

TELEGRAPHS & CABLES.

The Western Union's B.C. Cable.

The cables which will be used by the Western Union Telegraph Co. to establish connection between Seattle, Wash., & Victoria, B.C., have been completed. One section to be laid between Port Angeles, Wash., & Vancouver Island is 20 miles in length, the other, which will be laid across Puget Sound from Seattle, is 9 miles. The former required 6 cars of 60,000 lbs. capacity, & the latter 3 cars, to transport them to Seattle from Trenton, N.J., where they were made, with the exception of the core, consisting of 3 small insulated conductors, which was made in England. Each cable was loaded on the cars in the shape of the figure 8, layer upon layer, back & forth. Upright boards were placed along the sides of the cars to give greater capacity, & a temporary roof built over the cable. The entire cable weighs 421,080 lbs. It was made at the rate of about a mile a day.

During the entire process of manufacture the Western Union Co. had an electrical expert on the ground to see there was no flaw or defect in its construction. He was equipped with the most delicate appliances for detecting defects. The cable as it was made passed into a large tank of water, & from there to a small room, in which, all day long, sat the expert, notebook in hand, ready to jot down any indication of a flaw that might be shown by the delicately-adjusted galvanometer. An electrical current was constantly passing through the cable, & if at any time the slightest blemish had occurred, the current, assisted by the water, would have sought it out, & a telltale kick in the mirror of the galvanometer would have thrown a beam of light reflected by it upon a graduated scale. The expert had little to do, however, & his notebook was a blank so far as flaws were concerned, for so accurately was the work done that not a single blemish was found throughout the entire 29 miles of cable.

The very best gutta percha was used for insulating the 3 conductors of which the cable consists. Ordinarily one thinks of gutta percha & India rubber as identical, but as a fact they are widely different. Gutta percha is far superior for submarine cables, because of its electrical properties. It is carefully prepared & applied to the copper wire forming the conductor in such a way as to make a uniform coating to prevent the leakage of electricity. In this cable 3 conductors were covered & then twisted together, forming the cable proper. The conductors were a little more than $\frac{1}{4}$ of an inch in diameter, made of the finest copper wire. The gutta percha covering increased the size of each to $\frac{1}{4}$ of an inch. Around the conductors after they were twisted together were wrapped layers of Jute twine, forming what is technically known as the "jute bedding." The object of this was to protect the insulation from the outside wire known as the armoring, as the cable is to be laid along the bottom of the Sound, & may come in contact with jagged rocks, & possibly be suspended here & there between rough crags for several hundred feet. This armor is made by winding about the jute bedding 14 wires nearly as large as a lead pencil. This wire was previously treated with the double galvanizing process, to prevent the action of the sea water upon the steel. This latter covering was what gave the cable its silvery glistening serpentine appearance as it curled & twisted through the cupola of the building.

The nine miles of cable provided for Puget Sound is divided into 7 sections of various lengths, the 8th, a 20 miles section stretching from Port Angeles, Wash., to Albert Head, Vancouver Island, from which point there is a short land line into Victoria. The new route embraces Tacoma, Seattle, Port Townsend,

Port Blakeley, Port Ludlow & Port Angeles, in Washington, & is the first line the Western Union has opened to British Columbia. The course for the cable was surveyed last December, when the deepest sounding showed 80 fathoms. Owing to the comparatively shallow water, & the numerous currents & the general strain upon anything submerged in Puget Sound, this cable is exceptionally strong & heavy.

Heretofore, Victoria has had but one telegraph connection with the mainland of B.C., viz., the C.P.R. route via the E. & N. Ry. to Departure Bay, thence by the C.P.R. cable to Vancouver. That cable has recently been replaced by a new one, & by relaying the old one between Beachy Point & Port Crescent, Wash., the C.P.R. has secured an alternative route to the south.

The Western Union is also about to secure connection with Vancouver City, by building a line from Wooley, Wash., via Fairhaven, Blaine & New Westminster. The C.P.R. has connection in this direction by means of the Postal Telegraph between Vancouver & Tacoma. The Puget Sound Telegraph Co. has a line down the Sound shores of the Straits by way of Seattle & Port Townsend, extending to Cape Flattery.

We are not indebted to the Western Union Co. for the foregoing information, as, although we sent several letters to different officials of that Co., asking for particulars, no reply was received. The President of the Western Union & some of his subordinate officers do not seem to act on the principle that civil communications demand a reply.

C.P.R. Telegraphs in B.C.

Quickly following on the laying of the C.P. R. Co.'s new cables connecting Vancouver Island with the mainland comes the announcement of some important reductions in the tariffs from B.C. coast cities to various U.S. points. The Co. recently announced that the rates to the various States, which have been \$1.25 day & \$1 night, will now be \$1 both day & night for a message of 10 words. Thus, New York, Chicago, St. Louis, New Orleans, etc., may be reached for 25c. each less than the former tariff. The rate to Seattle & Tacoma, which has been 60c. day & 40c. night, has been brought down to 40c & 30c. Port Townsend, which has been 85c. will now be 25c., while Dungeness & Port Angeles, which have been \$1.10, will also have a 25c. rate. The Co. is enabled to lower these rates owing to the new direct connection.

The Victoria Colonist gives a brief resume of the telegraphic history of that city since the C.P.R. took over the B.C. telegraph system from the Dominion Government in 1886. It says: "At that time the only outlet was from Victoria by road to Saanich Arm, which was crossed by a short cable, thence by wire along the road to Nanaimo, thence by wire & cable across channels & 2 islands, then a plunge under the Gulf of Georgia to Point Gray, 15 miles from Vancouver, where a trail through the woods brought it to a highway bound for New Westminster. This was the regulating point, & at the boundary the Canadian line was spliced to the Western Union wire, which took it through a heavily wooded country to Seattle, from which point telegrams were distributed over the country. At that time it cost 90c. to telegraph to Seattle, \$1.25 to San Francisco & \$1.50 to eastern points. In 1886, when the C.P.R. assumed control, local rates in B.C. were immediately reduced 50%. San Francisco was put down to \$1, & Seattle to 75c. In 1887 San Francisco was reduced to 75c., with 60c. night rate, Seattle 60c. day & 40c. night, New York & other eastern U.S. points to \$1.25 per day & \$1 night, Montreal & other eastern Canadian points \$1 day & 75c. night, which rates are

now further reduced as shown above. The California & Oregon rates have not yet been interfered with.

"The rates enjoyed by Canadians compare well with those prevailing on the U.S. side of the line. San Francisco is a large city & has 2 big telegraph companies operating out of it. The rate from there to New York (about 3,500 miles) is \$1 both day & night. Victoria is a small city, with a much less number of telegrams, & yet Victorians have for years been able to telegraph to Sydney, N.S., the farthest easterly point of the Dominion & some 4,500 miles distant by wire, at a rate of \$1 day & 75c. night for messages of 10 words. The C.P.R., therefore, with its monopoly has been giving the people a very much longer service for considerably less money than has been enjoyed by U.S. cities in much more thickly populated states. The C.P.R. has been gradually but steadily improving its wire service out of this city for years, until now it is claimed to be strictly first-class.

"It has been the aim of the C.P.R. people to make the burden as light as possible on their customers. It must be borne in mind that, up to a very recent date, Victoria & Vancouver were the only 2 cities which made any money for the Co.; outside those points it was all expense. Hundreds of miles of wire had to be maintained through an exceedingly rough & sparsely populated country to keep us in touch with the outside world. The Co. now feels itself in a position to grant one of its periodical concessions in a further reduction of certain rates, & no doubt, the public will heartily appreciate the fact."

The Pacific Cable.

In the House of Commons, May 26, Mr. Casey brought the subject of the proposed cable between Vancouver & Australia to the attention of the House, & urged the Government to co-operate in carrying out the project.

Sir Chas. Tupper endorsed the scheme, which he characterized as a very important one, & recalled Mr. Chamberlain's statement to the Australian & Canadian delegates, that, after a study of the matter, he was convinced it entailed practically no financial responsibility. In response to a demand for tenders, the India Rubber & Gutta Percha Cable Works, of England, had offered to carry out the work for a million dollars less than Sir Sandford Fleming had estimated the cable would cost. In view of that fact, he regretted Sir Wilfrid Laurier's refusal to pledge Canadian co-operation in the carrying out of the scheme, because of distrust of the promoters' estimates.

Sir Richard Cartwright took the ground that of the 3 principal parties concerned—Australia, Great Britain & Canada—this country was the least interested in the scheme. Canada should, therefore, only be called upon to contribute to the cost in proportion to the benefit which it derived from the cable. The Government, so far, had not found it possible to come to an understanding with the other parties to the scheme, but they had not abandoned the hope that, ultimately, it might be carried to a successful issue. Although the matter was in the air, it had not crystallized as yet, & the Government could not, therefore, make any announcement at the present time.

Mr. McNeill urged the Government not to be apathetic in the matter, otherwise the opponents of the scheme would be encouraged to place obstacles in its way.

The cable steamer *Francois Arago* recently came into St. John, N.B., having on board 200 miles of the French cable, which she took up on Grand Banks for the purpose of repairing. She left a few days later to relay it.