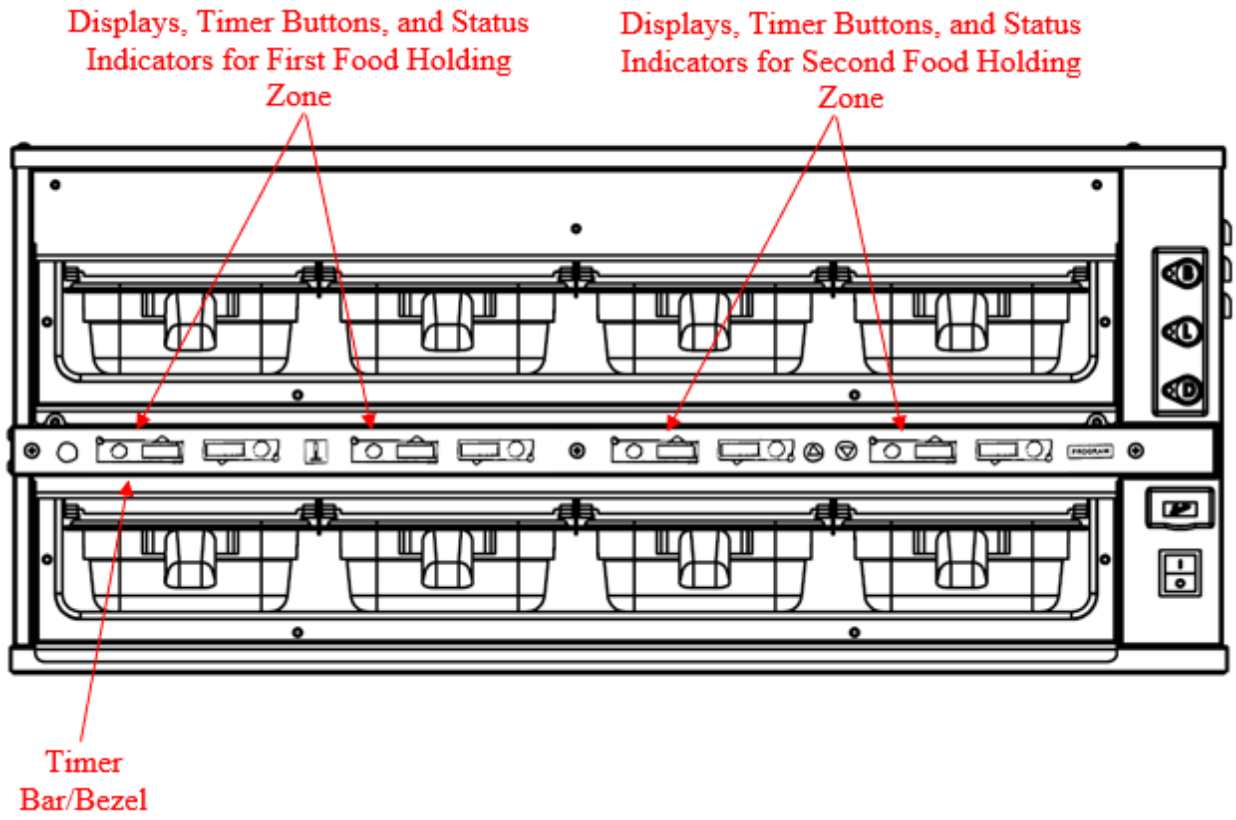
IRHS24 modified per Vaseloff and McMillan is shown below. EX1003: ¶713.



EX1005: 8 (modified-front).

In this ground, claims 5, 6, 8, 18, 19, 21, 33, 34, 36, 45, 46, 48, 58, 59, and 61 are obvious for at least the reasons explained in Grounds 1-2, 7, and 9-10, with

at least the limitations of these claims further being obvious as demonstrated below. EX1003: ¶¶714-717. Per Vaseloff and McMillan, it would have been obvious for the first bezel to have dedicated displays for each zone/bay displaying the zone's/bay's temperature setting and additional information (product name). EX1005: 16; EX1006: 1; EX1007: 10-11; EX1019: 10:30-32, Fig. 5a; EX1026: 4:5-8; EX1003: ¶¶714-717.



EX1005: 8 (modified-front).