

inwards from the canal. On the first of the company's lots, next the canal, the works have been erected, consisting of engine and machine house, blacksmith shop, stable, store and tool room, kitchen and sleeping rooms for 20 men. In the engine house is a 20-horse power boiler and engine, from Beckett's manufactory; a Smith's peat machine, with circular saws, shafting, belt, &c. For carrying the crude peat to this machine, a belt has been made of iron wire, 8 feet wide and 400 feet long; and this supported on drums or rollers, and running as an endless chain, carries the crude peat on its upper surface right to the machine. A scow floats on the water, in space from which the peat has already been taken; on this scow is a dredging machine, which dips down and raises the peat, and which is driven by an engine and boiler of 15-horse power, also on the scow. This engine drives the machinery which raises the crude peat, and, after cutting it by means of a revolving drum and knives, feeds a peat machine on the scow, as well as the machine in the engine house. At first, the delivery of the crude peat into the machine had to be done with horses and carts; but now, machinery will do all this rapidly, effectively and at the smallest possible cost. A large scow or barge, to carry one of the Hodges' machines, such as is used near Montreal is now built, and some time next month the machine itself will be set up and at work. For one of these machines, with the right to use in perpetuity, the company pays \$10,000. It will easily make 8,000 tons of dry peat during the season, at a cost of not over \$1.40 per ton. The two "Smith's" machines—which have been wonderfully improved of late by Mr. Smith and Mr. Edgar jointly, as experience in their working suggested, will make in the season about 4,000 tons, at a cost, as proved by what has been already done under less favourable circumstances, of \$1.45 per ton. It is from the Hodges' machine, however, that the most extensive results are anticipated. To carry it a barge of at least 80 feet long, 16 feet beam, and 6 feet deep (the one at this company's works is much larger), is required. This barge carries all the machinery necessary for the complete manufacture of the peat. At the forward end of it is placed a pair of large screw augers 11 feet in diameter, connected with and driven by the steam engine in the rear end. These augers bore into and draw up the peat just as a common auger draws chips out of wood—the machine in fact casts its way into the peat as it goes, while the water from the vicinity flows into the space excavated, keeping the scow afloat and up to its work. By an elevator, the crude peat as it comes from the augers is conveyed into a hopper, and passes through machinery which removes all sticks and roots, and, eventually destroying the fibre, reduces the peat to a homogeneous mass of soft pulp, like well-tempered mortar. The pulp next passes into a long spout or distributor, which, extending at right angles over the side of the scow, spreads out the pulp upon the side of the canal in a thin slab 9 inches in thickness and 90 feet in width. After one or two days' drying it is cut with knives, set in frames, into "bricks" which measure about 6x18 inches, and these when further dried, so as to bear handling, are set up on the ends, five of them together, in which position they remain until dry enough for transportation.

The "Smith" machine turns out the pulp in "bricks," which are received on "crates," as they are called, little wooden frames, so constructed as to hold the bricks, giving them all the exposure possible, for the purpose of drying. They are put upon light cars, which are run by hand on light little portable railways, which branch out all round the works. There are now about 35,000 of these crates made and ready for use, besides eight large railway trucks, a number of the small trucks, and other appliances of many and various kinds, for saving labour and expediting operations. The company expect by about the first of May, to commence turning out not less than 120 tons (dry) per day, with the three machines, and to continue at this rate the season through. When all the machines are fairly at work, and when the dry peat in large piles appears on the bank of the canal, there may be occasion for further informing the public about the Welland peat bed, the operations there, and the article produced. —*Toronto Globe.*

LAKE ONTARIO AND THE ATLANTIC.

THE Delaware, Lackawana and Western Railroad Company have been taking important steps affecting not only their immediate enterprise but also transportation in general between the lakes and the Atlantic seaboard. This company, in addition to its recent lease of the Morris and Essex Railroad, has secured a controlling interest in the stock of the Syracuse and Binghamton Railroad, and a lease of the Oswego and Syracuse Railroad. It is the intention to build 14 miles of new road from Great Bend to Binghamton, (now covered by the Erie line) and, when that is done the D. L. & W. Company will have a continuous line from Oswego, consisting of the Morris and Essex road, 81 miles; their own road, 127 miles; the Syracuse and Binghamton, 81 miles; and the Oswego and Syracuse, 35 miles; in all, 324 miles. Oswego is the principal distributing centre for all that part of the State which lies upon Lake Ontario. By placing that point in direct communication with New York the trade between the two cities, already considerable, will be greatly increased. To the Delaware, Lackawana and Western Company it is of great importance, as it is a cure for them an outlet for their immense coal production.

Oswego, at the south-eastern extremity of Lake Ontario, is growing in importance as a depot of the products of the West coming through the lakes. Of course its value in this direction will be greatly increased upon the construction of the American Canal around Niagara Falls, an undertaking which will be sooner or later accomplished. Meantime the Welland

Canal is serviceable and a large traffic passes through it between Lakes Erie and Ontario.

The city of Portland, Maine, is moving for railway connection from Ogdensburg to Portland, assisted by the people along the route in New Hampshire and Vermont, and the project of the Portland and Ogdensburg road, as it is called, is likely to be successfully carried out, relieving to some extent the burdens of transportation on the Erie Canal and the New York Central Railroad.

Boston also is making arrangements to put itself in direct communication with the eastern end of Lake Ontario, or with the St. Lawrence immediately below that lake, with a view to cheaper transit to that city of the products of the Western States through the lakes. Concurrently with the completion of the Hoosac Tunnel, no doubt, the proposed road from Eagle Bridge in this State to Saratoga Springs (in the direction of Lake Ontario or neighboring St. Lawrence water) will have been constructed.

The enterprise of the Delaware and Lackawana Company, however, is that which promises most immediate benefit to the producers of the West and the consumers and exporters on the Atlantic seaboard of western products. The route between the waters of the lakes and New York harbor is a cheaper and shorter one than that by the New York Central or Erie railways, and moreover, to say nothing of the advantages of the Company's coal traffic, will be done upon a much smaller basis of capital.

The capital, in stock and funded and floating debt, of this combination of roads from Lake Ontario to New York, may be stated as follows:—

Morris and Essex, about.....	\$12,000,000
Delaware, Lackawana & Western.....	17,462,225
Fourteen miles to be built, say.....	700,000
Syracuse and Binghamton.....	3,141,550
Oswego and Syracuse.....	1,000,775
Total.....	\$34,304,550

In this era of expansion it is not easy even approximately to state the present capital, stock and debt, of either the New York Central or Erie Companies, but it is safe to say that that of either is double the above aggregate of \$4 millions.

The equipment of these roads now combined, to which additions have been made in the past year, stood at the close of 1887 as follows:—

Locomotives—Morris and Essex, 65; Delaware, L. and Western 98; Syracuse and Binghamton, 12; Oswego and Syracuse, 6. Total, 171.

The number of cars in use on the several roads was as follows:—

	Passenger.	Mail.	Freight.	Coal.
Morris and Essex.....	62	10	541	800
Del. L. and Western.....	17	8	733	5,972
Syracuse and Binghamton.....	10	3	143
Oswego and Syracuse.....	10	4	63
Total.....	99	25	1,480	6,772

The equipment of the Erie and New York Central at the same date was as follows:—

New York Central.—Locomotives, 289; passenger cars, 298; baggage, mail and express cars, 90; freight cars, all kinds, 5,180; gravel and other service cars, 350.

Erie.—Locomotives, 371; passenger cars, 250; baggage, mail and express cars, 63; freight cars, 5,709.

The gauge of the Binghamton and Syracuse road is 6 feet, like that of the Delaware and Lackawana and the Erie. The gauge of the Oswego and Syracuse is 4 feet 8 inches, but some years ago a third rail was laid (at a cost of \$251,450,) to accommodate the wide-gauge cars.—*Stockholder.*

HARBOUR OF REFUGE ON LAKE ERIE

A LARGE and enthusiastic meeting of the inhabitants of Walsingham and adjoining townships, convened for the purpose of considering the expediency of laying before Parliament the advantages which the new cut at the south-west entrance of Long Point Bay possesses as a site for the proposed Harbor of Refuge, was recently held, at which resolutions were unanimously adopted that the increasing commerce of the lakes imperatively demand the construction of a commodious Harbour of Refuge at some convenient point on the North Shore of Lake Erie, for the safety of life and property—the want of such a harbour being the cause, annually, of a fearful sacrifice of both, and urging the advantages of Long Point, as follows:—

"Its location is where the harbour is most needed, and is where most of the marine disasters occur—lying as it does in the bite of the lake. Long Point, running south-east, and the main shore south-west, land-locked. Vessels on their voyage are very frequently driven by the heavy south-west winds on the north shore, and find it impossible to work off, or in attempting to do so become stranded on Long Point.

"It is easily entered, nature having formed a channel running nearly south-west, through the Point of sufficient width for vessels to beat out, with from 13 to 15 feet of water, and a commodious basin inside Long Point Bay, free from any sea, and with good anchorage.

"It was therefore resolved that every effort should be made to induce the Dominion Government to send competent engineers to survey the said cut and basin, with the view of securing it for a harbour of Refuge, by erecting a suitable break-water, by driving a solid body of piles, or otherwise, on the west side of said channel, so as to prevent the filling up, and by dredging a channel through the bar caused by the deposit of sand washed through the cut into the bay; which if done, would in the opinion of this meeting, by the force of the current passing through it, cut a deep

channel: through the entire bay to the eastern entrance, thereby ensuring safe navigation against the south-west storms, being for thirty or forty miles shielded by Long Point, and forming the best Harbour of Refuge on the entire chain of Lakes, with free entrance east and west. A petition is to be presented to the Dominion Government and Parliament representing the above matter."

A CURIOUS INVENTION.

MOST of our readers know that cloth, muslin, or any woven fabrics, can be made water-proof or repellant by a very simple process. Of late this has been perfected to such an extent that they retain by it their colors and are made much more durable. This process has been patented by the inventor, Mr. Lowry, who has conveyed the sole right of its application, in the manufacture of umbrellas, to Messrs. Wright, Brothers & Co., of No. 324 Market Street, Philadelphia, the first house in this branch of industry in the United States. The Lowry patent process for rendering fabrics repellant is, however, an entirely new and different one from that heretofore in use as applied to cloaks, in which the protective is made of crystalline substances, which, as is well known, like other salts, gradually dissolve by the action of water, and would soon become entirely useless if applied to umbrellas. The patent application of Lowry for making fabrics repellant and the colors fast, on the contrary, will not dissolve, and is not affected by water—being produced by substances forming an insoluble gum, which is entirely insoluble in water, and can only be affected by benzine or something of like nature. It is something like India rubber, but can be effectively applied so thinly as to be almost imperceptible. These umbrella covers, though fifty per cent cheaper than Scotch gingham or alpaca, do not soak through; they shed the rain like a duck's back, and while made of gingham have most of the advantages of high-priced silk umbrellas. It is not the least advantage connected with them, that they do not leave a stain or mark, and do not suffer the dye stuff to escape, as is generally the case with common gingham umbrellas—so that, besides keeping the wearer dry, he is rid of the annoyance of soiling his dress or the floor, with the flow of lucky-drying matters. They are, as we have intimated, much cheaper than anything of the kind in the market, but are made in different qualities of cloth and of course in different styles of finish. All which we have seen are extremely neat, with good stylish tips and handles, and were evidently produced with the desire of making a first-rate, durable article. All of these water-shedding umbrellas bear an inside cap, marked "Wright's Repellant Fast Color—Lowry's Patent."

Another very valuable feature in this umbrella is the patent stop. Every one knows that there are few umbrellas which will not turn inside out in a gale of wind, forming globes which are more singular than useful. By this little contrivance the umbrella is not subject to such an accident, and the holder has as perfect and thoroughly "reliable" an article as the world can show. They are for sale by Wright, Brothers & Co., Nos. 322 and 324 Market Street, Philadelphia, and No. 324 Broadway, New York. The ordinary "stop" used frequently comes out, but this patent stop cannot do so without breaking the stick or handle.

KINGSTON AND FRONTENAC RAILWAY.—The promoters of the Kingston and Frontenac line are busy preparing a prospectus to be submitted shortly to the public, who will be invited to take shares. The Kingston News takes a remarkably hopeful view of the project, which at present only aims at opening up communications between townships in the rear of Kingston and the Grand Trunk. If completed, the immediate benefits to the farmers of a means of bringing their produce to market is only an infinitesimal part of the work it is expected to do and the good it is to effect. Once opened, and the little line will be extended to Lake Superior, and still stretching westward to the Pacific. Then will Kingston rejoice and blossom as the rose, where now the rude forefathers of the hamlet sleep (forefathers that is to their busy descendants yet to come) will be heard the whistle of the locomotive through the busy streets, not as now heard as a far-off scream; the bustling wharves will extend for miles along the bay, the Penitentiary will become a railway station, but it will require to be enlarged to many times its present size, and the present Sleepy Hollow will be converted into a very Babylon of noise and industry. The dream is a pleasant one, but as its fulfillment depends on getting the little line first, it would be well to secure it at once, and not like Abner, kick over the basket of crockery. There is, no doubt, great mineral wealth in the back townships through which the projected line is to run, and if a line is built economically and to meet present wants, it may effect a great amount of good; but these ambitious dreams are apt to lead to extravagant projects and expensive undertakings far beyond the resources and requirements of the country. It is high time that Kingston should do something for the revival of its trade, and it is pleasant to see that the Sleeping Beauty is at length becoming awakened to the actualities of life.—*Montreal Herald.*

SHEEP.—The wholesale butchery of sheep last Autumn, so general throughout the State of Ohio, is already beginning to manifest its legitimate result. Sheep, which three months ago could scarcely find sale at from 50c to 75c per head, are now in demand at prices varying from \$1.50 to \$3, and without doubt prices will continue to advance with the opening of Spring.