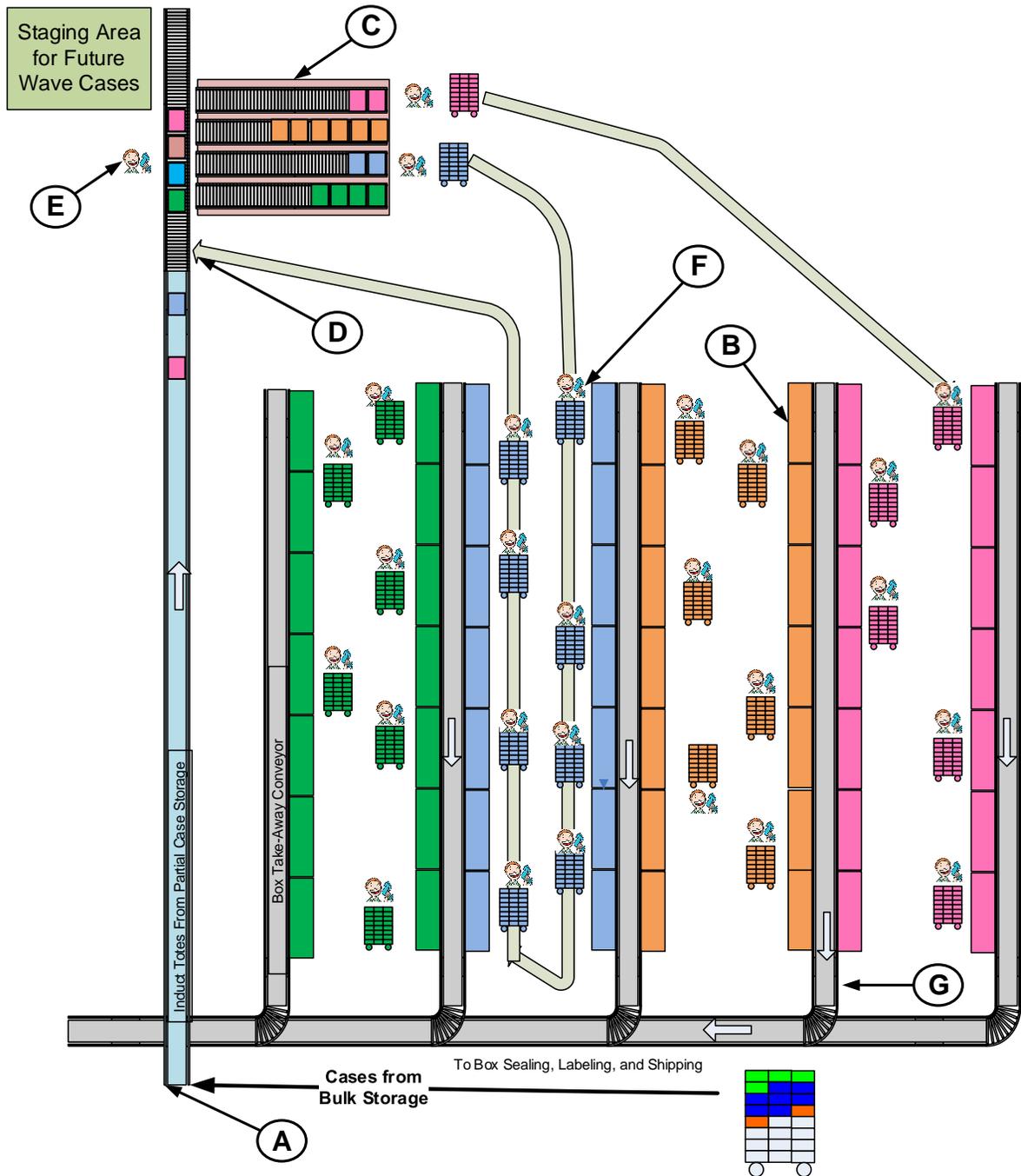


Store Fulfillment System (US Patents 6,775,588 / 8,019,463)

Phase 2



An allocation process will be executed to assign orders and cases to zones and put walls in zones before bulk carts with full cases and carts with totes (with less than case quantity) arrive at the “putting” area shown in the above diagram



Store Fulfillment System (US Patents 6,775,588 / 8,019,463)

When these carts arrive:

1. The cases and totes will be unloaded to a powered conveyor shown in (A).
2. The cases and totes will reach point (E) where the LPNs will be scanned and FastFetch lights will illuminate next to one of the gravity flow tracks (v), directing the scanning person to push the case to the designated track. This process could be automated using fixed beam scanners and PLC controlled diversion gates.
3. The gravity flow tracks will effectively sort the cases and totes into put-wall zones to enable concurrent putting from multiple “put” carts.
4. When sufficient cases reside in a gravity flow track (C), a cart operator will load the cases onto a “put” cart while scanning the LPNs on the cases using the tablet attached to the cart.
5. The put cart tablet will use voice to direct the cart operator to travel to a designated putting zone.
6. The put-wall zones are shown in color in the above diagram. Each zone is comprised of multiple put-wall racks (B). Fourteen (7 on each side) are shown only for illustration in the diagram.
7. Each put-wall rack will be comprised of slots (perhaps 8 or so) holding containers with products for a single store. A FastFetch light module, with numeric display and flashing LED, will be attached to each slot.
8. Each slot will hold a takeaway container (e.g. a tote) with an attached LPN. When an empty container is placed in the slot, the LPN bar code and corresponding slot bar code will be scanned to associate the tote to a store order allocated to the slot.
9. When the put cart reaches a put-wall in the directed zone, the tablet will verbally direct the operator to “STOP”, meaning product on the cart is required by one or more store orders in the put-wall.
10. A flashing LED and lighted numeric display, indicating which product should be picked, will illuminate beneath a solid SKU case on the cart. One or more flashing LEDs and lighted numeric displays will illuminate beneath the adjacent put-wall slots, indicating the stores requiring the product. The numeric values in the displays indicate the quantity of the product to be picked or put.
11. As each product is picked and put, the flashing LED will be “touched” by waving a hand in front of the LED to confirm the pick or put.
12. The process will continue with additional products until no more products on the cart are required for the put-wall in the zone, at which time the cart operator will be directed with voice to “MOVE ON”.
13. The picking/putting process will continue at additional put-walls in the zone. As cases of product are depleted, the empty corrugate will be discarded on a trash takeaway conveyor (not shown in the diagram).
14. When the complete horseshoe path has been traversed by the cart, any cases not emptied will be returned to the powered conveyor at Point (D) where they will again be scanned and directed to a different zone requiring that product.
15. When a slot container becomes full, the cart operator will scan the slot bar code and push the container onto conveyor (G) for takeaway to labeling and shipping. A new container will be placed into the put-wall slot and the LPN of the new container scanned to make the association of container to store order.
16. When all items required in a store order have been put into the slot, the word **ΔONE** will be illuminated in the display.
17. When all cases and totes from Phase 1 have arrived at point (B) and have been processed through the system, an “END OF WAVE” bar code will be scanned. The word **HOΔΔ** will be illuminated in the display adjacent to store orders that have not received all their required products (i.e. those without the word **ΔONE**) and a list of missing products for each order will be printed for resolution outside the process described above.

Selected Clients



One of the big 3 auto manufacturers in Detroit
Not revealed due to confidentiality restriction

