

they will advise the capitalist to set his capital at work in more profitable channels. It is not claimed that the Dominion Government should endow a mining school by any means, but that it should give effect to the economic purview of the Dominion Survey Act by assisting summer mining schools in connection with McGill and Queen's Universities in the exploration of the mineral regions in the vicinity of populous districts in Ontario and Quebec. In such the expenses will be less than in remote regions and the revival of mining enterprise will more readily follow any favorable results from such exploration. Once the work in such districts is fairly done experience will have been gained for settling the question whether more distant areas should be exploited in this manner. It may be assumed that at no distant date there will be a contingent sufficiently interested in the scientific investigation of the mineral resources of Ontario, who will hasten the funeral obsequies of the Reign of Dulness to whose sway the mining interests of that Province are now committed. Mr. Harty is known to possess liberal ideas, and to be unfettered by the conservatism of departmental traditions. He is pointed out as the coming Minister of Public Works, and is believed to be in thorough sympathy with a liberal mining policy. But in view of such a prospect the Dominion Government should not be idle. Speculation has had its innings in iron and lead and phosphate mines, and failed. The politicians have had their innings and failed, and it is not likely the Wilson tariff will help Canadian miners. Let the mining engineers now have an innings, that it may be seen whether or not our mining school boys will be able to grapple, as we believe they can, with the two prime questions: (1) Are the mineral lodes of eastern Ontario and western Quebec of sufficient value to warrant the investment of capital? (2) What are the principal features in the disturbance, continuity or barrenness of these lodes, and what their stratigraphical relations? It is not unlikely the Dominion Survey will rebel. The mutually repellent membership of that august body will be certain to develop mutual attraction against any project not emanating from them. It is no derogation from their scientific attainments to say that the project on foot can get along very well without them. They can give it most valuable assistance if they will, the result of which may satisfy the country that they can run boring drills without bringing on national bankruptcy or incurring the ridicule of those who understand the business. Such a consummation will draw to the Geological Survey a degree of public regard with which on patriotic grounds the REVIEW is most anxious they shall be invested. The Canadian summer mining school is a candidate for public favor whose claims cannot be ignored by either the Dominion or Provincial Governments.

A little over 2,000 tons of low grade Canadian Phosphate was shipped to the United States last year.

The Iron Tariff of 1887.

There are two questions of interest in connection with the iron tariff adopted in 1887. The first is, "What has been the effect of that tariff upon the iron industries of Canada?" The second is, "What has been the effect of the tariff upon the imports of iron and steel and of manufactures therefrom?"

I. What has been the effect of the tariff upon the Canadian industries connected with iron and steel?

Examining first the Trade Returns we find: (a) That the total imports of iron and steel and their manufactures during the five year period, 1882-86, (when the old tariff was in force), was \$75,251,232, and during the five years 1889-93, under the new tariff, it was \$76,972,717, a decrease during the last period of \$4,278,515. (b) Analysis according to the degree of labor required for making these imports can be made by dividing them into classes:

1. Interchangeable Mechanism the manufacture of which requires the highest skill in workmanship. This class includes sewing machines, firearms, locomotive engines and agricultural implements.
2. Hardware, cutlery and edged tools.
3. Machinery.
4. Castings and forgings.
5. Rails and railway supplies.
6. Other forms of iron and steel.
7. Pig iron.

Classes 6 and 7 include, 1st. Pig iron, the basis of the iron and steel industries; and 2nd. Other forms of iron and steel, in the making of which skilled labor enters to a limited extent. They constitute the raw material entering into the manufacture of iron and steel articles by Canadian workmen and are (in addition to pig iron), bar iron, rolled or hammered, boiler plate, steel bloom ends, rolled iron for horse shoe nails, steel for skates, files or saws, wrought scrap iron, etc., and parts of articles in other respects manufactured in Canada.

Taking the above division and applying it to our imports from Great Britain and the United States, from which two countries came, in the two periods under consideration, 98 per cent. and 95 per cent. respectively of the whole import, we obtain the following results:

Interchangeable Mechanism—	
Imports from G. B. and U. S., 1882-86..	\$ 5,369,861
Imports " " " 1889-93..	2,857,617
Decrease.....	\$ 2,512,224
Hardware, Cutlery and Edged Tools—	
Imports from G. B. and U. S., 1882-86..	\$13,094,440
Imports " " " 1889-93..	11,915,967
Decrease.....	\$ 1,178,473
Machinery—	
Imports from G. B. and U. S., 1882-86..	\$10,130,588
Imports " " " 1889-93..	8,393,159
Decrease.....	\$ 1,737,429
Castings and Forgings—	
Imports from G. B. and U. S., 1882-86..	\$ 3,214,366
Imports " " " 1889-93..	1,676,382
Decrease.....	\$ 1,537,984

Rails and Railway Supplies—

Imports from G. B. and U. S., 1882-86..	\$15,733,927
Imports " " " 1889-93..	\$12,194,419
Decrease.....	\$ 3,539,506
Other forms of Iron and Steel—	
Imports from G. B. and U. S., 1882-86..	\$22,719,719
Imports " " " 1889-93..	\$28,225,739
Increase.....	\$ 5,506,020
Pig Iron, and probably including Scrap—	
Imports from G. B. and U. S., 1882-86..	\$ 4,045,587
Imports " " " 1889-93..	\$ 4,738,946
Increase.....	\$ 693,359

The decreases in imports are all in the groups the several articles composing which require the higher skill in manufacturing. The increases in imports are all in those groups which require the lower skill, thus emphasizing the conclusion that the Iron Tariff of 1887 has given greater employment to skilled hands in Canada engaged in supplying the wants of the Canadian people in the first five groups than was given under the old tariff. The imports of raw material and of partially manufactured articles (classes 6 and 7) have increased \$6,199,479, and the imports of the finished manufactured articles have decreased ten and a half million dollars. In the same time the manufacture of pig iron in Canada has amounted to 160,326 tons (bounty paid).

2. In further corroboration of this conclusion the Census Returns show the following results:

IRON AND STEEL USING INDUSTRIES.

YEAR.	No. of Establishments.	Em- ployees.	Wages.	Value of Raw Material.	Finished Product.
1891..	11,995	48,046	\$ 17,135,127	\$ 27,917,198	\$14,887,942
1881..	9,312	35,346	\$ 11,353,576	\$ 16,355,009	\$7,995,037
Increase..	1,693	12,100	\$ 5,781,455	\$ 11,555,833	\$7,431,695

Employees increased.....	33 per cent.
Wages "	50 "
Expended for raw material.....	70 "
Value of output.....	74 "
Average wages in 1881	\$309 per employee.
" " 1891.....	350 "

Showing that the work now done requires greater skill than that done before the adoption of the Iron duties.

In addition to these establishments there are others using iron and steel and making products from them in connection with their main business. Thus, carriage making is a manufacture which is of a mixed nature, but in which 60 per cent. of the cost represents manufactured iron and steel in various forms. Carriage making has increased its establishments by 193, its employees by 343, the amount expended for wages by \$720,727, the value of the raw material used by \$1,494,534, and the value of the output by \$3,168,536—the total value of the raw material used in 1891 being \$3,946,080, of which 60 per cent. would be manufactured iron and steel.

II. The second question is: What has been the effect of the Tariff of 1887 on the import trade of Canada with Great Britain and the United States?

Taking the same classes and the same periods we have the following:—