

the dormer balconettes in particular being an architectural feature to admire. The bar apartments are not ready for inspection, though the great private bar, admission to which is gained by a special hall entrance on the southern end of the Willis street frontage, is now open. The front bar is to be fitted with a patent revolving door, similar to those now being installed in big hotels in America and England, which will cost £250. Architect, J. O'Dea; contractor, Allan McGuire.

The Septic Tank.

SELF-CONTAINED SETS FOR SMALL COUNTRY HOUSES.

To meet the wishes of a large number of architects the Septic Tank Company, Ltd., London, have designed a self-contained installation as illustrated on page 234, consisting of a septic tank and filter for small country houses, constructed of steel. This being complete in itself only requires to be put in place and the connections made to inlet and outlet. It is capable of treating the sewage of from five to ten people, or a daily flow of from 120 to 200 gallons. The fall from inlet to outlet is 5ft.

The septic tank in these sets is a cylindrical vessel formed of steel plate, and designed and fitted internally to embody the principles which have been found so successful with large installations for treating sewage on the Company's system. It is provided with a removable cover for access when necessary. The inlet is formed with a cast-iron socket piece to take a 4-in. drain pipe. The outlet, which is also in cast iron, is extended sufficiently far to deliver the sewage on to the diverter of the filter.

The ordinary flow passes through a regulating orifice; an overflow is provided at a higher level and discharges into the same outlet. The filter is also a cylindrical vessel formed in steel plate. It is fitted with a perforated inner lining extending its whole depth, through which a supply of air passes to the filtering material. The latter is supported on three perforated trays fixed within this lining.

Above the upper tray is a diverter, which receives the flow from the septic tank and automatically spreads it from side to side. This is made in cast iron with brass bearings. The outlet from the filter, which is also of cast iron, is of a size suitable to connect with the socket of a 4-inch drain pipe.

Publications Received.

Great Central Railway Journal.—This excellent little budget of railway news, which is published in Leicester, England, has now reached its tenth issue, and contains some valuable technical articles, in addition to permanently recording the doings of the Great Central.

Gas, Gasoline and Oil Engines.—New and revised edition, 1906, by Gardner D. Hiscox, M.E., New York. The Norman W. Henley Publishing Co., 1906.

This book contains 450 pages of general technical information relating to the extensive branches of the subjects treated, and is illustrated by 351 engravings and diagrams. While we would welcome a modern English work on this question, we nevertheless appreciate the efforts of Mr. Hiscox in placing before us such an able exposition of the explosive motor. Indeed, the author does not confine himself to purely American machines but includes lengthy descriptions and excellent plates of such universal types as the Crossley, Diesel,



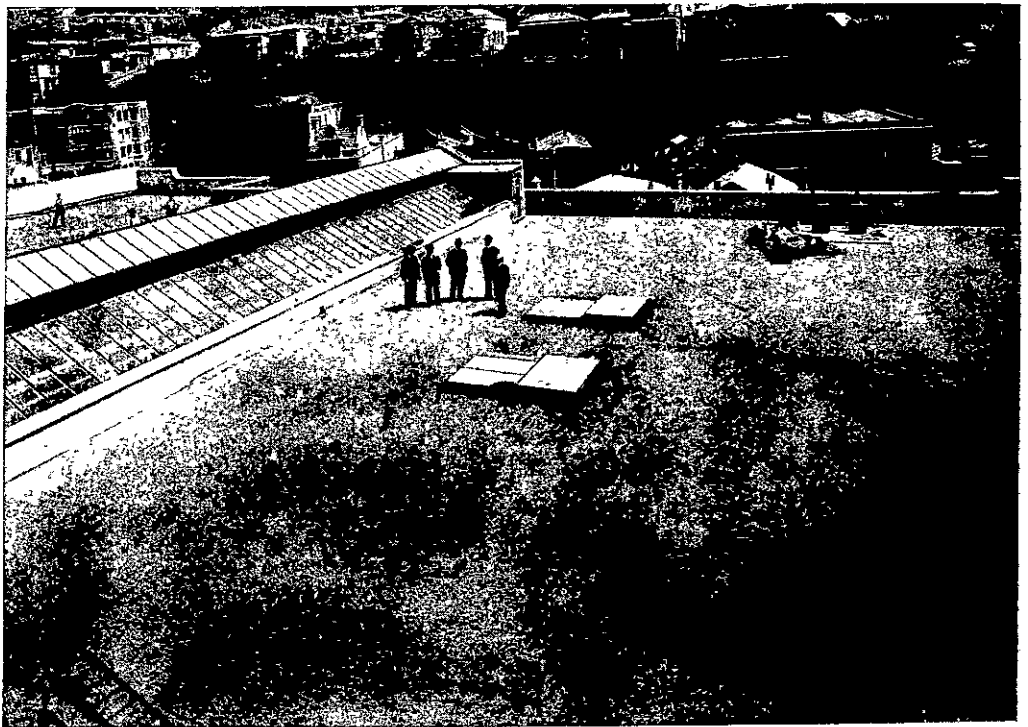
RESIDENCE OF MR. GRANT, COLOMBO STREET, CHRISTCHURCH. [S. F. P. Webb, Photo.]

C. Cahert, Contractor.] [S. F. P. Webb, Photo.]
Hornsby-Ackroyd, Westinghouse, Pintsch, etc., etc. Mr. Hiscox fully describes and illustrates the theory, design, construction and management of the explosive motor for stationary, marine, and vehicle motor power. The price of the work, which can be seen and obtained at PROGRESS Office, is 12/6 net.

Suction Gas Plants in New Zealand.

At present, when the attention of those who are desirous of effecting economy in the production of power is being turned to suction gas plants, it may be as well to give a few well-authenticated results in the way of fuel consumption by this class of power producer in New Zealand. The conditions existing here are so different to those obtaining in Great Britain that the published results of trials there can have very little more than academic interest for us, seeing that the fuel used in each case is so different. In the Old Country they have an almost ideal fuel, consisting of practically pure carbon, in the shape of anthracite. Here anthracite is still unavailable and the most economical fuel is gasworks' coke, much of which is of a very poor quality. All the same, however, even under the serious handicap imposed by these unfavourable fuel conditions, the gas plant has achieved almost marvellous results in the production of power when compared with the steam engine or gas engines driven by town gas.

The first suction gas plant said to have been set up in the colony was a Campbell of 25 b.h.p., which was installed in the works of the Wanganui Enterprise Cordage Co., at Aramoho. The gas plant was imported from Home, but the engine, which was purchased second-hand by the company, was adapted to the gas by being fitted with magneto ignition and larger valves. Nothing was done



D.I.C. WAREHOUSE, WELLINGTON: SHOWING P AND B FLAT ROOF.

"Wireless" Triumph.

The De Forrest Company claims to have transmitted 572 words across the Atlantic from Coney Island to Ireland, a distance of 3,280 miles, by wireless telegraphy.

Altogether 1,000 words were sent, and out of these 428 were lost on the broad Atlantic. Hitherto the longest distance covered by the company was 2,100 miles, between Coney Island and Colon, Panama.

It is believed that commercial wireless telegraphy across the Atlantic only awaits the complete equipment of the Irish stations.

to increase the compression. There was no machinery for the engine to drive, but it was run on the brake for long periods, several engineers taking an active interest in the novelty with a view to testing its power and consumption. The plant was found to be quite reliable, and the consumption of coke for getting up the fire in the morning and running throughout the day was ascertained to be slightly less than 1½ lbs. per b.h.p. per day. The money cost of such a plant doing a full day's work was estimated at 2/6 per hour.

The next Campbell plant to be installed afforded an excellent opportunity to compare the relative



WELLINGTON.

[J. Charlesworth, Architect.]