

bin system. Members of the Taylor Society are all familiar with the standard rack and bin which permit perfect interchangeability and practically complete utilization of available storage space. For French practice I have adopted the following dimensions for standard bins: Whole bins: 60 by 60 by 50 centimeters (50 centimeters being the depth in all cases); half bins: 30 by 60 by 50; quarter bins: 30 by 30 by 50, or 15 by 60 by 50, etc.

Obviously, the racks are multiples of these dimensions, plus the thickness of the shelves. The racks are usually three or five tiers high, it being possible to use three tiers without a ladder, while five tiers require its use. In the particular case now being described I use three-tier racks in the preparation and five-tier racks in the reserve. In order to facilitate taking the bins from the racks, I have the bins project one centimeter, giving them, therefore, a uniform depth of 51 centimeters, while the other dimensions remain standard.³

The novelty in this case consists in putting the merchandise in its appropriate bin immediately after tagging, and effecting all movements and all accounting from that point on with the bin as the unit. Thus the bins are moved from tagging to reserves by gravity on roller chutes on the same floor, or by automatic elevators or chutes to floors above or below. The standardization of bins permits a corresponding standardization of mechanical transport equipment. When they arrive at the end of the chute or elevator in the reserve the bins are stacked on platforms and distributed by elevating trucks to their racks in the reserves. On the receipt of the order from the preparation, described later, an attendant in the reserves takes out the bin and delivers it on a truck either to its corresponding rack in the preparation, if on the same floor, or to the chute or automatic elevator, if on another floor. In the latter case the bin, on its arrival at the preparation floor, is placed in its proper rack in the preparation. When the articles are taken out progressively to fill orders from branches the bin is finally emptied. It is then taken out and delivered to the tagging department,

³In a recent installation I used seventy-five racks, each six tiers wide and three tiers high, and 150 racks six tiers wide and five tiers high. The cost per rack of the former, in pine wood, was Frs. 370 (\$14.80) and of the latter Frs. 610 (\$24.40). Seven thousand half bins, made of beech, were used at a cost of Frs. 12.25 (\$4.9) each; four thousand quarter bins of the same material at a cost of Frs. 8.25 (\$3.3) each, and four thousand eighth bins of the same material at a cost of Frs. 6.50 (\$2.6) each.

where the cycle recommences. The advantages of this method are the following: suppression of all rehandling article by article; reduction of damage due to rehandling; simplification of accounting and control, to such an extent that in this particular case the entire movement in the reserves is assured by one man and one woman, and the whole stores balance keeping is done in part of the time of one employe.

To return, then, to the transport to the reserves, the "encaisseuse," when the tagging of a lot is finished, verifies the tagging and then, in accordance with instructions accompanying the merchandise from the receiving department, selects and fills the type of bin required, putting into each bin the quantity indicated and sending it to its proper reserve. This quantity prescribed for each bin is such as to leave a space free for a number of articles fixed in advance. This number is the minimum at which the preparation clerk sends a requisition to the reserve for a new bin. It is probable that the new bin will arrive at the preparation before this minimum quantity has been taken out for branch orders; and it is therefore necessary to find the place in the new bin for this minimum, as the old bin is immediately emptied and sent back to the tagging.

5. *Moving from Reserves to Preparation.* Each bin as it is filled has attached to it, by a soft iron wire passed through a hole punched in the edge of the bin, a tag (Figure 2). This tag has a copy of the article tag attached, to identify the article. On the bin tag is noted the name of the tag clerk, in order to trace responsibility in case of error; the quantity in the bin; the minimum quantity; the symbol of the location in the reserve; the symbol of the location in the preparation. When, in the preparation, the number of articles in the bin falls to the minimum indicated; for example, 6 pairs of stockings, 3 pairs of shoes, etc., the preparation clerk detaches the bin tag and sends it to the reserve, after stamping on the back the hour and minute at which it leaves the preparation. The bin tag is sent to the reserve by a kickback which throws it into a basket and at the same time starts a bell ringing. The bell continues to ring rather disagreeably until the reserves attendant comes and stops it, which he can only do when he is before the basket. The bin tag serves as a stores issue. The reserves attendant gets out a bin of the

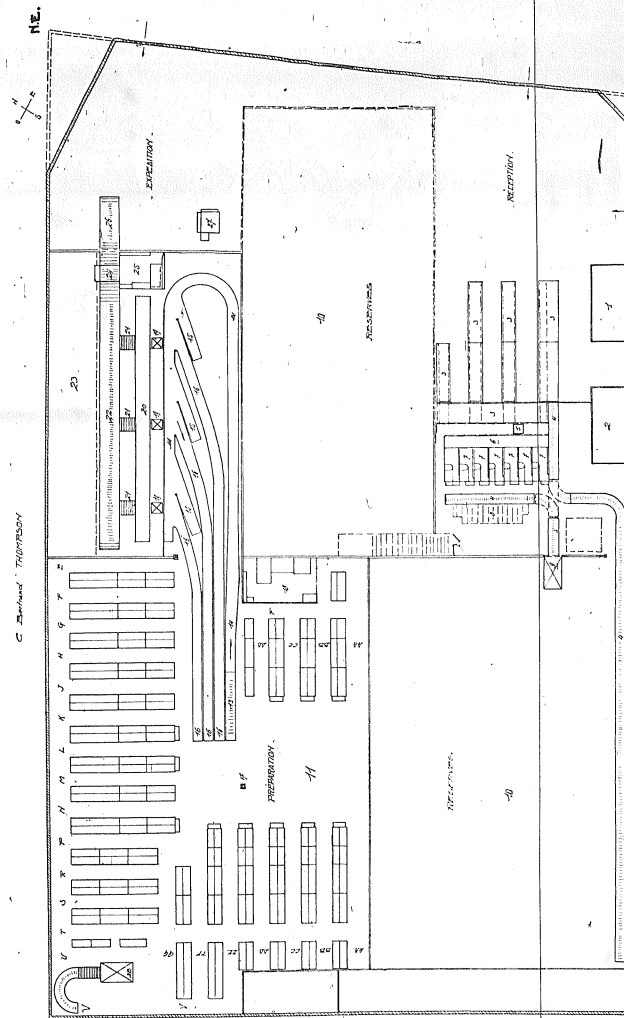


Figure 1
This sketch represents the ground floor of the stores room on a level with the floor of a freight car. The other floors are occupied by other reserves. The numbers on the plan are to be understood as follows:

1. Office of the receiving clerk.
2. Tag printing machines.
3. Platform scales.
4. Gravity conveyors from tagging to reserves.
5. Sliding table between receiving department tables and tagging distribution table.
6. Tagging distribution table.
7. Tagging tables.
8. Space for empty standard bins.
9. Automatic elevator to first floor reserves.
10. Ground floor reserves. Installed with standard racks and bins not indicated on the plan.
11. Receiving department. Note the fan-shaped arrangement of the racks.
12. Booster for basket tracks.
13. Inclined plane leading to inspection.
14. Side track for waiting baskets.
15. Inclined plane for return of baskets to preparation.
16. Inclined plane for return of empty bins to preparation.
17. Communicating between preparation and inspection.
18. Office of the preparation head clerk.
19. Sliding tables for inspectors.
20. Sliding tables for packers.
21. Gravity conveyor for packed cases.
22. Reserve of empty packing cases.
23. Scales.
24. Office of shipping clerk.
25. Conveyor to shipping department.
26. Sliding table for repair of standard folded cases.
27. Automatic elevator from reserves to preparation.
28. Automatic elevator from reserves to preparation.