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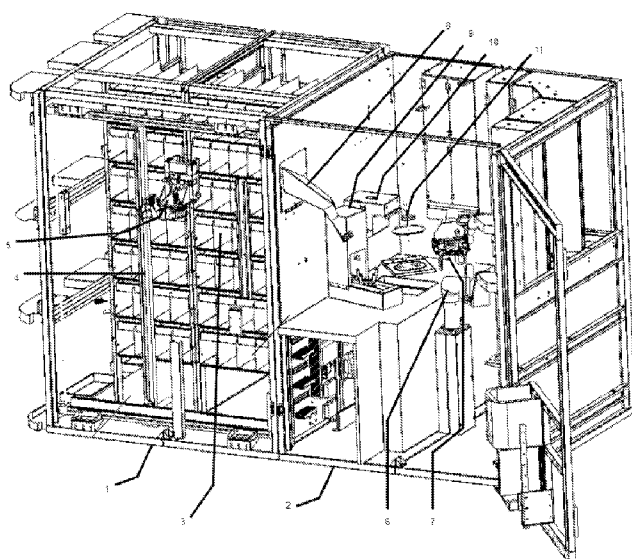


Figure - 1

(57) Abstract: The invention relates to a robotic ready-to-eat food presentation vending machine comprising a vending machine cabin (1) in which pre-packaged products are placed, and a café cabin (2) in which the packaged product transferred from the vending machine cabin (1) is served hot or cold by opening the packaged or packet mouth, at least one product picking robot (5) used to ensure that the packaged products stored on the vending shelves (3) in the vending machine cabin (1) are taken from the vending shelf (3), at least one robot gripper (7) consisting of an upper suction cup (7.1) used for suctioning and transporting cups/bowl containers and covers from the storage area, a body suction cup (7.2) used for picking up and transporting the packaged ready-to-eat food product and emptying it into the container, side clamps (7.3) used for holding the packaged product and providing support during transportation, and a lower clamp (7.4) used for transporting full cups/bowls.

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ROBOTIC READY MEAL PRESENTATION VENDING MACHINE**TECHNICAL AREA**

5 The invention relates to a robotic ready-to-eat food presentation vending machine that is used to allow packaged ready-to-eat food products to be stored in a food vending machine device and served to the customer, with or without heating, packed or unpacked.

The invention relates in particular to a robotic ready-to-eat food presentation vending
10 machine comprising a vending machine cabin in which pre-packaged products are placed, and a café cabin in which the packaged product transferred from the vending machine cabin is served hot or cold by opening the packaged or packet mouth, at least one product picking robot used to ensure that the packaged products stored on the vending shelves in the vending machine cabin are taken from the vending shelf, at least one robot gripper consisting of an
15 upper suction cup used for suctioning and transporting cups/bowl containers and covers from the storage area, a body suction cup used for picking up and transporting the packaged ready-to-eat food product and emptying it into the container, side clamps used for holding the packaged product and providing support during transportation, and a lower clamp used for transporting full cups/bowls.

20 PREVIOUS TECHNICAL AREA

The increasing population of living beings in the world increases consumption and leads to the emergence of new technologies. One of these new technologies is ready-to-eat food vending machines. Today, the importance of the concept of time, working conditions and the preference for ready-to-eat foods increase the tendency towards out-of-home food
25 consumption. As a result of this trend, ready-to-eat vending machines and their ease of use, hygiene, etc. come to the forefront.

One of the problems with the ready-to-eat food vending machines used in the present technique is the presentation time of the food. While the time is short in systems that serve closed packaged products as a vending machine, the time is very long in systems where the

packaged product is opened and served by heating, and dissatisfaction arises in consumers who want to save time.

Another problem in the current technique is the hygiene problem in hot service vending machines. The hygiene problem usually arises from the functional deficiencies of the robotic arms, the heating unit and the inadequacies in the cleaning unit.

As a result, the need for a functional and hygienic ready-to-eat food vending machine was identified to solve the above-mentioned problems.

PURPOSE OF THE INVENTION

The purpose of the invention is to ensure that foods that are difficult to prepare in daily life are presented to the consumer in a practical way. Thus, the consumer saves time.

The purpose of the invention is to ensure that the products are both stored and served hot depending on preference in a short time.

Another purpose of the invention is to ensure that the product is presented to the consumer hygienically and in full weight with the functional features used on it.

Another purpose of the invention is that, thanks to the mechanisms on it, the product can be held, transported, unloaded, heated, etc. While performing the functions, it can both use the time well and perform these operations without error.

The invention in question will become a preferred product in the sector with its current and simple structure.

The structural and characteristic features of the invention and all its advantages will be more clearly understood with the figures given below and the detailed description written by referring to these figures. Therefore, the evaluation should be made by taking these figures and detailed description into consideration.

FIGURES TO ASSIST IN UNDERSTANDING THE INVENTION

FIGURE -1; Drawing showing the robotic ready-to-eat food presentation vending machine subject to the invention.

FIGURE -2; Drawing showing the robot gripper in the robotic ready-to-eat food presentation vending machine.

FIGURE -3; Drawing showing the product picking robot in the robotic ready-to-eat food vending machine subject to the invention.

5 **FIGURE -4;** Drawing showing the heating unit in the inventive robotic ready-to-eat food presentation vending machine.

REFERENCE NUMBERS

- 1. Vending Machine Cabin
- 2. Café cabin
- 10 3. Vending Shelf
- 4. Cartesian Motion Module
- 5. Product Picking Robot
- 5.1. Moving Table
- 5.2. Tilt Motion Joint
- 15 5.3. Wing
- 5.4. Rotation Mechanism
- 5.5. Push Handle
- 6. Robotic Arm
- 7. Robot Gripper
- 20 7.1. Upper Suction Cup
- 7.2. Body Suction Cup
- 7.3. Side Clamps
- 7.4. Lower Clamp
- 8. Product Slide
- 25 9. Cover Closing Unit

10. Cutting Unit

11. Heating Unit

11.1. Pool Section

11.2. Steam Exit Points

5 11.3. Air Exit Points

11.4. Probe

11.5. Probe Cover

DETAILED DESCRIPTION OF THE INVENTION

10 The robotic ready-to-eat food presentation vending machine of the invention shown in Figure-1 consists of vending cabin (1), café cabin (2), vending shelf (3), Cartesian motion module (4), product picking robot (5), robotic arm (6), robot gripper (7), product slide (8), cover closing unit (9), cutting unit (10) and heating unit (11). In the invention, the vending machine cabin (1) is the part where ready-to-eat food products are stored. The café cabin (2) is the part where
15 the processes that enable the product coming from the vending machine cabin (1) to be prepared and presented in accordance with the customer's order are realized.

The vending machine cabin (1) contains vending shelves (3) on which pre-packaged products are placed. The products on the different vending shelves (3) are taken from the vending shelves (3) and transferred to the café booth (2) with the help of a cartesian motion module
20 (4) that makes cartesian (vertical-horizontal) movement and a product picking robot (5) on this cartesian motion module (4). The vending machine cabin (1) also includes kiosk and advertising screens for order entry.

The café cabin (2) is the cabin where the packaged product transferred from the vending machine cabin (1) is served hot or cold by opening the packaged or unpackaged product. This
25 section consists of robotic arm (6), robot gripper (7), product slide (8), cover closing unit (9), package cutting unit (10) and product heating unit (11).

The product picking robot (5) shown in Figure-3 is used to pick up the packaged product that does not have a proper form in a way that preserves its appearance on the vending shelf (3), straighten the product and put it in the café cabin (2).

5 Working Principle (Workflow):

The product ordered in the invention is taken from the vending shelf (3) compartment where the ordered product is located by means of the product picking robot (5) upon successful completion of the payment for the order created by the customer via the kiosk. During this process, the product picking robot (5) on the Cartesian motion module (4) is brought in front
10 of the vending shelf (3) compartment where the product is stored. The wings (5.3) on the product picking robot (5) move to the open position. The outermost packaged product stacked on the vending shelf (3) falls on the product picking robot (5) shown in Figure-3. If the sensor on the product picking robot (5) detects that the product falls on the product picking robot (5), the system stops its operation. The tilt motion joint (5.2) on the product picking robot (5)
15 performs tilt movement and the wing (5.3) performs open/close movements to ensure that the product is in a flat position on the product picking robot (5).

In the product picking robot (5), there is a movable table (5.1) that can move forward and backward to prevent the product taken from the vending shelf (3) from getting stuck between
20 the product picking robot (5) and the vending shelf (3) or being dropped from this part.

The product carried on the product picking robot (5) is dropped into the product slide (8) connected to the connection apparatus on the cage cabin (2) by the circular movement of the rotation mechanism (5.4) on the product picking robot (5). The dropping process is carried
25 out by pushing the product from behind with the push handle (5.5) on the product picking robot (5).

The packaged product coming to the café cabin (2) as a result of the push of the product picking robot (5) is held by the side clamps (7.3) on the robot gripper (7) shown in Figure-2.
30 The packaged product held by the right and left side clamps (7.3) on the upper part of the robot gripper (7) makes full contact with the large diameter body suction cup (7.2) in the center of the robot gripper (7). In order to ensure full contact, the robotic arm (6) unit is tilted backwards with arm movement. As a result of full contact of the packaging with the large

diameter body suction cup (7.2), the body suction cup (7.2) starts to carry the product by suctioning it. The product carried on the robot gripper (7) is taken to the cutting unit (10) for cutting the packaging. The cutting unit (10) first compresses the packaged product and then cuts the firmly fixed product with the help of a cutting knife. Before cutting the package, the right and left side clamps (7.3) on the robot gripper (7) are brought to the fully open position to prevent the product in the package from overflowing due to the pressure effect. Possible minimum overflows are collected in the garbage unit located under the cutting unit (10).

The unpacked product is emptied into the container placed at the container placement point before the start of the processes in the café cabin (2) immediately after the order is placed according to the product type (cup container if it is soup, bowl container if it is food). This emptying process is done with the robotic arm (6) movement and as a result of the emptying process, the empty packaging on the robot gripper (7) is thrown into the garbage unit. After the garbage disposal process, the robot gripper (7) lifts the filled container (cup or bowl depending on the product type) by entering from the bottom with the lower clamps (7.4) on it. The lower clamps (7.4) on the robot gripper (7) are formed in conical form in order to hold cups or bowls of different sizes.

The cooked product in the filled container carried on the robot gripper (7) is carried to the heating unit (11) shown in Figure-4 to be heated. The probe (11.4), which is kept ready in the heating unit (11), is inserted into the container by up and down movement. When the probe (11.4) enters the container, the probe cover (11.5), which is used to prevent the product from overflowing, is closed and the probe (11.4) provides the product to reach the desired temperature by pressing steam from its tip during the parametrically defined heating period.

At the end of the heating process, the product-filled container on the robot gripper (7) is carried to the cover closing unit (9) and the cleaning process of the heating unit (11) is started with this process. In the cleaning process, steam and air are supplied from the steam exit points (11.2) and air exit points (11.3) on the pool section (11.1) formed in the form of a sink, and the heating unit (11) is cleaned. Again, for cleaning the probe (11.4), steam and air are supplied from the steam exit points (11.2) and air exit points (11.3) on the sides and the probe (11.4) is cleaned.

Cover closing is an optional process. It can be included in the order according to the customer's preference during the ordering process. If the customer chooses capping, the product-filled container on the robot gripper (7) is transported to the cover closing unit (9) and left at the container placement point. After this process, the upper suction cup on the robot gripper (7)

5 With (7.1), the cover is placed on the container filled with the product and the container filled with the product, which is waiting at the container placement point with the cover not yet closed on it, is taken to the cover pressing position at the cover closing point. In this position, pressing is performed and the capping process is completed.

After the cover closing process is completed, the robot gripper (7) unit is transported to the
10 product presentation point with the help of the lower clamp (7.4) on the closed product container. The presentation unit rotates and delivers the product and service set (optional) to the customer and the product order flow is completed. Upon successful delivery of the order, the vending machine cabin (1) and café cabin (2) make preparations for the next service and become ready for service.

15 In the preparation process, it is ensured that the elevator on the vending machine cabin (1) is located at the middle point where it is ready for service and the motors on the product picking robot (5) are brought to the starting state.

In the café cabin (2), at the point where the cups and bowls and the covers of both are kept
20 ready, the missing cups and covers are replaced by sensor detection.

In summary, the invention is a robotic ready-to-eat food presentation vending machine used to ensure that packaged ready-to-eat food products are stored in a food vending machine device and served to the customer with or without being taken out of the package and heated
25 or unheated, and in its most general form, it includes a vending machine cabin (1) where pre-packaged products are placed, and a café cabin (2) where the packaged product transferred from the vending machine cabin (1) is served hot or cold by opening the package or package mouth, at least one product picking robot (5) used for picking packaged products stored in vending shelves (3) in the vending machine cabinet (1) from the vending shelf (3),
30 top suction cup (7.1) used for the suction lifting and transportation of cups/bowl containers and covers from the storage area, body suction cup (7.2) for picking up and transporting the packaged ready-to-eat food product and emptying it into the container, side clamps (7.3) for holding the packaged product and providing support during transport, at least one robot

gripper (7) consisting of a bottom clamp (7.4) for holding and supporting the packed product and a heating unit (11) for heating the product before presentation.

The body suction cup (7.2) on the robot gripper (7) in the robotic ready-to-eat food presentation vending machine is used to hold the packaged ready-to-eat food product tightly thanks to the suction force during the pick-up, transportation and emptying of the product into the container, and to prevent the package from wrinkling the edge of the package for easier emptying into the glass or bowl after opening the package. Again, the lower clamps (7.4) in the robot gripper (7) are provided to be in conical form in order to hold cups or bowls of different sizes.

The invention contains a moving table (5.1) to enable the product picking robot (5) to approach and move away from the vending shelf (3) and to provide reciprocating movement for the product to be handled and transported safely, tilt motion joint (5.2) that allows the product picking robot (5) to make a tilt movement on the vertical axis to ensure that the product falling from the vending shelf (3) falls onto the product picking robot (5) at the right angle, wings (5.3) used to prevent the product falling from the vending shelf (3) from sliding to the edges and to ensure that the product is grasped, rotation mechanism (5.4) used to rotate the product taken from the vending shelf (3) towards the product slide (8) in the café cabin (2), push handle (5.5) used to push the product into the product slide (8) in the cafe section (2) with tilt movement.

In the method of operation of the ready-to-eat food dispensing vending machine in the invention; it is ensured that the customer completes the payment for the order created through the kiosk in the vending machine cabin (1) and the ordered product is detected by the system, the product picking robot (5) moves towards the vending shelf (3) compartment to pick up the ordered product, the product picking robot (5) on the Cartesian motion module (4) is brought in front of the vending shelf (3) compartment where the product is stored, the wings (5.3) on the product picking robot (5) move to the open position, the outermost packaged product lined up on the vending shelf (3) compartment falls on the product picking robot (5), the sensor on the product picking robot (5) detects that the product has fallen on the product picking robot (5), the system stops its operation when the product is detected, the tilt motion joint (5.2) on the product picking robot (5) performs a tilt movement and the

wing (5.3) performs open/close movements to ensure that the product is in a flat position on the product picking robot (5), the rotation mechanism (5.4) in the product picking robot (5) makes a circular movement and rotates the product towards the product slide (8) connected to the connection apparatus on the café cabin (2), the product is pushed from behind with the push handle (5.5) on the product picking robot (5) and the product is directed into the café cabin (2), the packaged product coming to the café cabin (2) as a result of the pushing of the product picking robot (5) is held by the side clamps (7.3) on the robot gripper (7), the packaged product held by the right and left side clamps (7.3) on the upper part of the robot gripper (7) makes full contact with the large diameter body suction cup (7.2) in the middle part on the robot gripper (7), as a result of full contact between the body suction cup (7.2) and the packaging, the body suction cup (7.2) starts to suck and transport the product, the packaging of the product carried on the robot gripper (7) unit is taken to the cutting unit (10) for cutting, in the cutting unit (10), the packaged product is first compressed, and the right and left side clamps (7.3) on the robot gripper (7) are brought to the fully open position to prevent the product in the package from overflowing before cutting the package, then the product, which is firmly fixed, is cut with the help of the cutting knife, the cut product is emptied into the container placed at the container placement point before the start of the processes in the café cabin (2) immediately after the order is placed according to the product type (cup container if it is soup, bowl container if it is food), and the robotic arm (6) is inclined to the robot gripper, the emptying process is carried out by the movement of the product in the package under the influence of gravity, and at the end of the emptying process, the empty package standing on the robot gripper (7) is thrown into the waste unit, after the garbage disposal process, the robot gripper (7) lifts the filled container (glass or bowl depending on the product type) by entering from below with the lower clamps (7.4) on it, the cooked product in the full container carried on the robot gripper (7) is transported to the heating unit (11) to be heated, the probe (11.4) kept ready in the heating unit (11) is directed towards the product in the container (glass or bowl depending on the product type), the probe cover (11.5), which is used to prevent the product from overflowing when the probe (11.4) enters the container and moves with the probe (11.4), is closed, the product is supplied with steam from the end of the probe (11.4) during the parametrically defined heating period and the product reaches the desired temperature, after the heating process is completed, the product on the robot gripper (7) is transported to the full container cover closing unit (9), and the cleaning process of the heating unit (11) starts with this process, if there is capping in the order according to the customer's

preference in the order placement process, the product-filled container on the robot gripper (7) is transported to the cover closing unit (9), placed on the container placement point, after this process, the cover is removed with the upper suction cup (7.1) on the robot gripper (7) and placed on the container filled with the product, the container full of product waiting with the cover not yet closed at the container placement point is taken to the cover pressing position at the cover closing point, the pressing process is carried out in this position, the cover closing process is completed, after the cover closing process is completed, the robot gripper (7) carries the product-filled container with the unit cover closed to the product presentation point with the help of the lower clamp (7.4) on the unit cover, and delivers the product and service set (optional) to the customer by rotating the presentation unit, the product order flow is completed, upon successful delivery of the order, the vending machine cabin (1) and café cabin (2) make preparations for the next service and become ready for service.

During the operation of the invention, during the fall of the outermost packaged product lined up on the vending shelf (3) compartment on the product picking robot (5), the product picking robot (5) is provided with a moving table (5.1) to prevent the product taken from the vending shelf (3) from being stuck between the product picking robot (5) and the vending shelf (3) or from being dropped from this part.

During the operation of the invention, it is ensured that the packaged product, which is held by the right and left side clamps (7.3) on the upper part of the robot gripper (7) during the operation of the invention, makes full contact with the large diameter body suction cup (7.2) in the middle part on the robot gripper (7) by tilting the robot gripper (7) backwards and the packaging product presses the body suction cup (7.2) with its own weight based on this movement.

In the invention, the cleaning of the probe (11.4), which is contaminated at the end of the heating process during the cleaning process of the heating unit (11), is provided by supplying steam from the steam exit points (11.2) on the pool section (11.1) and by exhausting air from the air exit point (11.3).

In the invention, the upper suction cup (7.1) on the robot gripper (7) is provided to hold the cover at the center point during the top suction cup (7.1) takes the cover in order to ensure

that the covers in the warehouses are picked up in a single way. In this way, it is prevented that more than one cover is picked up.

CLAIMS

1. The invention is a robotic ready-to-eat food presentation vending machine used to ensure that packaged ready-to-eat food products are stored in a food vending device and served to the customer with or without heating or heating, **characterized in that it includes the following;**

- vending cabin where pre-packaged products are placed (1),
- café cabin (2) where the packaged product transferred from the vending machine cabin (1) is served hot or cold by opening the packaged or unpackaged product,
- at least one product picking robot (5) used for picking packaged products stored in vending shelves (3) in the vending machine cabin (1) from the vending shelf (3)
- Upper suction cup (7.1) used for suctioning and transporting cup/bowl containers and covers from the storage area, at least one robot gripper (7) consisting of a body suction cup (7.2) for picking up and transporting the packaged ready-to-eat food product and emptying it into the container, side grippers (7.3) for holding the packaged product and providing support during transport, and a lower clamp (7.4) for transporting the full cup/bowl,
- heating unit used for heating the product before presentation (11),

2. A robotic ready meal presentation vending machine according to request 1, characterized in that it comprises a body suction cup (7.2) on the said robot gripper (7), which is used to hold the packaged ready-to-eat food product tightly by means of suction force during the picking up, transporting and emptying of the product into the container, and to prevent the mouth of the package from being crumpled when the package is opened and emptied more easily into a glass or bowl.

3. A robotic ready-to-eat catering vending machine according to claim 1, characterized in that the lower clamps (7.4) in said robot gripper (7) are conical in shape for holding cups or bowls of different sizes.

4. A robotic ready-to-eat catering vending machine according to claim 1, characterized in that it comprises a moving table (5.1) to enable the said product picking robot (5) to

approach and move away from the vending shelf (3) and to provide reciprocating movement for the product to be held and transported safely, tilt motion joint (5.2), which allows the product picking robot (5) to tilt in the vertical axis to ensure that the product falling from the vending shelf (3) falls at the correct angle onto the product picking robot (5), wings (5.3) used to prevent the product falling from the vending shelf (3) from sliding to the edges and to ensure that the product is grasped, rotation mechanism (5.4) used to ensure that the product taken from the vending shelf (3) rotates towards the product slide (8) in the café cabin (2), push handle (5.5) used to push the product into the product slide (8) in the café cabin (2) with inclination movement.

5. The invention is a working method in a robotic ready-to-eat food presentation vending machine used to ensure that packaged ready-to-eat food products are stored in a food vending machine device and served to the customer with or without heating or heating, characterized by the following process steps;

- the customer completes the payment for the order created via the kiosk in the vending machine cabin (1) and the ordered product is detected by the system,
- the product picking robot (5) moves to the vending shelf (3) compartment to pick up the ordered product,
- the product picking robot (5) on the Cartesian motion module (4) is brought in front of the vending shelf (3) compartment where the product is stored,
- the wings (5.3) on the product picking robot (5) move to the open position,
- the outermost packaged product lined up on the vending shelf (3) compartment falls onto the product picking robot (5),
- detection of the product falling on the product picking robot (5) with the sensor on the product picking robot (5),
- the system stops functioning upon detection of the product,
- the tilt motion joint (5.2) on the product picking robot (5) performs a tilt movement and the wing (5.3) performs open/close movements to ensure that the product is in a flat position on the product picking robot (5),
- the rotation mechanism (5.4) in the product picking robot (5) makes a circular movement and rotates the product towards the product slide (8) connected to the connection apparatus on the café cabin (2),

- the product is pushed from the rear by the push handle (5.5) on the product picking robot (5) and the product is guided into the café cabin (2),
- the packaged product coming into the café cabin (2) as a result of being pushed by the product picking robot (5) is held by the side clamps (7.3) on the robot gripper (7),
- 5 • the packaged product held by the right and left side clamps (7.3) on the upper part of the robot gripper (7) is in full contact with the large diameter body suction cup (7.2) in the center of the robot gripper (7),
- as a result of full contact between the body suction cup (7.2) and the package, the body suction cup (7.2) starts to absorb and transport the product,
- 10 • the product transported on the robot gripper (7) is taken to the cutting unit (10) for cutting the packaging,
- in the cutting unit (10), the packaged product is first clamped,
- Before cutting the package, the right and left side clamps (7.3) on the robot gripper (7) are fully open to prevent the product in the package from overflowing,
- 15 • the product, which is then firmly fixed, is cut with a cutting knife,
- the unpacked product is emptied into the container placed at the container placement point, according to the type of product (cup container for soup, bowl container for food), immediately after the order is placed and before the start of the in-cabinet processes in the café cabin (2),
- 20 • inclining the robot gripper with the robotic arm (6), the unloading process is carried out by the movement of the product in the package under the influence of gravity,
- Disposal of the empty package on the robot gripper (7) to the waste unit as a result of the unloading process,
- after the garbage disposal, the robot gripper (7) lifts the filled container (cup or bowl,
- 25 depending on the type of product) by entering it from below with the lower clamps (7.4) on it,
- the cooked product in the filled container carried on the robot gripper (7) is transported to the heating unit (11) for heating,
- the hibernating probe (11.4) in the heating unit (11) is directed towards the product in
- 30 the container (cup or bowl depending on the product type),
- closing the probe cover (11.5), which moves with the probe (11.4) and is used to prevent product overflow when the probe (11.4) enters the container,

- steam is supplied to the product from the end of the probe (11.4) for a parametrically defined heating time, ensuring that the product reaches the desired temperature,
- upon completion of the heating process, the product on the robot gripper (7) is transported to the full container cover closing unit (9),
- 5 • this starts the process of cleaning the heating unit (11),
- if the order includes capping according to the customer's preference in the order placement process, the product-filled container on the robot gripper (7) is transported to the cover closing unit (9),
- container is dropped to the insertion point,
- 10 • after this process, the cover is removed with the upper suction cup (7.1) on the robot gripper (7) and the product is placed on the filled container,
- the product-filled container waiting at the container placing point with the cover not yet closed is moved to the cover pressing position at the cover closing point,
- realization of the pressing process in this position,
- 15 • completion of the cover closing process,
- after the cover closing process is completed, the robot gripper (7) carries the product-filled container with the unit cover closed to the product presentation point with the help of the lower clamp (7.4) on it,
- the presentation unit rotates to deliver the product and service set (optional) to the customer,
- 20 • product order flow has been completed,
- upon successful delivery of the order, the vending machine cabin (1) and café cabin (2) make preparations for the next service and become ready for service,
- 25 6. The working method in the robotic ready-to-eat food presentation vending machine according to request 5, characterized in that, when the outermost packaged product lined up on the vending shelf (3) is dropped onto the product picking robot (5), the product picking robot (5) is characterized in that the product picked up from the vending shelf (3) is moved back and forth with the moving table (5.1) to prevent the product from being trapped between the product picking robot (5) and the vending shelf (3) or being dropped from this part.
- 30

- 5 7. The working method in the robotic ready-to-eat food presentation vending machine according to request 5, characterized in that the packaged product held by the right and left side clamps (7.3) on the upper part of the robot gripper (7) makes full contact with the large diameter body suction cup (7.2) in the middle part of the robot gripper (7) by tilting said robot gripper (7) backwards and the packaging product presses against the body suction cup (7.2) with its own weight in response to this movement.
- 10 8. The working method in the robotic ready-to-eat food presentation vending machine according to request 5, characterized in that during the process of cleaning the heating unit (11), the cleaning of the probe (11.4), which is fouled at the end of the heating process, is carried out by supplying steam through the steam exit points (11.2) located on the pool section (11.1) and exhausting air through the air exit point (11.3).
- 15 9. The working method in the robotic ready-to-eat food presentation vending machine according to request 5, characterized by the fact that the upper suction cup (7.1) on the robot gripper (7) holds the cover at its midpoint during the top suction cup pick-up in order to ensure that the covers in the warehouses are picked up individually..

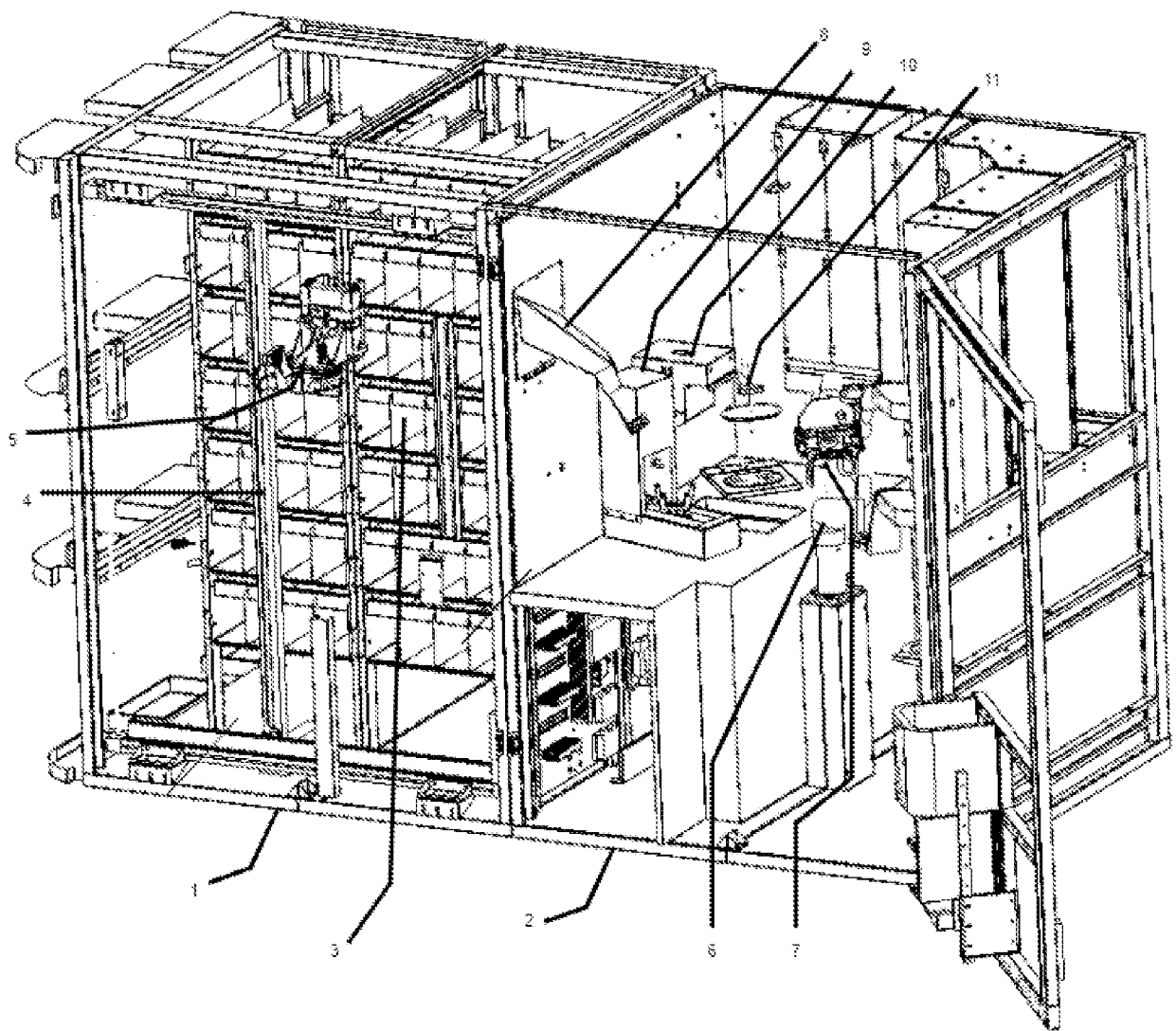


Figure – 1

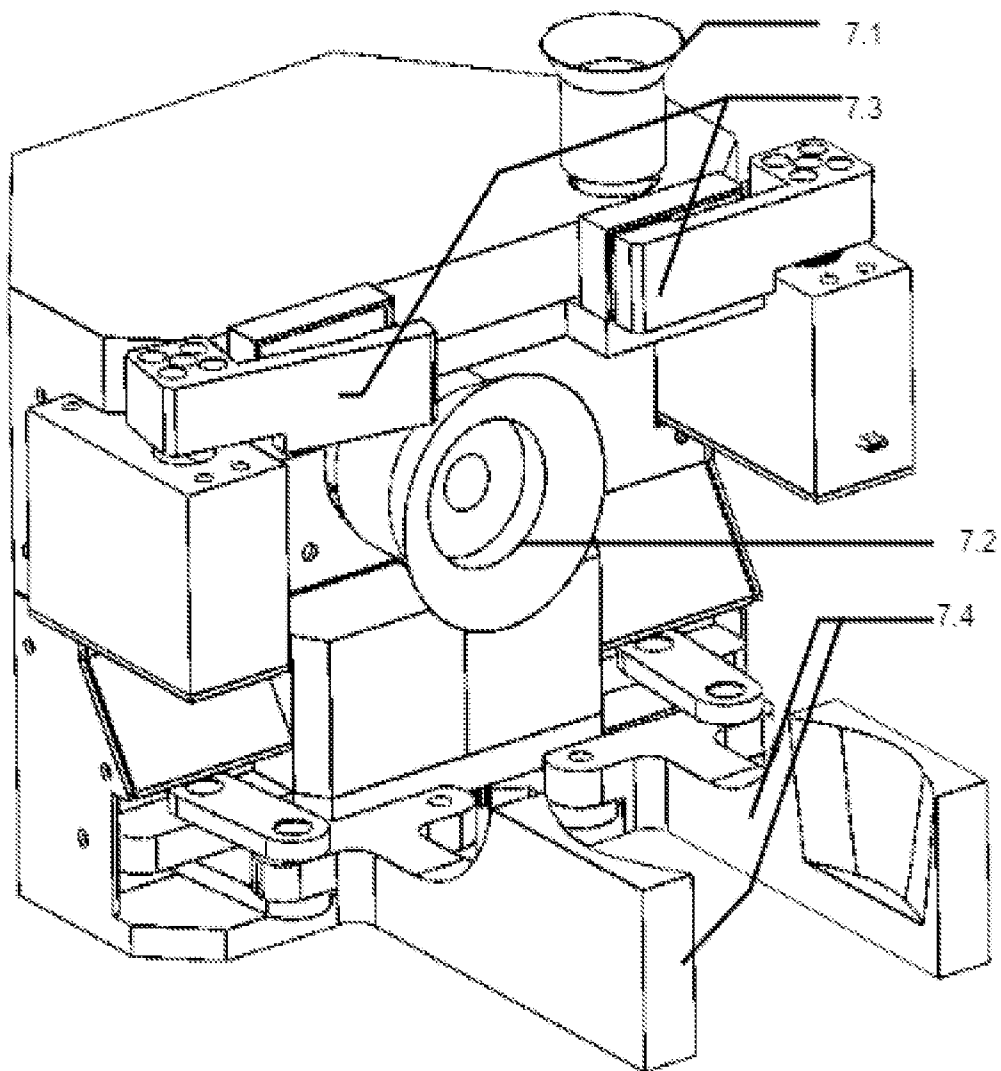


Figure – 2

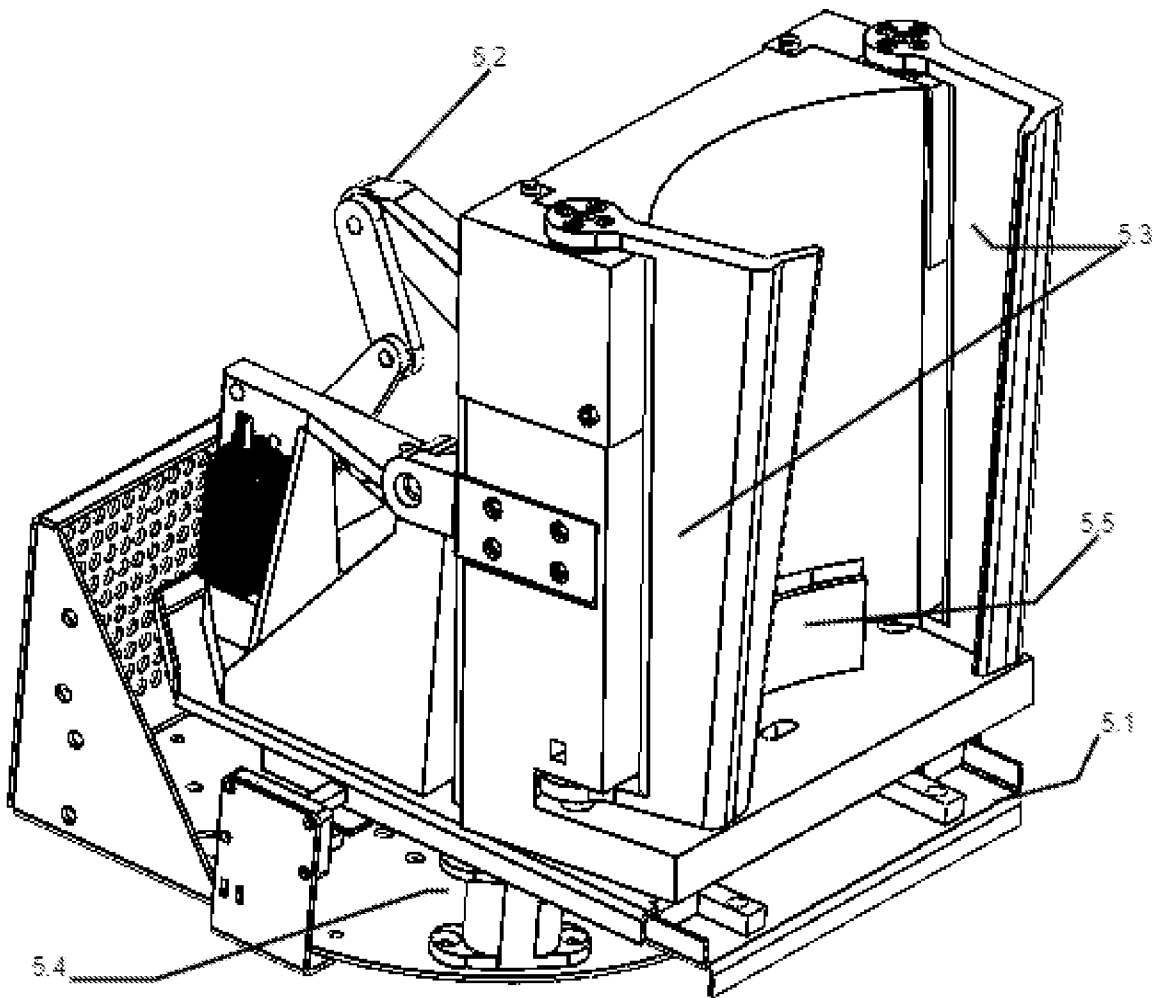


Figure – 3

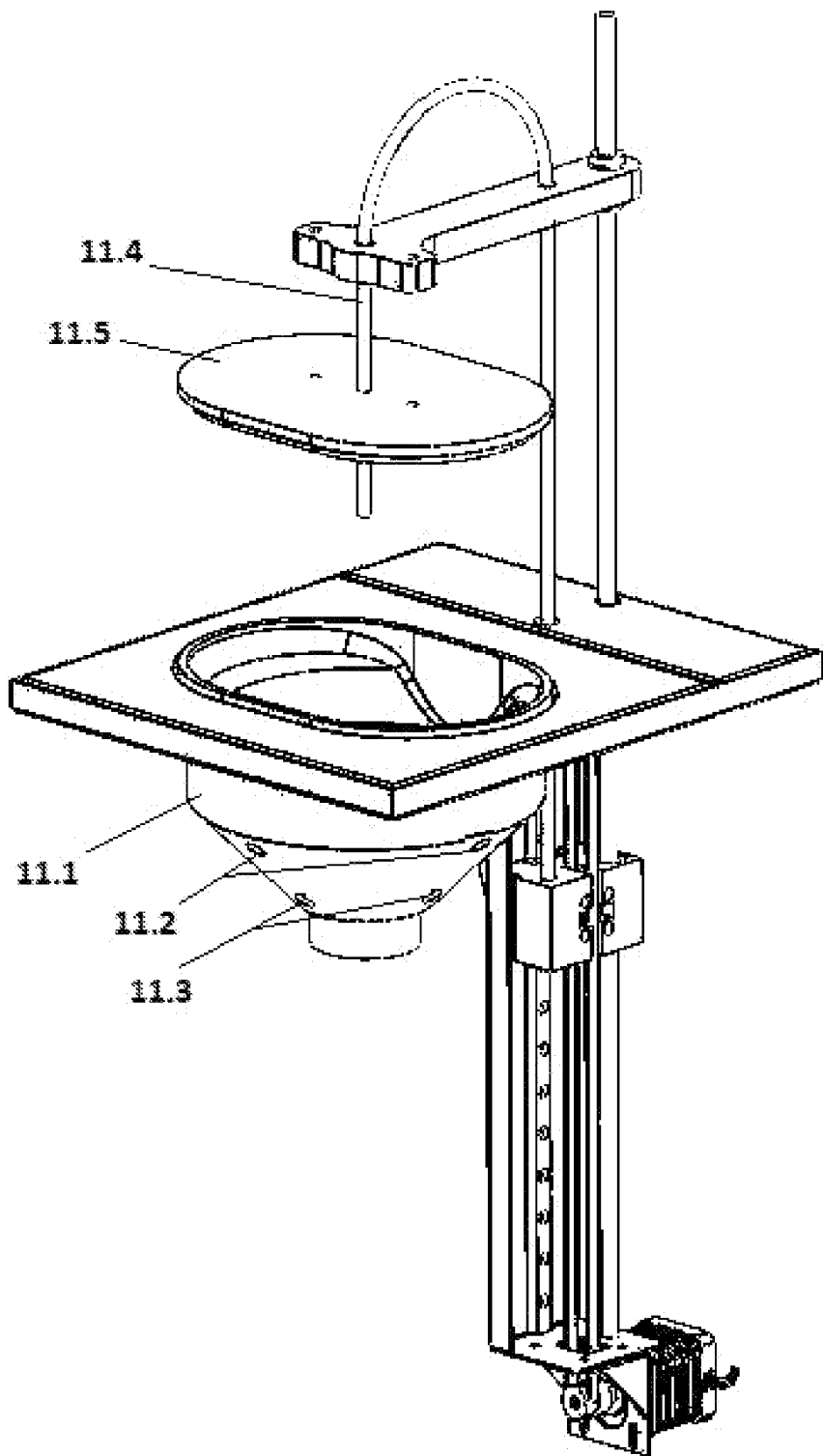


Figure – 4