

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

LOCO CRAZY GOOD COOKERS, INC
Petitioner,

v.

NORTH ATLANTIC IMPORTS, LLC
Patent Owner.

Case IPR2024-00642
Patent 10,660,473

PETITION FOR *INTER PARTES* REVIEW
OF U.S. PATENT NO. 10,660,473

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LIST OF EXHIBITS

Exhibit No.	Description
Exhibit 1001	U.S. Patent No. 10,660,473
Exhibit 1002	Declaration of Dr. Glenn E. Vallee
Exhibit 1003	Curriculum Vitae of Dr. Glenn E. Vallee
Exhibit 1004	Prosecution History of U.S. Patent 10,660,473
Exhibit 1005	U.S. Patent 6,389,960 (hereinafter, “Williams”)
Exhibit 1006	U.S. Patent 5,676,043 (hereinafter, “Best”)
Exhibit 1007	U.S. Patent 5,890,482 (hereinafter, “Farnsworth”)
Exhibit 1008	U.S. Patent Publication 2013/0112088 (hereinafter “May”)
Exhibit 1009	U.S. Patent 4,715,356 (hereinafter, “Reynolds”)
Exhibit 1010	U.S. Patent 2,351,130 (hereinafter, “Jones”)
Exhibit 1011	U.S. Patent 2,325,828 (hereinafter, “Betts”)
Exhibit 1012	U.S. Patent 7,647,866 (hereinafter, “Button”)
Exhibit 1013	U.S. Patent 3,747,509 (hereinafter, “Hinkle”)
Exhibit 1014	U.S. Patent 2,271,585 (hereinafter, “Fleming”)
Exhibit 1015	U.S. Patent 3,006,270 (hereinafter, “Graham”)

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Exhibit 1016	U.S. Patent 3,225,682 (hereinafter, “Savio”)
Exhibit 1017	U.S. Publication No. 2009/0250048 (hereinafter, “Educate”)
Exhibit 1018	Budynas, R.G., Nisbett, K. J.;”Shigley’s Mechanical Engineering Design, 89 th ed.” , McGraw Hill, 2008 (hereinafter, “Shigley”)
Exhibit 1019	Star Manufacturing International, Installation and Operating Instructions M-Z16558 Rev. B (2013) (hereinafter, “Star”)
Exhibit 1020	Dacor, Outdoor Grill Use & Care Materials (2015) (hereinafter “Dacor”)
Exhibit 1021	Pasqualone, Antonella, Traditional flat breads spread from the Fertile Crescent: Production process and history of baking systems, Journal of Ethnic Foods Vol 1:5 p. 10-19 (2018) (hereinafter “Pasqualone”).
Exhibit 1022	Lyons and D’Andrea, Griddles, Ovens, and Agricultural Origins: An Ethnoarchaeological Study of Bread Baking in Highland Ethiopia, American Anthropologist 105(3):515-530 (2003)(hereinafter “Lyons”).
Exhibit 1023	Callister, W.D., Rethwisch, D.G., “Fundamentals of Materials Science and Engineering, an Integrated Approach,” Wiley, 2008 (hereinafter, Callister).
Exhibit 1024	U.S. Fire Administration Topical Fire Research Series Vol 2:3 (2002).
Exhibit 1025	Letter dated November 4, 2022 sent by Brian C. Park to Michael P. Dulin, with subject line “RE: United States Patent No. 10,660,473” including enclosures
Exhibit 1026	Complaint filed in <i>North Atlantic Imports, LLC v. LoCo Crazy Good Cookers, Inc.</i> Case No. 1:23-cv-00999-GBW-SRF (D. Del.) (filed on Sept. 8, 2023)

I. INTRODUCTION

Loco Crazy Good Cookers, Inc. (“Petitioner”), hereby respectfully requests *inter partes* review of claims 1-4, 6-7, 10-13, 15-18, and 20 of U.S. Patent No. 10,660,473 (“the ‘473 Patent”).

The ‘473 Patent relates to a cooking device that purports to use ribs on the underside of a griddle to contain convective heat in regions bounded by the ribs and channel that convective heat to the rear of the cooking device. However, these concepts were well-known in the prior art as evidenced by the Examiner’s refusal to allow claims directed to these conventional concepts. To obtain allowance, the Applicant amended the claims to recite the ribs were integral with the underside of the griddle and separated from adjacent ribs. Yet, these amended features were also known and obvious before the priority date of the ‘473 Patent. The prior art cited below teaches all the limitations of the challenged claims including lateral ribs integral with the underside of a griddle and separated adjacent ribs.

II. MANDATORY NOTICES UNDER 37 C.F.R. § 42.8(a)(1)

Petitioner satisfies each requirement for *Inter Partes* Review of the ‘473 Patent pursuant to 37 C.F.R. § 42.8(a)(1).

A. Real Party In Interest Under 37 C.F.R. § 42.8(b)(1)

The following parties are each a Real Party in Interest:

Loco Crazy Good Cookers, Inc.
506 Manchester Expressway Suite A2

Columbus, GA 31904

B. Related Matters Under 37 C.F.R. § 42.8(b)(2)

The '473 Patent is presently asserted by the Patent Owner against Petitioner in *North Atlantic Imports, LLC v. LoCo Crazy Good Cookers, Inc.* Case No. 1:23-cv-00999-GBW-SRF (D. Del.), filed on September 8, 2023. *See* Ex. 1026 (complaint filed by Patent Owner alleging infringement of the '473 Patent).

To the best of Petitioners' knowledge, the '473 Patent has not been challenged in any IPR before this proceeding.

C. Lead and Back-Up Counsel Under 37 C.F.R. § 42.8(b)(3)

Petitioner is represented by the following counsel:

Lead Counsel	Backup Counsel
James P. Murphy Reg. No. 55,474 Polsinelli PC 1000 Louisiana Street Suite 6400 Houston, Texas 77002 Tel: (713) 374-1631 jpmurphy@polsinelli.com	Patrick Muffo Reg. No. 60,342 Polsinelli PC 150 N. Riverside Plaza Suite 3000 Chicago, Illinois 60606 Tel: (312) 873-2988 pmuffo@polsinelli.com

Pursuant to 37 C.F.R. § 42.10(b), Powers of Attorney have been filed with this Petition.

D. Service Information Under 37 C.F.R. § 42.8(b)(4)

Physical mailing service information for lead and back-up counsel is as follows:

James Murphy
Polsinelli PC
1000 Louisiana Street
Suite 6400
Houston, Texas 77002

Petitioner also consents to service by e-mail at the above e-mail addresses provided for lead and backup counsel.

E. Payment of Fees Under 37 C.F.R. § 42.15

All required fees have been paid with the filing of this Petition. Petitioner further authorizes the U.S. Patent & Trademark Office to charge Deposit Account No. 50-1662 for any fees, including the fee set forth in 37 C.F.R. § 42.15(a) for this Petition.

F. Certification of Word Count Under 37 C.F.R. § 42.24(d)

Petitioner certifies that the word count in this Petition is 13,996 words as counted by the word-processing program used to generate this Petition, where such word count excludes the table of contents, mandatory notices, certificate of service, list of exhibits, this certificate of word count, appendix of exhibits or claim listing. This Petition is in compliance with the 14,000 word limit set forth in 37 C.F.R. § 42.24(a)(1)(i).

III. GROUNDS FOR STANDING

Petitioner certifies that the '473 patent is available for IPR, and that Petitioner is not barred or estopped from requesting this IPR. 37 C.F.R. § 42.104(a).

IV. IDENTIFICATION OF GROUNDS FOR WHICH REVIEW IS REQUESTED

Petitioner asserts that claims 1-4, 6-7, 10-13, 15-18, and 20 of the '473 patent are unpatentable based on the following grounds:

Ground	Prior Art	Basis	Claims Challenged
1	Williams	§103	10-13, 15, 17-18, and 20
2	Williams in view of Best	§103	10-13, 15, 17-18, and 20
3	Williams in view of Farnsworth	§103	10-13, 15, 17-18, and 20
4	Williams in view of May	§103	1-4, 7, and 16
5	Williams in view of May and Best	§103	1-4, 6-7, and 16
6	Williams in view of May and Farnsworth	§103	1-4, 7, and 16

V. CLAIM CONSTRUCTION

For the purposes of this IPR, Petitioner has taken a view of the scope of the claims consistent with Patent Owner's infringement allegations. *See* EX1025. According to the Patent Owner, the below griddle is within the scope of the challenged claims where the structures shown on the underside of the griddle allegedly read on the various rib limitations of the claims:



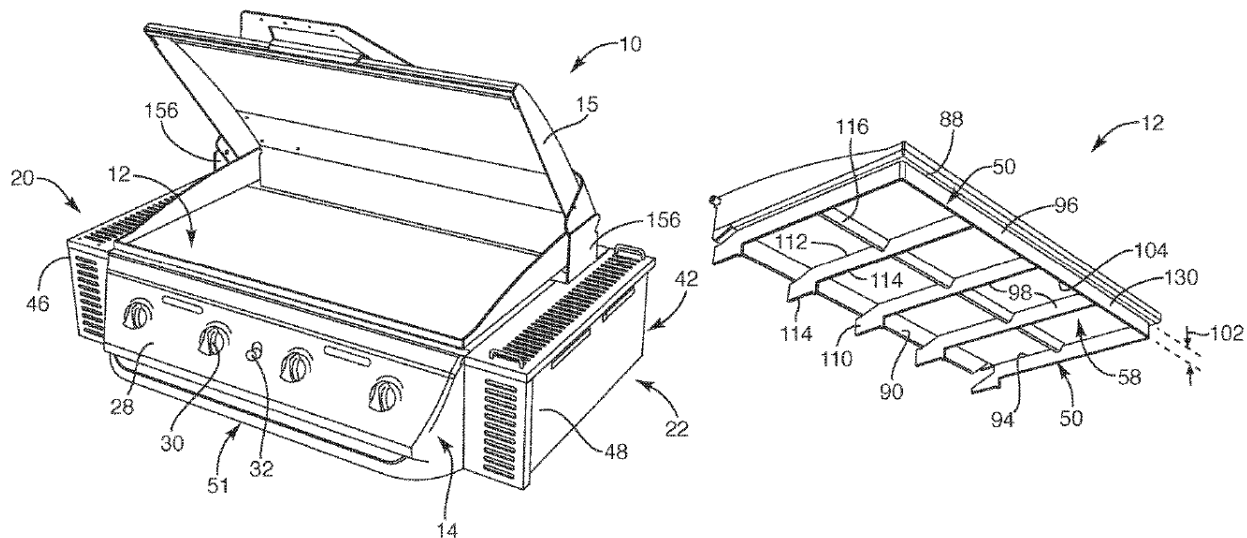
EX1025, page 1

In view of Patent Owner’s broad infringement allegations, Petitioner does not believe any term needs to be construed to determine the claims are rendered obvious over the prior art cited herein. *Wellman, Inc. v. Eastman Chem. Co.*, 642 F.3d 1355, 1361 (Fed.Cir.2011) (“claim terms need only be construed to the extent necessary to resolve the controversy”) (internal quotations removed). Petitioner does not agree the accused grill infringes the ‘473 Patent and reserves the right to present its own construction of any claim of the ‘473 Patent in the related litigation or later in this proceeding, including constructions that disagree with Patent Owner’s infringement allegations.

VI. OVERVIEW OF THE '473 PATENT

A. Summary of the Disclosure of the Claimed Subject Matter

The '473 Patent relates to gas-heated outdoor cooking stations and, more specifically, to a griddle cooking station with a controlled heating region and controlled convection heat flow. *See* EX1001, 1:15-18. In one embodiment, the cooking system includes “a frame, multiple burners, and a griddle.” *See* EX1001, 1:61-63. The frame extends with “a front side, a rear side, a left side, and a right side,” extending between a lower and upper portion and contains multiple burners “coupled to and extend[ing] between the front side and the rear side of the frame.” *See* EX1001, 1:64-67. The griddle features a front rib and multiple lateral ribs extending along the underside of the surface, forming heating regions defined between adjacently extending ribs. *See* EX1001, 2:4-13.



EX1001, FIGS. 1 and 4

Each heating region has a burner positioned below it and lateral ribs extend downward to direct convection heat from the burners towards the rear end of the griddle. See EX1001, 2:13-19.

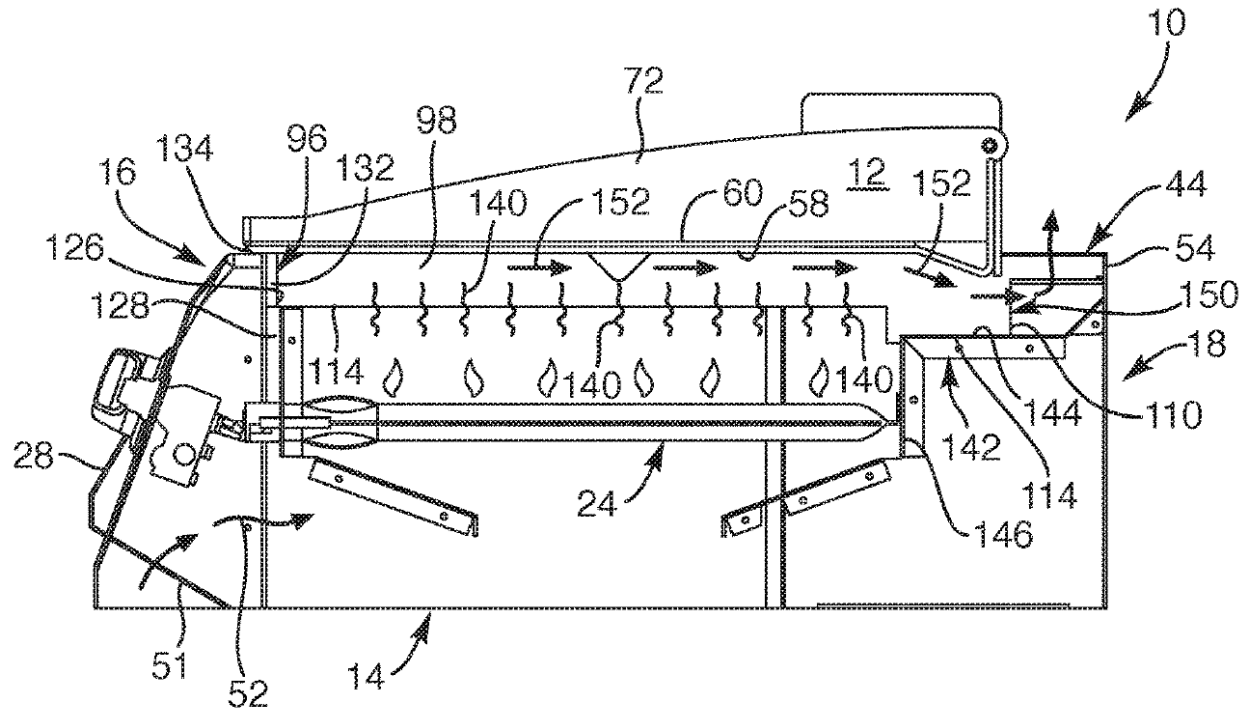
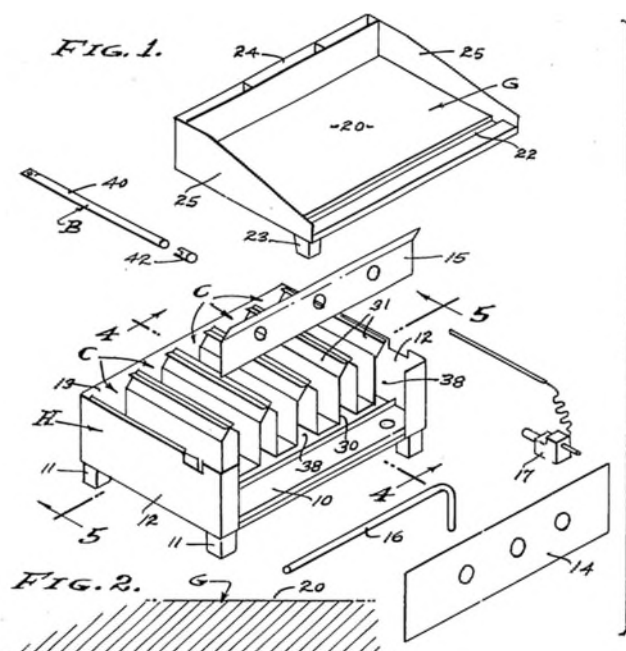


FIG. 6A

EX1001, FIG. 6A

B. Summary of the Prosecution of U.S. Patent No. 10,660,473

The ‘473 patent was filed on April 29, 2017, as Application No. 15/582,682 (“the ‘682 Application”). In the sole office action, the examiner rejected the pending claims as anticipated by U.S. Patent No. 4,715,356 to Reynolds (“Reynolds”). EX1004, 95-98 (identifying “baffles 30” with “heat reflective radiant 31” and “ridge flange 33” as the lateral ribs); *see also* EX1009, Figs. 1, 4 and 5 (reproduced below).



EX1001, FIGS. 1, 4 and 5

In response, Applicant did not dispute Reynolds taught the original claim limitations but argued that Reynolds did not disclose the limitations newly amended into the claim (that issued as limitations [1.7] and [1.8]) because Reynold’s “griddle G is either resting on or suspended above the radiant panels/flanges 31, 33, and is not integrally formed with the underside surface of the griddle G.” EX1004, 127 (emphasis in original). Applicant also argued radiant panels/flange 31, 33 are “joined (by welding) to an adjacent angled radiant panel/flange 31, 33” instead of being separated as recited in the amendment. *Id.*, 127.

Following this response, a Notice of Allowance was mailed out culminating in the issuance of the ‘473 Patent.

VII. STATE OF TECHNOLOGY & SUMMARY OF THE PRIOR ART

A. State of Technology at the Time of the Alleged Invention

Griddles are generally flat planar cooking surfaces that have been used for centuries. EX1002, ¶¶37-38. While there are several design considerations for griddles, perhaps most relevant to this IPR is that it was known long before the ‘473 Patent that griddles will deform or warp due to thermal gradients created across the surface of the griddle, which distorts the griddle surface producing an uneven heating surface. EX1002, ¶¶39-40; *see* EX1013, 1:11-13.

To address this problem, griddle designers produced a variety of solutions including the use of an “integrally formed ridge” and using “ribs [to] impart strength

to the griddle to prevent warping.” EX1002, ¶¶41-42; *see* EX1015, 2:38-42, EX1013, 1:43-48 and 3:8-18; *see also e.g.*, EX1023 and EX1016.

Thus, the benefits of integrating ribs with a griddle was well-known decades before the alleged invention of the ‘473 Patent. EX1002, ¶¶43-44.

B. Summary of Williams

Williams (US 6,389,960) was issued on May 21, 2002, and is prior art to the ‘473 patent under least 35 U.S.C. §102(a). *See* EX1005. Williams provides for uniform heating of a griddle or surface of a gas cooking device. EX1005, Fig. 2, 1:26-27 and Abstract.

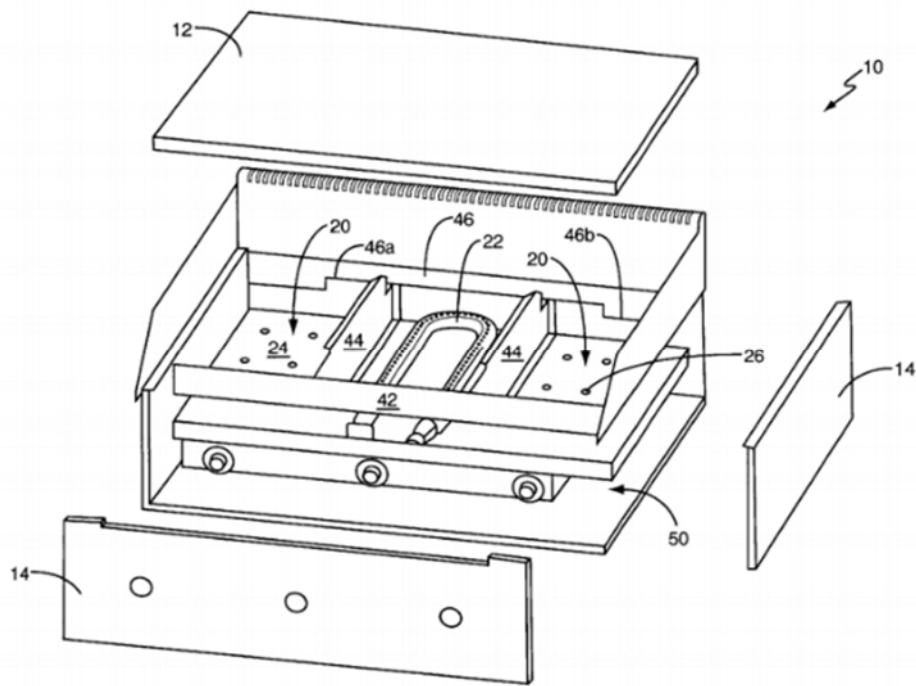
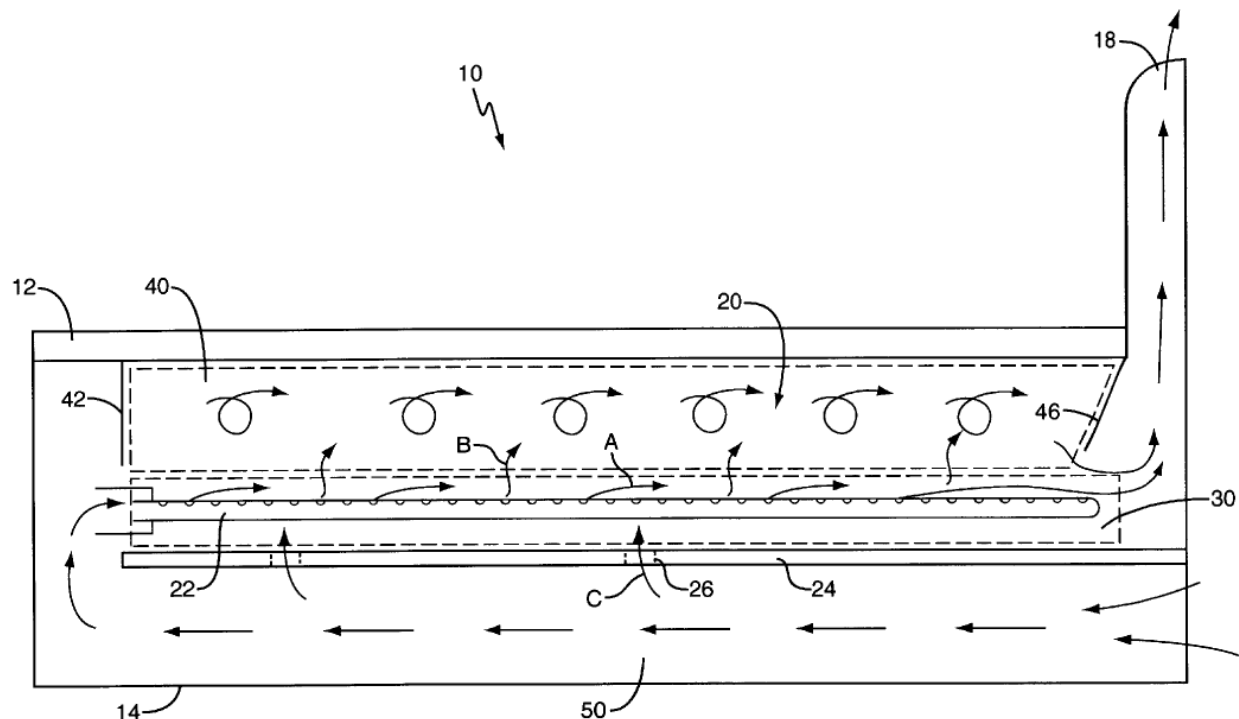


FIG. 2

EX1005, FIG. 2

Williams discloses a cooking system comprising a frame extending with a front side, a rear side located opposite the front side, and a left side and right side opposite each other. EX1005, Figs. 1-3, 2:8-15, 2:39-44, and 3:20-24. The cooking system of Williams has multiple heating chambers with sidewalls spaced and separated from adjacent sidewalls. EX1005, FIG. 2 and 2:8-47.

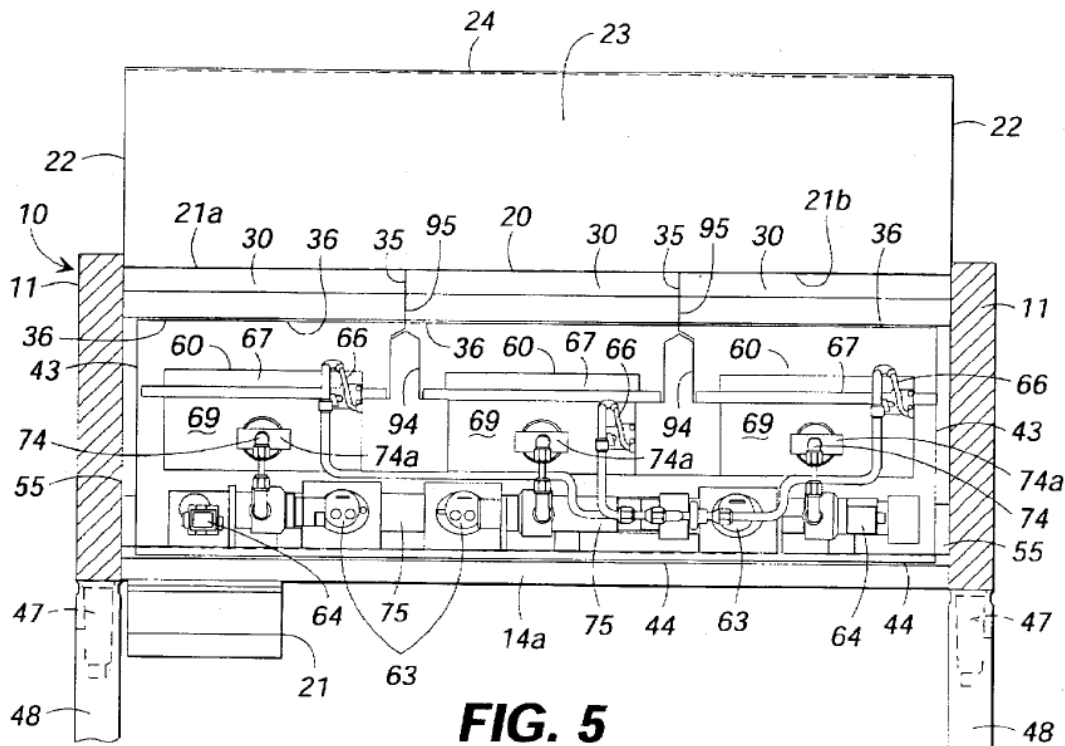
Williams also discloses a “front-to-back flow” that helps the combustion gases to uniformly heat the griddle before exiting the rear of the cooking device. EX1005, FIG. 3 and 3:20-51.



EX1005, FIG. 3

C. Summary of Best

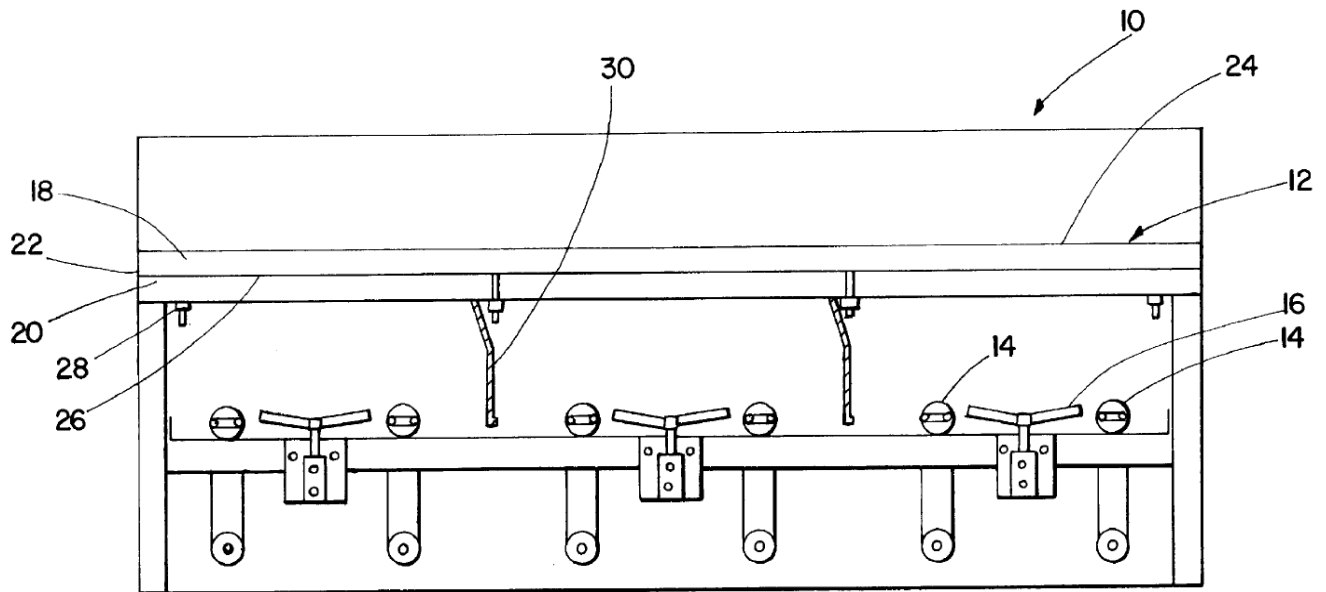
Best (US 5,676,043) was issued on October 14, 1997, and is prior art to the '473 patent under least 35 U.S.C. §102(a). See EX1006, Best is directed to a rectangular griddle having discrete, separately heated, cooking zones. EX1006, 1:6-8 and 2:45-47. Best also describes the use of baffles as lateral ribs integrated with the griddle. EX1006, 9:18-22 (“[f]or further isolating the heat from burners 60, a pair of inverted U-shaped, insulating baffles 94, as seen in FIG. 5, are interposed between each pair of burner groups, while other baffles 95 extend downwardly from plate 20 to terminate in overlapping relationship, as shown in FIG. 5.”)



EX1006, FIG. 5

D. Summary of Farnsworth

Farnsworth (US 5,890,482) was issued on April 6, 1999, and is prior art to the '473 patent under least 35 U.S.C. §102(a). EX1007. Farnsworth provides a cooking surface or griddle containing one or more pairs of gas-fired burners to create a “substantially even distribution of heat over a cooking surface of a griddle top.” EX1007, Fig. 1, 1:50-52, and 2:51-56.

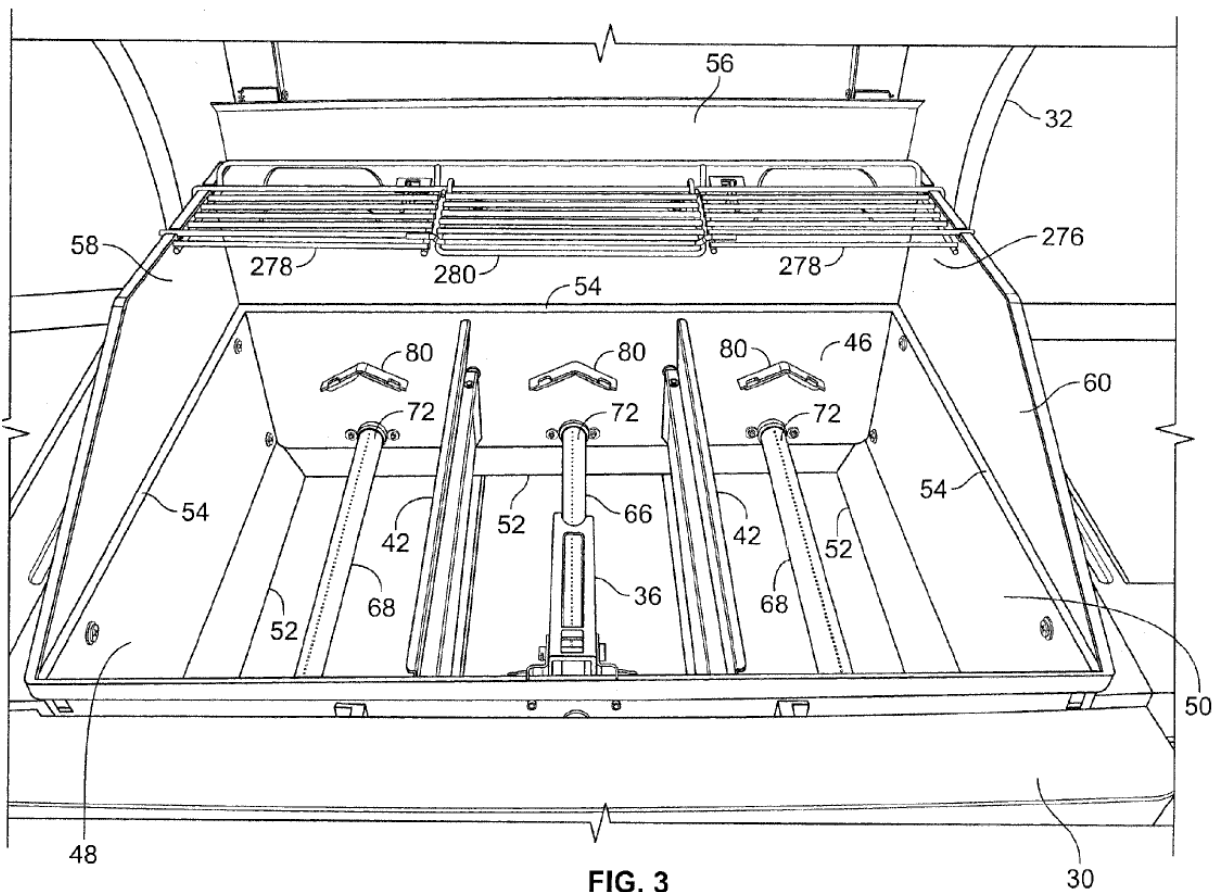


EX1007, FIG. 1

To achieve this objective, laterally extending baffles are attached to the underside of the griddle to assist in reducing the temperature variations over the surface. EX1007, 2:27-29 and 3:15-19.

E. Summary of May

May (US 2013/0112088) published on May 9, 2013, and is prior art to the '473 patent under at least 35 U.S.C. §102(a). EX1008. May teaches a grill with a firebox heating area having separate zones and burners where the burners "rear end 72 is fixedly attached to the rear wall 46 of the firebox." EX1008, FIG. 3, [0011] and [0049].



EX1008, FIG. 3

**VIII. HOW THE CLAIMS ARE UNPATENTABLE UNDER 37 C.F.R.
§ 42.104(b)(4)**

A. Level of Skill in the Art

In support of the Petition, Petitioner has submitted the declaration of Dr. Glenn E. Vallee who is professionally qualified to opine on the knowledge of a POSITA with respect to the issues raised in this petition. *See* Ex. 1002.

In view of the subject matter of the ‘473 Patent, a person of ordinary skill in the art (“POSITA”) would have either: (1) a bachelor’s degree in mechanical engineering or a closely related field and at least 2 years of experience in product design and development in the field of griddle cooking stations and/or outdoor cooking grills; or (2) no college degree, but at least 5 years of experience in product design and development in the field of griddle cooking stations and/or outdoor cooking grills. Ex. 1002 at ¶¶24-29.

B. Overview of Argument

The ‘473 patent relates to “devices, systems, and methods for maintaining convection heat within a heating region of a griddle.” EX1001, 1:58-60. The independent claims are directed to a cooking system, griddle configuration, or method of selective heating with the use of ribs underneath a griddle configured to funnel convective heat to the rear of the griddle and away from the cooking station. *See* EX1001, claims 1, 10, and 17. As explained below, Williams teaches these core concepts and is a basis for all the grounds of rejection proposed herein.

Grounds 1-3 address independent claims 10 and 17 and certain dependent claims. The only limitation in these claims not expressly disclosed in Williams is making a lateral rib integral with the underside of the griddle. Yet, this limitation is obvious in view of Williams's teaching that "at least" the front and back ribs are integral which suggests the lateral ribs can be integral as well. Even if this limitation were not obvious over Williams alone, it would be obvious over Williams in view of either Best or Farnsworth which both expressly teach lateral ribs integral to the underside of a griddle. As such, the arguments for Grounds 1-3 are substantially the same for the majority of the limitations in the challenged claims but provide separate alternative basis to render obvious integrating a lateral rib with the underside of the griddle.

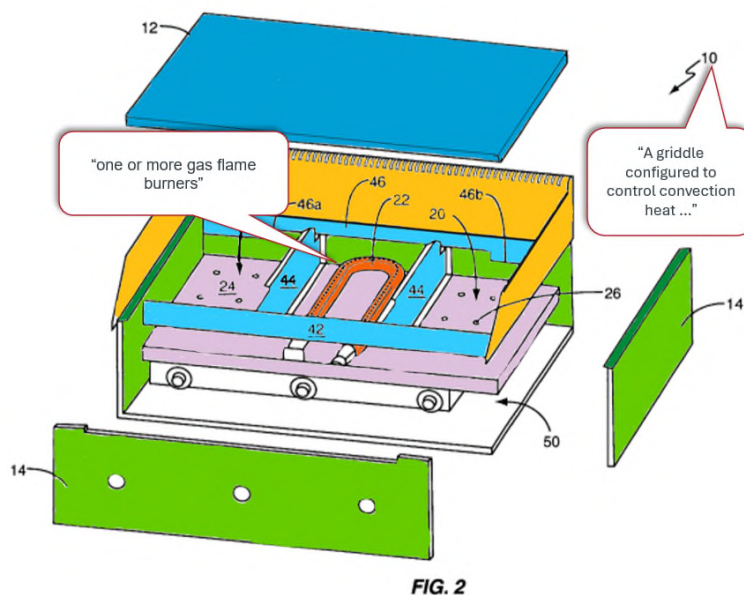
Grounds 4-6 address independent claim 1 and certain dependent claims. Unlike independent claims 10 or 17, independent claim 1 has an additional limitation reciting, the burners are coupled to the front and rear side of a frame. While coupling burners to the front and rear side of a frame was well-known in the art, Williams does not expressly disclose that its burners are so coupled. As such, this Petition relies on May to teach coupling burners to the rear side of a frame. Independent claim 1 also has the integral lateral rib limitation, and again, the Petition provides alternative arguments for this limitation in Grounds 4, 5, and 6.

C. Ground 1 – Williams renders claims 10-13, 15, 17-18, and 20 obvious under 35 U.S.C. § 103.

1) Claim 10

[10.0] A griddle configured to control convection heat from one or more gas flame burners of a cooking station, the griddle comprising:

To the extent the preamble of claim 10 is limiting, it is taught by Williams. Williams’s invention relates generally “to a gas-fired cooking device that includes a heat bank to provide a more uniformly heated cooking surface.” EX1005, 1:6-9. Williams discloses a “gas-fired griddle” with knobs for controlling the flame burners (22). EX1005, Figs. 1 and 2, 1:62-66, and 3:9-19. EX1002, ¶¶64-65.



EX1005, FIG. 2 (Colorized and Annotated By Petitioner)¹

¹ All colorizations and/or annotations of prior art figures in this Petition are provided by Petitioner unless otherwise noted.

[10.1] a cooking surface having a rectangular shape, the cooking surface configured to face upward;

[10.2]an underside surface, the underside surface extending to generally correspond with the cooking surface, the underside surface facing in an opposite direction than the cooking surface, the underside surface extending to define a periphery with a front end, a rear end, a left end, and a right end;

Figure 2, below, shows a griddle (10) with rectangular cooking surface (12) facing upwards and a corresponding underside surface facing in an opposite direction of the cooking surface. EX1005, Figs. 2, 3 and 2:8-12; EX1002, ¶66. The underside surface defines a rectangular periphery with a front, rear, left, and right ends. EX1005, Figs. 1-3 and 2:8-12; EX1002, ¶67.

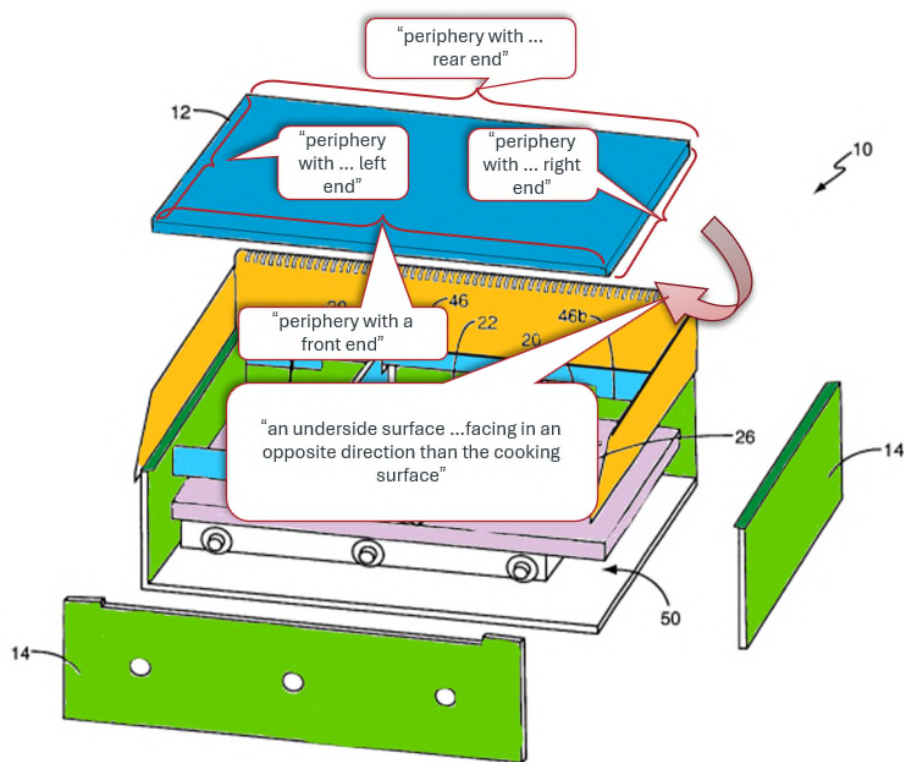


FIG. 2

EX1005, FIG. 2

[10.3] a front rib having a front rib height and coupled to the front end of the underside surface, the front rib extending longitudinally along the front end of the underside surface; and

Williams discloses a griddle with a front rib (e.g., “front dam” 42), extending longitudinally along the underside surface of the griddle. EX1005, Fig. 2; 1:35-38 and 2:41-44 (providing “upper zone 40 is generally defined by the underside of the cooking surface 12 and flow-restricting walls, specifically a front dam wall 42, a rear dam wall 46, and sidewalls 44 associated therewith.”); EX1002, ¶68. Williams further provides that “[a]t least the front dam 42 and the rear dam 46 are downwardly extending, thereby extending generally away from the underside of the cooking surface 12.” EX1005, 2:44-47.

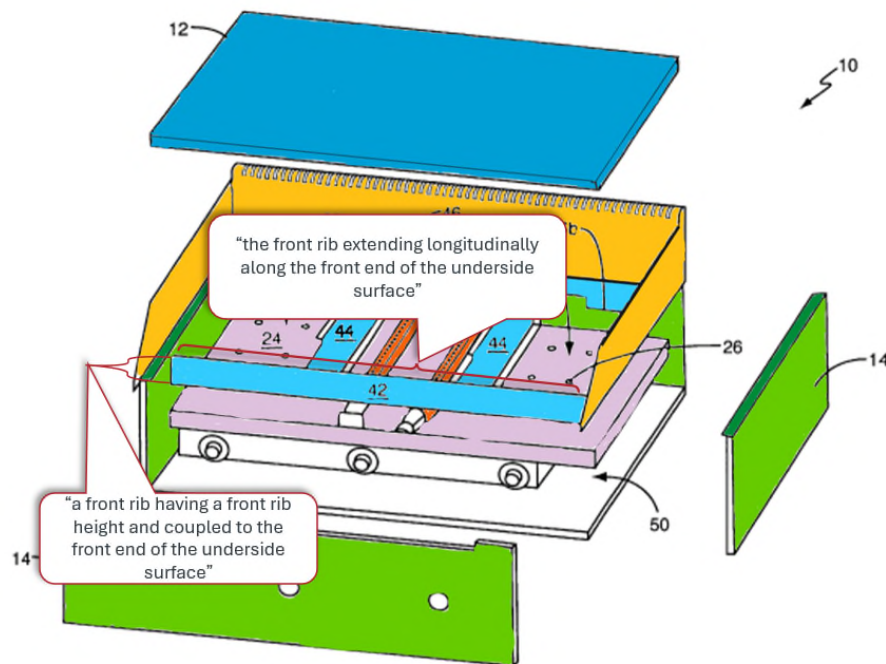


FIG. 2

EX1005, FIG. 2

Thus, the front dam is coupled to and extends longitudinally across the front end of the underside surface of the griddle has a downwardly extending height in a similar manner as characterized by Patent Owner's infringement allegations. EX1002, ¶¶68-69; see EX1025 at 1, 2, and 5.

[10.4] multiple lateral ribs each extending laterally relative to the front rib and extending along the underside surface from the front rib to the rear end of the underside surface;

Williams discloses a griddle with multiple lateral ribs (e.g., “sidewalls” 44) extending along the underside surface of the griddle from the front rib to the rear end. EX1005, Fig. 2; 1:35-38 and 2:41-44; EX1002, ¶¶70-71; see also EX1025.

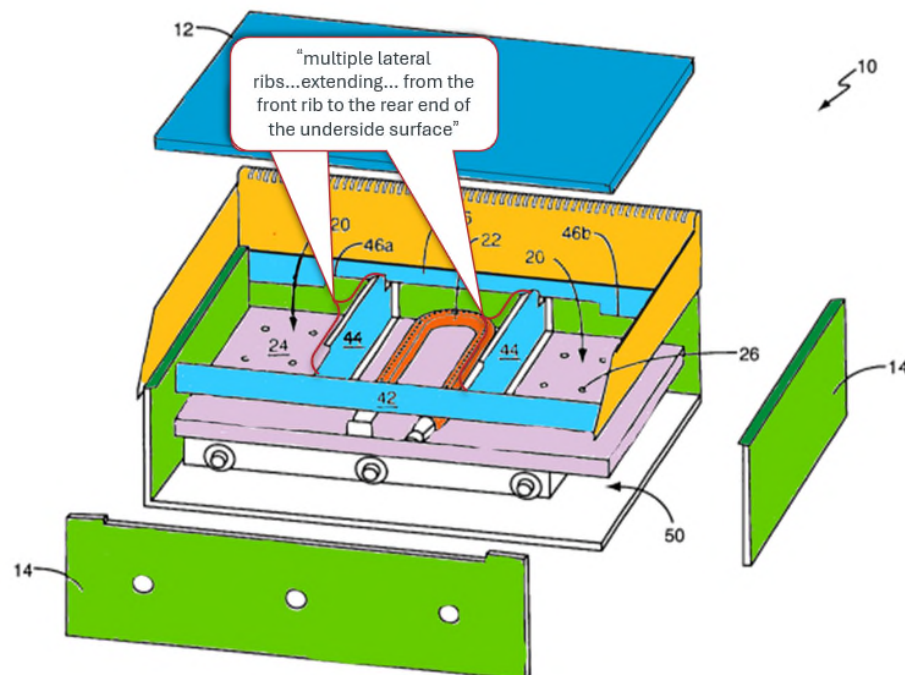
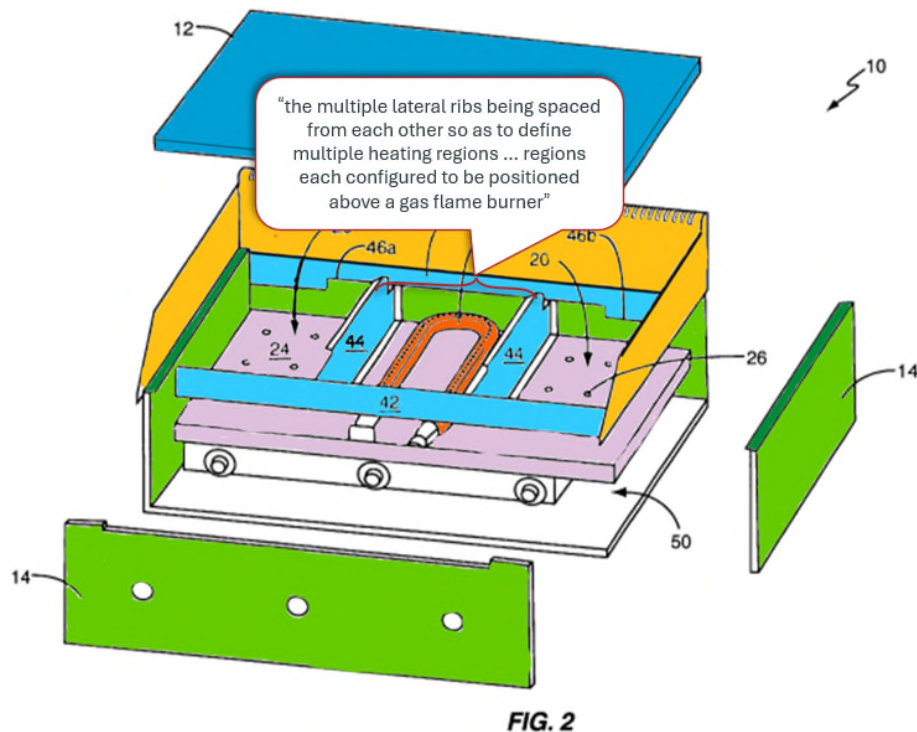


FIG. 2

EX1005, FIG. 2

[10.5] the multiple lateral ribs being spaced from each other so as to define multiple heating regions such that each heating region is defined between adjacently extending lateral ribs, the heating regions each configured to be positioned above a gas flame burner;

Williams discloses that multiple heating chambers are separated by the sidewalls (44). EX1002, ¶72. Specifically, “upper zones 40 of adjacent heating chambers 20 may utilize opposite sides of an otherwise common sidewall 44,” and “[f]urther, the front dam 42 and the rear dam 46 of the various heating chambers 20 may simply be laterally different portions of respective continuous wall elements if desired.” EX1005, Fig. 2, 2:57-62, and 4:51-65; EX1002, ¶72; *see also* EX1025.



EX1005, FIG. 2

Figure 3 of Williams shows a burner 22 positioned below the “upper zone” 40 which is a heating region since hot combustion gasses are trapped in Williams’s upper zone to heat the underside of the griddle. EX1005, Fig. 3, 2:39-44, 3:52-62; EX1002, ¶73. While Williams depicts three heating chambers each with their own heating region, only one burner is shown. EX1005, Fig. 2, 1:10-14, 1:29-35, 2:23-30, 4:51-60; EX1002, ¶74. A POSITA would appreciate a burner would be included in each of the heating chambers under the heating regions shown in Figures 2 and 3.

Id.

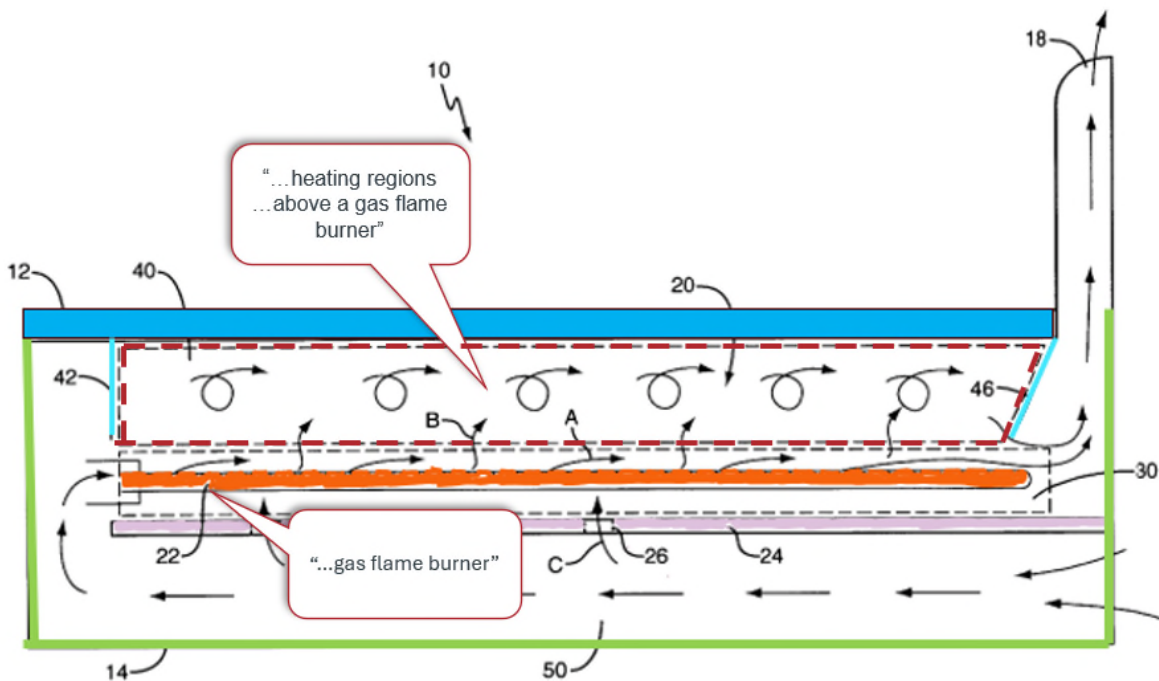


FIG. 3

EX1005, FIG. 3

[10.6] each of the lateral ribs extend downward from the underside surface a lateral rib height such that the adjacently extending lateral ribs are configured to funnel the convection heat from the gas flame burner toward the rear end of the underside surface and away from a rear side of the cooking station;

Williams discloses that “[t]he upper zone 40 is generally defined by the underside of cooking surface 12 and flow-restricting walls, specifically a front dam wall 42, a rear dam wall 46, and sidewalls 44 associated therewith.” EX1005, 2:41-44. The sidewalls 44 are lateral ribs that run from the front dam wall to the rear dam wall at the rear end of the underside surface. EX1005, 2:39-44 and 3:62-4:2; EX1002, ¶75; *see also* EX1025. Williams further states, “[a]t least the front dam 42 and the rear dam 46 are downwardly extending, thereby extending generally away from the underside of the cooking surface 12.” EX1005, 2:44-47.

While Williams only explicitly provides that the front (42) and rear dams (46) are “downwardly extending,” a POSITA would also read the disclosure of “[a]t least the front dam 42 and the rear dam 46 are downwardly extending” to mean other components, such as sidewalls (44) may also be optionally downwardly extending from the underside surface of the griddle and thus fixed or integral to the underside surface of the griddle. EX1005, 2:44-47; EX1002, ¶76.

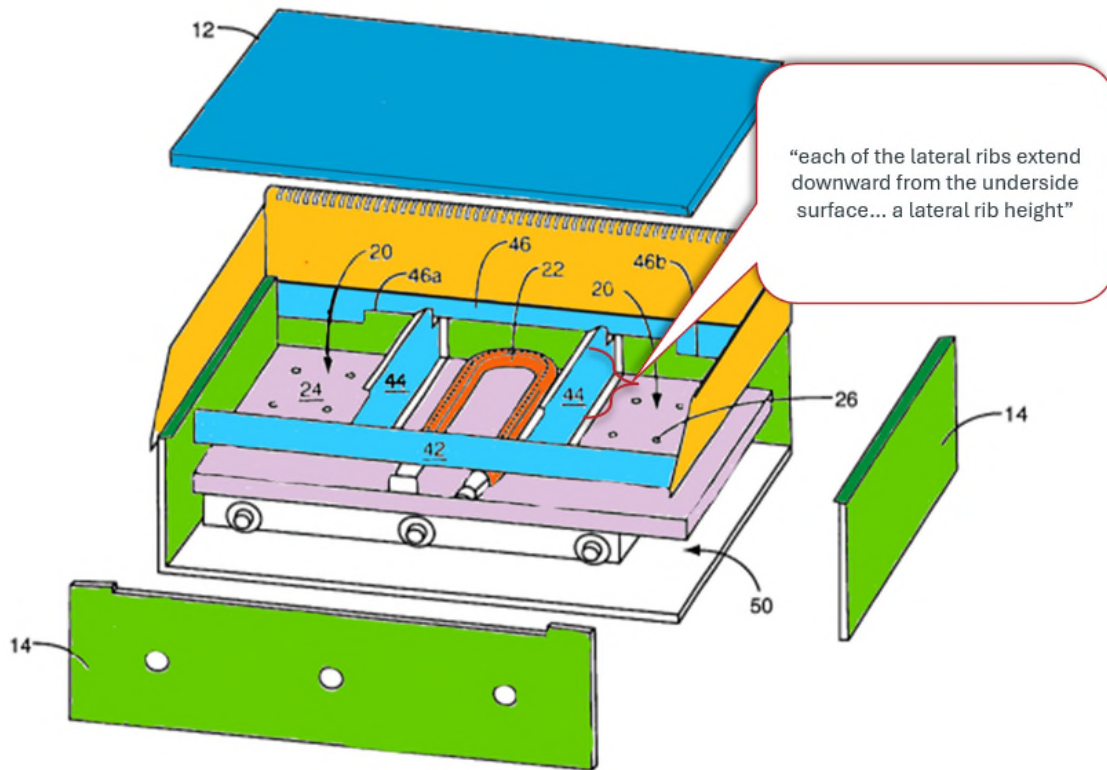


FIG. 2

EX1005, FIG. 2

Extending the sidewalls downward from the underside of the griddle embodies Williams's description that the sidewalls (44) and dam walls (42 and 46) cooperate to create the low flow zones beneath the griddle surface (12) as well as create "a more uniform layer of hot combustion gases to be formed along the underside of the griddle surface, thereby more evenly delivering heat to the griddle surface." EX1005, Abstract; EX1002, ¶¶77 and 83.

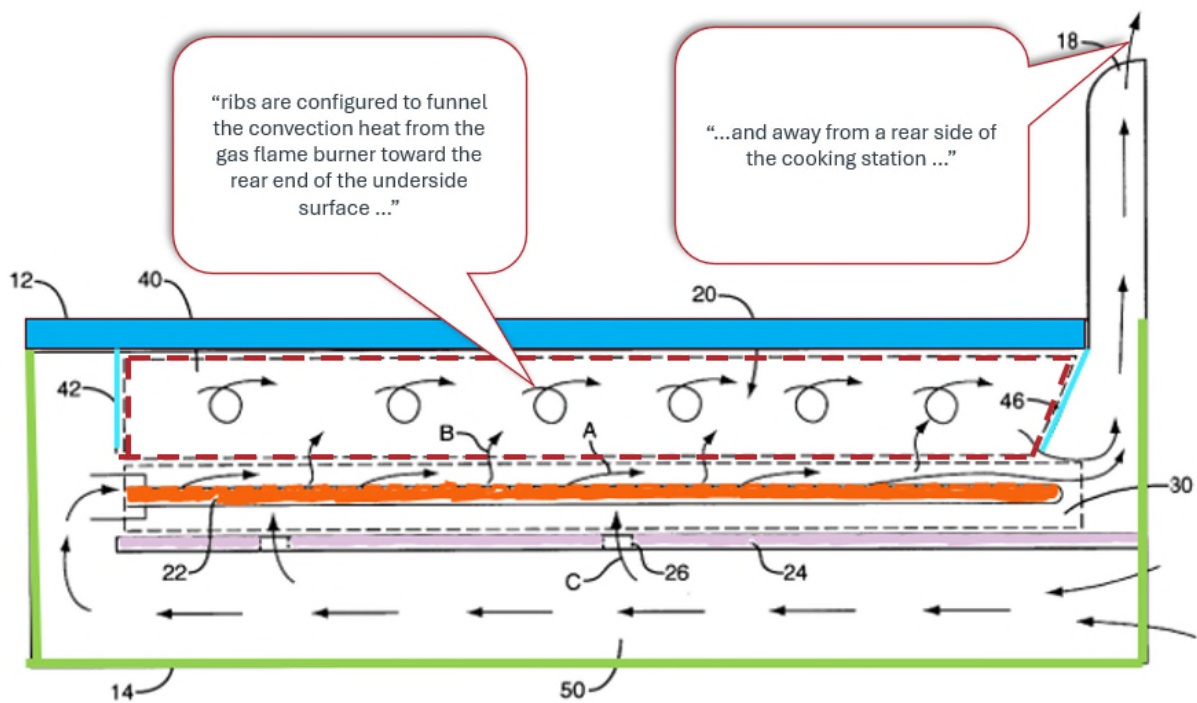


FIG. 3

EX1005, FIG. 3

As such, the cooking device disclosed in Williams uses multiple burners (22) in combination with the physical structure of the front rib (42) and lateral ribs (44). EX1002, ¶78. Moreover, the height of each rib serves as an air dam/seal, ensuring that heated air is retained in its respective heating chamber and cannot escape through gaps/seams in the joined structure to adjacent heating chambers. EX1005, 2:39-44 and 3:62-4:2; EX1002, ¶79.

Accordingly, Williams discloses that the convection heat trapped in a heating chamber by the sidewalls moves from any one of the multiple burners toward the

rear end of the underside surface of the griddle and from the rear side of the frame (e.g., out the flue (18)). EX1002, ¶80; *see also* EX1025.

Williams describes that “[t]he hot combustion gases tend to rise within the heating chamber 20, but there is a significant front-to-back flow within the burner zone 30 caused by natural drafting,...[a] portion of the hot combustion gases flow relatively directly out the exhaust located at the rear of each heating chamber 20.” EX1005, 3:20-51; *see also* 3:52-56 (describing that “[i]n order to combat this, another portion of the hot combustion gases generated by the burner 22 is at least transiently dammed within the upper zones 40 beneath the cooking surface 12.”). EX1002, ¶81.

Accordingly, Williams teaches that the presence of the perimeter wall, including the front dam (42), rear dam (46), and sidewalls (44), helps create the upper zone (40), where the portion of the hot combustion gases are at least temporarily trapped while being funneled toward the rear end of the griddle’s underside surface before they exit from the rear of the cooking device. EX1005, 3:57-67; EX1002, ¶82.

[10.7] wherein the front rib and the multiple lateral ribs are integrally formed with the underside surface; and

Williams’s disclosure of a front dam (42) rear dam (46) or sidewalls (44) as “downwardly extending” indicates that these structures are “fixed” or “integral” to

the underside surface of the griddle. EX1005, 2:41-47; EX1002, ¶85. Integrating these structures with the underside of the griddle features create “a more uniform layer of hot combustion gases to be formed along the underside of the griddle surface, thereby more evenly delivering heat to the griddle surface.” EX1005, 1:38-42, 1:67-2:4, and 3:57-4:2.

Williams discloses a front rib (42) and the multiple lateral ribs (44) on the underside surface of the griddle. EX1005, 1:35-38; EX1002, ¶84.

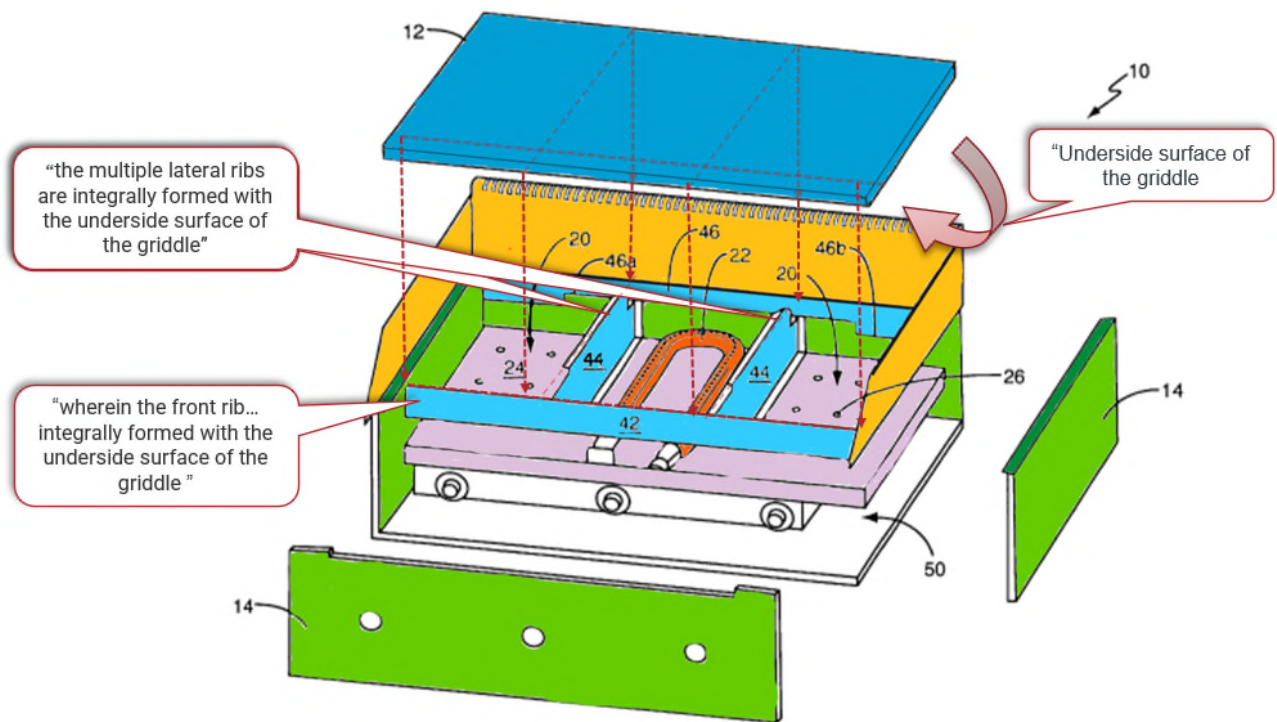


FIG. 2

EX1005, FIG. 2

In addition to Williams suggesting that the front dam (42) and sidewalls (44) may be integrally formed with the underside of cooking surface (12), a POSITA

would also be motivated to integrally form the ribs with the underside of the griddle for several other reasons. EX1002, ¶¶85-86; *see In re Larson*, 340 F.2d 965, 968 (CCPA 1965) (“the use of a one-piece construction instead of the structure disclosed in [the prior art] would be merely a matter of obvious engineering choice.”).

These ribs do not add significant weight to the structure formed integrally with the underside of the griddle cooking surface. EX1002, ¶87. The fabrication of plate steel griddles with reinforcing ribs may be achieved by rolling and/or machining plate stock to an appropriate thickness and size, followed by welding or bolting of the reinforcing ribs to the plate steel. EX1002, ¶95. They may also be formed integrally with the underside of the plate through coldworking or machining. EX1002, ¶95.

Second, integrating the side walls with the underside of the griddle would also greatly strengthen the horizontally planar griddle to be heated by providing built-in vertical support structures. *See* EX1005, Fig. 2; EX1002, ¶88. Such a configuration aids in the prevention of warping of the planar cooking surface (12). EX1002, ¶88. Warping was a well-known problem by the time of the ‘473 Patent. EX1002, ¶88; *see also* EX1014, 3:31-39 and EX1011, 1:25-26. A structure is considered warped when it has become bent or twisted out of shape typically due to the effects of heat. EX1002, ¶89. Thermally-induced warping in flat metal plates results from the development of temperature gradients across the material. EX1002, ¶89; *see also*

EX1014, 3:31-3 and EX1011, 1:25-26 (both describing warping of griddles due to thermal stresses). These thermal gradients cause the development of thermally-induced stresses which cause an uneven expansion or contraction of the material causing warping. EX1002, ¶89; *see also* EX1013, 852. If these stresses exceed the yield strength of the material, the warping will be permanent, even after the thermal gradients are removed. EX1002, ¶89.

As described above, it was well-known by the time of the '473 Patent that warping of a plate can be prevented by reducing the thermal stresses in the material through a reinforcement of the plate to increase its stiffness via ribs or other structure. EX1002, ¶90; *see also* EX1015, 2:38-42 (“warpage was limited by the peripheral integrally formed ridge 34”); EX1016, 3:12-15 (“inverted U-shape for strengthening the structure and preventing it from buckling or warping”); and EX1013, 1:43-48 (“the ribs impart strength to the griddle to prevent warping.”). As such, warping can be prevented or reduced by adding material in a location which increases its area moment of inertia and consequently its resistance to bending. EX1002, ¶90; *see also* EX1018. Adding lateral ribs integrally formed on the underside of flat plates is a common and inexpensive means of increasing the area moment of inertia and reducing the likelihood of warping in service. EX1002, ¶90; *see also* EX1013, 3:10-28 (addition of ribs reduced costs compared to thicker griddle plate). Accordingly, a POSITA would be motivated to include structural support

features on the underside surface of the griddle. EX1002, ¶90. By integrally forming the front dam (42), rear dam (46) and sidewalls (44) with the underside surface of the griddle, the structural rigidity of cooking surface (12) will be significantly improved to withstand such warping. EX1002, ¶90.

Third, forming the ribs with the underside surface of the griddle ensures there is not a gap between the proximal portion of the rib and the underside of the griddle. See EX1005, Fig. 2; EX1002, ¶91. An advantage described by Williams is the uniform layer of hot combustion gases formed along the underside of the griddle surface, thereby “more evenly delivering heat to the griddle.” EX1005, 1:40-43; EX1002, ¶91. Such a gap would undermine the advantages described in Williams by allowing combustion gasses to pass over the lateral ribs and affect adjacent heat zones, reducing the effectiveness of the cooking device. EX1005, Abstract and 1:40-42; EX1002, ¶91.

Fourth, the sidewall (44) is a relatively thin vertical structure that would be integrally formed with at least one of the four sides it is connected to for providing stability and rigidity to the sidewall. EX1002, ¶92. The only four possibilities are to integrate the sidewall with the underside of the cooking surface (12), top of the floor plate (24), front dam (42), or rear dam (46). See EX1005, Fig. 2; EX1002, ¶92. Integrating the sidewalls with the underside of the griddle or top of the floor plate provides the most contact area and thus provide the greatest stability and rigidity to

the sidewall. EX1002, ¶92. Further, integrating the sidewall with the underside of the griddle would provide the greatest amount of stability and rigidity to the top of the sidewall that is exposed to the largest heat differentials, as the heat from the griddle and the heated air would predominately impact the temperatures at the top of the heating chamber. EX1002, ¶92. Large heat differentials, such as those occurring when griddles are heated, can cause warping, as discussed above, which would reduce the capability of the sidewalls to funnel heat to the rear of the griddle. EX1002, ¶92.

A POSITA would appreciate that sidewalls (44) are, at a minimum, in contact with the underside surface of the griddle. *See* EX1005, Fig. 2; EX1002, ¶93. This is evident to a POSITA when understanding the objective of Williams (e.g., to isolate convective heat from migrating from one heating chamber to another) and based on figure 2 which depicts a flat surface on the top of sidewalls (44) that is configured to be in contact with the underside surface. EX1002, ¶93. A POSITA would understand that being in contact with, versus integral with, introduces additional problems in the design of Williams. EX1002, ¶94. If sidewalls (44) warp, they may interfere with the cooking surface (12), which rests on frame (14). EX1002, ¶94. To solve this problem, a POSITA would be motivated to integrate sidewalls (44) with the underside of the cooking surface (12) versus letting the griddle rest on them. EX1002, ¶94. Leaving the bottom of the sidewalls (44) disconnected, or floating

above floor plate (24), would allow for some movement without interfering with the structure of the cooking device or its purposes of directing convective heat. EX1002, ¶94.

Lastly, integrally forming the side walls (44) with the underside of the griddle would reduce assembly time and errors since fewer parts would be required to be assembled by the end user. *See* EX1005, Figs. 1-3; EX1002, ¶95.

[10.8] wherein the multiple lateral ribs directly extend from the underside surface such that each lateral rib is spaced the cooking station and separate from an adjacent lateral rib.

Williams describes that the downward extending walls create the heating chambers (20) which are disposed in a “laterally adjacent configuration, meaning that they generally run front-to-back and are disposed in a left-to-right series” and thereby spaced and separate from the adjacent lateral rib extending generally away from the underside of the cooking surface. EX1005, Fig. 2, 2:15-22, and 2:41-47; *see also* EX1025; EX1002, ¶¶96-98.

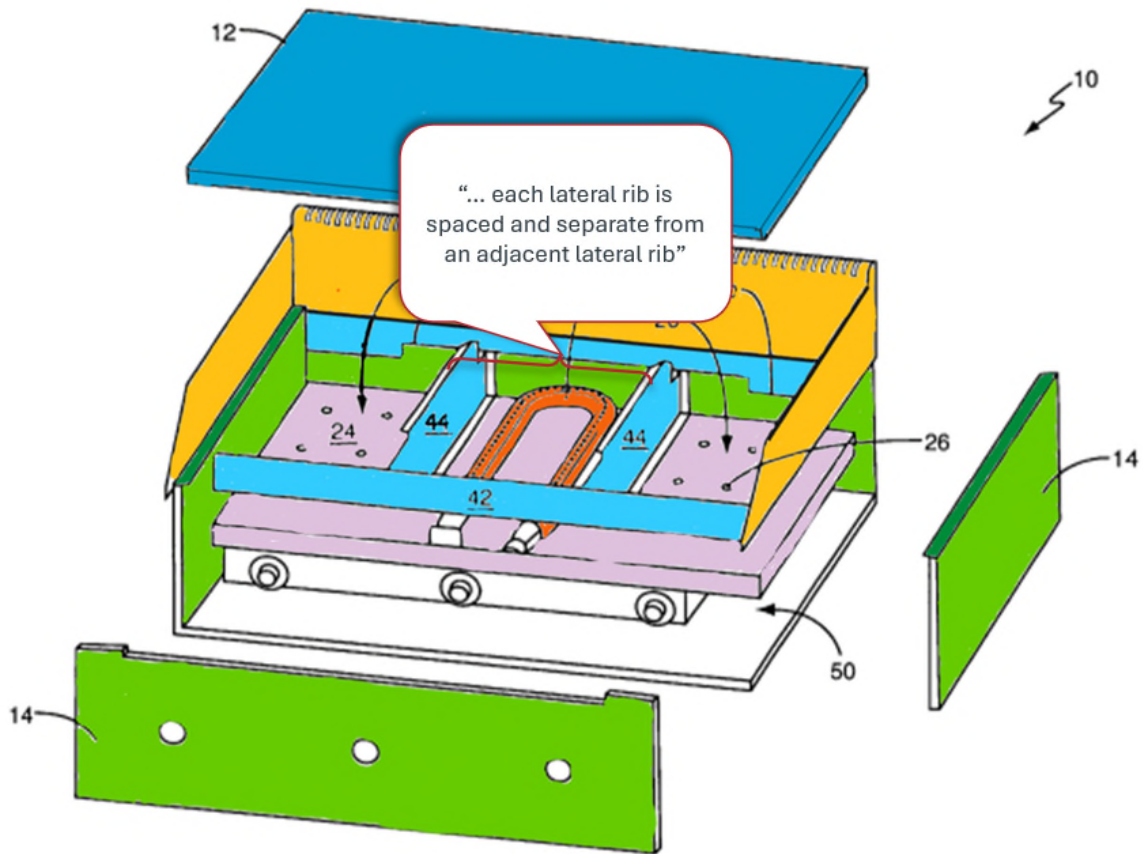


FIG. 2

EX1005, FIG. 2

As discussed above regarding limitation 10.6, Williams also teaches or renders obvious that the multiple lateral ribs (sidewalls 44) are downwardly extending from the underside of the griddle. EX1002, ¶¶96-98 *see also* EX1002, ¶¶75-83.

2) **Claims 11-13**

Claim 11. The griddle of claim 10, wherein the front rib substantially blocks the convection heat from escaping a front side of the underside surface.

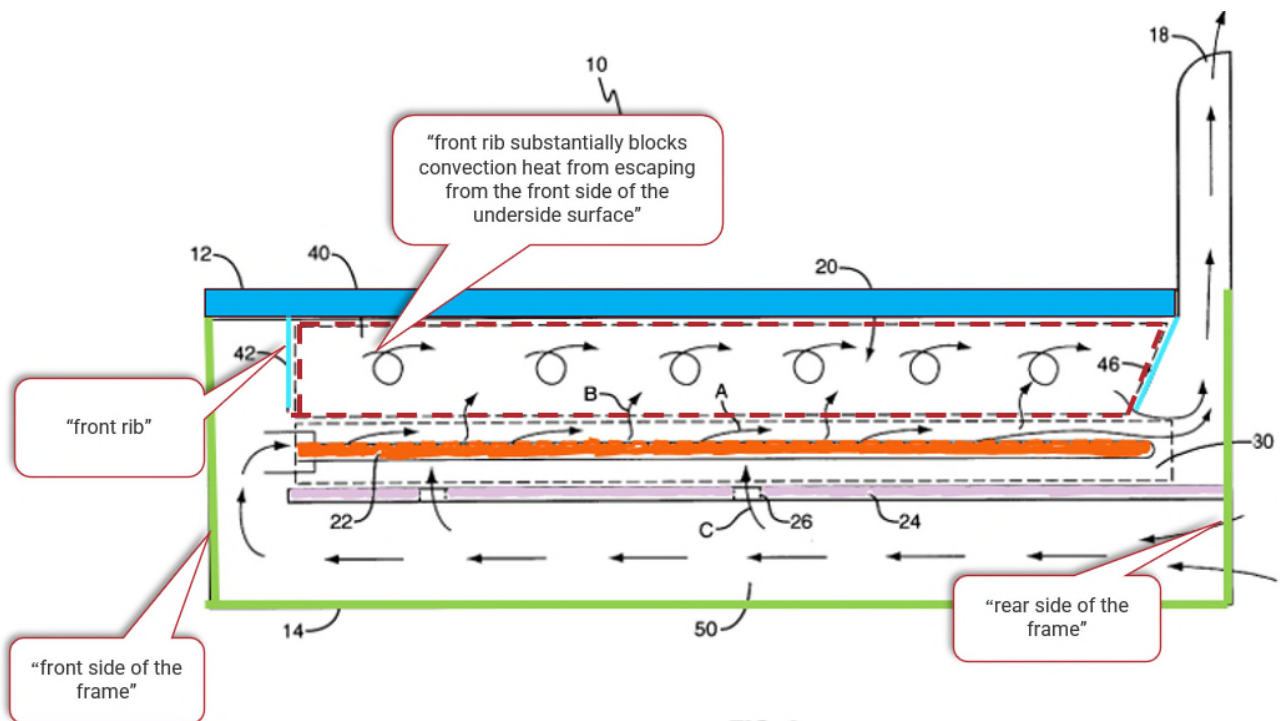
Claim 12. The griddle of claim 10, wherein the adjacently extending lateral ribs are sized to substantially prevent convection heat from moving over the adjacently extending lateral ribs and directly, convectively heating adjacent heating regions.

Claim 13. The griddle of claim 10, wherein the adjacently extending lateral ribs are sized to substantially maintain convection heat therebetween to only convectively heat the corresponding heating region between the adjacently extending lateral ribs.

Williams renders obvious claim 10 as discussed above. Claims 11, 12, and 13 all relate to usage of ribs to prevent the movement of convective heat between heating regions and thus are discussed together. EX1002, ¶99.

Williams describes an upper zone that is defined by the underside of the cooking surface (12) and “flow-restricting walls”, specifically a front dam wall (42), a rear dam wall (46), and sidewalls (44). EX1005, Fig. 3 and 2:39-47; EX1002, ¶100. The “front dam 42, rear dam 46, and sidewalls 44,” produce heating regions where a “portion of the hot combustion gases are at least temporarily trapped.” Williams at 3:57-4:2; EX1002, ¶100. These flow-restricting walls substantially reduce the front-to-back flow rate of heated gas in the upper zone of each heating chamber to evenly heat the respective area of the griddle. EX1005, 4:2-13. 96; EX1002, ¶100. Figure

3, below, shows the front dam wall (42) is a front rib that acts to substantially block convection heat or trap heat from escaping from the front side of the frame as recited in claim 11. EX1005, Fig. 3 and 2:39-47; EX1002, ¶101. Moreover, no air flow is indicated to pass front dam (42), but rather exits the heating chamber only by passing below rear wall (46) to the exit flue (18). EX1005, 3:39-44 and 3:62-4:2; EX1002, ¶102. As discussed above, this results in a low front-to-back flow rate of the heated gas in the upper zone (40) where the heated gas becomes “dammed, stagnant, or trapped” in the upper zone to evenly heat the griddle area above the heating chamber. EX1005, 3:57-4:13; EX1002, ¶102.



EX1005, FIG. 3

Williams also describes how the perimeter of the upper zone of the heating chamber comprises adjacent sidewalls (44) that cooperate with the front wall (42) and rear wall (46) to trap hot combustion gases within upper zone (20) to substantially maintain the heat between the adjacent sidewalls as recited in claims 12 and 13. EX1005, Abstract, 1:26-46 and 3:57-4:13; EX1002, ¶103. Williams's adjacent sidewalls (44) are be sized to substantially prevent the flow of hot combustion gases out of the sides of the upper zone in order to funnel the hot combustion gases to the rear so they can exit via going below rear dam (46) into exit flue (18). EX1005, 3:39-44 and 3:62-4:2; EX1002, ¶103. As such, the adjacent side walls (44) prevent the convective heat in the form of hot combustion from moving into an adjacent heating chamber and directly convectively heating an adjacent heating chamber. EX1002, ¶103.

As explained in Williams, there is “significant front-to-back flow” that causes the hot combustion gas to exit the rear of the griddle into flue (18). EX1005, 2:16-23, 3:34-44; EX1002, ¶104. This significant directional flow from front-to-back would likewise prevent flow of hot combustion gasses over the sidewalls. EX1002, ¶104.

As previously explained with respect to claim 10, Williams integrates the sidewalls (44) with the underside of the cooking surface (12). See *supra* claim 1; EX1002, ¶105. When the sidewalls are integral with the underside of the cooking

surface, they would prevent the movement of hot gases over the sidewalls so that no convective heat from one chamber would move into another chamber directly heating it. EX1002, ¶105.

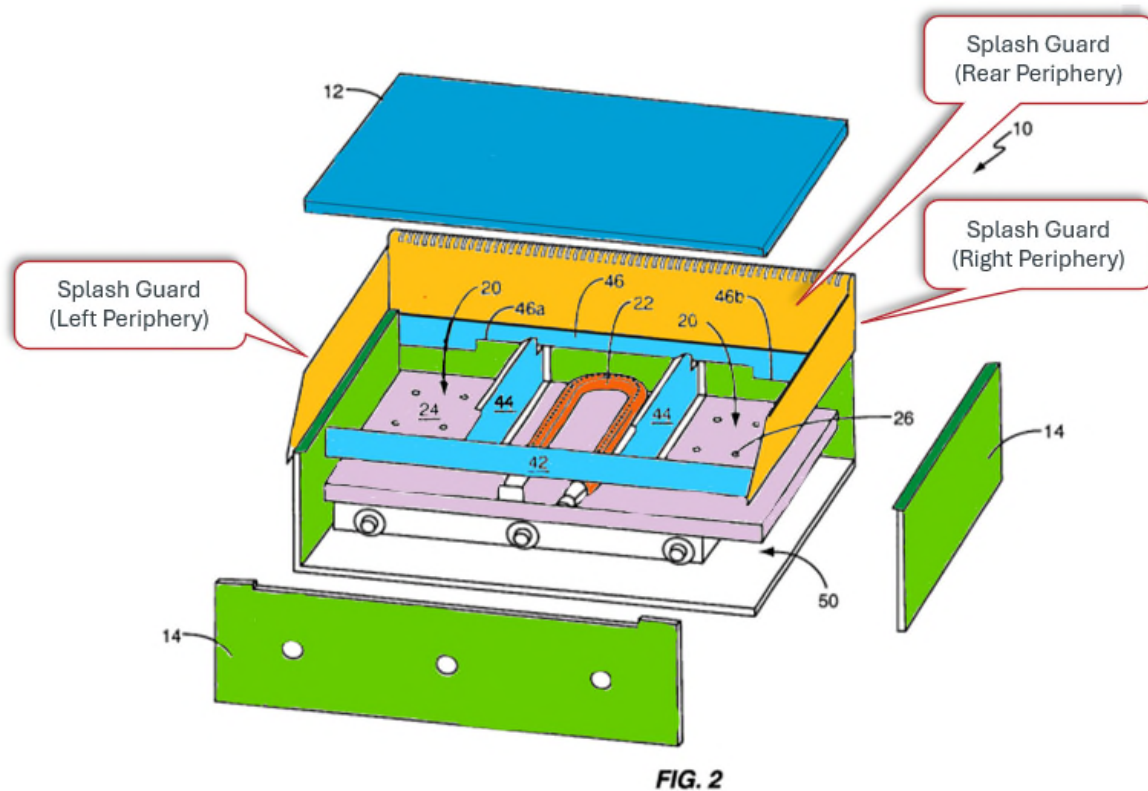
Because the sidewalls (44) in Williams prevent hot combustion gas flow outside their respective heating chamber, the sidewalls aid in convectively heating the upper zone within their respective heating chamber. EX1002, ¶106. This ensures an even heating surface for the area of the griddle above the heating chamber. EX1005, 4:2-13; EX1002, ¶106. Furthermore, Williams teaches heating chambers can be further isolated to prevent movement of convective heat by not using a common sidewall for adjacent heating chambers. EX1005, 2:17-23 and 2:57-59; EX1002, ¶106. When a common sidewall is not used, air or other insulative material can be interposed between the sidewalls of adjacent heating chambers to prevent the movement of convective heat from one heating chamber to another. EX1002, ¶106.

3) Claim 15

The griddle of claim 10, further comprising a splash guard extending upward above a periphery of the cooking surface.

Figure 2 shows the griddle (10) incorporates a splash guard, depicted in yellow. EX1005, Fig. 2; EX1002, ¶107. The splash guard extends upward from the griddle's cooking surface (12) along the left, right, and back peripheries of the cooking surface. EX1005, Fig. 2; EX1002, ¶108.

Although Williams does not elaborate on the splash guard's specifics, a POSITA reviewing Williams would understand that the structure shown in yellow serves as a splash guard that would at least limit the splashing of grease from the griddle surface. EX1005, Fig. 2; EX1002, ¶109.



EX1005, FIG. 2

4) Claim 17

Claim 17 is similar in scope to claim 10 but is a method of selectively heating a griddle while claim 10 is an apparatus claim to the griddle. While the claim limitations of claim 10 and claim 17 are not identical in verbiage, they are

substantially similar in scope since claim 17 encompasses a method to heat to selectively heat the griddle recited in claim 10. Indeed, the Examiner and Patent Owner have likewise relied on the same analysis for all independent claims 1, 10 and 17. *See also* EX1004, 95-97 (Examiner finding all independent claims unpatentable for the same reasons); EX1025 (Patent Owner alleging infringement of all independent claims for the same reasons)

As such, Williams renders obvious the method of selectively heating a griddle recited in claim 17 for substantially the same reason as it renders obvious the griddle recited in claim 10. EX1002, ¶110.

[17.0] A method for selectively heating regions of a griddle with convection heat from one or more gas flame burners of an outdoor cooking station, the method comprising:

To the extent the preamble of claim 17 is limiting, it is rendered obvious for at least the reasons provided above for limitation [10.0] and [10.5] explaining how Williams cooking device selectively heats multiple separate heating regions using convective heat from turning on gas flame burners. EX1002, ¶111 and *see* Section VIII(C)(1).

In addition, a POSITA would understand one purpose of multiple separated heating regions in Williams is so the user can selectively heat the regions of the griddle above each heating region. EX1002, ¶¶112-113. If a user were to select to turn on the gas flame burners in one heating region but not the others, then the region

of the griddle above the turned-on burners would be substantially hotter than other regions. EX1002, ¶¶114-116.

Finally, a POSITA understands that Williams griddle would be used outdoor cooking since the listed fuel sources include “propane” which is a ubiquitous fuel source for outdoor cooking with griddles and grills. EX1002, ¶117.

[17.1] turning on one or more gas burners of the outdoor cooking station such that the one or more gas burners are positioned below an underside surface of a griddle; and

Limitation 17.1 is rendered obvious for at least the reasons provided for limitation [10.5]. EX1002, ¶¶118-121; see Section VIII(C)(1). In addition, Williams teaches an outdoor cooking station for the reasons stated above with regards to limitation [17.0]. EX1002, ¶118.

[17.2] selectively heating specific regions of the griddle that correspond with the one or more gas burners turned on, the specific regions each defined by adjacently extending parallel ribs, the ribs extending laterally from a front rib toward a rear end of the underside surface of the griddle such that the front rib and the parallel ribs channel convection heat to flow between the adjacently extending parallel ribs toward the rear end of the griddle and away from the outdoor cooking station;

Limitation 17.2 is rendered obvious for at least the reasons provided for limitation [10.5] and [10.6]. EX1002, ¶¶122-132; see Section VIII(C)(1). While claim 10 does not expressly require the lateral ribs to be “parallel” this is taught by Williams’ primary embodiment as best seen in Figure 4, where a POSITA would

understand the dashed lines representing sidewalls 44 to be in parallel. EX1005, Fig. 4; *see also* Fig. 2; EX1002, ¶122.

In addition, parallel sidewalls in Williams would have been an obvious implementation since it results in a heating chamber having equal width across its length (e.g., rectangle or square). EX1002, ¶133. This helps achieve Williams stated purpose to heat the griddle area more uniformly above the heating zone since the hot gasses will be equally distributed in the heating chamber having a constant width over its length. EX1005, 1:20-23 and 1:67-2:4; EX1002, ¶133. Conversely, if the heating chamber had variable width across its length, such as a triangular shape, hot combustion gasses may be distributed unevenly, resulting in undesirable nonuniform thermal gradients. EX1002, ¶133.

[17.3] the front rib and the parallel ribs integrally formed with the underside surface of the griddle, and the parallel ribs directly extend from the underside surface of the griddle such that each parallel rib is spaced and separate from an adjacently extending parallel rib.

Limitation 17.3 is obvious for at least the reasons provided for limitation [10.7] and [10.8]. EX1002, ¶¶134-148; *see* Section VIII(C)(1). While claim 10 does not require the integral lateral ribs to be “parallel,” Williams teaches this as discussed above respect to limitation [17.2]. EX1002, ¶134.

5) Claim 18

The method according to claim 17, wherein the selectively heating comprises selectively heating the specific regions with the parallel ribs substantially preventing convection heat from moving over the parallel ribs by the convection heat being drawn toward the rear end of the griddle.

Williams discloses each of the limitations for claim 17 as set forth above.

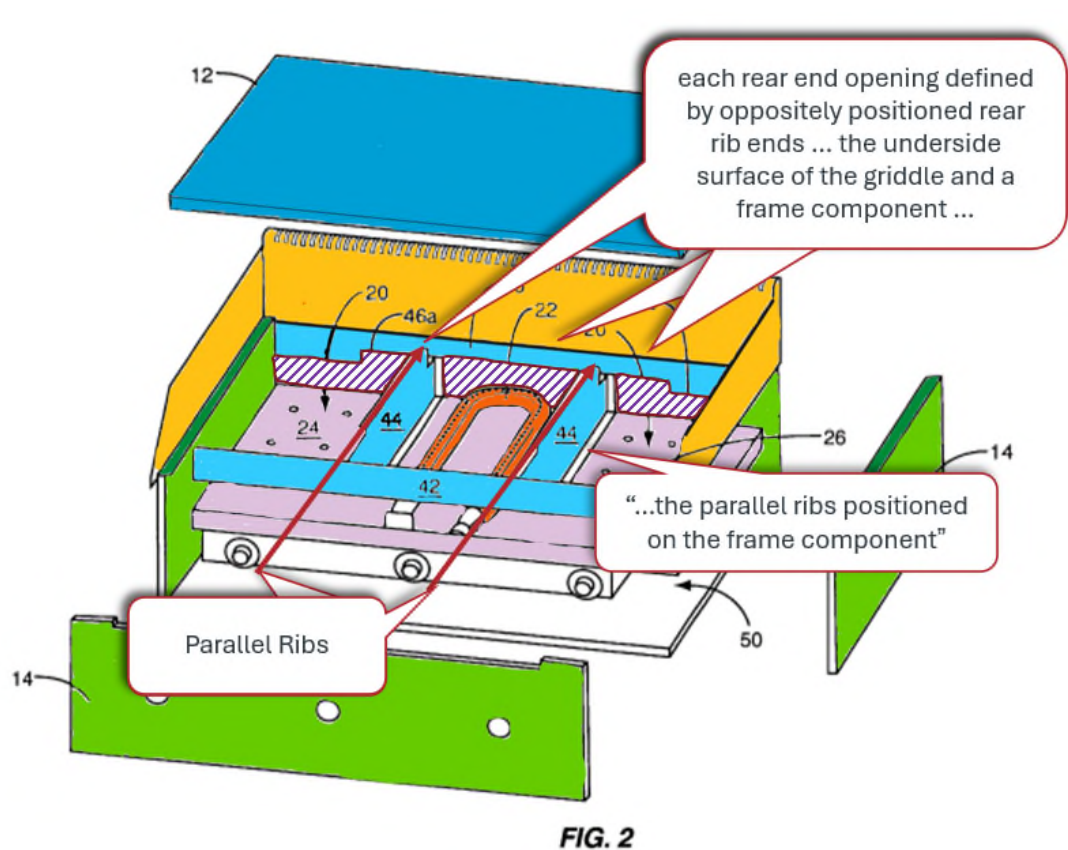
EX1002, ¶149.

As discussed *supra* with respect to claims 11-13, Williams discloses wherein the selectively heating comprises selectively heating the specific regions with the parallel ribs substantially preventing convection heat from moving over the parallel ribs by the convection heat being drawn toward the rear end of the griddle. *See* Section VIII(C)(2) *see also* EX1002, ¶¶150-155. Further, as discussed *supra* with respect to limitation [10.6], Williams teaches the convective heat contained between the sidewalls is drawn toward the rear end of the griddle. *See* Section VIII(C)(1). EX1002, ¶149.

6) Claim 20

The method according to claim 17, wherein the selectively heating comprises substantially preventing convection heat from moving over the parallel ribs by drawing the convection heat toward the rear end of the griddle with rear end openings, each rear end opening defined by oppositely positioned rear rib ends of the parallel ribs and the rear end of the underside surface of the griddle and a frame component of the outdoor cooking station, the parallel ribs positioned on the frame component.

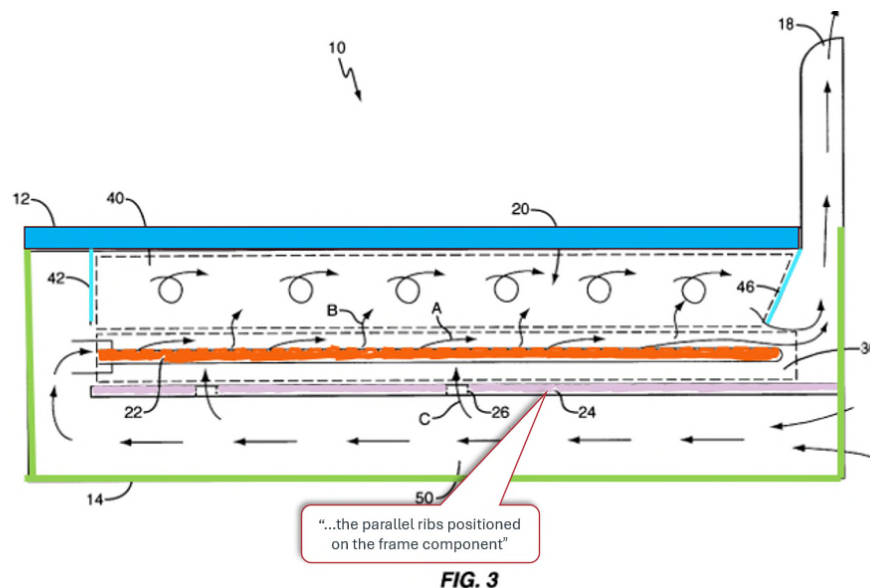
Williams discloses each of the limitations for claim 17 as set forth above. EX1002, ¶156. As discussed *supra* concerning claims 11-13 and 18, Williams discloses “wherein the selectively heating comprises substantially preventing convection heat from moving over the parallel ribs by drawing the convection heat toward the rear end of the griddle with rear end openings.” See Section VIII(C)(2) and (5) *see also* EX1002, ¶157. Williams also provides “each rear end opening defined by oppositely positioned rear rib ends of the parallel ribs and the rear end of the underside surface of the griddle and a frame component of the outdoor cooking station.” EX1002, ¶158.



EX1005, FIG. 2

Specifically, Williams describes that the heating region as an “upper zone 40 [] generally defined by the underside of the cooking surface 12 and flow-restricting walls, specifically a front dam wall 42, a rear dam wall 46, and sidewalls 44 associated therewith.”). EX1005, 2:41-44. Moreover, Williams describes that as “gas within the upper zone 50 has cooled, it descends below the lower edge 46 a,b of the rear dam 46, joins the flow from the burner zone 30, and is carried out the flue 18.” Williams at 3:62-65; EX1002, ¶159.

Williams also provides “the parallel ribs positioned on the frame component.” Specifically, “a POSITA would appreciate the parallel ribs (44), of Williams, could rest on floor plate (24) as can be seen in annotated Figure 2 of Williams.” EX1002, ¶160. Moreover, Williams provides that the floor plate (24) is connected to and forms a component of the frame (14). EX1002, ¶161.



EX1005, FIG. 3

D. Ground 2 - Claims 10-13, 15, 17-18, and 20 are Rendered Obvious by Williams in view of Best.

As discussed in Ground 1, Williams alone renders obvious claims 10-13, 15, 17-18, and 20. As part of that analysis, Petitioner noted how Williams suggests but doesn't explicitly state that the sidewalls (i.e., the claimed lateral ribs) would be integral to the underside surface of the griddle. EX1002, ¶162. However, since limitation [10.7] or [17.3] for integrating a lateral rib with the underside of a griddle was the apparent reason for allowance during prosecution, Petitioner also relies on Best that explicitly discloses a lateral rib integral with the underside of a griddle. EX1002, ¶¶163-165.

Notably, Ground 2 still relies on the teachings of Williams for the other limitations of claims 10-13, 15, 17-18, and 20 as previously discussed in Ground 1.

1) Claim 10

[10.7] wherein the front rib and the multiple lateral ribs are integrally formed with the underside surface; and

Best teaches a “griddle having discrete, separately heated, cooking zones.” EX1006, 1:5-9; EX1002, ¶¶186-187. In particular, Best describes a multi-component griddle plate (20) and “fixedly secured...juxtaposed, spaced, individual...blocks or plates 30.” EX1006, 5:26-29; EX1002, ¶188. Below the heat transfer plates (30) are three gas burners (60), one for each of the three zones. EX1006, Fig. and 8:6-15; EX1002, ¶188.

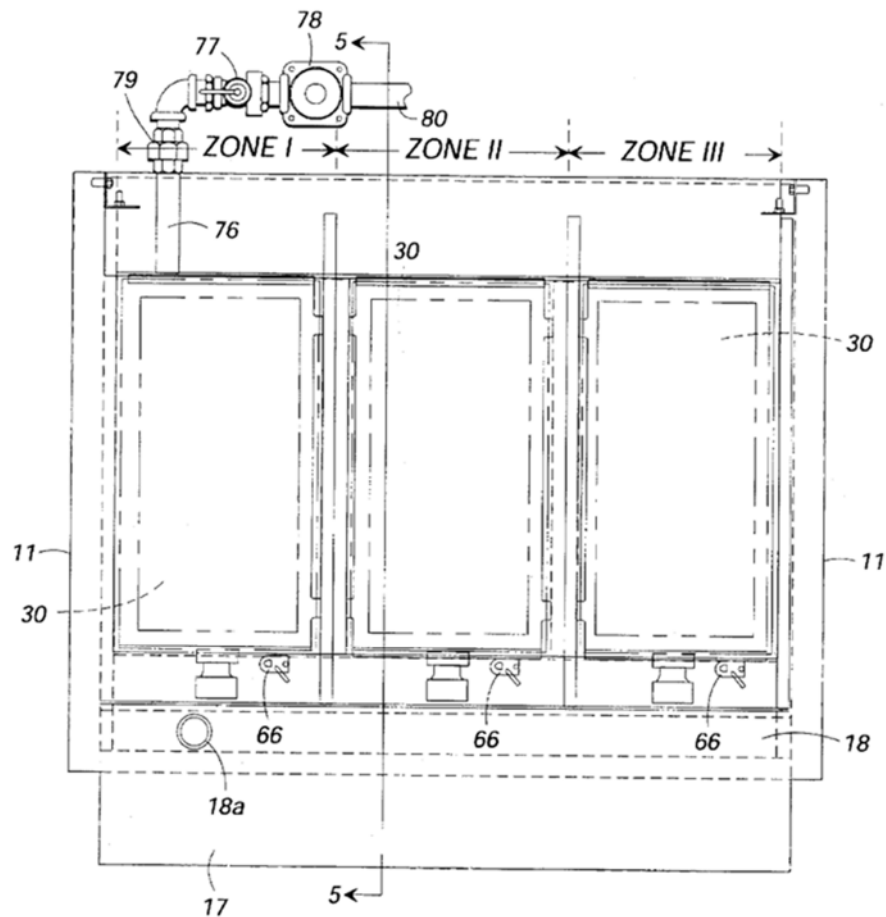


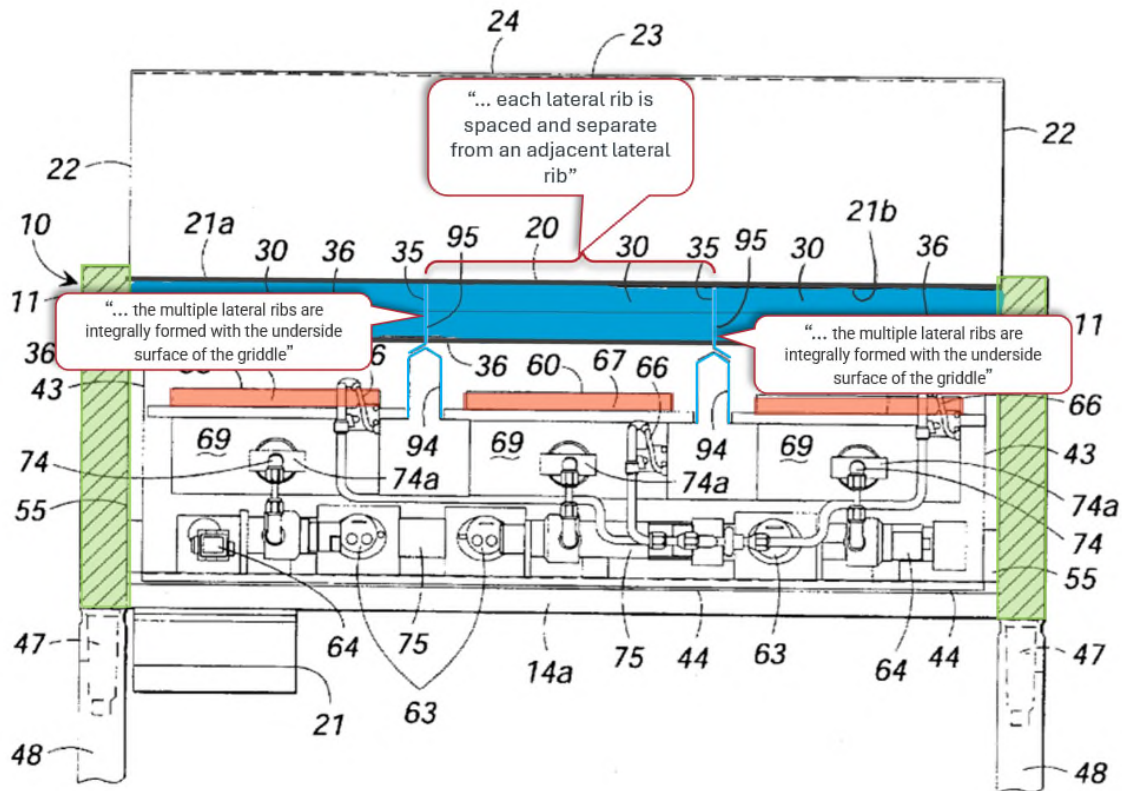
FIG. 7

EX1006, FIG. 7

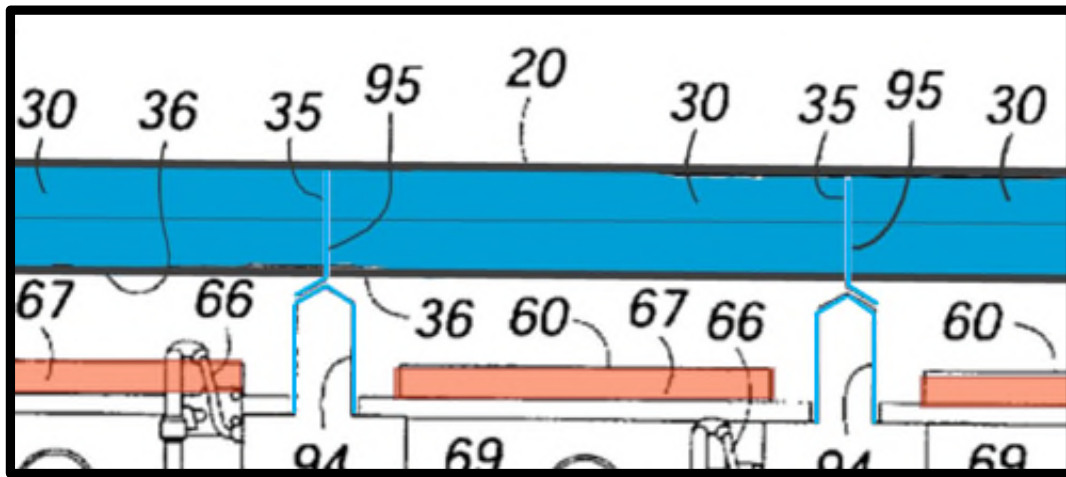
As such, Williams and Best are analogous references both teaching griddles that use multiple heating zones or chambers to uniformly heat a cooking surface. See EX1005, Abstract; EX1006, Abstract; EX1002, ¶186. In order to provide a more uniform heating of a griddle surface, Williams and Best both utilize a plurality of heating chambers below the griddle surface creating heat or temperature zones which can be controlled independently of each other. EX1005, 1:27-31; EX1006, 3:48-52; EX1002, ¶187.

Best uses a few methods to isolate the heat between each of its three heating zones. EX1002, ¶189. In particular, Best describes the use of insulation strips (35) in airgaps between adjacent plates. EX1006, 6:47-49; EX1002, ¶189. The insulation strips (35) and air gap between the plates would limit the convective heat that would transfer between heat transfer plates (30) of the griddle (20). EX1002, ¶189.

To further isolate convective heat between the zones, Best also describes the use of lateral ribs integrated with the griddle. EX1006, 9:18-22; EX1002, ¶190. Best teaches that “[f]or further isolating the heat from burners 60, a pair of inverted U-shaped, insulating baffles 94, as seen in Fig. 5, are interposed between each pair of burner groups, while other baffles 95 extend downwardly from plate 20 to terminate in overlapping relationship, as shown in FIG. 5.” EX1006, 9:18-2; *see also* Fig. 5 (showing multiple lateral ribs extending from and integrated with, the underside surface of the griddle); EX1002, ¶190. To extend downward from the griddle plate, the baffle (as drawn in Fig. 5) must be integral to the plate or griddle. EX1002, ¶191. Accordingly, Best teaches a POSITA that the insulating baffles extending downward from griddle (20) are lateral ribs integrated with the underside of the griddle that are spaced and separate from an adjacent lateral rib. EX1002, ¶191.



EX1006, FIG. 5



EX1006, FIG. 5 (Zoomed in to show detail of baffles 94 and 95)

A POSITA would be motivated to combine the teachings of Williams with Best for integrating lateral ribs with the underside surface of the griddle to improve the thermal isolation of the heating chambers as taught by Best. EX1002, ¶192. In particular, a POSITA would appreciate some of the lateral ribs taught by Best (e.g., baffles 95) are integral with the underside surface of griddle and downwardly extend from it. EX1002, ¶193. These lateral ribs would be used in conjunction with overlapping lateral ribs taught by Best that are integral with the bottom of the heating chamber. EX1002, ¶193. The result is the cooking system taught by Williams that uses the lateral ribs taught by Best, which are integral with the underside of the griddle (in conjunction with overlapping lateral ribs integral with the floor plate of the heating chamber). EX1002, ¶193.

A POSITA would recognize that Best's baffles/lateral ribs would be subject to heat induced stresses that may induce deformation as different portions the baffles expand and contract at different rates depending on the heat they are subjected to. EX1002, ¶194. To account for this deformation, a POSITA understands that Best leaves a small air gap where baffles (94) and (95) overlap. EX1002, ¶195. As also would be recognized by a POSITA, physically separating the downwardly extending baffle (95) from the upwardly extending baffle (94) causes the most heat induced deformation to occur where the baffles overlap and would prevent heat induced

deformation from displacing the cooking surface which is connected to downwardly extending baffle (95). EX1002, ¶195.

The overlapping area of the baffles, with a physical separation, would reduce the impact of any such deformation. EX1002, ¶195. In addition, Best used overlapping baffles instead of a single baffle integrated on both the top and bottom surfaces because a single baffle so integrated would prevent the griddle plate from being removed allowing access to the heating chambers for maintenance. EX1002, ¶196. By separating the downwardly extending baffle (95) from the upwardly extending baffle (94), Best permits the device to be assembled, disassembled, maintained, etc., more easily, without sacrificing the thermal isolation. *See* EX1006, 3:33-38 (describing “[f]or ease of cleaning, repair and replacement, the heating elements are mounted within a slidable drawer so that, when the source of gas and/or electricity are disconnected, the drawer can be pulled out to an open cantilever supported position.”); EX1002, ¶196.

This configuration of lateral ribs taught by Best, in conjunction with Williams's front dam (42) and rear dam (46), improves the isolation of the hot combustion gases that collect at the top of the heating zones. EX1002, ¶197. This configuration prevents gaps between Williams's lateral rib and the underside of the Williams cooking surface due to assembly or manufacturing tolerances while also

improving heat isolation even if the ribs undergo some deformation given the overlapping rib structure. EX1002, ¶197.

A POSITA would implement the combination of Williams and Best without undue experimentation. EX1002, ¶198. First, Williams expressly contemplates lateral ribs extending downward as taught by Best's baffles 95. EX1002, ¶198. As discussed above, Williams provides that, "At least the front dam 42 and the rear dam 46 are downwardly extending, thereby extending generally away from the underside of the cooking surface 12." EX1005, 2:44-47; EX1002, ¶198. While Williams only explicitly provides the front (42) and rear dams (46) are "downwardly extending," a POSITA would also read the disclosure to mean other components, such as sidewalls (44) may also be optionally downwardly extending from the underside surface of the griddle and thus "fixed" or "integral" to the underside surface of the griddle. EX1005, 2:44-47; EX1002, ¶199.

Second, the lateral ribs of Best serve the same purpose as the lateral ribs of Williams to isolate heat in different cooking zones. EX1002, ¶200. The baffles (95) of Best would attach to the underside of Williams griddle while baffles (94) of Best would attach to the top surface of Williams floor plate. EX1002, ¶200. The physical space occupied by Best's baffles would be substantially the same as the physical space already occupied by Williams's sidewall (44). EX1002, ¶200. As such, Best's lateral ribs would be a simple substitution for Williams's lateral ribs. EX1002, ¶200.

In addition, Best's baffles would still allow Williams's cooking surface to be removed and the area of the heating zone to be easily accessed for cleaning and maintenance, as Best contemplated. EX1006, 3:33-37; EX1002, ¶201.

Other Limitations of Claim 10

Limitations [10.0], [10.1], [10.3], [10.4], [10.5], and [10.6] and [10.8] are taught by Williams for the reasons previously provided in Ground 1. See Section VIII(C)(1); EX1002, ¶¶166-185 and 202-204.

While limitations [10.4], [10.5], [10.6] and [10.8] recite features relating to the location, spacing or size of the lateral ribs, this analysis does not materially change due to the combination with Best. EX1002, ¶¶166-185, 202-204, and 206.

As previously discussed, Best's baffles are located, spaced, and sized to retain heat in separate heating regions just as the sidewalls in Williams. EX1005, 1:27-31; EX1006, 3:48-52; EX1002, ¶¶189-190. As noted above, the physical space occupied by Best's baffles would be substantially the same as that of Williams's sidewall (44). EX1002, ¶200. As such, using the Best's baffles in place of the sidewalls in Williams would not materially alter the airflow in Williams cooking device. EX1002, ¶¶192-197. Therefore, using Best's baffles in the cooking device of Williams will likewise cause hot combustion gases to be trapped in upper zone of Williams heating region until the hot combustion gases are removed from the heating region by moving under the rear dam into the exit flue. EX1002, ¶¶198-201.

2) Claims 11-13 and 15

Claims 11-13 and 15 are taught by Williams for the reasons previously provided in Ground 1. See Section VIII(C)(2) and (3); EX1002, ¶¶205-221.

While claims 12 and 13 recite features relating to the size of the lateral ribs, this analysis does not materially change due to the combination with Best. As previously discussed, Best's baffles are sized to retain heat in separate heating regions just as the sidewalls in Williams and using Best's baffles would not materially alter the airflow in Williams cooking device. EX1005, 1:27-31; EX1006, 3:48-52; EX1002, ¶206.

3) Claim 17

Claim 17 is taught by Williams for the reasons previously provided in Ground 1. See Section VIII(C)(4); EX1002, ¶¶222-261.

In addition, Best renders obvious integrally forming parallel lateral ribs with the underside surface of the griddle as explained above in Ground 2 for claim 10. See Section VIII(D)(1). To the extent it is relevant, it is noted that Best's baffles would be parallel just as Williams's sidewalls are. EX1006, Fig. 2 and 5; EX1002, ¶200.

4) Claims 18 and 20

Claims 18 and 20 are taught by Williams for the reasons previously provided in Ground 1. See Section VIII(C)(5) and (6); EX1002, ¶¶262-276.

As previously discussed, Best's baffles would not materially alter the airflow in Williams cooking device and thus cause hot combustion gases to be trapped in upper zone of Williams heating region until the hot combustion gases are removed from the heating region by moving under the rear dam into the exit flue. EX1002, ¶275.

E. Ground 3 – Claims 10-13, 15, 17-18, and 20 are Rendered Obvious by Williams in view of Farnsworth.

As discussed in Ground 1, Williams alone renders obvious claims 10-13, 15, 17-18 and 20. EX1002, ¶¶64-161.

As part of that analysis, Petitioner noted how Williams suggests but doesn't explicitly state that the sidewalls (i.e., the claimed lateral ribs) would be integral to the underside surface of the griddle. EX1002, ¶¶277-279. However, since limitation [10.7] or [17.3] for integrating a lateral rib with the underside of a griddle was the apparent reason for allowance during prosecution, Petitioner also relies on Farnsworth that explicitly discloses a lateral rib integral with the underside of a griddle. EX1002, ¶¶277-279.

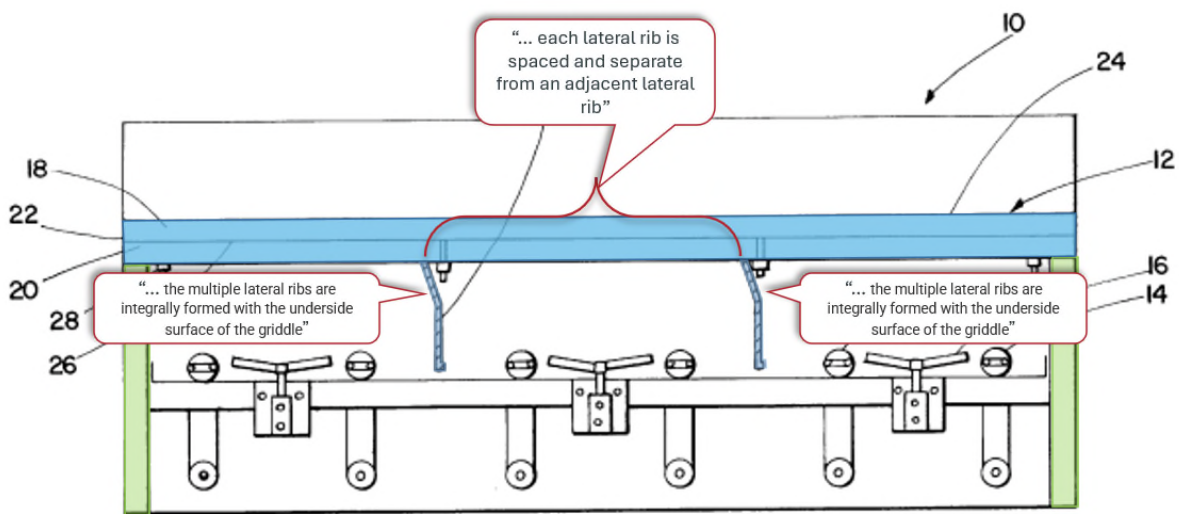
Notably, Ground 2 still relies on the teachings of Williams for the other limitations of claims 10-13, 15, 17-18, and 20 as previously discussed in Ground 1.

1) Claim 10

[10.7] wherein the front rib and the multiple lateral ribs are integrally formed with the underside surface; and

Farnsworth provides a “substantially even distribution of heat over a cooking surface of a griddle top.” EX1007, 1:50-52. The “plurality of ports having an orientation . . . so as to produce flames generally directed toward the rear of the griddle top.” EX1007, 2:1-6; EX1002, ¶302. To further direct the flames toward the rear of the griddle top, the angle of the ports “assists in exhausting combustion gases toward the rear of the griddle” where gases exit through a flue. EX1007, 2:14-18. 169; EX1002, ¶302. To create a uniform heating surface, laterally extending baffles or ribs are attached to the griddle, thus further assisting in reducing the temperature variations over the surface. EX1007, 2:27-29 and 3:15-19; EX1002, ¶303.

In Farnsworth, “laterally extending baffle[s] (30) [are] attached to the bottom surface (26) of the upper plate (18) and [are] positioned between each pair of burners (14).” EX1007, 3:15-19; EX1002, ¶303.



EX1007, FIG. 1

As such, Williams and Farnsworth are analogous because both teach griddles that use gas-fired burners to heat multiple heating zones or chambers across a cooking surface. EX1005, Abstract; EX1007, 2:57-3:34. To provide a more uniform heating of a griddle surface, Williams and Farnsworth utilize a plurality of burners positioned within heating chambers below the griddle's surface creating heat zones which can be controlled independently of each other. EX1005, 1:27-31; EX1007, 3:20-24; EX1002, ¶301.

Accordingly, Farnsworth teaches the baffles are laterally extending ribs (30) integrated with the underside of the griddle, spaced, and separate from the adjacent lateral ribs. EX1002, ¶304. Specifically, a POSITA would understand the laterally extending ribs are attached to griddle plate, (as drawn in Fig. 1) and therefore, integral to the plate or griddle. EX1002, ¶304.

As discussed above in Ground 2, a POSITA would recognize that the baffles of Farnsworth would be subject to heat induced stresses that may induce deformation as different portions the baffles expand and contract at different rates depending on the heat they are subjected to. EX1002, ¶305. To account for this, Farnsworth leaves a small air gap. EX1007, Fig. 1; EX1002, ¶306. This deformation of the baffles would be smallest where the baffles are integrated with the other griddle structures, such as where baffle (30) integrates with the underside of the griddle plate (26). EX1002, ¶306.

This configuration of lateral ribs taught by Farnsworth, in conjunction with the front dam (42) and rear dam (46) of Williams, improves the isolation of the hot combustion gases that collect at the top of the heating zones and prevents any gaps between Williams's lateral rib and the underside of the Williams griddle. EX1002, ¶307. Additionally, the laterally extending baffles of Farnsworth serve the same purpose as the lateral extended ribs of Williams to isolate heat in different cooking zones. EX1002, ¶308. The baffles (30) of Farnsworth would attach to the underside of Williams griddle. EX1002, ¶308. The location and space occupied by Farnsworth's baffles would be substantially the same as that of Williams's sidewall (44). EX1002, ¶308. As such, the laterally extending baffles of Farnsworth would be a simple substitution for Williams's lateral ribs. EX1002, ¶308.

Furthermore, a POSITA would be motivated to combine the teachings of Williams with Farnsworth for integrating lateral ribs with the underside surface of the griddle to improve the thermal isolation of the heating chambers as taught by Farnsworth. EX1002, ¶309. Additionally, a POSITA would implement the combination of Williams and Farnsworth without undue experimentation. EX1002, ¶309.

Williams expressly contemplates lateral ribs extending downward as explicitly described and illustrated in Farnsworth Figure 1. EX1005, 3:15-19; EX1002, ¶310. As discussed in Grounds 1 and 2, Williams provides, “[a]t least the front dam 42 and the rear dam 46 are downwardly extending, thereby extending generally away from the underside of the cooking surface 12.” EX1005, 2:44-47; EX1002, ¶310.

While Williams only explicitly provides the front (42) and rear dams (46) are “downwardly extending,” a POSITA would also read the disclosure to mean other components, such as sidewalls (44) may also be optionally downwardly extending from the underside surface of the griddle and thus “fixed” or “integral” to the underside surface of the griddle. EX1005, 2:44-47; EX1002, ¶311. In addition, the baffles of Farnsworth would still allow Williams’s griddle plate to be removed and the area of the heating zoon to be easily accessed for cleaning and maintenance. EX1002, ¶312.

Other Limitations of Claim 10

Limitations [10.0], [10.1], [10.3], [10.4], [10.5], and [10.6] and [10.8] are taught by Williams for the reasons previously provided in Ground 1. *See* Section VIII(C)(1); EX1002, ¶¶280-299 and 313-315.

While limitations [10.4], [10.5], [10.6] and [10.8] recite features relating to the location, spacing or size of the lateral ribs, this analysis does not materially change due to the combination with Farnsworth. EX1002, ¶¶280-299, 313-315 and 319.

As previously discussed, Farnsworth's baffles are located, spaced, and sized to retain heat in separate heating regions, just as the sidewalls in Williams. EX1005, 1:27-31; EX1007, 2:27-29 and 3:15-19.; EX1002, ¶¶303-304. As noted above, the physical space occupied by Farnsworth's baffles would be substantially the same as that of Williams's sidewall (44). EX1002, ¶308. As such, using the Farnsworth's baffles in place of the sidewalls in Williams would not materially alter the airflow in Williams cooking device. EX1002, ¶309.

Therefore, using Farnsworth's baffles in the cooking device of Williams will likewise cause hot combustion gases to be trapped in upper zone of Williams heating region until the hot combustion gases are removed from the heating region by moving under the rear dam into the exit flue. EX1002, ¶¶302-303.

2) Claims 11-13 and 15

Claims 11-13 and 15 are taught by Williams for the reasons previously provided in Ground 1. See Section VIII(C)(2) and (3); EX1002, ¶¶316-324.

While claims 12 and 13 recite features relating to the size of the lateral ribs, this analysis does not materially change due to the combination with Farnsworth. EX1002, ¶319. As previously discussed, Farnsworth's baffles are sized to retain heat in separate heating regions just as the sidewalls in Williams and using Farnsworth's baffles would not materially alter the airflow in Williams cooking device. EX1002, ¶308.

3) Claim 17

Claim 17 is taught by Williams for the reasons previously provided in Ground 1. See Section VIII(C)(4); EX1002, ¶¶325-363.

In addition, Farnsworth renders obvious integrally forming parallel lateral ribs with the underside surface of the griddle as explained above in Ground 3 for claim 10. See Section VIII(E)(1). To the extent it is relevant, it is noted that Farnsworth's baffles would be parallel just as Williams's sidewalls are. EX1007, Fig. 1; EX1002, ¶308.

4) Claims 18 and 20

Claims 18 and 20 are taught by Williams for the reasons previously provided in Ground 1. See Section VIII(C)(5) and (6); EX1002, ¶¶364-377.

As previously discussed, Farnsworth's baffles would not materially alter the airflow in Williams cooking device and thus cause hot combustion gases to be trapped in upper zone of Williams heating region until the hot combustion gases are removed from the heating region by moving under the rear dam into the exit flue. EX1002, ¶¶319 and 367.

F. Ground 4 - Claims 1-4, 7, and 16 are rendered obvious under 35 U.S.C. § 103 by Williams in view of May.

Independent claim 1 is substantially similar in scope to claim 10 but includes additional limitations directed to a frame and how the burners are coupled to the front and rear sides of the frame. *See* EX1001, 10:20-24 (limitations [1.1] and [1.2]). Williams does not disclose that its burners are coupled to the rear side of the frame. However, coupling burners to the rear side of a frame was well-known in the prior art and is taught by May as set out below.

1) Claim 1

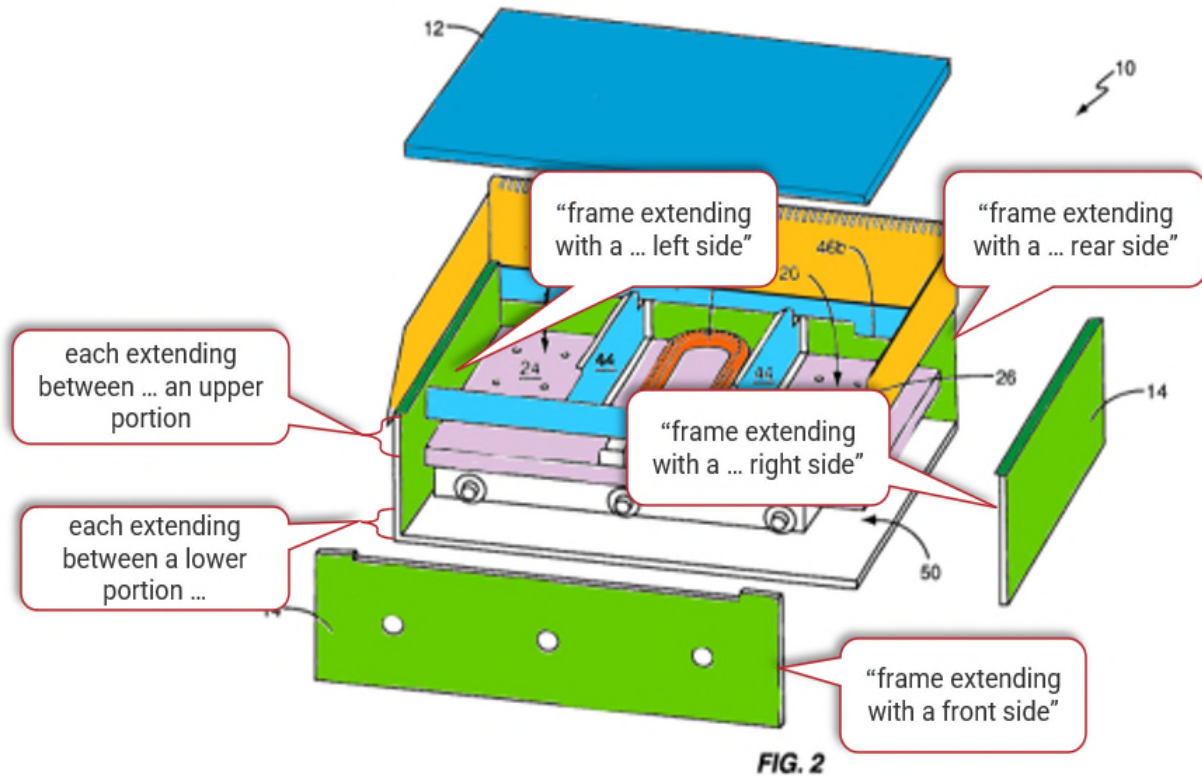
[1.0] A cooking system, comprising:

To the extent the preamble of claim 1 is limiting, it is rendered obvious for at least the reasons provided above for limitation [10.0]. EX1002, ¶¶378-379.

[1.1] a frame extending with a front side, a rear side, a left side, and a right side each extending between a lower portion and an upper portion;

In Williams, the invention "relates generally to the field of gas-fired cooking devices, and specifically to a gas-fired cooking device that includes a heat bank to

provide a more uniformly heated cooking surface.” EX1005, Fig. 1, Fig. 2 and 1:6-9. Williams describes a cooking system comprising a frame with four sides each extending between a lower portion and an upper portion. EX1002, ¶378.



EX1005, Figure 2

Specifically, Williams discloses a cooking device having a frame with a front side (42), a rear side (46), a left side (14), and a right side (14). EX1005, Figs. 1-3, 2:8-15, 2:39-44, and 3:20-24; EX1002, ¶379. Each of these four sides of the frame extending between a lower portion and an upper portion (e.g., between lower and

upper portions of frame 14) are highlighted in green in the below annotations of Figures 2 and 3. *Id.*; EX1002, ¶380.

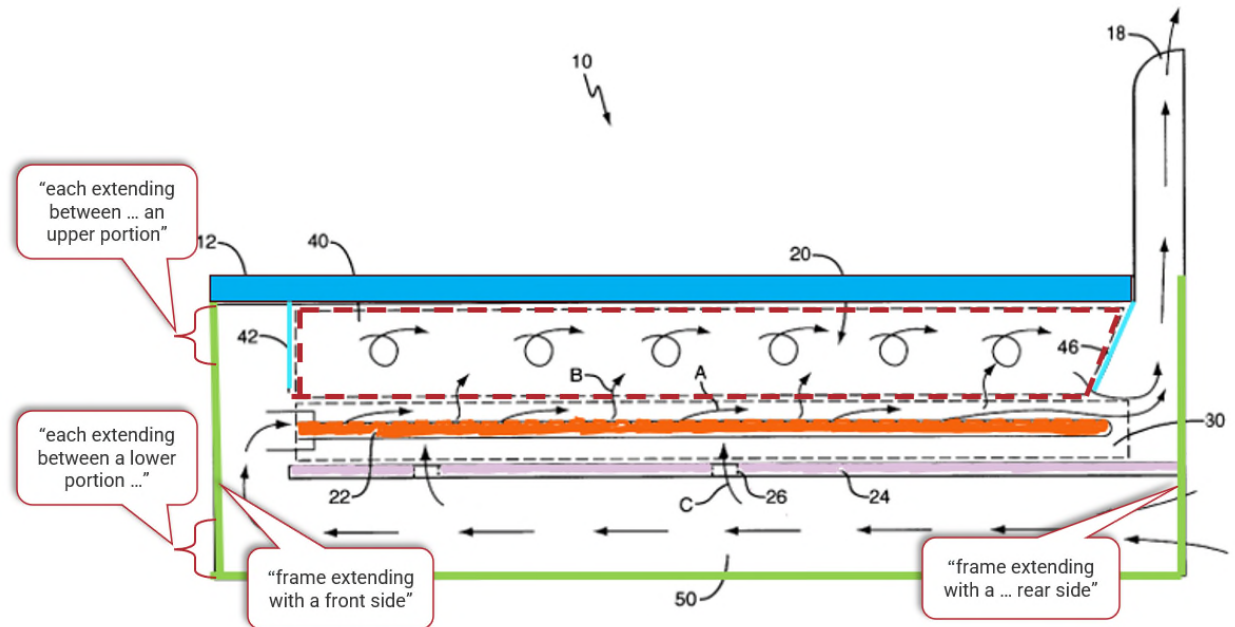


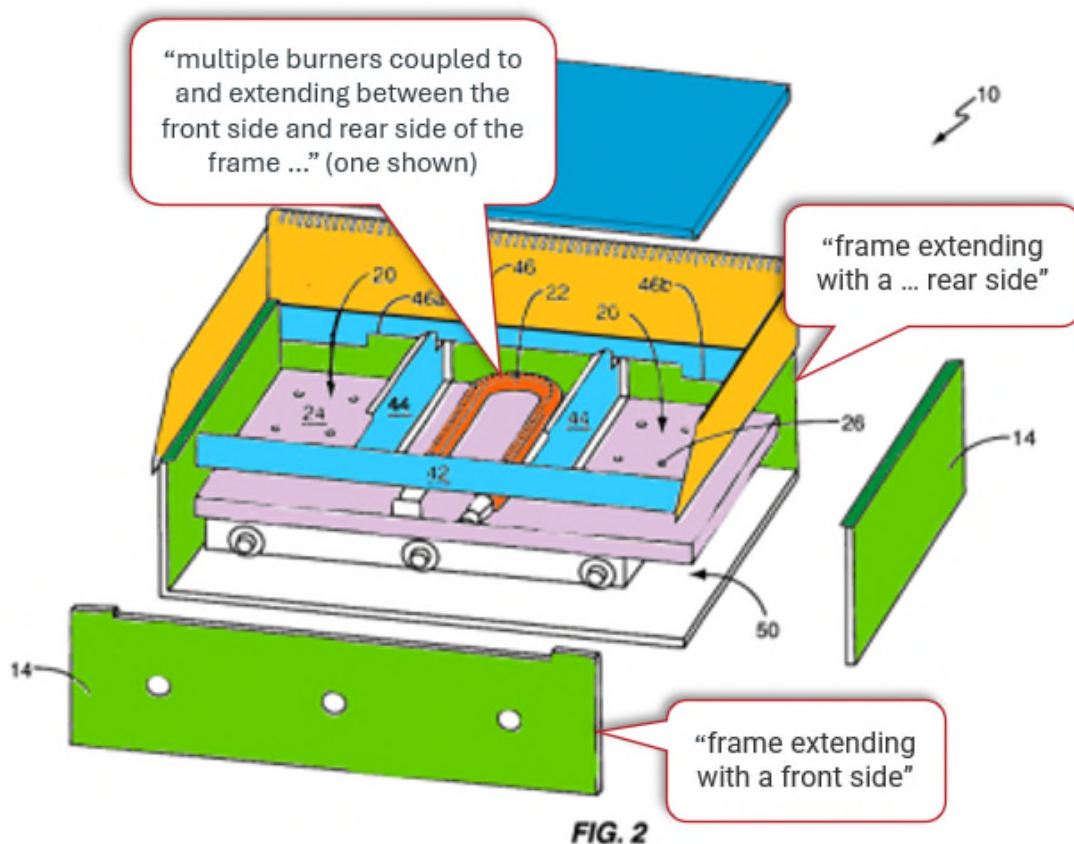
FIG. 3
EX1005, Figure 3

[1.2] multiple burners coupled to and extending between the front side and the rear side of the frame; and

Williams in view of May teaches multiple burners coupled to and extending between the front side and the rear side of the frame. EX1002, ¶381. As discussed in detail below, a POSITA would substitute the multiple U-shaped burners from Williams with multiple straight-tube burners coupled to the front and rear frame as taught by May. EX1002, ¶381.

Williams discloses a gas-fired griddle that utilizes “multiple burners” corresponding to multiple heating chambers. EX1005, 1:11-13, 1:29-35, 2:23-30,

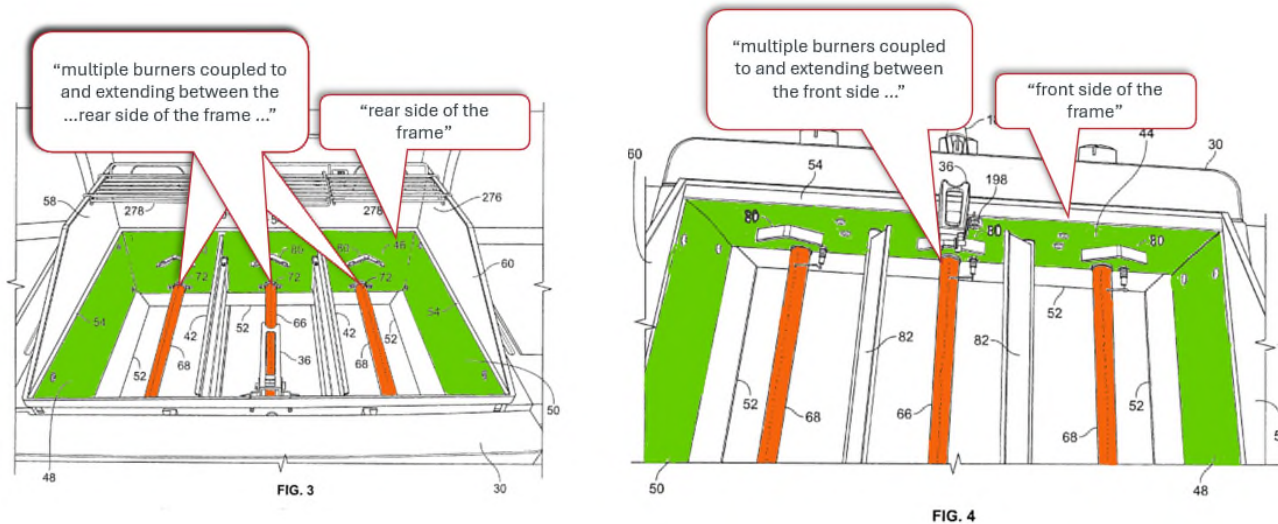
4:51-60; *see also* Fig. 2 (showing three control knobs); EX1002, ¶383. A burner (22) in Williams' Figure 2 is highlighted in orange below, located in the center heating chamber. EX1002, ¶382. The other heating chambers shown in Figure 2 would likewise have a corresponding burner, but those burners are not shown, so Figure 2 can provide details of other structures such as floor plate (24). EX1002, ¶383.



EX1005, Figure 2

While Williams does not disclose the burners are coupled to the rear side of the frame, doing so would have been obvious to a POSITA in view of the teachings of May that explicitly discloses coupling a burner to both the front and rear sides of

a frame. EX1008, Figs. 3, 4, and [0049]; EX1002, ¶384. As shown in the annotated figures below, May teaches a burner tube 66 coupled to the front of frame in figure 4 and coupled to the rear of the frame in figure 3. EX1002, ¶384.



EX1008, FIGS. 3 and 4

In particular, May teaches that a “firebox also houses a middle burner tube 66 and two side burner tubes 68,” and that the burner “rear end 72 is fixedly attached to the rear wall 46 of the firebox,” and “front end 70 extends through holes 74 in the front wall 44 of the firebox and is attached to a burner ignition assembly (not shown) mounted on the control panel 30.” EX1008, [0049]; EX1002, ¶385. May continues, “it will be appreciated that the longitudinal axis of the burner tubes extends from the front wall 44 to the rear wall 46 of the firebox 12.” EX1008, [0049]. As such, May’s teaches multiple burners coupled to and extending between the front and rear sides of the frame. EX1002, ¶385.

A POSITA would have reason to combine the teachings of a coupled burner with Williams cooking device for multiple reasons. EX1002, ¶386. First, Williams and May are analogous gas burner cooking devices that use lateral ribs to isolate heating zones for the cooking device. EX1002, ¶387; *see also* EX1008, [0049]; EX1005, 3:9-14 (discussing that gas supply lines 16 is connected to burners 22 and may be regulated and controlled by any manner known in the art).

Second, the relative position between a control knob, located outside the frame, with its associated control valve and burner, each located inside of the frame, is important to the function and safety of the burner. EX1002, ¶388. Coupling the burner to the front of the frame is essential to ensure that alignment of each of the knob, control valve, and burner is maintained, thereby minimizing the risk of gas leakage that may result if they were not properly aligned. EX1002, ¶390. If misaligned, the inlet flow of gas to the burner could be deflected in an outward direction and not into the burner, causing a fire hazard. EX1002, ¶390. Accordingly, a POSITA would be motivated to couple the burner to the front of the frame to ensure proper alignment of the burner. EX1002, ¶¶389-390. This is especially true for ensuring unskilled consumers do not have difficulties or create hazardous conditions when assembling or replacing the burners. EX1002, ¶390.

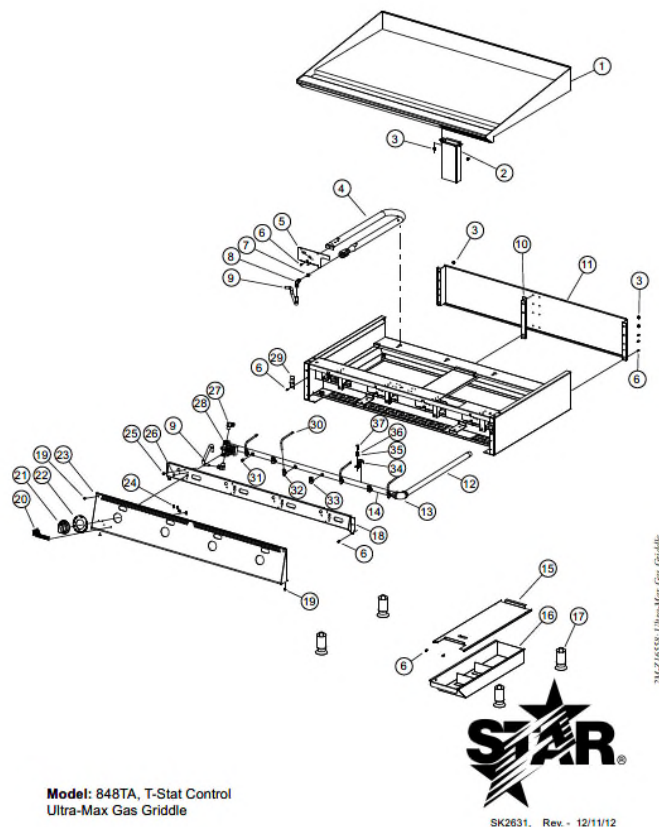
Similarly, a POSITA would be motivated to couple a burner to the frame's rear side as also taught by May. EX1002, ¶391. As discussed above, May provides

that the burners “rear end 72 is fixedly attached to the rear wall 46 of the firebox.” EX1008, Fig. 3, Fig. 4, and [0049]; EX1002, ¶391. A POSITA would recognize that the attachment of burners to the rear of the griddle frame improves the performance and safety of the griddle.

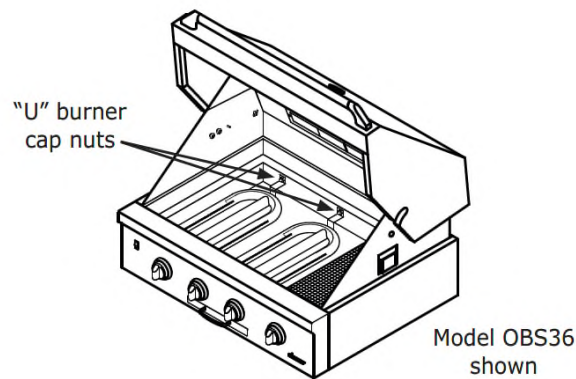
Specifically, coupling the multiple burners to the frame, at both the front and rear, would prevent deflection and ensure that the heat source remains positioned as designed. EX1002, ¶392. Grill components, especially burners, deteriorate over time resulting in uneven heating of the grilling surface and/or create a safety hazard. EX1002, ¶392. Properly coupling the burner assembly to the frame facilitates safer operation by ensuring that gas is properly distributed through the burner. EX1002, ¶393. A POSITA considers proper assembly and operation of the burners to be particularly important as accidental gas fires cause injuries, death, and property damage. EX1002, ¶395; Ex1024 at 3. This is especially true for the Williams and May cooking devices as they are intended to be assembled by unskilled consumers. EX1002, ¶396.

Moreover, rigidly affixing the burner to the frame would greatly reduce the stresses and deflections developed in the burner, thereby increasing its durability. EX1002, ¶394. It is well known to a POSITA that the stress and deflection of a beam structure supported at both ends is substantially less than for a beam structure supported on one end in a cantilever configuration. EX1002, ¶394 (noting stress is

approximately 75% less and deflection is approximately 90% less); see EX1018, table A-9 p. 1021. Coupling a burner to the front and rear frame of a cooking device is widely utilized technique for stabilizing and securing a burner within a cooking device. EX1002, ¶397; see *e.g.*, EX1019, 20 (showing a U-shaped burner coupled to the front of a frame via control knobs and the rear of a frame via mounting holes); Ex1020, 21 (explaining that the removal and installation of burners connected to the cooking device via brackets at the rear of the frame); and EX1017, Figs. 1, 3, and 4 (showing mounting brackets for coupling a burner to the front and rear of a firebox).



EX1019 at 20



EX1021 at 21

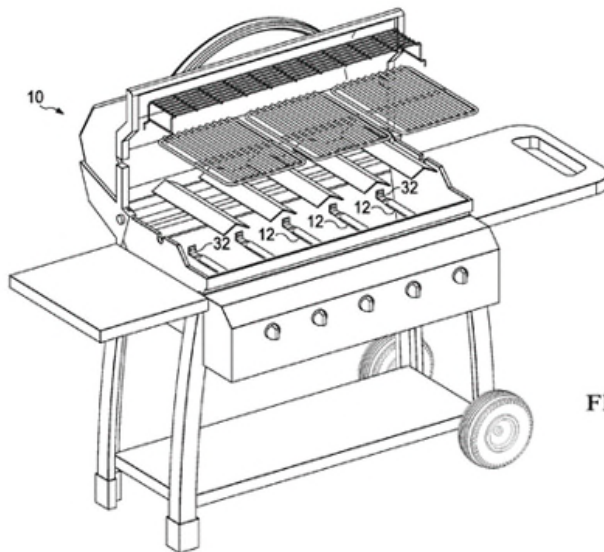


FIG. 1

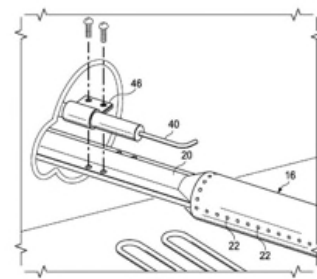


FIG. 3

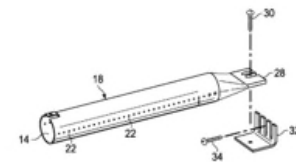


FIG. 4

EX1017 at Figures 1, 3, and 4

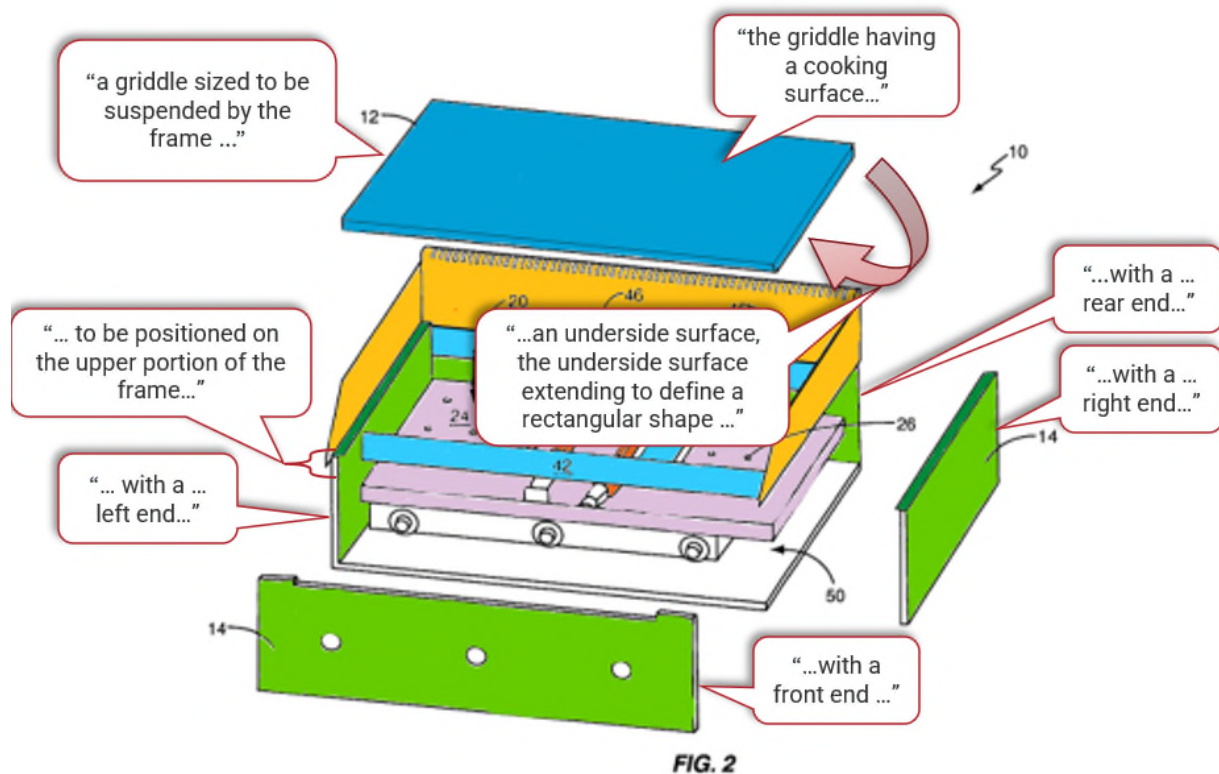
While William discloses a u-shaped or j-shaped burner for his primary embodiment, the shape of the burner used is not material and a straight burner taught by May would also heat up the respective heating chambers of Williams. EX1005, 3:46-51; EX1002, ¶398. As such, a POSITA would have a reasonable expectation of success without undue experimentation in substituting Williams' U-shaped burner with the straight-tube burner from May. EX1002, ¶399.

To the extent that the burner of May requires modifications to align with the heating zone of Williams, such a modification similarly does not require undue experimentation. EX1002, ¶¶399-400; *KSR Int’l Co. v. Teleflex Inc.*, 550 U.S. 398, 421 (2007) (“[a] person of ordinary skill is also a person of ordinary creativity, not an automaton.”). Heat distribution from a burner is provided by the placement of the burner holes, so a POSITA would be motivated to place the burner holes only along the portion of the burner within the heating chambers (20) of Williams and not the portion of the burner that extends into exit flue (18) coupling the burner the rear of the frame. EX1002, ¶¶400-401; see EX1005, Figs. 2 and 3.

[1.3] a griddle sized to be suspended by the frame to be positioned on the upper portion of the frame, the griddle having a cooking surface and an underside surface, the underside surface extending to define a rectangular shape with a front end, a rear end, a left end, and a right end;

Limitation [1.3] is rendered obvious for at least the reasons provided for limitation [10.1] and [10.2]. EX1002, ¶¶402-405; see Section VIII(C)(1).

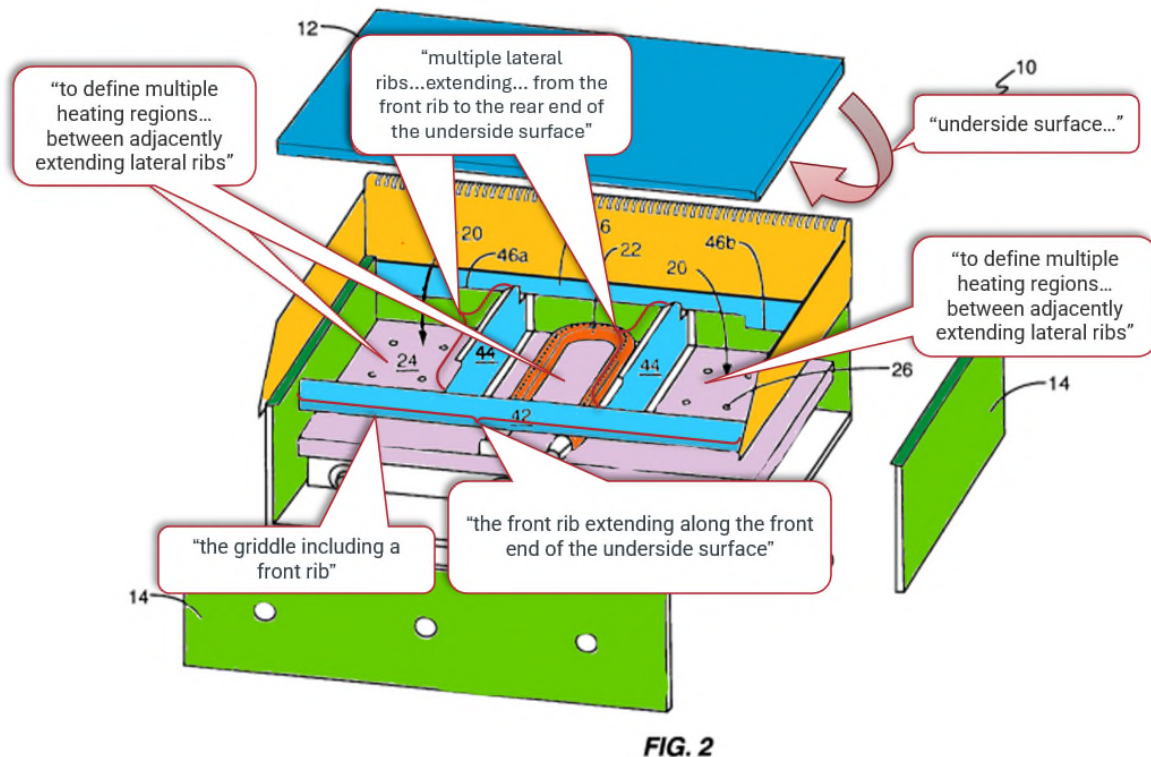
In addition, Williams discloses a griddle with rectangular cooking and underside surfaces configured to be suspended by the frame (14). EX1005, Fig. 2, Fig. 3 and 2:8-12; EX1002, ¶403. The frame (14) includes an upper portion, colored dark green, that allows the cooking surface (12) to be suspended when fully assembled. *Id.* The cooking surface (12) is sized to properly align with the dark green portion at the top of frame (14) shown in the below figure. EX1002, ¶404.



EX1005, FIG. 2

[1.4] the griddle including a front rib and multiple lateral ribs, the front rib extending along the front end of the underside surface, and the multiple lateral ribs extending along the underside surface from the front rib to the rear end of the underside surface, the multiple lateral ribs being spaced from each other so as to define multiple heating regions such that each heating region is defined between adjacently extending lateral ribs;

Limitation [1.4] is rendered obvious for at least the reasons provided for limitation [10.3], [10.4], and [10.5]. EX1002, ¶¶406-408; see Section VIII(C)(1).



EX1005, FIG. 2

[1.5] each of the heating regions includes one of the multiple burners positioned below one of the multiple heating regions;

Limitation [1.5] is rendered obvious for at least the reasons provided for limitation [10.5]. EX1002, ¶¶409-410; see Section VIII(C)(1).

Furthermore, as previously discussed, the shape of the burner is not material to the operation of Williams. EX1002, ¶411. Thus, Williams teaching regarding the location of the burner positioned below the upper zone heating region equally applies when a straight burner as taught by May is utilized in the Williams cooking device. EX1002, ¶411.

[1.6] each of the lateral ribs extend downward from the underside surface a height so as to funnel convection heat from any one of the multiple burners toward the rear end of the underside surface of the griddle and from the rear side of the frame;

Limitation [1.6] is rendered obvious for at least the reasons provided for limitation [10.6]. EX1002, ¶¶412-420; see Section VIII(C)(1).

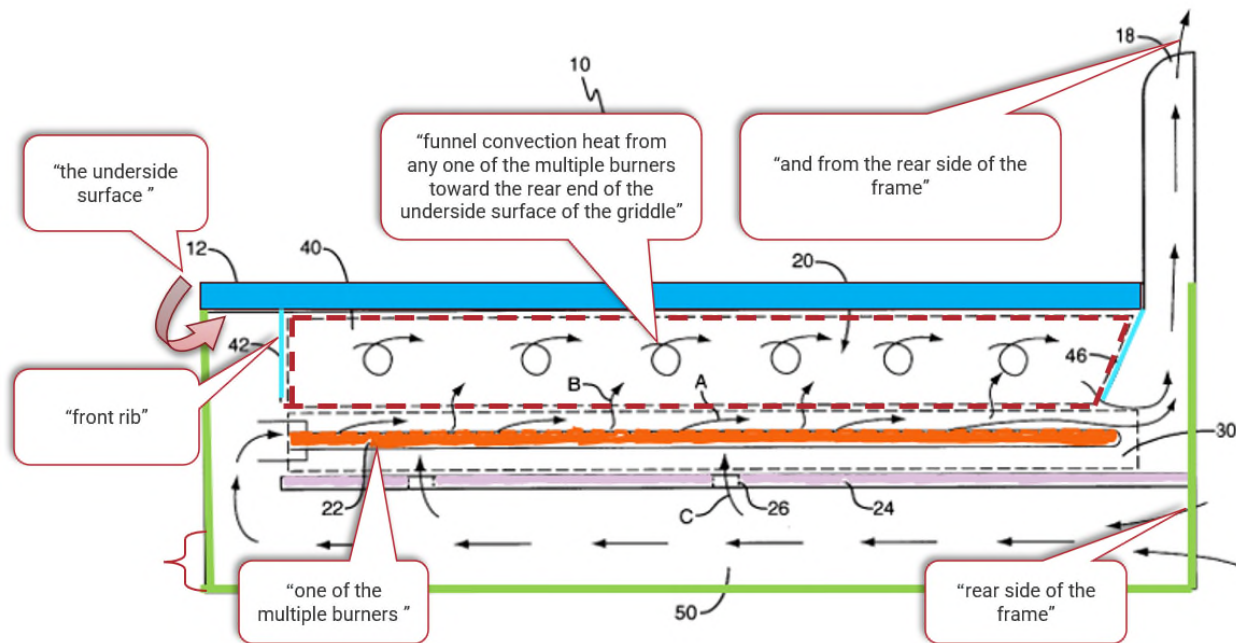
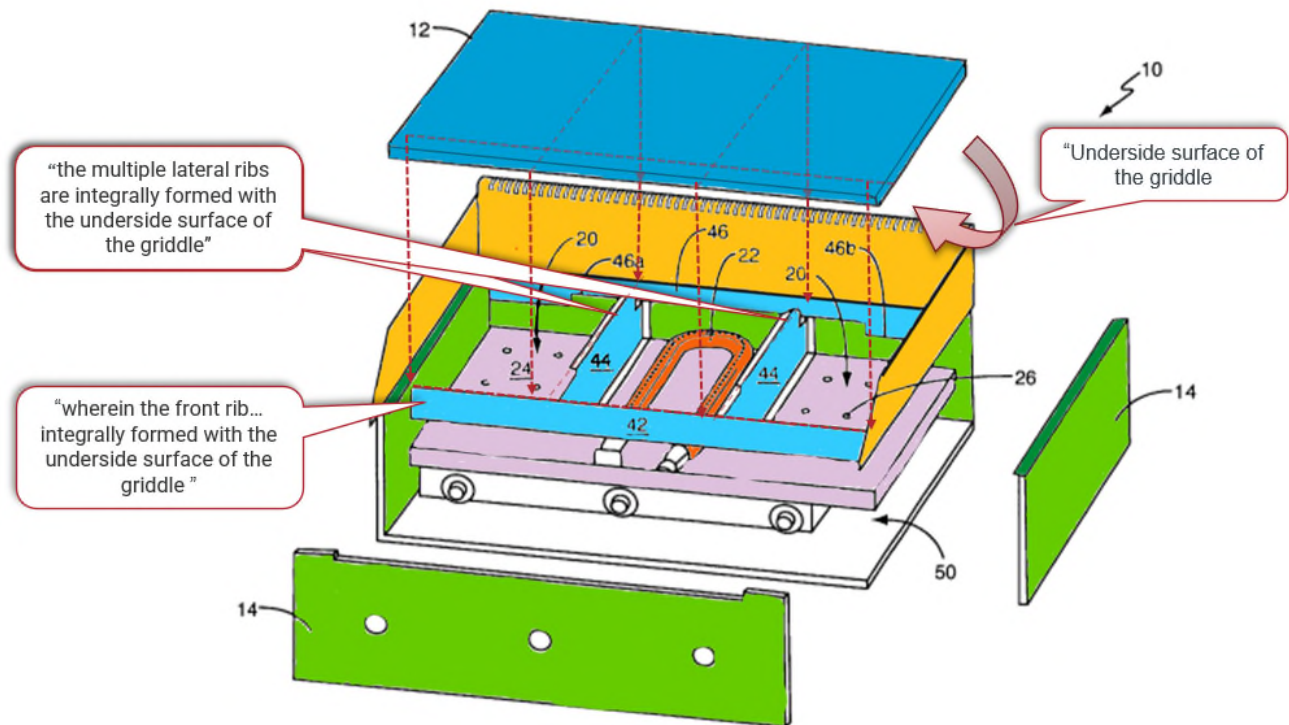


FIG. 3

EX1005, FIG. 3

[1.7] wherein the front rib and the multiple lateral ribs are integrally formed with the underside surface of the griddle;

Limitation [1.7] is rendered obvious for at least the reasons provided for limitation [10.7]. EX1002, ¶¶421-436; see Section VIII(C)(1).



EX1005, FIG. 2

[1.8] and wherein the multiple lateral ribs directly extend from the underside surface of the griddle such that each lateral rib is spaced and separate from an adjacent lateral rib.

Limitation [1.8] is rendered obvious for at least the reasons provided for limitation [10.8]. EX1002, ¶¶437-439; see Section VIII(C)(1).

2) Claim 2-4

Claim 2. The cooking system of claim 1, wherein the front rib substantially blocks convection heat from escaping from the front side of the frame.

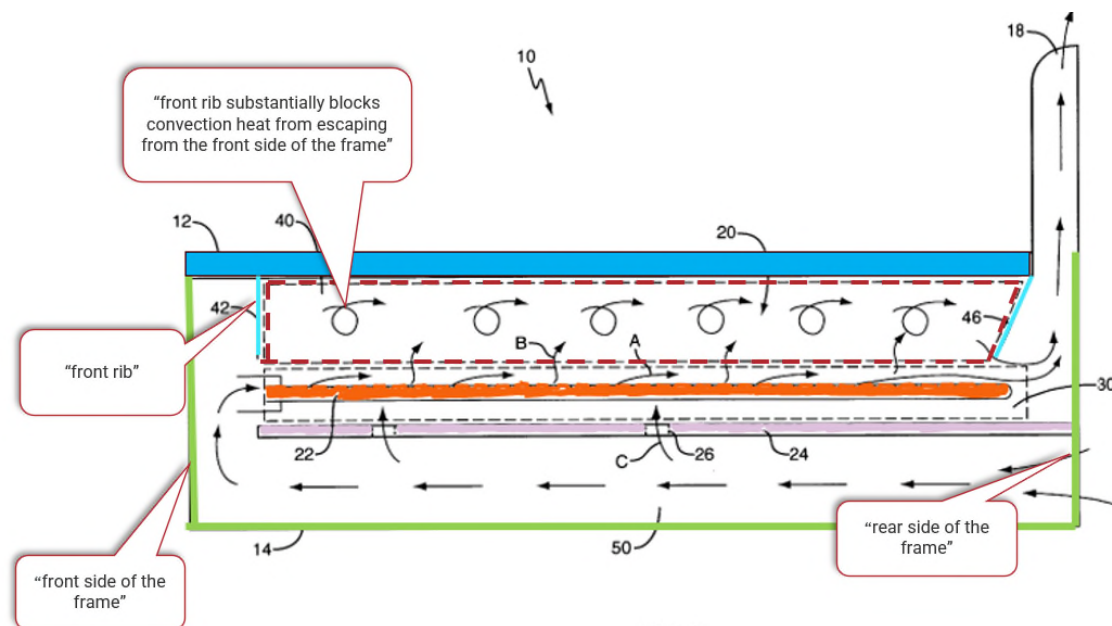
Claim 3. The cooking system of claim 1, wherein the adjacently extending lateral ribs are sized to substantially prevent convection

heat from moving over the adjacently extending lateral ribs and directly, convectively heating adjacent heating regions.

Claim 4. The cooking system of claim 1, wherein the adjacently extending lateral ribs are sized to substantially maintain convection heat between the adjacently extending lateral ribs to only convectively heat the corresponding heating region between the adjacently extending lateral ribs.

Williams in view of May, renders obvious claim 1 as discussed above. Claims 2, 3, and 4 are substantively identical to limitations 11, 12, and 13. EX1002, ¶¶440-447.

The addition of May modifies the burner, but that modification does not alter the analysis for any of claims 11, 12, and 13. Therefore, Williams in view of May renders obvious claims 2, 3, and 4 for the same reasons that Williams alone renders obvious 11, 12, and 13. See Section VIII(C)(2); EX1002, ¶¶440-447.



EX1005, FIG. 3

3) **Claim 7**

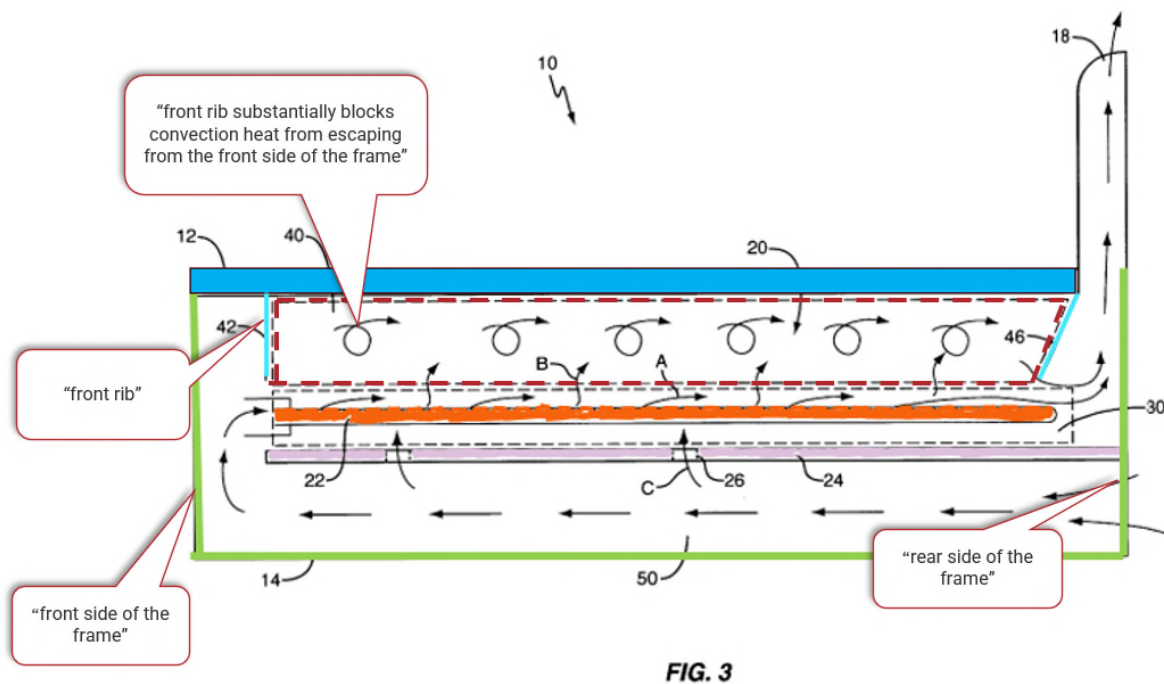
The cooking system of claim 1, wherein the front rib and the lateral ribs facilitate channeling convection heat to a rear side of the frame.

Williams in view of May, renders obvious claim 1 as discussed above.

Williams in view of May also renders obvious claim 7. EX1002, ¶448.

Williams describes an upper zone in Williams is defined by the underside of the griddle and “flow-restricting walls,” specifically a front dam wall (42), a rear dam wall (46), and sidewalls (44). EX1005, Fig. 3 and 2:39-47; EX1002, ¶449. The “front dam 42, rear dam 46, and sidewalls 44,” produce heating regions where a “portion of the hot combustion gases are at least temporarily trapped” until they exit the rear side of the frame. EX1005, 3:57-4:2; EX1002, ¶449.

In Figure 3, below, no air flow is indicated to pass through front, rear, or side walls but rather exits the heating chamber only by passing below rear wall (46) to the exit flue (18). EX1005, Fig. 3, 3:35-44 and 3:62-4:2; EX1002, ¶450. The rear wall of flue (18) comprises the rear frame of Williams’s cooking device as shown in annotated Figure 3. EX1002, ¶451.



EX1002, FIG. 3.

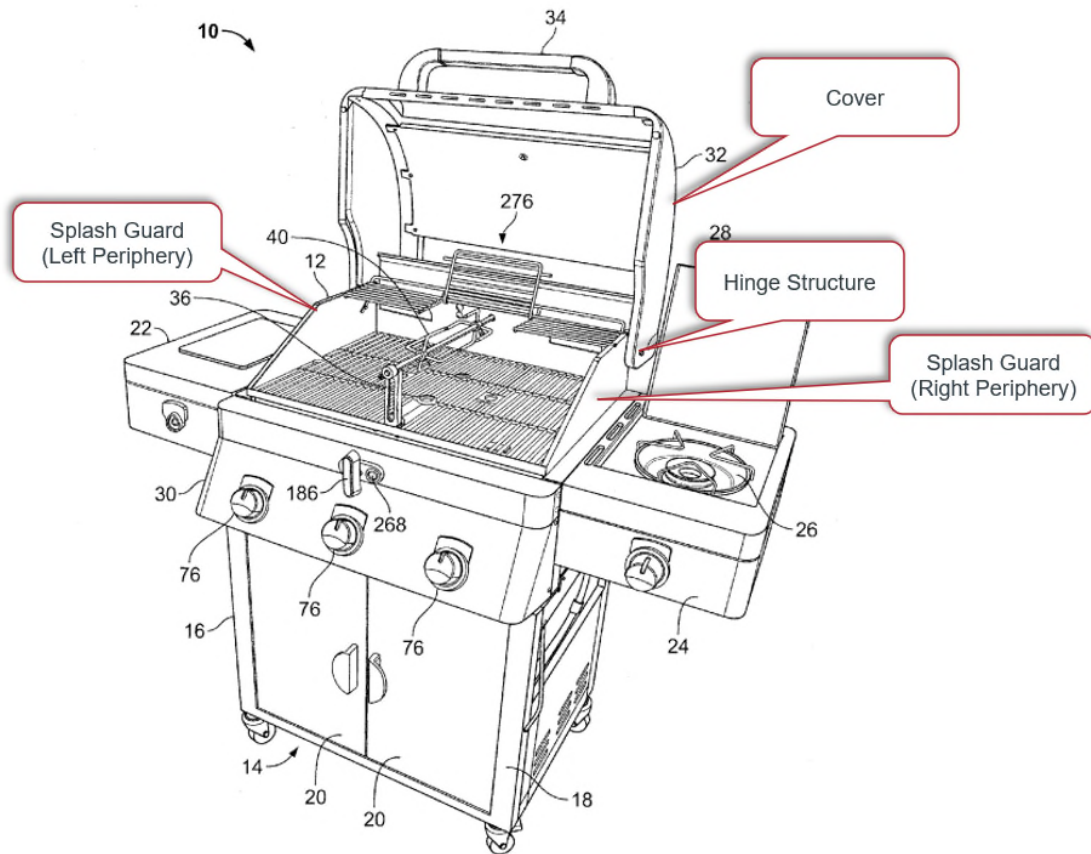
4) Claim 16

The griddle of claim 15, wherein the splash guard includes a hinge structure, the hinge structure configured to pivotably couple to a cover of the cooking station.

As discussed with respect to claim 15 in Ground 1, Williams discloses a splash guard. EX1002, ¶¶107-109.

May teaches a splash guard with a hinge structure for pivotably coupling to a cover of a cooking station. EX1008, [0003]; *see also* [0046] (providing that “lid 32 is pivotably attached to the firebox and is pivotable between an open position and a closed position (not shown).”); EX1002, ¶453. Figure 1 of May, below, shows a lid 32 coupled to a right peripheral and left peripheral splash guard. EX1008, Fig. 1;

EX1002, ¶454. As Williams already teaches a right and left splash guard, as explained above with respect to claim 15, it would be a routine and trivial task to add a mechanical coupling component to the splash guard for attaching a cover for Williams's griddle. EX1005, Figure 2; EX1002, ¶455.



EX1006, FIG. 1

A POSITA would be motivated to include the lid structure in the cooking device described in the combination of Williams and May since there are a myriad of benefits for including a lid. EX1002, ¶456. For instance, a POSITA would recognize the benefits of including a lid when Williams's griddle device is used in

an outdoor setting to prevent wind from blowing leaves, dirt, bugs, or other foreign material onto the food. EX1002, ¶457; *see* Section VII(C)(4) (explaining how Williams’s propane fuel source indicates outdoor usage). A closed lid would also trap convective heat radiating from Williams’s griddle surface to help cook portions of the food not in close contact with the hot griddle surface – whether the griddle was used indoors or outdoors. EX1002, ¶457. Finally, a lid would also protect Williams’s griddle surface when used outdoors from prolonged sun or wind damage. EX1002, ¶457.

G. Ground 5 - Claims 1-4, 6-7, and 16 are Rendered Obvious by Williams in view of May and further in view of Best.

As discussed in Ground 4, Williams in view of May renders obvious claims 1-4, 7, and 16 (claim 6 is address separately below). EX1002, ¶¶458-461. While Williams suggests but doesn’t explicitly state that the lateral ribs would be integral to the underside surface of the griddle, Petitioner relies on Best that explicitly discloses a lateral rib integral with the underside surface. EX1002, ¶459. In Ground 2, Petitioner extensively detailed Best’s teachings of this limitation and the reason to combine with respect to claim 10 and relies on that same analysis here for claim 1. *See* Section VIII(D)(1).

In addition, it is noted that the modification of Williams’s burner in view of May and the modification of Williams’s sidewall in view of Best are independent

and complimentary. This is because coupling the burner to the front and rear frame has no material impact on how the lateral ribs contain and channel heat to the rear of Williams's cooking device. A POSITA would be motivated to modify Williams for the reasons given above with respect to May (to couple the burner to the front and rear frame) and Best (to integrate the lateral ribs to the underside of the griddle surface). EX1002, ¶¶468-485 and 505-518. The only claim not previously addressed is claim 6, which is addressed separately below.

1) Claims 1-4, 7, and 16

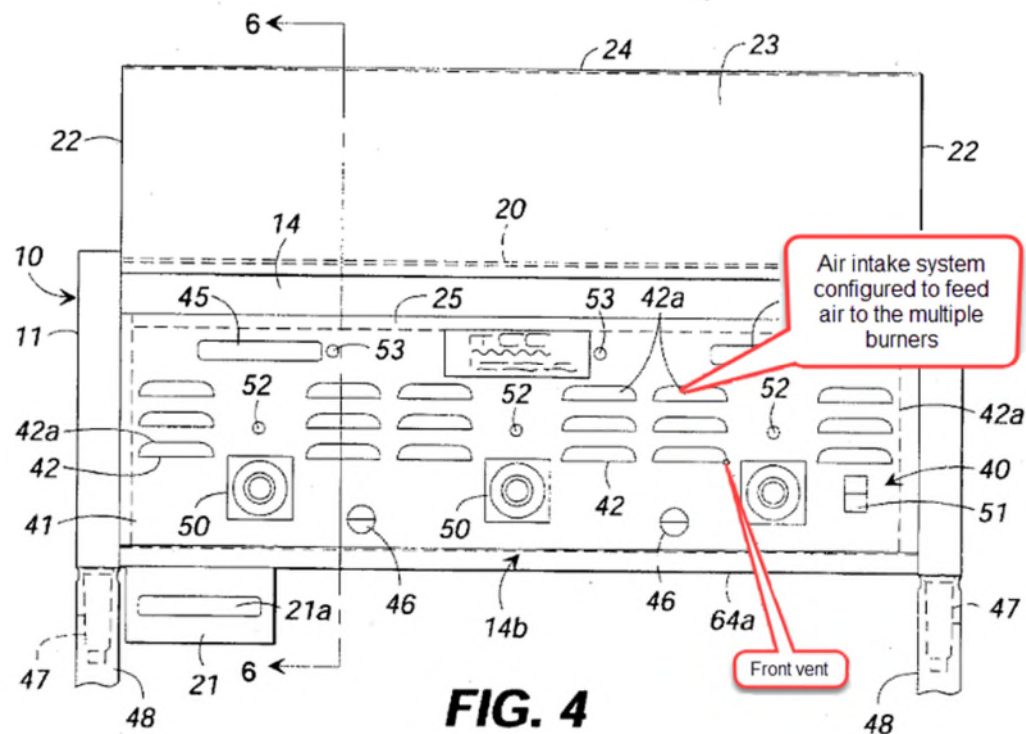
Claims 1-4, 7, and 16 are taught by Williams for the reasons previously provided in Grounds 2 (analyzing Williams in view of Best) and 4 (analyzing Williams in view of May). *See* Sections VIII(D)(1) and (F)(1), respectively; EX1002, ¶¶462-528; *see also* EX1004, 95-97 and EX1025, 4-10 (Examiner and Patent Owner applying same analysis for independent claims and their respective dependent claims)

2) Claim 6

The cooking system of claim 1, wherein the frame comprises an air intake system configured to feed air to the multiple burners, the air intake system including at least one of a front vent along the front side of the frame, a left vent along the left side of the frame, and a right vent along a right side of the frame.

Williams in view of May, and further in view of Best discloses each of the limitations of claim 1. EX1002, ¶529.

Both Williams and Best disclose natural air intake systems to feed air to the multiple burners. EX1005, 2:25-30; EX1006, 52-56; EX1002, ¶530. In particular, Best discloses the air intake system as described in the ‘473 patent, which is configured to feed air to the multiple burners. *See* EX1006, 6:52-58 and Fig. 4; EX1002, ¶530. Additionally, Best discloses an air intake system including at least one front vent along the front side of the frame. EX1006, FIG. 4, FIG. 6, and 6:52-58 (“a front upright panel 41 having spaced ventilation ports 42”); EX1002, ¶530.



EX1006, FIG. 4

Figure 4 is a front elevation view of the griddle depicting the front vents along the front side of the frame. EX1002, ¶531; EX1006 at FIG. 6 (showing a cross

section view with vents 42 in the front frame). These vents act as an air intake system configured to “permit air to be drawn therethrough into the interior of the housing” which in turn feeds air to the multiple burners. EX1006, 6:53-54; EX1002, ¶531.

As Williams teaches a “primary flow” of air is from a rear vent, the additional air intake vents on the front would increase the air flow further to ensure sufficient air for naturally fed gas burners. EX1005, 3:20-29; EX1002, ¶532. Accordingly, it would have been obvious to a POSITA to modify Williams’s cooking system to utilize the additional air intake vents in the front frame as taught by Best to ensure sufficient air flow to the burners better. EX1002, ¶532.

Although claim 6 only requires vents on one of the recited sides (i.e., front side), to the extent claim 6 is interpreted to required vents on all three sides (front, left and right) then Best renders that obvious to provide sufficient air supply for each burner to improve performance. EX1002, ¶533. As taught by Williams, a griddle system can use a single plenum, meaning that all vents would be connected and thus the source of the air vents (rear, front, left and right) is not material. EX1005, 3:24-28; EX1002, ¶533. Alternatively, Williams teaches that each heating zone could have its own plenum, which would motivate a person of skill in the art to add vents to every side (rear, front, left, and right) to ensure sufficient airflow to each plenum. EX1005, 3:24-28; EX1002, ¶¶533-534.

H. Ground 6 – Claims 1-4, 7, and 16 are Rendered Obvious by Williams in view of May and further in view of Farnsworth.

As discussed in Ground 4, Williams in view of May renders obvious claims 1-4, 7, and 16; EX1002, ¶541. While Williams suggests but doesn't explicitly state that the lateral ribs would be integral to the underside surface of the griddle, Petitioner relies on Farnsworth to explicitly disclose a lateral rib integral with the underside of a griddle. EX1002, ¶542. In Ground 3, Petitioner extensively detailed Farnsworth's teachings of this limitation and reasons to combine with respect to claim 10 and relies on that same analysis here for claim 1. See Section VIII(E)(1); EX1002, ¶544-597.

In addition, it is noted the modification of Williams's burner in view of May and the modification of Williams's sidewall in view of Farnsworth are independent and complimentary. This is because coupling the burner to the front and rear frame has no material impact on how the lateral ribs contain and channel heat to the rear of Williams's cooking device. This is because coupling the burner to the front and rear frame has no material impact on how the lateral ribs contain and channel heat to the rear of Williams's cooking device. A POSITA would be motivated to modify Williams for the reasons given above with respect to May (to couple the burner to the front and rear frame) and Farnsworth (to integrate the lateral ribs to the underside of the griddle surface). EX1002, ¶¶550-556 and 587-597.

1) Claims 1-4, 7, and 16

Claims 1-4, 7, and 16 are taught by Williams for the reasons previously provided in Grounds 3 (analyzing Williams in view of Farnsworth) and 4 (analyzing Williams in view of May). See Sections VIII(E)(1) and (F)(1), respectively; EX1002, ¶¶541-619.

IX. DISCRETIONARY DENIAL IS NOT APPROPRIATE HERE

A. 35 U.S.C. § 325(d)

The Board should not exercise discretionary denial under § 325(d), particularly in view of the new information presented and strong showing of invalidity in the foregoing Grounds. First, none of the references cited in this Petition formed the basis of a rejection during prosecution. Neither May nor Farnsworth have been previously presented to the Office, which are cited in Grounds 3-6. While Williams and Best, were previously presented to the examiner, there is no indication the Examiner considered their teachings to make lateral ribs integral with the underside of the griddle as set out in this Petition. EX1005, 2:41-47; EX1006, 9:18-22. In addition, Petition provides the testimony of Dr. Valle to explain how a POSITA would view the teachings of these references. See EX1002. Therefore, part one of the *Advanced Bionics* test favors institution, as the Grounds set forth herein were not considered by the Examiner. See *Thorne Res., Inc. v. Trs. of Dartmouth Coll.*, IPR2021-00491, Paper 18 at 8 (PTAB Aug. 12, 2021); *Advanced Bionic v.*

Med-EL Elektromedizinische Geräte, IPR2019-01469, 2020 WL 740292, at *3-4 (P.T.A.B. Feb. 13, 2020) (precedential)).

Further, under part two of *Advanced Bionics*, assuming the examiner was aware of the relevant teachings in the cited prior art, the examiner erred in a manner material to the patentability of challenged claims in allowing the claims of the ‘473 Patent. Moreover, and as discussed above, the examiner mistakenly allowed the ‘473 Patent claims, overlooking teachings in the prior art that renders the challenged claims obvious. Finally, Applicant’s argument that making the lateral ribs “integral” with the griddle renders the claims patentable is flawed when such integration is an obvious design choice operating as expected, which is the case here as explained by Dr. Valle’s declaration. See MPEP 2411.04(V)(B)(quoting *In re Larson*).

B. 35 U.S.C. § 314(a)

Apple, Inc. v. Fintiv, Inc., IPR2020-00019, Paper 11 (Mar. 20, 2020) (precedential) favors institution because this Petition presents compelling evidence of unpatentability and, per PTO interim guidance, Petitioner stipulates that if the Board institutes this IPR then Petitioner will not seek resolution in the district court litigation of invalidity based on the grounds in this Petition, or any grounds that could have reasonably been raised in this Petition. See *Sotera Wireless, Inc. v. Masimo Corp.*, IPR2020-01019, Paper 12 at 17 (PTAB Dec. 1, 2020) (precedential); 35 U.S.C. §311 103 (IPR scope limited to “ground[s] that could be raised under

section 102 or 103 and only on the basis of prior art consisting of patents or printed publications”).

X. CONCLUSION

In view of the foregoing, claims 1-4, 6-7, 10-13, 15-18, and 20 of the ‘473 Patent are not patentable, and Petitioner requests this IPR be instituted.

Date: March 22, 2024,

Respectfully submitted,

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APPENDIX - Claim Limitation Listing

Claim 1

[1.0] A cooking system, comprising:

[1.1] a frame extending with a front side, a rear side, a left side, and a right side each extending between a lower portion and an upper portion;

[1.2] multiple burners coupled to and extending between the front side and the rear side of the frame; and

[1.3] a griddle sized to be suspended by the frame to be positioned on the upper portion of the frame, the griddle having a cooking surface and an underside surface, the underside surface extending to define a rectangular shape with a front end, a rear end, a left end, and a right end;

[1.4] the griddle including a front rib and multiple lateral ribs, the front rib extending along the front end of the underside surface, and the multiple lateral ribs extending along the underside surface from the front rib to the rear end of the underside surface, the multiple lateral ribs being spaced from each other so as to define multiple heating regions such that each heating region is defined between adjacently extending lateral ribs;

[1.5] each of the heating regions includes one of the multiple burners positioned below one of the multiple heating regions;

[1.6] each of the lateral ribs extend downward from the underside surface a height so as to funnel convection heat from any one of the multiple burners toward the rear end of the underside surface of the griddle and from the rear side of the frame;

[1.7] wherein the front rib and the multiple lateral ribs are integrally formed with the underside surface of the griddle;

[1.8] and wherein the multiple lateral ribs directly extend from the underside surface of the griddle such that each lateral rib is spaced and separate from an adjacent lateral rib.

Claim 2

[2.0] The cooking system of claim 1, wherein the front rib substantially blocks convection heat from escaping from the front side of the frame.

Claim 3

[3.0] The cooking system of claim 1, wherein the adjacently extending lateral ribs are sized to substantially prevent convection heat from moving over the adjacently extending lateral ribs and directly, convectively heating adjacent heating regions.

Claim 4

[4.0] The cooking system of claim 1, wherein the adjacently extending lateral ribs are sized to substantially maintain convection heat between the adjacently extending lateral ribs to only convectively heat the corresponding heating region between the adjacently extending lateral ribs.

Claim 6

[6.0] The cooking system of claim 1, wherein the frame comprises an air intake system configured to feed air to the multiple burners, the air intake system including at least one of a front vent along the front side of the frame, a left vent along the left side of the frame, and a right vent along a right side of the frame.

Claim 7

[7.0] The cooking system of claim 1, wherein the front rib and the lateral ribs facilitate channeling convection heat to a rear side of the frame.

Claim 10

[10.0] A griddle configured to control convection heat from one or more gas flame burners of a cooking station, the griddle comprising:

[10.1] a cooking surface having a rectangular shape, the cooking surface configured to face upward;

[10.2] an underside surface, the underside surface extending to generally correspond with the cooking surface, the underside surface facing in an opposite direction than the cooking surface, the underside surface extending to define a periphery with a front end, a rear end, a left end, and a right end;

[10.3] a front rib having a front rib height and coupled to the front end of the underside surface, the front rib extending longitudinally along the front end of the underside surface; and

[10.4] multiple lateral ribs each extending laterally relative to the front rib and extending along the underside surface from the front rib to the rear end of the underside surface;

[10.5] the multiple lateral ribs being spaced from each other so as to define multiple heating regions such that each heating region is defined between adjacently extending lateral ribs, the heating regions each configured to be positioned above a gas flame burner;

[10.6] each of the lateral ribs extend downward from the underside surface a lateral rib height such that the adjacently extending lateral ribs are configured to funnel the convection heat from the gas flame burner toward the rear end of the underside surface and away from a rear side of the cooking station;

[10.7] wherein the front rib and the multiple lateral ribs are integrally formed with the underside surface; and

[10.8] wherein the multiple lateral ribs directly extend from the underside surface such that each lateral rib is spaced the cooking station and separate from an adjacent lateral rib.

Claim 11

[11.0] The griddle of claim 10, wherein the front rib substantially blocks the convection heat from escaping a front side of the underside surface.

Claim 12

[12.0] The griddle of claim 10, wherein the adjacently extending lateral ribs are sized to substantially prevent convection heat from moving over the adjacently extending lateral ribs and directly, convectively heating adjacent heating regions.

Claim 13

[13.0] The griddle of claim 10, wherein the adjacently extending lateral ribs are sized to substantially maintain convection heat therebetween to only convectively heat the corresponding heating region between the adjacently extending lateral ribs.

Claim 15

[15.0] The griddle of claim 10, further comprising a splash guard extending upward above a periphery of the cooking surface.

Claim 16

[16.0] The griddle of claim 15, wherein the splash guard includes a hinge structure, the hinge structure configured to pivotably couple to a cover of the cooking station.

Claim 17

[17.0] A method for selectively heating regions of a griddle with convection heat from one or more gas flame burners of an outdoor cooking station, the method comprising:

[17.1] turning on one or more gas burners of the outdoor cooking station such that the one or more gas burners are positioned below an underside surface of a griddle; and

[17.2] selectively heating specific regions of the griddle that correspond with the one or more gas burners turned on, the specific regions each

defined by adjacently extending parallel ribs, the ribs extending laterally from a front rib toward a rear end of the underside surface of the griddle such that the front rib and the parallel ribs channel convection heat to flow between the adjacently extending parallel ribs toward the rear end of the griddle and away from the outdoor cooking station;

[17.3] the front rib and the parallel ribs integrally formed with the underside surface of the griddle, and the parallel ribs directly extend from the underside surface of the griddle such that each parallel rib is spaced and separate from an adjacently extending parallel rib.

Claim 18

[18.0] The method according to claim 17, wherein the selectively heating comprises selectively heating the specific regions with the parallel ribs substantially preventing convection heat from moving over the parallel ribs by the convection heat being drawn toward the rear end of the griddle.

Claim 20

[20.0] The method according to claim 17, wherein the selectively heating comprises substantially preventing convection heat from moving over the parallel ribs by drawing the convection heat toward the rear end of the griddle with rear end openings, each rear end opening defined by oppositely positioned rear rib ends of the parallel ribs and the rear end of the underside surface of the griddle and a frame component of the outdoor cooking station, the parallel ribs positioned on the frame component.

CERTIFICATE OF SERVICE UNDER 37 CFR § 42.6(e)(4)

The undersigned hereby certifies that a copy of the accompanying Petition for *inter partes* review, all accompanying exhibits, and the Power of Attorney has been served via USPS Priority Mail Express to the correspondence address of record for U.S. Patent No. 10,660,473 on March 22, 2024, upon the following:

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