

width. Access is thus afforded for the air to the lower part of the bed, and shrinkage is accelerated. Later a man goes about with a spade, having a sharp knife on one side of the point of the blade and at right angles with it, and this cuts it out into blocks, which, when dried, gives pieces of the pulp a little less in size than ordinary building bricks. These are laid out on boards to dry. Of course, the finer the pulp is made, the closer the particles come together, and the harder, heavier and more valuable, the dried article becomes. But it is found that, practically the most finely ground is not the best for market. It becomes brittle, and breaks or crumbles in the handling, and so is wasted. The pulping process, however, should be made to reduce the bulk of ordinary dried peat to about one in four, a matter of great consequence in cheapness and handling.

The peat, when dry and ready for use, can be supplied, with an ample profit to the manufacturer, at \$3.50 per ton. By the experiments of the Grand Trunk Railway, it would appear that, in heating power, a ton of peat is equal to five-sixths of a ton of coal, or to a cord and a quarter of wood. We are not aware that any careful experiments have been made to test the comparative heating and lasting qualities of peat and the various kinds of coal and wood, and these would be necessary before any exact calculations could be made as to the gain in the use of the new fuel. But, as far as we can judge from the trials made, the gain will be at least from 30 to 35 per cent., as compared with wood or coal. Now a saving of even 30 per cent even on our estimate of the annual consumption of fuel, will be nearly six and a half millions of dollars, and were the precise facts known, would amount to very much more. Were this saving to be applied to the payment of the public debt, it would not take long to reduce it to very small proportions, and it is a question whether the Government should not take steps to aid private enterprise—say by opening credits in a judicious way—to secure so very great an advantage.

In addition to the experiments to test its qualifications for steam-raising purposes, a trial has lately been made with a view of seeing how the peat would answer for smelting purposes. In this trial, made by Mr. McDougall, proprietor of the Caledonia Iron Works in one of his cupola furnaces, two-thirds of the cupola were filled with anthracite coal and iron, in the usual proportions of seven of metal to one of coal, and the remaining one-third with peat and iron in the proportion of one of the first and twelve of the latter. The total time occupied in smelting the entire lot was about forty minutes less than that required for an ordinary charge of coal and iron. Experienced gentlemen present, who watched the experiment with great interest, pronounced the castings to excell, in toughness and quality of chill, any specimens they had before seen.

With regard to the probabilities of a sufficient supply, peat is to be found in a great many localities, and in great abundance, and according to the official reports of the Geological Commission, in the following places throughout the Province:—Sheffield, Caledonia, Gloucester, Huntley, Grenville, Harrington, Mill-Isles, St. Anne des Plaines, St. Sulpice, Lalvairie, St. Maurice, Champlain, Lacolle, St. Dominique Rivière-Quelle, Rivière du Loup, (en bas), Dufresne, Sherrington, Longueuil, and the Island of Anticosti. In the last mentioned locality the beds are very extensive. One of them possesses a superficies of not less than 160 miles, and several others an extent of 4,000, 6,000, and 10,000 square acres respectively.

Another description of fuel, which, especially for steam purposes, is likely to prove of very great economic value, is coal oil. Both here and in England, practical men have turned their attention to the invention of machinery adapted to the use of petroleum as a fuel, and Mr. Loudon, of Bothwell, C.W. has succeeded in inventing a steam generator for producing steam from it, and for which he has obtained a patent. An interesting and successful experiment was lately made of the applicability of this generator at Mr. E. E. Gilbert's machine establishment on St. Joseph Street, in presence of a number of gentlemen interested in machinery, amongst whom was Mr. Eaton, of the Grand Trunk Railroad. The management of the affair was under charge of Mr. Lamb, Chief Engineer at Mr. Loudon's. The generator was applied to a locomotive boiler of 15 horse-power, and although the boiler and water were entirely cold, steam was obtained, sufficient for any purpose, before the time usual under such circumstances with wood or coal.

The generator is a very simple invention, and yet appears to have all the attributes of success. The oil is kept at a distance in a can, and supplied by a small

pipe to the burner, which is placed in the boiler flue. One barrel of crude oil will last four days, running an engine of 15 horse-power, at a pressure of 40 to 50 lbs. to the square inch. In getting up steam the oil is first burned, but very soon the gas from the oil begins to burn, and then there is an absence of all smoke. The invention is very desirable on this account, especially for railroads, as neither smoke nor sparks are produced. But it is found by practical experiment that this new invention, which feeds itself without labor, will save, besides the bulk and weight saved in carrying oil instead of wood or coal, at least one-half the expense in fuel for steam purposes. If this be correct, which there is no reason to doubt, the invention is of very great importance, both in point of safety and economy. Mr. Loudon states that where he has had his generator in use running a saw and grist mill for some time, the expense has not been quite one-half estimating oil at \$6 a barrel and wood at \$2 per cord. A 16 horse-power engine can be run with one gallon of oil per hour.

IMPORTS INTO BRITAIN.

STATISTICS have been published in Great Britain, showing the quantity of breadstuffs, live stock and provisions, imported during the first eight months of 1866. These figures are somewhat interesting, showing, as they do, the countries from which the Mother Country draws her largest supplies of food. The relative amounts of wheat and flour imported during 1865 and 1866, are as follows:—

	Wheat—cwts.	Flour—bbls.
Year 1865.....	11,565,478	2,126,704
Year 1866.....	15,529,299	3,637,848

According to the returns, Russia supplies Great Britain with the most wheat, over 4,500,000 cwts. being her share of the above quantities. Prussia generally ranks next, but her shipments have fallen off this year, doubtless in consequence of the war. France has consequently advanced to the second place, her sales of wheat being this year about eight times greater than in 1864. British America has only shipped 3,789 cwts. of wheat and 15,818 bbls of flour against 222,067 cwts. of wheat and 130,067 bbls. of flour during the previous year. Before the close of 1866, however, we can confidently expect our exports of wheat and flour to increase greatly. The receipts of breadstuffs from the United States have been greater during this season than last, and there is a promise of a further addition during the next three or four months. The live stock and provisions imported into Great Britain during last year and this, are as follows:—

	1865.	1866.
Oxen, bulls and cows.....	119,323	122,808
Calves.....	35,553	19,851
Sheep and lambs.....	427,439	690,449
Swine and hogs.....	54,559	47,076
Bacon and hams, cwts.....	509,909	521,119
Beef, salt, cwts.....	16,558	148,362
Pork, salt, cwts.....	128,085	141,162
Butter, cwts.....	659,861	671,610
Cheese, cwts.....	456,102	406,610
Eggs, number.....	267,984,840	326,531,840
Lard, cwts.....	87,677	217,076

The above statement shows an increase in the imports of most of these articles. The cattle plague has probably had something to do in causing an increased demand for live stock, but it is due also to some extent to the fact that British trade is re-animating and expanding. The cattle plague, it is gratifying to know, has almost entirely disappeared. Not over 100 cases per week are now reported, and it is anticipated that the present high prices of meat must soon decrease. Strict regulations with regard to rinderpest, however, still continue to be put in force.

THE BALANCE OF TRADE.

THE Trade and Navigation Tables show as the trade of the last two years:

EXPORTS.	
Year ending June 30, 1865.....	\$42,481,151
" " " " 1866.....	56,328,380
	\$98,809,531
IMPORTS.	
Year ending June 30, 1865.....	\$44,620,469
" " " " 1866.....	53,802,319
	\$98,422,788

These exports, however, include in 1866 a sum of \$1,887,836 "Goods not the produce of Canada, at Montreal and other ports." These we take to be exports of goods in bond, and as the import figures are "Goods entered for consumption," it is plain that to arrive at a balance, they should be deducted from the exports.

We should thus have an adverse balance of \$1,501,098.

We believe, however, that the real balance of commercial transactions against us was far less and to arrive at an approximate estimate thereof, we will re-classify the official tables, first making the following remarks:—

The official tables make no allowance for under-valuation of invoices. United States authorities set this down at 25 per cent.; we mark it at 10.

The official tables make no allowance for goods smuggled into the country or brought in by travellers without passing the Customs. American authorities put this down at about 4 per cent.; we take 1 only.

The official tables make an allowance for goods "short returned" as exports to the United States, but none for short returns of exports to other countries. We add a moderate estimate therefor.

The official tables make no estimate of the profits on our goods sold abroad. In the case of the United States, these profits are thought to vary from 10 to 20 per cent.; we place them in our case at the lowest figure, as in many cases the profits are not earned by Canadians.

The official tables are not to be found fault with on the above accounts, on the contrary, these items, with one exception, could not appear in them. It is none the less incumbent for a close examiner to give due weight to all these considerations. Here then are the tables, re-arranged:—

IMPORTS.		Year ending June 30, 1865.	1866.
Goods entered for consumption, value thereof at the place whence imported.....			
Estimated allowance for under valuation of invoices, say 10 per cent.....		\$39,851,991	\$48,617,477
Estimated allowance for goods evading entry, say 1 per cent on the above items.....		3,985,199	4,861,047
Add specie imported.....		438,371	534,715
Add specie imported.....		4,768,478	5,191,842
Making as the total value of imports.....		\$49,044,039	\$59,198,981
EXPORTS.		1865.	1866.
Declared and appraised value of merchandise exported, the produce of Canada.....			
Estimated allowance for short returns of exports to the United States.....		\$35,996,134	\$46,242,375
Estimated allowance for short returns of exports to other countries.....		2,873,333	4,183,692
Add 10 per cent on the above, for profits on the sale thereof abroad.....		1,000,000	1,000,000
Add 15 per cent on \$1,887,836 goods sold in bond in 1866.....		3,986,936	5,142,606
Add estimated value of ships sold abroad.....		1,933,194	1,616,896
Add specie exported.....		1,688,191	2,397,591
Making as the total value of exports.....		\$47,468,067	\$60,966,335
Balance—Exports 1865.....		\$47,468,067	
" " " " 1866.....		60,966,335	
Imports 1865.....		\$49,044,039	
" " " " 1866.....		59,198,981	
Surplus of Exports.....			\$9,767,354

The two years would thus show a balance in our favor—the latter of them of no less than \$1,668,224.

We are well aware that many other transactions besides mere commercial ones enter into the profit and loss account of a nation, but it is gratifying to find that the trade tables show so different a result from what they did during the seven lean years of bad harvests, and that in commercial dealings with other people our balance is getting to be on the right side again.

Shoddy in the Shoe Trade.

A letter in the *New York Hide and Leather Interest* points out an extensive fraud committed by certain tanners in making, and by manufacturers of and dealers in shoes, in using an imitation of goat skin "morocco" of the most worthless kind. The writer states that within the past year, there has been fabricated an article of imitation morocco that, to the eye of one not practically acquainted with leather, appears like the real production. The skin of the goat, from which true morocco is made, is of fine, close texture of great strength and toughness. The imitation is made from split cow hide, a coarse grained and coarse fibred skin, which splitting weakens, even when finished as cow hide always must be: heavily stuffed or filled with oil, to insure any sort of durability. Split cow hide, finished without oil, would be almost worthless. He goes on to say that the imitation, the most perfect fraud ever concocted, is mere split cow hide, made without the stuffing of oil which is necessary to prevent rotteness. The surface is pressed by a metallic plate, and the absence of oil enables the morocco gloss to be given to it; and it thus goes out a worthless, but almost perfect *fac simile* of the goat skin morocco. Another letter to the *Brooklyn Eagle*, written by one who had purchased morocco shoes for his family and found them to be of this worthless imitation, testifies to the same fact. Of course, the boot or shoe made of the fraudulent article can be furnished more cheaply than the genuine, but as the former wear out in a few weeks, they are dear at any price at which they can be made up. We are not aware that any of this stuff has been sold in Canada, and if it should prove to have been introduced, we hope the practice of such a fraud may be exposed in every possible way.