thus giving up over \$12,000,000. The Germans flatly refused to consider the proposal. Therefore the American committee left Berlin."

DISCOVERY OF "SHEELITE" IN NOVA SCOTIA.

(From Consul John E. Kehl, Sydney.)

An interesting event in the mineral development of the Province is the recent discovery of "sheelite" in Halifax County, Nova Scotia.

Sheelite is one of the minerals containing tungsten. It is of no known use in itself, excepting as an ore from which tungsten may be extracted. The mineral is chemically a tungstate of calcium. As an ingredient in the chemical side of steel-making it is quite important. At present the world's annual output, coming mostly from Sweden, is placed at 4,000 tons. If present indications are correct, the recent discovery in Nova Scotia will not only yield sufficient for the steel plants in the Province, but will have an effect on the markets of the world. The ore is reported to yield 60 per cent. of tungsten acid to the ton of sheelite. At present 25 men are at work on the preliminary experiments. It is believed that Mr. Hiram Donkin, deputy commissioner of mines, Halifax, Nova Scotia, will give interested parties all reasonable information.

IRON AND STEEL BY ELECTRIC PROCESS.

(From Consul-General Henry Bordewich, Christiania, Norway.)

Experiments to produce iron and steel from Norwegian ores by the electric process have been made during the last three or four years, partly by aid from the Government, in response to a petition sent to the Department of Commerce and Industries by the Christiania Polytechnical Society. Private interest has in this manner been awakened, and the industry now promises to become one of considerable importance. The Norwegian iron ore is often so poor that smelting by the old process was found profitless.

The owners of a paper mill at Tinfos, in Notodden, Telemarken, Norway, have for some time been making experiments for the purpose of producing iron by melting iron ore by the use of electricity as the source of heat. The works were completed in February last, and there has already been an output of 250 tons of iron. The ore used has been mined partly at Lango, near Kragero, and partly at Klodeberg, near Arendal. The melting was accomplished by the use of an electric furnace of about 500 horse-power. This is the first iron produced by the new process, and in commemoration of the event there has been cast and sent to the Christiania University an ingot of the metal weighing 60 kilos and provided with an appropriate inscription.

A stock company, styled the Hardanger Electric Iron and Steel Works, is at present being organized. The capital stock is to be \$294,800, of which there has already been sold \$160,800. There are 4,400 shares of \$67 each. The works are to be located at Ullensvang, in Hardanger, on the west coast, and the object is to produce iron and steel from Norwegian ores by a patented electric process of Swedish origin. The company has secured electric energy from the adjoining water power at Tysse, for a period of thirty years, at a cost of \$8.04 per horse-power; 4,200 horse-power will be required. The ore to be used is to be bought from mines in other districts on the best obtainable terms. The transportation of the ore will be found expensive, but it is believed that this drawback will be offset by the cheap power and excellent harbor facilities at the place.

Among the principal promoters of the undertaking is the stock company styled Det Norske Aktieselskab for Electrokemisk Industri. The director of this company is interested in the Tysse water powers, which are to furnish energy for the smelting works. Among the promoters are many influential and responsible men, and it is believed that the required capital will be raised without difficulty.

MINERAL PAINT PRODUCTION.

(From advance chapter on Mineral Resources by the U. S. Geological Survey.)

The annual consumption of paints and varnishes in the United States exceeds in value \$200,000,000; the railways alone will distribute among the paint and varnish manufacturers in 1910 between \$20,000,000 and \$30,000,000. It is, therefore, a matter of great interest to comprehend the various products which help to make up this vast trade.

The production of the natural mineral pigments and metallic paints and mortar colors in the United States in 1908 and 1909, together with the imports of similar products during the same years, all quantities being given in short tons, was as follows:

Description.	Quantity.		Value.	
	1908.	1909.	1908.	1909.
	Tons.	Tons.		
Ocher.....	17,019	14,310	\$156,360	\$137,880
Umber and sienna.....	2,756	1,546	70,996	43,872
Metallic paint.....	16,224	25,414	182,007	256,373
Mortar colors.....	9,026	11,620	86,961	116,126
Slate and shale ground.....	4,828	8,247	40,220	58,882
Total.....	49,853	61,137	536,544	613,133

Metallic paint and mortar colors are red and brown iron oxides, produced either by grinding the mineral found in the natural state or by roasting iron carbonate. Slate and shale were ground for pigments, principally in Pennsylvania and New Jersey.

The imports of ocher, umber, and sienna, crude, dry, and ground in oil were as follows:

Item.	Quantity.		Value.	
	1908.	1909.	1908.	1909.
	Tons.	Tons.		
Ocher.....	4,127	6,848	\$ 75,076	\$110,664
Umber.....	1,204	1,596	20,264	26,381
Sienna.....	887	1,205	28,865	33,334
Total.....	6,218	9,649	124,205	170,379

The following statement shows the world's production of ocher:

Country.	Quantity.		Value.	
	1907.	1908.	1907.	1908.
	Tons.	Tons.		
United States.....	16,971	17,019	\$164,742	\$156,360
United Kingdom.....	16,455	.....	70,117	.....
France.....	36,217	36,442	423,830	457,072
Germany.....	1,679	.....	5,290	.....
Canada.....	5,828	4,746	35,569	30,440
Belgium.....	220	.....	876	.....
Japan.....	331	.....	2,531	.....
Cyprus (4 ports).....	7,301	.....	20,279	.....
Total.....	85,002	.....	723,234	.....

Pigments Made Directly from Ores.—The important pigments made directly from ores of valuable metals are zinc oxide, lead zinc oxide, zinc lead, sublimed white lead, and sublimed blue lead. The quantities and value produced in the United States were as follows:

Description.	Quantity.		Value.	
	1908.	1909.	1908.	1909.
	Tons.	Tons.		
Production:				
Zinc oxide.....	56,292	68,974	\$5,072,460	\$6,156,755
Zinc lead.....	8,430	7,655	778,200	634,714
Sublimed white lead.....	9,100	9,915	973,700	1,070,820
Sublimed blue lead.....	1,311	981	121,923	101,043
Total.....	75,133	87,525	6,946,283	7,963,332
Imports of zinc oxide:				
Dry.....	2,318	3,059	262,876	342,999
In oil.....	105	268	16,798	54,085
Total.....	2,423	3,327	279,084	397,084