TELEGRAPH AGE

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Official Diagrams of the Postal Telegraph-Cable Company's Apparatus and Rules Governing the Construction and Repair of Lines

We now have ready for delivery a book entitled "Official Diagrams of the Postal Telegraph-Cable Company's Apparatus and Rules Governing the Construction and Repair of Lines." The volume contains 134 pages, including 105 full-page diagrams; size 7 x 4½ inches.

Fourteen pages are devoted to Rules governing the construction and repair of telegraph lines; and four to the subject of standard tools. Submarine cable splices, underground cable splices, single-wire joints and aerial cable splices are also fully treated. Under the general head of Rules for Wiring Offices and Cable Boxes, the subjects of the terminal office, intermediate offices, submarine and underground cables, aerial cables, call circuits and call boxes, leased wire offices, branch offices, miscellaneous, are fully given. Then come rules for the care of motors and generators, explanation of and rules for the care of the Callaud battery, rules for the care of the Leclanche battery and resistance coils, following which is the table of Size and Insulation of Wire Cable for interior use, and that of Wire Gauges.

The authority to publish this fine work by TELEGRAPH AGE, exclusively, was granted by Mr. William H. Baker, vice-president and general manager of the company, the stipulation being that the price shall be restricted to but fifty cents a copy.

This is done primarily in order that the employees of the Postal company may enjoy the benefit of a low charge, for to them the book may be said to be practically indispensable; the price, however, will be the same to all purchasers alike.

This nominal price for so large, important and complete a work, embellished with so many first class plates, made especially for it, makes the book a valuable acquisition to any library; in fact, it is indispensable to every telegraph and electrical student. The book contains diagrams of the Phantoplex system, the latest development in the telegraph art. All of the engravings are made from the official blue-prints of the company, and are therefore absolutely correct.

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253 BROADWAY, NEW YORK

Important Subjects Treated in Back Numbers.

TELEGRAPH AGE has published the best articles on telegraphic subjects that have ever appeared in print. Herewith are enumerated a few of the most important subjects treated, together with the date of the papers containing the same. Copies of these back numbers may be had at twenty-five cents apiece upon application. Address J. B. Taltavall, TELEGRAPH AGE, 253 Broadway, New York.

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Books on the Submarine Cable.

The following list presents an excellent choice of books, with prices, treating on the submarine cable, about every phase of which is discussed. The works named are standard and are of a character that should insure ownership of the lot by every cable man who seeks to acquire a fuller knowledge of the subject of his profession. They are a library in themselves. They will be sent singly or collectively, as may be required, carrying charges prepaid, on receipt of price. Address J. B. Taltavall, TELEGRAPH AGE, 253 Broadway, New York:

Baines, G. M.—Beginners' Manual of Submarine Cable Testing and Working.....$3.50
Bright, Charles—Treatise on Submarine Cables.....$25.00
Hoskiaer, Capt. V.—Guide for the Electric Testing of Telegraph Cables.....$1.50
Fisher and Darby's—Students' Guide to Submarine Cable Testing.....$4.00
Kempe, H. R.—Handbook of Electrical Testing.....$6.00
Mullaly, John—The Laying of the Cable; or, The Ocean Telegraph.....$4.00
Parkinson, J. C.—The Ocean Telegraph to India.....$4.00
Smith, Willoughby—The Rise and Extension of Submarine Cables.....$9.00
Wilkinson, H. D.—Submarine Cable Laying and Repairing.....$5.00

Through the Book Department of TELEGRAPH AGE you can obtain any book desired. Send for the new catalogue.

TELEGRAPH AGE

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SOME POINTS ON ELECTRICITY.

The Loopswitch and Loopswitch Testing. In Three Parts—Part Two.

BY WILLIS H. JONES.

In addition to the general construction and arrangement of the component parts of a modern loopswitch board and several of the accessories described in the preceding installment of this article, issue of July 16, a number of useful devices are also provided for the purpose of facilitating tests of all kinds of faults likely to arise. The loop chief is not only called upon to test the loops proper, but is expected to locate the probable missing link in every connection he makes through his board when they occur. For this reason he should be unusually well informed not only with regard to the functions of all telegraph apparatus and connections but possess a pretty thorough knowledge of every department of the office and building. If after a connection has been made between two or more points and an opening or other fault prevents its proper operation he must from his central location determine the direction of investigation and immediately despatch a messenger, of which in large offices he usually has several, to that point, and have the tangle straightened out.

Aside from the changing of regularly assigned branch office and broker loops from one duplex or quadruplex set to another during temporary interruptions of circuits, the newspaper loops are probably switched around more than any others, and bids for the latter are continually coming in from every quarter. For this reason the newspaper division is usually annexed to the loopswitch. In the newspaper division and in close proximity to the switchboard is situated the various call-wire circuits, consisting of common conductors carrying all the different newspapers, brokers and other branch offices, which may desire to report interruptions to any of their loop connections or give other information in relation to the service. Each loop is numbered and every newspaper, for instance, has several loops which are connected and disconnected as called for

When an operator arrives in a newspaper office he immediately calls up the operator on the common newspaper circuit and gives the number of his loop. The number is copied on a small slip of paper and hung on a conspicuous hook over the desk to indicate to the various chief operators in the room that that loop is idle and available in case any of them have a demand for it. Each newspaper has a separate hook bearing its name. When a call is made for a loop the slip of paper is taken down and properly endorsed with the name of the station using it, together with the number of the "flycord" or multiplex apparatus it is to be placed in connection with by the loop chief. As soon as the operator in the newspaper office has received the special he at once reports "clear" over the call wire when the loop is disconnected, and a new slip bearing that number is hung to await another bid. From these slips the bookkeeping department easily trace any missing press matter that may fail to be turned in. The slips also show the time occupied in receiving or sending each special. The accumulation of too many idle loops on one hook or a scarcity of such loops also enables the loop-chief to regulate the force required in the various newspaper offices to suit the demand.

LOOP TESTING.

The simplest and at the same time most frequent test a loop chief is called upon to make is that of first ascertaining whether a loop is "single" or "duplexed" before placing it in the circuit designated. For this purpose a sounder, one post of which is connected with the 30-volt local battery and the other post with a flexible cord and wedge, is placed in a convenient location in the board. If the loop is "duplexed" the sounder will respond when the wedge of the loop is tapped with the battery wedge of the sounder test circuit. If either the sending or the receiving side of the loop should happen to be open the

fact will be immediately noticed and, of course, remedied before placing the loop in circuit. The method is not only speedy but eliminates the uncertainty that might be due to an open key or relay point, should the test be made after the loop was placed on a multiplex set.

The apparatus used in newspaper offices is a combination set in order that the loop may be used on either duplex or single-line circuits, according to the demand. If such a loop should open the loop chief is able to designate which half of the loop is defective very readily by requesting the newspaper operator to "duplex" it. As the wedge is marked "sending" and "receiving" side, respectively, the linemen's investigation is merely confined to that half of the loop which shows no "ground." Should a loop while "duplexed" show an opening on one side, but be "O. K." when "singled," the fact indicates that the break is in some portion of his apparatus. In most cases of this kind, the opening will probably be found in an imperfect contact between the switch lever and the disk it rests on; or, possibly a binding post on one of the sounders has become loose or disconnected. In the event of the switch contact being bad, a very common occurrence, the loop chief readily ascertains the fact by requesting the operator to "press down the level;" or perhaps he will say "single it a moment and then duplex it again." Usually either of these requests results in clearing the fault.

(To be continued.)

[Important articles by Mr. Jones, appearing in back numbers are as follows, and may be had at the regular price of ten cents a copy, except those appearing prior to a year from the current date, for which a charge of twenty-five cents apiece will be made: A Useful and simple Testing Device, January 1, 1904; The Bad Sender, Ills Past and Future, January 16; The Transmitting Typewriter Wire Connections, February 16; A New Transformer for the Alternating Current Quadruplex (J. C. Barclay, patent), March 1; Definitions of Electrical Terms—Unabridged, March 16 to April 16, inc., June 1 to July 16, inc.; The Future Quadruplex (S. D. Field's invention), May 1-16; The Ghegan Multiplex, August 1; Proper Adjustment of Telegraph Apparatus, August 16-Sept. 1; Practical Information for Operators, October 1 to Dec. 1, inc.; Switchboard Practice at Intermediate Stations, December 16; Definition of the Terms Cycle, Period, Frequency, etc., Diagrams Interpreted, January 1, 1905; Lessons from the December Storm, January 16; The Bonus Wire, February 1, A Few Useful Methods, February 16; Co-operation, A Hint for Wire and Quad Chiefs, March 1; Measuring Resistance by Voltmeter Alone—Something About Ground Wires, March 16; Elementary Information Concerning Household Electrical Appliances, April 1 to May 1, inc.; The Barclay Printing Telegraph System, May 16; Polarized and Self-Adjusting Relays for Single Line Circuits, June ; Limitations of Quadruplex Circuits, June 16; Electric Power From the Clouds, July 16; Concerning Condensers and Retardation Resistance Coils, August 1; District Call Box Service, August 16; The Art of Studying, Sept. 1; Other Methods of Splitting a Loop, Sept. 16; The Sextuplex, Oct. 1; A Few Questions Answered, Oct. 16; Positive and Negative Currents, Nov. 1; The Education and Evolution of a Chief Operator, Nov. 16; A Study of an Electric Circuit—Definition of the Principal Terms of Factors Which Regulate its Practical Output, Dec. 1; The Telephone—First Principles, Dec. 16, and Jan. 1, 1906; Questions Answered, Jan 16; The Dynamo—Series, Shunt and Compound Wound, Feb 1-16, March 1; The Storage Battery, March 16-April 1-16-May 1-16; A New Double Loop Repeater—Comparative Efficiencies of a Polar and a Neutral Relay, June 1; Influence of Weather on Static—An Electrical Phenomenon, June 16; Induction, Leakage, Crossfire, July 1-16.]

The Railroad.

An appropriation of upward of $500,000 has been made to rebuild a portion of the telegraph lines of the Rock Island Railroad system. The two principal offices will be located at Chicago and Topeka.

Mr. W. J. Holton, chief train despatcher and superintendent of telegraph of the Chicago and Western Indiana Railway, Chicago, has resigned to accept the position of cashier of the West Englewood Bank, of that city.

A patent, No. 824,887, for a train despatching and recording system, has been issued to Paul J. Simmen, of Chico, Cal. A railroad signal system distinguished mainly by having an indicating board at the train despatcher's office, which is connected with the various block sections along the road by separate metallic circuits. Special contact plates are employed, and the passage of a train causes the circuits to be completed which indicate the position of the train at the despatcher's office. The despatcher may communicate with any train at all times.

Wireless Telegraphy.

The Dominion Government has completed arrangements with the Marconi Wireless Telegraph Company of Canada, Limited, to install several more stations in the Gulf and on the Atlantic coast.

The naval bureau of equipment is arranging for the disbursement of the $60,000 just appropriated by Congress for establishing on the Pacific Coast a chain of wireless telegraph stations similar to that which exists from Cape Elizabeth, Me., to Galveston. The first of the new stations to be built is that at Cape Flattery, for which the contract has been awarded. Five other stations will be installed.

A passenger on one of the transatlantic steamers recently, while homeward bound, sent a wireless message from mid-ocean to his business address in New York and obtained an answer to the same. The message was received at the Cape Race wireless station and forwarded by aerial wires to New York. The reply reached the passenger via the Siasconset wireless station twenty-four hours before his reaching port, and two days after he sent his message.

Legal.

Judge Pollock of the United States court has handed down a decision that the case of the State of Kansas against the Western Union Telegraph Company came under the State laws and not the Federal laws, and remanded the case to the State Supreme Court. The original action in the case was a quo warranto proceeding brought by the attorney general of Kansas in the Supreme Court to oust the Western Union company from doing domestic business in the State because the company refused to pay the charter fee of $2,000, the amount due, according to the newly-enacted Bush law, on its capital stock.

The Cable.

Cables interrupted July 28:

Venezuela	Jan. 12, 1906
Messages may be mailed from Curacao or Trinidad.	
Pinheiro "via Cayenne"	Aug. 13, 1902
Santa Cruz de la Palma (Canaries)	July 12, 1906
Bolama (West Africa)	July 24, 1906

Th. Archiv für Post and Telegraphic points out that the fleet of fifty-three cable steamers now aggregates 95,000 tons and 25,000 H. P., and that of the number, two are owned by Germany, five by North America, two by South America, one by China, three by Denmark, six by France, 30 by Great Britain, and one each by Italy, Japan, New Zealand and Holland.

The cable steamer Grossherzog von Oldenburg, belonging to the Norddeutsche Seekabelwerke A. G., Nordenham a. d. Weser, Germany, has just established a record in deep water repairing work, having lifted and repaired an Atlantic cable at a depth of over 2,500 fathoms in the short period of four days and four hours after arrival on the cable ground, or three days from hooking the cable to slipping the final splice. The expedition was in charge of Mr. M. J. Giessen, Mr. H. E. Cann being the chief electrician.

The Island of Hachijo lies due south of Tokio, distant about 160 miles, and during the war with Russia a cable was laid to it from K[illegible]saki, a point midway between Tokio and Yokohama, for military purposes. This has now been extended about four hundred and thiry miles to the Bonin group, one of Japan's outposts in the Pacific. The Bonins are better known to-day as the Ogasawara Isles, and number twenty in all, having a total area of 27 square miles. The Japanese Government's own cable-laying steamer Okinawa-Maru, built at Renfrew, was entrusted with the work of laying the line from Hachijo to the Ogasawara group, she being met at that point by the Commercial Pacific Cable Company's ship, which had laid the cable northward from Guam, an island belonging to the United States, in the Ladrones, or Marianna Archipelago.

Death of Mrs. Richard O'Brien.

Mr. Richard O'Brien, assistant superintendent of the Western Union Telegraph Company, Scranton, Pa., has sustained bereavement by the death, on July 13, of his wife, whom the Scranton newspapers speak of as an estimable lady whose charity and goodness made her well known to great numbers.

Mrs. O'Brien, whose maiden name was Miss Sarah Harrison Marks, was born near Petersburg, Va., and was a descendant on her mother's side of General William Henry Harrison, ninth President of the United States. She was an honored member of the Daughters of the American Revolution and of the Daughters of 1812.

The death of this lovely lady terminates a career of ideal domestic happiness lasting for forty years, which had its beginning in a romance of the Civil War. Among the few gallant Virginians who, with Pickett, reached the stone wall which marked the high water mark of Pickett's great charge at Gettysburg, Captain Dick Marks, Mrs. O'Brien's only brother, was desperately wounded. He recovered and again with Pickett helped to hold Lee's thin line in front of Richmond and Petersburg against Grant's thunderous blows. Meantime Miss Marks, with a few slaves who remained faithful to her family, had fled from the approach of the Northern invaders to Petersburg, and even there one of their trusty negroes was killed and another wounded in her home by the bursting of shells from Grant's guns. It was at this juncture that Mr. O'Brien, who was then chief operator United States Military Telegraph at the front, was able to extend kindness to the Confederate captain, who had been again wounded in an assault on our lines.

Petersburg presently falling into our hands, Mr. O'Brien met, loved and himself surrendered to the lovely daughter of the Confederacy. They were married in 1867.

Mrs. O'Brien is survived by her husband and one son, Richard Marks O'Brien, and six grandchildren. Beyond the loving care of her domestic circle her beneficence extended widely through many charitable organizations in which she was an active worker and to which her death will prove a great loss.

OBITUARY NOTES.

A. B. Gunn, of Chicago, sixty-three years old, a veteran telegraph operator, committed suicide July 15 by inhaling gas through a rubber tube.

Mrs. W. G. Jones, widow of the late W. G. Jones, at one time manager of The United Press, died on June 30, at the Memorial Hospital, Brooklyn, as a result of an operation for blood poisoning.

Charles A. Elster, of Detroit, Mich., a well-known real estate man of that city, died suddenly on July 11, aged forty years. From 1892 to 1898 he was manager of the Western Union Telegraph Company at Grand Rapids, Mich., when he was promoted to the managership of the Detroit office, a position he held until a few years ago, when he retired to engage in business on his own account. He was regarded as an exceptionally competent telegraph official.

Personal Mention.

Mr. Andrew Carnegie, who is said to have begun his autobiography in this country last winter, is reported to be hopeful of finishing it during his stay in Scotland this summer.

Mr. J. J. Ghegan, president and general manager of J. H. Bunnell and Company, Ltd., manufacturers of telegraph and electrical supplies, 20 Park place, New York, and an old-time telegrapher, returned from Europe on July 18, after an absence of several weeks on vacation.

Mr. Thomas C. Devine, assistant chief operator of the Western Union Telegraph Company at Boston, has been appointed secretary of the Harvard crew which is to go to England to compete with the Cambridge crew. For many years Mr. Devine has been in charge of the telegraph at Red Top, the Harvard headquarters at New London, and has been selected to accompany the crew because of his popularity with the oarsmen.

Western Union Telegraph Company.

EXECUTIVE OFFICES.

Mr. J. C. Barclay, assistant general manager and electrical engineer of the company, has returned from a business trip which took him through New York and the New England states, going westward as far as Buffalo, the furthest eastern point reached being Portland, Me.

The Barclay printing system is now being installed on the New York-St. Louis circuit. Four Barclay printers are now operated with Chicago, one with Buffalo and the equipment of the St. Louis circuit will make the sixth installation of this system in use in New York.

The annual meeting of the stockholders of the American Union Telegraph Company of New Jersey was held at Jersey City, N. J., on July 11. The following named officers were elected for the coming year: Col. R. C. Clowry, president; Thomas F. Clark, vice-president, and A. R. Brewer, secretary-treasurer; R. C. Clowry, J. B. Van Every, Thomas F. Clark, B. Brooks and J. B. Bertholf, directors; C. W. Conklin, F. E. Coyle and George Roehm, judges of election.

Russell Sage, the well-known financier, a prominent director of this company, and a member of the executive committee, died on Sunday, July 22, at his summer home at Lawrence, Long Island. The funeral which occurred on Tuesday, July 24, was attended by a number of the executive officers.

Postal Telegraph-Cable Company.

EXECUTIVE OFFICES.

President Clarence H. Mackay has given $100,000 to establish a chair of electrical engineering at the University of California, as a memorial of his deceased brother, John W. Mackay, Jr., for the foundation of a John W. Mackay, Jr., Professorship of Electrical Engineering. This gift is presented jointly with Mr. Mackay's mother. Prof. C. L. Cory, head of the department of mechanical and electrical engineering, is to fill the chair. This bequest is a sequel to the offer of $100,000 toward the rebuilding of the university telegraphed to President Wheeler by Mr. Mackay a few days after the earthquake. The annual income from the money will be applied to the payment of a professor's salary, and the expenses and maintenance of the department, the original fund to be kept intact in perpetuity.

This company is to have a fine new office in New Orleans. The building at 206-210 St. Charles street has been leased and extensive alterations are about to be undertaken, by which the structure will be remodeled into one of the most completely appointed telegraph buildings in the extensive chain belonging to the Postal company. The facilities of the new office will be increased by an extension of the underground system, which will include an enlarged pneumatic tube service connecting the office with the Cotton Exchange. It is hoped to have the office ready for occupancy by October 1.

Grand Trunk Pacific Telegraphs.

In a recent interview with A. B. Smith, general manager of the Grand Trunk Pacific Telegraphs, while at Winnipeg, published in a Canadian paper, Mr. Smith is reported as saying:

"The company works under Dominion charter, which gives it the right to use telegraph, telephone or wireless as it chooses. The company is capitalized at $5,000,000, and is entirely independent of the Grand Trunk Pacific Railway, except in that it is under contract to use the new railroad's lines whenever possible. In addition to this, the company plans to do business apart from the railway lines, and to run wires across country.

"As for United States connections, we may use Western Union or Postal, or both. The Grand Trunk Pacific lines, when completed, will be the greatest in Canada. It is our aim to make them universal and to include everything that comes our way.

"The telephone permit in the charter is there because we may at any time wish to operate a long distance service. There is no present intention of competing with the Bell people, but if opposition to the Bell company looks good, it will be done. We may install rural 'phones."

Recent Telegraph Patents.

A patent, No. 826,403, for a telegraph key, has been awarded to J. P. Campbell, of Pulaski, Va.

A patent, No. 824,029, for a transmitting key for telegraphic circuits, has been awarded to Isidor Kitsee, of Philadelphia, assignor of one-half to William J. Latta, Philadelphia. In combination with a telegraphic transmitting key is a step-by-step movement adapted to change the polarity of the transmitting key, the step-by-step movement actuated by electromagnetic means.

A patent, No. 824,028, for a telegraphic sending device, has been secured by Isidor Kitsee of Philadelphia. Several stationary members have upon

their faces contact portions of predetermined and definite character. Movable members are inserted between the stationary members, and have also upon their faces contact portions of predetermined and definite character. A movable arm is arranged to traverse the region of the contact portions and establish a circuit.

Patent expired:

Patent No. 406,489, for a telegraph key, held by H. A. Waldo, of Reno, Nev.

Municipal Electricians.

FRANK C. MASON RETIRES.

Frank C. Mason who for twenty-two years has been at the head of the police telegraph in the Borough of Brooklyn, first as superintendent under the old city organization, and after consolidation as assistant superintendent of the Greater New York system, retired on half pay on July 18. Mr. Mason will in future make his home, at least during the major part of the year, at Washington Mills, N. Y., near Utica, his birthplace, which he has recently refitted and put in fine order.

The telegraph service of the police in Brooklyn is under the control of Superintendent Michael R. Brennan, with a head office at police headquarters, Mulberry street, Manhattan, but the man in charge in Brooklyn is Chief Operator Zeidler, who will remain at the head of the local telegraph bureau. From the date when Mr. Brennan became Mr. Mason's superior officer, due to the establishment of Greater New York, the relations between the two men continued to be of the most cordial character, each entertaining for the other a true estimate of the excellence of service rendered.

Mr. Mason was appointed to the office from which he has just been retired, March 11, 1884, leading the list in a competitive examination for the same.

The telegraphic equipment in the police department was far from being as perfect then as it is now. In fact it was even crude. Communication between the precincts and headquarters was maintained by means of the dial telegraph instruments. There were nine precincts then to the thirty-three in existence now. All these are furnished with modern telephone and telegraph facilities, mainly through the work of Mr. Mason.

Mr. Mason was manager for the Atlantic and Pacific Telegraph Company in Poughkeepsie, N. Y., before he came to Brooklyn. His early education was obtained in the public schools of Utica.

As a lodge member Mr. Mason is very widely known. He belongs to the Commonwealth Lodge 409, F. and A. M.; the Scottish Rite bodies, Masonic, of Brooklyn; Kismet Temple, of the Mystic Shriners and is also a member of the Brooklyn Lodge of Elks.

In 1886 he organized the International Association of Municipal Electricians. Mr. Mason also organized the Long Island Telephone Company, from which sprung, later on, the present New York and New Jersey Telephone Company.

It will be remembered that the dates fixed for the convention of the International Association of Municipal Electricians at New Haven, Conn., are August 15, 16 and 17. The meeting will be an interesting one and present indications are that the attendance will be a large one.

The hotels selected at New Haven as desirable for the accommodation of the electricians are: Tontine and Oneco, conducted on the European plan; Oneco, Davenport and Gard, American plan. Many associate members of the association will make exhibits of goods, thus affording an excellent opportunity for the inspection and study of much that is new in methods and in electrical construction and apparatus. An interesting programme is being matured providing for the social entertainment of visitors.

Mr. William H. Thompson, the city electrician of Richmond, Va., is, according to current newspaper gossip, at work developing a device which is denominated the "televue," and which it is said will enable a person talking over the telephone to see the face and figure of the person to whom he is talking. The instrument, it is declared, can be used with a wire of indefinite length and gives a vivid image.

Mr. Booth Presents "73" to the Latest Claimant of the Invention of the Telegraph.

Editor TELEGRAPH AGE:

Allow me to present through your columns my "73" to Mr. Julius Lynch Clemmons, of Louisville, Ky., the gentleman who claims to be the inventor of the telegraph, and whose statement appertaining to such claim, together with your introductory remarks thereto, appeared in the July 16 issue of TELEGRAPH AGE. I regret that the information conveyed in the article referred to was not earlier available, for then I would have been glad to have called on Mr. Clemmons when I attended the home-coming of the natives of old Kentucky in June last.

It would be of great interest to me to know if the silent system described as his invention was used by O'Reilly in Kentucky after the suit of Morse vs. O'Reilly was decided in favor of Morse. If I remember correctly the Bain system consisted of a register with chemically prepared paper that ran over a needle conducting the electric current to make dots and dashes. All way offices had to use a main battery, cut in at the appointed time, and cut out when time was out, regardless of where you were in a message. Frequently an hour would elapse before the message was completed. This fact was the cause of my being retained as an operator when the Morse and O'Reilly companies consolidated, as my office showed the largest receipts. Charles Lathrop was the O'Reilly operator, succeeding J. J. McNally, now car accountant of the Louisville and Nashville railroad, Louisville, Ky.

N. M. Booth.

Evansville, Ind., July 20.

Business Notices.

The announcement is made in another column that during the next thirty days the United Electrical Manufacturing Company of New York, of which Horace G. Martin, the well known telegrapher, is vice-president and general manager, the Vibroplex transmitter has been reduced in price to $7.50, the avowed purpose of this radical move being to cause these instruments to be placed "in every telegraph office in the United States and Canada." Telegraphers will be interested in reading the company's advertisement.

THE REMINGTON AT THE TELEGRAPHERS' TOURNAMENT.

The results of the Telegraphers' Tournament held at Boston on June 29, leave no doubt as to the favorite "mill" of this enormous class of users of writing machines. Operators using the Remington typewriter carried off three out of four first prizes and six out of eleven of the prizes offered at the tournament.

In the first event—receiving twenty railroad messages—Mr. William F. Bannester and Mr. James W. Harrison, both of Philadelphia, won first and second prizes, respectively—both using the Remington. In the second event, which was a team match for sending and receiving twenty-five messages, the first prize was won by Mr. David J. Ellington, of New York, sender, and Mr. H. J. Finn, of Boston, receiver, both Postal operators. The Remington typewriter used by Mr. Finn in this contest has been run seventeen hours a day for seven years, being used by two different men in the same office, and is still rendering excellent service—good enough to win a championship.

In the press contest, Class B, Mr. F. T. Howe, of New York, was another Remington prize-winner in the contest for receiving 350 words.

In the last contest, receiving 500 words of press work, the first prize was won by Mr. Edward J. Coleman of Providence, using a Remington.

The Remington typewriter has always stood high in the favor of telegraphers on account of its great endurance and capacity for speed. The above figures show that, in both of these essentials it lived up to its reputation at the Boston tournament.

Mr. Thomas A. Edison has come into possession of the old Edison family home in Milan, Ohio, in which he was born on February 11, 1847. The deed of transfer comes from a granddaughter of Mr. Edison's sister. The house stands on a beautiful eminence overlooking the Huron River. It is a story and a half structure, modernized in late years, built of red brick, and surmounted by two wide old-fashioned chimneys. It is an object of much interest to visiting strangers.

Phonograph Jobbers Meet Mr. Edison.

The National Phonograph Company, which is synonymous with the names of Thomas A. Edison and W. E. Gilmore, respectively the inventor of the phonograph and president of this subsidiary company of the Edison interests, in the entainment of its jobbers recently from all over the United States and Canada, extended a welcome to its guests that for a unique expression of genuine hospitality should occupy a chapter by itself in the annals of events of like character. Mr. Gilmore, who is vice-president and general manager of the Edison Manufacturing Company, acted as host, and others prominently identified with the company were assiduous in their attentions to the visitors. The object of the coming together of all these people, altogether numbering over 200, was for the purpose of promoting general acquaintance among Edison forces, for a pleasant reunion and to celebrate the largest single year's business yet experienced. The guests were received at the Waldorf-Astoria, New York, where headquarters was established, and from which place excursions were made in different directions to points in and about the city, including, of course, a trip to Orange to meet Mr. Edison at his home office and to inspect the company works. Here an elaborate luncheon was served, and a presentation of an elegant gold watch was made to Mr. Edison by the assembled visitors. The concluding feature of the affair was a banquet tendered to the strangers at the Waldorf-Astoria on the evening of July 20.

Resignations and Appointments.

The following changes have occurred in the Postal Telegraph-Cable Company's service:

Mr. A. L. Kenney, of Richmond, Va., has been appointed manager of the office at Helena, Mont., vice W. A. Fraser, resigned to enter the banking business.

Mr. F. B. Moss, manager at Gloversville, N.Y., has been promoted to the managership of the office at Oswego, N. Y., vice W. H. Donahue, resigned to enter the railroad business.

Mr. E. D. Miller has been appointed manager at Anniston, Ala., vice J. A. Finch promoted to be manager at Mobile, Ala. The latter succeeds Mr. C. A. Garland, recently appointed superintendent.

Mr. C. E. Clayton, night train despatcher, Chicago, Burlington and Quincy Railroad, Galva, Ill., was married to Miss Clara Nasing, of Aurora, Ill., on July 9. Miss Nasing was formerly an operator in the Aurora Western Union office.

Mr. W. E. Peirce, for the past two years repeater chief for the Postal Telegraph-Cable Company at Ashfork, Ariz., has returned East and has accepted a similar position with the Western Union Telegraph Company at Pittsburg, Pa.

The Military Telegraphers' Pension Bill in the House.

Despite the letter of Congressman Sulloway to Mr. F. A. Stumm, of New York, published in Telegraph Age, June 16, to the effect that the bill now pending in the House providing for placing the military telegraphers of the Civil War on the pension list, had been referred to the wrong committee, the communication of Col. William B. Wilson, president of the Society of the United States Military Telegraph Corps, printed July 16, stoutly maintained that such was not the fact, and quoted Hon. Sereno E. Payne, chairman of the Committee on Ways and Means, to that effect. Mr. Stumm has been indefatigable in his support of the claims of the military telegraphers, and a further letter respecting the matter, addressed by that gentleman to Hon. Herbert Parsons, who has warmly espoused the cause of the bill, elicited a reply under date of July 16, which is as follows:

"Your letter of May 31 in relation to the bill (S 2165) to extend the provisions of the pension laws to those engaged in the military telegraph service during the Civil War, was duly received, and I delayed answering until I could make inquiries and have some definite report to make to you. As you doubtless already know, however, Congress adjourned without the bill having been reported from the Committee on Invalid Pensions. The bill will retain its position at the short session of Congress next winter, and will not have to be re-passed by the Senate."

What a Toy Telegraph has Led To.

American residents of Havana, Cuba, think that undue harshness has been shown in the case of Miss Millie Brown on the Isle of Pines. The spectacle of an American girl of nineteen thrown into jail among a lot of male prisoners and confined for thirty-three days is deeply resented.

The cause of her detention seems to them inadequate, though it is based on a law enacted by General Leonard Wood at the time of the American occupation of Cuba.

Miss Brown was arrested for putting up and using a private telegraph wire between her house and that of the American postmaster, Mr. Louis C. Giltner, passing through the house of Mr. H. S. Augustine. The two principals in the case declare the line was put up merely as a plaything, and was chiefly used to call Giltner to his meals at his boarding house, run by Miss Brown's parents, and for telegraphic conversation between the two of a personal nature. The young people are said to be engaged.

However, the erection of a private telegraph line without authority, is contrary to law, and Miss Brown and her male friends were summoned before the local judge and sentenced to a fine of $100, divided among the three, or imprisonment for one hundred days, similarly divided. Payment of the fine was indignantly refused and the two men and the girl were taken to the lockup, where, as there are no accommodations for female prisoners, Miss Brown was forced to enter the common jail.

Recent New York Visitors.

Mr. Frank H. Knights of the Transvaal Postal Telegraphs, Pretoria, South Africa, accompanied by his sister, arrived in New York Sunday, July 15, from Vancouver, B. C., on a trip around the world. He sailed hence for England on July 18. While in New York he was a welcome caller at the offices of many friends, including that of TELEGRAPH AGE. He expects to reach his home in Pretoria on October 1.

Mr. J. E. Rowe, wire chief of the National Transit Company, Pittsburg, Pa. Mr. Rowe took occasion to call upon a number of his New York friends while in town. He will spend a vacation of two weeks at Atlantic City before returning to his home.

Mr. John F. Riley, an old-time telegrapher, associated with the Western Union Telegraph Company, and one of Washington's best representatives of the craft. Mr. Riley was accompanied by his wife, and was returning to his home from a vacation in Connecticut.

The English Postoffice Telegraph Operators.

The postoffice select committee, appointed to examine the grievances of the English telegraph operators, says the London Electrical Review, in the course of its inquiry has, as is the case in all such committees, to hear remarkable statements by the witnesses examined. The following is worthy of record:

"You say that improvements in the instruments have been made, and that they are less liable to get out of order—that the ordinary telegrapher is called upon to exercise no greater skill in adjusting the instrument than is required by a woman who works a sewing machine. Do you know this yourself personally? Yes. It is a very simple matter. There is a screw in the relay; if the current is too strong he turns the screw one way; if the current is too weak he turns it the other. It is a matter of the earth.

"That scarcely squares, does it, with the statement of Sir William Preece recently as to the development of telegraphy, and Prof. Thomson?—I think the instrument has been simplified and improved of late years. That corresponds with the actual facts, and even that adjustment is a very rare thing; it happens about once in a fortnight."

Mr. Charles W. Thayer, now of Des Moines, Ia., an old time Associated Press operator, well known in New York, Chicago and elsewhere throughout the country, recently delivered an interesting address on his observations in Mexico, where he recently spent a month, to the children of McKinley school in South DesMoines. The local papers speak favorably of Mr. Thayer's efforts.

Charles A. Garland, a New Southern District Superintendent of the Postal.

The promotion of Charles Addison Garland, manager of the Postal Telegraph-Cable Company, at Mobile, Ala., to the superintendency of a new district, No. 8 of the Southern division, and effective from July 1, was very welcome news to a wide circle of friends, in and out of the service, who hold Mr. Garland in high esteem, for his many estimable qualities, both as a gentleman and an efficient executive officer. His temporary headquarters will be established at Atlanta, Ga., although later he will be located permanently at Memphis, Tenn.

Mr. Garland was born at Lynchburg, Va., May 29, 1855, and is therefore fifty-one years of age. His entry into the telegraph service was at Glade Springs, Va., in May, 1870. His earlier employment was that of an operator mainly in the joint service of the railway and Western Union Telegraph Company. Later he became a press operator in the Western Union office at Rome, Ga., subsequently

CHARLES A. GARLAND.
Lately Appointed a Postal Superintendent at Memphis, Tenn.

filling the respective positions of press operator, chief operator and manager of the Western Union office at Selma, Ala. His advent into the Postal employ occurred when he was appointed manager at Birmingham, Ala., in 1889, a position from which he was transferred to similar posts, first at Pensacola, Fla., and afterwards at Mobile, Ala., a point he reached July 1, 1901, succeeding the late Platt Roberts.

Mr. Garland has hosts of friends in the South who hold him in the highest esteem. Prior to his leaving Mobile the members of the United Produce Company presented him through their president with a watch pendant, set with diamonds and suitably inscribed. The new superintendent is called upon to preside over a district that will speedily take important rank.

Telegraph News Service in 1847.

The Boston Daily Bee in 1847 claimed a circulation unequaled by that of any other paper in New England. A copy of October 4 of that year lies before us, the property of George M. Dugan, formerly superintendent of telegraph of the Illinois Central at Chicago, now a farmer at Tip Top, Ky. The make-up of the small-sized, time-stained sheet appears quaint and old fashioned, and the information printed, even upon important topics, is meagre, scanty and thin. The Magnetic Telegraph of that day transmitted but a slender thread of news, and one carefully scans the columns in the endeavor to find what, indeed, is credited to its agency. Perhaps the marked absence of news by telegraph may be ascribed in part to the fact, announced in a two-line notice in small type printed on the first page, that "the telegraphic wires between Boston and New York are broken." Be this as it may, nothing else appearing on that page can be traced to telegraphic origin.

In 1847 the United States was at war with Mexico, and on the second page, the latest Mexican news, for which it may well be supposed every one was eager to hear, for a great battle had been fought and the City of Mexico had been captured, was covered by less than two-thirds of a column, and this, too, made up in part largely by brief paragraph extracts from other papers, etc. This column of telegraphic "news" is prefaced with a bracketed explanatory notice which says:

"On inquiring at the telegraph office last evening for our despatches from New York, we were informed that the wires were severed: we therefore condense the following from a despatch to the Times."

The editor states a truth, and is optimistic of the future, when in a concluding bracketed notice he says:

"The accounts are very vague and unsatisfactory, but in to-morrow's edition we shall probably be enabled to give a full account of the movements of our army in Mexico."

While the telegraph was new at the time referred to, and not always reliable in its operation, the age by comparison with that of the present, was a slow and complaisent one, and apparently the editor of the Bee was not much disturbed when news, even of the utmost importance, failed to reach him, a day late, apparently serving his purpose equally as well as if received promptly on time. The droning of many "Bees" must have been heard distinctly in that Boston office!

Railroad telegraph construction in some parts of the Far West has progressed with such rapidity lately that it is said an urgent demand exists for the services of telegraph operators.

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CHANGES OF ADDRESS.—The address of a subscriber will be changed as often as desired. In ordering a change of address the old as well as the new address must be given.
REMITTANCES to Telegraph Age should be made invariably by draft on New York, postal or express money order, and never by cash loosely enclosed in an envelope. By the latter method money is liable to be lost, and if so remitted is at the risk of the sender.

NEW YORK, AUGUST 1, 1906.

The misuse of the word "telegraphone" is apt to create wrong impressions as to its true meaning, and consequently lead to confusion and error. For instance, the term as it is generally employed in this country, especially in railroad and telegraph circles, where, indeed, it is most frequently met with, applies in brief to a telephone circuit attached to an ordinary telegraph line. In Europe, on the other hand, and even to a certain extent here in America, an understanding of the word is held to denote the device of Poulsen, which is, as a matter of fact, no more or less than a form of phonograph or graphophone, for the instrument records speech on a metal band. As the definition of the word now coming more freely into usage, is so diverse in meaning, it would seem that a change might properly be made by the adoption of a new title for one form of interpretation.

The completion of the Commercial Pacific cable to China was justly regarded in that country as a notable event. At the complimentary dinner at Shanghai in April, tendered by the American Association of China, to George Gray Ward, of New York, vice-president and general manager of the cable company, Dr. Gilbert Reid, the president of the association, made the following graceful remarks:

This is an enjoyable and important event which we meet to celebrate to-night, the completion of the first cable across the Pacific, the widest ocean of the world. Even the great European cable companies, whose representatives meet with us on this occasion, will rejoice in the further exhibition of modern inventive genius and commercial energy, forming one more link to bind the nations and to make the whole world kin. For centuries men saw the lightning flash and felt the force of the electric battery that lay stored in earth and sky, but failed to realize that it could be used, and made a blessing. It remained for a Samuel Morse, a Cyrus Field and a John Mackay, catching the inspiration of Benjamin Franklin, to seize the power and lay the current that would cross the continents and pass beneath the seas, turning the whole round globe into one vast whispering gallery. Mr. Mackay having delved into the earth to bring forth its wealth, then dared to dive into the sea and bind with a cord of steel the two continents. He met immense difficulties, even from American officers, but was ably seconded by the gentleman at my right, Mr. George Gray Ward.

Governing Preferment.

We gladly accede to the wishes of a correspondent who requests that the subject of an editorial appearing in these columns a number of years ago, be again taken up. We have decided to republish the original article entire, for the subject is one regarding which TELEGRAPH AGE has pronounced convictions. Our correspondent writes:

"Several years ago you published an editorial treating on the qualities that governed selection for promotion in the telegraph service. It made a distinct impression on me at the time, and I am free to say that the lesson inculcated has measurably given direction to my life. I cut out the article for preservation, but unfortunately have mislaid it. I am prompted to refer to it at this time because of a recent discussion in our office on the general subject considered in the article, to which I was a listener mostly, but it was of such a nature that I desire to ask you to again refer to the matter, if I may be permitted to do so."

In the telegraph profession, as in all others, proficiency and willingness are the elements in individual character that count. Telegraph operators showing a disposition to acquire a mastery of their business, are the ones who are going to get ahead. Those who are content, simply, with the limited knowledge, that practically restricts their usefulness to but the sending and receiving of a message, are those who are going to remain behind in the race. This fact, based on the fundamental law of ethics, deep and firm as bed rock, should be patent to every individual of even average intelligence, yet many will but glance carelessly over this article,

indifferent to the lesson it seeks to inculcate, or pass it by altogether with a sniff of disapproval. And these very men are usually those who, unwilling to take the trouble necessary for self-education in the line of their business, are apt to be the loudest in adverse criticism of the system which, as they allege, keeps them back and down, thus permitting "favoritism," as it is sometimes called, to manifest itself in the selection of others for promotion, often over the heads of older and less fortunate employees.

The general subject upon which we are now writing, and regarding which we have had of late considerable to say, is one of momentous import. It goes deep down into the life of every operator and should appeal to the best instincts of manhood, for, apart from its reflex moral aspect, on its material side it involves the vital question affecting self preservation. And self preservation, as we all know, is the first law of nature.

Now, the telegraph business with its constant expansion and wide ramifications, offers an attractive field of employment. A superficial knowledge of telegraphing is not difficult to acquire; and to the young and inexperienced the pay of a beginner seems large, and many are attracted to the key thereby. But a good operator must be made out of good stuff. He should know his business in every shade of its requirements. The routine work—the sending and receiving of messages, merely—does not necessarily constitute all the requisites demanded in a competent operator; and the pay, which at first, easily earned, seemed abundant, to the unprogressive man of maturer years, fails to measure up to his needs, and disappointment and dissatisfaction in consequence frequently fill his mind.

Yet the telegraph service holds out manifold inducements to bright, intelligent and forceful men. It has constant need of capable men to fill the positions higher up, positions that in the inevitable changes incident to such vast organizations as those of the telegraph, are constantly offering. These places, of course, require the services of men qualified by special training and broad intelligence, and the logical source of supply is from within the ranks of the operators themselves.

It is a lamentable fact, however, that these higher offices are as a rule hard to fill. It seems strange that this should be so, yet it is true. We are informed by high executive officers of both of the telegraph companies, who have themselves come up to their present positions through the various grades from that of messenger boy, and who are familiar with every department of the service, and very largely with the personnel itself, that the difficulties of finding the right men for the higher places within the gift of their respective companies is frequently exceedingly embarrassing. This is a severe arraignment and one that it should not be possible truthfully to make.

The remedy lies within the power of the operators themselves. It calls for a closer study of the technical side of telegraphy. The day has gone by for the promotion of mediocre men, and the quicker this fact is recognized the better it will be for the great operating forces of the telegraph, among whom there are vast numbers of men today, bright and naturally competent, who, if they would but apply themselves, would find the path to future preferment opening gradually before them in unexpected and gratifying measure.

It should not be forgotten that those in control of the telegraphs have risen from the lower to the higher places. It has not been accident that has placed them there. It has been accomplished by hard work, faithfully performed. They have mastered their subjects. This is what others should do if they, too, would share a like reward.

Book Review.

To issue six editions of a technical work within a period of fourteen years, is a striking testimonial of its intrinsic worth more potent almost than any expression of approval that might be evolved out of a review of the book itself. For the publication of so many distinct editions, each a costly undertaking, would not have been attempted unless warranted by demand. The call for "The Practical Management of Dynamos and Motors," as the volume in question was first denominated, has never ceased; rather has it increased with time. Yet the rapid progress of electrical engineering has brought about changes so radical that another thorough revision became necessary; hence it was that when the present edition was determined upon so large and continuous had been the sale of the preceding issues that it was believed wise to go into the new matter deeply. The present volume, out but two weeks, is the result. Its former attractiveness of material is still there. To this, however, has been added much that is new both in text and illustration, so much so, indeed, that its authors, Prof. Francis B. Crocker and Dr. S. S. Wheeler, because of its more comprehensive character determined to change the title of their volume to that of "The Management of Practical Machinery," a title more in keeping with the expansive and comprehensive scope of the rewritten book. The book now in hand offers to its readers, old and new, a most carefully prepared expression of its subject matter than which there is nothing superior extant. The telegrapher will welcome the publication, inasmuch as it affords a clear understanding of the use, care and operation of motor generators and other appliances, important adjuncts of a well equipped modern telegraph office.

There are 250 pages in the book, 134 illustrations, and a well arranged index. Price $1, express charges prepaid. Address all orders to J. B. Taltavall, TELEGRAPH AGE, 253 Broadway, New York.

The Telegram in Statecraft.

Among its other distinctions, the Fifty-ninth Congress bids fair to be remembered as the one in which the custom of telegraphing in support of legislation reached its maximum. Not only were there never before so many messages despatched to legislators asking them to vote or act this way or that, says the New York Post, but it is not likely that there ever will be again. The truth to be faced to-day is that the magic of the telegram is losing its potency. But that fact itself cannot be fully understood except by reference to the history of Federal legislation. There was a day of simplicity—or so at least the bewailers of our ancient virtue would have us believe—when Congress was left alone with its conscience to pass the best laws it knew how. Those were days when it cost ten cents or more to send a letter; and doubtless when some distant constituent made a protest regarding a pending bill it made a good deal of an impression. Postage began to grow cheaper and letters more numerous. The law of probabilities began to operate, and the Congressional mail began to find its level—requests for jobs, requests for other favors, and advice how to vote, in fairly constant proportion. To stimulate a sudden fluctuation in this last element then became the main reliance of the seekers of legislation. Like conjurers, the heads of some organizations could by a signal send uncounted thousands of letters and postcards fluttering to Washington.

Just as soon as the lawmakers "got on" to the fact that these were not strictly spontaneous, they began to gain courage to ignore them. Then came the brief tyranny of the telegram. Senator Bailey declared recently on the floor of the Senate that he had received five hundred in a single month relating to the Smoot case alone. As to what started them, we have much evidence, as in the circular sent out by the head of a woman's organization saying that "fifty cents spent on a telegram may save the day."

A clever Frenchman has declared that the Cartesian doctrine of to-day is, "I telegraph, therefore I am." It has certainly been the prevailing philosophy of the late session. Besides the Smoot and pure-food and free-alcohol and beef-inspection telegrams, there was the famous Standard Oil series. The independent oil producers were suddenly found to be "up in arms" against the pipe-line clause of the rate bill. Every one supposed it was disinterested sentiment, when presently the mystery was solved by the publication of this letter sent out over the signature of a Standard Oil purchasing agent:

> It is desired that you have a number of telegrams sent to-day and to-morrow morning to United States Senators and Congressmen, especially the latter, from as prominent oil companies or producers as you can get in their districts. * * * I state for the information of the people that are asked to send such messages that the amendment prohibits the owners of any pipe line carrying its own production or any oil they may buy to its own refinery. * * * From the above-stated facts you should have telegrams framed where the producer or producing companies realize the danger involved. It is from the important and well-known independent producing interests that you are to have these telegrams sent, if possible by people that are known by their representatives. A copy of this has gone to all superintendents. Please aid them as to parties whom they might see.

It is somewhat amusing that, while the novel forms of treatment are reserved for Congress, the old familiar tricks are still used by minor propagandists. The Times of this city was lucky enough to possess a "Constant Reader" who guilelessly enclosed with his protest against the paper's criticisms of Christian Science, the manifolded note suggesting that he make such protest:

"Say that you have not seen similar attacks on other religious faiths, and that you do not feel that C. S. deserves to be picked out for attack.

"Say that you cannot put into the hands of your children a newspaper which—desirable and pleasing in every other way—attacks the religion of the family," etc.

Our contemporary had received eight letters marked "Personal" and of exactly similar tenor, before it learned the cause through this happy accident. Four came immediately after.

The game appears to be up for the present. Nobody will be either impressed or intimidated next year by avalanches of letters and telegrams. But what is to take their place? People wanting things done are certainly not going to sit supine while their servants in the Capitol do as they please. The wireless message has scarcely had a trial. How would it do to have a procession of exhausted American business men going across the Atlantic to recuperate but seized in mid-ocean with such sudden alarm lest a certain blow to home industry may fall, that they spring at once for the Marconi operator? We are not certain but that this would have greater dignity and impressiveness than the even more expensive concourse of balloons and airships which might circle around Capitol Hill, dropping petitions in their flight.

There must be something. Already the spread of the referendum is giving us a count of noses and making it harder all the time to create the illusion that the whole population of the country is clamoring for or against some particular change in the laws. The fabric of our institutions will be at least sadly frayed if every-day citizens are left to interest themselves in such measures as they please, and to write letters only when the spirit moves.

Typewriting and Telegraphy.

Mr. F. M. McClintic, the well-known expert operator, whose contributions to current literature on the subject of telegraphy and questions collateral thereto are always of interest, has an article on "Typewriting and Telegraphy" in the June number of Office Appliances. We print the following extract therefrom:

"Typewriters are as much a requisite in telegraphy to-day as pens and ink were fifteen years ago. To-day the pen is a thing of the past so far as rapid telegraphy is concerned. Within a little more than a decade there has been a complete revolution in the method of handling commercial telegrams and press matter, all due to the typewriter and Phillips' Code. In 1890, when telegraphers generally began using typewriters (although they were used by many long before that), there were certain of the 'old guard' who foresaw disaster to the telegrapher if the typewriter became a fixture. They claimed it would reduce the number of operators necessary, and finally pooh-poohed the use of writing machines as a fad. Others warned the younger and more enthusiastic of the profession that they were cutting their own throats and would eventually reduce salaries by learning to 'typewrite.' But, like most good things, the typewriter came anyway. It did permit of much faster and more legible work, but it did not reduce the number of telegraphers necessary. In fact, the telegraphic business of the country increased so rapidly that the saving of time effected by the introduction of typewriters and the Phillips' Code, which came with them, made no appreciable difference, and a good telegrapher may obtain employment at the ruling rates of remuneration—such as they are—at any season of the year.

"In the old days of the gilt-edged pen operator, when such men as Thomas Edison wrote in 'copper plate,' and before the use of typewriters and Phillips' Code became a factor in handling telegrams, forty messages an hour was considered quite good; fifty was excellent, and sixty was on the verge of remarkable. In these days of hustle and get there the utmost brevity is used. Modern typewriters and 'cutting them up,' or codifying messages has made the transmission of forty per hour very ordinary; sixty an hour very good, but eighty has been maintained for hours at a time, and in some instances where manifold copies are filed (making necessary only a single transmission of the body—the address and signature taking very little time) over one hundred an hour have been recorded. In handling press despatches the possibilities for high speed are much greater, as there are abbreviations for practically all the short words, and combinations of abbreviations for groups of from two to five or six long words. Prior to 1890 press operators as a rule still used the pen and pencil and the code was not so freely handled as it is to-day, when every first-class operator has his typewriter, and men of the best ability are selected to do the transmitting—men who can save a few seconds of time here and there by intelligent codification, and in a night's work frequently handle 20,000 words. On the Western single wire of The Associated Press, which runs from Kansas City to Denver, and on the Southern circuit from Memphis, Tenn., to the Southwest—considered two of the most rapid circuits in the world—as high as 24,000 words have been transmitted in eight hours. Such a thing would have been an utter impossibility without the aid of the typewriter and the code. Maintaining an average of 3,000 words to the hour means that, exclusive of stops caused by handling necessary 'schedules' and telegrams, and not counting 'breaks,' the sender must keep up a rate of fifty words per minute, and the men on record who can transmit over fifty words in sixty seconds without the aid of the code are less than two dozen."

Drinking by Employees Forbidden.

Consul-General Church Howe at Antwerp, reports that the use of whisky and other alcoholic beverages by Government or municipal employees during hours of service is practically prohibited in Belgium, with the result that drunkenness is rarely met with in any branch of the public service, and never among railway employees. He says:

The importance of prohibiting the use of all forms of intoxicating liquors by railway employees is not only realized in Belgium but also in the Empire of Germany, where the director-general of the railways in Alsace-Lorraine has forbidden their use by those engaged on the railways during their hours of service. This rule applies to all grades in the service, including the telegraph, and to all hours of the day. A first offense is punishable by loss of grade and the second by dismissal from the service. The measure was taken in consequence of the accidents which have grown to be rather frequent both on the railway and in the workshops.

It may be added that some of the railway companies of the United States, notably the Pennsylvania, have adopted similar strict regulations against liquor drinking by their employees. This is a regulation that might be adopted more generally with distinct advantage to all concerned, employees and employers alike. The too common practice of "taking a drink" during business hours is pernicious in the extreme, for it affects mentality and correspondingly eventually lowers the standard of work performed by the individual.

When an operator was asked recently why he favored postal telegraphy, he said it was not because he preferred government control of the telegraphs, but because he wanted to get a whack at the telegraph companies, and that was the best way he knew of doing so. The method proposed would be like spitting against the wind, as the operator would speedily find to his own detriment.

Transatlantic Wireless Telegraph Troubles.

In the years that have elapsed since Marconi startled the world with the statement that he had transmitted a wireless message from England to America, a large amount of experimental investigation has been carried on, with the object of determining the laws which govern this most fascinating of modern discoveries. It was natural enough that, when he had proved the possibility of wireless communication over three thousand miles of ocean, even though the message consisted of a single letter ever so faintly heard at the receiver, Marconi should have supposed that for the transmission of regular commercial messages all that was required was apparatus of greater height, capacities of greater area, and the installation of sending apparatus of larger power. Costly stations were equipped on this supposition both in Cornwall, England, and on the Atlantic coast, and an actual message was transmitted from President Roosevelt to King Edward. That was in January, 1903, and in the following March the Marconi Company undertook to furnish the London Times with daily wireless dispatches from the United States. These, however, were discontinued after only a couple of dispatches had been sent, and to those who were following closely the progress of the art, it soon became evident that, although the transmission of a full message had been proved to be possible, there must be certain atmospheric or other conditions affecting transatlantic wireless telegraphy, which would have to be understood and met before it would be possible to maintain a regular service free from interruption.

Meanwhile other investigators who had been doing good work in the field of wireless telegraphy on a less ambitious scale, were beginning to turn their attention to the great problem which Marconi had so boldly attacked, and with such promising initial success; and ultimately De Forest and Fessenden established stations in which elaborate experimental work has been carried on continuously. Both of these gentlemen claim to have succeeded in establishing transoceanic communication, and Prof. Fessenden has recently broken through the reticence that has characterized investigation in this field in the past, and has contributed to the Electrical Review, of London, an article in which he gives a very frank statement of the work which he has accomplished, and the obstacles which must be overcome before it will be possible to establish an absolutely reliable service free from interruption. The distance between the Fessenden stations at Brant Rock, Mass., near Boston, and Machrihanish is about 3,000 miles, and under favorable conditions messages are exchanged without any difficulty. It has been found, however, that the ability to send messages varies very greatly, not only on different days, but even during different parts of the same day; and Prof. Fessenden has found that on certain days the signals received were of five hundred times greater intensity than other messages sent out under apparently similar conditions on other days. From this it follows that to make certain of being able to transmit messages on any day of the year, the apparatus must be built to correspond to the days of least intensity; or, in other words, a "factor of safety" of at least 500 must be adopted. The problem might be attacked, either by providing an increase of sensitiveness in the receiving apparatus, or an increase in power at the sending station, and in all probability both means will be adopted. On the other hand, if an intensity of transmission be used which is sufficient to meet the worst conditions, it may be found that on the days when conditions are favorable to transmission, such intense signals would be detrimental. Not only might they injuriously affect the operation of other stations, but they might even interfere with the station at which they were directed; for Prof. Fessenden has noticed during his transatlantic tests what he has called an "echo signal," that is, a signal coming about one-fifth of a second later than the main signal; and he believes that this second signal reaches the receiving station later because it goes the longer way around. If transmission of great intensity were used, these echo signals might become loud enough to have a confusing effect at the receiving station. Transmission conditions must be tested frequently in order to determine the proper intensity for current use, for the changes in conditions affecting transmission take place with some rapidity.

As for the causes of these rapid changes, it was pointed out some time ago by Prof. Fessenden that not only is one of the causes to be found in the action of sunlight, but that there appear to be in the atmosphere large masses of absorbing material which considerably reduce the intensity of the transmission. These masses vary in size and in the height above the sea level at which they exist. They appear to be nearer sea level in the tropics, where long-distance transmission is more difficult than in the temperate zone, and in some cases the absorption by these masses is found to be so great as to leave only about one-tenth per cent. of the energy of transmission available. Another effect of which the cause has yet to be found, is that messages at certain times can be transmitted more easily in an east and west direction than in one north and south; moreover, there are indications that diffraction takes place. It is considered that both of these effects may be due to the shifting of the position of the so-called absorbing masses, which are supposed to be the most serious obstacle to transatlantic transmission.—Scientific American.

Telegraphers' Cramp.

"Looking through the pages of a magazine devoted to service matters, published over thirty years ago," says a writer in St. Martins' Le Grand, London, "I came across a paragraph which had no meaning for me when I first read it in those early days of my career, but which has acquired a very special significance since.

"It read: 'The following paragraph has recently been going the round of the papers:

"'ALARMING NEWS FOR TELEGRAPHERS.

"'Telegraph clerks will hear with alarm of telegraphic paralysis, a new malady reported by a French physician to the Académie des Sciences. An employee, who had been engaged in a telegraph office for nine years, found that he could not form clearly the letters U, represented by two dots and a dash; I, by two dots; and S by three dots. On trying to trace the letters his hand became stiff and cramped. He then endeavored to use his thumb alone, and this succeeded for two years, when his thumb was similarly attacked, and he subsequently tried the first and second fingers, but in two months these were also paralyzed. Finally he had recourse to the wrist, which also shortly became disabled. If he forced himself to use his hand, both hand and arm shook violently, and cerebral excitement ensued. It appears that this disorder is very common among telegraph operators.'" The editor adds: "Although this malady is stated to be very common among telegraphers, we are happy to state that, in the course of our long experience, this is the first time we have heard of it."

The service was then comparatively in its infancy, having only just been transferred in a very crude and undeveloped condition from the old telegraph companies to the State; but if the editor who treated the subject with such airy skepticism be living now, he would have no difficulty in obtaining proof that the malady is very real indeed, and that a considerable number of telegraphers are disqualified for manipulating duties by it. The truth probably is that our French friends were, as usual in such matters, a little in advance of us. Nine years is, however, a most unusually short period of experience for the symptoms to appear, and the operator in this case must have been an exceptionally sensitive subject. Various causes may contribute to development: weak nerves, mental worry, a low condition of bodily health and spirits; but the chief factor is constant manipulation (or "Keying" as it is more commonly known in the service), protracted beyond the age when an operating telegrapher is at his best, which may be anything between 30 and 40, or 50 years at the outside, and when the action ceases to be a pleasure, and begins to be irksome. I staved off the evil day for years by training my left hand, and by using both hands for the work as I found most agreeable.

It is something quite distinct from what is known as "Writers Cramp," for I never found my efficiency at "reception" impaired, though this involves continuous writing, sometimes at a very rapid rate. The development is very gradual. At first only one letter may present difficulty, and that curiously enough only in particular combinations.

For example, assuming the letter V is the difficulty (in the Morse code represented by - - - —) the operator may form it with perfect ease when it occurs as the first letter of a word, as in "Victoria," but may stumble when it occurs in the middle of a word, as in "reserved." The letters which presented difficulty at various times in my case were B, C, L, V, X and Z, the letter Z generally giving the most trouble.

As the malady develops, first one letter and then another presents difficulty, and what is most remarkable is, that the letters which at one time occasioned trouble may cease to do so, some fresh letter or letters, hitherto formed with ease, causing the trouble. A nerve specialist could probably explain this apparently strange phenomenon.

A great deal depends upon the physical condition of the subject, and a strong vitality may keep him going for a long time; but when the malady has reached a stage at which several letters at once present difficulty, he is in a bad case, and had better take a rest, or retire altogether from manipulative work; for the trouble has then become dangerous, the undue strain upon the nerves involved in the then painful effort to "Key" the letters expeditiously and readably causing "cerebral excitement," as stated in the paragraph quoted. The strain is thrown upon the brain, and the brain revolts.

None but those who have experienced can realize to what a condition of mental distress the complaint may reduce one, particularly under circumstances of pressure. Premature retirement, with its attendant train of miseries, seems to stare him in the face, which reflection only serves to aggravate the evil, and prolong the agony, till the inevitable breakdown follows.

Since the British-Thibetan treaty was made, the Indian Government is trying to open up the "Hermit" country to civilization and commerce. The latest news to hand is that the assistant commissioner at Kulu is proceeding to Gartok during the present month to inquire into trade matters. Under the agreement with China regarding Thibet the right to connect the trade marts with the Indian telegraph system has been recognized, so it may fairly be said that the opening up of trade between the two countries in this hitherto unexploited region commences under very encouraging auspices.

Why the Most Up-to-Date Railroad Safety Appliances Often Fail.

Dr. Van Buren Thome, in the New York Times.

Physicians who confine their attention to brain and nerve disorders have devoted much time in recent years to the study of the results of extraordinary mental exertion as manifested in the nervous breakdown of railroad employees. Although many of the facts are obvious to the casual observer, they are none the less startling when reduced to concrete terms. More startling and of equal importance with the facts are the logical deductions. These indicate the necessity for a revision of the administrative methods of all the railway systems in the country, if life, limb and property are to be safe-guarded, beyond the limit of reasonably unavoidable accidents.

The results of investigations of the railway service by Dr. Charles H. Hughes, a St. Louis neurologist, are set forth in a comprehensive monograph which appeared in a recent number of The Alienist and Neurologist. He points out that the sanitary regulation of the railway service is quite as important as the subject of rates and rebates, and that the President of the United States would do well to turn his attention to the matter. The appalling accident records of the railways, he declared, are to be attributed almost entirely to mistakes resulting from the brain strain of overworked employees.

The hours of those employed in the train despatching, engineer and switch service are entirely too long, the physician declares. As the result of the enforced overtaxing of mental endurance, "cruel, criminal maimings and murders, appalling in number, have followed, and bereavements in thousands of families have resulted from this railway official crime of indifference."

The comparatively insignificant compensation in certain departments of great responsibility accentuates the injustice not only to the employee and the public, but to the owners and managers themselves.

Six consecutive hours' service for train despatchers in many stations, with compensation enough and sufficient opportunity for brain and nerve rebuilding, are most desirable if the service is to be conducted with the minimum possibility of accident. Telegraphers, engineers, and conductors are now underpaid. Dr. Hughes holds that they should receive nearly as much as is now paid to superintendents of divisions.

The contrast between the care taken in the inspection of the tracks and the running gear of trains and the lack of effort to conserve the brain power of employees is only too apparent. It is not unusual for train despatchers, conductors and engineers to work twenty-four hours at a stretch; less frequently they do a forty-eight-hour "trick," while in extraordinary cases of emergency men have been called upon to work seventy-two consecutive hours.

The pathological results of such unendurable exertions in positions of great responsibility are brain strain, paralysis, morbid conditions approaching epilepsy, true epilepsy, and nervous prostration.

"Railway employees will yet seek a remedy in the courts for these as well as the more sensible injuries to the body from accidents," says the physician, "unless railway managements become more considerate of the mental needs of their most efficient and faithful employees."

The more obvious and widely advertised results of this brain strain are the constantly recurring accidents on the railroads. Dr. Hughes recounts an instance of this which occurred recently on a Western road. After seventy-two hours' work a train despatcher fell asleep at his post. As the result of a mistake in his orders two trains met head on in a blinding snowstorm and forty persons were killed.

A train despatcher who was suffering from toothache and neuralgia asked to be excused long enough to have the tooth extracted. He was informed that if he was well enough to report for duty he was able to continue. He remained at his desk until a condition resembling epilepsy developed, and he was obliged to quit the service and lay up in a hospital. Another despatcher remained at his desk until he fell to the floor in an epileptic fit.

The enormous aggregate results of brain strain to the public and railway corporations, exclusive of the private miseries of the employees themselves, is best illustrated by a glance at the Inter-State Commerce Commission's report of railroad wrecks for 1904-5:

"During the twelve months ended June 30, 1905, 886 persons were killed and 13,783 injured as the result of accidents on railroad trains in the United States," says the report. "Comparison with 1904 shows an increase of 11 killed and 4,123 injured among passengers and employees, the increase in killed being wholly among passengers, while the number of employees killed shows a decrease of 106. There were 1,231 collisions and 1,535 derailments, of which 163 collisions and 168 derailments affected passenger trains. The damage to cars, engines, and roadway by these accidents amounted to $2,410,671."

The broken brains that send railway employees to the neurologist for help, however, are far more numerous than the wrecks which strew the tracks, says Dr. Hughes. Money and men would be saved by a more moderate and judicious running of the mental machinery which runs our railway trains. The railroads are wrecking men and blasting lives in other ways than collisions and derailments. In the opinion of the writer quoted, a run longer than twelve hours without intervening sleep is cruelly inhuman for any railway service, while an eight-hour relief all around would be nearer the daily limit of endurance of the strained brain's recuperative capacity.

The neurologist contends that the attitude of

the railway managers is wrong regarding the non-employment of men past thirty-five years of age, for the reason that the terrible brain punishment to which they are subjected earlier in life under present conditions is responsible for prematurely wrecked lives. Justice in the allotment of service will extend the age limit of capacity as far in railway service as in any other service, to the betterment of the railway interests and the better welfare of the employees and the safety of the public. Men are not born to break in brain at thirty-five if their brains are properly cared for, nor even at the extreme limit fixed by Dr. Osler. The dropping of men from the railway service at that age is an act of self-condemnation.

The exacting demands of travel service on our "lightning limiteds" and "fliers" between the large cities require an unremitting vigilance and mental tension that demand a large amount of absolutely quiet, compensatory sleep after the tension is off the strained brain. Railway service, railway safety and efficiency, and financial interests are best conserved and promoted by strong, capacious, restful, and well-rested, workable brains as they are by good tracks, good rolling stock, and good men in the directorate and higher managerial departments. This is the testimony of prudent neurologist observation. The brain must and will, in time, receive as much attention as the coarser machinery. Hitherto the medical department of the railway service has been mainly occupied with the care of the dead and the wounded after collisions, wrecks and casualties, and the legal department in minimizing accidents and damages.

The railway management is especially particular to secure perfect watches for all employees. It should be no less careful about the accurate movements of the minds and the physiological integrity of the brains in its service, for neither will run properly unless timely wound for correct movement.

"Economy of railway service at the expense of brain exhaustion is in the end destructive, unwise, and criminal extravagance of limb, life, and property," says Dr. Hughes. "Living cerebro-mental machinery driven to premature debility does not argue well for the wisdom of the present railway management system of the United States. The period of greatest utility and power in well-endowed brains and minds is from 35 to 55 or 60, and in certain exceptional organisms and in certain advisory directory positions even beyond threescore and ten. To ignore this fact or make it impossible of practical application in railway service is to abridge railway service efficiency and achieve less for the employee, bondholder, stockholder, management and patron, and less than it ought to be for humanity's sake.

"The time may not yet be ripe for restrictive sanitary legislation of the daytime service of railway employees for the conservation of their vitality and mental endurance and power, but it will come, and with the approval of the railway management itself under the diffusion of the knowledge of the brain's rest needs and normal activity capacity, as neurologists see them."

Publishers' Press Controlled by Scripps-McRae Association.

At a special meeting of the directors of the Publishers' Press Association held at the general offices of the association, July 19, it was announced that E. W. Scripps and M. A. McRae had purchased a controlling interest in the association. J. B. Shale, president of the Publishers' Press, announced that he and T. J. Keenan, secretary of the association, had disposed of all their stock which jointly gave a control. Messrs. Shale and Keenan thereupon tendered their resignations as officers and directors. M. A. McRae, J. C. Harper and John Vandercook were elected directors to fill vacancies in the board, and the board then unanimously elected M. A. McRae president and John Vandercook secretary and general manager. Andrew McLean was retained as vice-president and treasurer.

Mr. McRae explained the relations, practically amounting to a partnership, hitherto existing between the Publishers' Press Association and the Scripps-McRae Press Association under which the latter had contributed largely to the upbuilding of the Publishers' Press. Since the original contract was made between the two associations, however, both Mr. Shale and Mr. Keenan had sold their newspaper properties and now had other very important outside interests. On the other hand the Scripps-McRae concern was more largely engaged than ever in publishing newspapers, and it was solely to secure the best possible news report for themselves and all papers associated with them that they had now extended their press association interests. He concluded by stating that the Publishers' Press would continue to be conducted along the lines which had already been successful with such improvements as could, from time to time, be made.

There are now operated as separate concerns, but under the same control, The Publishers' Press Association with 307 clients, the Scripps-McRae Press Association with 154 clients, and the Scripps News of the Pacific Coast with sixty clients, in all 521 associated newspapers, comprising, outside of The Associated Press, the only press association in the United States.

John Vandercook, the new general manager, was originally news manager of The Publishers' Press New York office, and then for six years was manager of the European service of the two associations. Later he was assistant manager of The Publishers' Press and is now editor of the Cincinnati "Post." He will make New York his residence.

Train Order Rules.*

BY CHARLES SELDEN.

Superintendent of Telegraph, Baltimore and Ohio Railroad, Baltimore, Md.

While in many instances the superintendent of telegraph has not individual charge of the operators, his interest in train-order work being thereby lessened, it is also true upon roads of comparatively small mileage, that the operators are under his immediate supervision; and on larger systems that officer is in a general sense held responsible for the conduct of the telegraph business of every character.

It seems to me that it is within the province of the superintendent to in every instance exercise a certain supervisory right which belongs to his office, and wherever he sees that rules are disobeyed, it would be right for him to call the attention of the proper officer to the same.

It may be felt by some that this would be considered as an impertinence, but from my long experience and large acquaintance among the officials of various railroads, varying in grade from chief despatcher to general manager, I am sure this would be found an exception, and I think it proper, therefore, to bring before you a subject such as I now do.

It must be understood that I am not attempting to criticise any organization of railway people who decide upon certain methods for handling train orders. This is very far from my intention, but I do wish to call attention to the results that are brought out by practice, and to present to this body the suggestion that perchance the custom might be bettered without in any way injuring the service.

In the operating department of a railroad, whether it be a question of bridges, track, signals or train despatching, there is the well-known principle which is termed the "factor of safety," which must be considered in every movement relating to conducting transportation, and I shall attempt to follow the chronological development extending over a few years past. It was deemed best that two characters of train orders be adopted, known as the "31" and the "19" orders, respectively.

The 31 order provided that it should be made "complete" for execution only after the conductor and engineman (or the conductor alone, as the rules of the road might provide) had personally signed the same and that the despatcher should have the signatures transmitted to him for the train to which the order was addressed before completing the order for other trains interested.

In other words, as the 31 order was addressed to the superior train, the despatcher having received the signatures of the conductor and engineman, or the designated parties, felt sure that this order, in accordance with the rules, had been read to the proper parties, that they thoroughly understood it and had acknowledged the same by their personal signatures. It also afforded to him the knowledge that the order had been delivered, and these, all combined, formed the "factor of safety;" and further, it protected the operator, so that in case the parties receiving the order should execute it wrongfully, and disaster occurred, the crew could not destroy their orders and successfully claim that they had not received them.

The 19 order was for the purpose of eliminating delays. It was repeated by the operator and signed for by him, and as they were not of such a character as to restrict the right of other trains, they could be delivered without receiving the signature of the conductor and engineman, and while the train was passing the station at a slow rate of speed, thus (especially in case of heavy tonnage freight trains, or upon heavy grades) saving the delay of stoppage to such trains. Failure to fulfill the 19 order on the part of the inferior train, except in cases of bad track, would not occasion disaster to it or to the other trains concerned in the movement, as the inferior train, by time card rule, was forbidden to encroach upon the rights of the superior train.

This method having been determined upon, was put in practice on a number of railroads. On roads having a comparatively small number of trains the rules could be strictly adhered to, and the personal signature of the proper employee could be had without seriously delaying a number of trains, but upon roads with a large number of trains it proved to be a decided hardship, and in the vernacular of the craft it "tied the road up."

To meet this object, a symbol "X" was agreed upon, and was termed the "X Response." It admitted of the despatcher's sending an order to a point for the superior train and the operator either repeating the number of the order and the train to which it was addressed, or the entire order, followed by the symbol "X" and his initials.

The "X response" practically signified: "I have received Order No. .... for train ...., and will deliver the same ..... Operator."

With this assurance on the part of the operator the rule admitted of the train despatcher's completing the orders to inferior trains prior to their being received and receipted for by the signatures of the proper employees of the superior train.

It is quite evident that this decided change swept away the principal "factor of safety" and left only the protection to the operator, who, when he had received the signatures, transmitted them and having a copy of the order in his of-

* A paper read before the convention of the Association of Railway Telegraph Superintendents, at Denver, Col., June 20-21.

fice, if the order was wrongfully executed it could not be claimed that the operator had failed to deliver.

Later on, as I recollect, on account of some objections, the subterfuge seemed so plain that these instructions were recalled, but as the results would be as before, that the busy road would be tied up, discussion and influence was brought about to restore to the rules this "X Response," which I consider to a certain extent a "subterfuge," and so designate it.

Where the original rules tended to delay the traffic, it became rather the custom for the operator to sign the order for the employees of the superior train, or where the rules of the road provided that both conductor and engineman should sign for the orders, then either of these gentlemen was liable to sign for the other in order to save time and the traversing of a long distance from caboose or engine, as the case might be, to the telegraph office.

Some despatchers were quick-witted enough to use the 31 order without delay to trains and still keep within the rules. They did this under rule 217, though not obeying strictly the same, viz., when they put out an order for the superior train they made it a 31 order to that train in care of the operator at the point where they desired to reach the train, and having received the repetition and the signature of the operator they proceeded to move the superior trains just as if a 31 order had been signed by the conductor and engineman, or in accordance with the rules of the road.

As the time rolls on we find that the character of the 19 order is changed, in so far that while previously it was not proper to deliver a 19 order to a train, which restricted the rights of another train, it is now permissible to do so, providing the operator will stop the train and deliver the order to the proper parties thereon.

The original rules got a good many operators in trouble by reason of disobedience thereof. They would sign and transmit the signatures for the parties addressed, or would allow one party to sign for the other. They did this in order to keep in good favor with the despatcher, and when operators were plentiful a man who got in bad repute with the despatcher, simply because he would not take chances and disobey the rules, was reported to the chief despatcher in charge of the operators as being inefficient, and with a lot of small complaints against him, the chief despatcher, who was naturally biased, very frequently removed the operator on account of unsatisfactory service. Doubtless he was prone to do this because his superintendent was probably complaining about the movement of traffic under his charge, and rather than stand for that he took the chances in at least "winking" at the disobedience of the rule by the employee in his control.

We have, then, the following developments: 1. Orders to the inferior train should not be completed until the signatures of the proper persons of the superior train had been transmitted to the despatcher. 2. A variation of the foregoing by use of an "X response." 3. A still further variation by the right to use a 19 order restricting the rights of trains, providing the train be stopped and the order delivered to those addressed in person.

It seems to me that there was hardly ever a clearer case of "beating the devil around the stump" than this. What does it all amount to? Principally this: That we supply a rule with a large "factor of safety," which delays traffic, and that we then begin by degrees to back away from the rule, lessening the factor of safety and lessening the delay. Furthermore, "X response" or no "X response," as the case may be, when you depart from the first set rule, which does not permit of the movement of inferior trains prior to the order having been signed for by the proper persons of the superior train, we are entirely and solely in the hands of the operator, upon whom we depend to deliver the order. This being granted, why not sweep away this apparently superficial and round-about clearance that has been arranged for in existing rules?

It used to be the fashion to put upon the time card rules which all of us know could not be carried out and railroads successfully operated. They were placed there in many instances for court uses, and at times they came in for good, but the courts of this date are apparently closer to the tide of current events than previously, and in cases of suit the lawyers are very apt to be coached by an expert, and the paper fabric which we have built falls like a house of cards.

Why not let us suggest that we acknowledge the fact that the party to deliver the order is the one upon whom we depend; furnish that party all of the proper devices to warn a train and to cause it to come to a stop, but send the order to that train in the care of the operator, at his repetition make the order complete and move the other trains in accordance?

It seems to me that in such an arrangement we are out in the open, and authorize by rule what we are doing every day. It takes away from operators, despatchers and trainmen the inclination to disobey rules and take chances in order that they may gain time.

It may be said that this is a matter with which this association should have nothing to do, but I do not feel that this is so. I feel that every member here in his capacity in charge of operators is to a greater or less extent responsible for the results. Some may say: "Well, if I should suggest that to my superior officer he would laugh at me, but I am prone to think that if he did, it would be because of one of two things, either his ignorance or yours."

If you do not take enough interest in the most important matter that the telegraph line of a railroad has to do with, whether you figure that you are concerned therein or not, or that your

efforts might meet with repulse, I thing you are making a very great mistake. I think you owe it to yourselves as superintendents of telegraph. I think you owe it to the operators who are more or less in your charge, and to the interest of the road which you serve.

Now, if you are not taking any interest, if you do not examine train rules, but are simply satisfied to look after the electrical portion of your duties, I feel the superintendent might not give very great weight to anything that you might offer in this line; yet I also feel sure of another thing, and that is that ninety-nine per cent. of the operating officials in the United States will be glad to impart to you knowledge if you will ask for it, and if they find that you have it they will be glad to discuss matters of this character, because their success, as well as yours, depends upon the success of the road whose interests are with you to a degree, as well as with him.

The Woes of the Messenger Boy.

A solution of the servant girl problem was discovered a few days since by a bright New York woman. When her maid failed to appear she called up a branch office of the Postal Telegraph-Cable Company and ordered a messenger boy to be sent to her address.

A boy was immediately sent, and, much to his surprise, upon his arrival at the address given him, was set to work in the house.

The boy, unused to such work, was heartily glad when his temporary duties as maid of all work came to an end.

"Gee," he confided to his fellow messengers on his return to the office. "Say, fellers, never go doing stunts like I did this morning. It's no cinch. When it comes to doing housework again it's 23 for mine."

And his fellow workers chorused their approval, declaring they had no desire to solve the servant girl problem at the rate of 20 cents an hour.

A. D. T. No. 82, whose name in private life is Bobby Simms, reported to Manager Chas. Smith, of the Western Union Telegraph Company, Louisville, Ky., that things had been breaking bad for him and that he was just about ready to throw up his job.

"Can you catch flies?" demanded an elderly woman on East Oak street, when Bobby responded to a call. Bobby said that he thought he could, and the lady replied:

"Then, catch some."

At the end of an hour the lad had succeeded in annexing one squashed and legless fly.

"Oh, my," half sobbed the lady, "that will never do. Billy will eat only fat ones. Here."

So saying, she wrote a note and directed the boy to take it to Al Kolb's saloon and give it to Billy Repetto, the barkeeper.

"Please let the bearer catch some flies," the note read.

Billy, who used to catch flies in Italy, helped Simms scoop up a teacup full of the boozy insects that had been imbibing free beer on the counter.

"Mercy!" shrieked the lady when No. 82 came back with his spoil. "Bill could never eat those. They have been fattened on beer, and Bill is so delicate. Besides, he's sick."

"So am I," growled Bobby. "Here's where I tie a can to myself. Who is Bill—a bird?"

"No; he's my pet lizard," explained the lady. She had Bobby to summon a veterinary surgeon for Bill before she would pay him off.

The horse doctor came and looked Bill over. As he was not suffering with quartercrack, farcy, heaves, bots, cribbing, windgalls, spavin or other kindred ills that horseflesh is heir to, he said that he could do nothing for Bill and declined the case.

A. D. T. No. 519, whose legal name is Joseph White, but who is known in the Chicago messenger service as "Slats," is burning with professional indignation because he was called by a portly guest of the Grand Pacific Hotel and forced to scratch the guest's back for an hour and a half.

"I get's the call to the big hotel across the street, and the clerk says, 'Up in 29, kid,' and I hikes up to the room and butts in. A big man was sitting in a chair by the window copping all the breeze.

"'How are you on scratching backs,' sez he.

"'What's dat?' sez I, quick like.

"'I want you to scratch my back,' he says. 'I can't reach around and it's too warm to rub against the door.'

"He had off his vest and I went over and began to rub between his shoulders.

"'Over to the other side,' he says. 'Now down a little—that's the place,' he kept saying.

"'Let's see your hands,' he says, and I holds 'em up.

"'Better get the hairbrush,' he says, and I get the brush and rubbed him up and down the back for more than an hour.

"After a while he says, 'That will do, bub,' and hands me a dollar and I skiddooed."

Cultivate Men of Purpose.

The late Marshall Field said: "The business world is full of young men content in simply putting in their time somehow and drawing their salaries, making no effort whatever to increase their efficiency and thereby enhance their own as well as their employer's interest. To every young man I would say, seek at the start to cultivate the acquaintance of those only whose contact and influence will kindle high purposes, as I regard the building up of a sterling character one of the fundamental principles of true success."

An Improved Pneumatic Tube System.

A new system of pneumatic tube operation has been introduced and recently installed for the Postal Telegraph-Cable Company, between the Cotton and Produce Exchanges and between the two exchanges and the Commercial Cable Company's building at 20 Broad street, in New York, and with the main office of the company at 253 Broadway. It has heretofore been the usual practice in the operation of such systems, says the Engineering Record, to maintain the pressure supply in storage tanks, which are drawn from as needed for the despatch of carriers. This system requires extensive pumping and air storage equipments, but in the new system special automatic blowing equipments are used which deliver air directly into the tube, but only intermittently, when needed, thus doing away with reservoir storage. This improvement involves the automatic starting and stopping of the blower every time a carrier is despatched through the tube, for which purpose an interesting type of motor-driven blower with automatic control mechanism has been devised.

The new pneumatic line on which this system is being used has 2¼-inch tubes to each point, over 15,000 feet in all, the carrier traveling in one direction only in each tube. The lines have many sharp turns and bends owing to the complication of underground conduits and pipes to be avoided in the street, and the necessity of passing up through the available locations in the basements of buildings to the operating heads, there being as many as fourteen right-angle bends at one end. For the operation of the lines there is a special intermittent blowing equipment at either end, which is permanently connected to one tube, although connections and despatching heads have been so arranged at both ends of either tube that changes may easily be made for despatching in either direction in either tube, or in case of disablement of either tube, of operating in both directions in the remaining tube. The scheme of operation embraces, in general, the use for every tube, of a blower equipment at the sending end with control apparatus in the tube head, so arranged as to start the motor automatically when the carrier is inserted and the head closed, and further automatic means for stopping the motor after the carrier has been delivered at the opposite end.

Each tube is fitted at either end with an operating head which enables it to be used for despatch in either direction, the equipment consisting of a despatch head and a receiving gooseneck and basket, either of which may be connected to the tube.

In operation the carrier is inserted into one of the valve tubes, and the air-tight door on the head closed down on it, which operation closes concealed electrical contacts within the box. This starts the blower motor and at the same time electrically locks the air-tight cover down over the tube, causing the air pressure to force the carrier to the other end of the tube. This air-tight door is released after the carrier is delivered from the other end of the tube. This is done by a time-element mechanism connected to the motor, by which it is closed down after having operated for a predetermined number of revolutions. It has been found as a result of experience that the despatch of a carrier through a tube 1,500 feet in length requires only about 25 seconds, the greater part of which time is consumed in passing the large number of bends beneath the street and up through basements and partitions in the buildings. The motors are therefore set to operate continuously for some thirty seconds after they are once started, which time is enough to deliver the carrier at the other end with enough reserve to prevent the carrier becoming stalled in the line due to the motor shutting down too early.

The motor-control mechanism is one of the most interesting features of the new equipment, consisting essentially of a motor-starting solenoid and two time-limit relays, the purpose of which is to shut off the motor after it has operated a predetermined number of revolutions.

An interesting feature of this system is that carriers may be despatched in a tube from a sending station one after another continuously and with any desired degree of rapidity without hampering the operation of the system, in contradistinction to the necessity of waiting until a carrier has been transmitted to the other end and delivered from the tube before inserting another. This is made possible by the duplication of inserting doors and tube valves in the sending boxes, and of the time-limit mechanisms upon the blower outfit control boards. The arrangement of operating circuits of the electric door locks, motor-control and time-limit mechanisms is such that when a carrier is despatched through one of the air-tight sending doors, that door only is locked and one of the time-limit mechanisms only is set into operation, the escape of air pressure through the other sending door, which is unlocked, being prevented by a hinged flapper valve in the Siamese or Y-connection beneath the inserting tubes.

This interesting system was designed by Mr. John T. Needham, district electrician, and Mr. J. F. Skirrow, associate electrical engineer of the Postal Telegraph-Cable Company. The entire equipment was built by the Electro-Pneumatic Tube Company, New York.

Some Valuable Telegraph Books.

All of the books described in the following list embody a choice number from which selections may advantageousiy be made, and furnishes an excellent catalogue for the consideration of telegraphers. Any book named will be sent upon receipt of price to any address, carrying charges prepaid. Address J. B. Taltavall, TELEGRAPH AGE, 253 Broadway, New York.

POCKET EDITION OF DIAGRAMS.

"Pocket Edition of Diagrams and Complete Information for Telegraph Engineers and Students" is acknowledged on all sides to be the standard work of the telegraph. Speaking strictly within bounds, it is not too much to say that this volume presents the finest study of the complex subject of the telegraph ever attempted. There is no other book like it or even approaching it, in thoroughness, comprehensiveness, or in original detail of statement. The author, Willis H. Jones, is a practical telegrapher himself—an engineer in his profession of recognized ability, who knows exactly what other telegraphers want to know, and has the faculty of imparting that knowledge in a manner at once so clear, so simple, so bright, so entertaining, so free from needless technicalities, that his readers, even the least informed among them, readily understand his meaning. The helpful qualities of the work will be clearly manifest alike to the beginner, to the student, to the operator and to all telegraphers whether in the commercial or in the railroad service.

"Pocket Diagrams" does not deal in theory; it is packed full from cover to cover of the common sense of telegraphy, the side against which the ordinary every day operator runs up against, and respecting which he desires information of the kind that will aid, not mystify, him. The book contains 334 pages, and has 160 splendid diagrams. It has the unqualified endorsement of telegraphers everywhere.

The price of Pocket Edition of Diagrams, etc., is $1.50.

PHILLIPS CODE.

The popularity of the Phillips Code, by Walter P. Phillips, was never more apparent than at the present time. Its acceptance by the telegraphic fraternity, as a standard work of the kind, dates from its first publication, and the constantly increasing demand for this unique and thoroughly tested method of shorthand arranged for telegraphic purposes, has necessitated from time to time the issuance of several editions. The present edition was carefully gone over under the supervision of Mr. A. P. Velie, an expert press and code operator, for many years identified with The Associated Press, New York, a few revisions made and a number of contractions added, until now this "stanch friend of the telegrapher" is strictly up-to-date in every particular. It has been declared that an essential qualification of a "first-class operator" was a thorough understanding of Phillips Code.

Many expert code operators have examined the revised edition of this code, and all unite in pronouncing it perfect. Mr. George W. Conkling, who has won the championship for sending code in many tournaments, says:

"I have examined thoroughly the additions contained in the latest edition of the Phillips Code and most heartily approve of them. Every operator who is familiar with the code should find no difficulty in mastering the new contractions, as they 'fit in' smoothly and I think the ground has been entirely covered."

The price of the book is $1 per copy.

"Telegraphers of To-day," illustrating the personnel of the telegraphic profession with more than 900 biographical and historical sketches of leading members of the craft, is a unique and valuable work; it has become standard, being the only work of the kind extant. It contains 354 double column pages, 7 by 11 inches in size, has gilt edges and is bound in imitation Morocco—altogether a handsome volume.

Of this fine publication, becoming more and more valuable as time passes, we have but a few copies left. The original price was $5. In order to readily dispose of these remaining volumes, and place them where they rightfully belong, in the hands of every telegrapher who failed to secure a copy at the higher original price, we have cut the figure to $1 a volume. On receipt of this amount the book will be sent to any address, express charges to be paid by the purchaser. At this low rate, a sum below the cost of binding the book, no telegrapher who desires to own a copy should fail to obtain one at this time, for this "bargain" price will probably never be repeated.

"The Quadruplex," by William Maver, Jr., and M. M. Davis, still holds its own as a work of authority in its treatment of its subject. A clear anaylsis of that system of telegraphy is afforded and telegraphers have constant need of the book. There are 128 pages in the volume and 63 illustrations; price, $1.50.

The life of Prof. S. F. B. Morse, the standard work, authorized by the Morse family, and compiled from original papers and other authentic data in their sole possession. It is a clearly written biography, charmingly told by a trained newspaper man, a close personal friend, and presents the life of this great inventor of the telegraph in a broader, more intense, human and truthful attitude than ever before attempted or even possible; 775 pages, illustrated; sheepskin binding. The original price was $6, which we have reduced to $3, on receipt of which the book will be sent, express charges prepaid.

"The Telegraph in America," by the late James D. Reid, the "father of the telegraph," furnishes an authentic and complete history of the telegraph, tracing out its early start, its development, the organization of the various telegraph and cable companies, etc. The book is bound in full Russia, has 846 pages and is abundantly illustrated; a magnificent gift to any telegrapher. There are now but a few copies left of this great work and when these are gone the work will be out of print. The original price was $7, but as the covers are a little shopworn the price has been reduced to $5.

"Sketches Old and New," by Walter P. Phillips, is a handsomely bound volume of 164 pages of interesting and charmingly told telegraph stories; one of the very best works of the kind ever published and which will appeal strongly to every telegrapher; price, $1.

"Lightning Flashes and Electric Dashes," a book made up of bright, ably written stories and sketches, telegraphic and electrical, that should find a place in the home of every telegrapher; 160 large double-column pages; profusely illustrated; price, $1.50.

Old Timers' Souvenir—Miniature Legless Key. This is a beautiful emblem for operators; an attractive charm for the watch chain; a perfect duplicate in every detail of the celebrated miniature steel lever telegraph key that attracted so much attention and which was distributed as a souvenir at the banquet of the Old Time Telegraphers' and Historical Association at the Waldorf-Astoria, New York, August 31, 1905. It has a French lacquered body and nickel-plated lever. Price, by registered mail, prepaid, $1.50.

"The Practical Management of Dynamos and Motors," by F. B. Crocker and S. S. Wheeler, as indicated by its title, affords a clear understanding of the use, care and operation of these important adjuncts of the well equipped modern telegraph office. There is a constant demand for this book, for telegraphers find it an invaluable addition to their working library. There are 206 pages, and 99 illustrations; price, $1.

"Electrical Instruments and Testing" is the title of a new volume by that industrious and excellent writer on such subjects, Norman H. Schneider. This book treats of the use of the voltmeter, ammeter, galvanometer, potentiometer, ohmeter and the Wheatstone bridge. The explanations are practical, given with numerous worked out examples, fully illustrated with diagrams and drawings. The book is intended for practical, everyday use, and also as an introduction to the larger works on electrical testing. The apparatus described is modern and such as is generally employed. The volume is well printed on plate paper, contains 199 pages, including a fine index, and there are eleven chapters and 105 illustrations. The price is $1; bound in cloth.

San Francisco Associated Press Men at Oakland

The world has marveled at the completeness of the story of the San Francisco calamity as told by The Associated Press service, but few know what heroism was required to enable the men to tell the stories which interested not only this country but the entire world.

Bit by bit information has been gained which shows that the devotion to duty of a little group of newspaper telegraph men accounted for the knowledge of a situation of which millions of people were breathlessly waiting to hear.

Tales were told of the heroic firemen and soldiers, of the brave nurse, priest and doctor, of the self-sacrificing mother and courageous father, but the story of the newspaper men who risked their lives that the world might be kept informed of the catastrophe has yet to be told. It will probably never appear in detail, though if all the facts were known it would be a thrilling recital which might silence the nagging of those individuals who seem to think that the end and aim of the existence of a newspaper man is to wield the muckrake for the edification of scavengers. They might find that a reporter has brain and brawn; that he is actuated by a sense of duty; that he is compassionate and merciful

On the fateful 18th of April, as all the world knows, the telegraph and telephone systems connecting San Francisco with the outside world were destroyed. So were the plants of the newspapers that usually furnished The Associated Press with news. Yet in twenty-four hours Paul Cowles, superintendent of the Western division, and his staff sent out 21,300 words, and within forty-eight hours they were supplying news to the local paper.

The pictures of some of the members of the staff of The Associated Press at San Francisco are shown in the accompanying engraving.

J. M. Carroll, Editor. F. E. Burnell, Opr. H. Collins, Opr. Messenger. Karl von Wiegand, Editor. J. K. Brown, Opr. W. F. Lynch, Opr. John Finlay, Editor. H. H. Macdonald, Editor. B. C. Johnson, Editor. Ben. McInerney, Opr. E. E. Curtis, Editor. W. R. Mitchell, Opr. R. E. Geistlich, Chief Opr.

The Royal Marriage at Madrid.

An Associated Press correspondent has this to say regarding the telegraph service in Spain, as exemplified at the time of the recent marriage of the King:

"The Spanish Minister of Telegraphs took special interest in The Associated Press, and did all he could to facilitate our work, but the Spanish telegraph facilities at best are most primitive. There is only one office in Madrid, with one small window for receiving despatches, and one receiving clerk, who laboriously counts the words while a mass of people struggle to receive attention. At another window revenue stamps are sold and each despatch must bear sufficient stamps to cover the transmission charges, plus a government tax of ten centimos per message. Also each despatch must be accompanied by a long form, made out in much detail.

"Eighteen pieces of advance matter, aggregating about 6,500 words, were prepared, covering descriptions of buildings, palaces, church, gala coaches, bull-ring, trousseau, programmes,

etc., and every detail which could be properly prepared in advance. Through the state department at Washington and the American Minister at Madrid, Mr. Collier, the fullest facilities were secured for all the main events, including the marriage ceremony at the church, where the admission was much restricted.

"After all the most important event was the bomb throwing. I reached the scene of the explosion a few minutes after it had occurred, while the bodies were being carried off, and all of our matter is the result of personal observation, on the scene, in the hospitals, prisons, etc. A strict censorship was imposed at once, and occasioned great difficulty. A serious question arose about dividing time between the scenes, preparing copy, getting it off by the panic-stricken telegraph office and by couriers to the French frontier. Every possible obstacle seemed to be put in our way. The sale of telegraph stamps was suspended, but fortunately we had a good stock on hand. As an additional safeguard I telegraphed London and Paris to supplement our service, in case the direct despatches should be held up. There was a terrible glut of despatches, and everything seemed to be going by chance, but I established personal relations with the telegraph chiefs and operators which I think were serviceable. The London Times, which had four men, did not get through a single word, either on the marriage or the explosion; nor did the London Standard. The London Times man, who was doing the story brought in large foolscap sheets, closely written, at 11 P.M., and filed his whole story in a lump, with the result that it never moved until the next day. Ours was cut into small takes, each numbered and timed, so that the whole was easily assembled, and in this way most of it got through, although the censors butchered it considerably. The service on the day of the marriage and explosion consisted of thirty-four despatches, of which twenty-three were bulletins, some in code and many urgent, and eleven sketch despatches. The service started at 7 A. M. and was finished at 10.30 P. M.

"When it appeared that all despatches might be suppressed a courier service to the French frontier was organized. The first courier left at 8.55 P. M., with 500 words to be filed at the French frontier town of Hendaye. The next night another courier carried 1,350 words to Hendaye. But inquiry through Paris to New York disclosed the fact that our service was going through, and it was therefore found unnecessary to transmit this matter."

Edison Iron-Nickel Storage Battery.

Very general mention has been made of the issuance of a patent to Thomas A. Edison for a form of iron-nickel storage battery. In fact, so much has been said concerning the Edison storage battery and its possibilities, says the Western Electrician, that the opportunity is here taken to give a brief description of the battery, as improved by this later patent.

The invention relates to improvements in storage batteries of the type wherein the active materials containing, respectively, nickel and iron, are maintained under pressure in small pockets or receptacles made of perforated sheet metal and held in position in suitable grids.

In practice, Mr. Edison found that, bulk for bulk, finely divided iron obtained by reducing ferric oxide is much more active electrolytically than the nickel hydroxide that he has so far been able to obtain commercially. Consequently to present the best combination for practical use the bulk of iron used need be only half that of the nickel.

If the attempt is made to employ pockets of nickel twice the capacity of the iron pockets the surface in contact with the metal walls is not large enough to provide for the proper discharge rate. Furthermore, such an arrangement would be undesirable commercially, for the reason that it would necessitate the employment of widely different machines for manufacturing and assembling the nickel and iron grids and also because the great bulk of nickel used would necessitate pockets of prohibitively thick metal in order to accommodate the swelling; and, finally, because with a thick mass of nickel the proper circulation of the electrolyte could not be secured.

By making the pockets for the nickel of substantially the same size as those for the iron and by using twice as many nickel grids as iron grids a practically useful combination is secured. Furthermore, the space between the adjacent nickel pockets provides for opportunity for any swelling to take place. Heretofore in the construction of the battery Mr. Edison has employed insulating separators between the several grids; but he finds that these separators are not necessary between the adjacent nickel grids, which may therefore be allowed to swell so as to touch each other without affecting the circulation of the electrolyte or the general operation of the battery. A saving is thus effected in lateral space, and the objections due to swelling of the active materials, and particularly the nickel hydroxide, are reduced.

Imperial Telegraphy.

On the motion of a Montreal gentleman, the congress of the Chambers of Commerce, in session in London last week, decided to request the Imperial Government to devise means whereby all cable and telegraph news to and from all parts of the empire be furnished entirely through imperial channels. The remarkable statement is made that this proposition was unanimously carried. Perhaps it was thus carried as the easiest way to dispose of it. The British government has great responsibilities on its shoulders, and it is not likely to go into the business of furnishing and distributing news to all quarters of the globe.—St. John (N. B.) Globe.

Col. P. H. Fall as a Confederate Military Telegrapher.

The New Orleans Picayune recently published a communication received from a correspondent, a comrade of Col. Philip H. Fall, in which was recounted with considerable interesting detail the part Col. Fall took in behalf of the Confederacy, as a military telegrapher, during the Civil War. It will be remembered that Col. Fall is a member of the operating staff of the Western Union Telegraph Company at Houston, Tex., a member of the Old Time Telegraphers' and Historical Association, and a frequent visitor at its annual reunions. We quote from the article as follows:

In your Confederate Reunion edition I note the photograph of Colonel Philip H. Fall, colonel and aide-de-camp on the staff of General Stephen D. Lee, commanding the United Confederate Veterans.

I knew Phil when he was a boy going to Sayer's military institute at Frankfort, Ky., and afterward to Franklin college, Nashville, Tenn., from which institution he was suspended because of assisting a roommate in stealing a young lady from Minerva institute. He never returned to college, but floated down to Vicksburg, and, the war coming on, he enlisted in the Vicksburg Southrons, but was soon ordered by General M. L. Smith, commanding that place, to go across the river opposite that city and take charge of a telegraph line running up to Lake Providence.

Then follows a reference to the spirited action of Col. Fall, Christmas Eve, 1862, in advising Gen. Smith of the approach of Gen. Sherman, information that enabled the Confederate forces to successfully oppose Sherman in his advance on Vicksburg.

It is said and thought by many officers of the Confederacy that but for Fall's information the Confederacy would have fallen two years earlier than it did, as the Confederacy finally crumbled to pieces soon after Vicksburg's capture.

Colonel Fall is the oldest telegraph man in point of service in the Western Union Telegraph Company in Texas. He is called the daddy of operators. He has been a resident of Houston sixty-three years, except when off at college and east of the Mississippi in the service of the Confederacy. He was General Van Dorn's operator for a long while, and did valiant service for the Southern cause.

In three more years, should he live, he will have been with the Western Union fifty years, but does not expect a pension, and his only ambition is to die in harness.

Regulating Telegraph Rates in Virginia.

The Corporation Commission of Virginia has just completed an order prescribing rates and charges for all telegrams sent or received between points in that state, and has served the order on the Western Union and Postal Telegraph-Cable companies.

The paper served on the telegraph companies is as follows:

Commonwealth of Virginia.
Department of the State Corporation Commission
Richmond, Va., June 30, 1906.

To the Western Union Telegraph Company and the Postal Telegraph-Cable Company:

Take notice, That the State Corporation Commission will, at its offices in the state capitol building, in the city of Richmond, Va., on Tuesday, the 17th day of July, 1906, at 11 o'clock in the morning, in accordance with authority conferred by the Constitution of Virginia and the statutes enacted by the General Assembly of Virginia, pursuant thereto, consider and hear any and all objections which may be offered and made against proposed rules, orders and requirements of the commission, whereby rates and charges for the transmission of telegraphic messages by your company and over your lines, respectively, in the State of Virginia, will be fixed and prescribed as follows:

Except as may be otherwise specially provided, a telegraph company shall not collect more than twenty-five cents for its service in transmitting any message of ten words or less, exclusive of date, address and signature, between any two points within this state, nor more than two cents for each additional word of a day message, nor more than one cent for each additional word of a night message; and no additional charge shall be made for repeating a message.

Messages shall be received for transmission and be delivered at destination, as now provided by statutes until other provision is made therefor.

At the said hearing and consideration of the foregoing matters, the method and time of promulgating and putting into effect the rules and regulations relating to the rates and charges for the transmission of telegraphic messages, and of the regulations in connection therewith, will be heard and determined by the commission.

Beverley T. Crump, H. C. Stuart, Jos. E. Willard, commissioners.

The hearing was held on July 17, as mentioned, but was continued over until August 1, in order to give the telegraph companies time to prepare data on the matter.

Officials of the companies state that if the new schedule of rates proposed by the commission was put into effect the companies would be forced to quit business in Virginia.

United States Consul J. C. McNally, of Liege, writes that Belgium has a very good government telegraph and telephone service. The inland telegraph rates are ten cents for fifteen words, twelve cents for sixteen to twenty words, and fourteen cents for twenty-one to twenty-five words. These charges, of course, are exclusive of the extra toll demanded for the name and address and for the signature of the sender, a charge always made by Government controlled telegraph systems. From a telegraphic standpoint, therefore, the charges are as a matter of fact, compared with those of America, high, especially when the size of the country is taken into consideration, Belgium being one of the smallest countries in the world.

LETTERS FROM OUR CORRESPONDENTS.

[Advertising will be accepted to appear in this department at the rate of five cents a word, estimating nine words to the line, announcements to be enclosed with a border and printed under the name of the place of the advertiser. The special local value attached to advertising of this character will be apparent. Our agents are authorized to solicit advertisements for these columns, and further information on this subject may be obtained on application.

The current information of any office will, if carefully chronicled, furnish a welcome digest of news that will be read with pleasure and satisfaction by thousands, and this limit should constitute the legitimate contents of all letters. And we wish that our correspondents would avoid the too frequent habit, at all times a bad one, of abbreviating words in writing. This is a peculiarity among telegraphers, we know, but what may be plain to the writer, and for local interpretation, is usually a mystery to the editor, and is apt to lead to error in the printed statement.]

PHILADELPHIA, WESTERN UNION.

The death recently of the wife of George Uber, of this office, after undergoing an operation, reveals a sad case, and many expressions of sympathy for Mr. Uber are heard.

Mr. Joseph Slater of the superintendent's office, who was successfully operated on several months ago for appendicitis, is ill with typhoid fever and again an inmate of the same hospital which he left not long ago.

Mr. Thomas Murphy, another member of the superintendent's office, is rejoicing in the birth of another son.

Mr. Joseph Greene, the veteran and grand old man of this office, who has served the telegraph nearly sixty years, is on leave of absence for a month on account of failing eyesight.

NEW YORK, WESTERN UNION.

The first outing of the employees of the Central cable office, 16 Broad street, was held at Rockland Lake Park, above Nyack, N. Y., on July 8. A special car to destination was furnished by the West Shore Railroad Company. The features of the programme of entertainment were boat races, running races, an old-fashioned country dinner, singing, speeches, a baseball game and dancing. Prizes were awarded in the boat and running races, the Canadian operators in the cable office winning all the prizes for fast rowing. A permanent organization was effected, to be known as "The Cable Office Social Club," and the next outing is scheduled for August 26.

Mr. W. B. Richardson, repeater chief, has resigned to accept a position with a broker at Duluth, Minn.

The home of Mr. Gardner Irving, manager of the Commercial News Department, at Hastings-on-the-Hudson, was struck by lightning during a recent terrific thunder storm. Some damage was done to the house, but fortunately none of the family or friends who were stopping with him were injured.

Mrs. May, traffic chief, city line, and Mr. Thomas M. Brennan, are both absent on vacation. Miss Emily C. Finn has gone to Narragansett Pier, R. I., to be absent a month.

Mr. R. Uth has resumed work after a brief illness.

The veteran Mr. Herbert Gilbert, formerly manager for the Western Union at the Produce Exchange, and later of this department, was a recent visitor.

Mr. F. N. Plain has been assigned to the Southwestern switch.

Mr. Dennis S. Sullivan of the Eastern division is still absent because of illness; another absentee due to sickness being B. H. Chrystie.

NEW YORK, POSTAL.

Postal operators feel proud of the showing made by their associates at the Boston tournament. The loving cups presented by Clarence H. Mackay and Andrew Carnegie were placed on view on Manager Norton's desk, where they attracted much attention and elicited much favorable comment.

Joseph J. Keegan, for twenty years manager of the branch office at 535 Broadway, fell from a Broadway car on the morning of July 12, when near his office, and fractured the base of his skull. Mr. Keegan was on the end of a seat, and was seen to lurch forward and fall. The car was going at a moderate rate of speed when the accident occurred. Mr. Keegan, who is a large man physically, weighing over 200 pounds, is in the hospital, and has not yet regained consciousness.

Among late accessions to the operating force are: C. E. Holland, W. Lysaght, J. W. Anderson, J. P. Conklin, J. J. Lawler and H. W. Mayfield.

Rufus Brooks Burritt, formerly of this office, died at Lyndhurst, N. J., July 11, aged sixty-one years. He was a native of Hackettstown, N. J. At one time he served the Western Union Telegraph Company on the old Produce Exchange, New York, afterwards being manager at the same place for the Baltimore and Ohio Telegraph Company. He retired from active service about four years ago, because of declining health.

OTHER NEW YORK ITEMS.

Mr. Albert Macdonald, a telegrapher of Adelaide, South Australia, a man of fine intelligence and particularly well informed respecting the telegraph in his native land, is in New York on a six months' leave of absence, where he is looking after private interests and making, incidentally, a study of the telegraph in this country, where he will remain yet several weeks before starting for his home, going thither via London, That he is well thought of at home may be accepted by the following taken from "The Transmitter" of April 18, the Australian telegraph paper:

By the Melbourne express on the 10th inst., Mr. A. Macdonald, telegrapher, Adelaide, left to join the

Miowera at Sydney en route to America. He has secured his long service leave, and will be absent about six months, the objective being New York, via Vancouver, and overland. Mr. Macdonald will be sadly missed from the operating room by a very large circle of friends, both as a man, genial and straight, and as a fountain head of concrete ideas and shrewd opinions. As an expert and strenuous telegrapher he will be missed, especially in these busy times, by the managerial staff. On Tuesday evening, the 8th inst., he was met in the check office by a group of friends, who wished him Godspeed, and presented him, through Mr. A. Hiscock, with a traveling bag and a silver-mounted wallet, as a small token of the esteem in which they held him.

Mr. Ewell D. Moore, chief operator for The Associated Press, at Los Angeles, Cal., was visiting friends in New York recently.

Charles E. Gray, aged forty-nine years, a member of the Western Union telegraph staff in the "Sun" office, New York, for the past eighteen years, died on July 19, at his home in Brooklyn.

Hon. A. A. Rich, counsel for New Jersey of the Serial Building Loan and Savings Institution since its organization over twenty years ago, died at his home in West Hoboken, N. J., on July 11. He was well and favorably known to the telegraph fraternity in New York and vicinity.

Assessments Nos. 451 and 452 have been levied by the Telegraphers' Mutual Benefit Association to meet the claims arising from the deaths of Howard L. Goodman, at Philadelphia, Pa.; Frank Crummett, at Meadowbrook, N.Y.; George G. Small, at Brooklyn, N. Y.; E. H. Neff, at Los Angeles, Cal.; J. N. Applebaugh, at New York; George F. Fagan, at Brooklyn, N. Y., and Clarence H. Bookhout at Las Vegas, N. Mex.

An Interesting Experiment in Recharging Dry Cells.

Every now and then some enthusiastic thinker or untiring experimenter hits upon or tries the interesting experiment of recharging dry cells. If dry cells were made in small quantities and sold at a high price, such a proceeding might be called sensible, but generally it is worse than a waste of time and energy.

In a recent issue of a popular journal an experiment of this kind is described, the experimenter being pleased to find that after a few minutes' charge his cells would give "a fairly strong current." Naturally, if a short charge accomplished some wonderful results, a longer charge produced still better ones, so he proceeded to continue the work of charging, and was somewhat chagrined, after several hours, to find that his cells had gone all to pieces. He was not, however, one who was easily discouraged, for he immediately procured a new lot of batteries and started over again to see why the trouble had happened. This time the charge was stopped before the batteries had gone to pieces, and after removing the belt from the small generator used in charging, a surprising thing happened: the generator ran as a motor in the same direction, instead of turning in the opposite way. The explanation of this peculiar behavior is that "the current from the batteries reversed the field of the generator, and also the armature, thus making two reverses, which is the same as none at all." What about the reversal of functions which takes place when changing a dynamo to a motor?—New York Electrical Review.

BOOKS ON THE TELEGRAPH.

ABERNETHY, J. P.—The Modern Service of Commercial and Railway Telegraphy, in Theory and Practice, including the Railway Station and Express Service; arranged in Questions and Answers; $2.00.

CREHORE, ALBERT CUSHING, PH. D.—Synchronous and Other Multiple Telegraphs. Some methods of obtaining independent telegraph circuits on a single wire, both with and without synchronism. 124 pages; 42 illustrations; working diagrams; $2.00.

CROCKER, F. B. AND WHEELER, S. S.—The Practical Management of Dynamos and Motors. Has a special chapter by H. A. Foster. Contents: Descriptions and Directions; Examination, Measurement and Testing; Localization and Remedy of Trouble in Dynamos and Motors; Arc Dynamos and Motors requiring special Directions. Illustrated; $1.00.

HASKINS, C. H.—The Galvanometer and its Uses. $1.50.

HOBBS, W. R. P., AND WORMELL, R.—The Arithmetic of Electric Measurements. $0.50.

HOUSTON, E. J.—A Dictionary of Electrical Words, Terms and Phrases; 980 pages; 582 illustrations; $7.00.

HOUSTON, E. J.—A Pocket Dictionary of Electrical Words; leather; $3.00.

JONES, WILLIS H.—Pocket Edition of Diagrams and Complete Information for Telegraph Engineers and Students. This standard work has been carefully revised and 74 pages and 30 diagrams added, including full descriptions of the newest apparatus lately adopted by the Western Union and Postal Telegraph companies. It presents the finest study of the complex subject of the telegraph ever published; it explains clearly the equipment of a modern telegraph office, and is a text book that no student, operator, engineer or official, no matter what his grade, can afford to be without; 334 pages, 52 chapters, 160 illustrations; $1.50.

LOCKWOOD, T. D.—Electrical Measurement and the Galvanometer and its Uses; 144 pages, fully illustrated with diagrams of connections, engravings of apparatus, etc. $1.50.

LOCKWOOD, T. D.—Electricity, Magnetism and Electric Telegraphy; A Practical Guide and Handbook of General Information for Electrical Students, Operators and Inspectors; 376 pages; 152 illustrations; $2.50.

LYNDON, LAMAR.—Storage Battery Engineering; 360 pages; 178 illustrations and diagrams; 4 large folding plates; $3.00.

MARSHALL, PERCIVAL.—A. I. Mech. E. Small Accumulators; How Made and Used; an Elementary Hand-Book for the Use of Amateurs and Students; $0.50.

MAVER, WM., JR.—American Telegraphy and Encyclopedia of the Telegraph. This fine work, revised and enlarged, treats of the systems, apparatus and operation of telegraphy; 656 pages; 490 illustrations; $5.00.

MAVER, WM., JR., AND DAVIS, M. M.—The Quadruplex. This standard book treats its subject in a most thorough manner. Its chapters are: Development of the Quadruplex; Introduction and Explanatory: The Transmitter, Rheostat and the Condenser; Stearns's Duplex; Instruments of the Polar Duplex; The Polar Duplex; The Quadruplex; The Dynamo Electric Machine in Relation to the Quadruplex; The Practical Working of the Quadruplex; Telegraph Repeaters; The Wheatstone Automatic Telegraph; 128 pages; illustrated; $1.50.

MEADOWCROFT, WM. H.—A B C of Electricity. This book begins at the very root of electrical science, and contains a vast amount of useful information; $0.50.

MEYER, FRED L.—Twentieth Century Manual of Railway and Commercial Telegraphy. This work embraces all kinds of commercial messages, train orders, phrases, etc.; 249 pages; illustrated; $1.00.

MONELL, DR. S. H.—The Cure of Writers' Cramp, and the Arm Troubles of Telegraphers. This valuable treatise should be in the possession of every telegrapher suffering from this common annoyance; $0.50.

OFFICIAL DIAGRAMS OF THE POSTAL TELEGRAPH-CABLE COMPANY'S APPARATUS AND RULES GOVERNING THE CONSTRUCTION AND REPAIR OF LINES; 134 pages; 105 full-page illustrations; $0.50.

PHILLIPS, WALTER P.—Phillips Code. A popular, generally used and thoroughly tested method of shorthand arranged for telegraphic purposes, and contemplating the rapid transmission of press reports; also for general newspaper and court reporting; flexible leather cover, pocket size; $1.00.

PRIME, S. IRENAEUS.—Life of S. F. B. Morse. The only work authorized by the family and executors of the great inventor, compiled from original data. This is the finest, most accurate and complete life of Prof. Morse, and includes the history of the invention of the telegraph and the many important business connections with those who were interested with Prof. Morse in the development of the telegraph, that has ever emanated in any shape or at any time from the press; sheepskin; 775 pages, illustrated. The regular price of $6 has been reduced to $3.

POPE, FRANKLIN LEONARD.—Modern Practice of the Electric Telegraph; a Technical Hand Book for Electricians, Managers and Operators; 234 pages; 185 illustrations; $1.50.

PREECE, W. H., AND SIVEWRIGHT, J.—Telegraphy. A description of every telegraph system and apparatus used in the English telegraph department; $2.

PRESCOTT, G. B.—Electricity and the Electric Telegraph; 8th edition; 2 volumes; $7.

REID, JAMES D.—The Telegraph in America. A complete detailed history of the telegraph, including the organization of the various telegraph and cable companies; 894 pages; illustrated; full morocco binding. Reduced from $7.00 to $5.00.

SCHNEIDER, N. H.—Electrical Instruments and Testing; 210 pages; 100 illustrations. Cloth, $1; full limp leather, $2.

SCHNEIDER, N. H.—Model Library, comprising 4 books, viz.: Study of Electricity for Beginners; Dry Batteries; Electrical Circuits and Diagrams; Electrical Bells, Alarms, etc.; bound in 1 volume; cloth, $1.

SMITH, E. W.—Electricians' Manual of Diagrams; 93 pages; $0.50.

TALTAVALL, JOHN B.—Telegraphers of To-day. Biographical and historical sketches of more than 900 leading telegraphers, living and dead; 354 double-column pages, 7½ x 11 inches; gilt edges; imitation morocco binding; only work of the kind; of much practical value to those who would keep in touch with the personnel of the profession; reduced from $5 to $1, express charges collect.

THOM, CHARLES, AND JONES, WILLIS H.—Telegraphic Connections; Embracing Methods in Quadruplex Telegraphy and other Apparatus; 20 plates with circuits distinguished by three different colors; $1.50.

WEBER, W. L.—Handy Electrical Dictionary; 224 pages; 32 illustrations; cloth, $0.25; leather $0.50.

WILKINSON, H. D.—Submarine Cable Laying and Repairing; $5.

YOUNG, J. ELTON.—Electrical Testing for Telegraph Engineers; $4.

TELEGRAPH SKETCH BOOKS.

LIGHTNING FLASHES AND ELECTRICAL DASHES.—A book made up of bright, ably written stories and sketches, telegraphic and electrical, that should find a place in the home of every telegrapher; 160 large double-column pages; profusely illustrated; reduced from $1.50 to $1.

PHILLIPS, WALTER P.—Sketches, Old and New, by the author of Phillips Code, containing a number of telegraph stories, told with all the charm of that delightful story writer; 200 pages; illustrated; $1.

BOOKS ON WIRELESS TELEGRAPHY.

BOTTONE, S. R.—Wireless Telegraphy and Hertzian Waves; diagrams and illustrations; $1.

COLLINS, A. FREDERICK.—A Short History of Wireless Telegraphy, its Theory, Experiments and Results Obtained; 300 pages; 332 illustrations; $3.

FAHIE, J. J.—A History of Wireless Telegraphy; third edition, revised; illustrated; $2.

KERR, RICHARD.—Wireless Telegraphy; popularly expressed; 120 pages; $0.75.

LODGE, PROF. OLIVER J.—Signaling Across Space Without Wires. A description of the work of Hertz and his successors. Contains numerous diagrams and half-tone illustrations; $2.

MAVER, WM., JR.—Maver's Wireless Telegraphy; Theory and Practice; 216 pages; 123 illustrations; $2.

MAZZOTTO, DOMENICO, PROF.—Translated from the original Italian by S. R. Bottone; 416 pages; 252 illustrations; $2.50.

SEWELL, CHARLES H.—Wireless Telegraphy, its Origins, Development, Inventions and Apparatus; 229 pages; illustrated; $2.

TUNZELMANN, G. W.—Wireless Telegraphy. A popular exposition; 104 pages; illustrated; $0.75.

VREELAND, F. K.—Maxwell's Theory and Wireless Telegraphy; 250 pages; illustrated; $2.

BOOKS ON THE TELEPHONE.

ABBOTT, ARTHUR V.—Telephony. Six volumes; $1.50 per volume; the set, $6.

DOBBS, A. E.—Practical Features of Telephone Work; 134 pages; 61 illustrations; $0.75.

DOLBEAR, A. E.—The Telephone. An account of the phenomena of electricity, magnetism and sound as involved in its action, with directions for making a speaking telephone; $0.50.

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MILLER, KEMPSTER B.—American Telephone Practice; fourth edition; entirely rewritten and greatly extended. This comprehensive study of the subject explains in detail every piece of telephone apparatus; 904 pages; 304 illustrations; $4.

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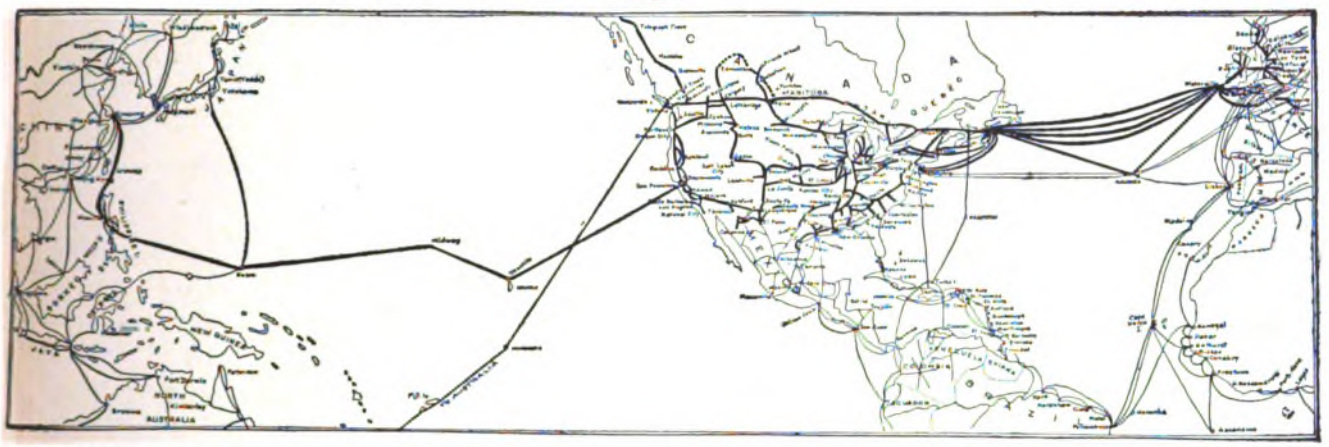

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TELEGRAPH AGE

No. 16. NEW YORK, AUGUST 16, 1906. VOL. XXIV.

CONTENTS.

SOME POINTS ON ELECTRICITY.

The Loopswitch and Loopswitch Testing. In Four Parts—Part Three.

BY WILLIS H. JONES.

A loop may open for other reasons than those due to imperfect switch-lever contact, etc., previously mentioned, some of which are often very difficult to locate immediately, owing to the mysterious way the fault has of disappearing the moment the test instruments are cut in at the main or the branch office switchboards.

In order to determine whether a loop which has been reported, is open in the home apparatus or connections, or in those at the branch office, a wise loop chief will not request the branch office operator to test until he has first removed the loop from the circuit and home apparatus and ascertained positively that he cannot close or eliminate the fault from his end of the loop. Failing to remedy the matter he then places the loop in one of his local battery test circuits, with which the loopswitch is amply equipped, and after requesting the branch office over the "call wire" to cut in at the board, awaits results.

In the great majority of cases the loop will close the moment the branch office operator cuts in at the switchboard, and what is also equally true is the inability of the loopchief to even partially convince that operator that his act closed the loop. His usual argument is that it could not have been open there because "my set was not even cut in;" or because, "it was closed when I cut in." These and other apparently plausible reasons seem so convincing to branch office operators that it is often almost impossible to induce them to investigate further or help locate the weak spot. It is this particular class of "troubles" that we wish to call attention to, as such defects are more annoying and harmful than all the others together.

Let us begin with the "opening" that occurred on a loop in which the branch office operator claimed his regular instruments had not as yet been cut in, but closed when he did cut them in, a very common occurrence during the early morning and at closing hours. The explanation is very simple. When the wedge was removed from the spring jack at the branch office it is possible that a particle of dirt or dust may have intervened between the upper and the lower lip of the brass jack, and thus prevented actual contact between the brass lips. This would, of course, leave the loop open until the wedge was again inserted, which action brushed the obstacle away. A partial contact of this kind is often the source of temporary high resistance, resulting in a diminution of current volume which causes the branch offices to complain of weak locals.

Again, the opening in a springjack may arise from a rusty hinge, which prevents the spring from drawing the parts together firmly. This is liable to occur in every switchboard that has been in use for some time, especially after long spells of wet or damp weather. When these conditions exist, a drop of fine machine oil on the hinge pin will usually overcome the fault, at least temporarily, but the proper way to remedy the matter is to remove the springjack and clean it thoroughly of rust.

Sometimes the flexible cord is faulty. The very best of such cords soon become troublesome when subject to much handling. The strands of fine tinsel of which they are constructed become brittle with age and the effect of the electric current, and break one by one, until finally the cord "opens." At first when but a few are broken the cord remains closed except when the strain is at a certain angle. The result is that when the branch office operator cuts in at the board he usually alters the position of the cord and thus unconsciously closes it. Perhaps he cannot even "open" it again at the time by any position he may place it in, and is, therefore, disinclined to admit the defect. Nevertheless, when such defects recur frequently in the same locality it is

a pretty safe indication of the beginning of the end of reliable service at that point and much good would result from a recognition of the fact and a prompt attempt to locate and remedy the matter.

Sometimes a loop containing several branch offices suddenly develops an abnormally high resistance, resulting, of course, in a diminution of current volume flowing through the conductor and sounders. In order to locate the offending locality, the loopchief inserts an ammeter in the circuit and then requests each office in rotation to "cut out" his cord and sounder temporarily. If the abnormal resistance is not in the apparatus or connections of the office which are being tested, the meter will show but a very slight increment of current volume when they are cut out of the circuit.

When the office containing the defective apparatus or connections, however, cuts out, the needle of the ammeter will immediately move over quite a wide range and probably register the normal value of current that the loop in good condition should possess.

The next step for the loop chief to take is to ascertain whether the resistance lies in the cord or in the coils of the sounder at that point. This point is determined by first requesting the branch office operator to "cut in" again, and place his knife blade or other piece of metal, across the two binding posts of the 4-ohm sounder he is supposed to have in circuit. Should the current then resume normal value the indication is that the flexible cord is in good condition, but that the magnet coils of the sounder are of abnormal resistance. In the majority of cases where such a condition exists it will be found that some one has substituted a 50-ohm sounder for the regular 4-ohm instrument, which was originally installed. Operators often make these exchanges in order to get rid of a sounder that possibly does not suit them, not knowing that the effect will be disastrous to all on the circuit except themselves. The office possessing the 50-ohm sounder, of course, sees a great "improvement," but unfortunately it is at the expense of all the others concerned.

On the other hand, should the high resistance remain while the knife blade is shunting out the sounder coil, the flexible cord should then be suspected as the probable source of trouble. Of course, it goes without saying that all binding posts and switch connections are first examined before making these experiments.

(To be continued.)

[Important articles by Mr. Jones, appearing in back numbers are as follows, and may be had at the regular price of ten cents a copy, except those appearing prior to a year from the current date, for which a charge of twenty-five cents apiece will be made: A Useful and simple Testing Device, January 1, 1904; The Bad Sender, His Past and Future, January 16; The Transmitting Typewriter Wire Connections, February 16; A New Transformer for the Alternating Current Quadruplex (J. C. Barclay, patent), March 1; Definitions of Electrical Terms—Unabridged, March 16 to April 16, inc., June 1 to July 16, inc.; The Future Quadruplex (S. D. Field's invention), May 1-16; The Ghegan Multiplex, August 1; Proper Adjustment of Telegraph Apparatus, August 16-Sept. 1; Practical Information for Operators, October 1 to Dec. 1, inc.; Switchboard Practice at Intermediate Stations, December 16; Definition of the Terms Cycle, Period, Frequency, etc., Diagrams Interpreted, January 1, 1905; Lessons from the December Storm, January 16; The Bonus Wire, February 1; A Few Useful Methods, February 16; Co-operation, A Hint for Wire and Quad Chiefs, March 1; Measuring Resistance by Voltmeter Alone—Something About Ground Wires, March 16; Elementary Information Concerning Household Electrical Appliances, April 1 to May 1, inc.; The Barclay Printing Telegraph System, May 16; Polarized and Self-Adjusting Relays for Single Line Circuits, June 1; Limitations of Quadruplex Circuits, June 16; Electric Power From the Clouds, July 16; Concerning Condensers and Retardation Resistance Coils, August 1; District Call Box Service, August 16; The Art of Studying, Sept. 1; Other Methods of Splitting a Loop, Sept. 16; The Sextuplex, Oct. 1; A Few Questions Answered, Oct. 16; Positive and Negative Currents, Nov. 1; The Education and Evolution of a Chief Operator, Nov. 16; A Study of an Electric Circuit—Definition of the Principal Terms of Factors Which Regulate its Practical Output, Dec. 1; The Telephone—First Principles, Dec. 16, and Jan. 1, 1906; Questions Answered, Jan 16; The Dynamo—Series, Shunt and Compound Wound, Feb 1-16, March 1; The Storage Battery, March 16-April 1-16-May 1-16; A New Double Loop Repeater—Comparative Efficiencies of a Polar and a Neutral Relay, June 1; Influence of Weather on Static—An Electrical Phenomenon, June 16; Induction, Leakage, Crossfire, July 1; The Loopswitch and Loopswitch Testing, July 16-Aug. 1.]

Business Notice.

Messrs. Foote, Pierson and Company, 82 and 84 Fulton street, New York, the well-known manufacturers of telegraphic and other forms of electrical apparatus, advertise their registers on another page of this issue, to which the special attention of the municipal electricians now in convention, is directed, for the device is especially adapted for recording fire alarm signals. A large number of these punch registers are in service in all parts of the country and they are found to be very satisfactory. The ink register, formerly used for this purpose, required more or less attention and was much more difficult to keep in working condition, owing to the ink becoming thick and unserviceable. This punch register obviates this objectionable feature and cuts a round clean hole about 3-16 of an inch in diameter. All of the signals are clean cut and plain and can be read at a distance. They are also permanent and cannot be changed or altered. Messrs. Foote, Pierson and Company invite correspondence respecting the punch register, and will be glad to furnish all detailed information that may be required.

Book Review.

"The Train Despatcher," a manual of railway telegraphy, the author of which is A. W. Early, despatcher on the Indiana, Illinois and Iowa division of the Lake Shore and Michigan Southern Railway, is a welcome addition to the general literature of the subject of which it treats. It is written by a practical man from a practical and sensible point of view, and should be a help in the hands of every aspirant for train despatching responsibilities. The author makes no attempt at literary style, but says what he has to say tersely and to the point, the language of one despatcher who has worked his own way in life, to another who needs counsel and information covering in general the whole subject of his profession. As such the book will commend itself. It is well printed on heavy paper and embraces 104 pages; price, $1.00. Address J. B. Taltavall, TELEGRAPH AGE, Broadway, New York.

The Railroad.

One of the most important acts of the last session of Congress was its instructions to the Interstate Commerce Commission to investigate the use of block signals for railroads, and gather the necessary data to enable Congress to frame and pass a suitable law calling for their adoption by the railroads of the country.

The committee of five practical steam railway officials detailed by the American Railway Master Mechanics' Association to report on electric versus steam railways, after a thorough investigation in great Britain and elsewhere, concludes that where there is sufficient diversity of traffic it will pay steam railways to work their suburban and interurban traffic electrically, but in such cases the traffic should have its separate tracks. The statement is somewhat modified by the qualification that "few situations will figure out profitably with the combination service"—that is, the employment of both steam and electricity. As to the relative cost of operation with electricity or steam the committee reports that there is very little accurate information of value. The London Times says that it may be reassuring to English railway managers to know that such a representative committee of American railway experts, after carefully investigating the subject practically says that American experience can give no better solution of the problem, and that the question of steam versus electricity for interurban and suburban traffic is no nearer a solution in America than it is in England.

Forbids Railroad Attack on Unions.

As an intimation to all prosecuting officers of the government as to what their duty is toward the relations of employers and members of labor unions, Charles W. Russell, acting Attorney General, has announced that he has instructed District Attorney Tinsley, at Covington, Ky., to make an investigation of charges that the Louisville and Nashville Railroad has threatened to dismiss certain employees because of their membership in labor unions. If the District Attorney finds the charges have foundation in fact he is directed to bring the matter before a Grand Jury and ask for an indictment.

It seems that the District Attorney has thus far failed to act on charges laid before him and, accordingly, has been subjected to an effective reminder from Washington. Mr. H. B. Perham, president of the Order of Railway Telegraphers, recently informed acting Attorney General Russell that the secretary of the order had already laid before the District Attorney at Covington certain affidavits showing that the Louisville and Nashville Railroad had violated the law.

Section 10 of the act passed by Congress on July 1, 1898, provides that no employer or agent thereof shall require as a condition of employment that the employee shall not become or remain a member of a labor organization. Employers are likewise forbidden to threaten employees with dismissal because of membership in labor unions or to require employees to release them in advance from legal liability. The penalty is a fine of not less than $100 nor more than $1,000 for each offence.

Mr. Perham said that no action had been taken. Mr. Russell found that the District Attorney had communicated with the Interstate Commerce Commission, which took the ground that it had no jurisdiction in the matter. Mr. Russell wrote to Mr. Tinsley reminding him that prosecuting officials were supposed to act in such cases without instructions. He also so informed Mr. Perham and although no general letter will be sent to prosecuting officers in regard to such cases the department will be glad to hear of any instances where action is not taken where sufficient evidence is presented.

Canadian Pacific Telegraph Extension.

Mr. James Kent, of Montreal, manager of the Canadian Pacific Railway Company telegraphs, has returned from his annual inspection of the lines of his company, during which he was accompanied by Mr. W. J. Camp, of Montreal, electrical engineer of the company, and Mr. B. S. Jenkins, of Winnipeg, general superintendent.

"Our telegraph property and equipment is in splendid condition and every facility has been provided for handling the increased volume of business when the coming wheat crop is harvested," remarked Mr. Kent. "We are busy extending the telegraph lines west, owing to the increased demands of the situation, and the many extensions of railway out there. We have strung about 4,000 miles of copper wire during the present season throughout the Northwest and British Columbia. The volume of business is growing steadily and rapidly throughout Western Canada."

The company has just authorized the construction of several thousand miles of new telegraph lines, a large part of which will use copper wire.

Be Civil.

J. L. Richards, president of the Boston (Mass.) Consolidated Gas Company, has issued a circular to the employees of the company, urging the necessity of cultivating various virtues in dealing with the public, a circular which in the spirit of civility it inculcates, might profitably have a wide reading in every department of business. The circular says: "Exercise politeness and courtesy at all times. Never lose your temper or allow any personal feeling to interfere with the proper discharge of your duties. Avoid in manner and word any trace of officious importance when carrying out the company's orders. Don't make promises the company cannot fulfill. Above all, don't misrepresent in any particular the true condition of any transaction. Keep your personal appearance up to the mark. Walk smartly and avoid slouching."

Telegraph News Service in 1847.

Editor TELEGRAPH AGE:

In TELEGRAPH AGE of August 1 you publish an article headed "Telegraph News Service in 1847." During the winter of 1846 and 47 I had charge of the New York, Albany and Buffalo telegraph office in New York, which was located on the corner of Hanover street and Exchange Place. The line to Boston came into our office in an adjacent room. I had previously instructed a class of operators at Utica, many of whom became expert sound operators. During the winter I sent full press reports to Albany, Troy, Utica, Syracuse, Auburn, Rochester and Buffalo, the latter office being in charge of my brother, Otis E. Wood, now living at Ithaca, N. Y., then but fourteen years of age. We seldom failed to give full reports to all the papers on the line prior to my leaving for Montreal to open the Canadian offices. Two days after I left New York a heavy sleet storm swept down between fifty and sixty miles of the No. 16 copper wire, breaking and stretching it to the ground, which caused an interruption of, I think, about six weeks.

A New York and Boston line had been built under the instruction of Hon. F. O. J. Smith, who was part owner of the patent with Prof. Morse. The meager news sent to the Daily Bee at Boston and to other papers at New Haven and Hartford, as mentioned in your previous issue, was caused by their having no well-trained operators on the whole line.

Very many of the interruptions were caused by careless managing of ground wires in way offices, and the line would be interrupted until the way offices were cut out at night. The New York, Albany and Buffalo line worked with great regularity until I left it in March, 1847.

Orrin S. Wood,

Turner, Orange Co., N. Y., August 2.

The Hammond Typewriter.

The Hammond typewriter has long held an enviable place among typewriter users. Its excellencies are many and pronounced, and the varied types of this machine, adopted to special needs, both in and out of the telegraph service, as well as meeting the requirements of different nationalities, reflects only in the highest measure the broadly practical and adaptable mind of James B. Hammond, the inventor After years of hard work he has brought out six new typewriters which are nothing short of marvelous, the two Korean models, which operate in an opposite direction to ordinary machines, and the Chinese Hammond being particularly praiseworthy products of this master mechanic. The latter writes over 400 characters and a whole row of shift keys are used. All of the models of these latest inventions, including the Japanese, Hebrew and display shuttle machines, and the new tabulator and color-changing ribbon attachment, have been taken to England by Mr. Hammond, where he is now completing arrangements for the erection of the new European factory.

It is interesting to note that the sales of the Hammond machines show a most rapid growth. While a firmly established favorite here in the United States, because of its easy, rapid and silent action, together with the fact that the handsomely written page is always in view, the export trade of the company has of late years enormously increased in volume. Readers of Telegraph Age, in Japan, China and other countries, will appreciate the efforts of the Hammond company in especially providing a typewriter for their domestic use, so well recommended as these latest productions. The ambition now seems to be to furnish writing instruments for all nations and tongues.

Identification Cards.

The German postal and telegraph department has recently introduced a card of identification for the benefit of the traveling public which will prove of great utility to travelers. Upon the card or folder is printed its number, the date of its expiration at the end of a year, the name, profession and residence of its owner, the date of its issue and the seal of the post-office issuing it. Within the fold is pasted a small unmounted photograph of the owner. A small cancellation stamp is pasted partly upon the photograph and partly upon the page. Opposite is a description of the applicant, his general appearance, color of hair and eyes. His birthplace and age are also given, and he is required to sign the card. The last page of the little folder describes the uses to which the card is to be put and the means of obtaining it. The fee is 50 pfennigs (12 cents). The card is to be used in obtaining mail, telegrams, money orders, etc., where the owner is not known, and in case he changes his appearance so that he no longer conforms to the description a new card must be issued after proper identification of the applicant.

The Telharmonium.

The Cahill telharmonic system for the production of music electro-mechanically, the invention of Dr. Thaddeus Cahill, of Holyoke, Mass., is now being established in New York, as previously announced, the installation being in the large store of Park & Tilford, on West Thirty-ninth street, immediately opposite the Casino. It will be operated by a 200-horse power motor, taking current from the Edison substation in the immediate vicinity. The dynamophone, or telharmonium, from which the alternating currents that furnish the music are derived, is practically completed, the keyboard has been set up and the relay racks are all ready. Music by this system may be transmitted over telegraph and telephone wires, its distribution by this means being, it is claimed, for distances practically without limit.

Western Union Telegraph Company.

EXECUTIVE OFFICES.

Mr. Belvidere Brooks, general superintendent of the eastern division, accompanied by his family, has been on a visit to Denver, Colo., his former home, for a vacation of two weeks.

Mr. C. H. Bristol, general superintendent of construction, is in the South on a tour of inspection.

Mr. W. A. Van Orden, general wire chief, an attache of the office of Superintendent E. M. Mulford, has returned to his office after a long illness due to nervous trouble.

Mr. E. F. Welsh, assistant to Mr. Van Orden, has been transferred to the southern switchboard in the operating department, and Mr. H. C. Worthen assumes the duties previously performed by Mr. Welsh.

The mother of George Roehm, of General Superintendent Brooks's staff, died on August 5.

Mr. Charles M. Holmes, executive messenger, is spending his vacation at Shohola Glen, N. Y.

Among the recent executive office visitors were W. F. Williams, superintendent of telegraph of the Seaboard Air Line, Portsmouth, Va.; Jacob Levin, general superintendent of the Southern Division, Atlanta, Ga.; and E. B. Saylor, superintendent, Pittsburg, Pa.

Mr. L. J. Amsden, of Atlanta, Ga., chief clerk to general superintendent Jacob Levin. Mr. Amsden was en route home from Toronto, where he has been visiting his son-in-law and daughter, Mr. and Mrs. S. B. McMichael.

William J. Armstrong, chief clerk to Superindent G. J. Frankel, St. Louis, has been promoted to be assistant superintendent of the company's fifth district, with headquarters in Cleveland, O. Mr. Armstrong was born and reared in St. Louis. Early in life he entered the company's employ as a messenger. After learning telegraphy he was promoted to the main office. He rose steadily, occupying various positions with the company until last year when he was appointed chief clerk. O. L. Turner, the company's claim clerk at St. Louis, has been appointed chief clerk to succeed Mr. Armstrong.

On August 1 this company took charge of the wires of the Great Northern between Great Falls and Butte, and between other important points not previously operated by this company, giving it the entire wire system of the Great Northern Railroad for commercial purposes.

Postal Telegraph-Cable Company.

EXECUTIVE OFFICES.

Among the recent executive office visitors were Mr. H. D. Reynolds, superintendent at Buffalo, N. Y.

Mr. E. J. Nally, general superintendent, Chicago, Ill.

The Postal Telegraph-Cable Company, under the direction of John C. Carmody, manager of the office at Fitchburg, has established an office at Leominster, Mass., the location being on Mechanic street, central and easy of access.

Unveiling of the Statue of John W. Mackay.

The unveiling of the statue of the late John W. Mackay, which is to occupy a prominent place on the campus of the Nevada State University, at Reno, will take place about the middle of November.

It is to be made a state function of considerable magnitude, it being the intention of President Stubbs and other members of the faculty to invite all the state officials and prominent men from all over Nevada to the affair.

Clarence H. Mackay, Mrs. Mackay and a party of New York friends will visit Reno to witness the unveiling. They will be accompanied by Gutzon Borglum, the sculptor who modeled the statue and who is now supervising the casting.

The casting is in progress. The figure will be a bronze of heroic proportions. This means that it will be about seven feet in height. It will be mounted upon a large pedestal of native stone, upon which will be carved a brief record of J. W. Mackay's career.

The Mackay statue is a gift to the university of Mrs. John W. Mackay and Clarence H. Mackay, son of the Comstock millionaire. The son also donated $50,000 for a mining building in front of which the statue will be placed.

Personal Mention.

Mr. T. Finnis, general manager and secretary of the Direct United States Cable Company, London, England, is in New York on official business connected with the service.

Mr. H. W. Pope, a former old-time telegrapher, special agent of the American Telephone and Telegraph Company, New York, has returned from an extended trip to the West and South taken in the interests of his company.

Mr. W. Y. Ellett, superintendent of the fire alarm telegraph, Elmira, N. Y., while passing through New York en route to the New Haven convention of the International Municipal Electricians' Association, called on numerous friends.

Mr. E. C. Bradley, formerly third vice-president of the Postal Telegraph-Cable Company, New York, has gone to San Francisco, Cal., to accept an important place with the American Bell Telephone and Telegraph Company, which controls the service on the Pacific slope. Mr. Bradley resigned his position with the Postal company to take effect August 1, as previously noted in these columns.

Resignations and Appointments.

The following changes have occurred in the Western Union Telegraph Company's service:

Mr. J. A. Suder, manager at Tallahassee, Fla., has been transferred to the Athens, Ga., office.

Mr. J. D. Tompkins has been appointed manager at Bluefield, W. Va., vice A. C. Forrester, resigned.

Mr. C. L. Whiteman has been appointed manager at West Union, W. Va., vice Maurice Johnson, resigned.

Mr. Thomas H. Drakeford has been appointed manager at Clarksburg, W. Va., vice U. W. Boggess, resigned.

Col. N. C. Pamplin, who has been manager at Norfolk, Va., since 1875, has resigned to enter other business in that city, his resignation to take effect on the appointment of his successor. During the Civil War, although very young at the time, Colonel Pamplin was a Confederate Government operator.

Mr. Earle W. Mace, an operator in the Lewiston, Me., office, has been promoted to be manager at Rumford Falls, Me.

The following changes have occurred in the Postal Telegraph-Cable Company's service:

Mr. John Mason has been appointed manager at Nashua, N. H., vice George F. Morgan, transferred to Lowell, Mass.

Mr. Thomas Keegan has been appointed manager of the North American Telegraph office, La Crosse, Wis., vice J. W. Booth.

A Noted Marine Observer Dead.

James McDermott, aged seventy years, marine observer for the Western Union Telegraph Company at the Highlands of Navesink, N. J., died there on Sunday night, July 27, after a short illness. He was the oldest observer in the company's employ and had been stationed at the Highlands since 1874. He died in the building where for thirty-two years he had worked. There was no man who could "pick up" a ship more accurately. After one look through his telescope he would give the name of the approaching vessel leagues away. Through all sorts of weather he sat in the Navesink observatory and recorded the ships that came and went. During the international yacht races it was McDermott on whom fell the task of keeping the people ashore informed of the whereabouts of the flyers. His judgment was so accurate that he could tell within a fraction of a second when the yachts had rounded the outer mark, although at times it was twenty miles away.

Mr. McDermott was born in the old first ward, New York, and when a youth was a boatman at the Battery. Then he went into the revenue service. Afterwards he became a ship news reporter at Whitestone, L. I., and boarded vessels as they came in port through the Sound. A year later he went to Navesink.

Once there anchored off the Highlands a ship over the identity of which there was a dispute. The vessel was the Swallow, but when she tried to hoist the signal flags denoting her number the wind was so strong that the flags were blown away.

"She is the Swallow," said McDermott.

After four days the weather moderated and the vessel passed in. She was the Swallow, as McDermott had reported.

McDermott saw the dwindling of sailing craft and watched the increase of the steam vessels, and he knew them all.

His funeral was attended by a delegation of Western Union marine men, among whom were Assistant Superintendent Herbert Smith, James McParlan, chief of the marine department; Oscar Zilly, manager of the maritime exchange office, and Wm. de la Motte, marine observer at Sandy Hook, N. J.

OBITUARY.

Philip Hess, aged sixty-six years, an operator in the Western Union Telegraph Company at Baltimore, Md., died suddenly August 3. He had been in the service for fifty years, and began as a Home printing telegraph operator.

The Cable.

A new telegraph cable, by the way of Bonin, which establishes direct communication between Japan and the United States, was opened to the public August 1.

COMMERCIAL PACIFIC CABLE OFFICE, MANILA, P. I.

Cables interrupted July 28:

Venezuela	Jan. 12, 1906
Messages may be mailed from Curacao or Trinidad.	
Pinheiro "via Cayenne"	Aug. 13, 1902
Santa Cruz de la Palma (Canaries)	July 12, 1906

The Great Northern Telegraph Company which is to connect England with Iceland by cable, reports the completion of the first section connecting the Shetland and Faroe islands. This cable was opened to the public for commercial business on August 1. The second section from the Faroe Islands to Iceland, will, it is expected, be completed by the latter part of the month. A system of land lines is being built by the Icelandic Government, but is not expected to be completed before October 1.

According to a report in the London Standard, Sir Sandford Fleming is responsible for a statement that:

"The empire cables to complete the globe girdle would cost about £5,000,000. As to who should bear the cost is matter for negotiation, and, as to the return to be expected, ordinary messages would be transmitted at low rates during twelve hours out of the twenty-four, and would yield a revenue considerably more than sufficient to cover all working expenses. The cables would be at liberty during a number of hours every day to transmit regularly free press messages."

The converted steamer Urmston Grange, chartered by Messrs. Siemens Bros. & Company, and fitted up for cable laying, returned to London on July 1, from the Pacific, where she has laid 900 miles of cable from the American island Guam to Peel, a small island in the Bonin group which belongs to the Japanese. The shore end was landed at Guam on March 28, and the final splice made on April 8. Guam has cables to Yap island and Manila, which are connected to Shanghai, and another cable to Midway island, which connects with San Francisco via Honolulu. Bonin has recently been connected to Yokohama by a cable of English manufacture which the Japanese government has been laying with its own cable-ship, the Okinawa Maru, which was built in Glasgow. The Urmston Grange is one of the Houlder line; she has a registered tonnage of 2,213, and a speed of from nine to ten knots. The work was finished in twelve days without the least hitch, and the signals through the cable when laid were excellent.

The experience gained during the working of the "all-British" Pacific cable has not deterred the chambers of commerce of England (whose sixth annual congress was held in London lately) from passing the following resolution, on the motion of the Montreal Board of Trade:

"That the imperial government be asked to devise means whereby cable and telegraph news to and from all parts of the British Empire shall be furnished entirely through imperial channels."

The Chamber of Commerce of Georgetown, Demerara, also proposed a resolution, which was approved, as follows:

"That, having regard to the constant interruption of the cable communication with and between our West Indian colonies, and to the extreme importance of an all-British cable, the imperial government be asked to assist the colonies in providing an all-British and reliable means of cable communication through Canada and to the West Indian colonies."

As these "constant interruptions" are due to volcanic causes, it is difficult to understand how an all-British cable would bring about any change in the position. Except for these volcanic troubles there is very seldom any difficulty in maintaining communication with the existing cables.

Recent Telegraph Patents.

A patent, No. 826,403, for a telegraph key, has been issued to Joseph P. Campbell, of Pulaski, Va. A movable key lever carries one of the contacts, and an auxiliary lever carries the other contact. Connecting means are provided whereby the operation of the key lever will simultaneously actuate the contacts.

A patent, No. 826,124, for a means for splicing telegraph, telephone and other poles, has been secured by John D. Soseman, of Monroe, Wis. This device, for the purpose specified, comprises a pole clamp adapted to be fitted to or removed from the operative position by movement in a direction transverse to the length of a pole, and a number of extensible legs extending downwardly and outwardly from the clamp, each having an enlarged base or shoe at its lower end.

A patent, No. 826,472, for a system of telegraphy, has been awarded to Charles L. Buckingham, of New York, and Emil Germann, of Brooklyn, N. Y. A message tape is described in which messages are prepared for transmission by the Wheatstone transmitter or other equivalent apparatus, and for reproduction of a page printer, each of the messages being represented by several sections of perforations, the sections being separated by blank spaces whereby Morse or other signals may be transmitted while the spaces between the section are passing through the transmitter.

A patent, No. 826,615, for a system of telegraphy has been obtained by the late Robert J. Sheehy, of New York. Two synchronously moving alternating-current electric machines are located at distant stations and connected by a synchronizing line. Combined in the system are a series of printing-telegraph instruments, one series at each machine, whose type wheels are mechanically driven thereby, a clutch connection between each type wheel and its driving shaft or mechanism, telegraphing lines connecting instruments at one station with instruments at another, and means whereby the type wheels may be arrested by currents transmitted over the telegraphing lines.

The following patents have expired:

No. 407,692, for an autographic telegraph, held by J. H. Robertson, of Rutherford, N. J.

Nos. 407,729, 407,730, for a printing telegraph, held by C. L. Healy, of Brooklyn, N. Y.

Nos. 407,460, 407,461, for automatic telegraphy, held by F. Anderson, of Peekskill, N. Y.

No. 407,462, for an automatic telegraph recorder, held by F. Anderson, of Peekskill, N. Y.

No. 407,480, for relay for quadruplex telegraph, held by C. L. Healy, of Brooklyn, N. Y.

No. 407,581, for selecting telegraph, held by M. W. Dewey, of Syracuse, N. Y.

No. 826,996, for a telegraph pole, held by C. C. Cook, of Howard, Pa.

No. 826,615, for telegraphy, held by R. J. Sheehy, of New York.

Reunion of the Old Time and Military Telegraphers.

The circular preliminary to the coming reunion of the Old Time Telegraphers' and Historical Association and the Society of the United States Military Telegraph Corps, which are to meet at Washington, D.C., October 9, 10 and 11, for their twenty-sixth annual reunion, has made its appearance. It is requested that communication be made with John Brant, secretary of the Old Timers, 195 Broadway, New York, regarding railroad rates to and from the reunion, by or before September 1. The headquarters of the association will be established at the Arlington Hotel, Lafayette Square, near the White House, where arrangements for special rates have been made. Those who wish to secure hotel accommodations should address R. G. Callum, chairman of the hotel committee, care Western Union Telegraph Company, Washington, specifying the kind of room or rooms desired and their probable length of stay. All such requests should be made at as early a date as possible, as this will simplify and promote the work of the committee in charge.

The various committees have been fully made up, and all details appertaining to the management of the affair have been effected either wholly or in large part. The chairmanships are as follows: Committee on Finance, Wm. H. McKeldin; Committee on Entertainment, J. T. Bresnahan; Committee on Hotels, R. G. Callum; Committee on Badges, P. E. Brown; Reception Committee, Hon. P. V. De Graw; Banquet Committee, J. W. Collins; Ladies' Reception Committee, Mrs. P. V. De Graw, Mrs. W. H. McKeldin, vice-chairman; Committee on Press and Printing, J. B. Austin.

The officers of the Old Time Telegraphers' Association are: Wm. H. Young, president; Charles P. Adams, vice-president; G. W. Ribble, vice-president, all of Washington, D. C.; James B. Yeakle, vice-president, Baltimore, Md., and John Brant, secretary and treasurer, 195 Broadway, New York. Executive Committee: John C. Barclay and C. C. Adams, New York; U. J. Fry, Milwaukee, Wis.; George H. Corse, Ogden, Utah; Henry F. Taff, P. V. De Graw, George C. Maynard, Ernest W. Emery and Jesse H. Robinson, all of Washington.

The officers of the Society of the United States Military Telegraph Corps are: Col. Wm. B. Wilson, president, Holmesburg, Philadelphia; Wm. L. Ives, vice-president, New York, and J. E. Pettit, secretary and treasurer, Postal Telegraph-Cable Company, Chicago. Executive Committee: E. Rosewater, chairman, Omaha, Neb.; A. H. Bliss, Chicago; Col. A. B. Chandler, New York; W. R. Plum, Chicago; George C. Maynard, Washington, D. C.; R. B. Hoover, New York; J. D. Cruise, Kansas City, Kans.; M. H. Kerner, New York, and John Wintrup, Philadelphia.

Following a brief business meeting first of the Old Timers and then of the Military Telegraphers, on the morning of Tuesday, October 9, the programme of entertainment to be carried out during the three days of the reunion will be entered upon. This has already been published so far as arranged. When definitely completed it will be printed in full. The affair gives promise of a gathering of much pleasure. Of course the crowning event will be the reception by President Roosevelt.

Wireless Telegraphy.

Separate wireless communication is now being used from the Wellman balloon camp at Dane's Island, Spitzbergen, to Hammerfest, Norway. The camp is within six hundred miles of the North Pole, and reports all preparations favorably.

It has long been known that wireless telegraphy works better at night than in the day, but that fact was lost sight of in the establishment of that method of communication in Alaska, between Fort Michaels and Nome, where it had been found impossible to maintain a cable owing to the ice movements and currents. Reports to the War Department now show that for the first time trouble has been experienced in working the system in Alaska, and as the trouble was coincident with the beginning of continuous day north of the Arctic Circle that fact is supposed to account for the difficulty. However, it is said that the interruption has never extended over the whole day at any time.

Brigadier-General James Allen, chief of the Signal Corps of the army, sailed for Europe on August 4, where he will investigate the signal service in various foreign armies preparatory to attending the international conference on wireless telegraphy which will convene at Berlin on October 3. Charlemagne Tower, American ambassador to Germany, will represent the State Department at that conference; Rear-Admiral H. N. Manney, United States navy, retired, will represent the navy; Gen. Allen will be the army representative, and John I. Waterbury, of New York, who is in Europe, will represent the Department of Commerce and Labor. Nearly every great power will be represented at the Berlin conference, which will take up the work of international regulation of wireless telegraphy where it was left by the preliminary international conference held in Berlin in 1903. Germany, Austria, Spain, United States, France, Hungary and Russia were signatory to preliminary agreements then framed as the basis for an international convention regulating wireless telegraphy.

Recent New York Visitors.

Mr. George A. Burnett, manager of the Great North Western Telegraph Company, Buffalo, N. Y.

Mr. P. W. Drew, superintendent of telegraph and car service agent of the Wisconsin Central Railway, Milwaukee, Wis.

Mr. Frank Kane, an old-time Washington, D. C., operator, now and for many years past identified with a commission house in that city.

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NEW YORK, AUGUST 16, 1906.

The visit of the electrical engineers to England as the guests of the Institution of Electrical Engineers of that country, appeared to be attended with the happiest of auspices. Every attention was bestowed upon them by their British hosts. The American contingent, close of kin to their entertainers, were especially pleased with the cordiality of their reception. The trip of inspection made through England and Scotland, emphasized as it was by numerous stops for investigation and study of electrical manufacturing plants and systems, as well as for the acceptance while thus en route of social amenities, accomplished much for enlightenment, to promote electrical knowledge and advancement, and to more closely unite the brotherhood of man. The occasion was in every way fortunate, encouraging and satisfactory to those who attended, and to the impelling cause of science.

Among well-known telegraphers who took active part in the English tour, were Mr. John Gavey, president of the Institute of Electrical Engineers of Great Britain, the head of the telegraph department in that realm, and a former operator; Ralph W. Pope, the secretary of the American Institute of Electrical Engineers, New York, an old-time telegrapher, and Thomas D. Lockwood, the author of numerous books on telegraphy, and who is the patent expert of the American Telephone and Telegraph Company, Boston.

"More Gentlemen in the Service."

A correspondent at Cleveland, an old reader of TELEGRAPH AGE, and a former member of the telegraph profession, who has been measurably touched and interested in reading the article contributed by Mr. Hayes in the July 16 issue, reminiscent of former years in the telegraph, when so many men in the service where men of high reputation, of fidelity and of character, is moved to write: "I have read every article from time to time in your much-valued journal, respecting the existing need for competent managers, chief operators, etc., but let me speak of one thing we need more than mere competency (and we need it badly), and that is, more gentlemen in the service."

Here is an utterance unequivocal in expression, direct in meaning. Our correspondent says that because so few men holding the medium official positions possess in their character the attributes of love and kindness, causing them to withhold the counseling voice and helping hand to those under them, he asks whether they have been of real and lasting benefit to the employing company. For he holds that unless a superior officer, no matter what his abilities may be, gives kindly encouragement to one who is his inferior in position, better that he never should have filled the place of chief operator, manager or what not. Because of his attitude, which finds application in the tendency to check proper ambition, the service must eventually deteriorate in its personnel in those characteristics which make for a higher manhood in the individual, expressed in fidelity, faithfulness and constancy of purpose.

He asks further what there is in the service to encourage a young man at the present time, even though the chance is held out to him that eventually he may become a wire chief, etc., if elevation of the mind be left out of the question.

The world is apt to take a cold, and possibly selfish, view of the situation. It may be unfortunate that this is so, and not in accordance with utilitarian ideas; but it is wise nevertheless to accept conditions as they exist. If we do this the cause for discouragement in the telegraph service may be found in the fact that the compensation it affords does not attract the best men as formerly. The higher cost of living and the more complex needs of the individual of the present time, cannot be successfully met as in the olden days when tastes were simpler and

prices lower, on the comparatively slender stipend the average telegraph operator receives. And the narrowing limitations of the telegraph precludes hopes of generally higher pay. Yet, as we have always maintained, the telegraph affords at once a peculiar and a most excellent training school, and as such it may profitably be sought by the young man especially. He may find in it the experience he most needs and gain the knowledge on which to build and fit him for other and more profitable occupations. If so his time has not been lost; on the contrary it will have been employed judiciously and to direct purpose. And we would like to take occasion to here remark that if his pay does not measure up to what he believes himself justly entitled to in the place he is holding, to redouble his efforts to gain a higher and better position either within or without the telegraph employ. A man is personally the largest factor in the making of his own future and fortune. He must of necessity brighten up and use his own powers. Further and in natural accordance therewith, he must be a gentleman.

Congressman Smith and Postal Telegraphy.

The latest utterance on the subject of postal telegraphy in a speech delivered recently by Samuel W. Smith, of Michigan, in the House of Representatives, appears to have found some re-echoing sentiments of approval in various parts of the country. It will be remembered that Mr. Smith, while scoring the telegraph system as it obtains here in the United States, particularly as to the rate of tolls charged, held up in contrast thereto the method prevailing in Australia, operated under government ownership, as a fit model for guidance, if not adoption, in this country, in the readjustment of telegraphic conditions, which he fondly hopes may be brought about.

The question is an old one, appearing with periodic frequency, and the opposing opinion thereto, expressed in the belief that better results are realized by corporate management rather than by government administration, has received full, and as it has seemed to us conclusive, attention in these columns.

In our issue of June 16 we made editorial reference to Mr. Smith's remarks in Congress, at the same time printing extracts from his speech. The Congressman feels aggrieved and thinks it would have been fairer on the part of TELEGRAPH AGE if we had published his speech in full. For this we have not the space to spare, nor, indeed, is it necessary, for what he said has been extensively quoted, his coign of vantage from the floor of the House gaining for him a wider hearing doubtless than would otherwise fall to his lot. Because of the questions raised and involved in the subject, it may perhaps be well under the circumstances to take up the matter more fully than we at first intended, particularly those portions referring to telegraph conditions prevailing in Australia, which Mr. Smith declares are largely parallel to those existing in the United States.

Much of what Mr. Smith says is true enough, and is possessed of a certain amount of interest, especially when he tabulates figures in deadly juxtaposition, the idea being to show the lower rates of telegraphic tolls prevailing in Australia than those obtaining in this country over like distances; for it is by means like this, on the theory, probably, that "figures don't lie," that he seeks to establish the truth of his general statement, in which he would involve the arraignment of the telegraph in this country.

It is fully admitted that telegraph messages are transmitted in Australia at lower rates than in the United States; but that is not the disputed point. Mr. Smith's premises are wrong. A man may give away his goods, if he chooses, but because he does so does not prove that he is either a good or a wise merchant, for if he continued such practise long enough he would eventually become bankrupt, if his own resources were alone depended upon to meet the emergency of the case.

The Australian government is conducting a telegraph service along lines that are analogous to this figure; they are wholly unbusinesslike, and if it was not supported by government backing and excessive post-office charges, would speedily go to pieces. It is but a truism to assert that it is a commercial impossibility to conduct successfully any business, telegraphic or otherwise, at less than cost. It is, of course, another proposition if a "bar'l" be on tap to provide against losses, but the utter absurdity of so controlling the destiny of affairs should be apparent to every one. No matter from what governmental source initial losses are made good, the people themselves ultimately are compelled to foot the bill through the imposition of taxes placed upon the public at large. The manifest injustice of such a measure becomes clearly apparent when it is considered that this very act places the burden where it does not belong. For the farmer, the mechanic, the great army of poor yet hard-working men, who, it may be said, seldom or never send a telegram, are nevertheless compelled to pay their share in telegraph taxes, no matter in what manner imposed, a contribution in effect really conferring benefit upon the business man, who is almost the exclusive user of the telegraph in every country.

If it be urged that with low rates the people generally will use the telegraph who otherwise are debarred from so doing because of higher tolls, and so overcome, in large part, at least, the losses entailed, the answer is that this has not been the resultant experience wherever low-rate government telegraphy has been adopted. It is not true in England, where the deficit steadily grows in magnitude; it is not true in Australia, where, since the rates have been reduced considerably more than one hundred per cent, the volume of business has increased approximately but seventy per cent., these figures being testified to before the enquiries of a recent departmental committee. And this very increase is confined almost wholly

to business centers, thus affording further evidence, if any were needed, to support the truth of our statement that it is the business man almost exclusively who uses the telegraph. The American point of view is that the users should pay for the privilege they enjoy.

As a matter of fact the telegraph in Australia, although always conducted by the government, maintained tolls considerably higher than those charged in the United States, until the passage of what is known as the Commonwealth Post and Telegraph Act, which went into effect on November 1, 1902. A drastic reduction in charges was brought about on the adoption of the act referred to, from maximum long-distance rates of $1.92, $1.44, $1.20, 96, 72 and 48 cents, respectively, to twenty-four cents each, while the twenty-four-cent rate was cut down to eighteen cents. Even at the high rates quoted it is doubtful if the telegraph was self-sustaining. During the past four years it has been conducted at a heavy loss, thus causing a large deficit to be forced upon the taxpayers of the country. How great this shortage is cannot be known, for the earnings of the post office, which operates the telegraph, do not show separately itemized accounts. The resources of the post office are, however, heavily drawn upon in order to enable that department to carry the unequal burden imposed by the telegraph. It appears, however, that the profits of the post office are kept at high water mark derived from rates of postage far in excess of those charged in this country. For the cost of letter carriage in Australia (except within the single state of Victoria, where a two-cent rate prevails) is four cents per half ounce, while in the United States it is but two cents per ounce, an enormous difference as will readily be perceived, one of the most startling instances on record of saving at the spigot and letting out at the bung.

To illustrate the fact that governmental service is not as prompt in Australia as in corporate service in the United States, it should be understood that the full meaning of the word "urgency" in the Antipodes may be secured by the interpretation that is embodied in the payment of a double rate. It is suggestive in this connection what a number of business men in Australia take advantage of the "privilege" thus accorded, and pay this extra charge in order to expedite their telegraph business. It is amazing, however, how easily the people of Australia, as well as their prototypes in America, are hoodwinked into believing the statement that low telegraph rates serve as a panacea for many evils in the domestic economy of nations, rejoicing in a cheap service which they seldom or never take advantage of, and accept an expensive postage rate which almost every matured individual in that country uses necessarily to a greater or lesser extent.

In the further consideration of this subject the fact should not be lost sight of that there are certain ethical equivalents that very properly demand recognition and place in connection with every change of existing order. Government telegraphy as practised in Europe and in Australia, has plunged the entire telegraphic system into a sort of mechanism without elasticity of purpose. In the very nature of things, under such conditions, the best results are unattainable either to the individual or to the service itself. Individualism does not count; red tape creeps in, energy lacks and efficiency is not properly recognized. In Australia the chances of promotion are remote. The rule of seniority prevails. In determining the reclassification some of the most brilliant operators were placed in the lower class, while a number of very indifferent operators were rated to membership in the higher class. The injustice of such a disposition of the men was naturally resented, but an appeal to authority brought no redress, for it was held that so long as the seniors could manage to pull through with their work their rating should not be disturbed It was not a question of who could perform the best work. A junior who was endowed with larger intelligence than his senior neighbor, and who consequently could achieve better results, was regarded as being possessed simply of "superfluous ability!" The existence of such a situation is simply incredible to an American, for in this country no arbitrary rule shuts out the possibility of merit winning. Yet in Australia, enlightened country as it is, such a rule virtually prevails, checking promotion for merit, and preventing the selection of the best men in the service for the higher positions where men of capacity are needed, equally as in the United States, for the "good of the service." The seniority principle in promotion encourages but one ambition in a man, namely, to achieve longevity.

Grievances of the English Telegraphers.

The testimony given before the select Parliamentary committee of inquiry appointed to look into the grievances of the telegraph operators of England is quite interesting, and English telegraph journals are giving up considerable space to the evidence. Mr. H. Babington Smith, one of the officials of the telegraph department, while on the stand recently stated that the operators were too good for their work. Part of his examination was as follows:

You say in your evidence that the government is obliged to tolerate a degree of inefficiency which in private employment would result in dismissal. To what do you attribute this? I attribute it partly to Parliament.

Please explain yourself. I think that Parliament is very apt to bring pressure on the postmaster-general in any case of dismissal which can bear the slightest appearance of hardship, and that cases of doubtful efficiency would be such cases.

You attribute it partly to Parliament—to what else? Partly I attribute it to the conditions of the public service which result in a man losing so very much by dismissal. He loses his accrued pension rights, and also as the nature of the work is in some respects unique, it is much more difficult for him to obtain other employment; therefore, dismissal from that particular em-

ployment is a more serious matter to the man than it is in many kinds of private employment. That, I think, is one reason that makes it more difficult to get rid of inefficient men in public employment.

Sir Clement Hill: More difficult to do what? More difficult to dispense with the services of men who are moderately inefficient.

Mr. Sutherland: It does not arise in any degree from a want of intelligence on the part of the man? No, I think not.

You are satisfied with the standard of examination that has to be passed? Yes.

Is the standard of efficiency higher now than it was in 1890, when the present maxima were paid? That is a question that I find it difficult to answer, as I have no personal means of comparison. I have not been at the post office for more than three years.

Speaking generally, are you getting the class of men that you desire? Yes, I think the class of men themselves—the standard—that we get is quite as good as is necessary to do what is required, in some cases possibly too good; I mean that in some cases we get men who are rather too good for their work, and who tend to become dissatisfied with their position.

There is, of course, no way to obviate that difficulty, is there? No.

It would not be desirable altogether to obviate it if you could possibly? Except by offering lower pay, and I do not propose that as a desirable remedy.

That might cause more dissatisfaction, might it not? Yes.

Nestor of Press Telegraphers.

Charles Jones Osborn, the St. Louis correspondent of The Associated Press, 1865 to 1902, marking a continuous service of forty-seven years and entitling him to the distinction of dean of The Associated Press, celebrated his eightieth birthday anniversary on August 1.

Mr. Osborn, who is familiarly known throughout the service as "Major," an honorary title, retired from active work four years ago, but is still affiliated with the St. Louis office in an advisory capacity. He is remarkably hale and hearty, and very active despite his many years.

Major Osborn was born in Utica, N. Y., learned telegraphy in Pittsburg, Pa., in 1847, and came to St. Louis as a telegraph operator from Cincinnati in 1853. Two years later he entered the service of The Associated Press as an operator and shortly afterwards was appointed correspondent. While Major Osborn was learning telegraphy in Pittsburg he became acquainted with Andrew Carnegie, who was then a messenger boy in the telegraph office. Osborn was sent by the telegraph company to Chicago in 1851 as manager of that part of the system known as the O'Reilly Telegraph Company. He found the headquarters to be located in a very ramshackle frame building that threatened to fall down without warning. His first work was to move into better quarters in a new four-story brick building about fifty feet square on Clark street, the finest office building in Chicago at the time.

He was manager of the O'Reilly company for two years. After becoming correspondent of The Associated Press at St. Louis, the pony express service for sending news to San Francisco newspapers was organized. Major Osborn would gather together a batch of news and send the bundle to Tipton, Mo., by railroad. Tipton marked the terminus of the only road that ran west from St. Louis. From this road grew what is now the Missouri-Pacific system. At Tipton the news bundle was delivered to the stage coach and reached its destination in about three weeks.

The Joint Occupancy of Pole Lines.

This question was recently propounded to the Question Box of the National Electric Light Association: Do you permit joint occupancy between telephone, telegraph and fire-alarm wires with electric-light feeders? Is such joint occupancy required by the city or town authorities?

To this the following were some of the answers received:

A. T. Lloyd, Shreveport Gas and Electric Company, Shreveport, La.: We permit joint occupancy of our pole lines and believe in it. If two telephone companies, a traction company, a telegraph company and an electric-light company must have separate pole lines, it mars the beauty of all the streets, increases the danger from crosses between wires and hastens the time when everything of the kind must be put underground.

E. H. Mather, Portland Lighting and Power Company, Portland, Maine: There is less danger of accidents to persons and property from joint occupancy of poles by telephone, telegraph and electric-light companies, provided the electric-light wires are placed on the upper cross-arms, than under any other form of construction. Under this plan the leaning of poles one way or the other does not cause cross contacts, and telephone and telegraph linemen have no occasion to go up poles far enough to come into contact with electric-light wires. The telephone and telegraph wires can do but little, if any, damage in case they break and fall to the streets.

William B. Jackson, Madison, Wis.: In three towns in which the writer has had operating experience the joint occupancy by the telephone, telegraph and fire-alarm wires with the electric-light feeders was approved and the writer believes that such joint occupancy is far more desirable than the use of two or more pole lines upon the same side of the street, as is seen in many towns. In none of these towns referred to was the joint occupancy required by the city authorities, though the electric company frequently made efforts to have such a requirement.

The Colorado Springs Electric Company, Colorado Springs, Colo.: We are required to furnish space on our poles for fire and police-patrol wires. Aside from this the telephone company uses our poles, and vice versa, in many instances by mutual agreement.

In renewing his subscription to Telegraph Age, Mr. C. E. Jones, manager of the Western Union Telegraph Company at Zanesville, O., said: "I think the name of every operator and manager should be on your list if they expect to keep up with the times. Enclosed find my check for renewal."

The Convention of the International Association of Municipal Electricians.

The eleventh annual convention of the International Association of Municipal Electricians will meet at New Haven, Conn., on Wednesday, Thursday and Friday, August 15, 16 and 17, the place of assembly being in the aldermanic chamber in the city hall. This building will be headquarters, and because of its central location and the conveniences afforded, lodging all auxiliaries of the convention under a single roof, its selection will be much appreciated by all who attend the convention. At the fire department, in room 4, in the city hall, the information bureau will be established. Ample space will also be furnished, free, in the same building for exhibits, of which, it is expected, a fine display will be made by associate members and others, notably so by the Gamewell Fire-Alarm Telegraph Company, of New York, thus affording an excellent opportunity for the inspection and study of much that is new in methods and in construction of apparatus, electrical and otherwise. These exhibits should engage the attention of many outside of the convention.

The hotels selected at New Haven as desirable for the accommodation of the electricians are: New Haven House, Davenport and Garde, conducted on the American plan; Tontine and Oneco, on the European plan.

The convention will be opened by prayer, followed by speeches of welcome extended to the electricians, first by Gov. Henry Roberts, whose topic will be "Welcome to Connecticut," and by Mayor John P. Studley, "Welcome to New Haven. The addresses will be suitably replied to, after which reports will be read and the convention will settle itself for the business that is scheduled to come properly before it.

A number of interesting papers will be read and discussed. These include "History of the Fire and Police Telegraph," by Adam Bosch, of Newark, N. J.; "Advisability of Protecting Municipal Electricians by the Civil Service Laws," by Jerry Murphy, of Cleveland, O.; "Comparison of Underground and Overhead Wiring, and the Relative Values of Single Rubber-Covered Wire and Lead Incased Cable," by W. H. Thompson, of Richmond, Va.; "Conditions Surrounding the Inspection of Wires in the Southwest (with special reference to the advisability of one inspector completing each inspection instead of several inspectors each doing a part of it)," by Clarence R. George, of Houston, Tex.; "Question Box," by Walter M. Petty, of Rutherford, N. J.

The officers of the association are: Jerry Murphy, of Cleveland, O., president; William Crane, of Erie, Pa., first vice-president; H. R. Allensworth, of Columbus, O., second vice-president; B. A. Blakey, of Montgomery, Ala., third vice-president; F. A. Cambridge, of Winnipeg, Man., fourth vice-president; Frank P. Foster, of Corning, N. Y., secretary, and C. E. Diehl, of Harrisburg, Pa., treasurer.

The executive committee comprises the following: T. C. O'Hearn, Cambridge, Mass.; A. S. Hatch, Detroit, Mich.; J. B. Yeakle, Baltimore, Md.; Louis Gascoigne, Detroit, Mich.; Walter M. Petty, Rutherford, N. J.; James Grant, New Haven, Conn.; T. F. Almon, St. Louis, Mo.; W. H. Thompson, Richmond, Va.; W. Y. Ellett, Elmira, N. Y.

The finance committee includes: W. D. Claiborne, Savannah, Ga.; G. F. Macdonald, Ottawa, Ont.; H. C. Bundy, Watertown, N. Y.

A most attractive programme has been arranged providing for the social entertainment of the electricians. This will include rides in and about the city by trolley; carriage drives; a visit of inspection to the extensive plant of the National Wire Corporation; a trip by steamboat to the Thimble Islands, a shore dinner and a visit to the White City, Savin Rock.

The Ladies' Committee, which is in readiness to receive and entertain the ladies of the visiting party, is made up of representative names, of whom Fire Commissioner Joseph Kegelmeyer is chairman. All the details of the reception to the members of the convention appear to have been carefully worked out, and no doubt, both from a business and a social point of view, the meeting will rank high with any of its predecessors.

Mr. James Grant, superintendent of fire-alarm, telegraph and electrical construction, New Haven, chairman of the executive committee, has been indefatigable in his efforts to make the New Haven meeting a success. He has aroused much public enthusiasm in his town, and no doubt a most cordial reception awaits the coming of the electricians. The board of aldermen, who have not only courteously tendered their chamber for the sessions of the convention, have even gone still further and appropriated the sum of $200 to be expended in suitable decoration of the room. Aldermen Homan, Courtney, Loose and Allen are on the membership of the general committee.

AN OUTLINE HISTORY OF THE ASSOCIATION.

The history of this organization dates back to 1804. In that year the late John N. Gamewell, whose name is admirably perpetuated in that of the Gamewell Fire Alarm Telegraph Company, of New York, suggested to Frank C. Mason, superintendent of the police telegraphs, Brooklyn, and but lately retired therefrom, the idea of forming an association composed of the fire and police telegraph superintendents of the United States and Canada. The proposition met with instant approval, and Mr. Mason with his accustomed energy, set about to bring such a desirable end into fruition. His first move was to make a personal visit, so far as he was able, to the fire and police telegraph superintendents throughout the country. This self-imposed labor he executed to good purpose, performing excellent missionary work, for when two years later, in 1806, deeming the time opportune, he sent out a circular letter

respecting the need of an association of this character, and calling a meeting to be held in Brooklyn for the purpose of effecting an organization, the response was very general, cordial in tone and wholly favorable to the undertaking, the general belief expressed being that such an organization would consolidate the interest of all concerned and prove beneficial to those who engaged in it. The time appointed for the initial meeting was September 15, 1896, and the place the Clarendon Hotel, Brooklyn, N. Y. On that date there were twelve representative delegates in attendance, namely: L. Lemon, Baltimore; William A. Barnes, Bridgeport, Conn.; James T. Wafer and Frank C. Mason, Brooklyn; C. T. Hopewell, Cambridge, Mass.; F. P. Foster, Corning, N. Y.; W. Y. Ellett, Elmira, N. Y.; Adam Bosch, Newark, N. J.; W. C. Smith, New Haven, Conn.; J. F. Zeluff, Paterson, N. J.; S. L. Wheeler, Springfield, Mass., and J. W. Aydon, Wilmington, Del. Besides these there were also present twenty others who represented various manufacturing inerests whose products were of interest to the municipal superintendents, together with several others identified with the telegraph, the press, etc.

The organization of what was at first denominated the International Association of Fire and Police Telegraph Superintendents was accomplished, a constitution and by-laws adopted, and an election of officers for 1896-1897 effected. These latter were:

Frank C. Mason, of Brooklyn, president; Morris W. Mead, of Pittsburg, vice-president; Adam Bosch, of Newark, treasurer, and L. Lemon, of Baltimore, secretary.

The constitution says: "The object of this association shall be the acquisition of experimental, statistical and scientific knowledge relating to the construction, equipment and operation of fire and police telegraph, light, heat and power systems, and the diffusion of this knowledge among the members of this association with the view of improving the service and reducing its cost; and the establishment of a spirit of fraternity among the members of the association."

It will thus be seen how thoroughly the subject of the association had been considered to be able at the outset to effect such an organization, and with what strength of membership, direct and allied, it began its career. It has ever since shown itself to be a power in municipal electrical circles, and has gathered to its membership a coterie of exceedingly bright and practical men. The papers that have been read and the questions discussed by members at the annual meetings, have been of a character to command respect and attention.

The second annual convention was held at Nashville, Tenn., September 14, 1897. On this occasion the governor of the state, Robert L. Taylor, addressed the convention. At this time the Old Time Telegraphers' Association also met in Nashville for their annual reunion, and the electricians, in response to an invitation from their telegraphic brethren, joined with them in the festivities of the occasion. An election of officers resulted in confiding the presidency to W. Y. Ellett, of Elmira; William Brophy, of Boston, becoming vice-president; H. F. Blackwell, Jr., of Brooklyn, secretary; Adam Bosch, of Newark, N. J., treasurer, and Burt McAllister, of Bradford, Pa., financial secretary.

It was at Elmira, N. Y., August 9 and 10, 1898, that the third convention assembled. At this meeting Dr. Wm. F. Channing, of Los Angeles, Cal., a man who had taken a prominent part in initiating and developing the fire-alarm telegraph, was elected a life member of the association. At this meeting the title of the association was changed to that which it now bears—International Association of Municipal Electricians. John W. Aydon, of Wilmington, Del., was elected president; G. F. Macdonald, of Ottawa, Ont., vice-president; H. F. Blackwell, Jr., Adam Bosch and Burt McAllister were re-elected secretary, treasurer and financial secretary, respectively.

Wilmington, Del., claimed the next convention, which met in that city September 4, 5, 6 and 7, 1899. Governor E. W. Tunnell made the address of welcome and an exceedingly interesting meeting followed. Officers for the ensuing year were elected as follows: Capt. William Brophy, of Boston, president; G. F. Macdonald, of Ottawa, re-elected vice-president; H. F. Cottrell, of Boston, secretary; Adam Bosch and Burt McAllister were re-elected treasurer and financial secretary, respectively.

On September 25, 1900, the electricians met for their fifth annual convention at Pittsburg, Pa. This was a banner convention. There was a large attendance and numerous prominent speakers addressed the meeting and there was much enthusiasm. The social side of the affair was a prominent feature and carried out a programme of entertainment at once extensive, varied and attractive. Morris W. Mead, of Pittsburg, was elected president; J. F. Zeluff, of Paterson, N. J., vice-president; Burt McAllister, of Bradford, Pa., second vice-president; R. E. Moran, of Memphis, third vice-president; Frank P. Foster, of Corning, N. Y., secretary, and Adam Bosch, of Newark, N. J., treasurer.

The next convention, the sixth of the series, met at Niagara Falls, N. Y., the session being continued over the dates of September 2, 3 and 4, 1901. The Pan-American Exposition was then open at Buffalo and proved an attractive side show to many members. Officers for the following year elected were: A. S. Hatch, of Detroit, president; W. M. Petty, of Rutherford, N. J., first vice-president; A. C. Farrand, of Atlantic City, N. J., second vice-president; William Crane, of Erie, Pa., third vice-president; William A. Barnes, of Bridgeport, Conn., fourth vice-president; F. P. Foster, of Corning, N. Y., secretary, and Adam Bosch, of Newark, N. J., treasurer.

The seventh annual convention assembled October 7, 1902, at Richmond, Va. This, like the

meeting of the previous year, was a numerously attended affair, and the chief social event was a trip by steamer down the James River. W. H. Thompson, of Richmond, was elected president; Jerry Murphy, of Cleveland, first vice-president; A. C. Farrand, of Atlantic City, N. J., second vice-president; W. A. Barnes, of Bridgeport, Conn., third vice-president; C. L. Williams, of Meridian, Miss., fourth vice-president; F. P. Foster, of Corning, N. Y., secretary, and Adam Bosch, of Newark, N. J., treasurer, re-elected.

Atlantic City, N. J., was selected for the meeting place of the eighth annual convention which assembled September 3, 1903. This well-known seaside resort was found to be a most agreeable place for the purpose, and the famous board walk with its many attractive features is still the subject of much favorable reminiscent comment. At this time A. C. Farrand, of Atlantic City, N. J., was elected president; W. M. Petty, of Rutherford, N. J., first vice-president; G. F. Macdonald, of Ottawa, Ont., second vice-president; F. F. Pierson, of Morristown, N. J., third vice-president; F. A. Cambridge, of Winnipeg, Man., fourth vice-president, and again F. P. Foster, of Corning, N. Y., secretary, and Adam Bosch, of Newark, N. J., treasurer.

The electricians went west to hold their ninth convention, which met September 13, 1904, at St. Louis. The Exposition was then in full swing and its attractions afforded the chief point of entertainment for he visitors. In the election of officers for the ensuing year Walter M. Petty, of Rutherford, N. J., was elected to he presidency; J. B. Yeakle, of Baltimore, first vice-president; G. H. Holderman, of Indianapolis, second vice-president; C. E. Diehl, of Harrisburg, Pa., third vice-president; Charles Greenwald, of New Brunswick, N. J., fourth vice-president; Frank P. Foster, of Corning, N. Y., secretary, and George F. Macdonald, of Ottawa, Ont., treasurer.

The convention of 1905, the tenth, met at Erie, Pa., on August 23, and is still fresh in the memory of the electricians. At this meeting the following officers were elected: Jerry Murphy, of Cleveland, president; William Crane, of Erie, first vice-president; H. R. Allensworth, of Columbus, O., second vice-president; B. A. Blakey, of Montgomery, Ala., third vice-president; F. A. Cambridge, of Winnipeg, Man., fourth vice-president; Frank P. Foster, of Corning, N. Y., secretary, and C. E. Diehl, of Harrisburg, Pa., treasurer.

SOMETHING ABOUT NEW HAVEN, THE CONVENTION CITY.

New Haven, or as it is sometimes called, the "Elm City," the Indian name "Quinnipiac," signifying "Long Water Land," is the largest place in the ancient commonwealth of Connecticut, and is a typical New England town. This is observable at once by the stranger, for it shows itself unmistakably in the very atmosphere of the place, in the people themselves, their speech, their manner, their activities. It is noticed in much of the quaint and old-fashioned architecture, recalling an earlier period and generation in the country's history, for it must be remembered that the section hereabout was included in that of the earliest settled. It is also revealed in the abundance and magnificence of its great elm trees that so beautifully adorn and shade its streets, notably Temple street, Hillhouse avenue and others, and which in New England seem to attain a growth and beauty nowhere else equaled. Then, again, New Haven is a university town in a sense that is not known or understood by the seat of any other great American institution of learning for Harvard even, like Columbia, yields to the strenuousness of a metropolitan city. Yale University, next to Harvard, is the oldest in this country, for it was removed thither from Saybrook in 1716, and in the nearly two hundred years that have since elapsed, has made its impress upon the town to such a degree as in great measure to exercise a dominating influence, to cast a spell, so to speak, within its confines, of veneration and reverence for the classic in life.

The great group of buildings that constitute the university quadrangle, touch on Chapel street, the principal business thoroughfare. Most of them are of modern construction, especially fine in their architectural proportions and afford noteworthy examples of beauty in building art. Near the university is the public green of sixteen acres. This is located in the heart of the city, was originally reserved when the city was first settled in 1638, and around it the place has grown, increasing to a population in 1900 of 108,027 Within the green and facing on Chapel street is the old State House, abandoned as such when Hartford, thirty-six miles away, became the single capital city of the state.

The finest residential parts of the city are located in the section north of the central square. The approach to New Haven by water is very attractive, but the harbor is shallow, and in order to reach deep water the construction of an immense pier was commenced as long ago as 1682. This pier has a length of 3,480 feet. In manufacturing New Haven holds an important place and has many millions of dollars invested therein. In the production of carriages and wagons it is noted. There are two features of the landscape that the electricians will quickly take cognizance of, and these are the high trap rocks, raising their precipitous faces toward the city on the east and west sides and known as "East Rock" and "West Rock," and which are 400 and 360 feet in height respectively. On the former, in the midst of a beautiful park stands the monument erected to the memory of the soldiers and sailors who fell during the Civil War. It is a landmark that may be observed from afar.

THE FIRE-ALARM TELEGRAPH.

Its History, Present Development and Outlook for the Future.

The Morse telegraph had its first commercial demonstration in 1837, and the first completed installation of the fire-alarm telegraph was in Boston, April 29, 1852.

This installation by Farmer & Channing used street boxes, a central office and alarm stations, and so contained the essential principles of the fire-alarm telegraph as it exists to-day, although the extensions and improvements in fire-alarm telegraphy make a comparison between the present system and the original equipment about as inappropriate as would be a comparison between the first railroad train and a Twentieth Century express; or between Fulton's original steamboat on the Hudson River and the latest of the great Atlantic steamships.

The second Farmer & Channing equipment was in Philadelphia in 1855, and St. Louis closed a contract in 1856 and New Orleans and Baltimore followed in 1860. All of these installations, after the original in Boston, were promoted and installed by Mr. John N. Gamewell, a native of South Carolina, who in 1855 purchased from Messrs. Channing & Farmer their patent rights for the southern states, and in 1859 for the rest of the country.

Mr. Gamewell, in loyalty to his state, entered the service of the Confederacy, and during the Civil War practically nothing was done in the extension of the fire-alarm service.

Immediately after the war, in 1866, the work was again actively pushed by Mr. Gamewell, and later by a corporation which in a few years became the present Gamewell Fire-Alarm Telegraph Company, the advantages and necessity of the fire-alarm telegraph service were brought to the attention of municipal authorities throughout the United States.

The progress of the business was at first very slow. It was not until 1869 that the original system was installed in New York, although its value had been demonstrated by eighteen years of successful use in Boston, and it had been meanwhile established in about twenty cities in the United States, most of them in New York and New England.

Now that the absolute necessity of the fire-alarm telegraph is understood by nearly everyone, it is hard to realize the discouragements and disappointments which were encountered by the early promoters of the business and the difficulties which they had to overcome in convincing the public and municipal authorities that they could not afford to be without the protection of the fire-alarm telegraph. In spite of the fact that the original Boston equipment and every one established thereafter saved, on an average of years, many times its cost every year, during the first twenty years from 1851 to 1871 only about twenty cities were provided with fire-alarm apparatus. In 1876 this number had increased to seventy-five, and during the following decade from 1876 to 1886, again from 1886 to 1896, and up to date in 1896, the progress of the business had been much more rapid, so that to-day there are comparatively few cities or towns of more than 5,000 inhabitants which do not have a fire-alarm telegraph service and a very large number of small places are also supplied with a telegraph alarm equipment adequate to their needs.

The late John N. Gamewell took up the business of exploiting the fire-alarm service when the Boston plant, established in 1851, was the only one in existence, and he and his successors, including the present Gamewell Fire-Alarm Telegraph Company, have furnished more than ninety per cent. of all the fire-alarm apparatus in use in the United States and Canada.

Joseph W. Stover in 1869 gave up the construction and management of commercial telegraphs to become general agent for Gamewell & Co., and for the past twenty-three years he has filled the position of president of the Gamewell company.

It may well be said that the history of the fire-alarm telegraph service in the United States, and the history of the Gamewell company have been nearly identical since 1855. To Messrs. Channing and Farmer is due the fame which justly come to inventors who have rendered invaluable service to mankind, but to Gamewell and his successors will ever belong the credit for the equally valuable service which their perseverance energy and capital have rendered in extending the benefits of the fire-alarm service into nearly every important city or town in the United States.

The entire history of the fire-alarm business shows a constant effort toward improvements, and every invention which after long and careful experiment followed by sufficient tests in actual use to prove that it really was an improvement has been adopted by the Gamewell company. The constant efforts of its own skilled inventors and electricians have not infrequently been supplemented by the productions of other men with scientific knowledge and practical experience and their inventions have been welcomed and secured by the company.

Perhaps the most important inventions among hundreds may be named the following in the order of their production:

The non-interference pull in 1867, further improved by Crane & Rogers in 1869, which prevents the confusion of alarms by frequent pulling of the hook.

Distance non-interference, patented by Mr. Gamewell himself in 1871, and still further greatly improved by James M. Gardner in 1880. This so-called Gardner box not only provides against confused alarms from the use of imperfect pull devices, but also against interference of alarms when two or more boxes were pulled at the same time for the same fire.

The "Gardner" remained the standard fire-alarm box for many years and is still chosen by many fire-alarm superintendents, although the more recently invented and improved positive non-interference successive box is being very generally adopted as new boxes are required for established systems.

The automatic repeater, invented by Edwin Rogers in 1870, provided for the adoption of the fire-alarm service in many cities large enough to require several circuits but not of sufficient size to warrant the maintenance of a central office with employees on duty day and night.

The "joker system," so-called, which provided for sending alarms to the engines directly from the boxes as well as to the central office in large cities, originally invented by Prof. Barrett, of Chicago, and improved by later inventions, has been extensively adopted.

Many extensive and important improvements in the equipment of fire-alarm telegraph offices in cities of the largest class have been made during the past ten years or more, but it would be impossible to describe them within the limits of this article.

A notable feature in fire-alarm telegraphy in recent years has been the rapid substitution of storage battery equipment for gravity batteries. The superior economy and reliability of the storage battery and the ease with which it is cared for and operated has made city electricians anxious for the change to be made. This movement has been so general that up to January 1, 1906, the Gamewell company had installed three hundred and fifty-five storage battery equipments, and this list has been largely increased during the current year.

The rapid introduction of high potential electric currents has caused much damage by the burning out of street boxes from accidental contact of the telegraph wires with heavy current wires. But invention and experience has overcome this difficulty, and the modern fire-alarm box properly installed, is now safe from all troubles of this class.

In one respect the development of the fire-alarm telegraph has been peculiar and unlike most branches of public service. The horse car displaced the omnibus lines, and in turn the cable and electric cars wholly displaced their predecessors, but in the fire-alarm world the new and the old have had to work together

and no improvement could be adopted which implied a radical reconstruction of established systems.

Fire-alarm boxes of the earliest type contained such serious defects that none are now in use, but thousands of boxes made in the early seventies after more than thirty years of faithful service are still retained in commission, although the substitution of the improved boxes goes on continuously from year to year as the municipalities learn to appreciate the importance of making their entire equipment fully up to date.

The prompt use of the alarm box is now fully provided for by keyless doors and key guards, instead of the old system of having keys in the hands of policemen and firemen only, and in a few locations near each box. The box now sends its signal instantaneously and without possibility of interference, to the engine houses and the central office; the apparatus for sounding and recording the alarm is positive and accurate in its operation.

The art of fire-alarm telegraphy is now so highly developed that no radical changes or improvements can be anticipated. The Gamewell company will, however, continue its efforts toward greater perfection in detail and meet all new requirements as they may arise. The company has in its employ experts whose lives are devoted to this work and who have at their command all needed facilities, and the company being in touch with municipal electricians all over the country is always in position to know of every new requirement suggested by experience.

Municipalities are usually slow in providing for the ever increasing needs of their fire protection equipment and the inspiration for improvement nearly always originates with the chiefs of department and the fire-alarm superintendents, whose knowledge and experience best qualify them to point out the need of improvements and extensions of the fire-alarm and other branches of the protective service.

No story of the present development and prospective future of the fire-alarm telegraph would be at all complete without reference to the extensive development of what is known as the auxiliary fire-alarm service, and also a reference to the very considerable introduction of complete independent fire-alarm telegraph systems in large colleges, asylums and industrial establishments which maintain their own fire departments, and are in many cases beyond the reach of any public fire department.

In these latter cases the fire-alarm equipment is substantially what would be provided for a small town. The Gamewell company has supplied a large number of such plants and the demand for them is constantly increasing.

THE AUXILIARY FIRE-ALARM SERVICE.

Municipal fire-alarm telegraphs send in and record fire-alarms instantaneously from the operation of the street boxes. Fire departments respond to an alarm thus received almost instantaneously. In standard modern departments the engines pass out of the houses in less than twenty seconds after the first stroke of the gong; that is, they hitch up while the alarm is coming in, and usually by the completion of the first round of the signal number they start out. It is a common expression that fire departments use their best endeavors to save seconds in responding to an alarm, and in this respect they have reached the limit of human effort.

There is, therefore, evidently no way of saving the invaluable minutes and seconds which are now lost between the discovery of a fire and the street box except by carrying back the alarm-giving point from the street box to the interiors of premises.

This is successfully accomplished by the auxiliary fire-alarm service, which in recent years has come into extensive use in public institutions, hotels, theatres, railroad shops and docks and in large industrial and mercantile establishments of all kinds.

The auxiliary service furnishes any desired number of interior stations, usually one on each floor of the buildings protected, from any one of which stations the alarm is sent in as instantaneously and positively as from the street box itself.

This is accomplished by tripping the street box by means of an auxiliary magnet in the street box and actuated by the auxiliary station. The auxiliary circuit has no electrical connection with the city circuit, and consequently there is nothing to interfere with the normal operation of the street box, and any troubles from grounds, breaks, crosses, etc., which might originate on the auxiliary circuit would not in any way affect the city circuit. For this reason the auxiliary service has been approved by fire department authorities, for it is manifest that any system of auxiliary fire-alarm service through which troubles on the auxiliary circuit would be extended to the city circuit, could not be allowed.

It can be said, briefly, of the auxiliary service, that it extends the city service into the interiors of premises without offering opportunity for the slightest interference.

The results attending the introduction of the auxiliary fire-alarm service in saving life and property have been illustrated in thousands of cases, and are just what should be expected from a service which saves from half a minute to several minutes in sending in the alarm.

The auxiliary fire-alarm has already been established on a large scale in many cities, for ten years or more, so that its utility and safety have been extensively demonstrated. The development of the auxiliary service on a large scale has been carried on in New York City for more than ten years. This service is operated in New York by what is known as the Manhattan Fire-Alarm Company. This company has over one thousand customers and operates over three thousand auxiliary stations connected with three hundred or more street fire-alarm boxes. It is installed in hundreds of the most prominent fireproof office buildings, hotels, department stores and manufacturing establishments. Nearly the entire river front of Manhattan is protected by auxiliary stations, and the value of the service as demonstrated in a very large number of river front fires would more than justify the favor with which the service is regarded by fire insurance underwriters and the fire department of the city, even if there had not been hundreds of similar cases in other properties.

The auxiliary service is generally carried on by local companies, operating under a license from the Gamewell Auxiliary Fire-Alarm Company. Such companies are established in New York, Philadelphia, Paterson, Jersey City, Newark, Atlantic City, Camden, Detroit, Cleveland, San Francisco, Seattle, and other cities.

As a very successful company in this class we refer to the Connecticut company which was organized by prominent business men of Bridgeport who had previously had knowledge of the value of the service through its installation in their own premises.

The auxiliary service is not only installed in hazardous risks, but in many establishments which are insured either in the New England Manufacturers' Mutuals or the Factory Association of the stock companies, and are therefore necessarily equipped with sprinklers and every other approved device for protection from fire loss.

In illustration of the variety of business to which the auxiliary service is adapted and the high class of customers who use the service, we give a partial list of the customers of the Connecticut Gamewell Auxiliary Fire-Alarm Company, using the names only of such as are very generally known: Barnum & Bailey, Bridgeport Brass Company, The Bullard Machine Tool Company, Connecticut Railway & Light Company, Eaton, Cole & Burnham Company, Locomobile Company of America, Standard Oil Company, Union Metallic Cartridge Company, Union Typewriter Company, Wheeler & Wilson Manufacturing Company, R. & G. Corset Manufacturing Company, Barbour Silver Company, Miller Brothers Cutlery Company, Aetna Life Insurance Company, New York & New Haven Railroad Company.

Space does not admit of further quotation from this list.

Although the auxiliary service has been established in Danbury, Conn., for only a short time, eleven of the leading hat factories in that city have already equipped their premises with the service.

We understand that the Connecticut Auxiliary Fire-Alarm Company intended to make an exhibit at the convention of the Municipal Electricians, which is to be held at New Haven on the 15, 16 and 17 of August, and this will afford all who are not already familiar with the apparatus an opportunity to examine and to see for themselves how completely it meets all requirements of such a service.

The Origin of "Thirty."

The Kansas City Star publishes the following:

"The origin of the word 'thirty,' used in newspaper and telegraph offices to designate the close of report for the day, has never been satisfactorily explained, although it has been used as long as newspaper men can remember. There are several interesting versions of the original source of this symbol, a few of which are here given: A compositor of some notoriety in his locality dropped dead while seated at his case. The last types he had set were the figures '30.' A correspondent in Brooklyn for a New York city newspaper in the time before the telegraph or telephone was in use had a contract to furnish a certain amount of copy daily, which he sent across the river by ferry. To let the editor know when his report had ended for the day the correspondent agreed to furnish thirty sheets of copy each twenty-four hours. An old editor in New York named G. W. Thurtee for years always marked his final sheet before going to press with his name 'Thurtee.' From this, it is said, evolved '30,' which has since been universally employed."

As long ago as May, 1895, George B. Allen had the following reference to the telegraphic "thirty" in the Utica, N. Y., Press:

"I attended a funeral the other day where there was a lovely flower piece with the figures '30' in the center. The deceased had been familiar all his life with that signal, having been connected with telegraph or newspaper business for nearly thirty years; and yet I doubt if he or any who contributed to the flower piece knew or dreamed how thirty came to mean anything, especially finis or the end. As a part in telegraph history I will explain how this signal, which has come to mean so much, had its origin. Like a great many other expressions, it was started accidentally, as it were. In the infancy of the telegraph, business dispatches were sent paid or collect, many of them abbreviated in telegraphing, and all newspaper dispatches were not only abbreviated, but sent collect. There were no news agencies then, as now, and papers had friends in all towns, who were authorized to send them dispatches to be called for. Every new beginner in the art of telegraphy was given a book of abbreviations and signals, which he had to commit to memory and practice till he became expert in their use. Among these signals that of thirty was found, and it meant 'collect pay at the other end.' Whether a news dispatch or common business message, if not prepaid, the signal thirty was attached. As all press dispatches were paid for where received, they all had thirty at the end. So when news agencies began their work the signal was retained, for they were still paid for where received. This signal has come in these days to be a universal finis to all press dispatches, private, special and general, and a secondary meaning, or perhaps better, a legendary meaning attaches itself as 'the end,' and is a proper and beautiful expression of the finis of a telegraph operator or any other person. It well may be a signal to the spiritual dispatch of a human soul to the great center of rewards, and as a notice to estimate its value when received and 'collect pay at the other end.'"

Ancient Telegraph of the Time of Aristotle.

Telegraphy as a means of conveying information to a distance by means of signals, etc., says an exchange, was used by the Grecian generals in the time of Aristotle. This early mode of telegraphing consisted of two or more earthen vessels, exactly similar in shape and size and filled with water. These vessels were each provided with faucets of exactly the same caliber, so that an equal amount of water could be discharged from each in a given time.

In these vessels several uprights were fixed, each with disks attached, on which were certain letters and sentences. When all was in readiness the party desiring to communicate with another started a signal, which was continued until it was answered by another which signified "go ahead." When that signal was given both turned the faucets, and the water commenced to escape. The water continued to flow until the sender of the message relighted his torch, when the outlet to both was instantly stopped. The receiver then read the message on the disk which was standing level with the water, and if everything had been executed with exactness it corresponded with the message which the sender desired to convey, and which, of course, was the one also shown on the disk standing on a level with the water in his vessel.

Stephen A. Knight, the well known manufacturer of Providence, R. I., who has made his way from the bottom to the top in the manufacturing and financial world, recently made the following declaration in an address before the National Association of Cotton Manufacturers, in answer to the question as to whether the young man of to-day has as good a chance to make his way in the world as in former years:

"Never since our Pilgrim Fathers landed on the shores of Plymouth were the opportunities for the young man's success greater than they are to-day. It is for him to determine whether he will be a success or not."

How the Wire Keeps Pace with the Marching Army.

(Maj.-Gen. Greely, in Youth's Companion.)

It was across the Pei-ho, an extremely swift stream alive with Chinese junks, that the line ran into Tientsin. These boats were pushed up stream by heavy iron spiked poles; floating down stream, they were steadied by means of dragging anchors. They repeatedly broke the telegraph cable; therefore recourse was had to the draw-bridge, where a man stood to disconnect and connect the wire as boats passed to and fro. Such was the condition of affairs when Gen. Chaffee arrived at the end of July.

From this Tientsin office was sent, on July 26, Lieut. Stamford's code cablegram to me at Washington, stating that advices from reliable sources indicated the safety of the foreign legations in Pekin on July 23. This, the earliest information of the situation, came several days before that from any other quarter.

It was evident from the despatches that the besieged legations would be captured and the members killed unless relief was soon sent. It was decided that the allied forces should advance together. This necessitated the extension of the telegraph line to Pekin.

Lieut. Stamford found he had enough wire and brackets and almost enough insulators, but battery material was scanty. He met Lieut. Loch of the English Royal Engineers, with wire too heavy for field work, without suitable brackets, insulators or wagon, but provided with light bamboo lances from Calcutta and a force of native sappers and pack animals. The two officers agreed to combine their efforts, the line to serve the needs of both the English and American forces. As the English worked an open circuit and our men a closed circuit line, it was agreed that the American method should be used, and that Stamford's existing line from Tientsin to Taku should be the base of operations.

The compact made, Stamford was in despair when Gen. Chaffee sent for him and said that as the transportation had not arrived he should be obliged to take away the single wagon to carry food and ammunition.

The lieutenants started out to remedy matters, and succeeded in "commandeering" three very small wheeled Chinese carts, which must do the work of distributing lances and wire along the road. The line of march followed closely the Pei-ho, and the next step was to secure a native junk, which should carry the heavy material and serve as a base whence work could proceed by the carts. Whether the junk could keep up with the army or not was a serious problem.

The allies marched from Tientsin on August 4, and camping a few miles north of the city, Stamford opened a field telegraph office immediately on the arrival of the American troops.

On the following day the allies marched on Pei-tsang, which they occupied after a hard fight. It was only by a system of strong guards and vigilant oversight that the Chinese coolies were kept up to their work, attempts at desertion being frequent in the force of forty natives. The junk did finely, the corporal of the Royal Engineers flying an American signal flag from its high mast, which both kept the junk in view and indicated the location of the river to the wire-stringers, who followed the nearest road.

This knowledge was most important, as the American division formed the western flank that day, leaving the river far to the east. The country was very flat, without timber, and covered by great fields of kowliang—a kind of tall broomcorn or millet—so that difficulty was had in keeping a right course. Such efforts were made as carried the wire, just after dusk, into the American bivouac at Pei-tsang, where a field office was at once opened.

From this office messages of the victory of the day went forth to gladden the hearts of a waiting world. It was late that night before the operators had sent the many telegrams which told the story of the day's fight, the progress of the march and military directions for the future of the campaign.

The order for the morrow's march bade fair to retard line building. The English junk, which carried the bulky supplies, had led the van that day. Now the sailing orders directed that the next morning the British fleet should move third, while the American sailed first. Lieut. Stamford solved the difficulty by suggesting that, as the junk was flying a signal-corps flag, she was for the time being an American boat. She moved ahead as such, and moored that evening in front of our camp at Yang-tsun.

The day's march was heart breaking, with its delays and mishaps. The column often blocked the road, which grew worse and worse from heavy travel. The overloaded carts, wretched little vehicles at their best, were in bad shape that morning, and during the day the two carts used for wire broke down completely. The single remaining cart carried food and blankets, which were at once cached.

The maps proved incorrect; a great field of cane twenty feet high hid at critical times the marching column which the wire should follow. The heat was great and the dust stifling, but the wire reached camp at Tsaitsun before dark, although the party was on the verge of exhaustion.

August 9 tested men and animals to the utmost. Six inches of dust covered a road bad beyond description; the sky was cloudless, the intense heat unrelieved by any breath of air, and water almost unobtainable. The ammunition and supply trains blocked the narrow roads, driving the signal corps men to the byways and cornfields.

Lances, brackets and insulators were carried long distances by hand. The ruts and paths were so rough that the carts were repeatedly stalled or overturned. Often they could be

moved only by using saddle horses tandem, hitched to the shafts by ropes fastened to the D rings. The towering corn shut out every breath of air, and the dust was so fine and stifling as to fill the nostrils and throats, driving men and animals almost frantic with irritation and thirst.

Human strength was not always equal to the combined strain of heat, dust and work. Two Chinese coolies fell down utterly exhausted, and despite every care, died in a few hours. Several of the signalmen were utterly worn out; two of them went into convulsions, and became temporarily insane.

The party, however, built on that terrible day seventeen miles of telegraph, and reached camp at Ho-si-Wu at about 9 o'clock that night. Their discouragement was complete when their field office was unable to "raise" Tientsin. It was not until the next forenoon that the trouble was found, some miles in the rear, where the wire had been cut and several poles removed.

Misfortunes now accumulated. The junk fell behind, owing to the windings of the Pei-ho, which greatly increased the distances. A violent thunderstorm on the 11th modified the heat, but obliged the men in some places to work in mud and water knee deep. When the junk was far in the rear, every effort was made to obtain poles from the villages. There were no trees in the country, and the scanty local supply was of fir, imported for scaffolds, junk masts, and supports for banners and signs, so noticeable a feature of Chinese towns.

The allies camped that night at Ma-tou, and for the first time the telegraph failed to reach them. Strenuous efforts were made the next morning, but the troops marched out from the bivouac just as the wire party came in sight of it. Lances now failed entirely, animals were nearly worn out, many men were debilitated by heat and overwork and the roads became worse, if that were possible.

The rear of the army was doubly dangerous, as there was no escort, and from time to time the zip of a bullet came from one of the many deserted Chinese villages that fell within the line of march.

The village usually occupied a locality slightly raised above the surrounding country. The miserable adobe houses, with flat roofs, now thatched and now of earth, opened inward to compounds rather than outward to the public street. The movable sills, double leaved doors, wooden gratings, which served as windows, and smoke begrimed walls were dully monotonous, and the rough earthen floor surfaces, covered with rubbish, were filthily repulsive.

In the extreme heat all rushed to the village wells, which, level with the ground, were accessible to man and beast, and were without covers to protect the water from surface drippings. The means of raising water were buckets, windlass and sweeps, but such appliances were often missing, missing.

Great trouble rose from the lack of intelligent men to repair the breaks in the line. On one occasion a Sikh sapper sent out to find the break was given exact instructions as to the method of splicing the broken wires. He came back and reported that he had repaired the line, but still communication was not possible.

An American soldier found the wire spliced, but also buried for some distance in the damp earth. The Sikh said that he thought if he hid the wire it would not be cut again. Similiarly awkward situations rose from the efforts of English operators to work a closed circuit line by open circuit methods.

On the 14th a courier dashed up to Lieut. Stamford at the end of the line, fourteen miles from Peking. He brought the startling and grateful news of the capture of the Tartar city, and asked transmission of official despatches.

A field office was at once opened, and the news of the relief of the foreign legations, the attack and capture of Peking, flew forth to the world. Within twenty-four hours there were sent more than 500 despatches, many of great length and in cipher. Over this field line went messages to and from Chinese, English, French, German, Italian, Japanese, Russian and American officials, telling the tale of the horrible month, of existing conditions and prospective operations.

The United Fruit Company.

The United Fruit Company, of Boston, operates a large fleet of steamers engaged in the fruit trade with tropical America. Its interests in railroad and telegraph lines in Central America are large, and in Costa Rica the company controls the railroad and telegraph lines running from Port Limon to San Jose, a distance of 110 miles. It also operates three land wireless telegraph stations as follows: Port Limon, Bluefields and Boca Del Toro, and has one of their steamers equipped with wireless apparatus. The company is making ready to similarly equip all of their vessels and also to establish a chain of wireless stations to extend from Santa Marta, in Colombia to the mouth of the Mississippi River, the latter point to work with New Orleans over a low potential circuit. The vessels will be equipped with three-kilowatt apparatus and their land stations, except New Orleans, with ten-kilowatt apparatus. Mr. M. Musgrave, superintendent of the electrical department of the company, was recently in the United States arranging for these installations. The apparatus is to be furnished by the Shoemaker Company, of Jersey City and New York.

The U. S. Cable Steamer Cyrus W. Field.

BY R. I. GEARE, WASHINGTON.

The "Cyrus W. Field," with the exception of the "Burnside," is the only cable-laying ship attached to the United States Army. She is regarded as one of the most useful vessels in the service. Her function is to lay submarine cables at all the army posts on the Atlantic Coast, and considerable work of this character has already been accomplished. She was built at Hartford, Conn., in 1901, as a steam merchant barge, and was used in carring stone from the Connecticut quarries to New York. She has a wooden hull and is a twin-screw steamer of two hundred and thirty-five tons burden, is 121.3 feet long, 30.7 feet wide, and 9.1 feet deep. While rated as a lighter in the quartermaster's department, this vessel is under the charge of the Signal Corps;

THE UNITED STATES CABLE STEAMER CYRUS W. FIELD.

Capt. B. O. Lenoir is her military commander. In addition to her regular crew, she carries eleven non-commissioned officers and privates of the Signal Corps to attend to the cable-laying work. These men are graduates of the electrical school of the army at Fort Wood, on Bedlow's Island, New York harbor, and are expert electricians in all its branches. They are also telegraphers and are familiar with the use of lights, flags and other system of communications.

Wireless Telegraphy in England.

Wireless telegraphy has recently attracted renewed attention in England, owing to its sucessful use on a more extended scale than before in the recent naval maneuvers and also to a recent report from the Post Office Department. In relation to the maneuvers a London Times correspondent on one of the fleets bears this testimony: "Wireless telegraphy, though even yet in its infancy, has played a remarkable part and has enabled the Red admirals to co-ordinate their operations and to concentrate their stragetic objects in a manner that would have been impossible a very few years ago. Communication between ship and ship has been carried on at distances of nearly two hundred miles."

Passing to the more important post office return, it is to be noted that the report has to do with the applications for license under the wireless telegraph act of 1904 showing how each application has been dealt with. It relates to the period from January, 1905, to March, 1906; and the applications are classified (1) those in respect of installations in existence when the act was passed in 1904; (2) applications in respect of proposed new installations; (3) private installations; (4) experimental installations. There have also been applications for licenses for installations for lecturing purposes, and there are in addition a miscellaneous set of applications.

Among the most important applications may be noted one from the Marconi company, in whch the radius of action is stated as 3,000 miles, the object being to communicate with America and with ships at considerable distances. Lloyds and the Eastern Telegraph Company ask to be allowed to communicate with ships generally. In all these cases the terms of the license have not been settled, but the Eastern Telegraph Company is allowed to communicate with its own cable ships. The proposed installations comprise applications by the Allgemeine Elektricitäts Gesellschaft (Telefunken system) and the De Forest company. The former specified the South of England as the area of operations, but the license has been refused on the ground of risk of interference with existing naval and commercial stations. One of the objects of the De Forest company was to send press messages between London, Manchester, Liverpool, Glasgow and Belfast, but the further information asked for by the post office has not yet been tendered. Likewise applications to use the Lodge-Muirhead and Orling-Armstrong systems partly for commercial purposes have been refused, in the first case because the object aimed at would interfere with the postmaster-general's ordinary monopoly, and in the second because of interference with other stations. The private-business applications (seven in number) have all been granted. Four applications are made for experimental licenses to communicate with America, with the object of asking for full commercial licenses if the experiments are successful. The applicants were the Anglo-American Telegraph Company, the Commercial Cable Company, De Forest Wireless Telegraph Syndicate, and the National Signaling Company.

This record is a very interesting one, and shows the systematic way in which the United Kingdom is facing the wireless situation. Something of the same kind should be undertaken in the United States, if warrant for it can be found. And it is to be hoped, also, that the international wireless telegraph conference in Berlin in October will result in some concerted action so that the great life and property-saving possibilities of wireless at sea and along the coast may be fully utilized wherever the necessary apparatus is installed. —Western Electrician.

The Present Condition of Wireless Telegraphy.

There is no doubt that, for the present, at least, the most important use of wireless telegraphy is for transmitting messages across water. Whatever may be the future of the art, the need at present is for a reliable, powerful marine system. A good deal of interest therefore attaches to the present condition of wireless telegraphy when used at sea. For these reasons an article contributed to the proceedings of the United States Naval Institute by Commander B. T. Walling will be read with careful attention. Commander Walling has had a great deal of experience with the several systems now being tested by the navy department, and in this article he cites from tests made during the past two years.

The results, of course, varied with the apparatus and the power employed, and, no doubt, depended upon atmospheric conditions to a considerable extent. At times long distances were covered, messages being read, under favorable conditions, over distances of from 1,000 to 1,400 miles. During experiments conducted in January of the present year messages were received at Culebra Island, off Porto Rico, from the Atlantic fleet during several days. At times the sending vessel was over 1,100 miles distant. On one occasion the receiving station at Culebra was able to locate the relative positions of the different vessels of the fleet simply by the intensity and characteristics of the messages received. From these tests and others it is concluded that at the present time we have a transmitter sufficiently powerful for marine purposes; but as much can not be said respecting the receiver. Those employed on land are satisfactory, but those which may be used on a vessel can not be depended upon under all conditions.

Commander Walling says that this apparatus should be capable of transmitting messages 1,000 miles without overstrain, and 500 miles surely under favorable conditions—for example, at night. It should be able to send a message at least 300 miles at any time of the night or day.

An interesting phase of this problem comes up when wireless telegraphy is employed by naval vessels during times of war. The use of this method during the recent Russo-Japanese war is significant, and the author concludes that while it is possible for one fleet to confuse and render unintelligible the signals being sent out by the scouts which are watching it, and even to succeed in disabling part of the delicate apparatus on the scouts by keeping up a continual bombardment of intense electric waves, "the mission of the scout is to hang on and still hang on, and send, send, send, pushing his information into the atmosphere for a reasonable time with every watt of energy of which his transmitter is capable, and he will be successful!"—New York Electrical Review.

New Submarine Telegraph.

Many of the warships which will be present at the Jamestown Ter-Centennial Exposition, to be held by the shore of Hampton Roads, near Norfolk, Va., next year, will be equipped with the submarine telegraph system, a new invention of great importance to sea travel. Two of the new submarine boats now building are to be equipped with apparatus and probably still others will be fitted with instruments for sending and receiving messages through the water.

The system is based on the fact that water is the best conductor of sound of any of the elements. While sound may be transmitted through the air at the rate of 1,090 feet per second, water will transmit sound at the rate of over 4,600 feet per second. Signals sent through water are nearly uniform in character and not subject to interference by atmospheric conditions. The apparatus for sending messages consists of a bell hung in the water beside the ship in such manner the bell can be struck from the pilot house and made to vibrate waves of sound through the water in greater or shorter periods forming a complete telegraph code. The receiving apparatus consists of two small tanks fitted against the skin of the ship, one on either side; each tank having a microphone which takes the sound and transmits it directly to the captain in the pilot house.

Edison's Prophecy.

"We are groping on the verge of another great epoch in the world's history," Mr. Thomas A. Edison is recently quoted as saying. "It would not surprise me any morning to wake up and learn that some one, or some group of the 300,000 scientific men who are investigating all over the earth, had seized the secret of electricity by direct process, and begun another practical revolution of human affairs. It will be done. I expect to see it before I die. A man will discover one fact in one part of the world, and that will set some fellow at work on another fact in some other part of the world, and presently a lot of men will be working on the true path; and one day it will be announced to the world that electric power can be produced directly from coal. When that discovery is made the steam engine and boiler will be driven out of use. It will then be possible to have airships. I expect to see airships flying before my death. Such a discovery will make it possible to drive across the sea by electricity at a rate of forty or fifty miles an hour—three days across the Atlantic from shore to shore. The human race may well look forward with hope to the day in which this discovery will be announced, for after that the world will be greatly transformed."

Portland, Ore., in the Early Eighties.

BY J. W. HAYES.

Oregon is one of the grandest and most beautiful states in the union. Its mountains are lofty and soul-inspiring; its rivers and streams, many and broad, abound with the royal Chinook salmon and gamy speckled trout. The sky appears to be a deeper blue and the air clearer and more health restoring than observed in adjacent or far off sister states. Two million visitors to Portland in 1905 will doubtless corroborate this statement, and thus it becomes apparent how the writer was induced to make this city his home. It is "nigh onto" twenty-five years since I took up my line of march to this great state.

Telegraph matters were in a very primitive condition at that time. The manager, of the Western Union Telegraph Company, Joseph H. Thatcher, had resigned to enter the telephone service, wherein he has since achieved success, and I was his successor. Frank H. Lamb, who was one of the leading spirits in the Alaskan expedition, which was intended to forestall the first Atlantic cable, was superintendent. The Lehigh boys, Daniel F., William J. and Frank J., had held positions in the Portland office until a few weeks prior to my arrival and all had resigned to engage in more profitable employment. I had personal acquaintance with the then "flower of the profession," and had seen the most stalwart and gilt-edged at work, but in my opinion, William J. Lehigh was the finest operator of his day on the Pacific Coast. G. W. Thurman was chief operator and Thomas H. Berry was night chief. The operators were Egbert A. Brown, George H. Thomas, F. M. Overbeck, E. A. Klippell, B. L. Eddy, Homer H. Hallock, John H. Dunlap, John P. Peterson, D. E. Bohannon and Miss Julia Weir. About this time, too, we had Ed. Folger, now manager at Oakland, Cal., and William J. Martin, who was afterwards manager of the San Francisco office, resigning that position to become business manager of the San Francisco Call. Thomas T. Crittenden, Charles F. Drake and Charles W. Stinger were on the clerical force. John A. Crouch was lineman and batteryman. I am writing of events of twenty-five years ago and it is interesting to follow the fortunes of the actors of those days. F. H. Lamb was promoted to the superintendency at San Francisco, an office he still retains; J. H. Thatcher is division manager for Oregon for the Pacific States Telephone Company; Thomas H. Berry is assistant superintendent of the Postal Telegraph-Cable Company at San Francisco; George H. Thomas is a leading politician of this city; B. L. Eddy is a rising lawyer and was the leading spirit in our last Legislature; J. H. Dunlap is a train despatcher on the Northern Pacific Railroad; Edward A. Klippell is now superintendent of telegraph of the Oregon Railroad Navigation Company; John P. Peterson struck it rich recently in the gold fields of Nevada and reckons his fortune in the seven figures, and Thomas Crittenden is cashier of a bank in San Luis Obispo.

G. W. Thurman left the service in July, 1883, and after filling several important positions served as Collector of Customs at Port Townsend during President Cleveland's term; he died in this city a few years ago; D. F. Leahy studied law, was admitted to the bar, but never followed the profession; he is at present holding a responsible position with the telephone company at San Francisco; William J. Lehigh and his brother Frank have passed over to the great majority; Homer H. Hallock left the service in July, 1883, and never returned; he became successful as a newspaper man, politician, and promoter but lost his life recently in a fire in the Chamber of Commerce in this city; John A. Crouch, our lineman, was a character and was known all over the states; he resigned and joined the police force where he was quite a figure; he died a few years ago.

There was a piece of a railroad between Portland and The Dalles and two other small roads running south from Portland up the valley as far as Roseburg on the east side and Corvallis on the west. There was but one wire north and this line had to handle all the telegraph business for Tacoma, Seattle, Victoria and intermediate points. There was but one wire east as far as Walla Walla and no wires east of that place. To San Francisco we had one duplex wire and one way wire to Roseburg and Corvallis, respectively. This was but a small nucleus for the present great transcontinental road now completed and still projected. We had no means of reaching the East by mail except by steamer to San Francisco which sailed every five days.

The Oregonian was the only daily paper published at that time, but even then it exhibited much enterprise and it is due largely to its influence that Oregon stands where it is to-day.

Dr. O. P. S. Plummer, the first Western Union manager here, is still enjoying good health and is a prosperous business man. James H. Guild, the successor of the doctor as manager, who was in 1881 superintendent of telegraph of the Oregon Railroad and Navigation Company, died June 20, 1898.

This little sketch would not be complete without mentioning the names of some others in the telegraph business outside of Portland at the time of which I write.

B. F. Irvine, who was then manager at Corvallis, entered the newspaper field and made his mark and, although deprived of sight for twenty years he has served his city as its mayor and represented his district in the state Legislature. J. F. Hamilton, manager at Astoria is now a prominent physician of Roseburg, Oregon. Ed Stevens, manager at Oregon City, is a leading capitalist of that thriving place. James M. Lyons, who followed the frontier for many years and was manager at Seattle in 1880, is now a retired capitalist of that city.; S. T. Armstrong, well known as superintendent at Denver in the late seventies,

was at this time manager at Tacoma; he turned politician and, it is said, he now carries the politics of that city in his vest pocket; Edwin Stevens was manager at Olympia but resigned and is engaged in the drug business in Washington's capital; E. Bowden, then manager at Walla Walla, is now in the banking business at Seattle; William Dumars, manager at Salem, Oregon, is the present manager at Portland.

The town of perhaps 20,000 in those days has since attained a population not far from eight times those figures, and the other cities and villages have increased with like ratio. The telegraph has kept pace with the times and, under the watchful eye of Superintendent Robert T. Reid, the public secures as good service as in the more populous East.

I might relate many incidents and anecdotes pertaining to the personnel of the telegraph boys in 1882, some humorous, some pathetic, and all interesting. This I hope to be able to do in some future issue of Telegraph Age.

Portland, Ore., August 6, 1906.

New Sulphur Process for the Preservation of Wood.

Consul R. M. Bartleman, writing from Seville, Spain, says that the faculty of wood to withstand atmospheric pressure is so small, compared with its mechanical resistance, that a close study of new systems aiming at its preservation is of great interest industrially.

All the wood preservative methods now employed are defective in so far as they make use of solutions the evaporative nature of which makes their action upon the wood effectual only for a certain time. The new method in question, which has been patented in Germany, goes further and utilizes a fixed body which becomes solid upon being instilled into the pores of the wood. This substance is sulphur, the physical properties of which offer interesting advantages, being fusible at about 115 degrees, a temperature which the wood can support without any perceptible change. The sulphur is applied in liquid form, and in hardening completely fills up all the interstices of the fibrous tissue.

Although sulphur oxidates easily if subjected to a high temperature, at a medium temperature it remains impassive, resisting not only the influence of water but also that of acids, concentrated or diluted, and alkaline solutions, if cold. The reason why the utility of sulphur in the direction indicated had not been recognized ere now was on account of its small mechanical resistance, pure sulphur being very brittle and pulverous. But as wood possesses the quality of mechanical resistance of which sulphur is devoid, the compound of these two bodies may, under the proper conditions, easily acquire valuable industrial properties, as, for instance, the vulcanized caoutchouc, which the wood, impregnated with sulphur, resembles a good deal.

To protect wood by means of sulphur the following must be observed, viz.: Sulphur is fused in a befitting receptacle, making use of steam to avoid an excess of heat, which deteriorates the sulphur. Into this liquid, and at a temperature of about 140 degrees, are steeped the boards, etc., which are to receive the treatment, care being taken to immerse them completely. The foam which gathers at first, called forth by the separation from the wood of the air and humidity it contains, disappears at the moment the wood thoroughly assimilates the temperature of the bath, which is then lowered to 110 degrees. At this point the sulphur becomes hard and, while the air contracts itself, the sulphur penetrates into the fibrous tissues, propelled by atmospheric pressure. The boards are then slowly withdrawn from the bath, allowing a thin and even coat of sulphur to form and cover the wood, as any superfluous surcharge can be removed only with the greatest difficulties afterward. This coat of sulphur has a vitreous appearance and forms a very tenacious crust, excluding all tendencies to chip or break.

The degree to which the wood is impregnated varies according to the nature of the wood, the temperance and the duration of the bath. It may be gauged by the increase in weight of the boards, which amounts to from 30 to 35 per cent. where the process is conducted in an open receptacle, and to 100 per cent. if in a vacuum pan. Theoretically it may be said that a complete fullness of the pores of the wood would increase its weight by 200 per cent.

In numerous experiments poplar was the best wood to take the sulphur treatment. Oak and pine wood do not admit of the process quite so favorably, because their dry distillation begins at 140 degrees, which can be proved simply by observing that while the wood is immersed in the bath bubbles are continually rising, marking the escape of volatile substances. Moreover, the resin blackens the sulphur. The process in question has up to date been applied only to thin boards, but in view of the satisfactory results the hope is entertained of its soon becoming popular for timbers, telegraph poles, railroad ties, etc.—Scientific American.

Legal.

A novel suit has been entered against the Postal Telegraph-Cable Company by a Pittsburg man. He alleges that he went to Wilkes-Barre some time ago to purchase a local concern, and, being without sufficient funds, telegraphed to Pittsburg for the money required. He claims that the money was wired to Wilkes-Barre by the defendant, but that when he went to secure it on Saturday he was unable to do so and the money was not paid over to him until Monday, as the result of which he lost the opportunity of closing the deal in which he was interested. He has started, therefore, an action in trespass, asking for damages to the amount of $3,000.

Reminiscence of the Telegraph Marine Service.

The life of James McDermott, the veteran marine observer, who for so many years was stationed at the Highlands of Navesink, and whose death is referred to elsewhere in this issue, was contemporary, and identified, with the famous sea outlook dominating New York harbor. The history of the station is practically the history of the man. His decease serves to recall many periods of critical interest when the whole world awaited the decisions of the clear judgment of this man. He belonged to a school of marine telegraphers which is rapidly passing away. In conversation with William de la Motte, one of the remaining veteran marine observers, who himself has been stationed at Sandy Hook since 1874, he had this to say respecting his late colleague, as well as tracing the lives of a number of others.

James McDermott early in life was employed by Capt. Thomas Robinson, then of the New York Herald, and now the senior marine observer for the Postal Telegraph-Cable Company at Sandy Hook, to act as news collector for the New York Herald at Whitestone, L. I. In 1874 the Maritime Exchange decided to build its own wire from New York to Sandy Hook and Mr. McDermott, being familiar with vessels, was engaged by J. C. Smith, superintendent of the Maritime Exchange, and Charles Meyer, superintendent of telegraph, to fill the place as observer at the Highlands. Ransom Dennison was sent to teach him the Morse alphabet and a paper register was installed as the apparatus of the office. The latter was used by Mr. McDermott up to the moment of his death. An office was opened in a tent near the Twin lighthouse and when the observatory was finished on a site one-quarter mile south they moved into it.

From this observatory Mr. McDermott has reported all kinds of vessels, both in and outward bound. His reports were not questioned and seldom had to be corrected. The international yacht races for the America's cup, sailed over the outside course, have all been reported by him and in this work he never made a mistake. From the time he picked up the yachts his eye was glued to the telescope until the finish of the race; he would dictate his bulletins to his assistant, who would flash them over the wire to New York and thence by cable to the rest of the world. He did not forget the score of newspaper reporters that surrounded him at the Highlands office, who in writing up the event would elaborate on McDermott's sightings and send their stories to their respective papers. A good example of his accurate judgment is recalled in the following incident. The opposition had placed a cable steamer in an advantageous position off shore and from that vessel reports were sent to the entire world conveying information directly opposite to that furnished by Mr. McDermott relative to the position of the yachts. The heads of the telegraph companies, press associations and newspaper editors throughout the world were frantic on receiving the conflicting stories and conferences were speedily called to consider the confused reports. Mr. McDermott, however, insisted he was right and held to his opinion against the judgment of all others. Subsequent events proved him to be correct. During the Puritan-Genesta race when the high wind of over forty-five miles an hour compelled the yachts to lower their club topsails and gaff topsails and even to house their topmasts after having rounded the outer mark and being on the home run, the English yacht Genesta sent up her topmast again. The Puritan was leading by a short distance and everybody at the observatories were watching for her to send up her topmast also. New York exchanges, newspaper offices and yacht clubs commenced to ask the question: "What's the matter with the Puritan; why don't her topmast go up?" Cables from England to the same effect at last caused McDermott to say "She don't need that stick!" meaning that she would win the race, and she did. His judgment was correct.

The marine business has seen a good many changes during the past fifty years, many of the old fellows that have weathered storms, sleet and rain cutting their faces while looking through the portholes trying to "pick up a vessel," have joined the great majority.

In former times every newspaper would have its own boats collecting ship news, and each paper was trying to beat the other.

Old Mr. Vint Havens, on the Highlands of Navesink, would work his semaphore reporting the arrival of some vessel to the bluff on Staten Island and that station would relay by semaphore signal the report to a station on the roof of the Custom House in Wall street, New York city. The newsroom in Pine street later would get the report. Rather slow, but it was the day of sail with only an occasional steamer.

The advent of the electric telegraph in opposition to the semaphore at last did away with the latter, which, in foggy weather, was of no use anyway.

Two tall poles held up a piano wire stretched across the Shrewsbury River from the Highlands to the Sandy Hook peninsula. Sailing vessels would frequently knock this wire and Sandy Hook out of business. James Farrell, also deceased, on the sighting of one of the Allan or Cunard line steamers in the days before the cable, would go off in a little skiff and meet the vessel, from which a tin can would be thrown overboard which Mr Farrell would pick up and extract therefrom manifold copies of European and other old world news written in cipher. A carrier pigeon with one copy was immediately liberated by him and he would watch for the operator to hoist a flag which would indicate the safe arrival of the bird at its destination. If this flag failed to be displayed another and still another pigeon would be liberated, each carrying a copy of the news. Sometimes storms of snow, rain, etc., prevented the return of either the birds or Mr. Farrell and great anxiety

was felt until he turned up at some point or other.

When the operator received the code reports he would forward them to New York, where they were translated and printed.

This was before the Atlantic cable was successful. When, after a short while, the first Atlantic cable gave out, Mr. Farrell was sent to Cape Race, N. F., and there intercepted the steamers and delivered and received messages on board. The news he brought ashore went by telegraph via Boston to New York. He was doing this for Mr. D. H. Craig, the founder of The Associated Press.

The final success of the Atlantic cable did away with this method of collecting foreign news; the papers had also started The Associated Press, and Mr. Walter O. Lewis on October 19, 1867, commenced collecting ship news for The Associated Press together with Henry Holland, lately deceased, who had been at the Highlands of Navesink as an observer together with James Farrell before the latter was transferred to Sandy Hook. Mr. Lewis had his office in a little shack near where the old barge office used to stand, about where the Staten Island ferryboat landing is now.

Joseph S. Swan joined Mr. Lewis on April 1, 1868. He used to row down the bay and board those vessels, which had yellow fever aboard, or coming from infected ports, were anchored below Westbank. He would return late at night with news to the telegraph office at Westbank or Staten Island. Mr. Swan is still with The Associated Press collecting ship news in New York harbor. There were no typewriters in use at the time and the copying of news and ships' manifests was all done by hand with stylus and manifold paper. Mr. Burtis and James Farrell, Jr., a son of the Sandy Hook man, did this at Mr. Lewis's office. They as well as Mr. W. O. Lewis, James Farrell, Sr., and old Mr. Havens have joined the silent majority after a life of faithful service in the marine ship news business.

J. C. Smith, superintendent of the Maritime Exchange, died many years ago. "Charlie" Meyer departed this life suddenly in the latter part of December, 1874. James Farrell, Sr., died one night in November, 1886, a few hours after being relieved from duty. Henry Holland, as manager of the Maritime Exchange telegraph office, died a few months ago. He was well known in the shipping business. Among other old marine men John F. Meyers, a brother to "Charlie" Meyers, whose declining years were spent as night watchman in the Western Union Building, 195 Broadway, New York. James Sykes died in 1880. He had been stationed at Sandy Hook for some years. Michael J. Higgins, who had been with the Western Union for many years, went with the Postal when that company started an observatory at Sandy Hook. He was manager there when he died a few years ago.

John N. Applebaugh, who as receiving clerk at 145 Broadway and also at 195, was well known, and at one time attended the "R. O." call for the marine business, was in later years manager of the City Island ship news office. His name among the dead will be found in the current assessment notice of the Telegraphers' Mutual Benefit Association. He died June 19. Other marine men have left the business and are now otherwise engaged. George W. Blanchard, who was observer at Sandy Hook for a short time and lately in the Postal telegraph service as superintendent of city offices, and who recently resigned, is now in the real estate business in New York. Frank Blanchard, also a Sandy Hook observer, is still with the Postal company in New York.

J. B. Hurd is a chief at 195 Broadway. He was for a few years stationed at Sandy Hook, together with James Sykes, but returned to the New York office in 1878, when an arrangement was made between the Western Union and the Maritime Exchange whereby the Western Union should have charge of the wires and the service.

Ransom Dennison, who taught Morse to James McDermott, resides in New Jersey. Fred Jessen, also at one time an observer at Quarantine and Fire Island, is an operator at 195 Broadway. Thomas Robinson, the dean of the marine news service, is still in harness for the Postal at Sandy Hook. He will soon round out the three score years and ten, which McDermott and Holland had filled, for he is hearty and good apparently for many years to come. "Vint" Havens is in the Western Union service at the Highlands. He is still young, as weather-beaten marine observers go, being only sixty-six years of age, but has been on the "look out" at that point since he was a boy. James McParlan has charge of the marine department of the Western Union Telegraph Company at 195 Broadway since way back in the seventies. He entered the service of the company in 1869. "Billy" Larkin, always cheerful, except in case of wire troubles, is attending to the business at Quarantine, S. I., where some one of the Larkin family has been employed ever since that office was opened in 1874. J. Grant is assisting him. Eugene Faton died at Clifton, S. I. He was manager at Quarantine before William Larkin. Of the three Murrays, sons of John Murray, a deceased Sandy Hook pilot, who died several years ago, "Steve" Murray is now manager of the Postal observatory at the Highlands, while William Murray is with the same company at Sandy Hook, where William Young is manager. Oscar Zilly is now manager of the Western Union telegraph office, Maritime Exchange, New York. Emil Zilly and S. F. Phillips are stationed at Sandy Hook. Mr. Dowdy and Mr. Boyeson are attending to the Fire Island end of the business for the Western Union. Mr. A. W. Lewis, a son of W. O. Lewis, is running The Associated Press marine news business and is doing well.

LETTERS FROM OUR CORRESPONDENTS.

[Advertising will be accepted to appear in this department at the rate of five cents a word, estimating nine words to the line, announcements to be enclosed with a border and printed under the name of the place of the advertiser. The special local value attached to advertising of this character will be apparent. Our agents are authorized to solicit advertisements for these columns, and further information on this subject may be obtained on application.

The current information of any office will, if carefully chronicled, furnish a welcome digest of news that will be read with pleasure and satisfaction by thousands, and this limit should constitute the legitimate contents of all letters. And we wish that our correspondents would avoid the too frequent habit, at all times a bad one, of abbreviating words in writing. This is a peculiarity among telegraphers, we know, but what may be plain to the writer, and for local interpretation, is usually a mystery to the editor, and is apt to lead to error in the printed statement.]

DENVER, COL., WESTERN UNION.

Miss Stella W. Daily, who for several years has been clerk and stenographer to the assistant superintendent at this place, has resigned, and early in September will be married to Dr. C. B. Frantz, one of Denver's foremost mining men.

Business of the office has so largely increased that additional table space is badly needed and repeater tables are shortly to be installed to provide therefor.

Arrivals and departures are numerous. Among the former are F. W. Brett, from the Western Union at Kansas City; F. F. Turner, from Omaha; W. J. Bradley, from a broker's office; J. R. Stanly, from Dallas; J. J. McCarty, from Chicago, and R. J. O'Herron, from Albuquerque, New Mexico.

Messrs. Bush, Brown and Niemeyer are in the mountains angling for trout and have sent in several fine catches to Denver friends.

Following is the personnel of operators employed at Temple, Texas, Santa Fe Railroad relay office: W. Morants, wire chief and manager; F. W. Keeler, night chief operator; S. C. Ramage, late night chief. Operators: P. J. Hanson, H. L. Browne, Louis Grebene. Check boys: J. C. Brown, Roy N. Bigham.

NEW YORK, WESTERN UNION.

Eastern Night Chief Theodore Girault has resigned to accept a broker position. He is succeeded by C. R. Clampitt.

Major E. Mesler has returned from state camp, Sea Girt, N. J., where he has been on duty for the past month.

T. M. Byrne, detailed as operator at the New York Globe office, died suddenly on Saturday evening, August 4. His death came as a great shock to his friends, for he was a man well liked.

Mrs. Gaffney, widow of the late M. F. Gaffney, and who previous to her marriage was an operator in this office, died at her residence in Brooklyn on August 6.

NEW YORK, POSTAL.

T. P. Smith recently spent some time in Baltimore, whither he went to familiarize himself with the Rowland printing telegraph apparatus. This apparatus will be installed in the office and to operate a line to Boston, and Mr. Smith will have charge of it.

Mr. D. A. Mahoney of this office is absent on a vacation.

Mr. W. Kelly has resigned to accept a position in a broker's office.

Mr. J. E. Seaman has resigned to engage in the practise of law.

Other resignations are: J. J. Metz, J. W. Enright and D. C. Murphy.

The new arrivals include: Miss Florence Curnuck, Miss Bessie O'Dea, W. J. Day, J. L. McKinnon, James A. McKain, M. M. Fielding, J. J. Fillmore, W. C. Michener, W. D. Sutherland, Miss S. C. Casey, E. J. George, G. O. Young, C. P. Wright, B. W. Howe, W. Lipsagh, H. W. Mayfield, C. F. Murray, J. B. Lawence, C. Holland and J. R. Sennett.

OTHER NEW YORK ITEMS.

Mr. F. M. McClintic, a broker operator of New York, one of the leading and most expert telegraphers of the country, is absent on a two weeks' cruise on Long Island Sound on the yacht Amazon, a vessel owned by the Young Men's Chistian Association, under whose direction this and other outings of this character are being conducted.

Mr. John Brant, the secretary of the Old-Time Telegraphers' and Historical Association, because of continued indisposition, is taking a long and needed rest in the country, from which place gratifying reports continue to be received as to his condition. The business of his office, 195 Broadway, New York, is being carefully and promptly attended to during his absence.

Edwin F. Howell, secretary of the Serial and Electric Building Loan Associations, has returned from a trip west, where he attended the New York State League convention of building loan associations at Rochester, and the United States League at Cincinnati. Mr. Howell read a paper at the Rochester convention advocating a revision of the laws of New York relating to building loan associations and was appointed chairman of the legislative committee with power to carry out such a revision.

Mr. W. J. Dealy, superintendent of the Commercial News Department, Western Union Telegraph Company, New York, in a recent letter remarks: "As to TELEGRAPH AGE—the telegraph operator who does not read it is missing the textbook of his profession. There is not a number of it from which one does not learn something."

General Mention.

Henry Watterson, of the Louisville Courier-Journal thinks the government has enough to do already without assuming the ownership of the railroads and telegraph lines.

Mrs. A. D. Bartholomew, manager of the Postal Telegraph-Cable Company, Battle Creek, Mich., in renewing her subscriptions, has this to say: "I always remember TELEGRAPH AGE with pleasure and enjoy the coming of each issue."

The demand for copper is just now especially large from makers of electrical appliances and wire drawers. The Western Electric Company is said to have expended about $18,000,000 for copper wire this year, but is still well behind its orders. The American Telephone and Telegraph Company, as well as the telegraph companies, also reports that they are having difficulty in securing copper wire in the quantities desired.

Mr. C. V. Meredith and Judge A. L. Holladay, representing the Postal and Western Union Telegraph companies, respectively, appeared before the Virginia State corporation commission on August 1, and filed the answers of the companies, showing why they should not be called upon to adopt a flat twenty-five-cent rate on all points in Virginia, as advised by the commission. Upon receipt of the written answers, the telegraph case was adjourned until the commission could examine the papers filed.

Western Electric Pension Scheme.

The Western Electric Company has set apart a sum of $400,000 as a pension fund for the benefit of its employees in all parts of the world. It is intended to add to the fund a sum of $150,000 yearly from the profits. In order to share in the benefits of the scheme an employee must have reached the age of sixty years, and have been twenty or more years continuously in the company's service. Employees who have become totally incapacitated after ten years or more of continuous service may receive aid at the discretion of the pension board. It is noteworthy that the firm's employees are not called upon to contribute to the fund.

Attempt to Defraud a Bank.

H. L. Forester, a Western Union telegraph operator at Sheridan, Wyo., and W. H. Allison are under arrest on a charge of having attempted to defraud the First National Bank of Cody, that state, of $1,200. Forester and Allison, it is alleged, arranged a clever scheme, which only a premonition on the part of the cashier of the Cody bank kept from proving a success. Allison, it is charged, went to Cody and presented at the First National Bank a check on the First National Bank of Cleveland, O., for $1,200, also an alleged telegram from the latter bank waiving identification of the bearer.

The Cody bank sent a telegram inquiring about the check to the Cleveland bank. This message Forester intercepted at this place, according to the police, and then sent an answer, under Cleveland date, stating that Allison's check was all right.

The name of the cashier of the Cleveland bank was forged to this reply. Still the cashier of the Cody bank was suspicious, and he sent a second message to the Cleveland bank. This message Forester failed to interecept and the scheme was exposed.

Allison was arrested at Cody, and a telegram requesting the arrest of Forester was sent to Sheridan. This message Forester received and he promptly decamped, but was overtaken and placed under arrest.