

graph Co. were called for the defence. It was finally agreed that counsel might submit briefs on the question whether assuming bad faith on the part of plaintiff he was, notwithstanding, entitled to question the validity of the agreement. Erastus Wiman was present during the hearing.

On June 1, 1898, the Postal Telegraph-Cable Co. inaugurated the plan of paying its operators on some of the heaviest circuits for the actual work which they handled over and above what is considered a proper day's work. That is to say, the Co. established as a minimum basis of a day's work for an operator at New York, working one of the Boston wires, for instance, the exchange of 300 messages; & for every additional message handled above that number the operator was to receive an extra compensation of one cent each. At the same time it was understood that the operator had the privilege of stopping (if he so desired) when he had reached the 300 message limit, & a full day's work therefor would be credited to him as his regular salary. The idea of the Co. was to work the circuits between the busy centres to their fullest capacity. At the outset some doubt was expressed as to the advisability of the change thus instituted, many believing that its adoption would have a tendency to develop hardships of various kinds. After two years, however, during which time the system has been carefully tested, instead of any burden following its trial, it appears, on the contrary, to be growing in favor among the members of the craft. —Telegraph Age.

Telephoning on Telegraph Lines.

Communication between telegraph linemen at work on prostrated or deranged telegraph circuits, especially when the trouble should be at points remote from established telegraph offices, & the main telegraph office, or the next nearest telegraph station, has always been a difficulty which up to the present time has not been overcome to any appreciable extent. When the lineman, in addition to his ability to climb poles & make a good splice or connection, possesses the ability to send & receive "Morse," there has been little trouble, as such linemen were always provided with pocket relays and keys, & by cutting in or "tapping" a wire, they could communicate with the various offices on the circuit. By this means much time was saved, & a lineman was spared a long journey, sometimes afoot to the nearest office, where an operator was stationed, & where he could make known his wants or receive instructions. Very few linemen understand the Morse system sufficiently well to operate the wires to their benefit, & therefore, any method which would tend to place them in communication with the offices or officers, & which did not require a skilled operator, was a great desideratum.

Chief Operator Hargrave, of the Postal Telegraph Co., New Orleans, for some time past has entertained the idea that he could utilize the telephone for this service, & in a quiet way, has been pursuing his studies & theories. Recently he made a number of most interesting & successful experiments in his method of composite telephone & telegraph service, in connection with Manager Roberts, of the Postal Telegraph Co.'s Mobile office. A modification of Van Rysselberghe's system of simultaneous telegraphy & telephony was tried over experimental circuits with great success. This system consists in bridging over two telegraph wires which are being worked as regular Morse circuits, with a telephone set at each end. The two circuits are then worked independently as telegraph circuits, & at the same time were talked over through the 'phones. A number of different arrangements were tried successfully.

It is not the intention of the Postal Co. to

introduce the telephone in a commercial way at all, but it expects to utilize the 'phone in communicating with its linemen along its route, & thus greatly facilitate & expedite the repairing of its lines in times of wire trouble. These linemen not being operators they can only be communicated with direct in this manner. The Postal hopes to greatly improve its service & materially decrease delays to business in thus being able to more quickly have trouble to their wires repaired. By this arrangement the linemen can be communicated with by telephone over a wire being worked as a Morse circuit, & in no way interfering with the latter. In this system two Morse circuits, or, rather, the two halves of two separate Morse circuits, are used to constitute one telephonic circuit, and yet not interfere with the perfect working of each of the Morse circuits independently.

Besides being of great practical utility in facilitating the work of the linemen, the experiments proved that two circuits could readily be made into three without the addition of any more wires & without interfering with each other. The conversation with Mobile was kept up without trouble, & at the same time Morse instruments at each end were transacting the regular business. The experiments have thus far proven very successful. —Telegraph Age.

Columbia Telephone & Telegraph Co.

The Columbia Telephone & Telegraph Co., which was formerly owned in Spokane, Wash., is now owned in Canada, its headquarters being at Grand Forks, B.C. Its officers are: President, W. B. Davey; Vice-President, J. B. Donald; Treasurer, A. Miller; Secretary, C. W. Davey; General Superintendent, A. S. Griswold. The Co. has 130 miles of metallic circuit copper telephone line & operates 3 exchanges in Rossland, Grand Forks & Greenwood, with about 400 telephones. It has 19 offices on its long distance lines, viz., Rossland, Sheep Creek, Cascade, Gilpin's, Grand Forks, Columbia, Lime Creek, Eholt, Rathmullen Mine, B.C. Mine, Oro de Nero Mine, Summit City, Phoenix, Greenwood, Anaconda, Boundary Falls, Midway, Rock Creek & Camp McKinney. The same stockholders control the Spokane & B.C. Telephone Co., giving connection between Boundary district, B.C., & Spokane, Wash. Its exchange at Republic, Wash., has 125 subscribers. The same parties have an application to the B.C. Legislature pending to incorporate a company to construct & operate telephone & telegraph lines within & throughout all the cities, towns, municipalities & districts of the mainland of B.C. The following further particulars are condensed from a local paper:—

The Columbia Telephone & Telegraph Co. is steadily extending its operations & becoming in an increasing degree a formidable competitor for the telephone business of the Boundary country. Construction was commenced May 19, 1899, & was continuously proceeded with until wires had been stretched from the International Boundary line near Cascade through Grand Forks, thence via Niagara & Eholt to Greenwood & on to Boundary Falls, Midway, Rock Creek & Camp McKinney. Later it secured connections with Rossland & Spokane, & so gave to Midway enlarged facilities for the transaction of business. Some time ago the Columbia Co. acquired the system and business of the Spokane & B.C. Telephone Co. Recently it took over the lines & business of the Boundary Creek Telephone & Telegraph Co. which had local exchanges at Midway, Greenwood & Phoenix. As the Columbia Co. already had local exchanges at Rossland, Grand Forks, Columbia, Greenwood & Republic, Wash., it now has them in seven towns, & too has direct connection with Spokane,

Bossburg & Bolster, across the Boundary line, & as well with the principal mines in the Rossland & Boundary districts. It is now operating about 425 miles of line, a total which makes a very creditable showing as the result of the past year's work. It will further extend its system as occasion calls for it, the intention of the management being to keep pace with the development of the country as business shall warrant it. The Co. purposes eventually enlarging its operations until these cover the whole of the Province, & with this end in view it worked with the promoters of the Western Telephone Co. in endeavoring to obtain from the Legislature last session the requisite powers, but the wrecking tactics of Jos. Martin defeated its efforts & so caused delay. It will however renew its endeavors to secure a charter that will give it rights & privileges sufficiently comprehensive to admit of it carrying out its plans in this direction.

The Bell Telephone Company.

The Toronto City Council recently asked the City Solicitor to report as to whether the Bell Co. has the power to increase its rates in the city. Following is the report:—"On Sep. 17, 1891, an agreement was entered into between the Bell Telephone Co. & the City whereby the City agreed to give the Co. the exclusive right for carrying on telephone business in Toronto for five years from the date of such agreement, & the Co. agreed that it would pay the City 5% per annum on the gross receipts for telephone service within the city limits. The Co. also agreed that from Sep. 1, 1891, the rate for telephones for dwelling houses should be \$25, & for business houses \$45 a year. This agreement ended Sep. 17, 1896, & the Co., I understood, has declined to renew it.

"In 1892 an act was passed by the Dominion Parliament increasing the capital stock of the Co. to an amount not exceeding \$5,000,000. The third section of the act expressly states that the existing rates shall not be increased without the consent of the Governor-in-Council. The Co. applied to the Governor-in-Council last year to increase the rates in Toronto & elsewhere. The application was opposed by not only Toronto but other cities & towns, & no judgment has been given on such application. As in the city of Toronto the rates for a telephone were \$25 for a private house, & \$45 for a business, upon July 9, 1892, when the said act was passed, & the Governor-in-Council has not permitted such rates to be increased, I am of opinion that the Co. cannot legally raise these rates in the City of Toronto beyond those prices."

The City Solicitor's opinion, however, does not touch the main point at issue. The Co. is not raising its rates to subscribers who had instruments before its new tariff was promulgated, but is charging a higher rate to new subscribers who are over a certain distance from the exchange. Under the agreement of 1891, the City gave the Co. valuable consideration in the way of a guarantee from opposition & certain street rights. The Co. in return made a reduction from its regular rates & abolished the usual extra mileage charge. This agreement having expired & the city no longer giving any consideration to the Co., the Co. has partially reverted to the state of affairs prior to the agreement. The old rates have not been restored, nor are existing subscribers being touched, but the old extra mileage charge has been reverted to for new subscribers requiring lines more than one mile in length from the exchange. The true measure of cost to the subscriber is the cost per call, not the annual subscription, & as the average daily use of the telephone by subscribers has at least doubled in the last 10 years subscribers are in reality getting telephone service at about half of its cost 10 years ago.