To make perfect Sand-lime Bricks, thorough mixing of the lime and sand, and the absolute and instantoneous hydration of all of the lime, are essential. The thorough mixing of the sand and lime is comparatively simple, but the problem of instantaneous and thorough hydration of all the particles of lime throughout the brick has baffled many experts.

The Steger system is the only system which has solved this important problem. From the machine in which it is first pulverized the lime is conveyed under dust-tight housing until it falls into an adjustable measuring apparatus, into which the sand is also conducted in like manner. This apparatus can be adjusted so that it will accurately measure from 94 to 96 parts of sand and 4 to 6 parts of lime. In the required proportions the sand and lime falls thence into the apparatus wherein it is automatically steamed and thoroughly intermixed and conveyed through a series of manifold tubular chambers, en-route to the press. As discharged from the press the bricks are run on iron cars into a long steel cylinder, 6 x 66'-0"; which, when filled to its capacity of 20,000 bricks, is hermetically sealed, and chemically treated steam to the high pressure of from 120 to 150 pounds to the square inch is applied to the brick continuously for from ten to twelve hours.

In this process the hydratic lime and the silicic acid of the sand combining in a silicite of lime, results in a compact product, harder, with greater resistance, less moisture absorption, atmospheric proof, better, than the best natural sand-stone. Moulding pressure, 15,000 pounds per square inch; steam pressure, 150 pounds per square inch; temperature, 185°. Time exposed to steam, ten hours.

Strength and durability.—Crushing strength, after hardening, 7,740 pounds to the square inch. Tensile strength after hardening, 437 pounds to the square inch. Crushing strength after freezing, 9,007 pounds to the square inch. Tensile strength after freezing, 371 pounds to the square inch.

Cost of manufacture, and question of profit.—It is estimated that after a plant with a daily capacity of 40,000 bricks has been installed, the brick can be made for $4.50 per thousand, to which add $1 per thousand for delivery, or $5.50 per thousand. Common clay bricks are sold in midsummer for $9.25 per thousand, delivered. Selling our superior lime brick at the same rate would leave us a profit of $3.75 per thousand.

Forty thousand bricks per day at $3.75, $150 profit.

Yearly product, 280 days, at 40,000 bricks per day, 11,200,000 bricks.

11,200,000 bricks at $3.75 per thousand, $42,000 profit.

The estimated cost of machinery for a Sand-lime Brick plant, $45,000.

Note:—Whereas $9.25 per thousand is quoted above as the price of common clay brick in Vancouver, the present price as a matter of fact is from $10 to $11 per thousand for extremely inferior brick, while the price of ordinary clay press brick is $45 per thousand, even these cannot in any respect compare with the bricks made by the Steger process.

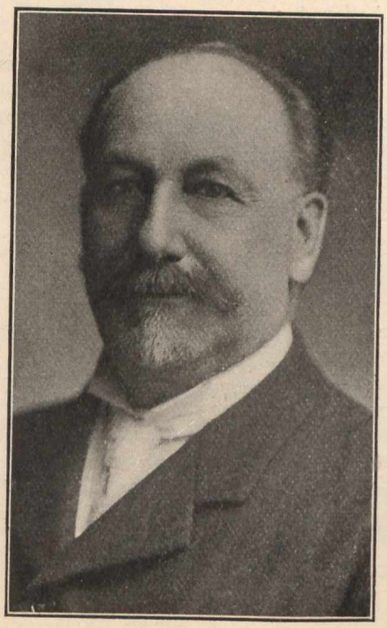
For further particuars apply to the British Columbia Agency Corporation, Limited, 405 Hastings Street, W., Vancouver.

THE LATE W. T. JENNINGS, C. E.

(Obiit. Oct 24, 1906.)

In the death of the Dean of the Civil Engineers of Canada, the engineering profession has lost its most distinguished member, and the Dominion a worthy citizen.

William Tyndale Jennings was born in Toronto May 19, 1846. His professional career began in 1869—at the age of 23—when he commenced field work on the drainage improvement of the Crown Lands of Ontario, under Mr. T. N. Molesworth, Engineer of Public Works—brother of the compiler of Molesworth's Engineers' Pocket Book. From that time until now, his business record is practically the history of Civil Engineering in the Dominion. On the occasion of his election to the Presidency of the Canadian Society of Civil Engineers in 1899—at the age of 53—"The Canadian Engineer" published an elaborate two column account of his lifework. As we calmly read that interesting story of "things done" we were simply amazed at the work crowded into those thirty years. His work as resident engineer to the Great Western Railway, 1873-1875—during which he surveyed the Detroit River. His work under Sir Sanford Fleming, on the C.P.R., 1875 to 1879; during which time in British Columbia he located the present line through the canyons of the Fraser River, and other formidable sections. How, as chief engineer of construction in 1883, he superintended the building of 350 miles of railway from the Pacific coast eastward. How, in 1885, as consulting engineer for C.P.R., he built the lines from Woodstock to London, from London to Detroit, the Wingham Extension, the eastern entrance to Toronto, the Guelph Junction, made various locations of surveys, and laid scarfs of the C.P.R. from Yonge Street westward. How in 1890, he became City Engineer of Toronto, and was responsible for the Sherbourne Street bridge, Carlaw subway, King Street subway, Island ferry slips, etc., and was instrumental in bringing about a settlement of the dispute as to occupancy of the water front. His specifications—under which the street railways were leased—are recognized as a model, and have formed the basis of many like franchises—even in great cities of the United States. How in 1891 he went into private practice in Toronto, and built the Niagara Falls Park and River Railway, also the Galt, Preston and Hespeler Electric Railway, and others of importance. How, from 1892-1895, he was chief engineer to the famous Crow's Nest Pass Railway, which he examined and located so as to open up to best advantage the enormous coal deposits, in that region; which are such an important asset in the development of the Pacific Coast Province. In 1897, he was commissioned by the Dominion Government to report upon the feasibility of a navigable route from Fort Wrangle on the Pacific Coast over the eastward chain of lakes and rivers



The Late W. T. Jennings.

from this point, and then by rail through the series of passes ending with the Chilcoot. This report is now an important State paper. In 1898, under the auspices of the Toronto City Council Special Commission, he explored and reported on the country between North Bay and James Bay: embracing Lakes Temiscamingue and Temagami, and the Blanche, Montreal, and Wahnapitae rivers, etc., having in view a railway from Toronto to Hudson Bay. This was the first revelation of the rich heritage Ontario has in her wonderful northland. Among the other notable things he did, was his report to the Dominion Government on the Louise Basin at Quebec. He also made expert examinations of the Halifax and Esquimault dry docks.

His chief work of late years, has been in connection with the electrical power railway projects of the Electrical Development Co., for which he was retained as Consulting Engineer.

An economic engineering project Mr. Jennings had hoped to see realized in his lifetime, was a line of railways along the lake shore between the Don and Port Union, to avoid the stiff haul over 'Scarboro' Bluffs. But now this problem will have to be solved by others. To glance over the thirty-seven years of noble work achieved in the engineering which we have briefly sketched, is an inspiration. Mr. Jennings died universally respected, not only for his great technical ability and achievements, but for his sterling integrity and uprightness of character. This was evinced at the Engineers' Club of Toronto, on October 24th—