

Hoists.—The Whitton-Kramer Electric Tool and Hoist Co., of Birmingham, England, in their catalogue "K" 18 describe a series of electric hoisting specialties. Hoists suitable for all kinds of work or power as required.

Pavements.—The Rudolph S. Blome Co., of the Bank Floor Utility Building, Chicago, would be pleased to send you a booklet describing their granitoid concrete pavements. This booklet has a score of illustrations showing what has been done in the matter of the laying of this permanent pavement.

Sanitary Specialties.—The Adamsez, Limited, sanitary engineers, of London, England, are issuing a catalogue, 6 x 9, containing some 300 pages, which describes every class of sanitary appliances of the most approved type. Not only illustrations, but dimensions and prices are given.

Iron Works.—The Cargo Fleet Iron Co., of Middlesborough, England, issued a 50-page booklet describing their works and a list of their products which they market, which include rails, angles, channels, flanges, blooms and billets.

Reciprocating Meters.—The Mechanical Instrument Co., of 120 Liberty Street, New York city, have issued an interesting booklet describing their micro reciprocating meter for counting piston travel. This device measures accurately the actual total distance travelled in both directions of all reciprocating motion.

Incinerators.—The great interest taken in sanitary matters and the disposal of garbage by incinerators will cause engineers to gather information on the various kinds of destructors now on the market. The Decarie Incinerator Co., of Hopkins, Minn., are distributing a catalogue which describes their incinerator, its method of operation, and contains interesting data gathered in a number of American cities.

Hauling Machinery.—The Buffalo, Pitts Co., of Buffalo, N.Y., recognizing the place steam hauling machinery will occupy in this country, have prepared to meet the new conditions by designing and building steam-hauled trains on highways. Their new catalogue "F" describes very fully this class of machinery, and this firm will be very pleased to forward their catalogue to those interested in transportation.

Water Turbine Plants.—By Jens Orten-Boving. Published by Raithby, Lawrence & Co., 231 Strand, London, Eng. Size, 9 x 12; pp. 200.

This book has been prepared partly as a text-book, dealing with modern theory, design and application of water turbines and accessories, and partly as a catalogue. It is especially intended to be of practical use to those responsible for the design of complete water power installations, and is confined to the more purely mechanical portions of such plants. The question of dams, conduits, flow of stream, etc., is not dealt with. The work is divided into three parts, each section fully illustrated.

Part I. deals with the theory of turbines, reaction and impulse, output, velocity of water, efficiency, speeds, governors and pressure regulators. The question of tests is taken up, and examples are given.

Part II. has to do with the dimension and weights of the various sizes and types of governors, valves, sluice-gates and strainers. Pipe lines and the method of making joints and anchorages is taken up in this chapter and several illustrations given.

The concluding chapter is taken up with descriptions of various power stations. Engineers cannot usually spare time to visit the various plants, but their knowledge of power plants will make it easy for them to, from this book, grasp the more interesting features of the largest installations throughout the world.

IS A RATIONAL BASIS POSSIBLE FOR TELEPHONE RATES?*

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that the railroads would feel that equal proportions of profit must be earned on all parts of their systems and from all kinds of traffic. What the effect of so circumscribed an answer would be in the case of corporations giving service within the limits of a single city or a single state like most of the telephone companies, is not so clear.

The cost of performing the service seems to me the most important factor in determining rates, but its application to telephone service must be made with a cautious consideration of all the facts. Reasons for this are obvious when the problem of telephone service is carefully scrutinized. In city service, the large business users demand a celerity and accuracy for the service which adds much to its cost. Physical conditions prevent providing this fast service for one class of subscribers and not for others in intimate intercommunication therewith. But some of the latter classes, as for instance, the residence users of moderate means, may have no interest in or care for the remarkable speed and accuracy which characterizes the telephone service of many American cities. Service of a lower grade of speed and accuracy, which is less costly to produce, would equally well satisfy the desires and needs of such subscribers. A distinction should, therefore, probably be made in class rates, so that the cost of extraordinary speed and accuracy may be placed on the classes of subscribers who demand it.

A similar condition exists in the relations of city and rural telephone service. The business subscribers of the city demand the speediest and most accurate service obtainable at any cost, but rural subscribers are usually well satisfied by a more leisurely grade of service. However, the city conditions are forced, by the demands of the city, to be spread over both the city and the closely related rural communities; and, here again, the extra cost of the speedy service ought to be borne by the classes of subscribers imposing it. As the provision of the speedier service requires greater investment in rural plant, than might otherwise be necessary, it is obvious that the cost of performing specific service in the suburban communities may not always be a fair basis of rates in case the cost is to be put where it belongs.

The foregoing indicates that city business rates may be reasonably expected to be higher than residence or rural rates. A differentiation between business and residence users under flat rates has heretofore been common, and this is additionally justified by the lower average calling rate which is usually characteristic of residence subscribers where flat rates are in vogue. The relations pointed out above apparently justify an adjustment in favor of residence users of moderate requirements even when measured rates are adopted. The policy of some telephone companies apparently is in this direction, although those companies have endeavored to support their policy on the untenable theory of charging in proportion to what the traffic will bear.

Progress is plainly being made in the direction of rationalizing telephone rates. One of its indications is found in the syllabus of an opinion delivered in a telephone rate case by the Wisconsin Railroad Commission, which says:

"No reasonable objection can be taken to a schedule of rates based upon the actual quantity of the service rendered."

It would be difficult to quarrel with this, provided "quantity" is construed to comprehend both the number of

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