phosphate of Canada. In the figures and facts which he quotes in connection with the business in the past, we have observed several inaccuracies; but they are in the main correct—sufficiently so, at least, to serve as data for his report on our phosphate trade, which he recognizes as one of the most important industries of his consular district. After referring to the various apatite mines worked in Ottawa County, Mr. Hotchkiss points out that the necessity for the use of proper fertilizers is limitless, and must remain so, assuring a demand not spasmodic, but steady, and constantly growing.

PHOSPHATE SHIPMENTS FOR 1885.

THE TOTAL QUANTITY OF CANADIAN PHOSPHATE SHIPPED FROM MONTREAL TO FOREIGN PORTS DURING THE SEASON OF NAVIGATION OF 1885, IS AS FOLLOWS:

Date.	Vessel.	Destinat'n.	Shippers or Agents.	Tons.
May 22	S.S. Sarnia	Liverpool.	Lomer, Rohr & Co	168
" 23	S.S. Kehweider	Hamburg	" "	700
" 26	S.S. Oxenholme	Liverpool	" "	101
" 29	" "	"	Wilson & Green	485
June 1	S.S. Somerset	Bristol	" "	142
" 3	S.S. Suffolk	London	" "	148
" 3	S.S. Erl King	"	Lomer, Rohr & Co	235
" 4	S.S. Lauderdale	Barrow	Millar & Co	160
" 5	S.S. Glenmoran	London	Lomer, Rohr & Co	85
" 9	S.S. Milanese	Liverpool	" "	118
" 9	" "	"	Irwin, Hop'r & Co	265
" 10	S.S. Cranos	Liverpool	Lomer, Rohr & Co	650
" 11	S.S. Wandraham	Hamburg	" "	590
" 11	S.S. Mississippi	Liverpool	Wilson & Green	388
" 19	S.S. Dominion	Bristol	Lomer, Rohr & Co	322
" 24	S.S. Finsbury	London	" "	544
" 26	S.S. Quebec	Liverpool	" "	120
" 26	" "	"	Wilson & Green	197
July 3	S.S. Ontario	Bristol	Lomer, Rohr & Co	300
" 6	S.S. Benbrack	London	Wilson & Green	363
" 9	S.S. Ocean King	"	Lomer, Rohr & Co	268
" 10	S.S. Ekonshire	"	" "	262
" 9	S.S. Bristol	Bristol	Wilson & Green	498
" 16	Bq. Hafrsfjord	Cardiff	Millar & Co	65
" 16	S.S. Carmona	London	Lomer, Rohr & Co	502
" 17	S.S. Texas	Bristol	" "	145
" 16	S.S. Montreal	Liverpool	" "	250
" 18	S.S. Oxenholme	"	" "	127
" 18	" "	"	Millar & Co	270
" 21	S.S. Escalona	London	Lomer, Rohr & Co	155
" 21	S.S. Scotland	"	" "	425
" 21	" "	"	Irwin, Hop'r & Co	100
" 23	Bq. Merritt	Sharpness	Wilson & Green	45
" 23	S.S. Mississippi	Liverpool	Lomer, Rohr & Co	135
" 24	S.S. Somerset	Bristol	Wilson & Green	396
" 24	S.S. Storm Qu'n	London	" "	276
" 25	S.S. L. Nepigon	Liverpool	" "	259
" 29	Bq. Johanne	Hull	Lomer, Rohr & Co	40
" 29	S.S. Avlona	London	" "	174
" 29	S.S. Kehrweider	Hamburg	" "	548
" 29	" "	"	Lievre R. L. P. & Co	256
" 30	S.S. Brooklyn	Liverpool	Lomer, Rohr & Co	289
" 30	" "	"	W. M. Knowles	91
" 30	" "	"	Millar & Co	27
Aug. 1	Bq. Scotia	"	Lomer, Rohr & Co	100
" 1	S.S. Dominion	"	" "	277
" 3	S.S. Erl King	London	" "	189
" 5	S.S. Achille F.	P'th Roads	" "	100
" 7	S.S. Oregon	Liverpool	" "	241
" 8	S.S. L. Winnipeg	"	Wilson & Green	300
" 8	S.S. Quebec	"	Lomer, Rohr & Co	184
" 13	S.S. Dracona	London	" "	310
" 13	S.S. Sarnia	Liverpool	" "	448
" 15	S.S. L. Champ'n	"	Millar & Co	325
" 20	S.S. Moss King	Liverpool	Lomer, Rohr & Co	210
" 21	S.S. Oecntreal	London	" "	200
" 26	S.S. Barcelona	London	" "	282
" 27	Bq. Orquell	Liverpool	R. C. Adams	110
" 31	S.S. Oxenholme	"	Wilson & Green	715
Sept. 1	S.S. Carmona	London	" "	195
" 1	" "	"	Irwin, Hop'r & Co	32
" 1	" "	"	Lomer, Rohr & Co	157
" 4	S.S. Escalona	Bristol	" "	253
" 4	S.S. Scotland	London	" "	155
" 5	S.S. Juliet	"	Wilson & Green	153
" 18	S.S. Benhope	Liverpool	Millar & Co	118
" 18	S.S. Mayo	"	Wilson & Green	100
" 21	S.S. Murciano	"	" "	125
" 22	S.S. Benona	Barrow	Millar & Co	190
" 24	S.S. Colina	Glasgow	Lomer, Rohr & Co	275
" 29	S.S. Celtic M'ch	London	" "	490
" 3	S.S. L. Superior	Liverpool	Wilson & Green	238
" 30	" "	"	Millar & Co	210
Oct. 1	S.S. Enrique	Liverpool	Lomer, Rohr & Co	145
" 1	" "	"	W. M. Knowles	240
" 3	S.S. Baumwall	Hamburg	Lomer, Rohr & Co	789
" 15	S.S. Oregon	Liverpool	" "	250
" 16	S.S. Concordia	Glasgow	Wilson & Green	207
" 17	S.S. Oxenholme	Liverpool	Lomer, Rohr & Co	450
" 17	" "	"	Wilson & Green	255
" 19	S.S. Glenarth	London	Millar & Co	240
" 19	" "	"	Lomer, Rohr & Co	183
" 23	S.S. Maharajah	"	" "	317
" 24	" "	"	Wilson & Green	373
" 27	S.S. Scotland	"	Lomer, Rohr & Co	40
" 30	S.S. Wandrah'm	Hamburg	" "	650
" 31	S.S. Montreal	Liverpool	" "	114
Nov. 10	S.S. Avlona	London	" "	225
" 11	S.S. Grassb'ke	"	" "	210
" 11	" "	"	Wilson & Green	419
				23,908

RECAPITULATION OF SHIPMENTS.

	Gross Tons. 1885	1884
To Liverpool	9,563	8,557
" London	7,683	1,389
" Hamburg	3,521	2,976
" Bristol	2,056	1,821
" Glasgow	482	3,083
" Barrow	350	.....
" Penarth Roads	100	100
" Cardiff	65	.....
" Sharpness	45	.....
" Hull	40	.....
" Dublin	.....	210
" Sunderland	.....	60
" Bristol Channel	.....	50
" United States	.....	200
Consumed in Canada	.....	700
	23,908	27,143
Total for 1885		23,908
Increase for 1885		1,765

	Tons.
Total shipments from mines, 1885	23,908
Shipment from Perth and Kingston districts, 1885	1,500
Shipments from Ottawa County Mines, 1885	22,408
" " " 1884	20,353
Increase " " 1885	2,055

LITTLE RAPIDS MINE.

Frequent reference has been made in the *Review* to the constant improvements at the various phosphate mines in the du Liòvre district during the past two years, but at none of them are these improvements more striking than at the *Little Rapids* mine, where everything that ingenuity could devise to facilitate the mining of this peculiar ore appears to have been provided. The buildings, which include commodious boarding-houses, store-houses, supply store, stables and manager's dwelling and office, are complete in every particular and have been substantially constructed with a view to permanency. At the mine nothing is done by hand where it has been possible to introduce steam power. Wherever steam-drills can be used to advantage, there they are at work; steam-pumps, steam-hoists and steam-derricks are employed at the various shafts and open pits, and the condition of the engines, boilers and other machinery gives evidence of careful attention. Other improvements at this mine are worthy of mention, such as, the arrangement of the tramway, which has been so located as to connect all the shafts and pits with a new and commodious cobbing-house, and the substantial and suitable ore-cars. The cobbing-house is well lighted and is heated by steam, and in connection with it an ingenious system of cleaning up the fine phosphate, or separating it from foreign matter, has been introduced. The system itself, which is merely sieving, has always been known in connection with phosphate mining, but at all the other mines it is done by hand, while at the *Little Rapids* the sieves are run by steam and the saving in time and labour, as well as the effectiveness of the work accomplished, is very noticeable. At the cobbing-house are the ore-bins and platforms, arranged to receive the different grades of dressed ore, and thence a tramway leading to the waggon road at base of hill where the phosphate is delivered, loaded into waggons and hauled to point of shipment on the bank of the du Liòvre river. We understand it is in contemplation to extend the tramway to the river, a distance of about half a mile, and with this additional improvement the *Little Rapids* will be equipped in a manner conducive to the raising, dressing and handling of phosphate at a minimum of cost. It is now one of the most attractive mines in the entire phosphate district, not more for the completeness of the equipment than on account of the depth of the shafts and the large bodies of ore in sight in all the workings. The present condition of the *Little Rapids* mine reflects great credit on the Manager, Mr. George R. Smith, under whose direct supervision all the work above referred to has been done, and who has planned all the improvements and personally superintended the erection and arrangement of the machinery and everything connected therewith.

The Anglo-Canadian Asbestos Company (Limited).

This company has been formed in England and has acquired the asbestos properties at Black Lake, known as the Eureka and Emilie Mines, situated about two miles from the line of the Quebec Central Railway. The capital stock of the company is £50,000 in 25,000 shares of £2 each. The purchase money is £35,000, of which £15,000 is taken in shares, and the vendors, Messrs. Irwin, Hopper & Co., of Montreal, it is said, have expressed a willingness to extend the amount paid in shares to £30,000, at the option of the directors. The company is now putting in machinery at the mines, with the intention of proceeding with mining operations on an extensive scale during the winter. This will be a new departure, as it has been the custom heret fore, to suspend work at all Canadian asbestos mines for the winter months, and the past season was not an exception in this respect, as mining operations were closed down about the end of November. The Anglo-Canadian Company has, however, made contracts for future delivery, which necessitates continuous working at the mine in order that the quantity contracted for may not fall short.

Notes on the Progress of Mining in Europe

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(Written specially for the Canadian Mining Review.)

Among the improvements introduced into Prussian mines in 1885, an account of which has only recently been published, the Haase method of sinking shafts in quicksand seems likely to prove of some importance. It consists in putting down a number of bore-holes communicating with one another around the position chosen for the shaft, and then piping them well, thus forming a protection for the shaft impervious to the sand. Various explosives were tried, and comparative experiments between dynamite and explosive gelatine ended in favour of the latter. Compressed powder was found to be more serviceable in mines than the ordinary variety, and the trials with kinetite gave favourable results.

Various other explosives have been brought into notice during the past year, and they have been tried with more or less satisfactory results; it is claimed for one of them, romite, that it will only explode in enclosed spaces, such as bore-holes; that it does not freeze; and that it can be employed at any temperature. It is a solid, and is said to have a high explosive power.

Messrs. Wickersheimer and Peck propose to enlarge the lower part of a drill-hole by drilling two holes side by side, giving one of them a light charge, and then tamping and firing it in the usual way, the other remaining open. The wall between the lower parts of the holes is blown away, and the holes are cleared by a current of water passed down the empty hole and up the one which has been fired.

Various rock-drills have been reported on, and some exceedingly satisfactory results have been