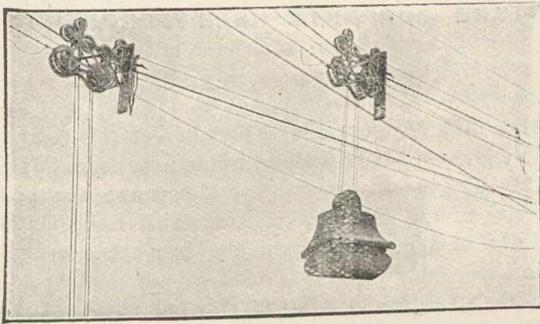


cableway. The button-stop employed has been successfully tested experimentally with a fall-rope carrier running at the speed of 3,000 feet per minute.

On account of the ease of operation of these cableways, considerable difficulty has been experienced in restraining the operators from racing with each other. The cableways have frequently been operated at a speed of 3,000 feet per minute, which, being at present too severe for the fall-rope carriers, is now limited to 2,500 feet per minute. Some of the

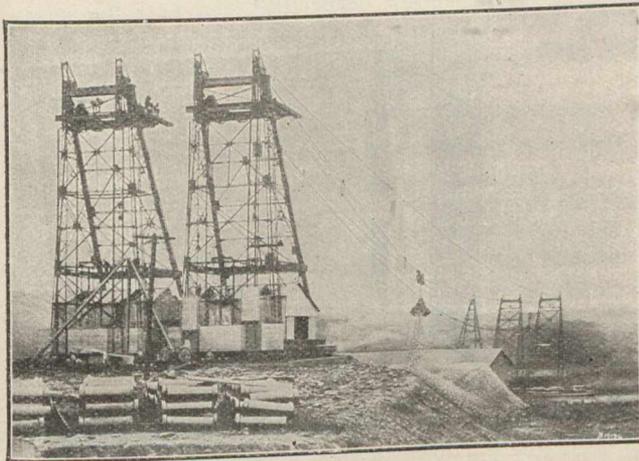


Another view of the carriage and buckets, showing also the fall-rope carriers.

small pieces forming the heads of the fall-rope carriers are being replaced with heavier pieces which, it is believed, will admit of even the higher speed.

Another feature of these cableways which is new is that the bucket is counter-balanced like a passage elevator. Thus only the net load has to be hoisted and only enough power is required to do this and overcome friction and inertia.

The eight cableways used for putting the materials in place in the lock walls are similar in span, height, style of towers, and method of control to those for unloading the ma-



The five high-speed Lidgerwood cableways which are handling, from barges to the storage heaps, the 2,000,000 cu. yards of broken stone and 1,000,000 cu. yards of sand required to build the Gatun locks.

terials, but they will never be called upon for such rapid work. While they will handle the entire amount of concrete, and besides this, the wooden forms and the many tons of old rails which are to be put into the concrete for reinforcement, there are eight of them as against five of the others, and each will have much less to do. This is necessary as the placing of the concrete requires care and deliberation. The immense quantity of concrete material for the Gatun locks will perhaps be better appreciated if one remembers that handled separately it amounts to more than 3,300,000 cubic yards.

SOCIETY NOTES.

Canadian Society of Civil Engineers, Toronto Branch.—

The Toronto members of the Canadian Society of Civil Engineers held their regular monthly meeting on Thursday, November 25th, at the Engineers' Club rooms. Thirty-five members were present, and Mr. C. R. Young, B.A.Sc., introduced a lengthy discussion on "Impact Stresses," a paper by Professor E. A. Stone, Dean of Engineering in the University of New Brunswick at Fredericton. Included in those contributing were Dr. Galbraith, J. G. G. Kerry, F. L. Somerville, Peter Gillespie, Frank Barber, and E. H. Darling, assistant engineer of the Hamilton Bridge Works, whose contribution was read by Mr. Gillespie. Following the discussion, Mr. A. C. D. Blanchard, assistant city engineer, Toronto, presented some interesting views of progress work on the construction of the high level intercepting sewer now being built in Toronto. Mr. J. G. G. Kerry, C.E., presided.

McGill Applied Science Undergraduates.—The regular November meeting of the McGill Applied Science Undergraduates Society was held on November 24th, when a most interesting and profitable address was delivered by Mr. M. J. Butler, Deputy Minister of Railways and Canals, who chose as his topic "The Training of an Engineer and the Outlook for an Engineer in the Development of his Country." Mr. Butler emphasized the importance to the student of knowing the elementary mathematical subjects such as arithmetic, geometry, algebra, and trigonometry, and advised them to master principles, not details. In discussing the outlook for an engineer the speaker referred to the possibilities of the Hudson's Bay Railway. The surveys, he said, had been completed, and showed that a splendid line of railway could be secured from The Pas to the Hudson's Bay with a good, low gradient. The line would not be an expensive one to build. In connection with water transportation, Mr. Butler dwelt at some length on the Georgian Bay Canal, and pointed out the difficulties which he thought would be encountered by ocean boats in going through the canal. Dean Adams and other members of the teaching staff, who were present, briefly expressed their appreciation of Mr. Butler's address.

Union of Manitoba Municipalities.—The sixth annual convention of the above society was held on Tuesday, Wednesday and Thursday, November 23rd, 24th and 25th at Portage la Prairie. Mr. J. C. Menlove, of Virden, presided, and nearly 200 delegates were present. Resolutions were passed and papers read, including two on Waterworks and Sewage Disposal Systems, by Dr. A. J. Douglas, of Winnipeg, and Mayor Harvey, of Dauphin. Mr. C. H. Dancer read an instructive paper on "Good Roads." The Good Roads Association of Manitoba recommended the appointment of a Government Highway Commissioner. The election of officers resulted as follows: President, Sec.-Treas. Menlove of Virden (re-elected); vice-president, Reeve Forke of Pipestone; sec.-treas., Coun. Cardale of Blanchard; executive committee, Reeve Thomson of Assiniboia; Mayor Harvey of Dauphin; Reeve Allan of Odonah; Reeve Willis, Morton; Reeve Poole of Archie; Coun. Thomson of Portage; Cont. Waugh of Winnipeg; solicitor, Mayor Adolph of Brandon.

American Society Engineering Contractors.—The first monthly meeting of the above society will be held in the United Engineering Society Building, 25 West 39th Street, New York City, on Wednesday, December 14, 1909, at 8.30 p.m. A paper by Halbert P. Gillette, entitled "The Science of Management Engineering," will be read and discussed.

RAILWAY ORDERS.

(Continued from Page 623)

8657—November 16th—Granting leave to the East Middlesex Telephone Company, Limited, to erect, place, and maintain its wires across the track of the Grand Trunk Railway on the 6th Concession, Township of Missouri, County of St. Mary's, on its London and St. Mary's branch.

8658 to 8660 Inc.—November 16th—Granting leave to the Bell Telephone to erect, place, and maintain its wires across the track of the Grand Trunk Railway at P. C., ½ mile south of Port Robinson Station, Ontario, at P. C. Waterloo Street, New Hamburg, Ontario, and the C. N. Q. Railway, at a point three miles south of Joliette, P. Q.