The Committee fully endorses this recommendation, and feels sure that such an appointment to the staff of the Department of Industries and Commerce would not only be welcomed by the footwear industry, but would be greatly appreciated by manufacturers generally. Mr. Spidy's work has clearly and unquestionably demonstrated the value of the work that can be accomplished by an engineer possessing the requisite qualifications and experience. The cost to the State should not be great, as it is contemplated that for the services rendered to individual factories some fee could be charged. The engagement should be for a term of years—not exceeding four or five—and the salary should be adequate enough to attract a first-class officer.

Appendix E gives further information regarding factory layout and organization.

The number of operations and handlings that are entailed in the manufacture of a single pair of shoes is about two hundred—varying, of course, according to design and type. It is very evident that lack of continuity on all successive operations involves loss of time at each change, and consequently the average speed of operatives is reduced in many instances. The work of supervisors of departments is thus also necessarily confined to the distribution of work and to the control of the quality of the work done rather than to the output and efficiency of each operator. As before, the relatively small quantity in each order is basically responsible for these conditions in the factories.

With regard to the quality of the work done in New Zealand, we may say that we are in no doubt that the highest-quality work can be and is being done in certain factories. The demand from the retailer appears to be, however, the governing factor. There are as many different processes of manufacturing shoes of different classes as there are large factories, and, while the high-grade and generally branded product is a true high-grade product, other grades are made to meet the demand and the competition from abroad.

The majority of machines used in New Zealand factories are the product of the British United Shoe Machinery Co., Ltd. Most of the principal machines supplied by this company are on the leasing system. Some manufacturers complain that certain conditions imposed by some of the leases are harsh and detrimental to the industry. From inquiries made we are of the opinion that, while the terms are in some respects forbidding, the lessors do not in practice insist on the strict letter of the terms. No doubt there are objections, theoretical and other, to the tying clauses and to other features of the system, but the evidence obtained does not warrant the conclusion that in order to ensure the prosperity of the industry restrictive legislation should at present be introduced to deal with these leases.

Machinery conditions in all factories evidently depend on the viewpoints of the respective managers. We are advised by the managers of some factories that the rental system is uneconomic, and by others that it is considered a fair system. It would appear that, provided only sufficient machinery is obtained to meet the output requirements of any particular factory, no undue penalty would be felt under the rental system. When, however, machinery was installed to take care of a production 50 or 100 per cent. in excess of that now obtainable the load of expense due to idle machinery becomes a distinct burden. We consider in this connection that generally there is room for study with respect to each machine or group of machines regarding the supply of material to each machine, storage of semifinished material, posture of workers, lighting of job, and such allied questions.

Generally speaking, there is a great similarity in the organization of factories having approximately the same number of shoes output. The range of factories visited was sufficient to show that each manager relies largely on his personal knowledge of his orders, his men, and all matters in the factory to assure himself that he is in a condition of relative efficiency. Foremen of departments are almost invariably working foremen, and, while many of them are depended on entirely to check the output of each worker and his relative efficiency, it is a question worth considerable further study as to whether a special planning-clerk associated with the manager would not reveal a very considerable amount of lost time that need not be lost.

Very good "follow-up" systems were in operation in some factories, and a small number are considerably advanced with methods of planning ahead designed to assist the factory directly, instead of depending on foremen, or "chasing up" when deliveries are late. As stated before, a preliminary survey such as we made did not permit of final conclusions in this respect, but it is very evident that much could be done to improve factory efficiency in the matters of layout, processing, and organization.

(j) *Manufacturing-costs.*

During the course of the investigation into layout and organization of factories it was shown that a considerable difference resulted from costings obtained by time-study methods and those obtained by the existing costing system. The disparity was so marked that further inquiries were made to account for the difference, which in one case was only one-half of the usual cost under the established system. It was submitted that small orders rather than inefficient methods were the greatest contributing factor accounting for the discrepancy. Small orders necessitate constant change of machine parts, resulting in time lost on unproductive but necessary work. A detailed report on manufacturing-costs is submitted under Appendix F.

(k) *Duties on Raw Materials and Supplies.*

Our attention has been drawn by several manufacturers to the disadvantage in competing with overseas footwear which is said to arise from the Customs duties on certain materials used in the industry. These are admittedly minor matters, but, in so far as the industry is working on fine margins, the effect of these duties is not entirely devoid of importance.

Welting.—This material is classified under Item 203 of the tariff, and is therefore subject to duty at 25 per cent. *ad valorem* if of British origin or manufacture, and at 45 per cent. *ad valorem* if of foreign manufacture. We are advised that for trade reasons welting is usually imported from America,