

veys of the route. Subsidiary to this scheme, Mr. Stewart says he has formed the New Dominion Syndicate, for the purpose of developing the resources of the Ottawa valley, especially along the route of the canal. It is the intention of this company to develop the resources of lumber, timber in pulp, nickel and other industries, and convert into electrical energy the available water powers along the route of the canal.

R. J. DURLEY, B. Sc. (LONDON).

The chair of mechanical engineering, McGill University, vacant by the resignation of Dr. J. T. Nicolson, has been filled by the appointment of R. J. Durley, B.Sc. (London), at present assistant professor of mechanical engineering. The appointment of Professor Durley to the chair gives a step also to H. M. Jacquays, M.A., M.Sc., who will be offered the lectureship in mechanical engineering. R. J. Durley obtained his early education at the Modern School, Bedford, England, a school whose history goes back for considerably over three centuries. Obtaining an exhibition on leaving, he entered the engineering department of University College, Bristol, and worked there during the session of 1884-85. While here he secured one of the college scholarships. He gained a Gilchrist scholarship at University College, London, in 1885, and studied there under Dr. Alex. B. W. Kennedy during the sessions of 1885-86, and 1886-87, spending a considerable portion of this time in experimental work in the engineering laboratory of the college. At the conclusion of the course he took a very high position in all the college examinations in professional subjects, and in 1887 he passed the examination for the degree of Bachelor of Science of the University of London. On leaving University College, he entered the works of Earls' Shipbuilding and Engineering Company, Ltd., of Hull, and served a term of four years' apprenticeship as a mechanical engineer. During this time Mr. Durley spent some time working on board those ships of the Royal Navy then being engined by Earls' company, in H.M. dockyards in Pembroke and Davenport. From 1890 to 1894, he remained in the employ of the same firm, and was employed in designing marine and other machinery of varied types. In 1894 Mr. Durley was appointed chief lecturer on mechanical engineering in the Hull Municipal Technical Schools, which were then being established, and he was responsible for the arrangement, organization and equipment of the workshops and laboratories of his department. In 1897 he accepted the appointment of assistant professor of mechanical engineering in McGill University. Mr. Durley is a Whitworth scholar, and has on two occasions received Miller prizes for papers presented by him to the Institution of Civil Engineers, England, of which society he is an associate member. He is also an associate member of the Canadian Society of Civil Engineers, and has been a not infrequent contributor to the proceedings of that body. The work done for McGill University by Mr. Durley, as Dr. Nicholson's assistant, received academic recognition last year, when the degree of Master of Engineering was conferred upon him by McGill.

A DISMISSED ENGINEER.

Judge McDougall's finding upon the charges preferred against Robert Pink, chief engineer at the main pumping station, Toronto, touching the honesty and authenticity of his reports on the Green economizer tests has been presented to the city council. The judgment goes carefully and with much detail into the three tests made, and the conclusions are decidedly against Mr. Pink. Of the first test the judgment runs in part "I have carefully checked the calculations and figures showing the coal consumed and water pumped at the first test made by Mr. Pink in November and December, 1897, and I find the figures of this first test given by Mr. Pink in his report dated January 7th, 1898, and addressed to Mr. Keating, to be incorrect and misleading." The following comparison will show to what extent:

	Mr. Pink's figures.	Correct figures.
Nov. 21 to Dec. 20, 1896—		
Water pumped, gals.	499,347.700	467,875.247
Coal consumed	621 tons 1,220 lbs.	583 tons 782 lbs.
Nov. 21 to Dec. 20, 1897—		
Water pumped, gals.	436,432.257	507,582.330
Coal consumed	531 tons 455 lbs.	650 tons 990 lbs.

His Honor goes on to say that Mr. Pink reported of this test: "I have made a careful calculation as to the comparative amounts of water pumped, and conclude that the saving of fuel by the use of the economizer amounts to 12.65 per cent.," and that Mr. Fellowes had shown that the actual saving in coal was 2.27 per cent. The judge goes somewhat further into the details, and shows that from November 21 to December 20, 1896, without an economizer, 40,091 gallons of water were pumped per 100 pounds of coal burned, and that in the 1897 test, with the economizer, 39,015 gallons of water were pumped per 100 pounds of coal. That is to say, there was a 2.68 per cent. of loss in 1897 from the use of the economizer.

Commenting upon Mr. Pink's confession that from the figures of the coal consumed and water pumped, Mr. Gower, the agent for the Economizer company, had figured out for him the percentage of gain, and that he had accepted the result without verification, Judge McDougall says: "I regret to say Mr. Pink seemed utterly unable to appreciate any moral delinquency in the foregoing conduct."

His Honor continues: "I find upon the evidence as to the so-called first test of the Green economizer, that Robert Pink, the chief engineer of the main pumping station, sent in to the city engineer a false and misleading report of the working of the said economizer, and that he falsely and wrongfully in the said report stated that after careful personal calculation of certain data prepared for him by his clerk (Mr. Harston), the said Green economizer was effecting a saving of 12.65 per cent. in the consumption of coal required to pump a given quantity of water. I further find that Robert Pink, most improperly and contrary to his duty to the city, allowed the agent of the Green Economizer Company to examine the data prepared for a report to his employers relating to the saving in fuel effected by using the Green economizer before such report was sent in to the city engineer; and, further, the said Robert Pink allowed the said agent to prepare for him the most important part of his report, that purporting to show the percentage of coal saved by the use of the economizer, that such percentage as stated was false and untrue, and that I can only conclude that the object of such false statement was to deceive the city engineer, hoping thereby to induce him to report favorably to the council upon the merits of the Green economizer, and also in expectation that the said city council, upon the faith of his (Pink's) false report, would purchase the said economizer."

The judge goes into the statistical details of the second test, and concludes: "Making, then, a comparison of the two periods chosen by Mr. Pink, I find that in 1896, without the economizer, engines Nos. 4 and 5 for a period of 30 days pumped 41,184 gallons of water per 100 pounds of coal, and in 1898, for a similar period of 30 days with the economizer, they pumped 42,306 gallons per 100 pounds of coal, or a gain of 2.72 per cent. in favor of the economizer. Deducting from Mr. Pink's alleged saving of 11.8 per cent. his arbitrary allowance of 5 per cent. for excess of ash, there would be left 6.87 per cent., his net alleged saving." Regarding the ash allowance, the judge characterized it as "being utterly unwarranted by the facts, and as being manifestly dishonest on the part of Mr. Pink."

The judge deals with the third test, which he concludes was, owing to the tactics in the engine-room adopted by Mr. Pink, and permitted by Engineer Hughes, such as jockeying with the furnaces and wasting steam, to be "utterly worthless and unreliable." Judge McDougall concludes finally: "I find therefore upon comparing the two thirty-day tests (one with the economizer in November, 1897, and the other in June and July, 1898) with the pumpage per 100 pounds of coal for the three months of August, September and October, 1896, without an economizer, the first test shows there was a loss of 3.47 per cent. suffered by using the economizer. And in the second thirty-days' test the comparison shows that the economizer effected a saving of 4.66 per cent. The economizer therefore since its installation, and under the conditions of the written contract with the city, has not shown as the result of any thirty days' test a saving of fuel exceeding 4.65 per cent."

"I find that the strictures contained in Mr. Fellowes' report of February 16th, 1899, to Mr. Rust relating to the economizer tests and to Mr. Pink's reports thereon, are amply sustained by the evidence. The utterly untrustworthy and misleading nature of Mr. Pink's reports pointed out by Mr. Fellowes have been