

placed by power electrically transmitted from the waterfalls by the three-phase system. At this waterfall a brick and cement dam, 40 ft. high & 400 ft. long, will be constructed. The following particulars are given of the Co.'s method of construction. The standard 7-in. girder rail, which is used for city streets, weighs 90 lbs. a yard & is mounted on steel ties spaced every 10 ft. The ties are set in concrete, the latter being carried a distance of 4 11-16 ins. below the base of the rail. The rails are connected with the ties by clips & are bonded to them, making a cross connection. The joints are also bonded by the Anderson west end bond. The guard rail weighs 110 lbs. a yard, & the T rail for suburban service 62 lbs. a yard.

W. Kelly, for many years eastern passenger agent of the Chicago, Milwaukee & St. Paul Ry., has been appointed general passenger agent of the Niagara Gorge R.R.

Judge Lillibridge, of the U.S. Circuit Court, at Detroit, Mich., recently delivered a decision permanently enjoining the street railway companies from carrying freight over their lines within the city. Hitherto the suburban companies' cars have carried freight over the city companies' lines, although there has been no special authority for doing so.

At the beginning of Oct. electric traction will be installed on the lines of the Metropolitan Ry. Co., in London, Eng. The newspapers unanimously applaud the change from steam power. The system is entirely underground, & the smoke & gases from the engines have always been a most objectionable feature, preventing many persons from riding on the lines. This handicap will be entirely removed by the use of electricity.

The All-British Pacific Cable.

The Act passed by the Dominion Parliament at the recent session provides that the Governor in Council may enter into an agreement with the Governments of the United Kingdom & of the Australasian colonies, for the purpose of securing the construction & operation of a cable between Canada & Australasia. A Board of Commissioners, composed of 8 members, shall be created by authority of the Imperial Parliament of the United Kingdom. The cable & all property acquired for the undertaking shall vest in this board, in trust, to carry out the undertaking for the benefit of the Governments sharing in it. To carry out the undertaking, the board may issue debentures, payable at not less than 25 years nor more than 50 years from issue, & bearing interest not exceeding 3% per annum, the total amount of debentures not to exceed £1,700,000. Subject to the cost of operation, maintenance & management, & the setting apart of a sinking fund to provide for renewals, the principal & interest shall be a 1st charge on all the property & earnings of the undertaking. The cable shall be laid between Canada & Australasia via the Pacific Ocean, & may be in sections, but all points of its landing shall be on British territory. The Governor in Council may appoint, & shall be entitled to appoint, 2 of the commissioners, who shall, with the remaining 6 members appointed, 3 by the United Kingdom & 3 by the other contributing governments, constitute the board. The respective governments joining in the agreement shall be interested in the profits & losses of the undertaking in proportion to the amount of their liability as aforesaid. The Governor in Council is authorized, on behalf of Canada, to guarantee payment of five-eighths of the principal of the debentures, & of interest thereon.

In introducing the bill the Postmaster-General said that as to the extent to which the

scheme would involve Canada financially, it was impossible to give anything but estimates. The line would have to be laid in places at a depth of 3,000 fathoms, which exceeded the depth of any cable at the present time, but once it was laid this circumstance would help to preserve it. The estimate of cost made by the Imperial Pacific Cable Committee was £1,422,000. Since then the cost of material had appreciated to the extent of about £170,000, making the total estimated cost £1,592,000. To this it was proposed to add £108,000 as a margin, & to figure the total cost at £1,700,000. It was confidently anticipated by all that the cable would become a paying enterprise within a very few years. The cost of maintenance, repairs, sinking fund & interest, would be £144,886, & it was believed by experts that, after paying all these charges, there would be a surplus for the 1st year of operation of £11,114, which would increase by the 5th year to £124,565.

General Telegraph Matters.

Advices received at Vancouver, July 31, stated that the Dominion Government telegraph line from Bennett had been completed to Little Salmon. It was expected that it would reach Fort Selkirk by Aug. 25 & Dawson by Oct. 15.

The G.N.W.T. Co. has opened the following offices:—Cacouna, Que.; Ekfrid, Ont.; Forestdale, Que.; Glanworth, Ont.; Grimsby Park, Ont.; Roberval Hotel, Que.; Seeley's Bay, Ont.; St. Leon Springs, Que. The office at Stittsville, Ont., has been closed.

A telegraph line is being built by the C.P.R. along the Columbia & Western Ry., from West Robson to Midway, B.C., & will be completed simultaneously with the track. It is already in operation between West Robson & Gladstone, about 45 miles. Pending the completion through to Midway, the Vernon & Nelson Telegraph Co.'s line from Rossland to Greenwood is to be used for telegraphing as well as telephoning.

It is said that when the Government telegraph line is completed between Bennett & Dawson, Yukon, the rate for a 10 word message will be \$2.75, or 27½c. a word. It will be remembered that the Canadian, British Columbian & Dawson City Telegraph Co., in its debenture prospectus, gave an estimate of a revenue of 5 shillings, or \$1.22 a word, between Dawson City & Quesnelle, B.C., the extravagant absurdity of which we pointed out at the time.

The C.P.R. Co.'s Telegraph has closed these offices.—Wawanesa, Man.; Otter Lake, Ont.; South March, Ont. The following offices have been opened:—British Columbia: Gladstone, Kuskanook, McLean's Tunnel, West Robson, Kootenay Landing, Material Yard, Republic. North-West Territory: Bowell, Strathcona. Ontario: Jordan, South Lancaster. Quebec: Coteau, Fairfax, Heathton, Kateville, Massawippi, Mulvena, St. Edwards, Trenholmvile, Cassville, Granite Quarry, Johnville, Kingsey Siding, Marlow, Norton Mills, St. Milo, Tuck's Landing.

The Dominion Department of Public Works is asking tenders for 165 tons of no. 8 S. W. G. galvanized iron telegraph wire (354 to 365 lbs. a mile), delivered in bond at the C. P. R. station at Vancouver, B.C. The quality of the wire & galvanizing must be such as will afford a test corresponding to the Felton-Guilleaume standard EBB; having a constant (resistance x weight, per mile) under 5,700; breaking strain, over 1,100 lbs., & taking not less than 20 twists in 6 ins. Weight of lengths, without joint, 90 to 112 lbs. Also for delivery with the above 5 tons no. 9 soft annealed galvanized iron tie wire.

A Skagway, Alaska, telegram of July 18 said:—"Two representatives of a company

which claims to have a concession for a cable from Vancouver, B.C., to this port are now here. They say steps will very shortly be taken to begin the laying of the cable. Much London capital is said to have been subscribed for this cable, in order that the mining market of London may be in telegraphic communication with the gold fields of the interior." In view of the fact that the Dominion Government has decided to extend its line from Quesnelle, B.C., via the Stikine River & Teslin Lake, to connect with the line being built from Bennett to Dawson, it is not likely a cable will be laid. In any case, cable experts say the route is almost impracticable for a cable.

The Spokane & Northern Telegraph Co. will, it is said, make some extensions into the Boundary Creek country. When D. C. Corbin sold the Spokane Falls & Northern Ry. system to the Great Northern Co. he retained the telegraph line which runs from Spokane to Rossland, & from Northport to Nelson. He has been granted a Dominion charter for a telegraph line into the Boundary Creek country. The new line will, it is said, be constructed from Marcus, where connection will be made with the line running to Rossland, Spokane & Nelson. It may be extended to Cascade, Grand Forks, Columbia, Greenwood & Midway. From the latter point it may go down the Kettle River to Curlew & thence to Republic. The latter place would thus be given direct communication with the leading Boundary points.

A London, Eng., despatch of July 30 says:—"Some very interesting tests of wireless telegraphy were tried last week, Maskelyne, the famous wonder worker of the Egyptian Hall, being the experimenter. On Wednesday a balloon was sent up. When almost out of sight messages were sent from the earth to the balloon & replied to. Then at a distance of 400 yards a powder magazine was, by means of wireless telegraphy, blown to pieces. Maskelyne affirmed that the effort would have been quite the same at a distance of 10 miles. It would be interesting to hear Marconi's opinion about this, but as he is with the manoeuvring fleets we must wait for that to test the theory. Still, a further test. Another balloon was sent up, but carried no people this time, only a tail of cartridges of gun cotton. After waiting till the balloon was but a speck in the sky a button was pressed. There was a flash, a very distinct boom, & the speck disappeared."

A. E. Porter & W. A. Ander, of Bennett, will apply at the next session of the British Columbia Legislature for an act to incorporate a company to construct & operate a system of wireless telegraphy for the transmission of messages from some place near Bennett, Cassiar District, by the most direct route southeasterly through the Province to some point on or near the C.P.R. in the Province, with power to build branches to some point on Vancouver Island, & to other points in the Province. Speaking of this application, the Railroad Gazette says:—"Is a charter necessary for the right to put up a pole on a quarter acre of private ground once in a hundred miles? Must authority be got from the Government to sling electricity through the air? We shall next be told that the inhabitant of New York must get a charter in New Jersey to look at summer sunsets or to smell the fertilizer factories. Perhaps, however, our Canadian friends are simply aiming to stake out a claim to sufficient aerial territory to prevent intrusion by rival ether-disturbers. The annoyances so prevalent in various parts of the country during the past few years in consequence of the disturbance of railroad signal circuits, by stray electricity from street-car lines, suggest that doing business in the sky may not be so free from the sordid elements of earthly life as the poets & electricians would have us think."