

are located at this plant for reasons of convenience only, and could be lifted bodily and put down at some other location without impairing their operations.

c. The primary manufacturing functions—conversion of raw cotton into the gray cloth which becomes the raw material for the two northern mills—carried on in the five southern mills located in a region favorable from the point of view of power costs, labor costs, and proximity to the sources of raw cotton.

d. The subsequent manufacturing functions—bleaching, finishing, dyeing and other conversion of gray cloth into various forms for the market—carried on in the two plants which are located in the north.

IV. General Administration

10. These functions are carried on at the Boston office of the president. The responsibility which he assumes comprises in general the maintenance of perspective, and in particular the study of industrial conditions and tendencies, formulation of policy, general maintenance of credit relations, appraisal of summarized reports of accomplishment, periodic conferences with all executives on fundamental problems, regular visits to the various plants, and attention to exceptional problems arising anywhere within the organization.

11. In the Boston office are staff assistants who aid in general supervision of mill and factory management. They are responsible, for example, for the maintenance of detail contact on behalf of the president with all units of the organization, for the summarizing and interpretation of reports and the formulation of recommendations, and for the detail interpretation of ideas, policies and plans to local managers.

12. In the Boston office also is located the cotton purchasing and classifying unit. Later explanation of the importance of this function will indicate the reason for its location in the general administrative office.

V. General Management

13. In the general office, located at the central plant, the principal divisions are:

a. Merchandising and selling, in charge of a Vice-President. This phase of the management will be considered in detail below.

b. Finance in charge of a Comptroller. He attends to current banking needs, in accordance with general credit relations established by the president, and supervises credits and collections, general accounting and cost accounting, statistical analyses of operations, insurance, taxation, and so on.

c. Traffic, in charge of a Traffic Manager. This function is concerned with all traffic problems; in particular the routing and moving of purchased materials from points of purchase to the various plants; the routing and moving of gray goods from the mills located in the north to those located in the south; and the routing and moving of out shipments of finished products to various points of destination.

VI. Merchandising and Sales

14. The principles of scientific management—research, establishment of standards, and control of operations—which generally in the United States are most utilized in the management of shops, are applied by Kendall Mills Inc. also to the management of merchandising and selling.

a. Merchandising and selling are in charge of a Vice-President on whose staff are a Sales Manager and an Advertising Department. Supervised by the Sales Manager are four division heads; one in charge of the sale of surgical and hospital supplies, one in charge of the sale of merchandise to dry-goods stores, another in charge of sales of specialties to manufacturers, and the fourth in charge of sales to curtain manufacturers. Distribution is effected through branch offices in the United States, a Canadian subsidiary company and an export department, each with its own staff. There is in addition to the regular selling staffs of these branches, a free-lance staff of research and salesmen which may be detailed into any territory for any purpose.

b. With respect to merchandising, continuing attention is given to the study of economic conditions and market trends; to the study of particular markets for Kendall Mills products and of trade channels leading to the markets; to study of the products, their uses, forms, packaging, etc.; and to study of the problem of how to market the commodities manufactured.

c. As a result of these investigations, standards of merchandising operations are established. Sales

are carefully budgeted and quotas established as to territories and classes of trade.

d. Sales operations of the branch offices are planned at the central office and branch office stocks are centrally controlled; assistance is given branches and salesmen through letters, instructions and conferences; and constant appraisal of efforts and results is maintained at the main office through statistical analysis of continuing reports from the field.

e. Interest in achievement of results is promoted by incentives of various kinds: in senior executives through stock participation; in junior executives by profit sharing; in branch managers and salesmen through quotas and bonuses for achievement and exceeding of quotas.

VII. Primary Manufacturing—The Cotton Mills

15. The five gray goods mills, located in North and South Carolina, six to seven hundred miles from the general offices and the northern plants, are under the general supervision of a general manager whose responsibility corresponds to that of the General Manager of the two northern plants, and are immediately in charge of individual mill supervisors.

16. These mills are essentially continuous process mills, for the variations are so limited in the gray cloths required by the northern plants, that each of the southern mills can be given definite standard constructions—picks per inch or loom width—to produce continuously. In these mills, therefore, the problem of planning and control of operations is not one of adjustment to repetitive and varying orders, but of maintenance of unvarying quality of raw cotton and of unvarying perfect condition of machines and of working conditions, and of the attainment of predetermined standards of output.

17. As each of these mills is acquired, it is immediately brought up to best modern conditions with respect to building, light, heat, ventilation, humidity control, machines, and so on. These matters are the responsibility of a staff of specialist experts. When the mill is in proper condition for operating, definite schedules of maintenance inspection are formulated with the purpose of obviating interruptions to continuous processing through impairment of equipment. There are definite schedules and a system of planning room

control for such things as painting, oiling, cleaning, overhauling, belting wear and tension, and renewals. At scheduled intervals each machine is taken down, inspected and adjusted in every part even though periodic inspection may not have discovered signs of deterioration. Maintenance is scheduled by four-week periods for several years in advance—whether it involves the triennial painting of the mill, the annual taking down of a motor, or the periodic relining of a spinning frame—and a maintenance budget is constructed which through a standard burden rate distributes the costs of the long period evenly over the successive four-week periods. As a consequence of these maintenance-control methods, a mill operates continuously with a minimum of breakdown, and maintenance is effected more precisely and economically than would be possible if attended to after breakdowns.

18. Maintenance of uniform quality of raw cotton is of equal importance to the maintenance of perfect condition of equipment. The raw cotton can be precisely standardized, because, although the gray cloths produced vary as to closeness of weave, they do not vary as to size and quality of the yarn. After the most desirable standard of raw cotton has been determined by experiment—the best combination of character, color, staple and grade—cotton of that quality only is purchased, and expert inspection of all receipts is the basis of a most rigid practice of acceptance or rejection. Because of its importance, all inspection and classification of cotton is made by samples in the Boston office. It is interesting to note that, as soon as standardization, inspection and rejection of cotton below standard become established as fixed practices, delivery of cotton below standard practically ceases.

19. The standardization of these mills with respect to loom construction, conditions of equipment, quality of raw materials, and otherwise, makes possible a functionalization of labor with respect to skill requirements of the different operations. Workers are assigned to operations in accordance with the kinds and degrees of their skill and the kinds and degrees of skill required by the operations; and labor of any particular kind and degree of skill is not utilized on tasks requiring skill of lesser grade.

20. Predetermined maintenance of equipment and of raw cotton quality, and the functionalizing