the American Lake Superior ore field. The fuel used is, in part, locally made charcoal, but the greater part is coke, imported from Illinois or Pennsylvania. In 1910 a battery of 110 Koppers coke ovens was built at the Sault for the purpose of coking imported coal at the furnace, thus saving the breakage inevitably produced in the transportation of coke. In 1913 some 600,000 tons of coal was imported for this purpose and 419,000 tons of coke was made.

The consumption of materials used in smelting iron ores in Canada in 1914 was: ore etc, 1,358,184 tons, limestone 419,864 tons, coke 910,887 tons, charcoal 883,625 bushels.

The Nova Scotia industry is in the centre of Cape Breton coalfield. It supplies itself with coke and is thus self-supporting. The Ontario industry obtains all its fuel supply fron the United States, either in the form of coal or coke.

The following is a list of manufacturers of oven coke in Canada:

Company	No. and Type of Ovens	Location of Ovens
Intercol. Coal Mfg. Co., Montreal	36 Bee Hive.	Westville, N.S.
Londonderry I. and Mg. Co., Limited, Montreal	97 Bee Hive.	Londonderry, N.S.
Nova Scotia S. & C. Co., New Glasgow, N S	120 Bernard, 30 Bauer	Sydney Mines, N S
Dominion I & St Co, Sydney, N S	620 Otto Hoffman,	Sydney, N S
Atikokan Iron Co Limited, Port Arthur, Ont	100 Bee Hive	Port Arthur, Ont
The Algoma Steel Corp., Sault Ste Marie, Ont	110 Koppers,	Sault Ste Marie

There are in Canada, twenty-two blast furnaces, having a total theoretical capacity of 1,500,000 tons per year. These are in twelve separate plants and are owned by nine companies.

It is improbable that a greater tonnage than 1,350,000 can be obtained in 1915.

There are four steel plants in Canada containing thirty open-hearth furnaces and four Bessemer converters, and having a total capacity of 1,250,000 tons of steel a year: It is improbable that this amount can be exceeded during the coming year by more than 100,000 tons, and it should be borne in mind that 300,000 tons of this capacity is Bessemer steel which is not accepted in the manufacture of munitions. In addition there are eight or nine steel-casting plants, operating either small open-hearth furnaces or converters.

The production of steel ingots and castings in 1914 was: open hearth 549,716 tons, Bessemer 144,447 tons, other kinds 284 tons.

Electric Smelting.—In the above estimates we have not made any allowance for such additional tonnage as might be obtained by electric smelting. The tonnage of steel derived from this source in 1913 was under 5000 tons, not including the tonnage of ferro-alloys, which amounted to 8000 tons. The problem of electrically made steel is a large one. Melting scrap in a relatively inexpensive steel-furnace, where electric power is cheap, is very attractive. This no one doubts. The difficulties that may be encountered in securing any great tonnage in this way, while problematical, are bound to be enormous, and it is unlikely that our figures will have to be changed materially because of the tonnage derived in this way.

The following is a list of the companies making ferro-products or steel in the electric furnaces.

Name of company, address, location of plant, and products:—

The Electric Reduction Co., Buckingham, P.Q., Buckingham, ferro-phosphorous.

Electro Metals, Limited, Welland, Ont., Welland, Ont., ferro-silicon.

Electric Steel & Metals Co., Welland, Ont., Welland, Ont., steel castings.

Algoma Steel Corporation, Sault Ste. Marie, Sault Ste. Marie, ferro-silicon.

The Moffat Irving Steel Works, Limited, Toronto, Toronto, steel castings.

Tivani Electric Steel Co., Belleville, Ont., Belleville, steel castings.

Development of the Industry

The production of war munitions will doubtless be limited as much by the capacity of the blowing mills in this country as by the capacity for producing steel ingots.

In reviewing the statistics of the industry in reference to the present crisis it will be observed that its development has been slow. The first great impetus was given by the Iron and Steel Tariff of 1887 introduced by Sir Charles Tupper. It is due to his statesmanship that the conditions were established on which our present achievements rest. With the subsequent changes in import duties there was little advance in the industry until the second stage of development commenced at the close of the last century. This was brought about by the action of the Government in introducing a graduated system of bounties. This system resulted in large iron and steel enterprises in Nova Scotia and Ontario, culminating in 1913 in the production of 1,128,967 tons of pig iron and 1,168,993 tons of steel. It is a melancholy reflection that even in such a "banner" year. the iron and steel production of Canada was less than half our total requirements. During 1914 owing to the World-wide depression, the output declined considerably.

After the outbreak of hostilities the British War Office first looked to the United States for supplies of heavy ammunition. Thanks however to the initiative and energy displayed by the Canadian Minister of Militia, General Sir Sam Hughes, an invitation was shortly thereafter extended to Canada to help meet the requirements of the army in this respect. That it was possible to accept this invitation may be ascribed to the satisfactory condition of the iron and steel industries in Nova Scotia. Steel makers in that province were thus in a position to supply the steel and to make the forgings for shells. The Shell Committee co-ordinated this work and that of other manufacturers to produce the finished ammunition and in this way completed the first order for 200,000 shrapnel shells.

Between October, 1914 and June 10th, 1915, munition orders alone to the amount of over $160,000,000 were placed in Canada providing employment for thousands of workmen engaged not only in the iron and steel and allied industries but in other trades as well as to a large army of mechanics who would otherwise presumably have been without employment. As an example of the effect of the munition business in stimulating other than the metal industries it may be cited that over a million ammunition boxes for the making of which over ten million feet of lumber was used were supplied while a further twenty-five million feet of lumber has been made into cases to hold other munition exports.

During the first nine months of 1915 there was shipped to Great Britain from Canadian ports more than 4,229,000 shells about twenty-five per cent of which was fixed ammunition. Incidentally it may be of interest to mention that Nova Scotia Steel Co., the first of the Canadian steel companies undertaking to supply shell steel and shrapnel forgings, made at the company's New Glasgow plant during the twelve months ended October 31st last, a total