

etary control, or what may more properly be termed expense standards.

b. Cost accounting for manufactured products, including distribution of indirect expenses thereto.

c. Inventory control, through the automatic provision each month of figures showing increases or decreases in, and balances of, purchased-material stores, work in process, manufactured-product stores. This control extends not only to the major accounting divisions but, when desirable and useful, to the principal groups of each. Further supporting detail, even down to individual items, enables the management to put its finger upon the specific things responsible for proposed changes.

d. Analysis of sales by classes of products, by subclasses and individual items, in such detail as is desirable. This indicates as a regular practice the profitability of each, and the increases or decreases in their sales. By setting up a special classification for the purpose these same figures may be rearranged to provide an analysis of sales by classes of customers and territories. This gives a comparison of sales performance with standards or quotas.

e. Inventory of plant and equipment showing the nature of various capital expenditures, and providing for comparison with appropriations.

3. *Storeskeeping and stores accounting.* This facilitates, through logical store-room arrangement, the work of receiving, putting away and issuing materials, avoids misunderstandings and errors due to imperfect descriptions or variations in nomenclature, simplifies and expedites the work of keeping the balance-of-stores or stock ledgers, which serve not only as supporting detail for this feature of the accounting system but as the material element in the system of planning and control of productive work.

4. *Planning and control of production.* This covers the routing and order-of-work functions. The latter is sometimes referred to as scheduling and despatching. It provides a concise, invariable and easily understood designation for the various classes, kinds and sizes of products, and for the materials entering into them, indicates the relation and location of component parts in constructed products and of operations to be performed thereon. It facilitates the writing and issue of orders for work to be done, instructions pertaining thereto and the reporting and recording of progress of manufacture. It provides for the designation of the machines in which operations are to be performed and the tools to be used.

5. *Maintenance.* This provides for inspection, adjustment, the making of preventive as well as major repairs and even the sweeping of the shop or the cleaning of windows. Its advantages parallel those mentioned under the preceding heading.

6. *Storage and issue of tools and appliances.* This serves much the same purposes and affords similar advantages to those enumerated under the heading, Storeskeeping and Stores Accounting. It facilitates the designation of tools and appliances to be used as specified by instruction cards and defines the standard method to be followed in the performance of shop operations. It also is of service in connection with the maintenance of tool standards.

7. *Tabulation and filing of data.* This affords a logical and convenient system for sorting, collating and filing all data, reports and records used in the operation of the business and makes them quickly and easily available without recourse to cross indexing. This would include:

- a. Cost and accounting records.
- b. Drawings, specifications, or their equivalent.
- c. Production or manufacturing orders.
- d. Route charts and route sheets covering the work planned in the manufacture of a product and used to control and record progress thereon.
- e. Data relating to machinery, tools and other physical equipment essential to its use and up-keep. This would include inventories, machine-capacity sheets, maintenance records and standard-practice instructions relating thereto.
- f. Elementary time-study data used in planning manufacturing operations, preparing detailed instruction cards defining standard methods and setting the time in which such operations should be performed.

g. Standing orders defining the duties and functions of departments, subdivisions and individuals of the organization and describing the procedure to be followed in connection with various transactions.

This article will serve as a background for the next article in this series which will continue the discussion of organization with particular reference to the functions of the major executives.

Notes

Advanced Courses for Disengaged Engineers

Under the sponsorship of the Engineering Societies and the Engineering Colleges of the New York-New Jersey Metropolitan District a series of courses is

being offered to disengaged engineers in the lecture rooms of the Engineering Building, 29 West 39th Street, New York. The courses are scheduled to open on January 9 with about four hundred advance registrations. They will be presented under six main headings—power-plant engineering, business finance, buildings and mechanical equipment of buildings, industrial applications of electricity, sales engineering, and industrial management.

In the industrial management group, courses are being given by Taylor Society members as follows: By Henry H. Farquhar, "Production and Materials Control"; by Francis Goodell, "Labor Management"; by Francis J. Carr, "Financial Control"; by John H. Williams, "Budgetary Control."

Those interested should address Mr. P. H. Littlefield in care of Mr. Alfred D. Flinn, Director of the Engineering Foundation, 29 West 39th Street, New York.

National Vocational Guidance Association Meeting

The meeting of the National Vocational Guidance Association from February 23-25, at the Nicolett Hotel, Minneapolis, which will immediately precede the meeting of the National Education Association in the same city, is of special significance this year. The Association is cognizant of the importance of education, especially for adults, in these changing times. It has taken for its general theme "Vocational Guidance in a Planned Society," recognizing that, whatever the social changes ahead, some degree of planning is unavoidable. The group is also giving special attention to the need for retraining those unemployed who have lost their employment through the advance of technology.

The officers and members of the Association are eager for the attendance at this meeting of industrial and commercial leaders as well as school men, so that they may have their practical help in discussing the challenge that is being presented them. It is hoped that Taylor Society members and friends in this part of the country will not miss the opportunity to participate in these meetings.

The meetings will open with an address on "The Organization of Economic Life in America." This will be followed by a specific consideration of the ways in which the distribution of workers in occupations is being affected by present conditions. Clues to trends will be examined and the possible responsibility of the Association in this field considered.

At a joint meeting with the personnel organizations on Friday forenoon the work of the Minneapolis Employment Stabilization Institute will be presented by members of its staff. A "panel" discussion of the Institute staff and members of other organizations will follow. This program is being arranged by the Personnel Research Federation and will demonstrate ways in which community services with highly scientific techniques can be co-ordinated and directed in solving the immediate practical problems of individuals.

All discussions will be in small groups with trained leaders. Each group will be asked to prepare a report covering its ideas as to forward steps which should be taken by the Association. At the Saturday morning meeting an attempt will be made to bring these reports together and weld them into a constructive program.

Reviews

The New Challenge of Distribution. By Harry Tipper, Harper & Brothers, New York and London, 1932, pages xvii, 216.

In "The New Challenge of Distribution" Mr. Tipper has given further evidence of the growing inclination of business men of wide experience to develop long-run objectives and to analyze business problems in the light of these objectives. To Mr. Tipper, the central problem of distribution is to be found in the fact that "ability to acquire the products of industry has not kept pace with the capacity to produce." Thus he classes himself with other students of the problem who have approached it from various angles. But the author's contact with the marketing aspects of business has enabled him to carry his analysis farther than it has been carried by those whose interest has been particularly in currency and wage problems. Pursuing his reasoning, he states that the fundamentals of the problems of distribution or marketing are area, intensity and cost. Large-scale production, creating the necessity for wider areas of distribution, increases the number and complexity of those problems in distribution which are beyond the control of the producer. The intensity of effort necessary to bring the product into actual use, generally admitted to have increased, affects materially the costs of distribution, by introducing the time factor required for reaching consumers and the need for increased investment. Many are willing to go with Mr. Tipper to this extent; few, however, will join him in the conclusion that "there is only one conceivable explanation" for the rise in prices beginning in the last decade of the nineteenth century. "All the increasing efficiencies and economies of production could no longer absorb and offset rising distribution costs" (p. 30). The assertion is not supported in the volume and ignores the influence of monetary factors, such as the supply of gold and changes in the use of credit.

The author recognizes that even though the animating objective of business may be that of satisfying consumer wants,