

decided upon before the dimensions of the foundation could be determined.

The foundation is of solid concrete laid on the rock strata at a depth varying from 8 to 12 feet and carried up even with the ground line. Three pyramidal granite steps, tapering from dimensions of 26 x 36 feet, to 20 x 77 feet, form the base of the building.

With the exception of the roof the material employed throughout is Troy white granite.

Six columns (monoliths), 15 feet high and 2 feet in diameter, adorn the front of the building giving support to the massive frieze and cornice, and the same effect is maintained around the entire structure by means of pilasters.

Seven pieces of Canadian granite comprise the roof, which feature is probably more in strict accordance with the classic idea than any proportionate attempt heretofore made in the Dominion. Certainly these are the largest monoliths ever utilized in building construction in this country. Each stone before dressed measured 36 feet in length, 4 feet 9 inches in width, 1 foot 6 inches in thickness, and weighed 23 tons. Our second illustration shows one of these huge monoliths loaded upon a truck for transportation. It required 22 horses to draw the load. These stones are grooved and overlap each other, making the roof absolutely storm-proof.

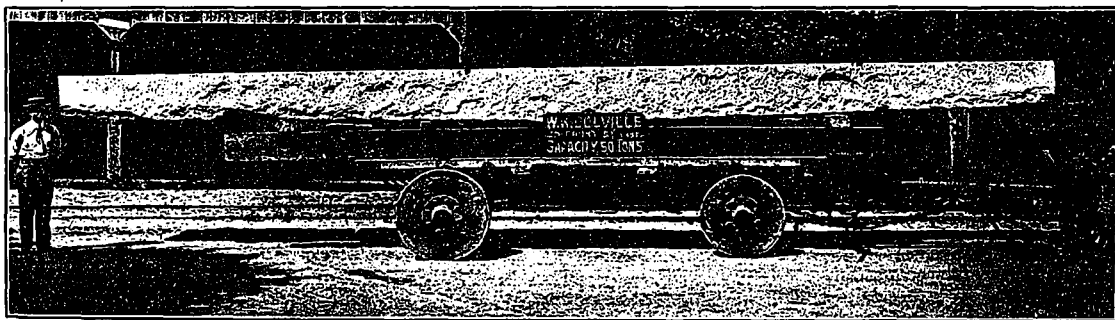
In order to guard against any possible moisture forming upon the interior walls a distinct and separate reinforced concrete structure—a complete building in itself—

Proposed Spiral Tunnel 3,800 Feet Long to Reduce Grade of 70 Feet in British Columbia

A RADICAL departure in railway construction will shortly be commenced on the C. P. R. main line, between Hector and Field, B. C., whereby the grade percentage will be reduced from 4½ to 2.1-5 per cent., which will prove a great saving in coal. A million and a half dollars will be expended in the undertaking. It will be a difficult engineering problem. The plans approved by the railway company include eight miles of rock work and one and one-eighth miles of tunnelling. The scene of the operations is the main line between Hector and Field.

The Big Hill, as it is called, is known to railway men all over the continent and is one of the heaviest grades on any transcontinental line. It will be lowered in part by going around Cathedral mountain in a circle, but instead of going around the outside of the mountain it will be driven around the inside. A tunnel 3,800 feet in length will describe practically a complete spiral circle in the heart of the mountain and its western end. The entrance for westbound trains will be 70 feet higher than its eastern end. On leaving the tunnel westbound trains will pass under and across the track which took them into the mountain 70 feet above.

Another tunnel on the northern side of the Kicking Horse river will be driven 3,400 feet in a gigantic circle in the bosom of the mountain, and between the two will be another about 200 feet in length.



GIGANTIC GRANITE MONOLITH EMPLOYED IN ROOF OF HON. SENATOR COX'S MAUSOLEUM—36 FT. LONG, 4 FT. 9 IN. WIDE, 18 IN. THICK, AND WEIGHING 23 TONS.

has been built inside this granite enclosure, with an air space of about 6 inches separating the walls and draining into the sub-tank on the cemetery grounds. Inside of this smaller compartment 16 sarcophodies—8 on either side-wall—are located, which leaves a clear channel space 9 x 18 feet. In the wall opposite the entrance door is a stained glass window 3 feet wide and five feet over all. Beneath this a marble seat 2 x 6 feet has been provided.

The interior walls are of pure white marble, while the ceiling is of marble in two squares. The floor is laid in white vitreous tile with a green border. The doors are of bronze.

The building cost \$50,000. McIntosh, Gillett Co., Limited, of Toronto, were the contractors.

EDITOR'S NOTE

Owing to lack of space in this issue it has been found necessary to withhold the four page article referred to in our editorial columns, treating of apartment-house construction as an alleviation of the "slum" problem. This will be one of the features, however, of our November number, and will include perspectives, elevations and plans of several types of modern apartment houses.

The famous loop sinks almost into insignificance beside this magnificent piece of engineering work.

Messrs. Macdonell & Gzowski, engineers and contractors, of Vancouver, have secured the contract for this work taking it in the face of competition from all similar firms in the United States and Canada. It is one of the biggest contracts let on the Pacific slope for many years.

A Competition

AMBITIOUS architects, and members of their staff, will find an opportunity to earn easily some Christmas money in the advertising pages of this issue. The Colonial Dolomont Company, makers of the really sanitary seamless flooring, a vast improvement over the familiar 'stone-wood' floor, are offering seven liberal prizes in gold coin for drawings suggesting the best color scheme and design for that part of a bank floor used by the public. As the editor of CONSTRUCTION will select the jury of award, and the conditions of the contest are remarkably simple and easy, here is one competition which will be conducted in a spirit of absolute fairness and in which each reader of this publication should feel a direct concern. The announcement of the competition appears on page 76.