



R. O. KING, GOLD MEDALIST.

Honors in Hydraulics—George Dewar McDougall.

Honors in Dynamics of Machinery—Ralph Bayles McDunnough.

Honors in Hydraulics—John Primrose.

Prize for Original Research Work, presented by P. A. Peterson—John Kimball Scammell.

The names of Frank D. Rogers and Arthur Langley Mudge were added to the graduating class.



CECIL B. SMITH, M.A., A.M., Can. S.C.E., was born at Winona, near Hamilton, March, 1865, and received his education at the Hamilton Collegiate Institute, and afterwards in civil engineering at McGill University, graduating in 1884 with first honors and the Governor-General's medal. Since that time he has been engaged chiefly on railroads, although working for a short time under Mr. Thomas Monro on the Welland Canal, and under Mr. John Kennedy on the Montreal Harbor Commission. He has had charge of many heavy pieces of construction; on the Northern and Pacific Junction Railway under Mr. J. C. Bailey, on the St. Catharines and Niagara Central Railway under Mr. B. N. Molesworth, on the C.P.R., at London, Ontario, under Mr. W. T. Jennings; surveyed for the Toronto, Hamilton and Buffalo Railway during the summer of 1889, under Mr. A. L. Hogg. He was then appointed successively: Resident engineer, chief draftsman and division engineer on the C.C. and C.R.R. in Tennessee and S.C., under Mr. A. N. Molesworth, constructing 70 miles in all. He was then appointed division engineer on the Roanoke and Southern Railway, under Mr. Andrew Onderdonk, in charge of 65 miles of heavy work, including track-laying and maintenance. On this being completed, after short reconnaissances for the Concord Southern Railway, he was appointed resident engineer on the Baltimore and Ohio Railway, under Mr. W. T. Manning, in charge of 14 miles of very heavy work. On completion, he was appointed Lecturer in Civil Engineering and Descriptive Geometry at McGill University, the duties of the former being to lecture in railway engineering and on testing of materials of construction. In 1888 he was made associate M.C.S.C.E., and in 1894 obtained the degree of Master of Engineering from McGill University. The first instalment of Mr. Smith's able paper on cement testing appears in this issue.

The hydrographic work of the Marine Department will this year be confined to operations on Lake Erie, and this section will be completed before proceeding with the survey of Lake Huron. The work will be in charge of W. J. Stewart, under the direction of Lieut.-Col. Anderson, chief engineer of the Marine Department.

THE TWO-PHASE SYSTEM.

To the Editor of *ELECTRICITY*.

DEAR SIR,—In an editorial in your issue of April 10th you say in reference to the new Westinghouse shops: "Aside from all this, these new works undoubtedly constitute the most complete electrical shops in the world of any kind, and the only ones using the two-phase currents for all operations." As to the first part of this statement it is a matter of individual judgment, and we have no comment to make; but we are certainly astonished at the latter part, as a reference to your own files would prove its inaccuracy. Our shops have long been operated by two-phase currents, and entirely so. There is not even a temporary use of direct current for elevators and cranes. The whole work is done by two-phase currents. Neither is our apparatus of such peculiar design that it can be operated only at an abnormally low frequency. All the apparatus in our shop is supplied from the central station of the town by a generator using the standard frequency of 16,000 alternations. It is not necessary for us to limit ourselves, therefore, saying that our apparatus could also be used at Niagara. It can be used in connection with any central station, and is being used in connection with many. We are surprised above all that you should undertake to decide the legal question as to the right to use two or three-phase currents for transmission purposes. Surely an anti-monopoly journal need not start in to create a monopoly in advance of the decision of the courts. Had these statements appeared in a journal known to be biased, or to be affected editorially by its advertising columns, we should have passed them over in silence as of no importance. In the militant advocate of fair trade, however, they carry weight. We trust that, your attention having been called to their erroneous nature, in your usual spirit of fairness you will rectify them.

JOHN F. KELLY.

Stanley Electric Manufacturing Co., Pittsfield, Mass.

The above appeared in *Electricity*, and the editor makes the following comment: We thank Mr. Kelly for correcting us in making too sweeping a statement, as the Westinghouse shops are not "the only ones using the two-phase currents for all operations." More than a year ago *Electricity* published a comprehensive write-up showing the application of the S. K. C. two-phase system in the Stanley works at Pittsfield, which, we believe, was the first extensive installation, and which has worked with perfect success. We regret the overstatement, which was purely inadvertent. In regard to our remarks as to the legal questions involved, we made no attempt to anticipate the decisions of the courts, discussing merely the Westinghouse and Monocyclic systems, as a careful reading will show. We stated, what we knew to be a fact, that the General Electric people had acknowledged their Monocyclic system to be an infringement of the Tesla patents.

THE PROPOSED MARITIME CANAL.

Editor *CANADIAN ENGINEER*:

SIR,—The Montreal *Price Current* is taking me to task for saying that the outpour at Niagara will, on completion of the canal, be diminished by the quantity of water made to flow from Lake Erie towards the Hudson. This was the first idea of the great canal company, or of its predecessors in the field; but the company being now imbued with the importance of taking in the traffic not only of the upper lakes, but of the eastern portion of Ontario, the western portion of the Province of Quebec, and the northern portion of the State of New York, including Toronto, Ottawa, Kingston, Montreal, etc., the amended scheme is now to start the canal at Lake St. Francis on the St. Lawrence above Montreal, and thus secure the good will of the latter city and of all those above it in the line of traffic, as it must of course be indifferent to Montreal whether it gets its ocean steamers *via* the St. Lawrence or by way of New York, the Hudson, Lake Champlain, and the proposed canal between the latter and Lake St. Francis.

Still, is it true to say that while Lake Ontario will not suffer, nor the aforesaid cities and sections of the Dominion, there will yet be such falling off in the St. Lawrence below Montreal as due not only to the off-take by the Chicago drainage canal from Michigan towards the Gulf of Mexico, but also by so much water as may be taken from Lake St. Francis to feed the maritime canal?

Of course it would be useless, in view of the immense interests at stake, to offer any objections to a scheme so deeply affecting such a vast and important section of the Dominion, and all that Quebec can look to, and the riparians between Montreal and the Gulf, is a suitable compensation by the Government or by the company for our thereafter diminished traffic facilities, due to less draught of water between Montreal and the ocean.

CHAS. BAILLAIRGE,

Quebec, April 16, 1885.

Engineer, Quebec City.