

PORTLAND CEMENT



THE ONTARIO
PORTLAND CEMENT CO.
(LIMITED)

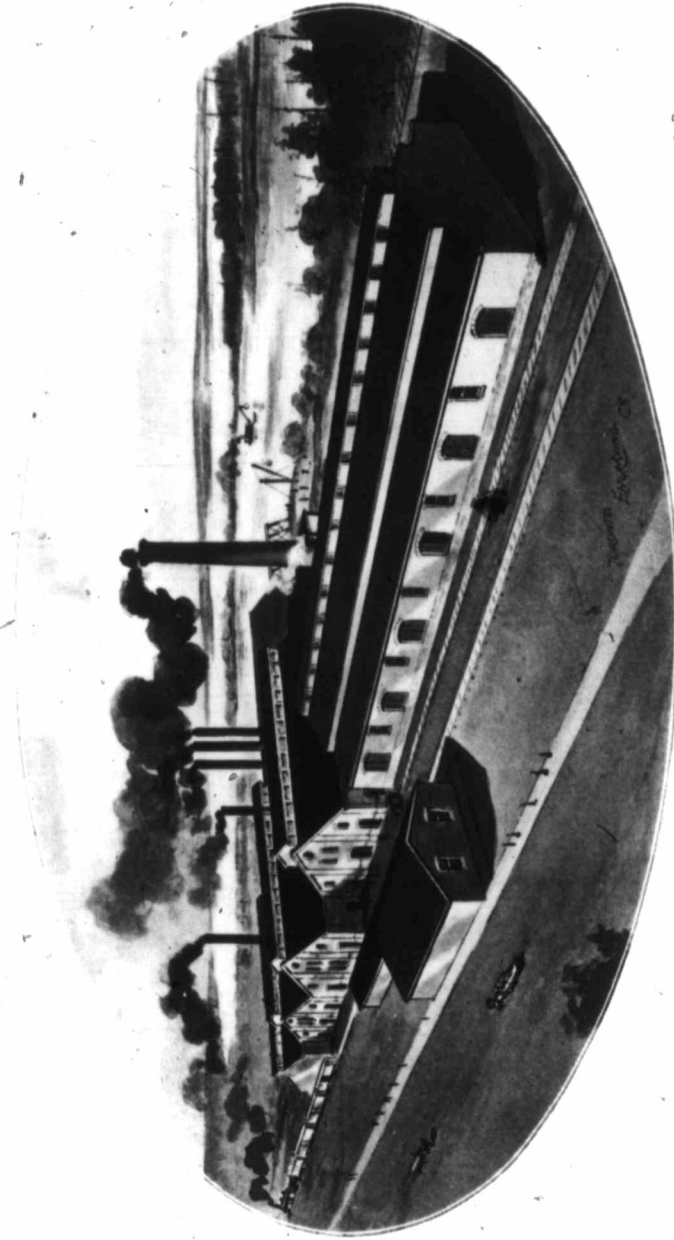
WORKS: BLUE LAKE, ONT.

HEAD OFFICE: BRANTFORD, CANADA



THIS small pamphlet, issued for the use of our patrons, gives a few particulars of our GIANT BRAND of PORTLAND CEMENT, its manufacture, various uses, etc. The limited space herein does not admit of many details, but we trust the information given will prove of interest.





FACTORY AND MARL BEDS OF
THE ONTARIO PORTLAND CEMENT COMPANY, LIMITED
BLUE LAKE, ONTARIO
HEAD OFFICE: BRANTFORD, ONTARIO

THE ONTARIO PORTLAND
CEMENT CO., LIMITED

OFFICERS:

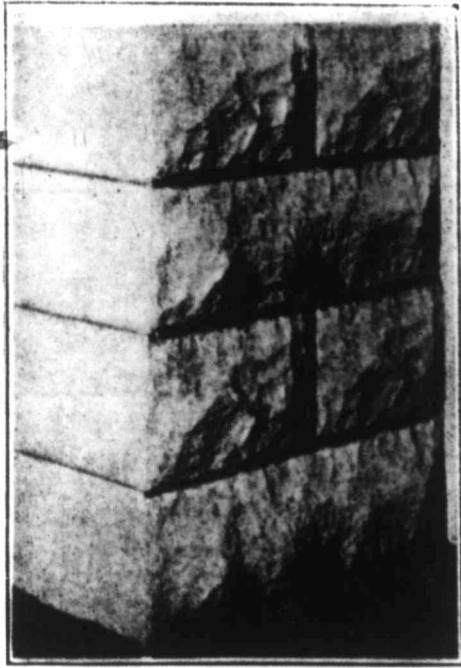
E. L. GOOLD - - President
W. S. WISNER - Vice-President
W. G. ELLIOTT - Managing Director
E. D. TAYLOR - Secretary-Treas.

BOARD OF DIRECTORS:

H. COCKSHUTT
A. A. BIXEL
W. S. WISNER
E. L. GOOLD
W. G. ELLIOTT

WORKS AND MARL BEDS, BLUE LAKE, ONTARIO

HEAD OFFICE:
BRANTFORD, ONTARIO



ARTIFICIAL STONE

In many of the recent large fires Artificial Stone made of Portland Cement, has proven itself to be the best fire-proof building material.

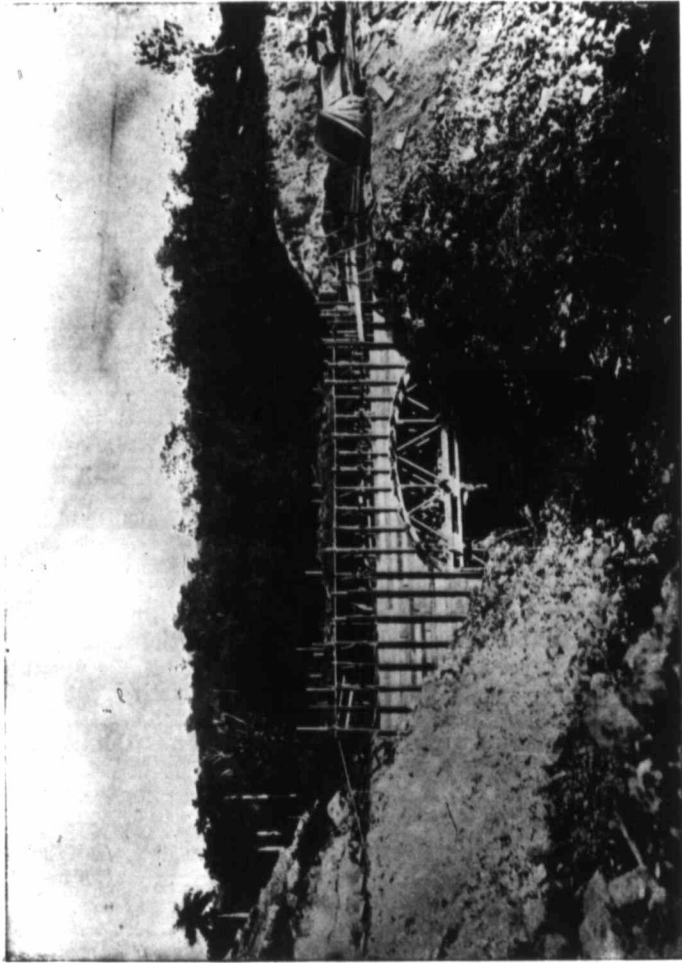
THE PLANT

OF The Ontario Portland Cement Co., Limited is located at Blue Lake, and is only 57 feet from the marl beds of the Company. It is scientifically constructed to perfectly fulfill all requirements for the economical manufacture of a high grade Portland Cement. It is constructed of the most modern machinery, arranged according to the most up-to-date practice.

The Management has but one end in view: to manufacture the very best Portland Cement that can be made. That they have succeeded in this is evident from the very excellent quality of cement produced.

The manufacturing staff in charge of the works are familiar, by long experience, with the manufacture of a high grade Portland Cement, and in our "GIANT BRAND" we feel we offer the public a cement that cannot be surpassed.

Showing Forms
in position
during construction.

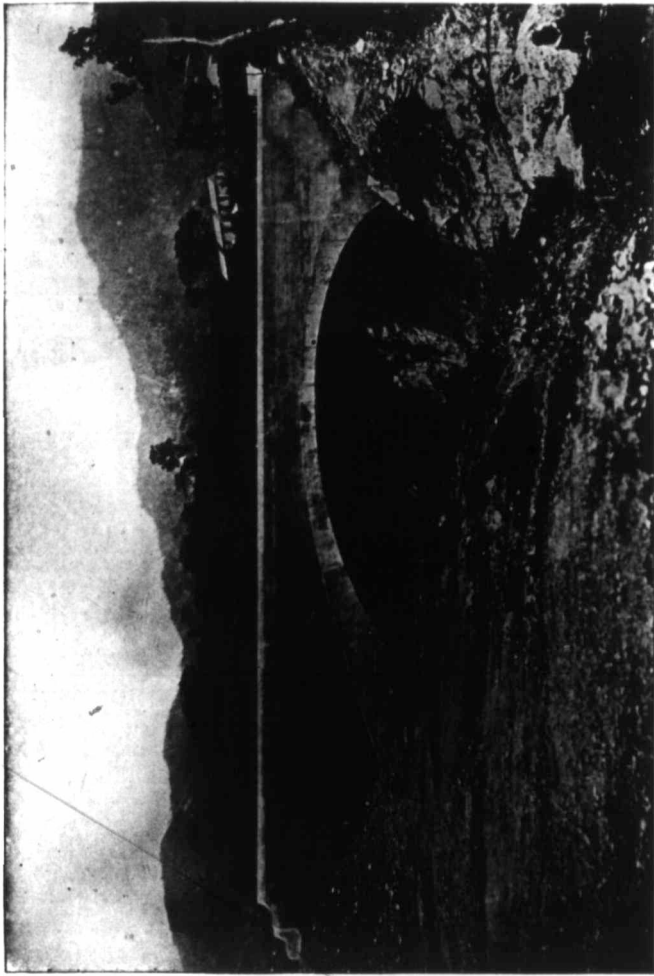


CONCRETE ARCH BRIDGE

"GIANT BRAND" PORTLAND CEMENT

Is manufactured from an unusually pure deposit of marl and clay and will be found to possess the same uniform soundness, strength and fineness. It is especially suitable for artificial stone, sidewalks, flooring, sewer pipe, foundations, bridge arching, piers, tunnels, etc., and for all other uses to which a first class Portland Cement is applied. Not a barrel of GIANT BRAND Portland Cement is allowed to leave the factory unless it fulfils the requirements of a first-class article. It is fully equal to the best imported brands, and will give as good results in all kinds of work as any other cement manufactured.

Contains
no Steel or
any other
Structural Material
except
Concrete.



CONCRETE ARCH BRIDGE
(Completed)

ANALYSIS

An average sample of GIANT BRAND Portland Cement equals the following composition :

THOS. HEYS,
Consulting Chemist

CHAS. H. HEYS,
Chemist and Manager

ASSAY AND ANALYTICAL LABORATORY

114 Bay St., Toronto

*The Ontario Portland Cement Co.
Brantford, Ont.*

Gentlemen :—

We hereby certify that we have made an analysis of Portland Cement received from you, finding as follows :

Silica (SiO ₂).....	22.80
Lime (CaO)	62.72
Oxide of Alumina (Al ₂ O ₃).....	6.42
Oxide of Iron (Fe ₂ O ₃).....	2.98
Magnesia (MgO).....	2.26
Sulphuric Anhydride (SO ₃).....	1.82

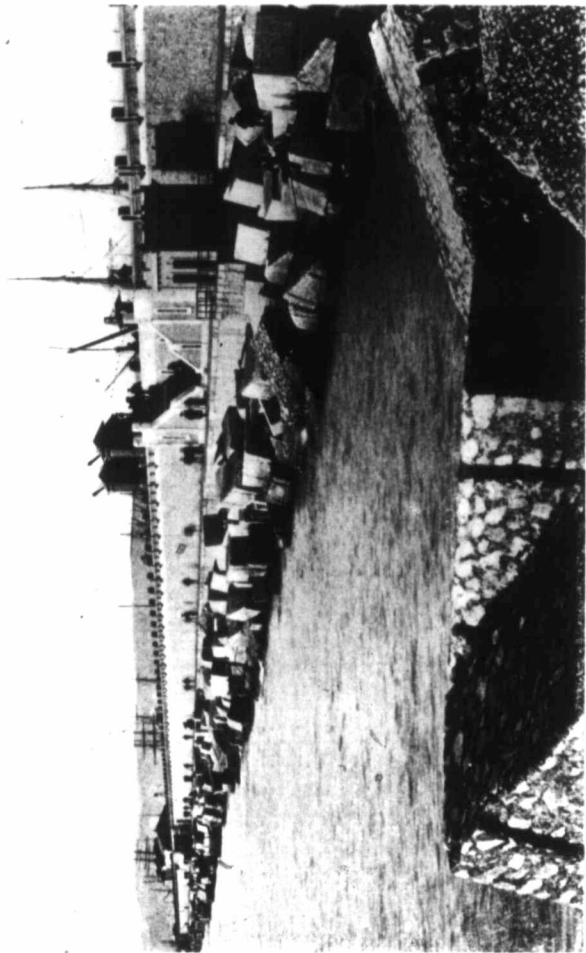
From a chemical standpoint the analysis shows your cement to be first class. The combining proportions of Silica, Lime, Alumina and Iron being very good, and the presence of only a trace of Carbon Dioxide showing the cement to be very well burnt.

Yours truly,

(Sgd) THOS. HEYS & SON
Technical Chemists

Charles H. Heys, Manager.

Concrete Wall and
Blocks, used in
Preference to Stone
to withstand
the Sea.



8

1.

TESTS

McGILL UNIVERSITY

TESTING LABORATORIES

Report of results of tests upon Cement for
The Ontario Portland Cement Co., Limited,
Brantford, Ontario, as to

SETTING, FINENESS AND TENSILE STRENGTH

Time of Setting: Initial in 2 hrs., 20 min.

Final in 5 hrs., 50 min.

Fineness: Residue on No. 100 sieve, 0.97%

“ “ “ 50 “ 0.1%

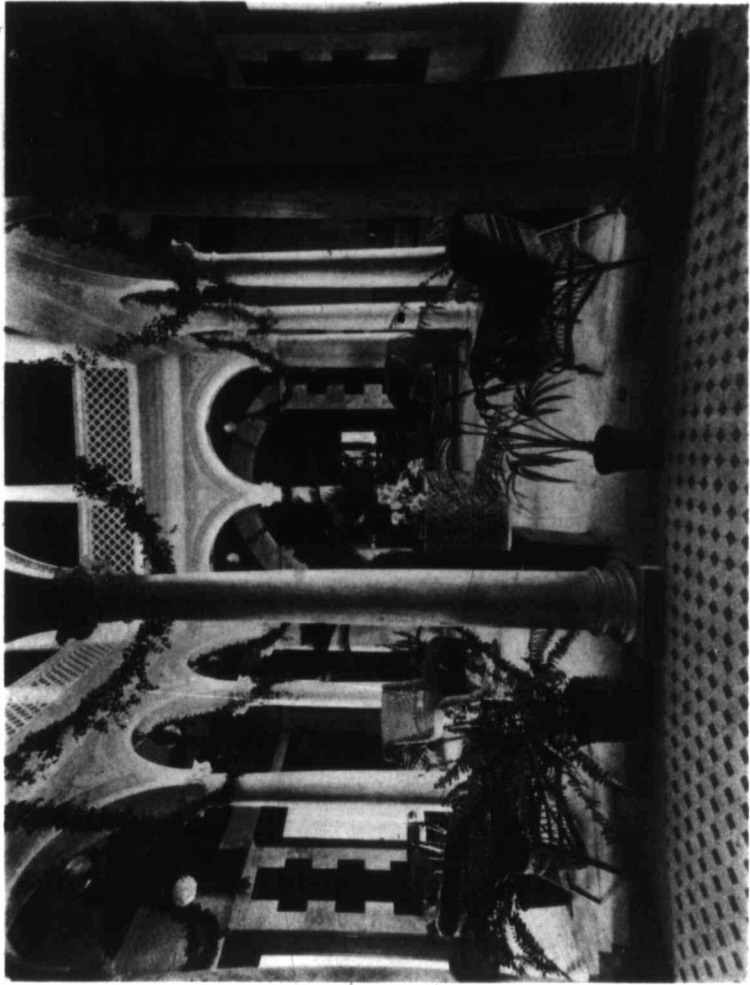
Tensile Strength, Neat:

1 day 245 lbs. per square inch

3 days 440 “ “ “ “

7 days 842 “ “ “ “

Splendid
Example of
use of
Cement for
Fine Interior Work.



TESTS

THOS. HEYS,
Consulting Chemist

CHAS. H. HEYS,
Chemist and Manager

ASSAY AND ANALYTICAL LABORATORY

114 Bay Street, Toronto

*The Ontario Portland Cement Co.
Brantford, Ontario*

Gentlemen:—

We herewith certify that the following are the results of the Tests made of the sample of Portland Cement received from you.

Fineness: Residue on No. 100 Sieve, 0.3%
Hot test for soundness. Good
Setting "Initial" 2 hours, 50 min.
Setting "Final" 5 hours, 10 min.

Tensile Strength:

24 hours "Neat" 286 lbs. per sq. in.
3 days " " 561 " " " "
7 days " " 959 " " " "

The above results are all first class and brings your cement in a class with the best on the market.

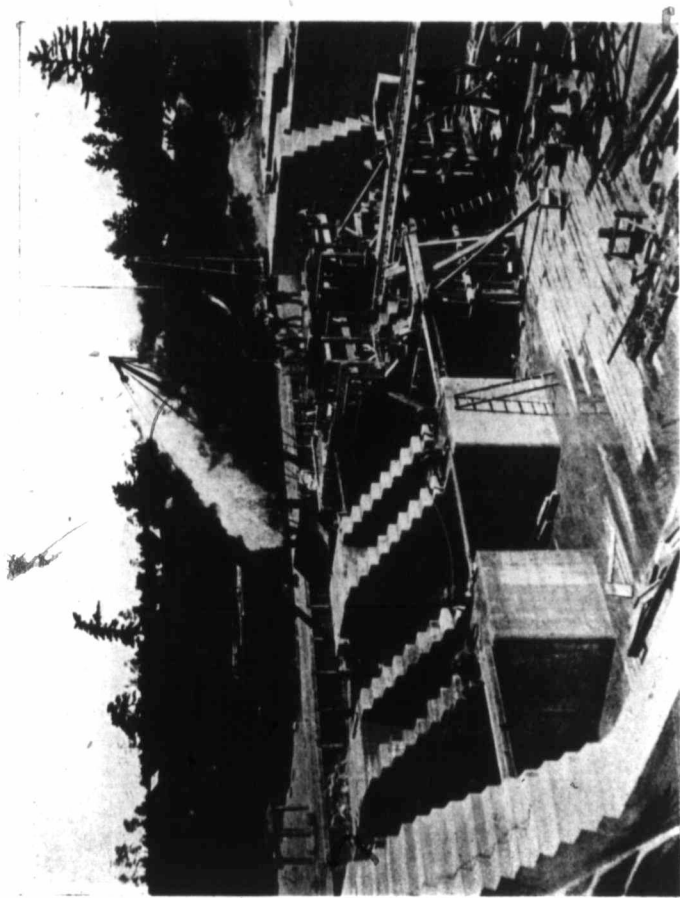
Your, truly

(Sgd) THOS. HEYS & SON
Technical Chemists.

Charles H. Heys, Manager

The details of the two left-hand Tainter Gate Piers are seen, and the smooth face on the concrete is indicated by the visibility of the lines between the steel plates with which the moulds were lined.

The clear width of gate openings is 14 feet.



DAM WORK

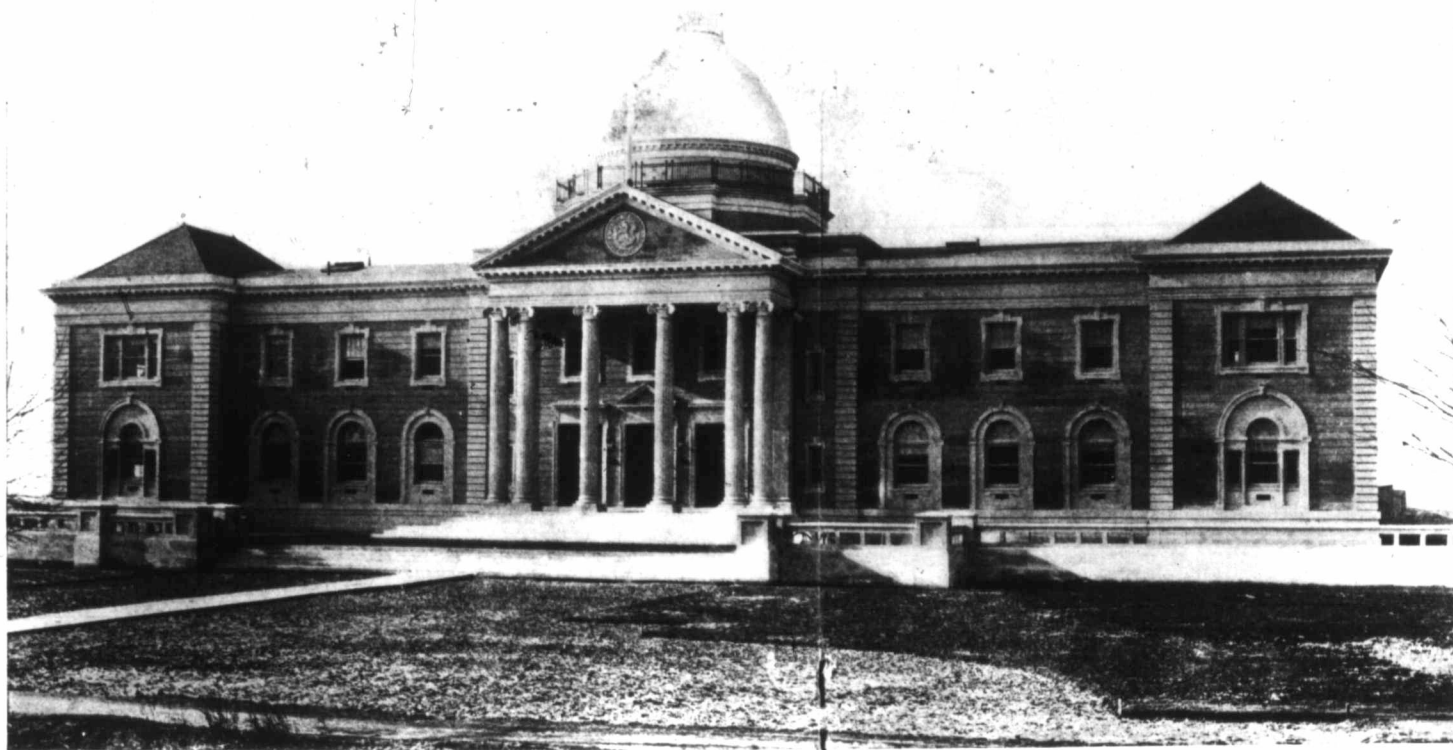
SHIPPING FACILITIES

OWING to the advantageous location of its factory, The Ontario Portland Cement Co., Limited can ship cement at very low rates to all parts of the country.

Blue Lake being situated on the Main Line of the Grand Trunk Ry., between Paris and St. George and on the line of the Grand Valley Electric Ry., between Brantford and Galt, thus affording splendid Railway facilities, switches running to the various departments of the factory.

Correspondence in reference to prices and freight rates is solicited.

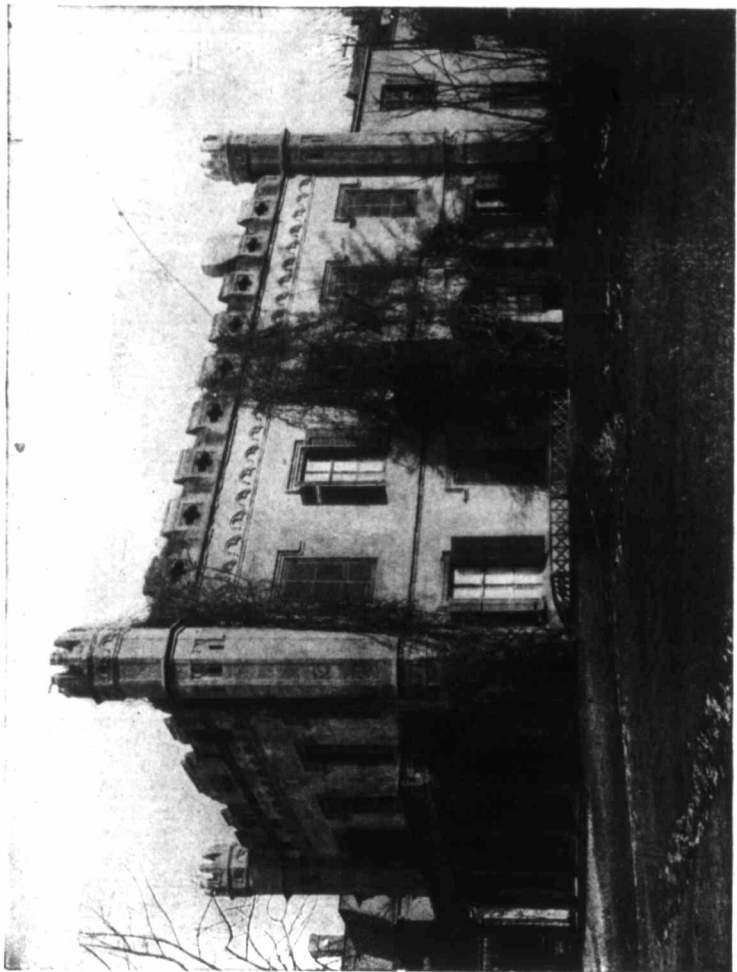
ABSOLUTELY FIRE PROOF



Practically
an immense
rock,
cut and dressed
with
Architectural
Ornaments
on the
exterior
and mined
inside in
the form of
rooms.

Constructed entirely of Cement Concrete, reinforced with Cold Twisted Steel, according to the Ransome System.

An early
example of
Cement Concrete
Construction
quite common on the
Continent of Europe
and now coming
into use in America.



HOW TO USE PORTLAND CEMENT

To secure the best results from Portland Cement, a few rules must be observed, and although a party may be thoroughly versed in the use of natural cement, lime, etc., he should note carefully the following.

To Make Good Concrete

The following suggestions are intended for hand-mixing. Where machine mixing is done, the process is varied according to the kind of machine used.

Use only clean, coarse, sharp sand, free from loam—the coarser the better. Spread out the exact measured quantity of sand upon the mixing board, pour upon it the exact quantity of cement, spread carefully and evenly over the dry sand.

Mix the sand and cement thoroughly when dry. Do not make the serious mistake of adding water to either the sand or cement before a thorough dry mixing of the two; they should be turned together dry at least three times. Then add the required quantity of water and mix thoroughly.

Be careful to use only pure, clean water. If too much water is added it retards the setting, especially in damp, cold weather, and the work will become less dense and therefore less durable. The addition of enough water to make the mortar of such consistency as will stand stiffly upon a trowel is quite sufficient unless the preparation is to be used for grouting.

The correct quantity of broken stone, gravel or cinders, which has first been thoroughly washed down to remove all particles of clay, loam or dirt, is then added and the whole mass thoroughly mixed by turning two or three times until the broken stone, gravel or cinders are evenly distributed.

The concrete is then ready for immediate use, and should be laid as quickly as possible, and well rammed into place until water appears on the surface.

Avoid the use of too much water. None should show itself until the mixture is well pounded down. It should be remembered that even with the same amount of water necessary to make

a mortar of the given stiffness, the mortar varies with the temperature and degree of moisture of the air and dryness of the sand. If great strength is required, water should be added only in sufficient quantity to give the mortar the resemblance of dampened earth, and when rammed properly in thin layers it will show a little moisture on the surface.

Until the bed is thoroughly set it should be left free from disturbances of any nature.

The following proportions have been found to answer for most purposes for which concrete is used, to be varied as nature of work, quality of sand or the size of stone may require :

- 1 Part GIANT Portland Cement
- 3 Parts sharp Sand
- 6 Parts Broken Stone or Gravel

For concrete under water, sand and broken stone should be used in equal proportion if great strength is desired.

Sidewalks

Excavate to the depth of one foot. Stake strips 2 x 4 inches solidly on the outside to keep the walk straight, being careful that the level and fall are correct.

Fill the excavation with eight inches of gravel, broken stone or cinders, well wetted and tamped down, to give good drainage. Cover with four inches of concrete, composed of six parts gravel or broken stone, two parts clean sharp sand and one part GIANT Portland Cement, thoroughly mixed, as described for the making of concrete, and well pounded down until moisture appears on the surface.

Cut the concrete in blocks through to the bedding. The blocks should not be larger than four feet by six feet, and should be separated by laying strips of tarred paper between the blocks; or leave a space between the blocks of one half inch in width to be filled with sand. Re-level any strips which have become displaced, making top of concrete one inch below the top of strips for the surface coat. Fill to top of strip with mortar made of one part GIANT Portland Cement and one part clean, sharp sand.

Use as little water as possible, and do not trowel the surface too much.

To procure the greatest possible strength, the surface coat should be laid almost immediately after the concrete is in place, so as to secure a perfect bond between the concrete and top dressing.

Keep the surface free from dirt and dirty water, and protected from the hot rays of the sun or currents of air by covering with canvas or coarse cotton kept thoroughly wet until the cement has hardened.

Portland Cement surface should never be laid on a concrete of Natural or other common cement, as the unequal shrinkage will cause the surface to separate from the base.

Barn and Cellar Floors

These should be laid in the same manner as sidewalks, except that the broken stone or gravel foundation may be omitted, and the concrete may be rich or poor according to the service the work must undergo.

Cement-Lime Mortar

Careful tests have proven that the addition of Portland Cement to mixtures of well slaked lime and sand greatly improves the mortar. The adhesion of the mortar to brick or stone and also its impermeability to water are greatly increased by the addition of cement. A mixture of one part Portland Cement to one part lime and six parts sand is as strong as a mixture of one part Portland Cement to three parts sand. In making Cement-lime Mortar the lime should be well slaked over night, then mixed with the necessary water. The cement and sand previously well mixed dry are then added and the mortar thoroughly worked together.

Plastering

The walls should be well cleaned and the brick or stone thoroughly washed and wetted; and the work afterwards kept damp by sprinkling lightly with water until the mortar has thoroughly hardened.

Plastering work should not be attempted out of doors during freezing weather.

Cistern Linings

Clean and thoroughly moisten the inside surface, use mortar composed of one part GIANT Portland Cement and one to two parts clean, sharp sand. Do not allow water to enter cistern until cement is well set.

To Prevent Freezing

Use heated water to which has been added one pound salt to every five gallons of water used in mixing. Heat the materials used with the cement, but do not heat the cement itself. If the work can be kept from freezing until well set, no harm will result.

Cement Sewer and Drain Pipe.

First class cement pipe is manufactured by mixing one part of GIANT Portland Cement and three to four parts clean, sharp sand and gravel. Care should be taken to avoid an excess of water.

Small size pipes are generally made in two and a half or three foot sections, and the larger sizes in lengths of two feet.

The moulds are made from rolled iron plates, hinged on one side and clamped on the other so as to be easily removed, after the mortar has been well tamped in, without injury to the green pipe.

Convex and concave iron rings are used to shape the ends of pipe.

NOTES

Good Portland Cements are a bluish gray color.

The amount of water required to properly gauge a cement will vary with almost every cement.

Good cement may be drowned by an excess of water.

Portland Cement may be kept from one season to another without deteriorating or becoming stale, *provided* it is kept in a perfectly dry place.

Cement work should not be tampered with after setting has begun.

When bricks or stone are laid in cement mortar they should first be thoroughly wet, as otherwise they will absorb the water from the mortar.

Neat cement reaches its full strength in a much shorter time than a mixture of sand and cement.

Good Portland cement continues to harden and attain a great strength for a long period, some tests show an increase at the end of seven years.

Concrete should be made as required. If setting begins before the concrete has been put in place it is worthless.

In hot weather cement work should not be allowed to dry too quickly. It should be sprinkled with water and protected from the sun.

Mortar made from neat cement is not weather proof, and complete weather resisting qualities can only be given by the addition of sand or similar materials.

Concrete adheres very closely to iron and steel, and they are commonly used to strengthen and bind different parts together.

The cement required per cubic yard of good concrete will average a little less than one barrel.

An average of 40 square feet of sidewalk or floor can be laid with one barrel of Portland Cement.

Portland Cement work done in cold weather will not show strength as early as that done in warm weather, but will finally reach its normal hardness.

Fire-proof mortars are made by using hard-burned furnace cinders, say 1 part Portland Cement, 2 parts sand and 5 parts cinders.

If cement work is to be painted, the surface can be prepared for the paint by freely applying a solution of 1 part of good sulphuric acid in 100 parts of water after the cement has thoroughly set.

TO COLOR CEMENT.

Mineral colors are generally used to color cement work, and while nearly all coloring matters reduce the strength of cement, manufacturers recommend the following:

Dark Color—One half pound of lamp black to one barrel of cement.

Grey.—One half pound lamp black to 100 pounds of cement.

Bright Blue—Prussian blue in amount to suit.

Green—Six pounds ultramarine to 100 pounds of cement.

Yellow or Buff—Six to ten pounds yellow ochre to 100 pounds of cement.

Black—Two pounds of Excelsior black to 100 pounds of cement.

Bright Red—Caput Mortuum in amount to suit.

Dark Red—Burnt Sienna or Red Oxide in amount to suit.

Be Sure and use clean water.

Be Sure you do not use too much water.

Be Sure to use warm water in cold weather.

Be Sure the cement and sand have been thoroughly mixed *dry* before water is added.

Be Sure the sand is clean and sharp.

Be Sure and use GIANT BRAND Portland Cement.

Don't use too much sand and stone.

Don't use concrete until cement, sand and water have been thoroughly mixed.

Don't allow the work to dry too quickly.

Don't trowel work too long.

Don't work cement after setting has commenced

Don't expose new or green cement work to the sun's rays.

Don't use any but GIANT BRAND Portland Cement, manufactured by The Ontario Portland Cement Co., Limited, Brantford, Ont.

GIANT BRAND PORTLAND
CEMENT

IS

“MADE IN CANADA”

WITH

CANADIAN MATERIALS

BY

CANADIAN WORKMEN

PAID WITH

CANADIAN MONEY

BY A

CANADIAN COMPANY

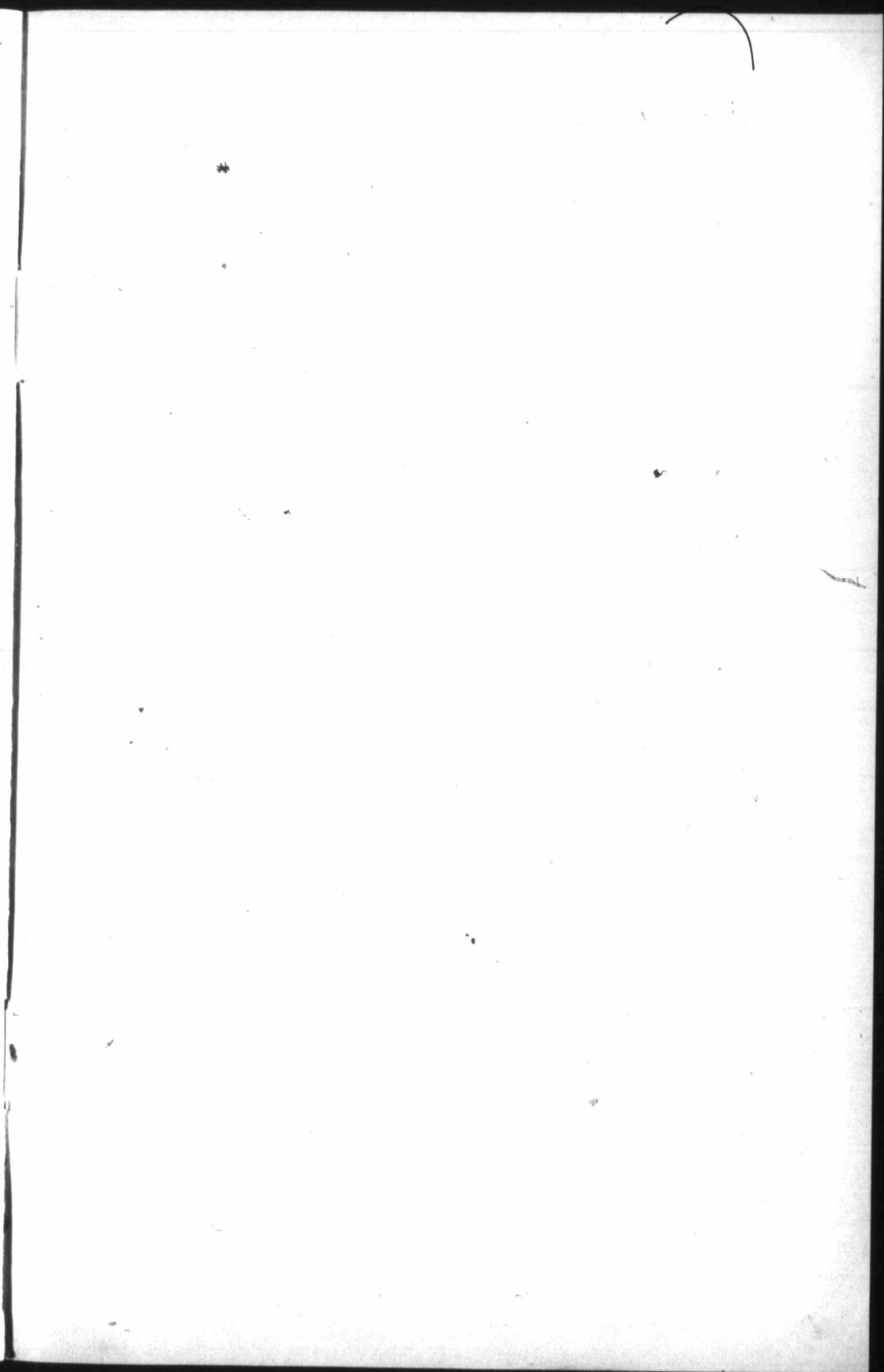
MANAGED BY A

CANADIAN BOARD OF
DIRECTORS

THE ONTARIO PORTLAND
CEMENT CO., LIMITED

HEAD OFFICE:
BRANTFORD, ONTARIO

MEMO.



PORTLAND CEMENT

GIANT BRAND

