

**FORM 2****THE PATENT ACT 1970**

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The Patents Rules, 2003

**COMPLETE SPECIFICATION**

(See section 10 and rule 13)

**1. TITLE OF THE INVENTION:****FAH-FOOD TRUCK: FULLY AUTOMATED HUMAN LESS FOOD TRUCK"**

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**REAMBLE TO THE DESCRIPTION**

<b>PROVISIONAL</b>	<b>COMPLETE</b>
The following specification describes the	the following specification Invention. Particularly describes the invention and the manner in which it is to be performed.

## **FIELD OF THE INVENTION**

[02] Food Truck is a fully modified commercial truck's like Tata ace, Tata super ace, tempo travelers, Tata 407, Eichers etc. It is just like a moving restaurant or cafe. The field of invention describes Fully Automated Food Truck to overcome real time problems. In this invention, we take help of artificial Intelligence to operate any truck which is customized. Also This invention relates to systems and methods for the preparation of food, especially for quick service ,More particularly, the invention relates to fully automated devices, systems and methods for food preparation that can incorporate computer controlled vehicle..

## **BACKGROUND OF THE INVENTION**

[04] In this system we can use artificial intelligence to make a business. This will help this person to save his time & use it in another work. He just needs to keep maintenance of it in either in 6 months or in one year.

[06] India is moving in developing countries day by day and peoples are become educative and professional and time is become very important issue in that busy life . So this will become a best income option with zero time complexity. As now a days, Food truck Business is growing rapidly in all over world.

[08] In these system, we can use concept of robots in replacement of humans because they cannot back off, cannot cheat and strong enough to face other problems. The can only make hygienic food so people can love having food on it. Also, it will keep tracks of security things also. So, it will be great invention which will also help to decrease amount of disease which spreads due to unhygienic food, it will protect vehicle from robberies, it will help humans to grow their business.

[010] This truck will be totally self-working. We don't need any human power to operate it. In day today life, the food truck business is in trend as I researched but it has some drawbacks. Basically for this business we required less man power (i.e., one cook & one helper).But, sometimes happens that this cook will back off intentionally or he/she is stolen some products or amount. Sometimes he/she gives unhygienic products. Sometimes stranger will be attack on truck and make some loss to the owner. So to overcome this, I'm designing fully automated Truck. All billing done automatically in the system itself. Also this truck will be driver less. This truck will use combination of sensors, cameras, radar and artificial intelligence (AI) to travel between destinations without a human operator. This truck will be able to navigate without human intervention to a predetermined destination over roads that have not been adapted for its use. Time will be

predefined, at given time truck will start & reach to given destination and at end time it will pack off everything & will get back to its original destination and all amount will be transferred to owners account automatically. If any strangers attack happens, then it will spread shock waves to all over body and will inform owner automatically & immediately.

[012] In restaurants, especially quick service (fast food) , fast, consistent, efficient and safe food preparation is essential for a successful operation. The quality of the prepared food depends in large part on the consistency of food preparation. The food must be cooked under correct conditions for the proper time.

[014] Consistency in food preparation can vary as a result of many factors. For example, people engaged in food preparation often must perform multiple tasks at frequencies that vary with time because of constantly varying customer demand throughout the day. For example, lunch and dinner time may be extremely busy while other periods may be relatively slow. The product mix can vary from hour to hour and day to day. As a result, the consistency and quality of food may vary. Difficulties in proper scheduling of food production during peak and non-peak periods can cause customer delays and/or stale, wasted or unusable food.

[016] Food preparation is labor intensive, and the labor cost is a large portion of the total cost of the prepared food. An additional problem is that in sparsely populated and other areas where quick service restaurants are located, such as along interstate highways, for example, recruiting sufficient numbers of suitable employees is difficult.

[018] Quick service restaurants must be able to effectively meet a variable customer demand that is time dependent and not subject to precise prediction. As a result, stores relying totally on human operators will at times be overstaffed and at other times be under-staffed.

[020] Also, problems and potential problems can exist in restaurants where people directly prepare food. Health and safety concerns can also be present where food is prepared directly by people. By reducing or minimizing human contact with food and food cooking equipment, health and safety concerns can also be reduced or minimized. For example, in the frying of foods, some type of hot fluid, such as cooking oil, must be utilized. The cooking temperatures required can present a concern for health and safety.

[022] Although quick service restaurants have existed for many years and now number in the tens of thousands, such establishments utilize people to prepare and process food. While there have been various improvements in commercial

equipment used for cooking food in quick service restaurants, all are manually operated and are relatively labor intensive.

[024] Accordingly, a need exists for a commercially suitable food preparation device, system and method that can be operated by a robot and that provides improvements in food preparation, especially in any or all of the previously mentioned areas. It would also be beneficial if such a system could make use of existing commercial equipment.

### **PRIOR ART STATEMENT**

#### **US4922435A**

[026] A fully automated robotized system and method is provided for cooking food products. The system and method is especially useful for use in a quick service or fast food restaurant and, in one embodiment, is capable of cooking, on a fully automated basis, French fries, chicken nuggets, fish filets and chicken patties. In one embodiment, the system includes a robot, a bulk uncooked food dispensing station, a cooking station and a cooked food storage station. The system can be controlled by a computer operating and control station that controls and directs the robot to obtain bulk food from the dispensing station, place it in cooking position at the cooking station and when cooked, remove the food and deliver it to the storage station, at a rate required to fill anticipated customer orders.

#### **US20050193901A1**

[028] An automated food preparation system is described. It allows precise, automated control of the food preparation process, and has the ability to perform an automated cleanup. It comprises at least one manipulator to process and move ingredients, a control system, an autonomously accessible ingredient storage system, and at least one cooking receptacle.

### **OBJECTIVE OF THE INVENTION**

#### **[030]**

1. The Objective of invention is to provide the first human less business which will give huge amount of profit to the respective owner.
2. Other objective of the invention is to stops intentional wrong things done with growing peoples.
3. Other objective of the invention is to zero time complexity required to owner so he can invest their time in other things which will help to grow him.

4. Other objective of the invention is to Biometric sensor is also attached so only owner can operate the system or can go inside the truck any time.
5. Other objective of the invention, If someone miss behaving with the truck and trying to open the door then shock waves will be passed in standard limits & owner will get informed immediately.
6. Other objective of the invention is to provide Customer should have to pay first in any way (online/cash), after that amount will be scanned then corresponding dish will served to customer.
7. Other objective of the invention is to stored The number of peoples biometrics data for next time fast process.
8. Other objective of the invention This also will be a First Fully automated moving cafe or restaurant.

### **SUMMARY OF THE INVENTION**

[032] In these invention we can implement one mechanism for safety purpose . We can use combination of sensors, cameras, radar and artificial intelligence (AI). , it will be great invention which will also help to decrease amount of disease which spreads due to unhygienic food, it will protect vehicle from robberies, it will help humans to grow their business.

[034] We can start another business with this also, so person or this particular owner will grow rapidly. As it will become world's first business where there is no need of humans. But proper amount will be credited on his account per day. The Total Security things will be available on this truck. And if someone miss behaving with the truck and trying to open the door then shock waves will be passed in standard limits & owner will get informed immediately.

#### **ADVANTAGES:**

##### **[036]**

1. First human less business
2. Required zero time complexity
3. It is used for security purpose.
4. It is one time installation.
5. It is easy to use and convenient.
6. It can be also used in 5 star restaurants, in hospitals, ambulances etc.
7. Stops intentional wrong things done with growing peoples.
8. The number of people's biometrics is stored.
9. This also will be a First Fully automated moving cafe or restaurant.

[040 ]In accordance with the present invention a food processing system and method is provided that is especially adapted for a quick service restaurant and

may be computer controlled and/or fully automated and robotized. The system is a fry cell that is capable of processing various types of food items that are ready to be cooked. As used herein, the terms "fry cell" and "fry basket" refer to a cell for frying a food product or products, not necessarily French fries, and to a basket for frying such products, respectively. The raw food products to be fried can be frozen or fresh, cooked or uncooked. The term "uncooked" means uncooked and/or unheated and "cooked" means cooked and/or heated.

[042] The fry cell can operate by automatically dispensing uncooked bulk food to the robot which transports in a container a quantity of the food to be prepared, cooks the food and then delivers the cooked food to a storing, dispensing and display station.

[044] More specifically, in one embodiment, the fry cell can process, on a fully automated basis, French fries, chicken nuggets, fish filets and chicken patties. The fry cell is composed of a robot, and various stations including an uncooked bulk food dispensing station, a cooking station, a cooked food storage, dispensing and display station, a computer operating and control station and optionally other various stations and components. All of the elements of the fry cell can be computer controlled and operated. Human operator interfacing with the fry cell during normal operation can occur at three areas: (1) filling the uncooked bulk food dispensing station; (2) obtaining cooked product from the cooked food storage, dispensing and display station for delivery to individual customers; and (3) control of the fry cell through its computer operating and control system.

[046] The operation and control of the fry cell including its robot and other operating systems can be accomplished by the fry cell computer operating and control system. The system monitors and controls the operation and cooking parameters of the fry cell. This system also can provide a schedule of activities for the entire day of operation as well as a more detailed plan for the short-term period, such as an hour or less, for example. The computer system coordinates the operation of the fry cell, which may have at least several operations occurring simultaneously. Real time point of sale information can be monitored and compared to the planned activities by the system. If the real time information varies significantly from the plan, the daily and/or short-term plans can be modified on the fly, automatically or by a human operator. For example, if a change is initiated by a human operator, the fry cell computer can still develop the new daily or short-term plans automatically based on the operator's input regarding batch size, priority and/or demand change. Thus, the fry cell can compensate for variations in product volume and mix that usually occur throughout the day. The fry cell food processing system, which can be a fry cell,

can produce a rate and mix of food products that is related to data contained by or transmitted to the computer system. The data can be historical sales data and/or real time data based on point of sale data as to sales rate and mix of the food products produced by the fry cell or system. As a result, customer delays can be minimized, the food served to the customer is of optimum freshness and food waste is minimized.

[048] The computer operating and control system is capable of determining whether a given instruction to cook additional food will conflict with any fry cell operations in progress, taking into account all future processing steps that will be required for the operations in progress to be completed. Scheduling of new operations is performed in a manner by the computer operating and control system so that the robot is not required to perform multiple functions at the same time and so that food is removed from the cooking station at the desired time. As a result, the quality of the cooked food is consistently uniform.

[050] In accordance with one aspect of the present invention, a robotized system for cooking food products is provided. The robotized system includes a robot capable of working in an area that determines a work area. A bulk, uncooked food dispensing station that includes at least one food dispenser is provided for dispensing uncooked food pieces into a moveable container, for example, a fry basket, located in the work area. The system further includes at least one cooking station for cooking the food products. An end-of-arm robot tool is provided for the robot and the robot is capable of, in conjunction with the end-of-arm tool, selectively engaging, disengaging and moving the container to desired locations in the work area and for placing a plurality of food pieces in cooking position with respect to the cooking station while the food pieces are contained in the container. The desired locations include an uncooked food dispensing position for receiving food into the container from the food dispensing station, a cooking position for cooking the food pieces and an unloading location where cooked food is unloaded from the container. Storage is provided adjacent the work area for receiving and storing the cooked food. A dump apparatus is provided for dumping the cooked food delivered to the dump apparatus by the robot via the container.

[052] In accordance with another embodiment of the invention, an automatic robotized system for cooking food products is provided that includes a robot capable of engaging, transporting and releasing a food container in a work area. The system further includes an uncooked food dispensing station that comprises at least one food dispenser for dispensing uncooked food to the food container in the work area and at least one cooking apparatus in the work area. A control system is provided that controls and directs the robot to engage and transport the

food container in sequence to and from the food dispenser and to and from the cooking station in a frequency determined by the controlling apparatus based on the actual and/or anticipated frequency and quantity of food products ordered by customers.

### **BRIEF DESCRIPTION OF THE DIAGRAM**

#### **[054]**

FIG1. Fully Automated Kitchen setup.

Fig 2.: Flow Chart

Fig.3: Checking and working Status.

Fig.4: vehicle Status after loading

FIG5. Combination of sensors, radars& AI for securely driving truck.

### **DESCRIPTION OF THE INVENTION**

#### **Figure 1**

[056] Fully Automated Kitchen setup:-

I will put robotics hand on both side of kitchen & Working Table. I will programmed them, and feed information about recipe's that I am going to serve. So they can cook and serve the peoples. I'll make menu list digitalize way so people can select the dish, and this will be served after payment. This robotics hand can increase and decrease their size accordingly. Also they can cook hygienic and good food as we programmed them like this. Also we'll put robotic hands to another side where working table is located. This will use for serving the customers.

#### **Figure 2**

[058] Concept of Driverless Truck:-

This truck will be driver less. This truck will use combination of sensors, cameras, radar and artificial intelligence (AI) to travel between destinations without a human operator. This truck will be able to navigate without human intervention to a predetermined destination over roads that have not been adapted for its use. Time will be predefined, at given time truck will start & reach to given destination an at end time it will pack off everything & will get back to its original destination and all amount will be transferred to owners account automatically. If any strangers attack happens, then it will spread shock waves to all over body and will inform owner automatically & immediately.

[060] The Truck will be of 5 layers. (Insulation Sheets, Backlight sheets, glass wool, Galvanized sheets & ACP sheets (Aluminum Composite Panels)) for safety. Even, it contains fire extinguisher, GPS system, CCTV's for security. And the main thing is, I will put robotics hand on both side of kitchen & Working Table. I will programmed them, and feed information about recipe's that I am going to serve. So they can cook and serve the peoples. I'll make menu list digitalize way so people can select the dish, and this will be served after payment



## WE CLAIM

[062]

1. Food truck Business is growing rapidly in all over world. The Truck will be of 5 layers. (Insulation Sheets, Backlight sheets, glass wool, Galvanized sheets & ACP sheets (Aluminum Composite Panels)) for safety & the Total Security things will be available on this truck. And if someone miss behaving with the truck and trying to open the door then shock waves will be passed in standard limits & owner will get informed immediately. In this invention we can implement one mechanism for safety purpose. We can use combination of sensors, cameras, radar and artificial intelligence (AI).
2. According to Claims 1# the invention is to provide the first human less business which will give huge amount of profit to the respective owner.
3. According to Claims 1# the invention is to stops intentional wrong things done with growing peoples.
4. According to Claims 1# the invention is to zero time complexity required to owner so he can invest their time in other things which will help to grow him.
5. According to Claims 1# the invention is to Biometric sensor is also attached so only owner can operate the system or can go inside the truck any time.
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8. According to Claims 1# the invention is to stored The number of peoples biometrics data for next time fast process.
9. According to Claims 1# the invention is will be a First Fully automated moving cafe or restaurant.

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**FAH-FOOD TRUCK: FULLY AUTOMATED HUMAN LESS FOOD TRUCK**  
**ABSTRACT**

[064]

My Invention **“FAH-FOOD TRUCK”** Food Truck is a fully modified commercial truck's like Tata ace, Tata super ace, tempo travelers, Tata 407, Eichers etc. It is just like a moving restaurant or cafe. India is moving in developing countries day by day and peoples are become educative and professional and time is become very important issue in that busy life. So this will become a best income option with zero time complexity. As now a days, Food truck Business is growing rapidly in all over world. The Truck will be of 5 layers. (Insulation Sheets, Backlight sheets, glass wool, Galvanized sheets & ACP sheets (Aluminum Composite Panels)) for safety & the Total Security things will be available on this truck. And if someone miss behaving with the truck and trying to open the door then shock waves will be passed in standard limits & owner will get informed immediately. In this invention we can implement one mechanism for safety purpose. We can use combination of sensors, cameras, radar and artificial intelligence (AI). , it will be great invention which will also help to decrease amount of disease which spreads due to unhygienic food, it will protect vehicle from robberies, it will help humans to grow their business. All billing done automatically in the system itself. Time will be predefined, at given time truck will start & reach to given destination an at end time it will pack off everything & will get back to its original destination and all amount will be transferred to owners account automatically. This will be the first human less business which will give huge amount of profit to the respective owner. Also this also will be a First Fully automated moving cafe or restaurant.