Wendt & Hancock, Daysland, Alta., will erect a pump factory in that town.

A new high school will be erected at Yorkton, Sask.

A flax mill will be established at Saskatoon, Sask., by Douglas, Piper & Johnston of the same city.

The Government will erect a new immigration hall at Wilkie, Sask.

A new warehouse for the Provincial Railways and Telephone Department will be built at Regina, Sask.

The Sunny Belt Grain & Elevator Co., Lethbridge, Alta., have purchased the elevators of A. L. Foster & Co., at Cardston, Raley and Coaldall, Alta., and will erect other elevators at various points.

A new bank building will be erected at Medicine Hat, Alta., by the Merchants Bank of Canada.

A new waterworks system will be installed at Kelowna, B.C.

A new jail will be erected at Ladysmith, B.C.

The Cooke Lumber Co., Nelson, B.C., will erect a saw mill in that place.

A $20,000 plant for the manufacture of white lead will be erected at Victoria, B.C., by F. W. Morris of that city.

The opera house at Nelson, B.C., will be remodelled shortly.

Morison Suspension Furnaces for Internal Furnace Boilers

Designers and builders of boilers, as well as engineers generally, will be interested in the seventh edition of a book entitled "Morison Suspension Furnaces for Internal Furnace Boilers," just issued by the Continental Iron Works, Borough of Brooklyn, New York City.

The book deals with the use of the Morison Suspension Furnaces, of which the Continental Iron Works is the sole manufacturer in the United States, in connection with land boilers only, in contradistinction to the application of Morison Suspension Furnaces for marine purposes. It is a finely compiled and printed volume of nearly seventy pages, bound in a serviceable cover.

There is a fund of valuable data, with numerous illustrations,including a number of important installations of Internal Furnace Boilers using Morison Suspension Furnaces, together with details of design and construction, tables of pressure and thickness, and rules for calculating same.

The designs shown are for land boilers ranging from 50 h. p to 300 h. p, and are intended to meet general requirements, it being explained that where boilers are designed to work under other than normal conditions the designs are offered by way of suggestion only.

A form of specification for Internal Furnace Tubular Boilers, which accompanies the design, should prove an important aid.

In the latter part of the book is a partial list of installations of Internal Furnace Boilers fitted with Morison Suspension Furnaces, many of which are repeat orders, demonstrating the satisfaction this type of steam generator gives.

This is followed by illustrations and full information regarding the Morison patent furnace fronts and doors for economical and rapid firing, and which are also made only by the Continental Iron Works.

Engineers, architects and boiler manufacturers will find this book of great assistance to them in the design and lay out of steam power plants.

The book is printed by H. Edwards Rowland, New York City, and a feature of the text is a clever adaptation of photographs, showing various applications of the Morrison furnace.

Economic Considerations on the Management of Plant.

ADDRESS BY W. H. PATCHELL, PRESIDENT OF THE ASSOCIATION OF ENGINEERS IN CHARGE AT BOMBAY, INDIA.

As the majority of the members of this association are engaged in the supervision and operation of existing plants, rather than in the design and erection of new work, a few thoughts concerning the economical operation of plant may be more profitable than an academical dissertation on design.

In these days of hurry and stress there is a great tendency to cut the time of apprenticeship in the shops too short, but very great importance must be attached to this part of a man's training, not only because it gives a knowledge of the practical side of his duties which can be obtained in no other way, but it gives what is equally important to an engineer—a knowledge of men at the time of life when the student is most likely to benefit by it, and is not too old to have the two sides of the question duly impressed on him. No man can learn to work a machine by reading books, and he is even less able to get the best out of the human machine by academical research.

A common fault is manifest by the close attention to the detail of one particular point while the rest of the concern runs wild, and, for the time being, unheeded. A skilful leader will know all that is going on, point out to his staff the lines on which they are to work, and help them individually to fill in the detail while leaving them to develop themselves in doing so. Men who have come to the top are neither those who have found it necessary to do every job themselves—this only occurs in those who are unable to impart knowledge to others—nor are they those who sit in an office writing memoranda to their staff. An American Government official lately put the matter in a few words that are well worth quoting: "To attain to the highest success as an engineer you must not be the type of man who knows how to do things but cannot tell others how to do them—the man who gets knowledge abundantly but can apply it only through his own fingers. Instead of directing your energy simply to increasing your own output by 50 or even 100 per cent, it is far better—you make yourself more useful to the world—by using your energy to increase the output of each of 100 men by 10 per cent. The world recognizes this by awarding the prizes to the administrators."

In spite of tempting offers from authorized undertakers, either municipal or company, and the well-seasoned allurements of the promoters of bulk supply schemes, the majority of large institutions still generate their own supply. In many cases the amount of steam used for the electric light engines is small as compared with the amount used for heating and other purposes, so that even in the event of electricity being bought outside, the domestic demands for steam would prohibit the shutting down of the boiler plant. In several American cities steam is supplied through mains laid in the streets, and in some cases operated as a by-product by electric supply companies. In some cities private plants have been taken over by the electric supply companies who have undertaken the heating business, with results satisfactory to both sides, but there are at present no records of such service being undertaken in this country. The present price of coal and the thirst for information displayed by the Local Government Board render economical working of the whole of their plant more than ever important to engineers-in-charge.

WATER SUPPLY

Water is often taken from the mains when it might more profitably be taken from a well on the premises. Twenty years ago the number of tube wells in the London basin was very small. The older class of well sinkers stoutly maintained the necessity of a costly sunk well, with perhaps a tube or tubes at the bottom of it. Gradually, however, the bored well proved its reliability, and the low price and simplicity of the system has led to a popularity which some years ago would have appeared impossible, or at any rate quite improbable. Direct-acting steam well pumps are in many cases looked upon as "steam eaters," and the disadvantage of having to draw the rods and bucket has led to the adoption of geared pumps, or, when the water supply is plentiful, of the air-lift system, which can claim a record for capacity, and couples reliability with the advantage of having all the working parts on the surface, and an economy at any rate well within the range of commercial requirements. When a change from supply from the mains to a well on the premises is contemplated, the class of water obtainable in each case must be considered. Questions of pollution and sand must also be considered as mentioned in the discussion of Mr. Shenton's paper on "Small Water Supplies," read before this association last year. In many cases an air-lift or a borehole pump may be driven from an existing large engine, and the extra cost of working the pump is hardly perceptible. Even when a special en-