

THE CEMENT WORKS ON SAANICH INLET

A QUARTER OF A MILLION DOLLARS BEING SPENT ON INDUSTRIAL ENTERPRISE NEAR VICTORIA

UNKNOWN to all but a few residents of this city, works are being erected on Tod creek, within less than twenty miles of Victoria, which within a few months' time will have a most important place in the commercial life of the whole province.

These are the works of the Vancouver-Portland Cement Company. The building is being pushed forward with all the expedition possible, and by Christmas the company expect to be in a position to begin the manufacture of the finished product.

There has been a lack of ostentation in connection with the carrying out of this work on the part of the managing

Mr. Butchart is required than is found in the fact that most of those who are associated with him in the enterprise at Tod creek are stockholders in the Shallow Lake and Lakelsefield companies. Before coming to British Columbia the quality of the constituent parts, limestone and clay, which are to be used in the manufacture were known to Mr. Butchart. He had had samples of the deposits analysed, and having a practical knowledge of the manufacture of cement, he was aware of the fact that the highest grade of it could be produced. Being a practical business man he viewed the situation from every standpoint. The great obstacle in the way of beginning operations was the limited market which

a practical knowledge of the whole working of the business Mr. Butchart has had the enterprise carried out directly under his own supervision. Plans which embodied the result of years of practical experience were prepared and in line with them the construction has proceeded. The foreman charged with the immediate carrying out of the plan has been Mr. Loebe. Since June a large staff of workers has been kept steadily employed. The number has varied considerably, but well on towards 150 have been constantly at work. In the preparatory stages a good deal of the labor required has been of an unskilled character, and a large staff of Chinese have been kept constantly on the premises. There

works, and in turn the cement may be placed directly in the cars inside the works and conveyed by the short line of rail to the barges, which will deliver it by carload lots at any point capable of being reached by water and rail. When completed machinery will be installed in the engine room to load and unload the cars by means of cable lines.

The New Materials. The walls of the buildings are substantially built of quicklime, pulverized rock and gravel. The ingredients were got close at hand in the form of gravel and sand. The lime kiln situated on the property was put in operation and thousands of barrels have been utilized in the walls. Before all the work is done 4,000 barrels will have been consumed in construction work. The rock was found close at hand, being blasted out for the purpose, and only the fine gravel had to be brought in by scow. The walls were put up of this concrete to a height varying from ten to twenty feet.

About ten feet of lattice work is put in between the top of the concrete walls and the roof in the buildings devoted to manufacture. This will afford ample ventilation.

Everything connected with the arrangement of the works is done with the purpose in view of facilitating the economical handling of the product.

The clay and lime rock deposits are situated much higher than the works. The two ingredients lie alongside one another so that the same tramway may be utilized in conveying them to the factory. At the commencement a face of about sixty feet each of rock and of clay will be available. Only a few hundred feet from the face the materials will be dumped into a drying room, which is yet to be built. This will be 56 feet by 30 feet.

After being dried the materials are crushed to a fine powder, and after being scientifically tested by samples in the laboratory are mixed together in the proper proportions.

The Rotary Kiln Building.

They then pass through the machinery of the rotary kiln building. This is the largest structure of the group. It is 108 feet by 60 feet, that entire space being free from all pillars or any kind. The roof is in all the other parts is supported by heavy trusses, which have been framed and braced by using heavy timber and iron rods, and then elevated to their place on the tops of the walls. The walls of this building are 29 feet high at the eaves, the perpendicular height to the ridge being 54 feet. The concrete walls extend up to a height of 20 feet. The ingredients are thoroughly pulverized by passing through tube mills half filled with fine pebbles, which reduce and mix the clay and lime rock perfectly. It then passes into the rotary kiln, which will be 70 feet in length with a diameter of 7 feet. This kiln is lined with fire bricks. Passing through the entire length of this tubular the mixture is subjected to the most intense heat. Both wood and coal will likely be used as fuel. Mr. Butchart has already a gang at work taking out wood on the property preparatory to work beginning. A heat of 3,000 degrees is attained before the mixture is perfected. During this heating the cement is cooled by finely ground coal dust being blown into

company will require to put up a number of smaller structures on the property. This will include an office and laboratory and quarters for the employees. In the laboratory a chemist is kept constantly employed analysing the ingredients in order that the proportions may be scientifically correct, and thus produce the very best grade of cement.

Employees' Houses. In providing for the accommodation of the employees, the intention of Mr. Butchart to erect on the company's ground houses. He will seek to have as many married men as possible on the permanent staff, and these homes will be provided for them.

The Power Room. In addition to these buildings there is

the invention of Mr. Vincent, an employee of the company, and who is draughtsman at the Tod creek works. In the stock room the cement is barreled, sacked and put up in any form in which it is desired. The railway track from the wharf runs right alongside, and cars are filled directly from it for shipment.

The Village. At the start about fifty men will find steady employment. Of this number about half will be unskilled labor, and the remainder will be skilled mechanics. These will form a little village, and will be provided with every convenience in the way of water, etc.

A well macadamized roadway has been

the future. In keeping with this faith they have established works not to meet the present demand, but to provide for the rapid enlargement of the cement market. They have not gone about it as an experiment, but have established the factory on the most substantial basis, making adequate provision for the fullest extension of the trade. When the electric plant is installed the investment will represent, it is said, at least \$300,000.

The company will make a strong bid for the trade of British Columbia. In order to do so they are equipping the works with machinery which, with the perfect constituents in the way of raw material, will produce cement unexcelled by anything which can be imported. It is realized that this province will form



GENERAL VIEW OF THE CEMENT WORKS, SHOWING BUILDINGS, PART OF WHARF, UPPER PART OF TOD CREEK. THE OLD LIME KILN IS SHOWN WITH OVERHEAD WAY FROM QUARRY CROSSING COMPANY'S ROADWAY.

director of the company, R. P. Butchart, who has full charge of the operations. The enterprise is none the less important, however, on this account.

One reason why little has been known locally about the enterprise is found in the fact that the stock is all held by residents of the East, and the plans for carrying out the scheme were decided upon in Ontario.

That the Vancouver-Portland Cement Works are destined to be an important element in the industrial life of British Columbia may be inferred when it is known that the investment represents over a quarter of a million dollars, that the initial yearly output will be over twice as much as the amount consumed at present throughout the whole province, and that the machinery to be installed and the raw material available at the works are capable of producing a Portland cement second to none made in England, Germany, France or the United States.

For years a lime kiln was operated on the site of the new cement works. It still stands, an unpretentious structure about fifteen feet square and twenty feet high alongside of the extensive buildings now in course of construction, which roughly speaking cover an area of about 300 feet by 210 feet. The little lime kiln was in one respect the forerunner of the cement factory, the two constituting one example of the many evolutions which follow in the development of this country's natural resources.

Although it was not until this spring that it was fully decided to erect the cement works, the presence of the proper constituents on Tod creek has been known for some time past.

An attempt was made years ago by the parties interested, including Mr. Fisher, who had cement works near Vancouver, to interest capital in the Tod creek deposits. Mr. Butchart, the managing director of the company now about to begin manufacture, was approached on the subject, but he had his attention fully occupied with similar enterprises in Ontario. He did not, therefore, take up the proposition for some little time later. The present works are the result of his active connection with it.

Mr. Butchart's success in the manufacture of Portland cement in Ontario augurs well for the enterprise with which he is identified in this province. Moreover the intention to make Victoria his permanent home is a subject for congratulation to the city and to the province. Mr. Butchart is very prominently identified with the history of the manufacture of Portland cement in Ontario, and, therefore, in Canada. Only within recent years has this become an industry in Canada. Among the first to be established was the Shallow Lake Works near Owen Sound in the county of Grey. The operating company has had a very successful history with Mr. Butchart as its managing director, a position which he still occupies. Starting with a small production the output has from time to time been increased. About the factory within its twelve or fifteen years has sprung up a prosperous little village with all the modern improvements, including permanent sidewalks.

Later, Mr. Butchart and a number of the interested with him in the Shallow Lake property organized another company, and began operations at Lakelsefield in Petreboro county. Here, similar success has attended those efforts.

No better evidence of the business abil-

ity of the province offered. He visited the province, and after fully going into the subject he decided this spring to begin operations. Work was not commenced at the site until during June. It has been pushed forward, however, as quickly as possible, and the buildings will within a few weeks be completed and ready for the installation of the machinery, which is already arriving.

Tod creek is an inlet from Saanich Arm. It is about two miles and a half from Keston station on the Victoria & Sidney railway. It terminates in an ideal harbor, perfectly landlocked and with a depth of water which will allow of all vessels mooring alongside of the company's wharf. This permits of the shipment by water to all markets, and every facility for the handling of the output by this way is being provided at the works.

There is also a practically inexhaustible supply of the raw materials used in the manufacture of the cement. There are limestone and a certain quality of clay. Nature has done its part for the company in an admirable way in more than one particular. In no way is it more manifest than in the depositing of these raw materials. Mr. Butchart says that after visiting all the principal Portland cement factories in England, Germany, France, Belgium, United States and Canada he has never seen the limestone and clay so admirably situated relatively for economical manufacture.

Quality of Materials.

The qualities of the clay and limestone are acknowledged to be the very best for the purpose. An analysis of them show that they are specially adapted for producing a high grade of Portland cement so that the Vancouver brand, the name under which the product will be put on the market will be such as to compete successfully with the best English or American brands. Proof of this is found in the opinion expressed on them by eminent manufacturers. Among those to whom samples of the raw material were submitted was E. Bravender, general manager of the Hudson Portland Cement Company, one of the big factories of the United States. Mr. Bravender is recognized as an authority on the subject, and his opinion is considered of the highest value among those engaged in the business. The analysis made by him of the clay and lime rock was as follows:

Silica	62.3
Lime	27.5
Alumina	3.75
Magnesia	Trace
Sulphur	Trace
Moisture and Organic Matter	6.75
Alkali	Trace

Silica	1.20
Alumina and Iron	27.5
Carbonate of Lime	62.10
Magnesia	Trace
Sulphuric Acid	Trace

Appended to his statement of the analysis Mr. Bravender adds the following: "The raw materials are almost free from magnesia. The two materials properly combined should make a cement as near an ideal Portland cement as is possible to make, and I am confident you will be able to make a great reputation for the Vancouver brand of cement."

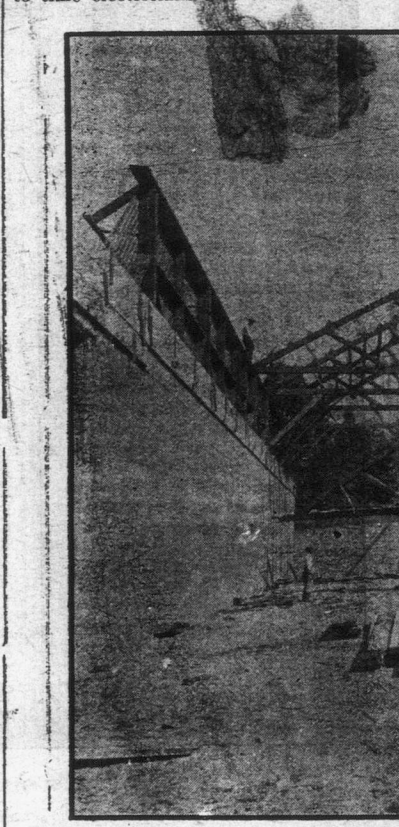
The brand is to be named Vancouver, after the explorer, who gave his name to this island.

Construction Work.

The construction of the buildings is being carried out under day labor. With

are well on to one hundred of these now engaged. Two cooks are kept by the company to provide for the needs of the Chinatown, which consists of a group of tents hidden away in the bushes near the unfinished factory.

But in addition to the Orientals there are engaged at the factory quite a little colony of white laborers. The number of these has varied from about twenty-five to fifty, according as the work required. Provision has been made for their likewise, and houses which were on the property and others which have been constructed since to serve temporarily have been made to serve as bunk houses, and dining quarters. From time to time electricians and others are tem-



PUTTING THE TRUSSES WHICH CARRY THE ROOF IN POSITION ON THE ROTARY KILN BUILDING. THE SPANS ARE 60 FEET IN WIDTH. THE MILL ROOM 80 FEET WIDE IS ALSO SHOWN, SEPARATED FROM THE FORMER BY A ROW OF POSTS.

porarily employed about the place, and in most instances these have pitched their tents in the woods, and with their families spent a pleasant camping season, combining pleasure with their labor.

The Wharf.

A wharf equipped in every way to suit the purposes for which it will be used was among the first works completed. It extends for a distance of about 365 feet into the water of this ideal little harbor. At that distance out a depth of about thirty-five feet of water is attained. It is a substantial structure of ample width. A line of railway of standard gauge with parallel switches on either side make three lines of track along the length of the wharf. It is fitted with a lift to allow of an incline adapting itself to the level of the car carrying barge. In this way loaded cars of material may be transferred to the

millroom, which is a waterproof preparation. It is put on over the ordinary plank lumber sheeting.

The concrete walls will be plastered inside and outside with a cement covering, giving a smooth surface.

Stock and Store Rooms.

The cement is conveyed from the mill room to the stock room, which is 128 feet by 90 feet, and is right alongside of it. Bins are provided here for storage purposes. The capacity of it is 25,000 barrels, which is over half the quantity used in the entire province of British Columbia last year.

In the storage room machinery is to be installed which will do away with considerable handling.

An automatic weigher, which dumps as the proper weight is attained, is one of these. This is in use at the Shallow Lake and Lakelsefield works, and has proved a great convenience. Moreover it

boiler and engine room adjoining where the power is generated. A coal house 80 feet by 32 feet also is under construction alongside. There is used about the works a very considerable amount of coal. This is used as a finely ground dust, and the company will purchase the dust at the collieries for their use. It is the intention to procure a barge which will carry about 2,000 tons. This will also be used as a storage room for it. It will be moored alongside the embankment, which is only a short distance from the buildings, and a conveyor will carry it to the portion of the works where it may be required.

The Roofing of all the buildings is of

The Water Supply. The company has acquired 400 acres of land in the neighborhood of Tod creek. Up the stream, which flows into the harbor from Prospect lake, a dam has been built, and a fine brings the water to within about 1,000 feet of the buildings. By pipes it is brought the remainder of the way, and a never failing supply of water for use in the mills and for fire protection is afforded. At the works there is a head of 100 feet by this supply. For drinking and culinary purposes a spring will be used, which is only a short distance away and situated on the company's land. A gang is clearing the place preparatory to putting in a reservoir and conveying it to the places where required.

Electric water power has been acquired for the generating of electricity. There has been 2,000 horse power there acquired, and later this will be transmitted to the works to be utilized for power and lighting. The distance from the Sooke station to Tod creek will be about ten miles.

The Management.

As previously mentioned, the direct management of the affairs of the company will be in the hands of R. P. Butchart, the managing director, who intends making Victoria his home. The president of the company is E. R. Woods, who as a director of the Grand Trunk Pacific was in the city a few weeks ago, and who then visited the works at Tod creek.

When operations are ready to begin, probably about Christmas of this year, an office will likely be opened in Victoria for the transaction of the regular business, communication being maintained with the works by telephone. When that is done Mr. Ross, the treasurer of the corporation, who is now at Tod creek, will likely take up his residence in the city also, and take oversight over the business. Mr. Ross is a young man, but has had a wide experience in business in Toronto before being assigned his present position.

The Market.

In view of the fact that only about 47,000 barrels of Portland cement were used in the whole province last year, it is but natural to ask what the inducement for the establishment of these works has been. The yearly production at the rate of from 250 to 300 barrels a day, at which, operations will begin, would more than double the provincial demand of last year. It is quite apparent that the establishment of these works has been a very wise move.

As the proper weight is attained, is one of these. This is in use at the Shallow Lake and Lakelsefield works, and has proved a great convenience. Moreover it

put through the property leading up to the factory. Fronting this and between it and the water of the harbor the homes for the employees will be erected. When the capacity of the mill increases with the development of the province, and when instead of the initial output of 300 barrels a day, there is being daily manufactured 1,000 barrels, the full capacity of the present works, a very important town will be located about the Vancouver-Portland Cement Works. The supplies for the factory must be provided from Victoria, so that the works will have almost the same effect upon the commercial life of this city as if they were located right in the boundaries of the place.

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opening of the northern part by the construction of the Grand Trunk Pacific will increase the demand and the announcement that that road was to be built played no important part in the decision of the company to begin operations here at this time. The Northwest is also looked to as a profitable field with which trade can be built up.

The use of cement is an ever increasing one, and from year to year a greater quantity is used over that of preceding years. With an abundant supply of high grade Portland cement being manufactured here other industries allied to it will spring up, and works will be undertaken which otherwise would not be inaugurated.

Auxiliary Enterprises.

Already an example of this is found in the fact that the company which controls the rights for Canada for the manufacture of litholite have expressed a readiness to begin operations in Victoria. Litholite is the product of a process by means of which artificial stone is made with cement and sand as the basis. The stone is moulded in any shape or design and the blocks are made hollow or solid. Any variety of stone can be imitated in color or texture, and the artificial article possesses in addition many advantages over the natural stone. It has been found to resist the effects of fire and water during a conflagration better than any other material. No crumbling results, and there is no steel frames to warp out of shape. Already litholite is being extensively used in Chicago, where a large works turns it out. In the Northwest Territory this material, it is readily believed, will become particularly popular, and litholite will likely be extensively manufactured there, the buildings using it presenting an imposing and massive appearance.

Already the machinery is arriving at the works of the Vancouver-Portland Cement Company. Nine carsloads from the East were towed in on the barge Transfer about the end of last week, and were run onto the swivels on the company's wharf. This is being unloaded, and immediately the roofs are finished and the preparations are made inside the buildings the equipment will be installed. More cars of machinery are on the way to the works.

Immense quantities of brick and timber are being towed around from Victoria to Tod creek also. Located in a sequestered place, hidden from view on every side by rising ground, and only seen when the visitor is practically alongside of the works, one of the most important industries connected with Victoria is being hurried to completion. The promoters have shown commendable faith in the province by locating here. The management realizes that even with a perfect cement and the additional inducement for its use from the fact that it is of home manufacture, that the price of the product will have to be kept down to a close margin above the cost of production. This they are prepared to do, and Portland cement will, therefore, in all probability be cheaper next year than it has been in the past. This in itself will have a stimulating effect in connection with building.

Ladysmith, Sept. 30.—Jack Ross, arrested yesterday for cashing a post office order payable to Robt. Thompson, was liberated today, a view from Thompson, at Ross, Wash., stating Ross had verbal authority.

be boxes used in Victoria, and

side points.

POOL COMPETITIONS

By Large Number at Exhibition Mornings—Good Races.

thronged the grounds adjoining the exhibition buildings this morning, the children's sports, commenced at about 10 o'clock. Park, Central, North Ward, West and Spring Ridge schools' representatives present to take part in various competitions. Rewards offered the winners in all events, every first and second prize and two points respectively were represented by the victors. The totalled, and when the long competitions are decided, the institution the largest number of points presented with the Swinerton trophy given by the secretary of the association.

greater part of the forenoon Park boys took the lead, followed by the Central school athletes in the vaulting, where the boys were ahead, the school of 20 points to 24. From this on, the Central school commenced winning the relay race, and the first place, the standing being: Central, 28; South Park, 17; Victoria, West, 6. The most exciting of these events was the jumping contest to any pupil attending the schools. The principal contestants were Guy Morley, Central; Robert Thompson and W. Ken-South Park, and M. Seabrook, Ward. These four stayed until it had reached 4 feet 6 inches the latter two missed their jumps and left Messrs. Morley and Seabrook to decide the question of a jump. Both struck the bar in the first in the second Morley cleared style, the feet being. Jondy Thompson tried again, but was

jumping contest for boys under there were no less than ten. The number gradually swayed, however, until there were left—Messrs. Pauline, Gregg and Morley. They all failed to clear, then it was raised for the last time the contest was therefore decided, each school represented by two with two points.

the relay race which attracted attention. Teams were entered from the South Park, North Ward, Central, and Spring Ridge schools as follows: South Park, Thompson, Briggs, Ellis, and Jondy; North Ward, Messrs. Morrison, Seabrook and Cox; Central, Borgman, Roberts and Nesbitt. It was very interesting, although in a comparatively easy victory the Central school team. The runners crossed the line in a Morley, of the Central Park, North Ward and South Park equal distances separating 100 yards and 220 yards races, and some of those for boys of years of age were specially well

the results follow:

One hundred yards, dash (open) Morley, Central school; 2, W. Ward, South Park; 3, Herbert, South Park.

One hundred yards, dash (boys) years—1, W. Meyer, South Park; 2, H. Heaton, North Ward; 3, dis. Messrs. Pauline and Edworthy, Central and South Park; 4, dis. One hundred yards, dash (girls) years—1, Clifford Carrol, Victoria; 2, Matthew Scott, South Park; 3, Central.

One hundred yards, dash (girls) years—1, Guy Cavis, Central; 2, MacDonald, Central; 3, J. Belford, South Park.

One hundred yards, dash (unisex) years—1, Alan Daves, Central; 2, H. Heaton, North Ward; 3, Chas. North Ward.

Two hundred and twenty yards (open)—1, Guy Morley, Central; 2, Herbert Thompson, South Park; 3, North Ward.

Two hundred and twenty yards, dash (14 years)—1, W. Meyer, Central; 2, P. Heaton, North Ward; 3, Edworthy, South Park.

Two hundred and twenty yards, dash (12 years)—1, Clifford Carrol, West; 2, Matthew Scott, South Park; 3, Cyril Baker, Central.

Two hundred and twenty yards, dash (10 years)—1, Ed. McB. Smith, Central; 2, Harry Walton, Central; 3, Belford, South Park.

High jump (open)—1, Guy Central; 2, Herbert Thompson, Central; 3, W. Kennedy and M. Seabrook, South Park and North Ward respectively.

High jump (under 14)—1, P. line, Collegiate school; 2, Allan South Park; 3, C. Cantrell, Central.

Relay race—1, Central school; 2, Ward; 3, South Park.

13—Throwing the baseball—1, W. Central school; 2, McKitt, Central school; 3, W. Cox, North Ward.

NN'S ACADEMY EXHIBIT.

Active Nook at the Exhibition Building.

standing the unpleasant on Tuesday and Wednesday, thronged to the exhibition eager to get a sight of the novel presiding things to be seen on the. One particularly attractive

the St. Ann's booth, drew an appreciative who were lavish in their praises work exhibited. It covers two departments: An educational and bit, fancy work, music and com-

work. The educational part, primary to senior class work, runs through the history, mathematics, astronomy and botany, drawing, bookkeeping, German, and Latin, nature lessons, free-hand, all the pupils' work, and with a skill that reflects the great- on - teachers and scholars. Fine charts are those on ge- astronomy and botany, while and story writing matter and busi- social correspondence, certainly

(Continued on Page 6.)