Patent and Intellectual Property

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Veterans' Business Outreach Center
Small Business Development Center

US Patent Office Washington, DC

- Much of this came directly from the USPTO – the US Patent and Trademark Office
- A good source of information is:
  - www.uspto.gov
  - http://www.uspto.gov/patents/resources/general_info_concerning_patents.pdf
  - https://oedci.uspto.gov/OEDCI/query.jsp Attorneys and Agents
  - http://www.uspto.gov/inventors/index.jsp Help

Can It Be Patented?

- This presentation is not about the details of the patenting processing, but more about helping you, the inventor do the initial search.
  - At some point you will need an attorney, but before you get to that point you can do a lot of the work yourself.

Can It Be Patented?

- Patent attorneys will always tell an inventor that they (the inventor with the expert advice of the patent attorney) can *apply* for a patent.
  - Just because they *can* doesn't mean they should.
  - Inventors have the impression that getting a patent is the road to riches.
  - A patent is of no value unless there is a need and a way to market the concept.

What is a Patent?

- It is the grant of a property right to an inventor.
  - Utility patent 20 years from the date filed.
    - Design patents 14 years.
  - U.S. Patents are only within the United States.
  - Prevents others from making, selling, or "Importing" the invention into the United States.
  - The US Patent Office (USPTO) makes the patent public, but does not enforce, monitor, or control the patent in any manner once granted.

What is a Trademark or Servicemark?

- A Trademark is a word, name, symbol, or device that is used in trade with goods to indicate the source of the goods and to distinguish them from the goods of others.
- A Servicemark is the same thing except that it distinguishes the source of the service.
- Trade or Servicemarks can be registered with USPTO and carry the ® symbol.

What is a Copyright?

- Copyright is a form of protection provided to the authors of "original works of authorship" including literary, dramatic, musical, artistic, and certain other intellectual works, both published and unpublished.
  - If you are the author your work is copyrighted if you can prove that you are the author.
  - If you register the material with USPTO the material will carry the © symbol.

- Basic Filing Fee – Utility = $140.00 (small firm)
  - Very small – Micro Entity = $70.00
  - Maintenance Fee due in 3.5 years = $800.00
    - Micro = $400.00
  - International filing fee = $1,312.00
- Provisional Patent = $130.00, Micro = $65.00
- Design = $90.00 ; micro = $45.00
- Trademark = $375.00

There is a fee for anything you do, so this may not be all the charges.

Patent Cooperation Treaty

- A US patent may not apply in other countries.
- The Patent Cooperation Treaty (PCT) is an international agreement for filing patent applications. An inventor can file a single international patent application in one language in 148 countries.
  - Includes : China, Indonesia and India.
  - Taiwan? Not listed but is a providence of China.
  - Cost - $1,100 plus attorney fees – can get expensive, but less than individual applications.
  - Minimum of 18 months.
  - It may be difficult to enforce the patent in some countries .

Provisional Patent

- It is easy for an inventor to make a provisional patent.
  - Filing doesn't have to be in any detailed format, do not require drawings – they are not reviewed.
  - Most importantly it does not require any claims.
  - The inventor can use "Patent Pending".
  - All provisional patents become abandoned after 12 months from the filing date.
  - You can not file on an abandon patent. If you do not make a non provisional patent within 12 months all ability to file is lost.

Non-provisional Patents

- Require a very specific format, drawings, and claims.
  - Non-provisional patents are carefully reviewed and the investigators search all older patents for "prior art".
  - New patents have to be "novel", meaning that it has to be new, not obvious, and not just a modification of a prior patent.
  - If something was patented at one time – even if expired, it is "prior art" and cannot be patented even with more modern materials or processes.

Patent Search

- www.freepatentsonline.com
  - I suggest you register that way you get the .pdf files. Still free.
  - Searching is a lot more complicated that you think.
  - A search for latch brings up 777,755 patents.
  - Patents often have odd terminology. A box can be a box, but also a container, a vessel, a structure, a cabinet, etc.
  - The more specific you get the less hits you have to look through.
  - A heated box brings up heat, heater, heated, and box.
  - "heated food storage" brings up 67.

Example

- I think I have a new invention for a heated food storage box that can go on the back of a golf cart that can take hot meals out to concerts, events, and maybe even the golf course. Where do I start.
  - I can't patent a box – that's "obvious." I can't patent heat – that's "obvious". I can't patent a heated box unless I am doing something "novel" because that's been done – "prior art".

Search for "heated food storage"

Matches 1 - 50 out of 67

Match	Document	Document Title	Score
1	7829823	Heated food storage and display cabinet A heated food storage and display cabinet (10) comprises an open fronted enclosed chamber (30) within which packs of food can be stored, the cabinet (10) including flow inducing means (52) and...	1000
2	US20020005686	Heated food storage and display cabinet A heated food storage and display cabinet comprises an open fronted chamber in which packs of food can be stored, an upwardly extending enclosed air duct having a plurality of outlets over a...	992
3	WO/2000/036958A1	A HEATED FOOD STORAGE AND DISPLAY CABINET A heated food storage and display cabinet (10) comprises an open fronted enclosed chamber (34) in which packs of food (57) can be stored. An upwardly extending enclosed air duct (41) has a...	986
4	EP1139835B1	A HEATED FOOD STORAGE AND DISPLAY CABINET Abstract not available for EP1139835 Abstract of corresponding document: WO0036958 A heated food storage and display cabinet (10) comprises an open fronted enclosed chamber (34) in which packs of...	967
5	WO/2006/111767A1	HEATED FOOD STORAGE AND DISPLAY CABINET A heated food storage and display cabinet (10) comprises an open fronted enclosed chamber (30) within which packs of food can be stored, the cabinet (10) including flow inducing means (52) and...	962
6	US20080284296	Heated Food Storage and Display Cabinet	

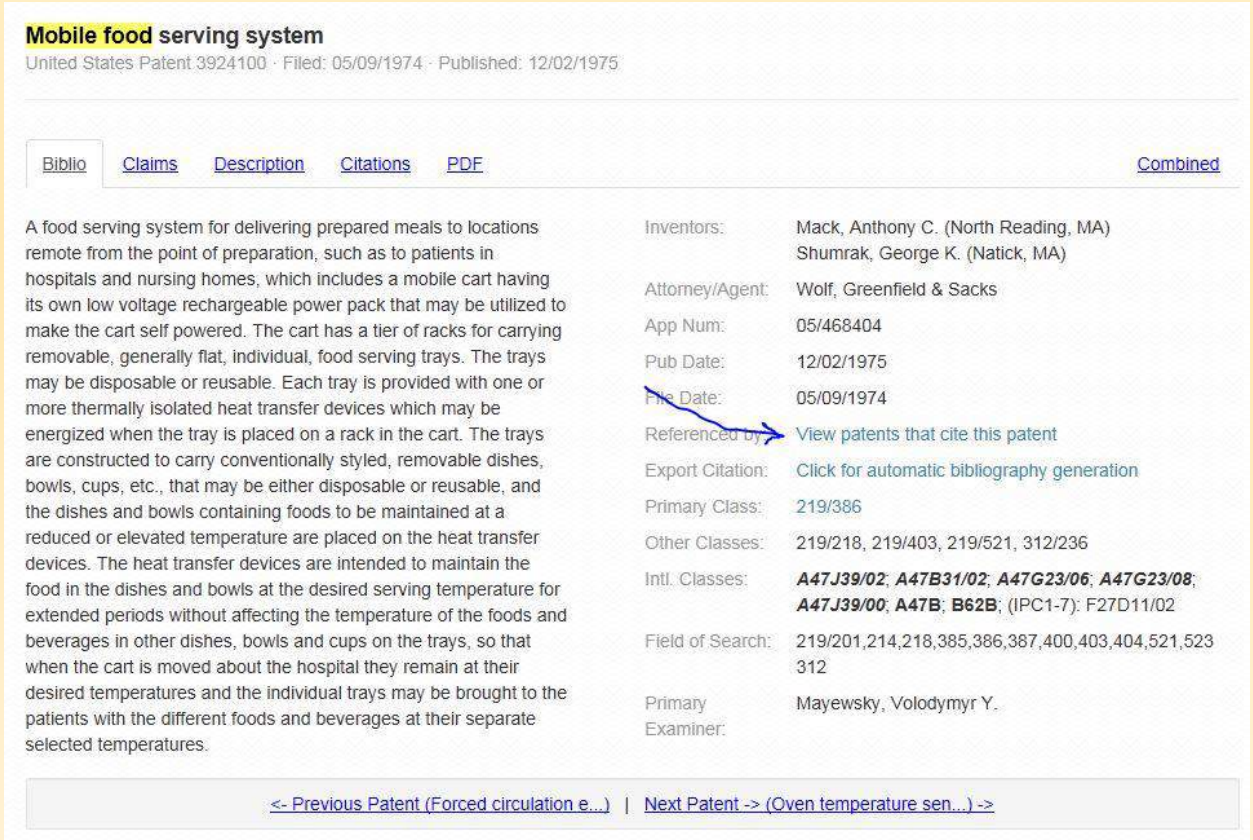
Narrowing the search

- If I narrow the search to "mobile heated food storage".
  - I get nothing – now what?
  - "mobile heated storage" got not much useful.
  - "mobile food" – 405 hits
  - http://www.freepatentsonline.com/3924100.pdf

		the dispenser across a surface in response to direction from the controller, at least one sensor...	894
13	3924100	Mobile food serving system A food serving system for delivering prepared meals to locations remote from the point of preparation, such as to patients in hospitals and nursing homes, which includes a mobile cart having its...	838

What Did We Learn From This Search?

- This is an old patent (1975), so this is old technology, but it can lead us to other patents that may be more current.



Mobile food serving system

United States Patent 3924100 · Filed: 05/09/1974 · Published: 12/02/1975

Biblio | Claims | Description | Citations | PDF | Combined

A food serving system for delivering prepared meals to locations remote from the point of preparation, such as to patients in hospitals and nursing homes, which includes a mobile cart having its own low voltage rechargeable power pack that may be utilized to make the cart self powered. The cart has a tier of racks for carrying removable, generally flat, individual, food serving trays. The trays may be disposable or reusable. Each tray is provided with one or more thermally isolated heat transfer devices which may be energized when the tray is placed on a rack in the cart. The trays are constructed to carry conventionally styled, removable dishes, bowls, cups, etc., that may be either disposable or reusable, and the dishes and bowls containing foods to be maintained at a reduced or elevated temperature are placed on the heat transfer devices. The heat transfer devices are intended to maintain the food in the dishes and bowls at the desired serving temperature for extended periods without affecting the temperature of the foods and beverages in other dishes, bowls and cups on the trays, so that when the cart is moved about the hospital they remain at their desired temperatures and the individual trays may be brought to the patients with the different foods and beverages at their separate selected temperatures.

Inventors:	Mack, Anthony C. (North Reading, MA) Shumrak, George K. (Natick, MA)
Attorney/Agent:	Wolf, Greenfield & Sacks
App Num:	05/468404
Pub Date:	12/02/1975
File Date:	05/09/1974
Referenced by:	View patents that cite this patent
Export Citation:	Click for automatic bibliography generation
Primary Class:	219/386
Other Classes:	219/218, 219/403, 219/521, 312/236
Intl. Classes:	***A47J39/02***; ***A47B31/02***; ***A47G23/06***; ***A47G23/08***; ***A47J39/00***; **A47B**; **B62B**; (IPC1-7): F27D11/02
Field of Search:	219/201,214,218,385,386,387,400,403,404,521,523 312
Primary Examiner:	Mayewsky, Volodymyr Y.

<- Previous Patent (Forced circulation e...) | Next Patent -> (Oven temperature sen...) ->

This Leads Us to 43 Newer Patents

The "D" means this is a design patent and not a utility patent.

Electric equipment isn't going to get us anything we can use.

Matches 1 - 43 out of 43

Match	Document	Document Title	PDF
1	D647751	Heated cabinet for foods and the like	
2	7461849	Method and apparatus for an electronic equipment rack A method and apparatus for an electronic equipment rack that provides mobility through directional self-propulsion and multi-axis suspension. The electronic equipment rack further provides...	
3	6627855	Merchandisers with central heating and control mechanisms and methods for manufacturing and reconfiguring such merchandisers A merchandiser for displaying food products and holding such food products at a controlled temperature has a well divided into three or more well sections, wherein each of the well sections...	
4	6607766	Cooked food staging device and method A cooked food staging device and method is provided. The cooked food staging device allows previously cooked food items, particularly sandwich fillings such as hamburger patties, fish fillets,...	
5	6358548	Cooked food staging devi A cooked food staging de previously cooked food ite fillets,...	

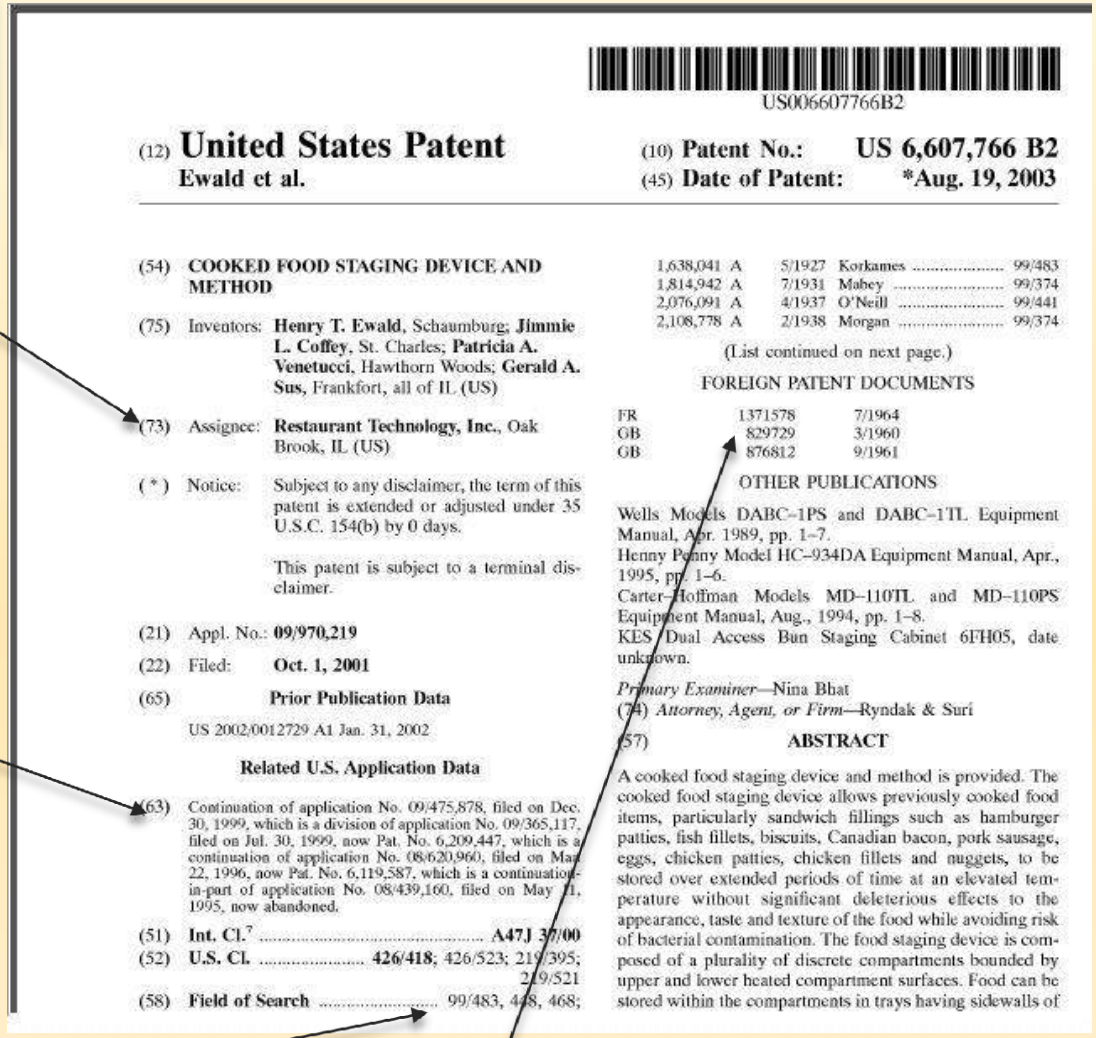
This isn't exactly what we are looking for but it can help.

These guys work for a large company the employs them.

They have several patents one leading to the next.

Field of search gives you some good guidance on where to search.

You may also need to look at the foreign patents.



US006607766B2

(12) **United States Patent**
Ewald et al.

(10) **Patent No.: US 6,607,766 B2**
(45) **Date of Patent: *Aug. 19, 2003**

(54) **COOKED FOOD STAGING DEVICE AND METHOD**

(75) Inventors: **Henry T. Ewald**, Schaumburg; **Jimmie L. Coffey**, St. Charles; **Patricia A. Venetucci**, Hawthorn Woods; **Gerald A. Sus**, Frankfort, all of IL (US)

(73) Assignee: **Restaurant Technology, Inc.**, Oak Brook, IL (US)

(*) Notice: Subject to any disclaimer, the term of this patent is extended or adjusted under 35 U.S.C. 154(b) by 0 days.

This patent is subject to a terminal disclaimer.

(21) Appl. No.: **09/970,219**

(22) Filed: **Oct. 1, 2001**

(65) **Prior Publication Data**

US 2002/0012729 A1 Jan. 31, 2002

Related U.S. Application Data

(63) Continuation of application No. 09/475,878, filed on Dec. 30, 1999, which is a division of application No. 09/365,117, filed on Jul. 30, 1999, now Pat. No. 6,209,447, which is a continuation of application No. 08/620,960, filed on Mar. 22, 1996, now Pat. No. 6,119,587, which is a continuation-in-part of application No. 08/439,160, filed on May 11, 1995, now abandoned.

(51) **Int. Cl.**[7] **A47J 37/00**

(52) **U.S. Cl.** **426/418**; 426/523; 219/395; 219/521

(58) **Field of Search** 99/483, 448, 468;

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Henny Penny Model HC–934DA Equipment Manual, Apr., 1995, pp. 1–6.
Carter–Hoffman Models MD–110TL and MD–110PS Equipment Manual, Aug., 1994, pp. 1–8.
KES Dual Access Bun Staging Cabinet 6FH05, date unknown.

Primary Examiner—Nina Bhat
(74) *Attorney, Agent, or Firm*—Ryndak & Suri

(57) **ABSTRACT**

A cooked food staging device and method is provided. The cooked food staging device allows previously cooked food items, particularly sandwich fillings such as hamburger patties, fish fillets, biscuits, Canadian bacon, pork sausage, eggs, chicken patties, chicken fillets and nuggets, to be stored over extended periods of time at an elevated temperature without significant deleterious effects to the appearance, taste and texture of the food while avoiding risk of bacterial contamination. The food staging device is composed of a plurality of discrete compartments bounded by upper and lower heated compartment surfaces. Food can be stored within the compartments in trays having sidewalls of

These are the references cited by the inventor(s). If this patent is relevant to what you are looking for you should follow each and every one of these and look at the claims.

This is exactly what a patent attorney does, but there is really no reason that the inventor cannot do it themselves before they go to a patent lawyer.

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6,209,447	B1 *	4/2001	Ewald et al.	99/483

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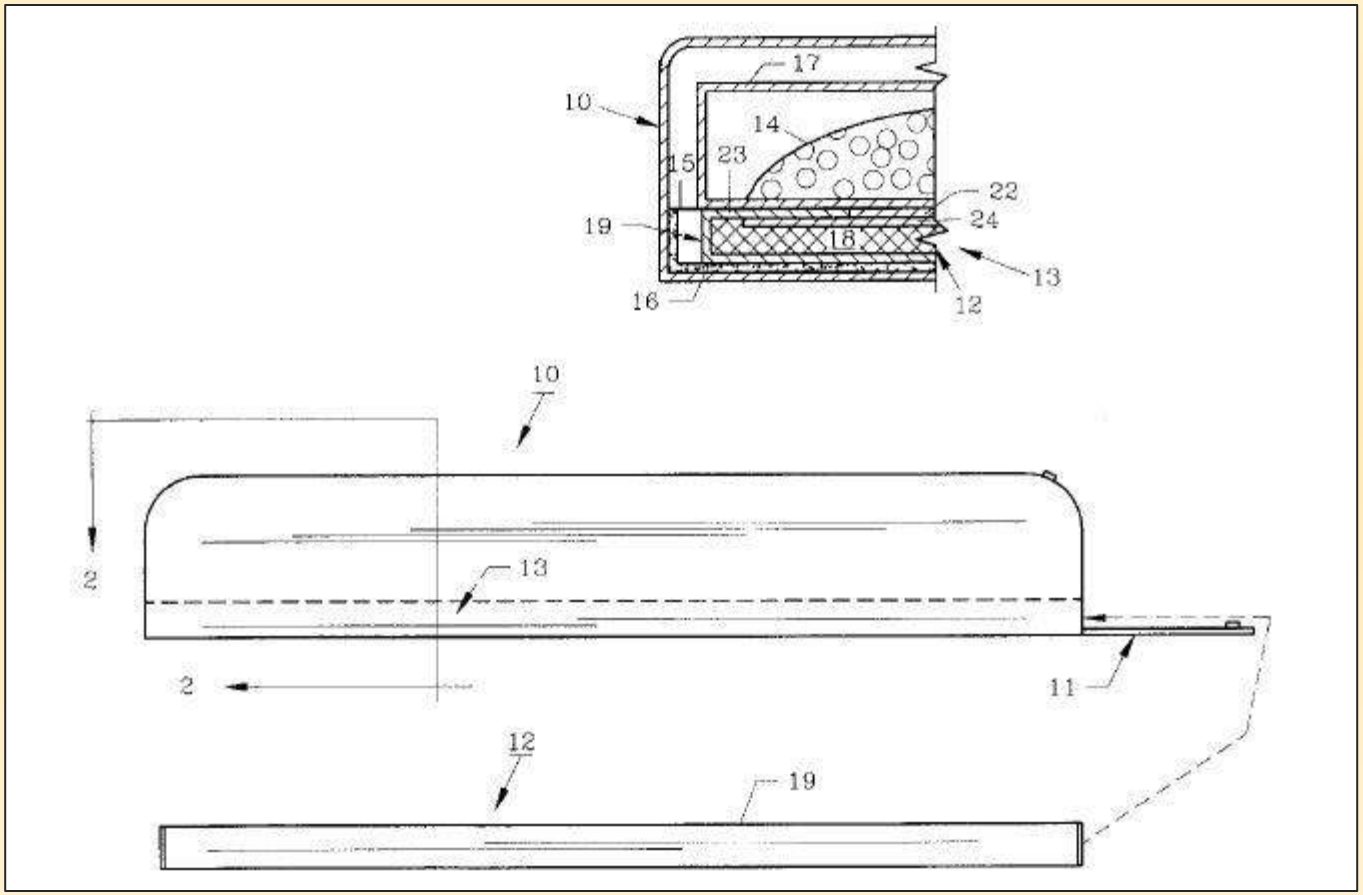
These would be especially relevant.

Let’s look at this one. This is easy - nothing more than a insulated container for pizza delivery. I selected this one because we can all relate to what it is and how it is made.



United States Patent [19]

Bostic

[11] **Patent Number: 5,880,435**

[45] **Date of Patent: Mar. 9, 1999**

[54] **FOOD DELIVERY CONTAINER**

[75] Inventor: **William M. Bostic**, Asheboro, N.C.

[73] Assignee: **Vesture Corporation**, Asheboro, N.C.

[21] Appl. No.: **740,197**

[22] Filed: **Oct. 24, 1996**

[51] **Int. Cl.**[6] **H05B 3/24**; H05B 3/28

[52] **U.S. Cl.** **219/387**; 219/457; 219/462; 219/530; 219/540; 165/104.17; 165/104.21

[58] **Field of Search** 219/385–387, 219/457, 462, 521, 528–530, 540, 544, 549; 165/104.11, 104.17, 104.21, 10; 126/400; 428/402; 252/70

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Copies of drawings (four pages) from PCT application Work Order #96/26694 Publication date 06 Sep. 1996.

Six pages of copies of advertisements of Ingrid, Inc. products–undated.

Poly–Hi MSD Sheet–undated.

Primary Examiner—Teresa Walberg
Assistant Examiner—J. Pelham

[57] **ABSTRACT**

A food delivery container is provided for pizza or other food items and includes a heating element having a phase change material such as a ultra-high molecular weight polyethylene which transforms from a solid to a semi-solid at approximately 248°–275° F. The heating element comprises a rigid envelope which is permeable to prevent gaseous build-up during heating. The heating element, when placed within a suitable insulated container, will maintain food warm for several hours during storage or delivery. In one embodiment of the heating element, an electric resistance grid is provided for supplying heat energy.

5 Claims, 3 Drawing Sheets

"Prior Art" what has come before.

The patent examiner has to be able to understand the drawings.

FOOD DELIVERY CONTAINER

FIELD OF THE INVENTION

The invention herein pertains to containers for delivery of prepared food and particularly of foods which are desirably warmed and maintained at adequate temperatures during delivery.

DESCRIPTION OF THE PRIOR ART AND OBJECTIVES OF THE INVENTION

In recent years it has become increasingly popular to deliver prepared foods such as vegetable plates, sandwiches, French fries, pizzas and the like. Companies which provide home food delivery services are constantly seeking ways to improve the service, food quality and taste due to the competitive nature of the business. Insulated food and pizza delivery bags have been used for many years whereby warmed foods will retain a certain temperature level during delivery, depending on the transportation time and delivery route length.

One prior food delivery device is seen in U.S. Pat. No. 4,182,405 which provides a food temperature maintenance device for use in hospitals, hotels and otherwise. U.S. Pat. No. 4,806,736 demonstrates, a portable pizza delivery bag which includes a heating unit having an electrical heating strip. U.S. Pat. No. 4,983,798 teaches a food-warming device such as for warming coffee. U.S. Pat. No. 4,052,369 food heat storage system which uses a micro- phase change wax as may be heated by a micro- for heat retention of food. While all the devices he prior patents are advantageous under certain

are not tightly sealed so that any resultant gases formed during heating may be allowed to escape. The selected ultra-high molecular weight polyethylene (>20,000 mw) begins changing phase from a solid to a semi-solid or softens at approximately 248° F. when heated such as by placing one embodiment for a few minutes in a standard pizza oven by direct contact on an electrical resistance heater or hot plate. The heating element is then removed and placed in a food container such as a pizza bag or other suitable food container. Pizzas or other food can then be placed therein whereby such food will remain at approximately 160° F. for about two hours under normal (70° F.) ambient temperature. As the ultra-high molecular weight polyethylene reverts to its solid form upon heat dissipation, the heating element can then be removed and reheated further as necessary for the next delivery cycle. Another embodiment of the heating element has an electric heating grid within.

BRIEF DESCRIPTION OF THE DRAWINGS

FIG. **1** illustrates a side elevational view of the preferred food delivery container of the invention with the heating element removed;

FIG. **2** demonstrates a fragmented cross-sectional view of the food delivery container as shown in FIG. **1** but with the heating element and a pizza box contained therein;

FIG. **3** depicts the heating element envelope as seen in FIG. **2** prior to assembly;

FIG. **4** shows another embodiment of the heating element with an integral electric resistance grid; and

FIG. **5** features the embodiment of FIG. **4** in cross-section.

Details about the drawings.

…le all the devices
…us under certain
…xpensive delivery
bag and a safe, efficient element has remained. Thus, it is one objective of the present invention to provide a food delivery container and removable heating element which will allow food to be kept in a warmed condition for several hours.

It is another objection of the present invention to provide a method for heating food using a heating element which can be warmed in a standard convection oven in one embodiment, and in another embodiment, includes an integral electric grid for heating purposes.

It is a further objective of the present invention to provide a method of forming a heating element in which a phase change material is enwrapped in a permeable metal or polymeric envelope.

It is still another objective of the present invention to provide a heating element in which a polymeric ultra-high molecular weight polyethylene is utilized.

It is still a further objective of the present invention to provide a food delivery container in which the phase change material consists solely of a homogeneous ultra-high molecular weight polyethylene.

Various other objectives and advantages of the present invention will become apparent to those skilled in the art as a more detailed description is set forth below.

SUMMARY OF THE INVENTION

The aforesaid and other objectives are realized by providing a rigid, durable, planar heating element in which a solid rectangular ultra-high molecular weight polyethylene

FIG. **5** features the embodiment of FIG. **4** in cross-section.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT OF THE INVENTION

For a better understanding of the invention and its operation, turning now to the drawings, FIG. **1** illustrates pizza bag **10** having a closable end flap **11** with heating element **12** removed therefrom. Heating element **12** can be slid into compartment **13** contained along the bottom of pizza bag **10**. As would be understood, pizza bag **10** is formed from an insulated fabric and is useful in pizza delivery or delivery of other foods such as French fried potatoes. Pizza bag **10** may have other shapes and sizes, depending on the particular food to be delivered and, of course, other delivery containers may be used as known in the industry such as insulated boxes.

FIG. **2** provides an enlarged cross-sectional view substantially along lines **2—2** of FIG. **1** to illustrate heating element **12** in place within pizza bag **10**. As seen, cardboard box **17** contains pizza **14** within pizza bag **10**. Heating element **12** is enclosed between top layer **15** of compartment **13** and bo…

What problem does the patent solve – it must have a use or it cannot be patented.

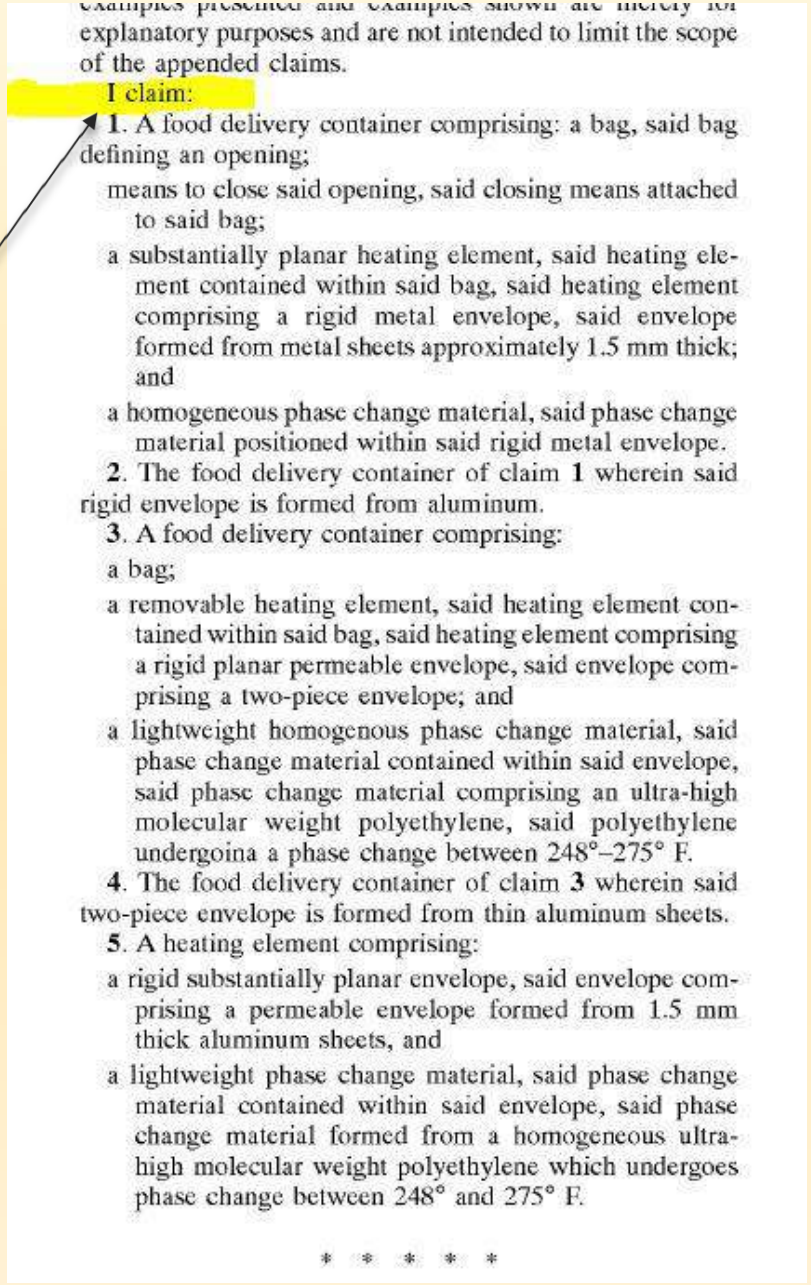
…o shown in
…lar weight
…°–135° C.;
…$H_2)_x$— as
…f Indiana,
…sed within
…velope **19**
is formed from thin sheets of aluminum stock having a

The “claims” are really the patent. All the pictures, background and summations are important because the patent examiner must understand what the inventor is doing.

The thing that makes this application different from other “prior art” is the claim – the claim by the inventor that this is new, unique, novel, and useful.

When you look at a patent don’t get distracted by the pictures. Anything can be in the pictures to help explain the invention, but the claims are the real substance.

In this case the inventor isn’t inventing a bag. He is claiming that this bag is “novel” because it has a metal and polyethylene heating element.



examples presented and examples shown are merely for explanatory purposes and are not intended to limit the scope of the appended claims.

I claim:

1. A food delivery container comprising: a bag, said bag defining an opening;

means to close said opening, said closing means attached to said bag;

a substantially planar heating element, said heating element contained within said bag, said heating element comprising a rigid metal envelope, said envelope formed from metal sheets approximately 1.5 mm thick; and

a homogeneous phase change material, said phase change material positioned within said rigid metal envelope.

2. The food delivery container of claim **1** wherein said rigid envelope is formed from aluminum.

3. A food delivery container comprising:

a bag;

a removable heating element, said heating element contained within said bag, said heating element comprising a rigid planar permeable envelope, said envelope comprising a two-piece envelope; and

a lightweight homogenous phase change material, said phase change material contained within said envelope, said phase change material comprising an ultra-high molecular weight polyethylene, said polyethylene undergoina a phase change between 248°–275° F.

4. The food delivery container of claim **3** wherein said two-piece envelope is formed from thin aluminum sheets.

5. A heating element comprising:

a rigid substantially planar envelope, said envelope comprising a permeable envelope formed from 1.5 mm thick aluminum sheets, and

a lightweight phase change material, said phase change material contained within said envelope, said phase change material formed from a homogeneous ultra-high molecular weight polyethylene which undergoes phase change between 248° and 275° F.

* * * * *