

WORLD'S BIGGEST CEMENT WORKS ARE LOCATED IN THIS COUNTRY.

The Plant at Durham a Mammoth Establishment with the most Modern Equipment and has made the Town Hum.

GREAT FUTURE FOR THE PRODUCT

Cement the Building Material of the Future—A Canadian Company Developing a Canadian Industry from Canadian Raw Materials.

(From the Toronto Daily Star.)

Durham, May 10.—"Gee, how there." As Henry Burnett spoke the horses obeyed, and turned to the right or to the left at will, and as he followed the plow in this field near the town of Durham, he left behind a straight, deep furrow. In the distance the hillside, and the cattle out to nip the first spring grass, and the sheep were running up and down the lane.

Presto, change! The horses have gone, and the voice of the yeoman has fled. There are no cattle on the hill, no sheep run down the lane. In its place is the voice of the builder, the bustle of business, the sound of the saw, the steam engine, and the musical echo of the hammer, as it makes solid the iron rivets. And from the field where the farmer plowed not long ago is rising the most complete cement plant in the world, and the world is \$25,000 miles around.

DURHAM THRILLS WITH PRIDE.
This is a proud boast for Canada, but it is a prouder boast for Durham. The town is already feeling the new throbbing life which a large industry always brings in its wake. Houses are scarce, there is not an idle man in the place, and every one has the price in his pocket. Not only is Durham unusually prosperous, but the wave of good time has touched the adjoining villages, and they are singing the same chorus, lots of work and plenty of money to do it with. And those who know say that the establishment of the cement plant is largely responsible for the whole business. When your correspondent met Herr V. Hahn, proprietor of the Midlaugh House, that gentleman was explaining that every room in his hotel was taken, that gentleman was explaining that every room in his hotel was taken, but that he had a few stretch left. It's a case of come early if you want a front seat in the Durham hotels to-day.

A VISIT TO THE PLANT.
It was 8.30 in the morning when we reached the site. Just stop a minute! Turn back the pages of time a few days. On the 26th of September last, quietly, unostentatiously, the first shovell of earth was turned for commencement of the works. Thirty-five days after a line of railway was completed from the Grand Trunk to the grounds. From that day over 400 car loads of material have arrived for the carrying on of the construction.

Four hundred cars! Say it slow. That's a lot. Ten times more train lengths than that of the biggest circus, with its gilded wagons and mysterious cages. Four hundred cars, and still there is more to follow. Some of the material comes in a tiny box you could put in your vest pocket. Some of it comes resting on two cars, one could'n carry it. Sampson himself wouldn't be one, two, three in lifting it.

And this is the spot where cement will be made without hands, made automatically, by the magic of machinery.

A marvellous thing this, a tribute to the best brains of this 20th century. The world has been hearing much of the cheapness with which Americans produce their manufactured articles, how they flood the world at will. Here the best plants in America will be surpassed, and their economy beaten. The Yankees will be met and checkmated in their own game.

THE SOLIDITY OF IT ALL.
The National Portland Cement Company believe that what is sauce for the goose is sauce for the gander, and so they have built their foundations of cement. No building is stronger than its foundation, and their foundations are imperishable. Their gospel is, that buildings erected of cement are the cheapest, and that these foundations are the strongest, and consistently built, according to their own gospel.

All last fall the work was pushed on as rapidly as possible. This spring the only thing that hampered it is the scarcity of men.

Hundreds of tons of concrete are represented in the foundations. Some of them are 18 feet deep and 2 to 10 feet wide. The laugh at time and take hold of eternity. In your city sand would cost \$2 a load, but nature has been good to the National Portland Cement Company, and given them all they require on their own

grounds, saving them thousands of dollars. The foundations are built to the proportion of 5 of gravel to 3 of sand and one of cement. It is simply a case of mixing it up and packing it between boards in any shape or width required, pull away the boards in a few days, and there is the foundation complete.

"That's a ripe foundation," said Superintendent Layton, as he picked up a big stone and hurled it at the concrete. The splinters flew, but the missile left no mark. The concrete was as hard as flint.

The older an apple gets the riper and softer it becomes; the older a concrete foundation gets the harder it grows.

That's the difference between an apple and a concrete wall.

NOT ONLY STRONG BUT CHEAP.

The United States has built many of her great buildings before the value, durability, cheapness, and vitality of concrete was known, and the National Portland Cement Company have proven that it can save money by using the article it advocates.

"See that building?" said Chief Engineer Bogardus, pointing to the auxiliary power house. "There is a building with dimensions 105x73. Those foundations were hard in three and a half days. Had they been built of stone they would not have been complete within a month."

"They are made of hollow cement blocks."

Thus the National Portland Cement people claim that by using cement they have structures at 35 per cent. less cost, 100 per cent. stronger and much more attractive in appearance than brick. As the foundations are unique in the history of factory building in Canada, so is the plant. It is all of the newest description. Much of it is of the original designs of Engineer Bogardus, and cannot be duplicated, as the plans for its construction are carefully locked away in the company's strong box in their new-made concrete vault in their office, which was once a farmhouse but is now taking to itself the dignity of red ink, rulers, plans, and the accessories of the strenuous mercantile existence.

A TOWERING MONSTER.
The smokestack is a huge affair; it will reach towards the blue nearly 200 feet, and will be one of the tallest in Ontario. This stack is of steel, and will stand alone, without so much as a single guy. And in the erection of the stack the utility of cement is again shown, it will be held by anchor bolts that are fastened into 30 feet of solid concrete.

In Uncle Sam's land a tornado tore its way through a town. The wind tore off roofs and blew in the windows of the works, and the entire neighborhood visited the site the next day expecting to see the stack prostrate. But it was there, and the town wags say:

"The god darn thing's straighter than ever."

Not only will the stack be held erect by its foundations of concrete, but the very fence posts are moulded from it, the factory grounds of 20 acres will be enclosed by these posts, which are as enduring as the marble slabs in God's acre.

PATRONIZED HOME INDUSTRY.

Your correspondent has noted with pleasure that the company has purchased its material as far as it possibly could in Canada. Some of the machinery, however, is not made in the Dominion, notably the rotaries, which are used for calcinating. These terms to the uninitiated may be dark and mysterious, but in plain English it simply means huge steel affairs 70 feet long, seven feet in diameter, shaped like cannon, and hollow at each end. Here the marl and clay meet the fire for the first time, and are cooked to a cinder.

These rotaries are eight in number Great and grim they stood, as if anxious to begin to whirl. Grim because they looked like immense cannons; great because they are so massive that they have had to be placed on foundations first and the structures built over them. They are the largest, most up-to-date rotaries in the world, and some idea of their weight may be gained when it is said that the combined weight of the idlers upon which they revolve is 72,000 pounds.

Another massive machine is the Krupp Ball Mills, which came from Essen, Germany, and which is set on

concrete foundations 21 feet 6 inches high. This mill is a mysterious looking affair to the man whose knowledge of machinery is limited, but the company claim it is the most perfect of its kind that money can buy or the world produce.

A SPLENDID SYSTEM.
"I don't care a rap about your strong points; guard the weak ones," was the advice a Northern general gave the colonel of a regiment in planning a strategic move. The National Portland Cement Company have been paying attention to all possible leaks.

"Show me a man who cleans his boots and neglects his heels, and I'll show you a man without a guiding purpose," is the utterance of a modern sage. The company are looking out for the heels, and obscure point of the business. The machine shop, which is fully constructed, is self-containing. If any part of the plant becomes deranged it is not necessary to send the broken part away.

It is a case of Johnny on the spot, and fixed at once. The stock room is also under careful supervision, and every part kept in account, down to the smallest screw.

A BRIGHT FUTURE.

This is the age of cement. Napoleon, the maker of empires and the unmaker of kings, sat on his horse under the Egyptian sky and, pointing to the pyramids, said:

"Men, 4,000 years look down on you."

Napoleon has passed, but the pyramids still stand inexorable, mysterious, defiant, laughing at the sun, the wind or rain.

Time knocks. But they don't answer.

This is an age of cement, and because it is, buildings are being erected with foundations as sure as those of the pyramids, now solid stone.

The uses to which cement may be put are innumerable. Canada is now awakening from her Rip Van Winkle slumber, is beginning to realize the vast possibilities for this article, and, taking a leaf from the book of the older nations, is utilizing the results of their experiments for her own benefit upon her latent resources. Cement is now being used in all manner of forms, and many believe that the business is but in its infancy. Railway corporations, who know no friends, save the dollar, have tired of the immense sums necessary for the maintenance of repairs, and are building their culverts of the solid article, while monoliths of concrete have taken the place of the steel and iron bridges. Great skyscrapers, touching to the fringes of the clouds, are made of cement; mansions and humble homes, and then back to railroad ties again. The list in which cement may now be used is startling; locks dams sewers, culverts, breakwaters, retaining walls, piling, crib and gutter work, barn floors, barns, silos, reservoirs, chimneys, and even roofs, and a much greater list might easily be mentioned.

A PHENOMENAL GROWTH.

The growth of the cement industry has been one of the business phenomena of the present age. Steel has made tremendous strides. So has cement. They go hand in hand. Scientists say that unless the skyscrapers have their steel work covered with cement the life of the building is shortened and catastrophe invited. So steel is really dependent upon cement. This granted, the business in Canada is but in its infancy. Twelve years ago, if your correspondent is correctly informed, there was no Portland cement manufactured in Canada. It is expected that in this present year nearly 1,200,000 barrels will have been consumed here.

It is gratifying to notice that the wholesome sentiment, "All things equal, support home industry," is being recognized among the cement consuming public of Canada.

Germany with an area less than Ontario, has 80 Portland cement factories, with exports of three million barrels and seventeen million consumed at home. In the United States a similar growth has been noticed, running from two million barrels in 1890 to 12,000,000 in 1900, and with a present increase of over 2,000,000 barrels a year.

A CANADIAN CONCERN.

The National Portland Cement Company is being built and will be carried on on Canadian capital. The company's stock was placed upon the market in a manner unique. It was not advertised in the sense of the usual page advertisements in the leading city and provincial papers. There were no red lights or spectacular performances given by the promoters. The brokers did not even get a slice of it. The same old story of push and enterprize, veni, vidi, vici, and the stock has been all subscribed and so I am informed, could easily be subscribed over again. There are 1,800 shareholders in the company, all Canadians, all sanguine, all hopeful of the future of their country. The shareholders are men from all walks of life, lawyers, doctors, members of Parliament, members of the Legislative Assembly, farmers and city men. Men who will be personally interested, and in many cases able to assist in the sale of the article in which they are interested.

In view of this gigantic concern springing as it were, into the public eye for the first time through the medium of this communication, it is

interesting to note the strong personality of the directorate. Mr. A. F. McLaren, M. P., Stratford, Ont., president of the Imperial Cheese Company, Limited; Barlow Comberland, vice-president Niagara Navigation Company, Toronto, Ont.; P. W. Stanhope, Ontario manager of the McCormick Harvesting Machine Co., Toronto, Ont.; W. F. Cowham, managing director of the Peninsular Portland Cement Company, Jackson, Mich.; Gilbert McKechnie, ex-M. P., merchant, Durham, Ont.

THE SECRET OF SUCCESS.

Carnegie says: "If you want to succeed, surround yourself with specialists smarter than yourself."

It is pleasing to note without reflection upon the directorate, that they have acted on Carnegie's advice, and have in all departments of the construction work on the Durham mill secured the first men in America.

This is the day of specialists, and the men engaged in the erection of the big plant here are specialists. The plans have been so accurately followed out that the heaviest machinery has been set in place without so much as stripping a thread in a bolt.

On W. B. Bogardus, chief engineer, falls much of the mantle of praise. Mr. Bogardus is a young man, but has already crowded more experience into his life than many men do in an entire existence. He is a genius—that's all there is about it. Mr. Bogardus has already erected nine of the largest plants in America. Mr. Bogardus knows the business from the ground floor up, from A to Z, from stem to gudgeon, and has assisting him in the engineering staff M. De Lano, Jr., W. J. Maytham, J. Trainor, W. H. Suttiff and A. Laidlaw.

Mr. C. E. Layton has been a valuable aid to the engineering department, and is also an expert by reason of having assisted in the construction of many leading American plants. He has charge of all concrete and foundation work.

OWN THEIR OWN ROAD.

The National Portland Cement Company own their own road, cars and engine, and have been incorporated under Government charter with full railroad privileges. The line was constructed by Barnabas Gibson, for over 30 years connected with the Grand Trunk Railway, and while the road is not as long as the Trunk, it is, so Mr. Gibson boasts, just as strong and just as wide. It runs out to the marl bed, where the supply is absolutely inexhaustible.

The other specialists who have charge of the various branches of construction are: G. McGrane, machinery; H. Weiner, carpenter on buildings; W. Neuffer, carpenter on foundation and templets.

THE SITE OF IT ALL.

Nature has been good to the company, and besides giving them sand and gravel for building, she has produced a splendid flow of water, close at hand. Taking advantage of the kindly law of gravitation, and the gentle incline from the marl bed to the mill, the cars of marl will run without appreciable power to their destination, thus at one stroke lopping off a considerable item of expenditure. Gas and oil are distinctly traceable on the company's land, and your correspondent would not be surprised if in the future the entire plant would be run, power generated, and light given, by these natural forces. This would mean an immense saving.

A MODERN MARVEL.

The way that the cement will be manufactured in Durham is little short of the marvelous. A few years ago it would have been looked upon as incredible, and even to-day, with the most perfected methods on every side, it will rank as the only mill in the world where the marl is scooped up by machinery, and by machinery carried on and conjured with, until it is at last emptied into barrels, and all without the touch of human hand.

All the human hand has to do with it is to tie up the bag, or put the head in the barrel.

Besides a great saving of labor, the cement is in this way made of a uniform grade, for, as one of the leading directors said, machines never tire; they don't strike, don't get moody; they will not neglect their work, and when it is remembered that some Canadian cements have not been uniform in grade or satisfactory in test, the adoption of machinery is looked upon as a shrewd and successful business move.

IN PLAIN ENGLISH.

There are many technical terms used in the manufacture of cement, and this is the way the National Portland Cement Company will produce their article. The marl is dredged by special machinery, which can dig up to the length of the hoisting chain, which is 35 feet. It is loaded on cars by specially constructed machinery, in which compressed air pays an important part.

From the marl bed to the works is a fall of 290 feet, and the cars will practically land themselves at the mouth of the receiving hopper, where they are automatically emptied. These cars have a capacity of 70,000 pounds, and from the hopper the marl comes into contact with machinery which granulates it, after which it is again dropped by gravity into storage bins, which each contains enough to make 200 barrels. These bins are again discharged by gravity along into special mixing mills, where the proper amount of clay is added. On the same trestle on which the marl is received large hoppers are provided for receiving the clay. This is done

in a manner similar to which the marl is handled, the clay being discharged by gravity into storage hoppers, and into a disintegrator, which granulates the clay. This clay is then dredged, and conveyed to the mixing mill, where it first meets the marl. Provision has been made so that chemists can obtain an accurate analysis of the clay and marl, so that a proper amount of each may be determined for each mix. Means are also provided so that analysis of the mixture is checked, to be sure that a proper mixture has been made before it is finally burned. This mixture goes into large storage tanks, which each contains a capacity of 200 barrels. This goes through tube mills, where the material is ground so fine that 88 per cent. of it will pass through a sieve of 10,000 meshes to the square inch.

From these special grinding mills the material is taken to another row of large storage tanks, where a storage capacity of 1,600 barrels, besides that already mentioned, is provided. Then the stuff is taken by machinery and fed by automatic feeders into gigantic rotary kilns. From these rotary kilns, in which the marl and clay are united by fusion, at a temperature of 3,000 degrees Fahrenheit, they discharge from the kilns into a conveyor, and are transported to the grinding building, where the clinker is ground in the machines purchased from the Essen Krupp Gun Works, Germany. From there, the material is automatically carried to tube mills for finishing, and from there it is taken to the warehouse automatically. These automatic carriages will distribute the cement to any bin in the warehouse, and in the passage from the bin to the car mechanism is again called in use; and so from the time it is marl to the moment it becomes cement, and is placed in the warehouse, no human hand really takes part in the making. The whole process is upon the American line—the elimination of labor.

Electric light is now installed at the plant, and shifts are working night and day, steam being turned on for the first time to-day.

BORN.

McRONALD—In Bentinck, near Vickers, Thursday, May 15th, to Mr. and Mrs. Jas. McDonald, a son.

MARRIED.

HUNT—GUFF—At the residence of the bride's father, on Wednesday, May 14, by Rev. Rural Dean Ryan, Mr. Herb. Hunt, of Vickers, to Miss Margaret Cuff, of Aberdeen.

Coughs, colds, hoarseness, and other throat ailments are quickly relieved by Vapo-Cresolene tablets, ten cents per box. All druggists

Hardware.

Deal Here

Come and deal at the Hardware store where you can get everything you require from a Needle to an Anchor.

Lawn Mowers

Every lawn in town can be made a great attraction by using one of our Lawn Mowers.

Paints

Our weekly supply of Ready-Mixed Paints has arrived. Do not buy inferior paints when you can get Sherwin-Williams.

Clauss Razor

Every man his own barber by using a Clauss Razor. There is nothing to equal it.

Sheep Shears

Secure a pair of our Sheep Shears and you can get a good price for your wool.

Bicycles

Two very fine Ladies' Bicycles for sale cheap. See them.

Miscellaneous

Just to hand an immense shipment of Carpet Beaters, Carpet Sweepers, Bicycle Supplies, Fishing Tackle, Churns, Wheel Barrows, Etc.

W. Black.

JAS. IRELAND

REMEMBER THE PLACE - - LAIDLAW'S OLD STAND.

.. The 24th ..

Is when you want your new Hat; and we're going to help you get it, too. We've prepared a surprise for you in the Millinery Department, and for the remainder of this week we are selling our Trimmed Millinery at very unusual bargains.

We can give a Neat, Pretty Trimmed Hat at One Dollar, or any price above that.

HATS! HATS! HATS!

Ready-to-Wears.

At very special prices. \$2.25 Ready-to-Wears going at \$1.65. \$2 Ready-to-Wears going at \$1.45. Ready-to-Wear Hats that are cheap at \$1.50 and \$1.60 will be sold for \$1.15. Black Walking Hats were \$1.00 and \$1.25 are now 75c and 85c.

White Walking Hats with Fancy Drapes were \$1.25 now 75c. Call and see them.

.. This Week ..

JAS. IRELAND

REMEMBER THE PLACE - - LAIDLAW'S OLD STAND.

1902.

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from Britain.

and Mammoth Long

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Globe.

AMERICAN SEEDS

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