Restricted business-like advertising would be more profitable, honest and professionable than the present method of devising means and expedients to avoid the unwritten law in this matter.

PIG-IRON BY MEANS OF ELECTRICITY.

Some recent experiments at the Domnarfvet Iron Works, Sweden, are of considerable interest in that they show the practicability of smelting iron by the aid of electric current.

The electric current, three-phase alternating was conducted to the furnace through electrodes of carbon, passing to the cylinder-shaped part of the furnace through the arch, which is cooled by means of water. The pressure during the experiments has been about 40 volts, with about 8,000 to 9,500 amperes, and the load 480 to 500 kilowatts. In order to protect the arch of the furnace against the high temperatures, furnace gas, which was obtained from the upper part of the furnace, was brought down under the arch through three openings by which a cooling effect was obtained.

The furnace was started and worked in the same way as an ordinary blast furnace. The charge used at present was of a weight of about two cwts. of ore from the Grangesberg iron mines (containing about 60 per cent. of iron), seven pounds of slaked lime, and 40 pounds of coke. According to an estimate made, this was equal to a consumption of five cwts. 3 quarters of coke per ton of pig-iron. The coke which was utilized contains 81 per cent. of carbon, 7 per cent. of water, and 11 per cent. of ash.

In a previous case an experiment was made with a charge, containing two cwts. of ore, 39 pounds of coke, and four pounds of lime, which was equal to about five cwts. two quarters of coke per ton of pig-iron.

In the products obtained, in some cases, the percentage of carbon was as low as that of steel. This was not the rule, however.

In these experiments the carbon content averaged about 1.80 per cent. The content of silicon varies from 0.2 to 0.07 per cent. The content of sulphur in grey pig-iron has been reduced to 0.005 per cent, while the content of sulphur in the coke used was about 0.5 per cent.

The quantity of electric power used is one of the most important matters in the question. No definite results have been secured, but the average of the more favorable runs has been something above two tons per electric horse-power year. With larger furnaces they expect to be able to secure three tons per electric horse-power year.

EDITORIAL NOTES.

The prosperity and happiness of our country depends upon the quality of scientific technical training of those who guide our industries and control our trade.

* * * *

In the fiscal year ending March 31st, 1909, there was a decrease of $330,555 in amount of iron and steel bounties paid. The statement in detail is as follows:—

	1907-8.	1908-9.
Pig iron	$ 863,816	$693,423
Steel	1,092,200	838,100
Wire rods	347,134	333,090

In 1908-9 the production of pig-iron amounted to 609,431 tons, a decrease of 74,348 tons. The steel output was 570,588 tons, a decrease of 91,351 tons. In the manufacture of pig iron there was used during the fiscal year 1909 a total of 179,735 tons of Canadian ore, a decrease as compared wtih the previous year of 53,778 tons, and of foreign ore 1,037,585, a decrease of 131,221 tons.

From the United States Department of Agriculture and Forestry it is learned that the production of wooden poles for the use of telegraph, railway and telephone poles was less in 1908 than in 1907 in the proportion of 3,249,000 to 3,283,000. But there was a decline in cost of 26 per cent., namely, from $8,081,000, or $2.46 per pole, in 1907, to $5,928,000, or $1.82 per pole, in 1908. The decline in general business is given as the cause of the decline. Sixty-eight per cent. of the poles used are of cedar and 16 per cent. chestnut, the other woods used for the purpose being oak, pine, cypress, juniper and tamarack. The decline in purchases arose from the smaller wants of electric railway and power companies, for telegraph and telephone companies increased their purchases.

CANADIAN ASSOCIATION OF STATIONARY ENGINEERS.

The Twentieth Annual Convention of the Canadian Association of Stationary Engineers will be held this year in London, Ont., July 27th to 30th.

Programme.

First Day—

10.30 a.m. Opening address of welcome by Mayor Stevely.

2.co p.m. Session.

3.30 p.m. Excursion to Springbank. Launches provided for delegates by the Canadian Fairbanks Company. The remainder of the afternoon and evening the delegates will be entertained at Springbank by the Exhibitors' Association.

Second Day—

9.co a.m. Session.

12.00 a.m. An hour among the exhibits.

1.oc p.m. Delegates and resident engineers will be entertained at the London Hunt Kennels by E. Leonard & Sons. This will be followed by a trolley trip, from which the delegates will return to the hall for the evening session, which will adjourn for the Grand Banquet.

Third Day—

9.00 a.m. Regular session.

2.00 p.m. Installation of officers. Presentation of Past President's Jewel. Closing.

OBITUARY.

PROFESSOR SIMON NEWCOMB, the astronomer and mathematician, died at his home, Washington, D.C., July 12th, 1909, at the age of 74. Professor Newcomb was the oldest son of John Newcomb, of Wallace, Nova Scotia. He was educated by his father and taught school in Nova Scotia, and also in the United States, after his removal there in 1853. While in Maryland he became acquainted with Joseph Henry and Julius E. Halgard, who, recognizing his aptitude for mathematics, secured his appointment in 1857 as computor on the Nautical Almanac, then published in Cambridge, Mass. On graduating from the Lawrence Scientific School, in 1858, he continued there for three years as a graduate student. He was appointed professor of mathematics in the United States navy in 1861, being assigned to duty in the United States Naval Observatory, Washington. While there he negotiated the contract for the 26-inch equatorial telescope authorized by Congress, supervised its construction, and planned the tower and dome in which it is mounted. In 1871 he was appointed secretary of the Commission that was created by Congress for the purpose of observing the transit of Venus, December 9th, 1874. He was elected to the American National Academy of Science in 1869, and since 1883 had been vice-president of this organization. In 1876 he was elected president of the American Association for the Advancement of Science, and he delivered his retiring address at the St. Louis meeting, 1878. He had also held the presidency of the American Society for Psychical Research.