

use of the automobile has resulted in a continually expanding demand for gasoline and lubricating oils. The installation of oil-using equipment in industrial plants for generating power and in buildings of various kinds for heating purposes has also accelerated the consumption of fuel oil.

The illuminating and fuel gas industry of Canada is chiefly centred in the larger cities, especially in parts of the country where manufacturing predominates. Coal gas and carburetted water gas are the most important products, but pintsch gas is made at many divisional points along the railways to meet the demand for lighting purposes on passenger trains. Acetylene gas is used in several prairie towns where the size of the municipality is not sufficient to warrant a gas plant. The facility with which by-products such as coke, tar and light oils are turned out in connection with large scale production, becomes an incentive to plant expansion, providing that a demand is assured by increasing population and industrial development in the vicinity. The burning of coke in the house furnace, the necessity of enriching the soils with nitrates, the increase of refrigerating operations and the extended use of tar and tar products have prompted the larger plants to increase their output. The industry is also intimately connected with the iron and steel industry or dependent upon the demand of the non-ferrous smelting plants. Coke plants are maintained at Sydney, Hamilton and Sault Ste. Marie by the three principal iron and steel companies, by the International Coal and Coke Co., the Crow's Nest Pass Co. and the Granby Consolidated Mining, Smelting and Power Co.

Other industries of a varied nature included in this group are the manufacture of asbestos products, the glass industry, the manufacture of abrasives, the preparation of ornamental and monumental stone, the bottling of aerated waters and the manufacture of various clay products.

Chemicals.—Chemical industries, associated in many phases with the use of hydro-electric power, have recorded marked growth in Canada in recent years. Owing to Canada's great water-power resources and in particular to the fact that many water-powers are situated near tidal waters, there is an opportunity in this country for the expansion and establishment of new chemical industries. Electric refining, at first applied to copper only, is now being extended to all the metals, and electric current is also employed in their extraction from the ores. The production of aluminium, of cyanamid, of new refractory materials and of graphite have already created large industries. The fixation of nitrogen with its many subsidiary industries, such as the manufacture of nitric acid, ammonium nitrate and explosives, the reduction of magnesium and the production of innumerable chemical compounds are now also under commercial development. Noteworthy progress has been made in the output of calcium carbide, which can be readily marketed in countries dependent for their domestic manufacture on electrical energy derived from coal. Exports of this chemical, mainly to the United States, increased in value from \$161,000 in 1914 to \$2,358,000 in 1923. The development of cheap electrical power has contributed to the advance of industries using electro-thermic reactions, the intense heat which it is possible to develop by electrical means being an especially advantageous factor. The manufacture of chemicals during the war period represented enormous figures, and even in 1923 the output reached a total value of \$111,244,000. The products include commodities of such fundamental importance as fertilizers, calcium carbide, cyanamid, soap, paints, varnishes and wood distillates.

The principal statistics of each of the manufacturing industries of Canada during 1923 are presented in Table 12.