



US 20160152361A1

(19) **United States**
(12) **Patent Application Publication**
Sudhakar

(10) **Pub. No.: US 2016/0152361 A1**
(43) **Pub. Date: Jun. 2, 2016**

(54) **APPARATUS FOR WRAPPING A NAPKIN AROUND ONE OR MORE SILVERWARES**

(52) **U.S. Cl.**
CPC **B65B 11/004** (2013.01); **B65B 13/02** (2013.01); **B65B 35/10** (2013.01); **B65B 49/02** (2013.01); **B65B 55/14** (2013.01); **B65B 57/00** (2013.01)

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(21) Appl. No.: **14/558,052**

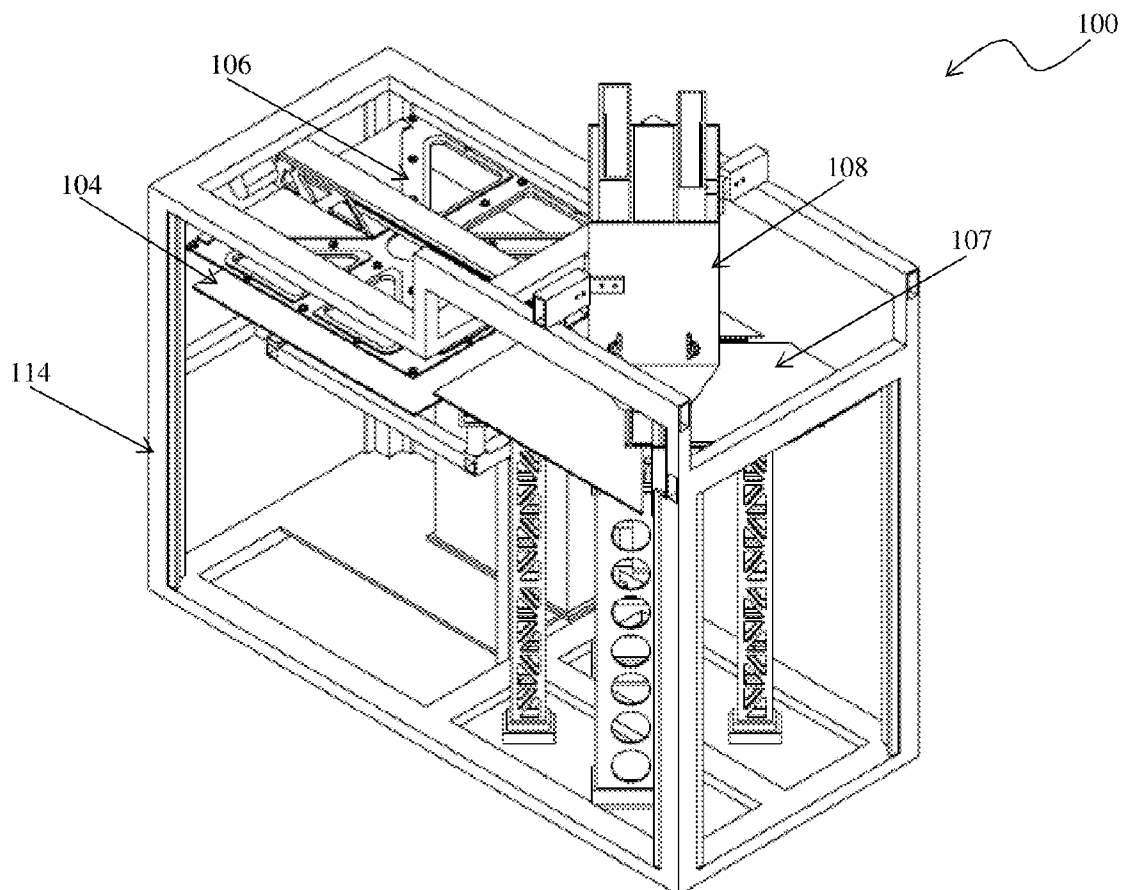
(22) Filed: **Dec. 2, 2014**

Publication Classification

(51) **Int. Cl.**
B65B 11/00 (2006.01)
B65B 57/00 (2006.01)
B65B 49/02 (2006.01)
B65B 55/14 (2006.01)
B65B 13/02 (2006.01)
B65B 35/10 (2006.01)

(57) **ABSTRACT**

This disclosure relates generally to an assembling apparatus, and more particularly, to an automated wrapping apparatus for wrapping one or more silverwares into napkin or napkin. The apparatus (100) comprises a napkin holding structure (104) configured to hold a plurality of napkins (105), a napkin suction table (106) mounted above the napkin holding structure (104) for transporting one of the plurality of napkins (105) from the napkin holding structure (104) to a folding platform (107). A plurality of dispensers (108) is also provided and is being adapted to hold one or more silverware (102) and dispense one of the one or more silverware (102) mounted above the folding platform (107). The apparatus (100) is further provided with a rolling device (110) below a folding platform (107) for rolling the napkin (101) with the one or more silverware (102). Also, at least one sterilizing means is configured in the plurality of dispensers (108) for sterilizing the one or more silverware (102) prior to wrapping in the napkin (101).



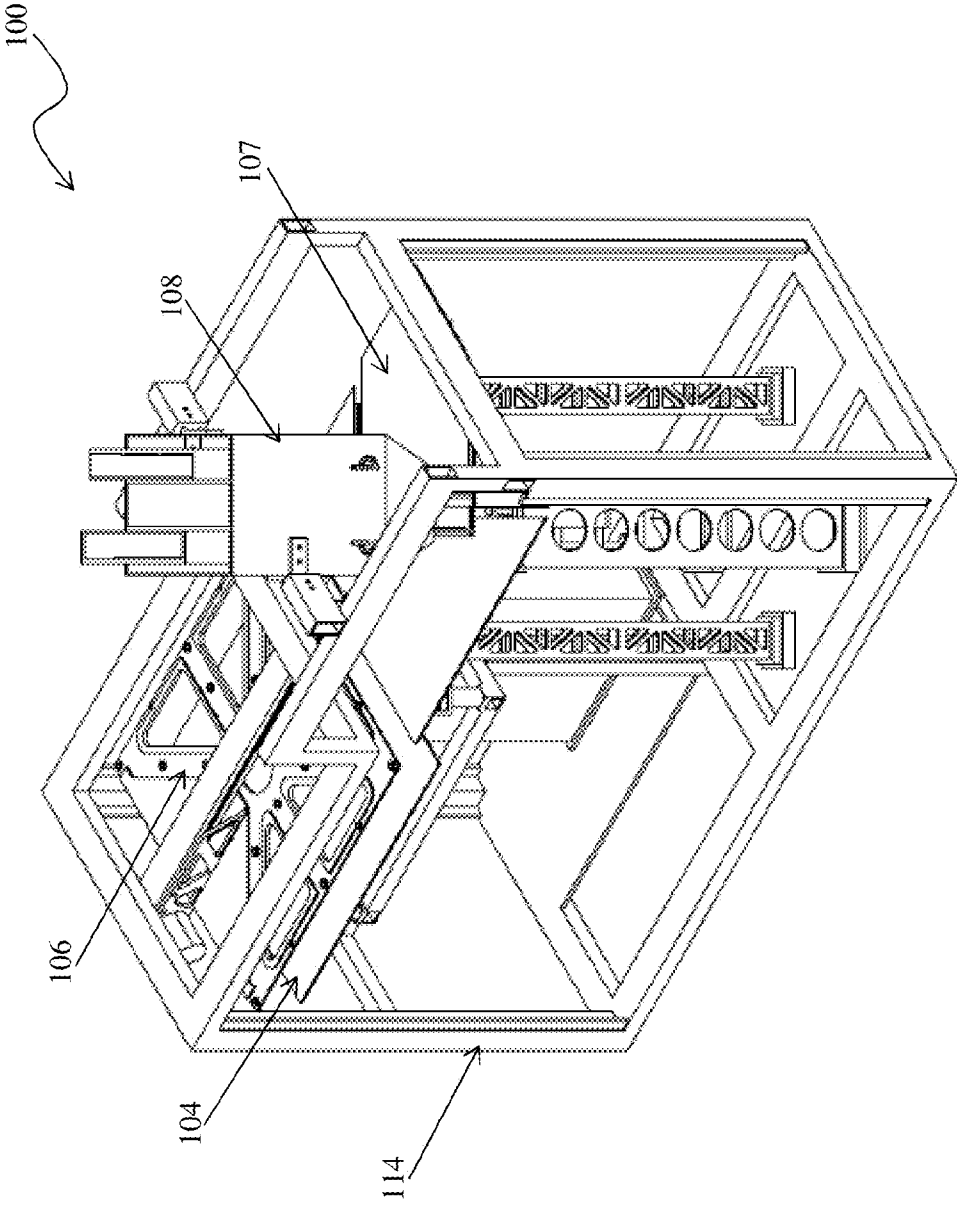


Fig. 1a

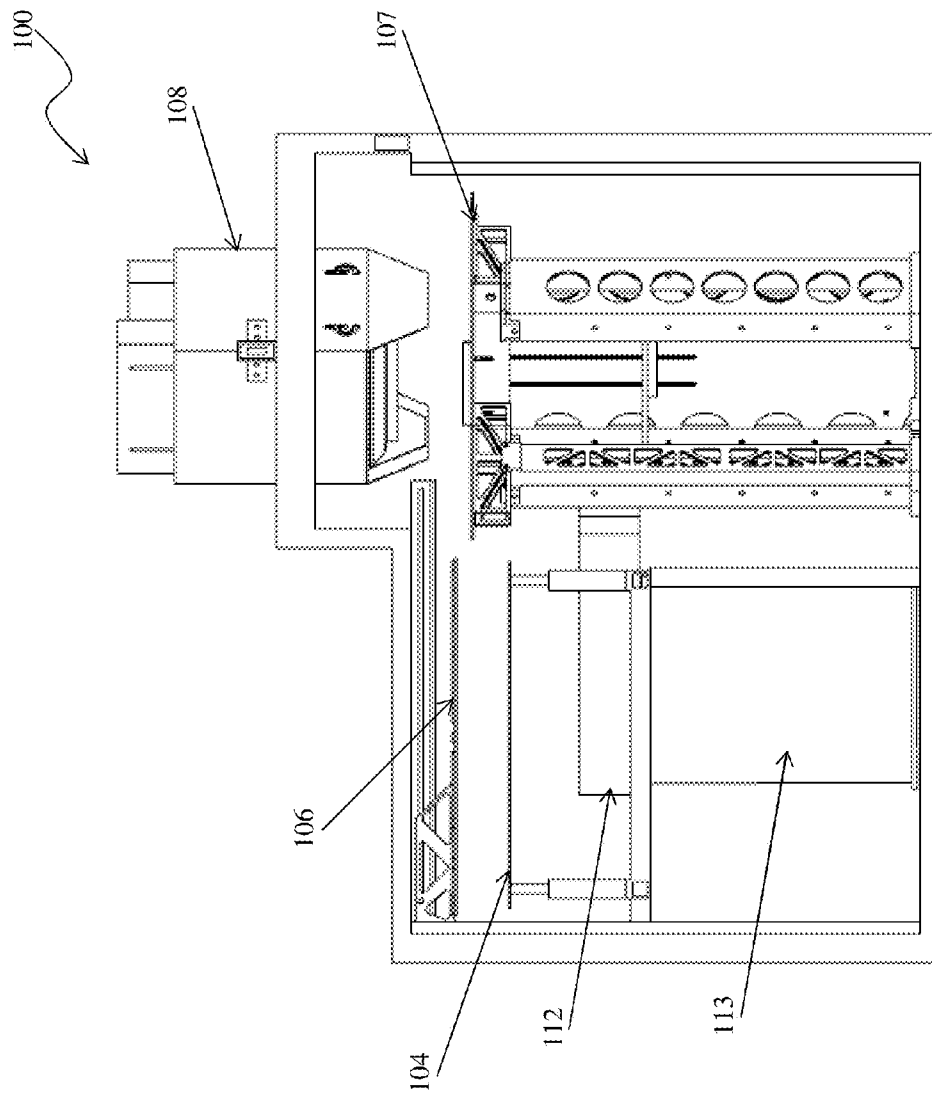


Fig. 1b

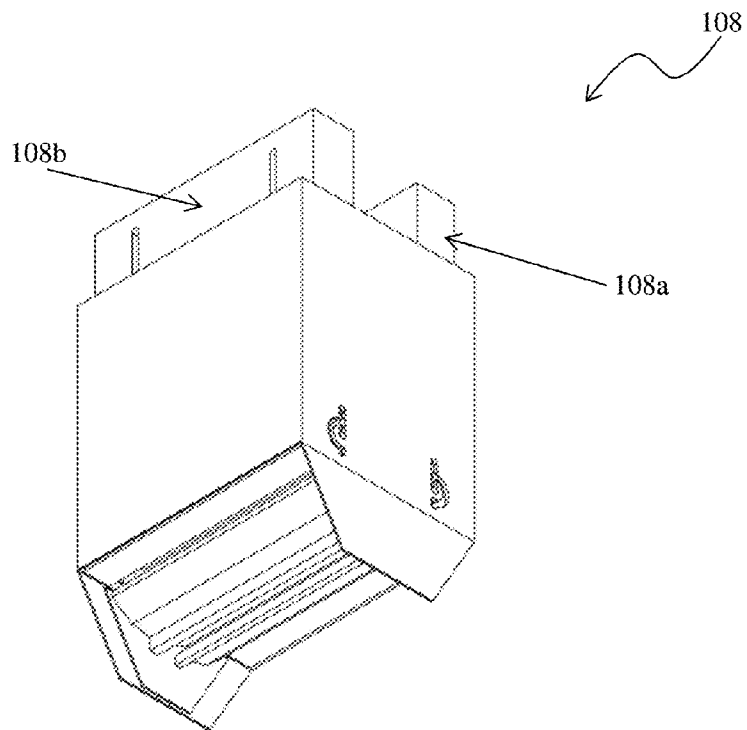


Fig. 2a

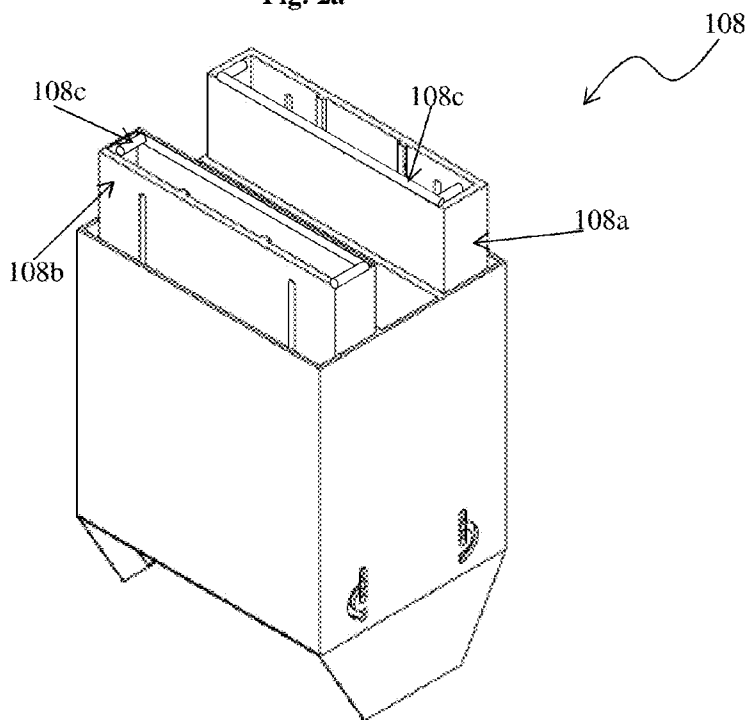


Fig. 2b

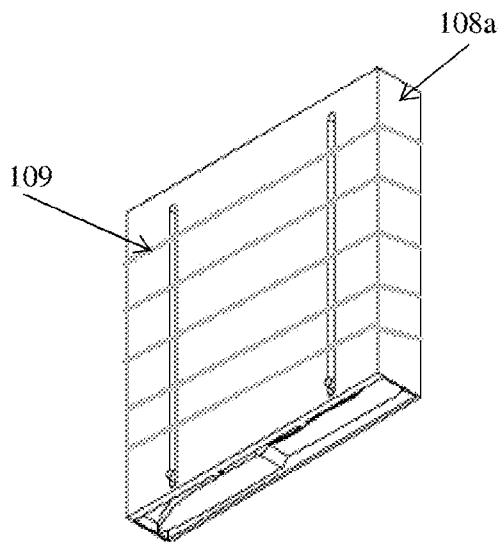


Fig. 3a

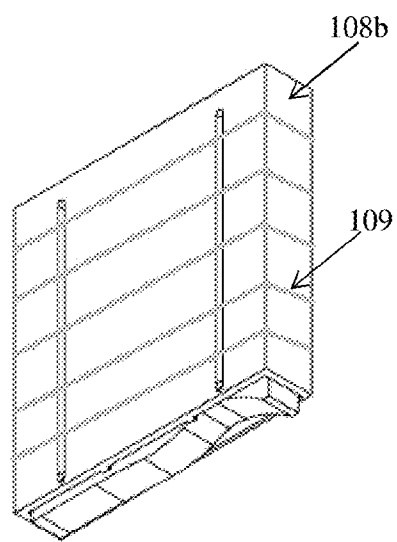


Fig. 3b

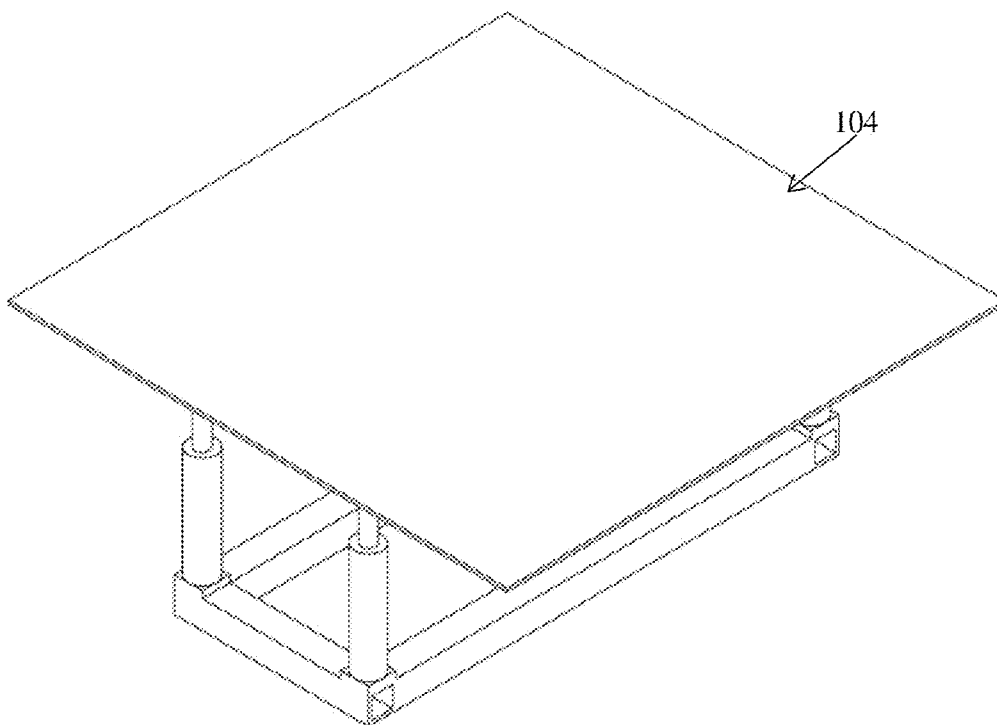


Fig. 4

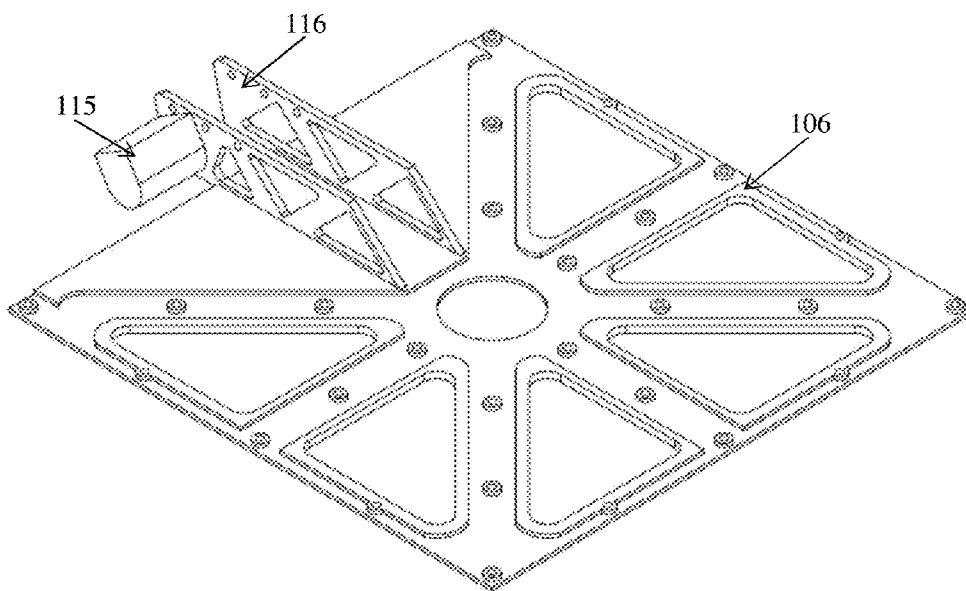


Fig. 5a

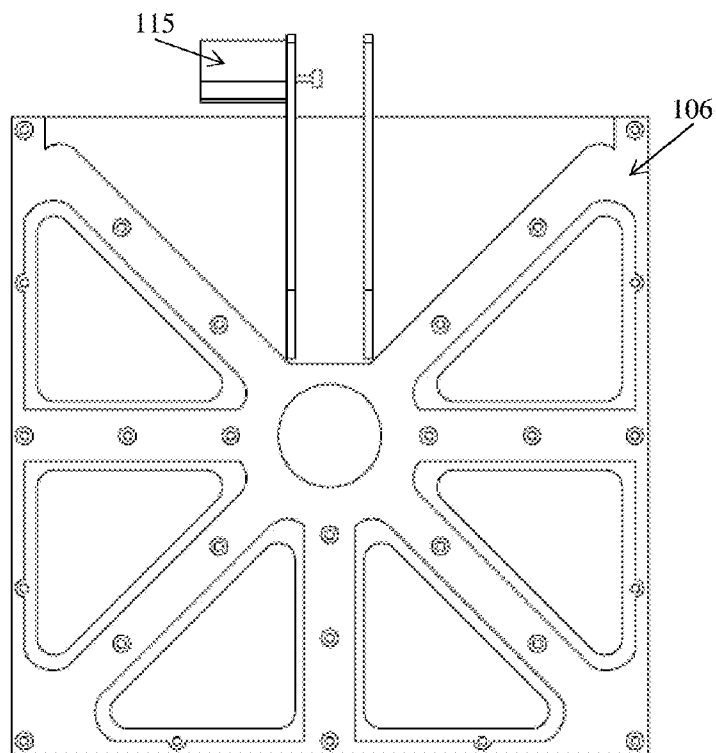


Fig. 5b

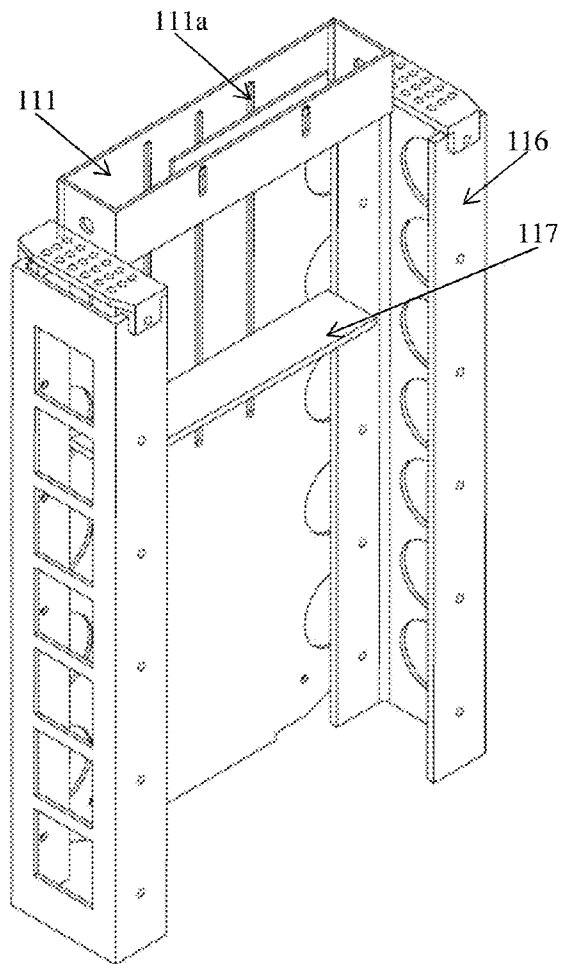


Fig. 6

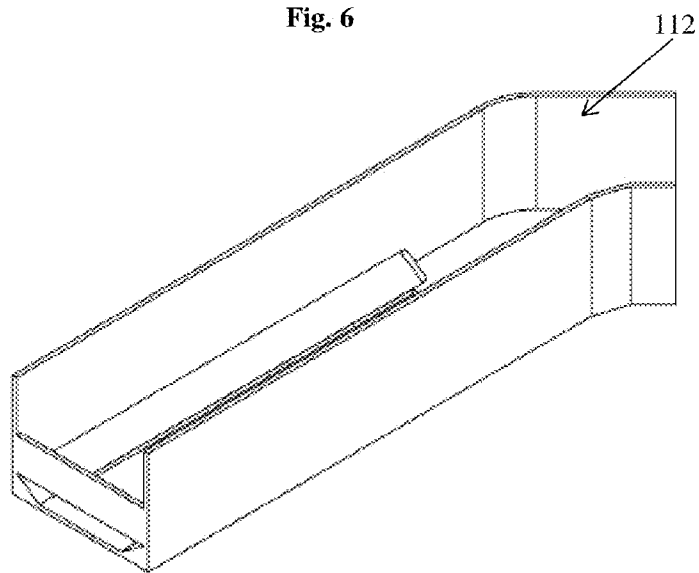


Fig. 7

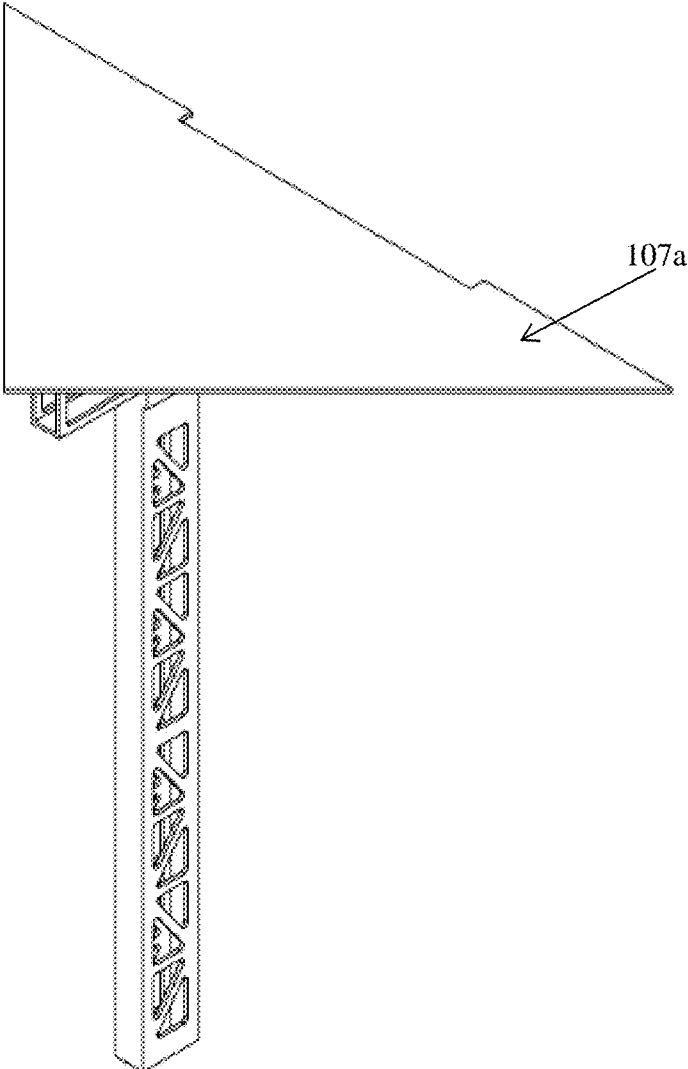


Fig. 8

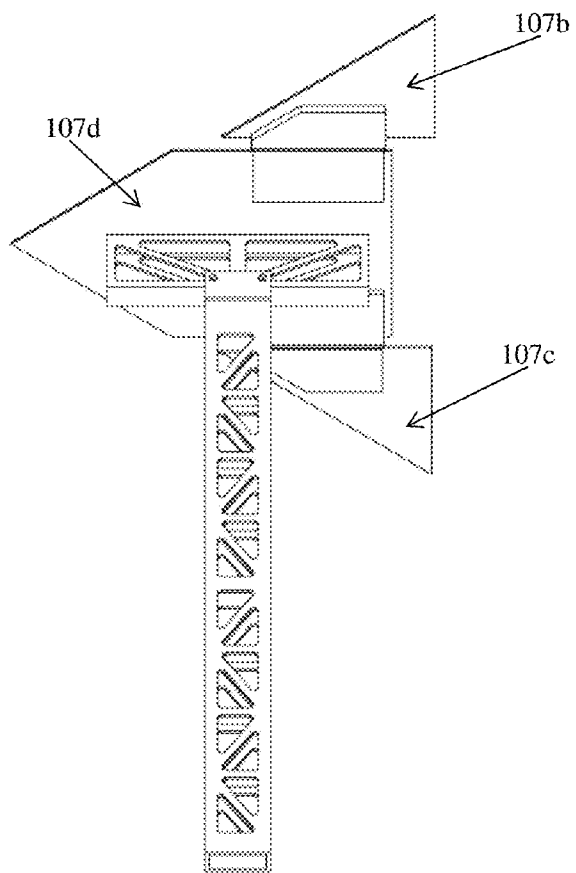


Fig. 9

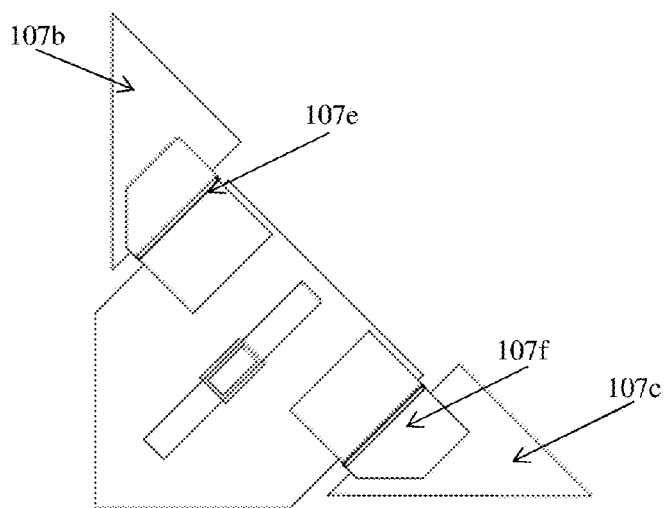


Fig. 10

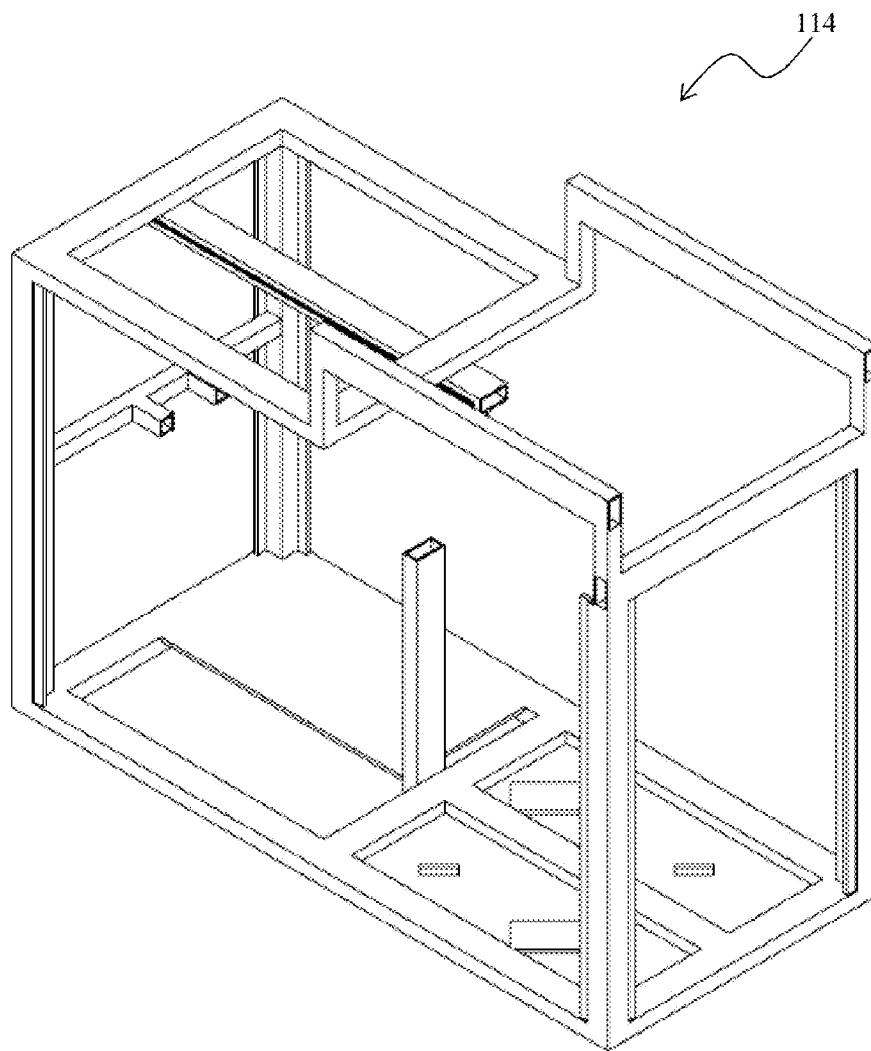


Fig. 11

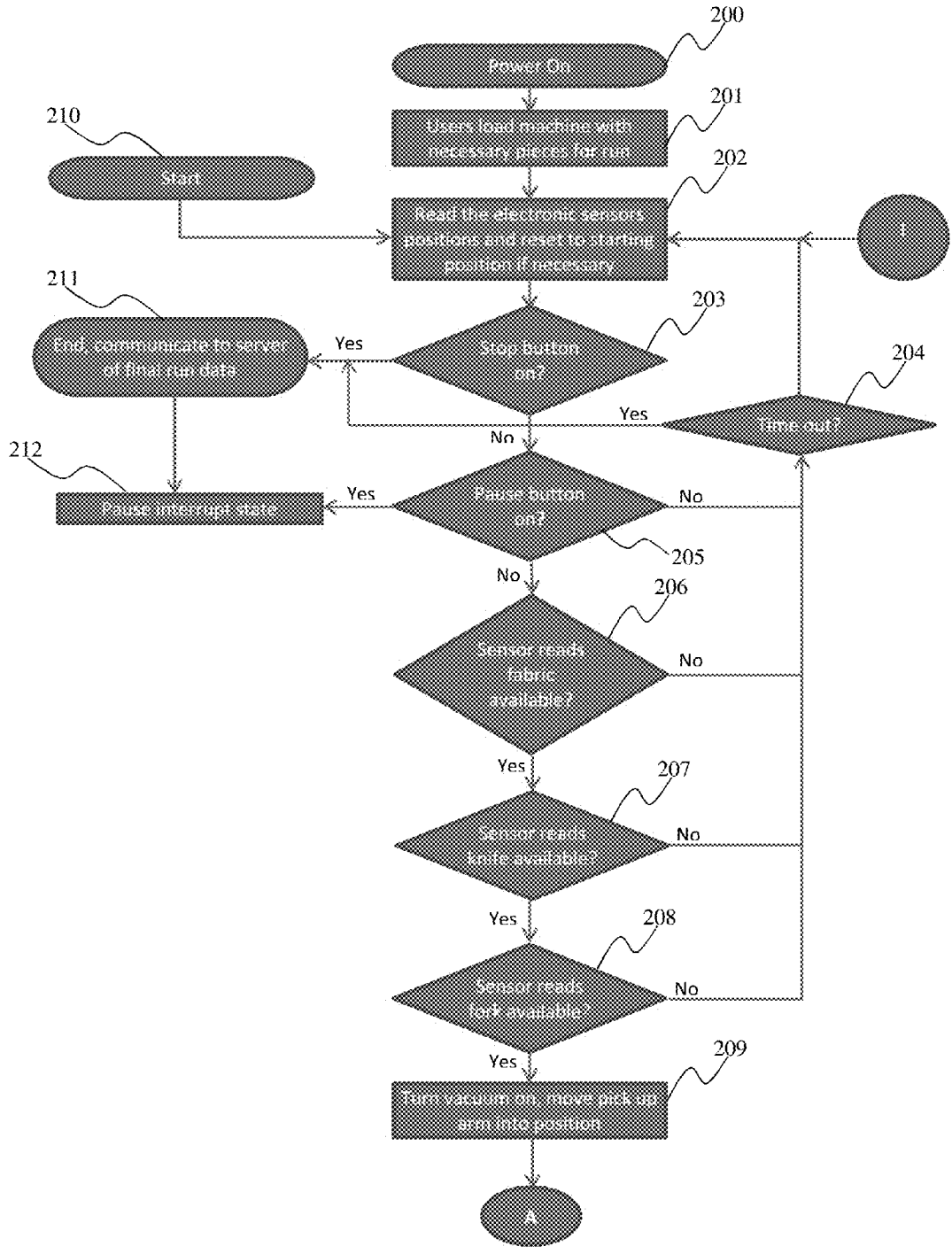


Fig. 12a

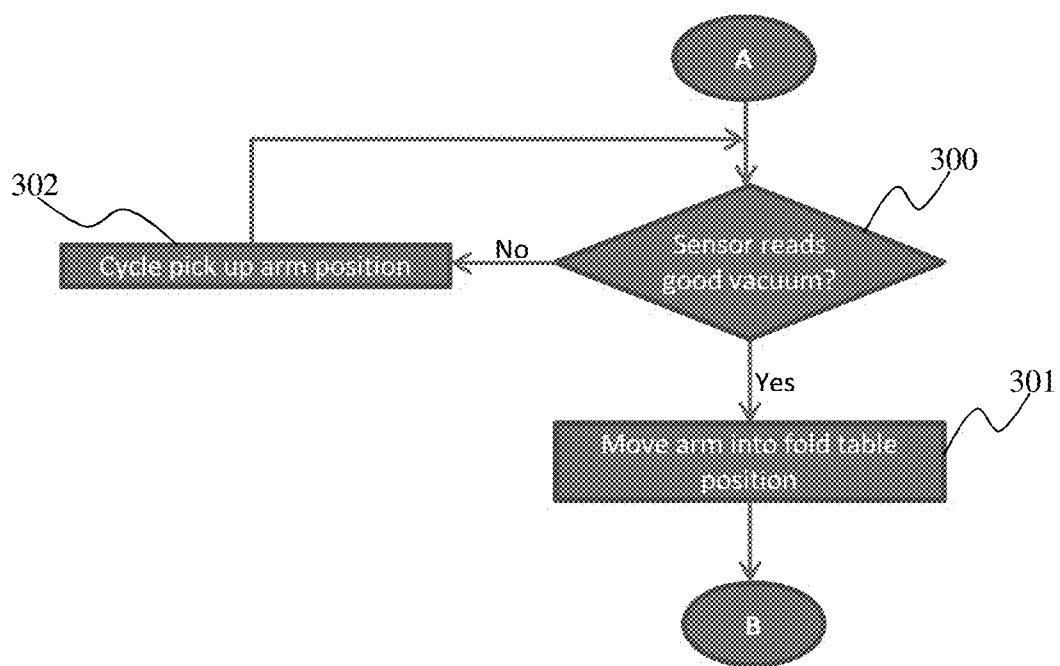


Fig. 12b

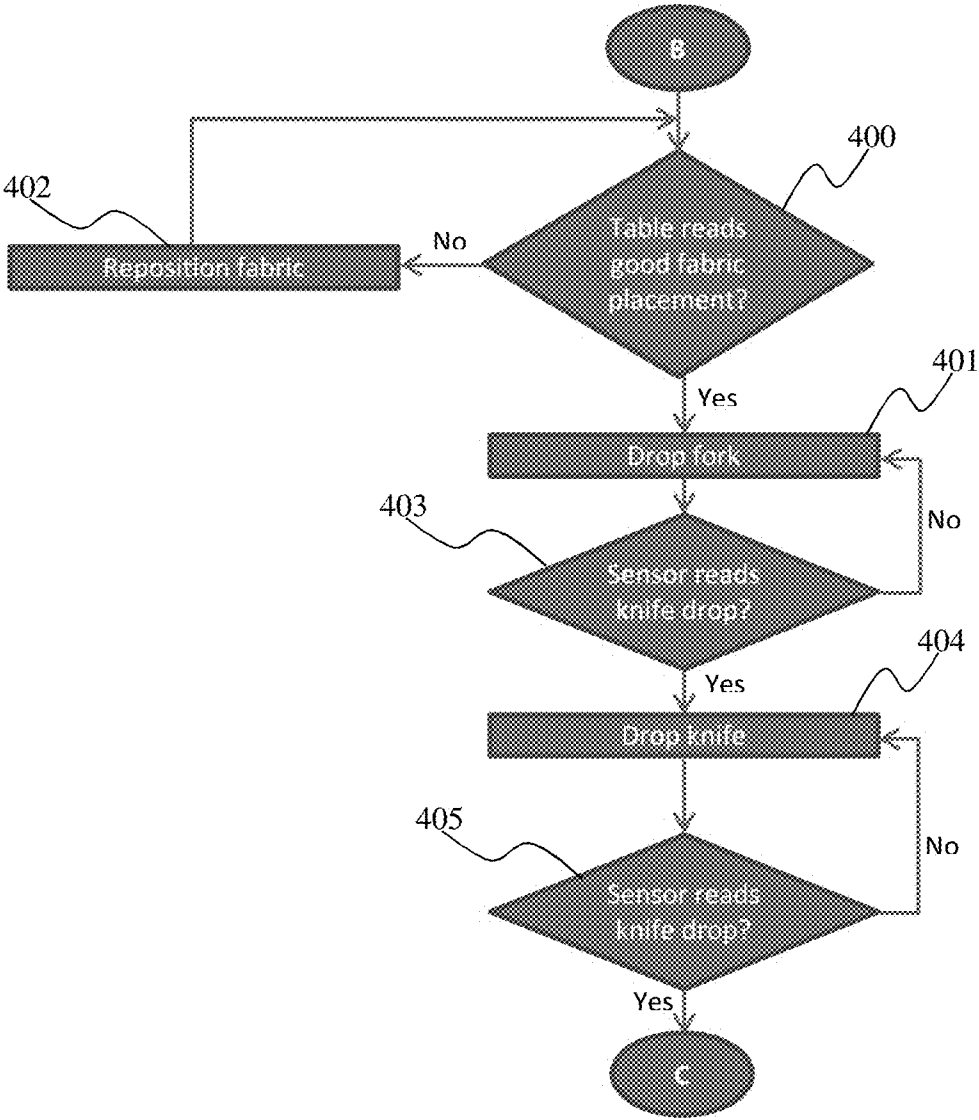


Fig. 12c

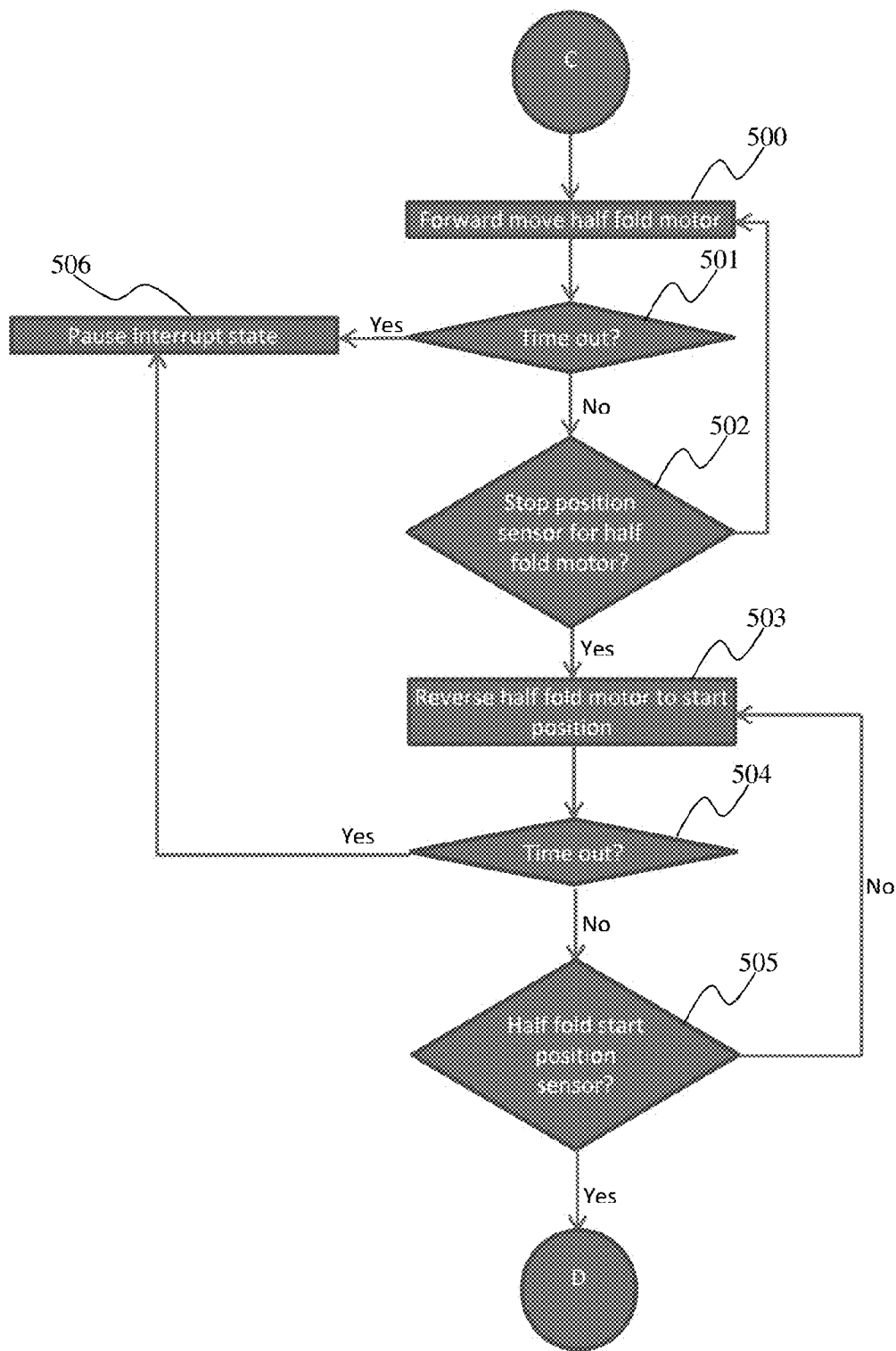


Fig. 12d

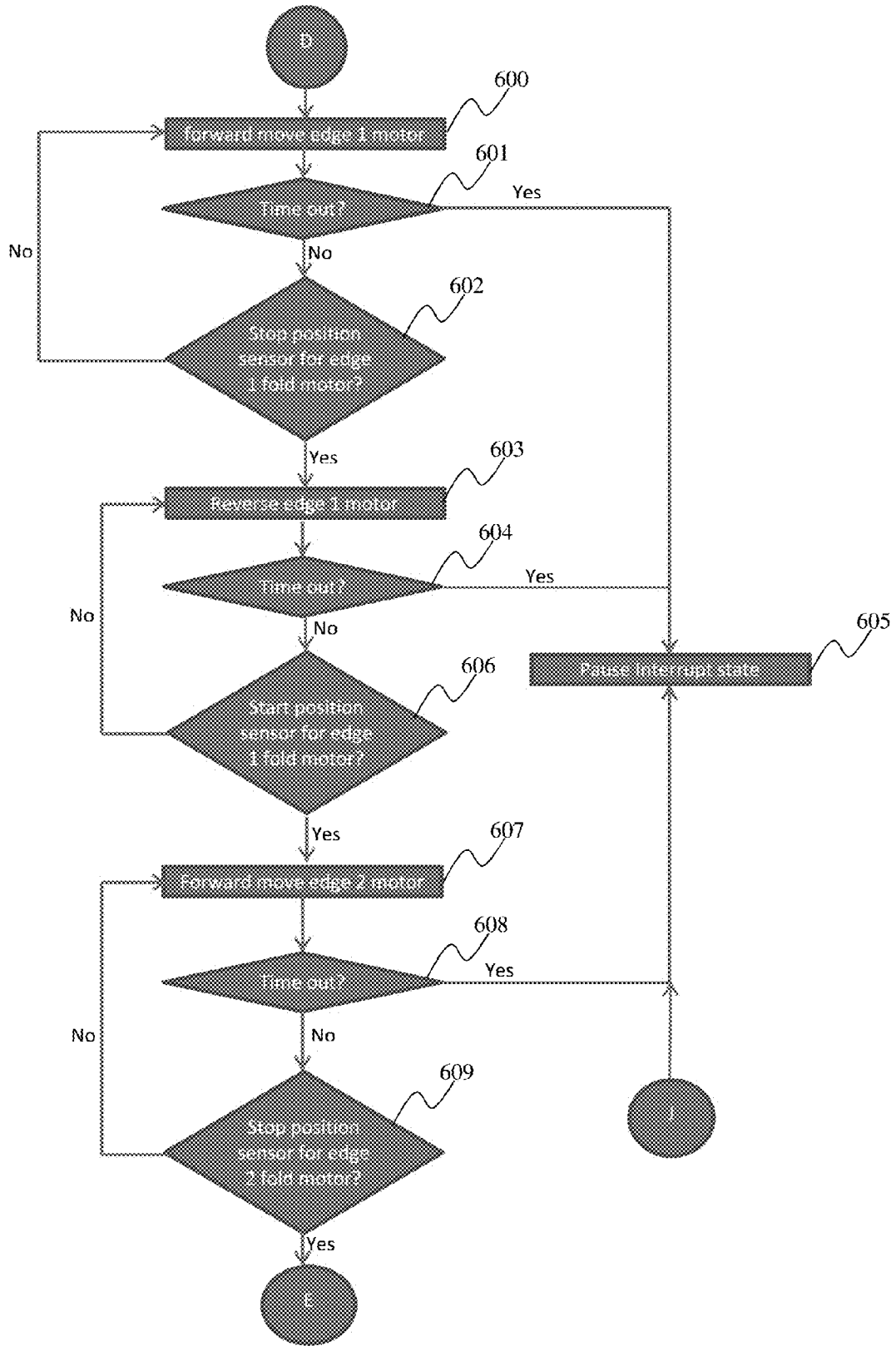


Fig. 12e

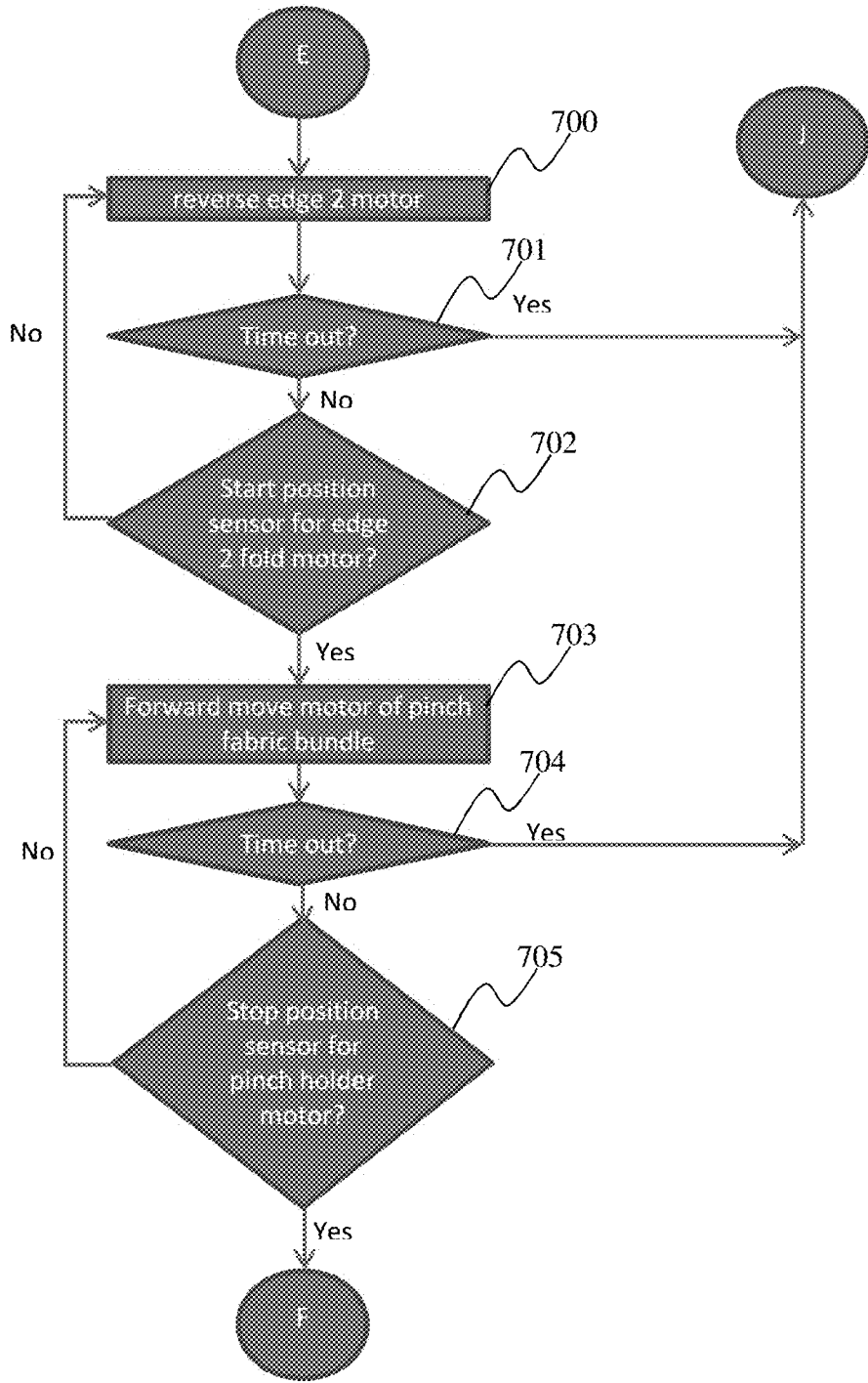


Fig. 12f

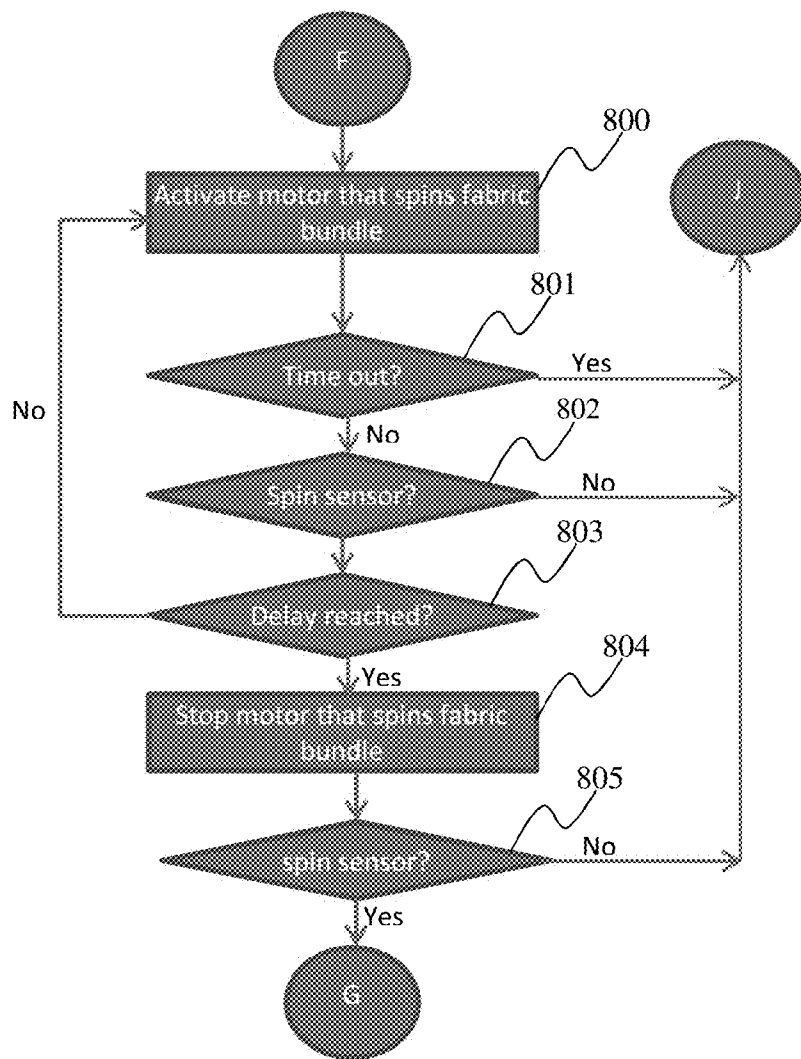


Fig. 12g

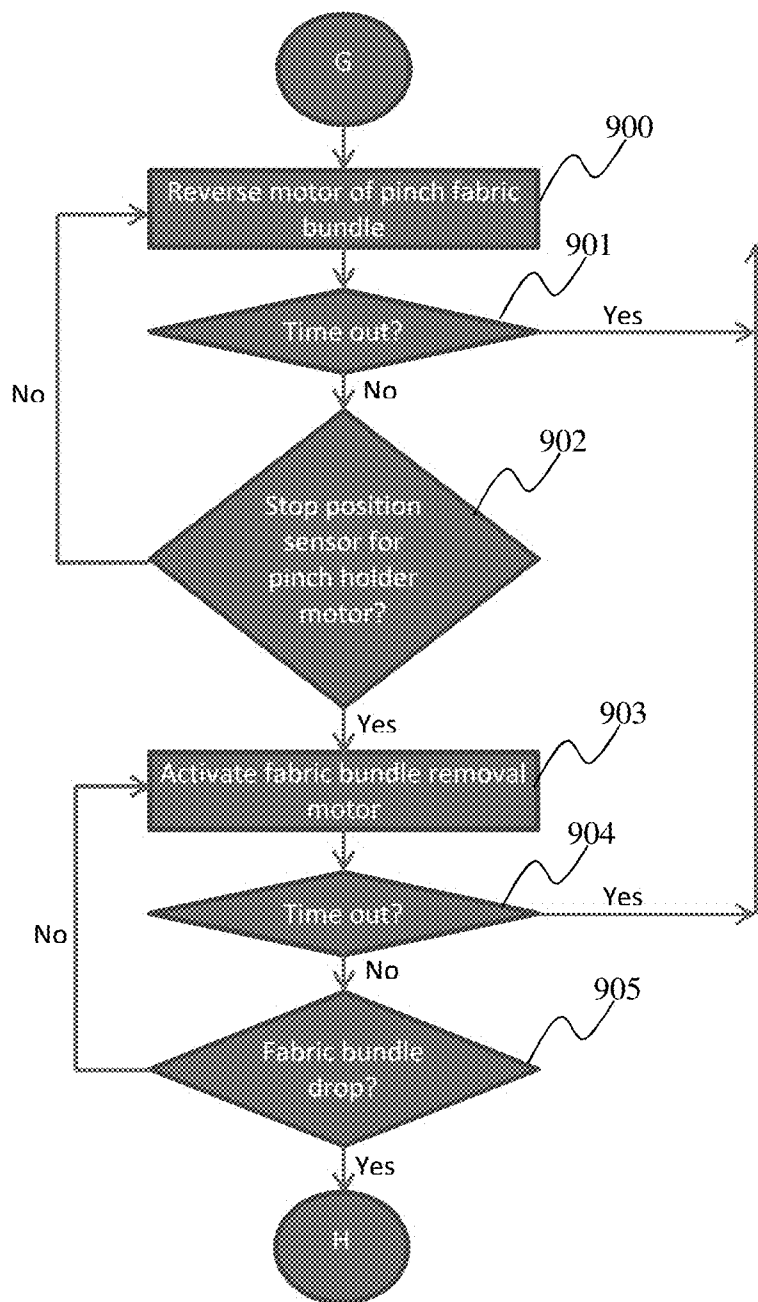


Fig. 12h

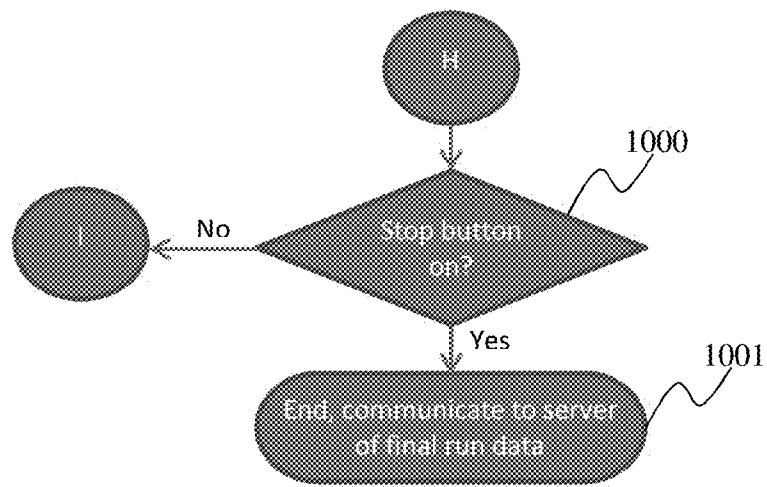


Fig. 12i

APPARATUS FOR WRAPPING A NAPKIN AROUND ONE OR MORE SILVERWARES

TECHNICAL FIELD

[0001] This disclosure relates generally to an assembling apparatus, and more particularly, to an automated wrapping apparatus for wrapping a napkin around one or more silverwares.

BACKGROUND OF THE DISCLOSURE

[0002] Generally, napkins and silverwares are placed on eating tables in restaurants. The silverwares are the cutlery or other eating utensils, such as forks, knives, and spoons. The silverwares are generally placed inside napkins before the usage of the silverwares. The normal process of placing the silverwares inside the napkins is made by rolling the silverwares inside the napkins. Wrapping napkin around silverwares is normally carried out by manual process either by designated staff or employees of the restaurants. This is done by putting the silverware inside each of the napkins and roll before the usage as per restaurant requirement in required pattern. The process of rolling of the napkins having the silverwares manually is a tedious and mundane job for the employees. Also, there are chances of napkins missing any of the cutleries such as knife, fork and spoon due to human error. Also, there exists no quality check before placing the napkins with silverwares on the tables.

[0003] Various devices have come up for automatic napkin-silverware rolling process. Various existing automated devices have one or more limitations such as bulk or heavy in nature and non-portable and less hygienic due to no sterilization of the silverwares during rolling process.

[0004] In view of the aforementioned limitations, there was a need to develop automatic rolling apparatus that rolls napkins or napkin around a set of hygienic silverwares.

SUMMARY OF THE DISCLOSURE

[0005] The shortcomings of the prior art are overcome and additional advantages are provided through the present disclosure. Additional features and advantages are realized through the techniques of the present disclosure. Other embodiments and aspects of the disclosure are described in detail herein and are considered a part of the claimed disclosure.

[0006] In one embodiment, the present disclosure provides for an apparatus for wrapping a napkin around one or more silverware. The apparatus comprising a napkin holding structure configured to hold a plurality of napkins. A napkin suction table is mounted above the napkin holding structure for transporting one napkin from the napkin holding structure to a folding platform. The apparatus is also provided with dispensers which are being adapted to hold one or more silverwares and dispense one of the one or more silverware mounted above the folding platform. A rolling device is provided below a folding platform for rolling the napkin with the one or more silverwares. The apparatus further comprises a sterilizing means is configured in the dispensers for sterilizing the one or more silverware prior to wrapping in the napkin.

[0007] In one embodiment, the one or more silverware is selected from a group comprising forks, spoons, knives and chopsticks.

[0008] In one embodiment, the sterilizing means is selected from a group comprising heating elements and ultraviolet tubes.

[0009] In one embodiment, the heating elements are configured around outer surface of the dispensers and are heated up to about 180° F. for sterilizing the one or more silverware.

[0010] In one embodiment, the apparatus is provided with a metallic frame to support components of the apparatus.

[0011] In one embodiment, the folding platform is located below the plurality of dispensers and configured into a first portion and a second portion for folding the napkin.

[0012] In one embodiment, the second portion is configured into folding sectors and a non-folding sector.

[0013] In one embodiment, the plurality of napkins is made of material selected from paper and fabric.

[0014] In one embodiment, the apparatus comprises housing for holding the rolled silverware-napkin set.

[0015] In one embodiment, the apparatus comprises a duct connected to the housing for transporting the rolled silverware-napkin set to a collection box.

[0016] In one embodiment, the apparatus comprises a microcontroller for controlling the operations of the apparatus.

[0017] In one embodiment, the present disclosure provides for method of operating the apparatus. The method comprising acts of moving the napkin holding structure with pre-loaded napkins upwards to touch bottom of the napkin suction table. The napkin suction table provides suction power to pick up one napkin at a time. After the napkin holding structure is moved, the napkin suction table is moved for placing the picked napkin onto the folding platform. Upon placing the picked napkin, the napkin suction table is moved back to position above the napkin holding structure. Once the napkin suction table is moved back, a first fold on the napkin is performed for placing predetermined set of silverwares. The first fold is performed by folding the folding platform. After the first fold, dispensers are positioned to dispense pre-sterilized set of silverwares from each of the plurality of the dispensers. The heating elements present in the plurality of the dispensers sterilize the silverwares by heating the silverwares to a predetermined temperature. After ensuring that the dispensers are suitably positioned above the napkin, predetermined sterilized set of silverwares is dispensed onto the folded napkin. Once the predetermined set of silverwares is dispensed into the napkin, further folds of the napkin are performed using folding sectors. Once the folding is completed, the napkin containing silverwares are rolled using a rolling device and thereafter moved to the housing.

[0018] In one embodiment, the apparatus is controlled automatically using a microcontroller installed in the apparatus.

[0019] In one embodiment, the rolling device is raised up to the folding platform after dropping the rolled silverware-napkin set in the housing in order to receive next folded silverware-napkin set for rolling.

[0020] In one embodiment, the rolled silverware napkin set is wrapped with a predesigned band or predesigned ribbon.

[0021] The foregoing summary is illustrative only and is not intended to be in any way limiting. In addition to the illustrative aspects, embodiments, and features described above, further aspects, embodiments, and features will become apparent by reference to the drawings and the following detailed description.

BRIEF DESCRIPTION OF THE ACCOMPANYING DRAWINGS

[0022] The novel features and characteristic of the disclosure are set forth in the appended claims. The invention itself, however, as well as a preferred mode of use, further objectives and advantages thereof, will best be understood by reference to the following detailed description of an illustrative embodiment when read in conjunction with the accompanying figures. One or more embodiments are now described, by way of example only, with reference to the accompanying drawings wherein like reference numerals represent like elements and in which:

[0023] FIGS. 1*a* and 1*b* show perspective and front views of the apparatus according to an embodiment of the present disclosure.

[0024] FIGS. 2*a* and 2*b* shows perspective views of the dispenser according to an embodiment of the present disclosure.

[0025] FIGS. 3*a* and 3*b* shows perspective views of the individual dispensers according to an embodiment of the present disclosure.

[0026] FIG. 4 shows a perspective view of the napkin holding structure according to an embodiment of the present disclosure.

[0027] FIGS. 5*a* and 5*b* shows perspective and top view of the napkin suction table according to an embodiment of the present disclosure.

[0028] FIG. 6 shows perspective supporting structure for housing according to an embodiment of the present disclosure.

[0029] FIG. 7 shows a perspective view of the duct according to an embodiment of the present disclosure.

[0030] FIG. 8 shows a perspective view of a first portion of the folding platform according to an embodiment of the present disclosure.

[0031] FIGS. 9 and 10 show perspective and bottom views of a second portion of the folding platform according to an embodiment of the present disclosure.

[0032] FIG. 11 shows a perspective view of the frame according to an embodiment of the present disclosure.

[0033] FIGS. 12*a* to 12*i* illustrate flowcharts of operation of the apparatus according to an embodiment of the present disclosure.

[0034] The figures depict embodiments of the disclosure for purposes of illustration only. One skilled in the art will readily recognize from the following description that alternative embodiments of the structures and methods illustrated herein may be employed without departing from the principles of the disclosure described herein.

DETAILED DESCRIPTION OF THE DISCLOSURE

[0035] In the following detailed description, reference is made to the accompanying drawings, which form a part hereof. In the drawings, similar symbols typically identify similar components, unless context dictates otherwise. The illustrative embodiments described in the detailed description, drawings, and claims are not meant to be limiting. Other embodiments may be utilized, and other changes may be made, without departing from the spirit or scope of the subject matter presented herein. It will be readily understood that the aspects of the present disclosure, as generally described herein, and illustrated in the figures, can be arranged, substi-

tuted, combined, and designed in a wide variety of different configurations, all of which are explicitly contemplated and make part of this disclosure.

Table of referral numerals

| Referral Numerals | Description |
|-------------------|---|
| 100 | Apparatus for wrapping napkin |
| 101 | Napkin |
| 102 | Silverware |
| 104 | Napkin holding structure |
| 105 | Microcontroller |
| 106 | Napkin suction table |
| 107 | Folding platform |
| 107a | First portion |
| 107b | Second portion |
| 107c and 107d | Folding sector |
| 107e | Non-folding sector |
| 107f and 107g | Hinges |
| 108, 108a, 108b | Dispenser |
| 108c | Ultraviolet tube |
| 109 | Heating elements |
| 110 | Rolling device |
| 111 | Housing |
| 112 | Duct |
| 113 | Collection box |
| 114 | Frame |
| 115 | Motor in napkin suction table |
| 116 | Linear guide ways in the napkin suction table |
| 117 | Stopper in the supporting structure |
| 118 | Supporting structure |
| 118a | Wall member |
| 118b | Guides in the wall member |
| 118c | Cut outs in the supporting structure |

[0036] FIGS. 1 and 2 illustrate an apparatus (100) for wrapping a napkin (101) around one or more silverware (102). The apparatus (100) comprising a napkin holding structure (104) configured to hold a plurality of napkins (101), a napkin suction table (106) mounted above the napkin holding structure (104) for transporting one of the plurality of napkins (101) from the napkin holding structure (104) to a folding platform (107). The apparatus (100) also comprises a plurality of dispensers (108) being adapted to hold one or more silverware (102) and dispense one of the one or more silverware (102) mounted above the folding platform (107) and a rolling device (110) is provided below the folding platform (107) for rolling the napkin (101) with the one or more silverware (102). In one embodiment, the folding platform (107) is located below the plurality of dispensers (108) and configured into folding and non-folding sectors (107*a* and 107*b*) for folding the napkin (101). At least one sterilizing means is configured in the plurality of dispensers (108) for sterilizing the one or more silverware (102) prior to wrapping in the napkin (101). In one embodiment, the apparatus (100) is provided with a frame (114) (more clearly shown in FIG. 11) to support components of the apparatus (100). In one embodiment, the frame (114) is made of materials selected from a group comprising plastic, composite material, metallic material such as Aluminum. The frame (114) supports and holds the components of the apparatus (100) such as the frame holding structure (104), the napkin suction table (106), the dispensers (108), and the rolling device (110).

[0037] In one embodiment, the apparatus (100) comprises a microcontroller (105) (not shown) for controlling the operations of the apparatus (100). The microcontroller (105) is integrated in the apparatus (100) which is an electronic device

that is preprogrammed for instructing through electronic commands that the apparatus (100) performs as designed and as instructed through the commands after the start button is pressed.

[0038] FIGS. 2a and 2b illustrates perspective views of the dispenser (108) according to an embodiment of the present disclosure. In one embodiment, the one or more silverware (102) as described hereinabove and hereinafter is selected from a group comprising a fork, a spoon, a knife or a chopsticks. In one embodiment, the silverware (102) can be made of metallic or non-metallic in nature or its combination based on the requirement. The dispenser (108) is further configured with individual dispensers (108a and 108b) which would comprise desired or required silverwares.

[0039] FIGS. 3a and 3b illustrates perspective views of the individual dispensers (108a and 108b) according to an embodiment of the present disclosure. The shape of the dispensers (108a and 108b) can be made in such a way that the silverwares (102) are smoothly dispensable from the dispensers (108a and 108b). In one embodiment, the dispensers (108a, 108b) are in cuboidal shape which can easily be mounted inside the dispenser (108). The dispensers (108a and 108b) are configured with a plurality of heating elements (109) for sterilizing the metallic silverwares held in the dispensers (108a and 108b). The heating elements (109) are controlled by the microcontroller (105) installed in the apparatus (100). The heating elements (109) can be selectively activated based on the requirement. The dispensers (108a and 108b) are heated up to about 180° F. for sterilizing the one or more silverwares. In an embodiment, the heating elements (109) are heating tapes, which provides rapid and efficient direct contact heating to a temperature of 180° F. and the temperature is controlled and maintained by the microcontroller (105). The dispensers (108a and 108b) are uniformly heated while the apparatus (100) is in use. The heating elements (109) are connected to an electric socket provided in the apparatus (100). The constant temperature of 180° F. is maintained through the heating elements in the dispensers (108a and 108b) by sensors (not shown) installed in the apparatus (108). The sensors are controlled by microcontroller (105) to maintain the constant temperature after the initial heating which takes about 5 minutes to reach a steady state temperature. The heating sterilization process sterilizes the one or more silverwares (102) by killing bacteria(s) in the one or more silverwares (102). In an exemplary embodiment, the dispensers (108a and 108b) need not be installed with heating elements (109) if the silverwares are made of plastic or similar materials or the heating elements (109) are controlled by the microcontroller such that the heating elements (109) are not activated for heating the dispensers (108a, 108b).

[0040] In another exemplary embodiment, the dispensers (108a and 108b) are provided with plurality of ultraviolet tubes/lights (108c) for sterilizing the one or more silverwares (102) by killing viruses and other microorganisms that pose health hazards that may be present in the one or more silverwares (102). The UV tubes (108c) are installed in the dispensers (108a and 108b) as shown in the FIG. 2b. The surface of the dispensers (108a and 108b) and the silverwares (102) are exposed to the UV light at a height of 1-2 inches for 2-10 seconds for sterilizing the silverwares (102).

[0041] FIG. 4 illustrates a perspective view of the napkin holding structure (104) according to an embodiment of the present disclosure. The napkin holding structure (104) is substantially flat structure, made of Aluminum material. The

napkin holding structure (104) holds the stack of hygienic napkins for wrapping predetermined silverwares into the napkins. The napkin holding structure (104) is substantially matching but not limited to the shape of the napkin that are to be stacked in the napkin holding structure (104). In one embodiment, the napkin is in shape of square or rectangular.

[0042] FIGS. 5a and 5b illustrates perspective and top views of the napkin suction table (106) according to an embodiment of the present disclosure. The napkin suction table (106) is substantially flat in shape and provided with a plurality of cutouts in triangular shape for reducing the weight of the napkin suction table (106). The napkin suction table (106) is also provided with plurality of suction elements (106a) for inducing vacuum for lifting only one napkin from the napkin holding structure (104). The picked napkin is then displaced to the folding platform (107) for folding and wrapping after placement of the silverwares (102) into the napkin. The napkin suction table (106) is provided with a motor (115) and a linear guide ways (116) for movement of the napkin suction table (106) to the folding platform (107). Once the napkin is displaced to the folding platform (107), the motor (115) comes back to original position for lifting another napkin for folding another silverware set.

[0043] FIG. 6 illustrates a perspective view of supporting structure (118) for housing (111) according to an embodiment of the present disclosure. The housing (111) holds the rolled silverware-napkin set (101). The supporting structure (118) is two elongated members vertically placed and are connected using a wall member (118a). The wall member (118a) is configured with plurality of guides (118b) for displacing the housing (111) collected with plurality of wrapped silverware-set. The housing (111) is displaced from the folding platform (107) level to the level of the duct (112) (shown in FIG. 7). In one embodiment, the duct (112) is connected to the housing (111) for transporting the rolled silverware-napkin set (101) to a collection box (113). The movement of the housing (111) from folding platform level to the duct level is made using a motor (not shown) installed in the housing (111) and the movement is stopped at the duct level by the stopper (117) mounted horizontally with the ground surface. The supporting structure (118) is provided with plurality of cutouts (118c) for providing passage for the wrapped silverware-set into the collection box (113).

[0044] FIG. 8 illustrates a perspective view of a first portion (107a) of the folding platform (107) according to an embodiment of the present disclosure. The first portion (107a) is in triangular shape and folds the napkin/napkin. The first fold before the placement of the hygienic silverwares is made by the first portion (107a).

[0045] FIGS. 9 and 10 illustrate perspective and bottom views of a second portion of the folding platform (107) according to an embodiment of the present disclosure. The second portion (107b) is configured into folding sector (107c) and non-folding sectors (107d). The folding sector (107c) is configured to make second fold after dispensing of the hygienic silverwares into the napkin.

[0046] FIGS. 12a to 12i illustrate flowcharts of operation of the apparatus (100) according to an embodiment of the present disclosure.

[0047] In one embodiment of the present disclosure, a method of operating the apparatus (100) is provided. The method comprising acts of moving the napkin holding structure (104) with preloaded napkins upwards to touch bottom of the napkin suction table (106), wherein the napkin suction

table (106) provides suction power to pick up one napkin (101) at a time; moving the napkin suction table (106) for placing the picked napkin (101) onto the folding platform (107); moving the napkin suction table (106) back to position above the napkin holding structure (104); performing a first fold on the napkin (101) for placing predetermined set of silverwares (102); positioning the plurality of the dispensers (108) to dispense pre-sterilized set of silverwares (102) from each of the plurality of the dispensers (108), wherein the heating elements (109) or ultraviolet tubes (108c) are present in the plurality of the dispensers (108) sterilizes the silverwares (102) by heating the silverwares (102) to a predetermined temperature; dispensing sterilized set of the silverwares (102) onto the folded napkin (101); performing folds of the napkin (101) after dispensing sterilized set of silverwares (102) on the napkin (101) using folding sectors (107c); rolling the napkin (101) consisting sterilized silverwares (105) using a rolling device (110); and moving the rolled silverware-napkin set to the housing (111).

[0048] In one embodiment, the rolling device (110) is raised up to the folding platform (107) after dropping the rolled silverware-napkin set in the housing (111) in order to receive next folded silverware-napkin set for rolling.

[0049] Referring to FIG. 12a, the apparatus (100) is switched on at 200 and the user loads the apparatus (100) with desired silverwares (105) into the dispenser (108) at 201. At 202, the electronic sensors positions and resets to starting position, if necessary. After the resetting is carried out, the sensors check whether the stop button is on or not at 203. If the stop button is on, the sensors provide signals to the server and the final run data is carried out at 211. The sensor also checks if the pause button is on or not, if the pause button is on, then at 212, the apparatus is brought to pause an interrupt state. On the other hand, if the pause interrupt is not on, the sensor checks for availability of napkin or napkins on the napkin in the napkin holding structure (104) at 206. If the napkin holding structure (104) comprises sufficient napkins are available, then the sensor checks for silverware (knife) availability in the first dispensers (108) at 207. If the sensor reads that sufficient knives are available, then the sensor checks for silverware (fork) in the second dispenser (108) at 208. If both the dispensers comprises of sufficient silverwares of knives and forks, the vacuum in the apparatus is turned on and the lifting arms are moved above the napkin holding structure (104) at 209.

[0050] Referring to FIG. 12b, for picking up only one napkin at a time, the sensor reads whether the apparatus (100) is having good vacuum at 300. The sensor provides signals to the microcontroller (105) to check whether the apparatus (100) is having good vacuum or not. If there is sufficient/good vacuum, then the arm is moved onto napkin holding structure (104) at 301. If there is no good vacuum created, then the pickup arm is moved back to initial position till the sufficient vacuum is created.

[0051] Referring to FIG. 12c, after picking-up the napkin or napkins from the napkin holding structure (104), the napkin is placed onto a folding platform (107). At 400, once the table reads the correct placement of the napkin onto the folding platform (107), one fork is dropped onto the napkin from the dispenser which is holding the plurality of fork silverwares at 401. After the fork is dropped into the napkin, the knife from another dispenser is dropped into the napkin and the sensor

reads the fork drop at 403. At 404, after the fork is dropped, one knife is dropped onto the napkin and the sensor reads the drop of knife at 405.

[0052] Referring to FIG. 12d, after dropping of two silverwares, the fork and knife, the napkin is folded by forward movement of half fold motor at 500. At 501 if there is any time out observed during folding of the napkin, the apparatus (100) is brought to pause interrupt state at 506 in order to correct the time out. If there is no time out observed, then the position sensor is stopped for half fold motor at 502. At 503, the half fold motor is reversed to start the position. If there is any time out observed at 504 then the apparatus (100) is brought to pause interrupt state at 506. If there is no time out, then the apparatus is checked if the half fold start position sensor is ON or OFF at 505.

[0053] Referring to FIG. 12e, if the half fold start position is ON, then the motor 1 is moved forward at 600. If there is no time out observed at 601, the position sensor is stopped for folding the napkin using a first edge fold motor at 602. At 603, the edge motor is reversed at 603. If there is no time out observed at 604, the position sensor is started for folding the first edge using the fold motor. At 607, the second motor is moved forward. If there is no time out observed at 608, then the position sensor is stopped for folding the second fold motor.

[0054] Referring to FIG. 12f, the second motor is reversed at 700. If there is no time out observed at 701, then the position sensor is started for folding the edge using the second motor at 702. At 703, the pinch napkin bundle is moved forward using the motor. If there is no time out observed at 704, then the position sensor is stopped for pinch holding motor at 705.

[0055] Referring to FIG. 12g, after stopping the position sensor at 705, the motor is activated for spinning the bundle of napkin comprising silverwares at 800. If there is no time out observed at 801, then, the apparatus is checked if spinning is happening or not at 802. The sensor is spinning means positioning to determine the number of revolutions to wrap the napkins and determine the correct start and stop positions. If the sensor is spinning, then it is checked if the delay is reached or not at 803. At 804, the motor is stopped which spins the napkin bundle. At 805, the sensor checks again if the spinning is happening or not.

[0056] Referring to FIG. 12h, at 900, the motor is reversed for pinching the napkin bundle. If there is no time out observed at 901, the position sensor is stopped for pinch holder motor at 902. At 903, the motor is activated for napkin bundle removal at 903. If there is no time out observed at 904, then the napkin bundle or wrapped or rolled silverware set is dropped to housing (111) and the apparatus (100) is checked if the stop button is ON or OFF at 1000. If yes, then the communication is ended for stopping the apparatus (100) as shown in FIG. 12i.

1. An apparatus (100) for wrapping a napkin (101) around one or more silverware (102),

the apparatus (100) comprising:

- a napkin holding structure (104) configured to hold a plurality of napkins (105);
- a napkin suction table (106) mounted above the napkin holding structure (104) for transporting one of the plurality of napkins (105) from the napkin holding structure (104) to a folding platform (107);

- a plurality of dispensers (108) being adapted to hold one or more silverware (102) and dispense one of the one or more silverware (102) mounted above the folding platform (107);
 - a rolling device (110) provided below a folding platform (107) for rolling the napkin (101) with the one or more silverware (102); and
 - a sterilizing means configured in the plurality of dispensers (108) for sterilizing the one or more silverware (102) prior to wrapping in the napkin (101).
2. The apparatus (100) as claimed in claim 1, wherein the one or more silverware (102) is selected from a group comprising forks, spoons, knives and chopsticks.
 3. The apparatus (100) as claimed in claim 1, wherein the sterilizing means is selected from a group comprising heating elements (109) and ultraviolet tubes (108c).
 4. The apparatus (100) as claimed in claim 1, wherein the heating elements (109) are configured around outer surface of the dispensers (108a and 108b) and are heated up to about 180° F. for sterilizing the one or more silverware.
 5. The apparatus (100) as claimed in claim 1 is provided with a metallic frame (114) to support components of the apparatus (100).
 6. The apparatus (100) as claimed in claim 1, wherein the folding platform (107) is located below the plurality of dispensers (108) and configured into a first portion (107a) and a second portion (107b) for folding the napkin.
 7. The apparatus (100) as claimed in claim 6, wherein the second portion (107b) is configured into folding sectors (107c and 107d) and a non-folding sector (107e).
 8. The apparatus (100) as claimed in claim 1, wherein the plurality of napkins (105) is made of material selected from paper and fabric.
 9. The apparatus (100) as claimed in claim 1 comprises a housing (111) for holding the rolled silverware-napkin set (101).
 10. The apparatus (100) as claimed in claim 1 comprises a duct (112) connected to the housing (111) for transporting the rolled silverware-napkin set (101) to a collection box (113).
 11. The apparatus (100) as claimed in claim 1 comprises a microcontroller for controlling the operations of the apparatus (100).

12. A method of operating the apparatus (100) as claimed in claim 1, the method comprising acts of:
 - moving the napkin holding structure (104) with preloaded napkins upwards to touch bottom of the napkin suction table (106), wherein the napkin suction table (106) provides suction power to pick up one napkin (101) at a time;
 - moving the napkin suction table (106) for placing the picked napkin (101) onto the folding platform (107);
 - moving the napkin suction table (106) back to position above the napkin holding structure (104);
 - performing a first fold on the napkin (101) for placing predetermined set of silverwares (102);
 - positioning the plurality of the dispensers (108) to dispense pre-sterilized set of silverwares (102) from each of the plurality of the dispensers (108), wherein the heating elements (109) present in the plurality of the dispensers (108) sterilizes the silverwares (102) by heating the silverwares (102) to a predetermined temperature;
 - dispensing sterilized set of the silverwares (102) onto the folded napkin (101);
 - performing folds of the napkin (101) after dispensing sterilized set of silverwares (102) on the napkin (101) using folding sectors (107a);
 - rolling the napkin (101) consisting sterilized silverwares (105) using a rolling device (110); and
 - moving the rolled silverware-napkin set to the housing (111).
13. The method as claimed in claim 12, wherein the apparatus (100) is controlled automatically using a microcontroller installed in the apparatus (100).
14. The method as claimed in claim 12, wherein the rolling device (110) is raised up to the folding platform (107) after dropping the rolled silverware-napkin set in the housing (111) in order to receive next folded silverware-napkin set for rolling.
15. The method as claimed in claim 12, wherein the rolled silverware napkin set is wrapped with a predesigned band or predesigned ribbon.

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