

lects that amount, having to pay the W.U. or G.N.W., as the case may be, 25c for carrying the message to its destination, the A.A. charging 25c for transmission over its land lines & cable. Maintaining an expensive plant, including 13 miles of 15 ton cable, for a farming community of 90,000, less than one good sized city, who, as a rule, do not telegraph, is not a highly remunerative investment.

The rapid telegraph apparatus of Pollak & Virag, of which accounts have recently appeared in European papers, have been tested in the U.S. Messrs. Pollak & Virag came to America apparently under arrangements with Chicago & other newspapers. On the wires of the W.U. Telegraph Co. between Chicago & Milwaukee, & also between Chicago & Buffalo, messages were sent at the rate of 122,000 words an hour, & in one of the tests the rate is said to have been 155,000 words an hour. This is a higher speed than had been reported in the tests between Buda-Pesth & Berlin. The apparatus is to be tried between New York & Chicago. The sending apparatus used in these tests appears to be similar in principle to that of other "rapid" methods; perforations, in the proper combinations, are made in strips of paper, & these strips are made to actuate the sending apparatus by being rapidly run through a pair of wheels. The receiving apparatus, which is as sensitive as a telephone, moves a mirror, after the manner of the receiving apparatus used on ocean cables, & the ray of light is thrown on a sensitized screen, so that the signals are photographed. Subsequently, the photographic message is written out, as is done with chemical telegraphs.—Railroad Gazette.

Western Union Telegraph Co.

The Co. has this year reconstructed its lines of poles between Guysboro & Canso, N.S., between Amherst, N.S., & Painswick, N.B., & between New Glasgow & Antigonish, N.S., in all about 100 miles of heavy cedar poles.

W. E. Earl has been appointed Manager of the W.U. Cable Co. at North Sydney, N.S., succeeding the late W. F. Snyder. Few people, outside of those directly interested, are aware of the volume of business that passes through the North Sydney cable office. The average number of messages is over 8,000 per day, & as high as 11,000 has been reached. Over 50 persons are employed in this office, which is one of the most important in the control of the W.U. Mr. Earl entered the telegraphic service as messenger, at St. John's, Newfoundland, 40 years ago. In 1875 he went to North Sydney, & was made assistant manager. In addition to the quadruplex & duplex circuits already in use, there have been introduced lately into the North Sydney station, two Muirhead automatic recorders, working at a speed of 40 to 50 words a minute over the cables. The Wheatstone automatic duplex is also being prepared between North Sydney & New York over the land lines, & it is expected that 100 words a minute will be achieved.

A number of improvements have recently been made in the office at St. John, N.B. The old gravity battery cells, about 2,000 in number, have been taken out & replaced by two storage battery circuits of 325 cells each, which will be charged from the electric railway power house, & are so arranged that while one set is working the wires the other will be charging. The office has been completely re-wired with the best insulated wire. The 40 lines are taken into the building from the pole in a heavy cable, & are led into modern lightning arresters. The cables have been conveniently arranged according to the latest & most approved system, by which messages are repeated without taking an operator from his work. A new switch board for the storage

battery system has been put up & is equipped with anper meters, volt meters, automatic circuit breakers, fuse locks, switches, reostats & resisting plant. The instruments have been replaced with modern ones, & other changes made, all calculated to facilitate the business of the office.

On Nov. 25, the interesting experiment of running the W.U. office in Buffalo, N.Y., one of the largest repeating stations in the world, by Niagara Falls power was tried, & it proved an entire success. It is not purposed to run the office & feed the wires which radiate north, south, east & west with the electricity from Niagara Falls, but the W.U. management has put itself in a position to avail itself of the Falls current in case the local supply should for any reason give out. "The Co. has felt for some time," said Electrician A. C. Terry, "that it ought to have some reserve power. So we made arrangements with the General Electric Co. to run into the office 2 wires furnishing a total voltage of 110. Our plant is run by motor dynamos which are supplied with a current from the 3 large generators in the basement of Ellicott Square. Of course it would never answer for a telegraph office like the W.U. establishment in Buffalo to stop operations. If business were suspended for a single hour you know what that would mean. So arrangements were made with the General Electric Co. to run 2 wires underground from Main St. to the basement of Ellicott Square, & thence through 2 large feeders to the motor generators on the 10th floor of Ellicott Square. There we have arranged a switch by means of which the current to the generators can be changed from the Ellicott Square supply to the Niagara Falls supply in an instant."

General Telephone Matters.

The farmers of Grantham township, Ont., have established a local telephone system.

It is proposed to incorporate a company to build a telephone line from Danford to Kazabazua Station, Que.

A local telephone service has been installed between the various offices of the Northern Pacific Ry. in Winnipeg.

J. H. Goabout has been registered as the proprietor of the Megantic Telephone Co. at Ste. Julie de Somerset, Que.

The American Bell Telephone Co. has declared its regular quarterly dividend of 3%, with an extra dividend of 1½%, payable Jan. 15.

The directors of the American Bell Telephone Co. have decided to turn over the Co.'s assets to the American Telephone & Telegraph Co.

The directors of the New Brunswick Telephone Co. have decided to construct a long distance line between Fredericton & Chatham, to be commenced early next spring.

It is said that the cable to be laid by the B.C. Telephones, Ltd., to connect Victoria & Vancouver, will be 26 miles long, & will be equal to the longest submarine telephone cable in the world, which crosses the English Channel between England & France.

The Dominion Government has established telephone communication between Partridge Island & the mainland at St. John, N.B. The connection includes a cable of 3,000 ft. from the battery at Negrotown Point to the western wharf at the island, with a pole line to Fort Dufferin.

The British Columbia Telephones, Ltd., controls the following subsidiary companies: The New Westminster & Burrard Inlet Telephone Co., Ltd.; the Victoria & Esquimalt Telephone Co., Ltd.; the Vernon & Nelson Telephone Co., Ltd.; the Kootenay Lake Telephone Co., Ltd.; the Nanaimo Tele-

phone Co., Ltd.; & the Canada Western Telephone Co., Ltd.

The Pennfield & St. George Telephone Co., which was only incorporated last Oct., has already constructed lines connecting St. George with Black's Harbor, Pennfield, & Pennfield Centre, N.B. It has been decided to build the line to Pennfield station at once, & the extension of the line to Lepreaux & Bay Bay in the spring is said to have been practically decided upon. There is a talk of extending to St. Stephen, & ultimately to St. John.

The Canadian Telephone Co., which operates near the southern boundary of Quebec, adjoining Maine, was started by people at Sawyerville, St. Malo, Paquetteville & Hereford. The Co. has a capital of \$10,000. The 3rd annual report, issued May 31, 1899, stated that the Co. then had 12 switchboards, 329 subscribers, 371 miles of wire, & 230 miles of poles, with an estimated value of \$16,894.64, & with liabilities of about \$6,000. The Co. has a five years' contract with the People's Co., of Sherbrooke City & vicinity, which gives subscribers of the Canadian Co. the use of the People's Co.'s connection on payment of a small toll, which varies from 10c. for the nearest Canadian Co.'s centrals, to 25c. to Megantic, which is about 75 miles from Sherbrooke. Subscribers to the Canadian Co. pay \$10 a year rent for an instrument with a large free territory. For instance, Bishop's Crossing subscribers get Scottstown, Bury, Cookshire, Sawyerville, East Angus, Marbleton, & Weedon free, but have to pay a small toll to the other centrals.

The Bell Telephone Company.

President Sise issued a circular to stockholders Dec. 5, stating that "at a meeting of directors held to-day, acting upon the power conferred upon them at the annual meeting, Feb. 25, 1892, it was decided to increase the capital of the Co. from \$3,960,000 to \$4,950,000. Each stockholder of record Dec. 7, 1899, is entitled to take, at par, shares of the new stock in the proportion of 1 share for every 4 shares now held. Subscriptions will only be accepted for full shares. Holdings that are not multiples of 4 shares can be adjusted by the purchase or sale of rights, but the Co. will neither buy, sell nor adjust rights. The right to subscribe will expire at 1 p. m. Jan. 20, 1900. All stock not taken by subscriptions then on file at the Sec.-Treas.'s office will be disposed of as the directors shall determine. Stockholders who take new stock must file their subscriptions, & subscribers under purchased rights must file the assignment under which such rights are acquired, with their subscriptions, at the Sec.-Treas.'s office, before 1 p. m. on Jan. 20, 1900. Sellers of rights will not subscribe therefor. Payment at the rate of \$100 for each share must be made at the office of the Co., as follows:—50% Feb. 1, 1900, & the balance in instalments of 25% each at such times as the directors may determine, but not less than 30 days notice will be given of each instalment. No interest will be allowed on payments in advance. Receipts for the amounts paid, bearing interest at the current rate of dividend, will be issued in exchange for each payment, & stock certificates will be issued at the date of the final payment."

The Co.'s new directory for Western Ontario shows a marked increase in the use of the telephone. In Stratford there are over 230 instruments, while London's subscribers number nearly 1,400. There are 221 in Woodstock, 224 in Galt, 282 in Guelph, & 359 in Brantford.

The town of Westmount, a suburb of Montreal, has given the Co. an exclusive right to erect telephone poles with a limitation of taxation of 5 years. The rate to subscribers for instruments will be \$30 a year.