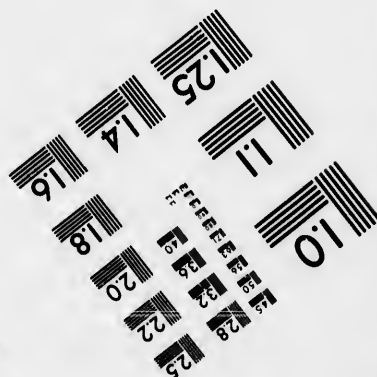
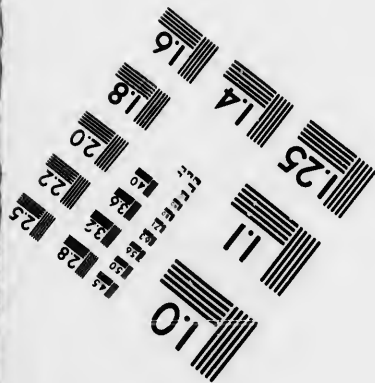
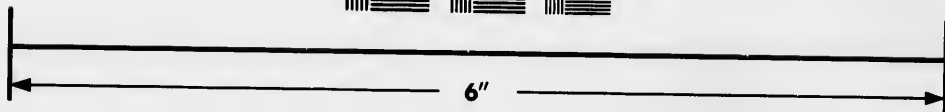
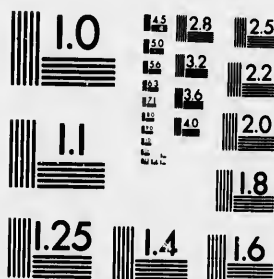


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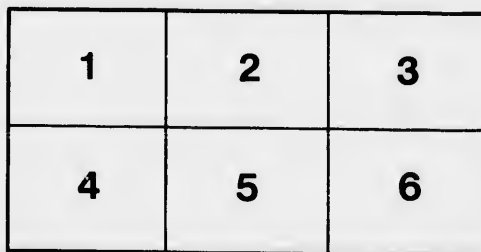
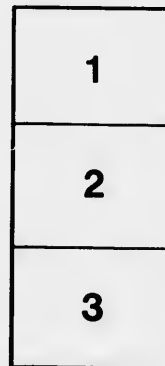
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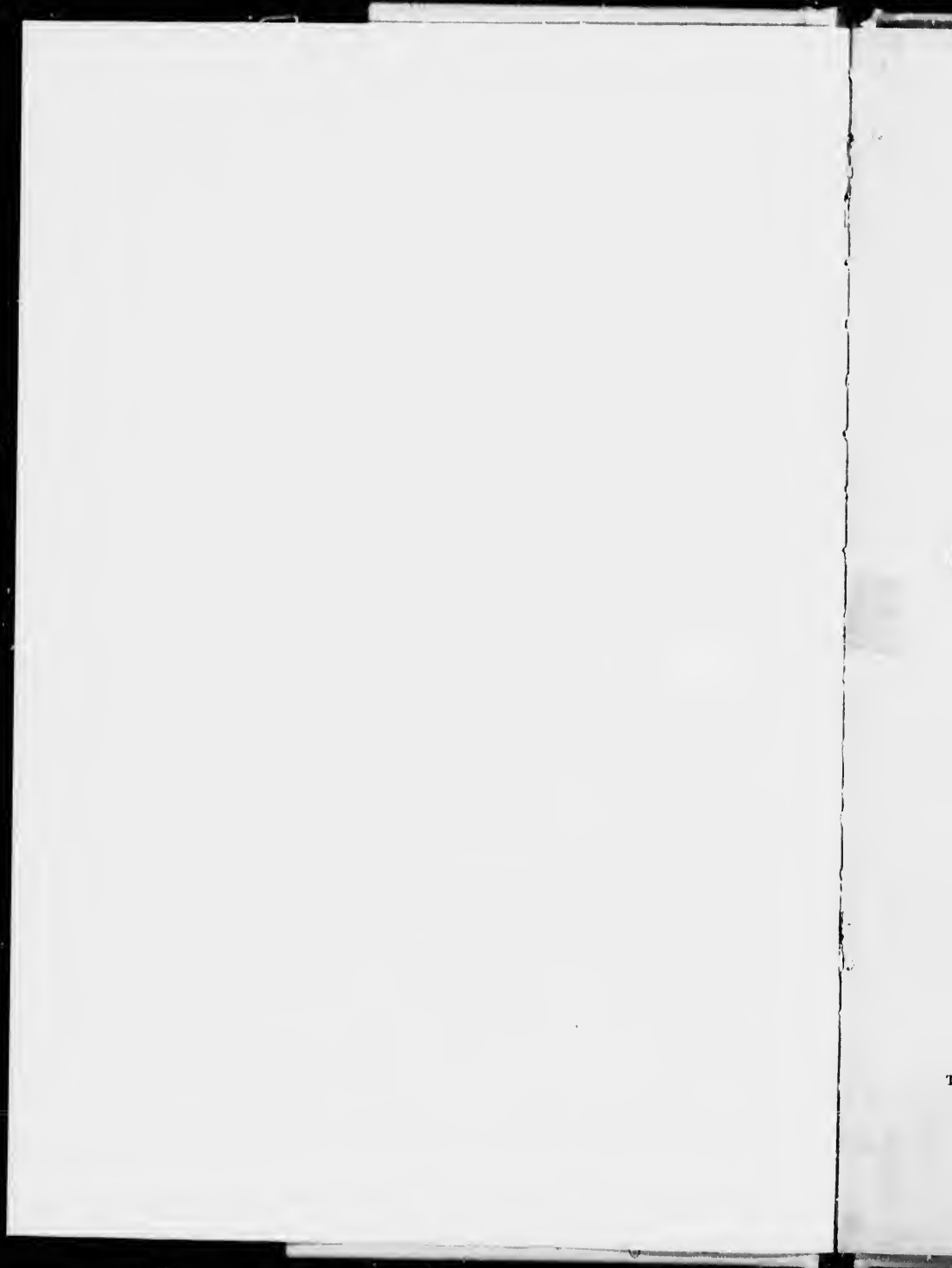
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REPORT
OF
SPECIAL COMMITTEE
OF THE
GEOLOGICAL AND MINING SECTION
OF THE
CANADIAN INSTITUTE.



TORONTO:
THE COPP, CLARK COMPANY, LIMITED, PRINTERS, COLBORNE STREET.

1888.

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REPORT

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GEOLOGICAL AND MINING SECTION

A Committee of the Geological and Mining Section, consisting of Wm. Hamilton Merritt, F.G.S., Chairman; Archibald Blue, Secretary; Dr. P. H. Bryce, Mr. John Notman and Mr. R. W. Phipps, have made a Report on the Mining Industries of Canada, which states:

1. That as shown by successive annual reports of the Geological Survey, extending over a period of more than forty years, the known mineral resources of our country are a vast and valuable possession. In precious metals there is reason to believe that we have rich occurrences of gold and silver; while in the economic minerals the country is pre-eminently rich in iron, copper, gypsum, apatite and coal. We have also manganese, barytes, antimony, plumbago, asbestos, salt, petroleum, slates, building stone, marbles, limes, cements, mineral pigments and minerals applicable to the fine arts in proved abundance.

The recent discoveries of copper and gold in the vicinity of Sudbury, of new silver lodes in the district of Port Arthur, of anthracite and bituminous coals on the eastern slope of the Rocky Mountains, as well as various new discoveries of gold, silver, lead and coal in the heart of British Columbia, now accessible by means of the Canadian Pacific Railway, encourage the hope that a systematic survey of the country will reveal stores of vast extent and richness, the existence or locality of which is not now suspected.

2. Your Committee have obtained information relating to the mineral and metallurgical products of the United Kingdom of Great Britain and Ireland from the annual reports prepared by Her Majesty's Inspectors of Mines, and to the same in the United States from returns compiled by the "Division of Mining Statistics" of the United States Geological Survey.

From one of the first-mentioned reports a good deal of information has been obtained concerning the trade between the United Kingdom and her colonies, and also the production of the principal colonies.

The data for the tables illustrating the trade between the Dominion and the United Kingdom has been obtained from our Trade and Navigation Returns, and the trade with the United States from the same source, and also from the Commerce and Navigation Returns of the United States.

While these latter tables have been made up to the year 1886, though it is feared more or less imperfectly owing to varying and incorrect returns, much of the trade of Great Britain, both with her colonies and the rest of the world, is from the returns of the year 1883, which was the only report available to your Committee until quite recently, when the returns for 1884 and 1885 were received; but it is found that in the aggregate the variation between the returns for the years 1883 and 1885 is so small, and the work of sifting out the special returns for the colonies (which are not kept separate) so laborious, that it was thought the returns above mentioned would serve every requisite on this occasion. For example, the general summary of the mineral product of the United Kingdom for 1883, was about fifty-six million pounds sterling, for 1884 about sixty-one million pounds sterling, and for 1885 about fifty-eight million pounds sterling.

3. The tables accompanying this report reveal to us at the first glance the small mineral production of Canada, not only in contrast to the United Kingdom, and to our neighbor the United States, but as compared with the other leading colonies.

Taking the figures collected by Her Majesty's Inspectors of Mines for 1884 we have for—

African Colonies.....	\$15,905,181
Asiatic (including India).....	5,532,039
Australasia.....	47,885,069
British North America.....	6,108,995

The following table makes a brief comparison between ourselves and our neighbors showing the total number of miners employed in both countries and the production of copper, iron and salt in the last census years respectively :—

	Canada. 1880.	United States 1879.	Ontario. 1880.	Michigan. 1879.
No. of miners.....	6,541	234,228	493	6,978
Copper ore, tons.....	8,177	1,007,490	170	938,960
Iron ore, tons.....	223,057	7,974,806	91,887	1,837,712
Salt, bbls.....	472,000	3,521,221	472,000	2,485,177

In 1886, according to the Report on Minerals in Canada by the Geological Survey, the total value of mineral production was \$10,529,361 (or \$11,529,361, errors corrected) while the total value of mineral production in the United States in the same year, according to the Report on Mineral Resources by the Geological Survey of that country, was \$459,327,888—being a proportion of about 1 to 40.

Your Committee are emphatically of opinion that this great disproportion does not exist in the mineral resources of the two countries.

4. From Table "A," accompanying this report, it will be seen that for the year 1883, the imports into Canada of mining and crude metallurgical products from the United Kingdom were \$6,880,103 and from the United States \$3,448,776, while the exports from Canada in the same year to the United Kingdom were \$591,632 and to the United States \$3,187,163.

The above figures are from the Trade and Navigation Returns of the Dominion. We give a separate table "Aa," compiled from the United States Trade Returns in order to show the remarkable difference there is in the returns of the same article given by the two countries.

In each case there was a balance against us of about six millions of dollars, but it will be borne in mind that the tariff of the United States is in many productions practically prohibitory.

Again, taking Canada's exports of produce of the mine to Great Britain, the United States and all other countries for the ten fiscal years 1877-1886, we have the following figures :

YEAR.	Great Britain.	United States.	Other Countries.
	£	£	£
1877.....	1,061,201	2,413,525	169,314
1878.....	142,374	2,472,979	200,994
1879.....	265,305	2,636,334	181,261
1880.....	216,867	2,495,624	164,860
1881.....	253,652	2,346,529	167,648
1882.....	311,456	2,418,021	284,096
1883.....	443,831	2,198,014	329,041
1884.....	519,672	2,505,501	221,919
1885.....	485,408	2,898,518	255,611
1886.....	589,832	3,115,696	245,619
	4,289,598	25,500,741	2,220,363

5. Believing it would be of interest to ascertain the trade of the United Kingdom and of the United States as well as that of Canada with the world at large in minerals and metallurgical products, your Committee have prepared two sets of tables with this in view.

The first set "B" take the exports and imports for the years 1881 to 1884 inclusive. They shew that on the average the values of exports were, from

Great Britain.....	\$228,908,727
The United States.....	72,500,654
Canada.....	3,338,231

and that the values of imports were, to

Great Britain.....	98,801,964
The United States.....	72,887,652
Canada.....	24,349,898

The second table "C" treats more fully with the detail and takes into consideration only the crude metallurgical products.

From this we get values of exports of

	United Kingdom.	United States.
Ores.....	\$ 51,149,091	\$13,770,477
Metallurgical Product.....	176,560,594	65,262,079
Total	\$230,709,688	\$79,032,556

While the values of imports were :

	United Kingdom.	United States.
Ores	\$33,512,356	\$ 9,033,986
Metallurgical Product.....	33,433,902	54,775,490
Total	\$66,946,258	\$63,809,476

The first table shows us that the United Kingdom exports three times as much of minerals and their products as the United States, while she imports one-third more than the United States.

From the second table we gather that the United Kingdom imports about four times as much ore matter as the United States and a little more than one-half the crude metallurgical product.

The imports of ores to the United Kingdom are chiefly copper ores and regulus, silver ore, iron ore, iron pyrites and phosphates, with lesser quantities of ores of lead, manganese and gold ; while the United States imports her largest quantities in coal, silver and iron ores and salt, with smaller quantities of clays, copper ores, phosphates and asbestos, and a small quantity of most other economic minerals.

In crude metallurgical productions the United Kingdom imports very large amounts of copper, lead, tin and zinc, while the importation of the United States is chiefly made up of iron and steel, with tin, earthen and China-ware next in importance, and lesser amounts of fertilizers, lead, zinc and marbles.

6. A Table " D " has also been prepared shewing the trade carried on by the United Kingdom with Canada, with her other colonies and also with the rest of the world in mining and crude metallurgical product.

This shews that the colonies do as yet but a small proportion of business compared with that carried on by the United Kingdom with

foreign countries, the imports to the United Kingdom in 1883 being :

From Canada	\$ 512,471
From Colonies (other than Canada)	8,137,274
From other Countries.....	58,281,835

While exports from the United Kingdom were :

To Canada.....	\$ 7,765,344
To Colonies (other than Canada).....	51,616,930
To other Countries	170,975,358

A.

From Dominion Trade and Navigation Returns.

EXPORTS, 1886.

	VALUE IN DOLLARS.	
	To United Kingdom.	To United States.
	\$	\$
Coal, bituminous.....	76,304	1,127,677
Gold	450	1,210,864
Gypsum.....		112,271
Mineral oil.....		27,742
Antimony ore.....	35,320	3,000
Copper ore.....		291,397
Iron ore.....		23,039
Manganese ore.....	29,853	13,001
Silver ore.....		25,134
Phosphates.....	407,314	6,817
Plumbago	1,481	
Salt.....		26,714
Sand and gravel.....		23,195
Slate		4,256
Stone and marble (unwrought).....		59,888
Other articles.....	40,588	159,670
Gypsum (ground).....		18,485
Lime.....		18,552
Stone and marble (wrought).....	328	15,461
	\$591,638	\$3,187,163

IMPORTS, 1883.

	VALUE IN DOLLARS.	
	From United Kingdom.	From United States.
Salt—Bags fine, coarse; bags coarse and bulk.....	\$ 206,262	\$ 14,348
Brass—Tubing, bars, strips, wire clots, scrap, sheet and wire.....	88,625	298,960
Cement—Hydraulic, bulk and bags, and Portland.....	104,592	15,441
Coal—Anthracite.....		4,095,966
“ Bituminous.....	199,661	2,527,807
Coke.....	6,037	37,798
Copper—Bars, rods, scrap, pig, sheet and wire.....	92,600	132,611
Earthenware.....	413,223	32,367
China and porcelain.....	76,859	9,372
Iron and steel—Dutiable and free, including scrap and wire.....	4,625,841	1,091,986
Lead.....	149,107	5,439
Marble.....	3,138	78,575
Britannia metal, type and babbitt metal, pewter.....	12,295	75,226
Asbestos (manufactured).....	548	6,283
Mineral substances and ores (not otherwise specified).....	5,995	23,882
Plumbago—Raw and manufactured.....	118	5,663
Mineral oil.....		421,730
Products of shale, petroleum, etc.....	1	59,374
Gypsum (manufactured).....	2,469	6,034
Diamonds and precious stones—Unset.....	60,634	15,970
Paint—Fireproof.....		2,143
Slates.....	1,060	25,651
Building stone, granite, flagstone and grindstone.....	16,312	85,513
Tinware and block tin.....	154,649	190,529
Zineware and block zinc.....	53,434	16,584
China—Fire, pipe and other clays and chalk.....	18,690	16,558
Brimstone.....		2,809
Tin plates.....	619,971	124,849
Litharge, lime and whiting.....	35,106	15,446
Nickel and bismuth.....	70	289
German silver and silver sheets.....	2	9,981
Sand and gravel.....		22,692
	\$6,880,103	\$9,448,776

From Commerce and Navigation Returns of the United States.

EXPORTS (TO CANADA), 1886.

ORE OR METAL.	VALUE IN DOLLARS.
	\$
Coal—Anthracite	2,564,340
“ —Bituminous	751,895
Copper—Ingots, bars, old, sheets and other manufactures.....	27,080
Copper ore	4,680
Earthen and stoneware	68,310
Chinaware	8,145
Iron—Pig, bar, carwheels, castings, plates and sheets, railroad bars or rails, iron and steel ; wire, iron and steel.....	374,182
Iron ore.....	1,122
Lime and cement.....	25,047
Marble and stone, unmanufactured ; roofing slate and other manufactures.....	228,639
Mineral oil—Naphthas, illuminating and lubricating.....	479,576
Quicksilver.....	3,666
Salt.....	4,873
Tin, manufactures of.....	38,893
Zinc—Pigs, bars, and manufactures of	11,439
	\$4,591,887

IMPORTS (FROM CANADA), 1886.

ORE OR METAL.	VALUE IN DOLLARS.
	\$
Coal—Bituminous.....	1,014,116
Copper ore	332,240
Gold bars and bullion.....	687,705
Silver bullion.....	1,827
Unspecified mineral substances.....	3,646
Iron ore	25,731
Stone, slates, etc.....	92,756
Mineral oil.....	15,204
Salt.....	53,317
Phosphates	6,740
Gypsum, unground.....	115,003
Plumbago.....	2,405
Precious stones and imitations.....	65,637
	\$2,416,327

EXPORTS OF THE UNITED KINGDOM.

ARTICLES.	1881.	1882.	1883.	1884.
	£	£	£	£
Cement	753,392	804,601	925,474	871,015
Coals	8,785,950	9,564,616	10,645,919	10,851,130
Products of coals (except dyes).....	565,693	781,412	1,017,767	1,068,900
<i>Metals:</i>				
Iron, old	488,047	507,161	337,995	223,422
Iron, pig & puddled.	4,104,777	4,962,185	4,077,456	2,945,223
Iron, bar, angle, etc.	2,013,133	2,298,533	2,034,667	1,942,294
Iron, railroad.....	5,666,446	6,387,219	6,014,264	4,142,063
Iron, wire.....	1,000,844	1,330,544	926,797	692,607
Iron, hoops, sheets, and boiler plates..	3,404,790	3,943,806	3,899,774	3,693,001
Iron, tinned plates..	4,163,132	4,642,125	4,705,403	4,746,923
Iron, cast or wrought, and all other mfrs.	3,964,268	4,549,860	4,616,660	4,580,671
Steel, unwrought ..	1,871,161	2,034,339	1,396,556	1,127,481
Steel, mfrs. of.....	914,311	942,534	580,644	402,350
Telegraph wire.....	1,983,663	1,042,561	1,237,893	2,509,153
<i>Copper, unwrought:</i>				
Ingots, cakes or slabs	1,228,378	909,241	1,143,034	1,053,135
Wrought or partly w	2,208,189	2,424,837	2,426,439	2,513,894
Brass, of all sorts....	384,792	444,383	432,033	452,998
Lead, pig, sheet and pipe.....	675,828	577,325	533,144	422,178
Tin, unwrought	460,506	579,557	524,049	469,210
Zinc, wrought and unwrought	118,296	125,969	98,741	100,356
Salt	585,838	568,715	645,009	611,537
Totals.....	£45,341,433	49,421,523	48,219,718	45,419,571
	£220,359,364	240,188,662	234,347,829	220,739,115

IMPORTS OF THE UNITED KINGDOM.

ARTICLES.	1881.	1882.	1883.	1884.
<i>Metals:</i>	£	£	£	£
Copper ore & regulus	2,427,761	2,609,836	2,936,208	3,175,066
Unwrought, p't w't and old copper...	2,166,383	2,522,393	2,413,793	2,329,175
Iron ore.....	2,349,411	3,063,091	2,750,870	2,114,600
Iron in bars..	1,140,509	1,396,457	1,236,735	1,165,948
Iron and steel, wro't or manufactured..	2,564,823	2,474,898	2,870,813	2,693,422
Lead, pig and sheet	1,388,109	1,266,999	1,305,388	1,222,325
Silver ore.....	688,176	750,079	1,039,542	1,089,768
Tin in blocks, ingots, bars or slabs.....	1,873,472	2,538,577	2,442,959	2,123,799
Zinc, crude in cakes	755,666	708,877	640,302	700,154
Zinc, manufactures.	414,813	396,936	408,206	390,157
Petroleum.....	1,952,444	1,721,019	2,170,298	1,711,313
Pyrites, iron or copper	1,202,281	1,422,684	1,356,083	1,244,871
Totals.....	£18,923,846	20,871,846	21,562,197	19,660,598
	\$91,969,901	101,437,171	104,792,277	97,008,506

B.

EXPORTS OF THE UNITED STATES.

ARTICLES.	1881.	1882.	1883.	1884.
	\$	\$	\$	\$
Brass and mnfrs. of...	216,057	322,439	287,847	301,014
Coal—Anthracite...	2,091,928	2,589,887	2,648,033	3,053,550
“ —Bituminous....	739,532	1,102,898	1,593,214	1,977,959
Copper and mnfrs. of	876,395	748,456	2,348,004	5,595,859
Iron and steel and manufactures of *...	16,608,767	17,551,322	140,427 19,024,894	18,369,148
Lead and mnfrs. of...	39,710	178,779	43,108	125,156
Marble and stone and manufactures of...	629,795	614,430	541,553	503,260
Mineral oils.....	40,315,609	51,232,706	44,913,079	47,103,248
Quicksilver.....	1,124,955	959,128	1,020,827	427,219
Salt.....	14,752	18,265	17,321	26,007
Tin and mnfrs. of....	198,524	198,608	191,947	166,819
Zinc and mnfrs. of....	148,212	138,374	82,490	31,107
Totals.....	\$63,004,236	\$75,655,292	\$73,652,744	\$77,690,346

* Sewing machines and agricultural implements not included.

IMPORTS OF THE UNITED STATES.

ARTICLES.	1881.	1882.	1883.	1884.
	\$	\$	\$	\$
Brass and mfrs. of...	494,249	668,136	570,666	470,435
Coal and coke...	2,008,967	2,192,689	2,084,151	2,589,958
Copper and mfrs. of...	564,923	317,172	191,285	291,603
Iron and steel & mfrs. of (including ore)...	51,454,574	53,898,267	40,837,376	42,917,747
Lead and mfrs. of...	163,742	211,935	170,198	92,861
Marble and stone and manufactures of...	749,763	798,542	819,567	950,217
Metals and mfrs. of, not elsewh'r specif'd	1,162,913	1,429,918	1,489,445	2,248,814
Mineral oils and other mineral substances...	112,152	187,248	141,532	89,154
Platinum.....	294,635	334,183	391,766	373,110
Salt.....	1,900,610	1,561,132	1,476,946	1,527,455
Slate and mfrs. of...	46,864	45,928	49,919	
Tin and mfrs. of...	18,685,903	21,838,261	22,903,572	5,482,909
Zinc and mfrs. of...	262,218	949,041	802,933	251,476
Totals.....	\$77,901,513	\$84,432,452	\$71,929,356	\$57,285,739

B.

EXPORTS OF CANADA.

ARTICLES.	1881.	1882.	1883.	1884.
	\$	\$	\$	\$
Coal.....	1,123,091	1,078,704	1,087,411	1,201,172
Gold.....	767,318	930,951	911,383	952,131
Gypsum, ground and unground.....	132,787	138,180	160,794	172,928
Lime.....				
Mineral oils.....	631	136	368	7,546
Antimony ore.....	3,921	4,733	11,842	4,855
Copper ore.....	150,412	139,245	150,479	214,044
Iron ore and products of iron and steel....	445,707	571,700	556,100	354,667
Manganese.....	38,738	37,485	29,417	15,851
Silver.....	34,494	15,110	14,200	12,920
Phosphates.....	239,493	327,667	302,716	453,322
Salt.....	39,566	36,418	17,511	17,408
Sand and gravel.....	12,511	13,789	17,755	14,152
Stone, marble & slate, wrought & unwrou't	95,726	115,167	94,880	82,392
Total.....	\$3,084,395	\$3,409,285	\$3,354,856	\$3,504,388

IMPORTS OF CANADA.

ARTICLES.	1881.	1882.	1883.	1884.
	\$	\$	\$	\$
Brass and mnfrs. of . . .	276,958	362,581	383,106	393,544
Coal	4,094,294	4,696,007	6,389,804	7,503,871
Copper and mnfrs. of . .	160,329	222,219	243,222	235,510
Gold and silver and mnfrs. of	233,806	333,820	345,515	230,614
Iron and steel and mnfrs. of *	12,224,180	16,378,344	18,253,179	13,464,742
Lead and mnfrs. of . . .	150,292	181,354	203,100	166,804
Marble, slate and stone and mnfrs. of	220,323	236, '0	265,491	265,594
Metal, composition and other	368,967	462,286	649,236	611,909
Oils, mineral	280,638	453,250	460,728	427,641
Salt	494,633	323,807	422,367	360,192
Zinc and mnfrs. of . . .	126,469	99,736	22,599	99,742
Tin and mnfrs. of . . .	413,924	946,522	1,258,136	1,001,769
Total	\$19,044,813	\$24,696,366	\$28,896,483	\$24,761,932

* Not including sewing machines and agricultural implements.

ORES.	EXFORTS.		IMPORTS.	
	From United Kingdom, 1883.	From United States, 1886.	To United Kingdom, 1883.	To United States, 1886.
	\$	\$	\$	\$
Clays, except ordinary	935,404	9,978		225,323
Coal, anthracite.....		2,707,590		20,140
“ bituminous.....	51,739,166	1,480,940		2,551,954
Coke.....		18,327		
Cobalt and nickel ore and matter.....		11,687		
Copper ore & regulus.....		3,068,879	2,387,926	417,449
Gold ore.....		34,160	21,384	1,397
Silver ore.....			5,008,434	1,263,257
Iron ore.....		144,652	13,369,228	1,306,033
Iron pyrites, chiefly cuprous.....			6,590,563	
Lead ore.....	16,524		983,129	
Manganese ore.....			496,217	
Phosphates.....			3,955,189	426,243
Quicksilver.....		219,259		
Salt.....	1,458,000	29,827		1,499,182
Tin ore.....			3,474	
Zinc ore.....		24,951	696,812	
Mineral oil, crude.....		5,859,577		15,581
Marble and stone, unmanufactured.....		159,553		
Platinum.....				356,041
Plumbago.....				164,111
Aluminum.....				5,298
Bismuth.....				117,768
Gypsum.....				116,202
Buhr stones, unmfnd.....				40,772
Lithographic stone.....				73,884
Mica.....		897		43,107
Charcoal.....				35,544
Emery.....				83,214
Pumice.....				30,128
Talc.....				25,394
Mineral subs, not elsewhere specified.....				123,864
Asbestos, crude.....				91,089
Total ores.....	\$54,149,094	\$13,770,477	\$33,512,356	\$9,033,986

C.

METALS.	EXPORTS.		IMPORTS.	
	From United Kingdom, 1883.	From United States, 1886.	To United Kingdom, 1883.	To United States, 1886.
	\$	\$	\$	\$
Brass and mnfrs. of		150,807		404,678
Bronze and mnfrs. of				714,473
Cement		123,103		722,576
Asbestos, mnfd.		29,303		
Copper, unwrought, partly wrought, pigs, bars and sheets.	23,660,224	2,498,898	8,679,717	57,651
Copper, mnfrs. of.	45,527	108,975	362,293	122,985
Earthen, stone and chinaware		163,908		4,947,621
Fertilizers		1,107,657		1,680,473
Iron { Pig.				4,041,366
{ Mfrs. of iron and steel.	138,948,439	15,748,569		33,278,088
Lead, pig, mnfrs. of.	2,765,937	114,098	7,423,354	865,820
Lime				41,107
Mineral oil { Refined.		44,340,267		
{ residuum				
Slates	1,216,098	605,261		25,878
Terra alba, etc.				
Tin plates				
Plaster Paris, ground and calcined.				38,552
Tin, bars, blocks or pig } 9,042,163			11,872,790	5,873,752
Tin, mnfrs. of. } 157,724				
Marble and stone and mnfrs. of.				872,036
Zinc, blocks and pig.	882,206	64,410	5,095,748	119,425
Zinc, mnfrs. of.		12,749		49,406
Nickel, mnfrs. of.		35,302		
Platinum, mnfrs. of.		4,048		
Other metals, metal compts & mnfrs, not elsewhere specified.				1,920,103
Total metals	\$176,560,594	\$65,262,079	\$33,433,902	\$54,775,490
Total ores (carried forward)	54,149,094	13,770,477	33,512,356	9,033,986
	\$230,709,688	\$79,032,556	\$66,946,258	\$63,809,476

D.
From Report H. M. Inspectors of Mines, 1883.

ARTICLES.	EXPORTS FROM UNITED KINGDOM.		IMPORTS TO UNITED KINGDOM.	
	To Canada.	To Colonies (other than Canada.)	From Canada.	From Colonies (other than Canada.)
		To other Countries.	From other Countries.	
Clays (except ordinary).....		\$ 935,404		
Coal.....	\$397,445	43,851,449		
Copper, unwrought, wrought, yellow metal and manufactures.....	266,814	15,152,347	2,316,276	6,725,734
Copper ore.....				
Iron ore.....				
Iron—Pig, bar, angle, bolt, rod, railroad		38,014	106,909	354,425
Tin plates and sheets, hoops, sheets and boiler plate, wire (except telegraph), cast and wrought, steel, unwrought, iron and steel combined.....	6,735,474	98,507,840		1,851,884
Lead ore.....				13,369,228
Lead—Pig, rolled sheet, piping and tubing.....	145,493			
Salt.....		1,527,629		7,423,354
Slates.....	120,712	400,566		886,464
Tin.....		930,131		
Tin ore.....	98,736	1,111,336		
Zinc.....		8,573,465		
Zinc ore.....	680		5,022,285	6,850,505
Gold ore.....		331,219	3,474	5,095,748
Iron pyrites.....			208	696,604
Manganese ore (1882).....				21,384
Phosphates.....			21,252	6,590,563
Silver ore.....			354,230	450,014
				3,332,486
				40,517
Total.....	\$7,653,344	\$51,616,930	\$512,471	\$8,137,274
		\$170,975,358		\$8,281,833

