

TITLE OF INVENTION: [AN AUTOMATED DINING ITEM SORTING SYSTEM]

ABSTRACT

The present invention introduces an automated dining item sorting system (ADSS) (100), comprising a first conveying apparatus (101) with a first path (102) for dining item movement, a first sorting station (103) on the first path (102) with a first handling apparatus (103a), and a flipping apparatus (105). The flipping apparatus (105) comprises an upper conveying unit (106), a lower conveying unit (107), a flipping path (108), and a guiding path (109). The first handling apparatus (103a) moves the dining items from the first conveying apparatus (101) onto the upper conveying unit (106). The upper conveying unit (106) has gaps that retain the first type utensil and allow the second type utensil to drop off to a second conveying apparatus (201) through the guiding path (109). The first type utensil is operable to flip from the upper conveying unit (106) onto the flipping path (108), and to further move from the flipping path (108) onto the lower conveying unit (107). The ADSS of the present invention could be integrated into an ATRS, alleviating at least some of the technical problems faced by the public dining facilities.

[Fig. 1]