Claims

1. A tray return system for encouraging patrons to return food-trays in food establishments comprising:

   a tangible reward (coin or voucher), to attract patrons return food-trays on their own accord;

   each food tray comprising a heat-resistant and a water-proof RFID tag, wherein the RFID tag is embedded and/or attached to the food-tray for keeping track the activation status of the food-tray;

   a RFID reader and a RFID antenna;

   a dispenser for dispensing said tangible reward;

   a non-motorized conveyor to transport food-trays;

   wherein said RFID reader scans said RFID tag to check said activation status before said dispenser allows dispensing of said tangible reward.

2. The tray return system according to claim 1, further comprising:
   A detachable push-cart for stacking returned food-trays, wherein said conveyor transports returned food-trays to the push-cart.

3. The tray return system according to claim 1 or claim 2, wherein any part of said non-motorised conveyor is made of stainless steel material.

4. The tray return system according to any one of claim 1 to claim 3, further comprising a display for displaying at least one of instruction to patrons, marketing/advertising information, and messages pertaining to error situations encountered by the tray return system.

5. The tray return system according to any one of claim 1 to claim 4, further comprising tower light for creating sound and visual alerts.

6. The tray return system according to any one of claim 1 to claim 5, further comprising emergency stop button.

7. The tray return system according to any one of claim 1 to claim 6, wherein said activation status of food-tray is activated at POS terminal.

8. The tray return system according to any one of claim 1 to claim 7, wherein the RFID tag is embedded and/or attached to a handle of the food-tray.

9. A tray return system for encouraging patrons to return food-trays in food establishments comprising:

   a tangible reward (coin or voucher), to attract patrons return food-trays on their own accord;

   each food tray comprising a heat-resistant and a water-proof RFID tag, wherein the RFID tag is embedded and/or attached to the food-tray for keeping track the activation status of the food-tray;

   a RFID reader and a RFID antenna;

   a dispenser for dispensing said tangible reward;

   a non-motorized conveyor to transport food-trays;

   wherein said RFID reader scans said RFID tag to check said activation status before said dispenser allows dispensing of said tangible reward.

   wherein said activation status is set either to activated or deactivated, and said dispenser dispenses tangible rewards upon said activation status of returned food-tray is activated, and dispenses no tangible reward upon said activation status of returned food-tray is deactivated.

10. The tray return system according to any one of claim 9, wherein said activation status of returned food-tray changes from activated to deactivated when dispensing tangible rewards for the returned food-tray.

11. The tray return system according to any one of claim 9 or claim 10, wherein said activation status changes from deactivated to activated at a POS terminal when a customer purchases food from a stall where the POS terminal is located in.