from department to department to the final boxing, and each department as it passes the order into the next department detaches its part of the tag and sends it to the recording-clerk, who enters on his progress sheet yesterday's date or the date he receives the slip. This system is to be seen in various modifications, but the principle is the same in all.

The information obtainable by this system is only that the order is now in the clicking-room, machining-room, or other department, as the case may be. It is a follow-up system which becomes effective only when deliveries are late, when customers are chasing up their orders and it is necessary to find out where they are in order to hasten them through the factory to completion.

Planning work means that a system of control of each department is established whereby each department works on its orders in the correct order of urgency as laid down by the planning-clerk. If the clicking department do their work on the right date, and the machining gets done on the right date, making room on the right date, and so on, with a check on all operations not done, it will be readily seen that the final delivery will be made as promised and without any trouble. In other words, planning leads the work along.

Planning as developed for this industry in the course of this investigation will enable the following information to be given accurately and quickly:—

(1) It will provide each department foreman with a list of orders to be completed the next day in his department.

(2) It will show whether each foreman completed his list of orders for that day; what orders he did not complete, and why not.

(3) It will provide a "late list" for the manager each day, so that he can concentrate on these orders with the foremen to prevent further delays and make arrangements, if necessary, to catch up.

It will be seen from items (1), (2), and (3) that the principle involved is, Plan the first day's job for the first day, and do it; the second, third and so on, on their days, and do it—that the delivery date is automatically taken care of.

(4) On a planning-chart, that takes the place of the present record sheet, the following dates are to be seen for every order: First, the dates the order is planned to be started, followed by the dates it is to be completed in the clicking, machining, bottom-stock, making, finishing, dressing, and shipping departments; secondly, the dates it was actually passed from each of the departments enumerated; thirdly, the number of days any order in any department is late is clearly indicated.

(5) From the daily tally of progress as outlined in (4) the manager knows what orders are going to be unavoidably late (as when imported materials are late) and can so advise his customer, as opposed to the customer chasing him when deliveries are overdue. This is a "service" point.

(6) By this means orders are not passed to the factory before material is ready; neither are any more orders planned for each department beyond what it can be expected to do. The balance between departments is regulated, and banking in one place is avoided. Where, by reason of a rush on one class of output, difficulty is going to be met, the banking effect can be seen from the chart summaries two or three weeks ahead, thus enabling staff arrangements to be anticipated as much as possible.

(7) When the control of the department by this system is in operation, the speed of orders can be regulated in accordance with customers' requirements with great accuracy. The time between jobs will be reduced, and foremen, thus relieved of the duty of watching all the dates on all orders, will be able to give more time to efficiency of operators and quality of work.

The purpose, as will be obvious to factory-managers from the foregoing, is to take from the departmental foremen the duty of assigning the order work to be performed. By specializing this planning in the managerial office it can be done better and more efficiently by the planning-clerk, in conjunction with the manager, who has the whole situation both from customer and factory viewpoints before him.

Production-control System.

In order to establish this system of production-control the following steps for so doing are outlined:—

(*a*) Assign the duty to one person in the office, who will take charge of the control sheets. It is essential that this man be able to appreciate the idea and purpose of planning as given in the foregoing, and be capable of intelligently dealing with foremen as to the work in progress. In other words, the brightest young man available is required.

(*b*) Establish schedules for each class of shoes made, as basic standards. This requires to be done by the factory-manager in conjunction with the foremen. A sample schedule would be as follows:—

A.—Clicking department	1 day
B.—Machining department	3 days
C.—Bottom-stock department	1 day
D.—Making department	7 days
E.—Finishing department	4 days
F.—Dressing department	2 days

making a total of 18 working-days.

Having determined the shop days necessary for each type, production can then be planned.

(*c*) The next step is to draw up a production-control sheet on which to plan and record orders according to schedules. It should not be more than 12 in. deep. Horizontal lines are used for each order, the upper half to indicate the schedule planned, and the lower half the actual performance. The sixty vertical columns on the right of the sheet represent approximately two months (one day