to a column), and in these date columns are placed letters (indicating for convenience the different departments) corresponding to the date the order is due to be completed in each department.

| Customer's Number. | Sample. | Order. | Pairs. | Date | | Material checked. | May. | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | Ordered. | Promised delivery. | | 1 | 2 | 3 | 4 | 6 | 7 | 8 | 9 | 10 | 11 | 13 | &c. |
| | | | | | | | | | | | | | | | | | | (Sixty columns in all.) |
| | | | | | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | | | | | |

(*d*) Work-tags, made out in the ordinary way as at present, are dated on the different departmental sections to correspond with the schedule plan.

(*e*) Each afternoon the planning-clerk will take from the control sheets a list of all orders with letters appearing in column under to-morrow's date, and send a copy of each to the departmental foremen, placing a list in order of urgency. Orders late should be indicated by red underlining.

(*f*) Each morning slips from orders in progress, indicating work done in each department, will be posted on the schedule sheet. After this is done the list of orders not completed is checked with the different foremen as to reasons, and passed to factory-manager for his attention.

(*g*) Each day a total is taken of the number of pairs on the orders entered in each column as due from each of the different departments. The totals are to be kept progressively as far ahead as any work is planned, and as new orders are entered these totals mount until the total loading on each department is reached. The planning-clerk's purpose is to keep relatively the same number of pairs progressing through all departments, and by watching these totals he can regulate the different classes of shoes made, so as to maintain a steady flow through the factory, as it were, and thus prevent departmental banking.

(*h*) Staff-regulation, from the point of making adjustments up or down, and by transferring men from one operation to another, is equally as important when the factory is slack as when it is busy—perhaps more so when it is slack, as there is the greater tendency to make the work last out. By having accurate output figures from each department it can be arranged for each machine or man, if a manager wants it so: the manager knows his position accurately, instead of knowing it only generally.

Before leaving this planning section I feel it necessary to add that I have gone into some considerable detail in this report, with the purpose of giving more than just general statements. Planning in all industries is a money-saving, therefore a money-making, device. It does not concern the technique of the industry, shoemaking being a craft that requires years of experience to become expert in; but it does concern that common problem, the management of the industry, in just the same way as accountancy is common to all industries. In my experience it is always difficult to convince a manager that he does not fully control his factory in the production sense, and, apart from personal contact with each manager on his own factory-floor, the problem is a hard one, in New Zealand especially. In other countries the working of these planning details can be seen in any city; they are discussed at engineering, manufacturers, and other meetings, and are not novel or new in any way, being regarded simply as sound and accepted practice which in these days of specialized positions, has become necessary.

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# APPENDIX F.

## Report on Manufacturing-costs in the Footwear Industry.

By E. T. Spidy.

It is not the practice in New Zealand boot and shoe factories to obtain the actual cost of each order as it passes through the factory. Manufacturers usually calculate the cost for each department for each style of shoe made on the past departmental costings of similar types, correcting the base prices for the leathers used in accordance with the rise or fall in prices at which the leathers are being purchased and adding allowances to cover new features embodied in the latest sample. Similarly, when wage rates are changed by order of the Arbitration Court, the factory labour costings would be duly amended.

I am satisfied that in most cases these standard departmental per pair costings were originally arrived at after careful investigation; but, nevertheless, their continued use is one that is unsound, having in mind the fact that competition among the manufacturers is keen and there is a temptation to cut prices to obtain business. A small undercharge even on one operation repeated many times