

**World's Production.**—The world's production of lead in 1924 was about 1,457,351 short tons. The principal producers were the United States with 40 p.c., Mexico 12 p.c., Australia 9 p.c. and Spain 10 p.c. Canada produced about 6 p.c. of the total.

### 5.—Nickel.

With the exception of the nickel in the ores shipped from the Cobalt district and from the Alexo mine in the Porcupine area, the Canadian production of nickel is derived entirely from the well known nickel-copper deposits of the Sudbury district, Ontario. From 830,477 lb. in 1889, the production increased continually in trend to 92,500,000 lb. in 1918, constituting a record. After a slump to 19,293,000 lb. and 17,597,000 lb. in 1921 and 1922 respectively, there was an increase to 69,536,000 lb. in 1924.

**Sudbury.**—The nickel-bearing rocks of the Sudbury district, with a width of about two and one-half miles, form a wide ellipse thirty-six miles long and thirteen miles broad. The ores consist mainly of a mixture of pyrrhotite and chalcopyrite intimately associated with more or less country rock. The nickel occurs in the pyrrhotite as pentlandite and varies somewhat in amount. The ore deposits are of three main types—marginal deposits, offset deposits and vein-like deposits—the marginal having proved the most productive. The Creighton mine, which may be called the greatest nickel mine in the world, is an example of a marginal deposit. The Copper Cliff mine is an example of an offset deposit, while the Vermilion mine is probably the best example of a vein-like deposit, probably formed by hot, circulating waters. The ore mined in the district varies considerably in richness, the average metal content being about 2 to 3 p.c. of nickel,  $1\frac{1}{2}$  to 2 p.c. of copper and 45 p.c. of iron. Cobalt, gold, silver, platinum and palladium are nearly always present in very small quantities. The matte produced by the International Nickel Company averages about 54 to 56 p.c. of nickel and about 24 p.c. of copper, while that of the Mond Nickel Company contains about 41 p.c. each of nickel and of copper.

**World's Production.**—The world's production of nickel, exclusive of electrolytic nickel, was about 34,384 short tons in 1923, of which output 90·8 p.c. was Canadian in origin, while about 8·5 p.c. was derived from the oxidized ores of New Caledonia. The proved deposits of nickel ore in Canada are estimated to contain 2,000,000 tons of nickel, and there are at present large reserves undeveloped.

### 24.—Quantity and Value of Nickel Produced in Canada during the calendar years 1889-1924.

Years.	Quantity.	Value.	Years.	Quantity.	Value.	Years.	Quantity.	Value.
	lb.	\$		lb.	\$		lb.	\$
1889.....	830,477	498,286	1901...	9,189,047	4,594,523	1913...	49,676,772	14,903,032
1890.....	1,435,742	933,232	1902...	10,693,410	5,025,903	1914...	45,517,937	13,655,381
1891.....	4,035,347	2,421,208	1903...	12,505,510	5,002,204	1915...	68,308,657	20,492,697
1892.....	2,413,717	1,399,956	1904...	10,547,883	4,219,153	1916...	82,958,564	29,035,498
1893.....	3,982,982	2,071,151	1905...	18,876,315	7,550,526	1917...	82,330,280	33,732,112
1894.....	4,907,430	1,870,958	1906...	21,490,955	8,948,834	1918...	92,507,293	37,002,917
1895.....	3,888,525	1,360,984	1907...	21,189,793	9,535,407	1919...	44,544,883	17,317,953
1896.....	3,397,113	1,188,990	1908...	19,143,111	8,231,538	1920...	61,335,706	24,534,282
1897.....	3,997,647	1,399,176	1909...	26,282,991	9,461,877	1921...	19,293,060	6,752,571
1898.....	5,517,690	1,820,838	1910...	37,271,033	11,181,310	1922...	17,597,123	6,158,993
1899.....	5,744,000	2,067,840	1911...	34,098,744	10,229,623	1923...	62,453,843	18,332,077
1900.....	7,080,227	3,327,707	1912...	44,841,542	13,452,463	1924...	69,536,350	19,470,178