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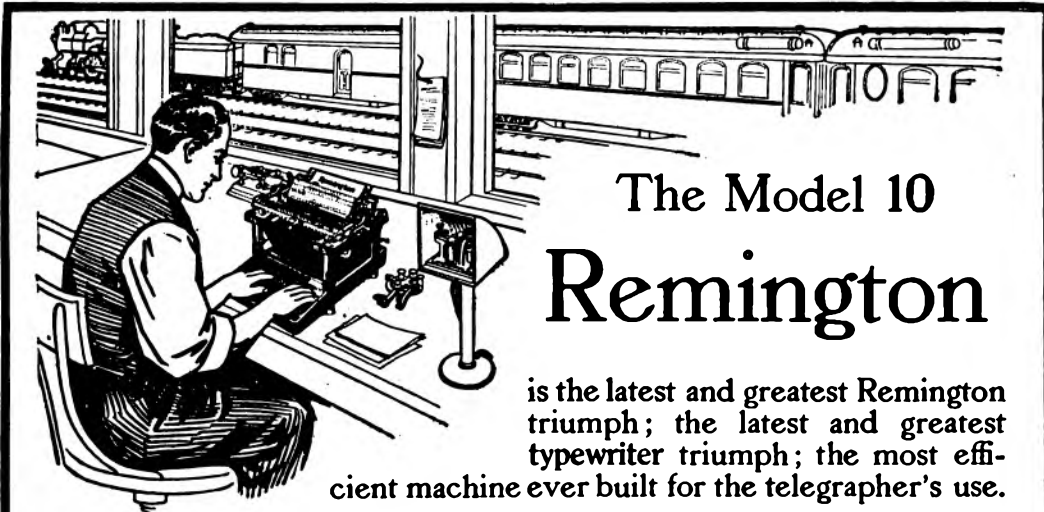
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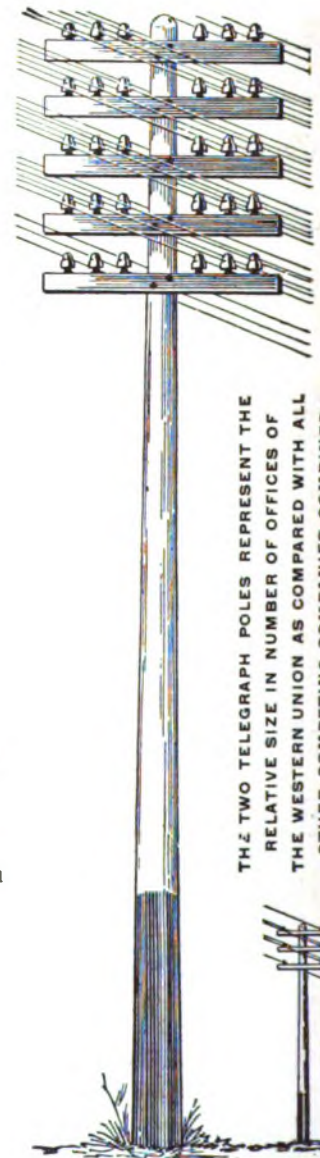
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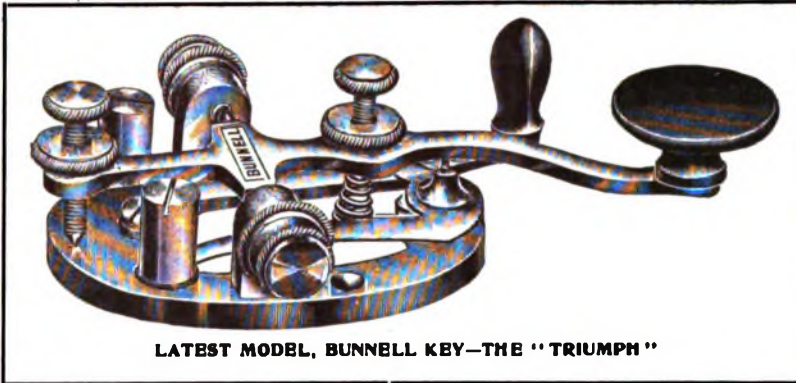
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TELEGRAPH AGE

No. 17.

NEW YORK, SEPTEMBER 1, 1909.

Twenty-sixth Year.

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SOME POINTS ON ELECTRICITY.

BY WILLIS H. JONES.

From Office Boy to Manager.

PART III. WAY WIRE DIVISION.

In a through-circuit division the traffic chief, in addition to his other requirements, is expected to possess considerable skill in the way of balancing and adjusting the multiplex apparatus, but those in charge of way wires only, have little or none of that kind of work to contend with. Nevertheless it is in "way" divisions that a resourceful and self-reliant man is specially required. He must possess not only an accurate knowledge of the routes of the various circuits, but the rotation of the offices that work on each individual wire as well as the wires that two or more stations may have in common for the purpose of patching or furnishing additional facilities when business on one circuit accumulates too rapidly for prompt transmission.

Furthermore, he must not only know the office hours for opening and closing of each station, but to a great extent the dispositions and abilities of the operators themselves along the line, in order to avoid friction and thereby be able to work in harmony. There is no other division in the telegraph service in which greater dip-

lomacy and tact are demanded than "on the farm," as the way wire division is humorously designated.

Railroad operators as a rule, while perfectly willing to give prompt service when possible, are obviously handicapped at times by the exactions of a multiplicity of other equally imperative duties connected with the railroad service, and consequently are not always able to answer calls promptly. This is especially true about the time trains are due, hence the traffic chief should also familiarize himself with the railroad time tables and endeavor to work off the business before or soon after such periods instead of tying up the circuit through fruitless calling. This rule also applies to the regular luncheon hours of the station operators and a note should be made of the same on the back of each desk diary.

SUNDAY SERVICE.

Owing to the curtailed and irregular hours way station operators keep on Sundays, this branch of the service demands exceptional attention. The operators comprising the Sunday force in the large main offices are not always the same people each week, nor are they invariably assigned to the same division, hence many are necessarily more or less strangers to the various circuits. For this reason the traffic chief must exercise unusual vigilance lest something be overlooked.

As a rule the general character of the Sunday messages going to small country villages are of an important nature. Some one has missed a train; another wishes to be met on the train's arrival; still another announces the death of some loved one. Business messages are few and far between.

Owing to the arrival of such messages in the main offices during the interval between the morning and the evening hours of duty at way stations, the traffic chief is often confronted with the problem of disposing of an urgent message via some irregular route. Usually this method requires a guarantee from the sender that the extra delivery or telephone charges will be paid. Unfortunately in many cases this guarantee cannot be obtained promptly. Possibly the originating office itself is closed.

In a case of this kind the chief in charge would, technically at least, be acting within his rights if he allowed the message to hang on the hooks until the way station reopened. But a chief operator who looked forward to the future patronage of the parties interested and the welfare of the company generally, would immediately

give the necessary guarantee over the signature of his manager and at the same time avoid adverse advertisement of the service. It will be found that if this course is taken the act will usually be appreciated by all concerned.

During the course of many years of Sunday service in a large main office where this method was in vogue the chief operator, who personally guaranteed the messages he considered urgent, has yet to be called upon to explain or make good the expense. A good rule to follow is "put yourself in his place," and it will cover nearly all the situations one may be placed in.

The next step in the line of promotion is an appointment to the position of wire chief at the switchboard, and owing to the initial knowledge of the routes and requirements of the various circuits which he has already gained through practical experience as a traffic chief, his progress in the new field should be rapid.

His experience as a wire chief gives him a true insight as to the real value and capacity of the telegraphic facilities; information in fact which, later on as manager, enables him to make requisitions to meet future growth in an intelligent and economical manner.

A term of service as general traffic chief, the next step in order, acquaints him with the actual requirements of the entire operating department and thus enables him to supply and arrange the force in accordance with the existing demand.

In this position he also acquires quite an accurate knowledge of the capacity and value of each operator employed—very valuable and necessary information when the question of salary is to be determined. The final and highest position obtainable in the operating department is that of manager, or chief operator, as the appointee is usually called, and the reader will readily admit that in order to meet the requirements of the position he must have successfully passed through not only all the practical experience herein mentioned, but a great deal more, otherwise he could be but little better than a figurehead.

In other words, the fact is apparent that in order to become an efficient manager one must necessarily know thoroughly every foot of the road between the various mile posts along the route leading to that position.

The acquirement of such knowledge is the only practical means of making one's services difficult to dispense with, and thus insure a long tenure of office.

(Concluded)

Recent Telegraph and Telephone Patents.

A patent, No. 927,816, for a selective ringing and talking device, has been granted to C. O. Siler and L. D. Smiley, of Uniontown, Pa.

A patent, No. 929,025, for a telephone stand, has been secured by C. R. Schafer, of Syracuse, N. Y.

A patent, No. 929,602, for a transmitter for electric telegraphs and the like, has been issued to

Charles L. Krum, of Chicago, Ill. Comprises a set of relays, means for operating the relays in order, means controlled by the relays for imparting a succession of impulses to the line at each operation of the set, and a series of controlling keys for modifying the imparted impulses.

A patent, No. 929,603, for a transmitter for automatic telegraphs, has been taken out by Charles L. Krum, of Chicago, Ill. Has a keyboard, the keys of which operate type, each type being arranged to operate simultaneously a particular combination of switches.

A patent, No. 929,965, for an extension call for telephones, has been granted to A. R. Marcotte, of Concordia, Kan.

A patent, No. 929,984, for a machine telegraph, has been secured by G. C. Read, of Davenport Station, Ontario. A number of separate circuits, each controlling one of the keys of a typewriter, are energized in succession by selective mechanism operated from a distance.

A patent, No. 929,989, for a telephone cabinet, has been issued to A. Larsson, of Buffalo, N. Y.

A patent, No. 929,995, for a selective ringing magneto bell, has been taken out by B. W. Sweet, of Cleveland, Ohio.

Patents Nos. 930,512 to 930,521, inclusive, for a telephone exchange system, have been granted to H. G. Webster, of Chicago, Ill.

A patent, Nos. 930,547, for apparatus and a system for measuring telephone service, has been secured by D. S. Hulfish, of Chicago.

A patent, No. 930,854, for a telephone repeater, has been taken out by M. R. Gibson, of Philadelphia, Pa.

A patent, No. 931,055, for an automatic telegraph and selective system therefor, has been issued to A. C. Gilmore, of Chicago, Ill. Selectively controls a printing machine by means of a relay controlled by the line impulses which mechanically operate a set of selectors controlling the type wheel.

A patent, No. 931,127, for a telephone transmitter, has been secured by A. G. Kaufman, of New York.

Patents Nos. 931,138, for a private branch intercommunicating telephone system; 931,330, for telephone exchange switchboard apparatus, and 931,331, for a telephone key, have been secured by J. L. McQuarrie, of Oak Park, Ill.

A patent, No. 931,179, for a telephone desk stand, has been taken out by J. A. Birsfield, of Chicago, Ill.

A patent, No. 931,307, for a private branch intercommunicating telephone system, has been issued to N. H. Holland, of Chicago, Ill.

A patent, No. 931,452, for a telephone transmitter mouthpiece, has been granted to R. E. Miller, of Dayton, N. M.

Personal.

Hamilton B. Clark, president of the United Press, has returned to New York after an extended trip of inspection to the Pacific Coast.

Mr. H. J. Pettengill, president of the South Western Telephone and Telegraph Company, Dallas, Tex., and for many years superintendent of the Postal Telegraph-Cable Company, Boston, is spending the summer months at his cottage at Marion, Mass.

Mr. Charles F. Mason, formerly of the executive offices of the Postal Telegraph-Cable Company, New York, has been appointed superintendent of leased wires of the Pacific Telephone and Telegraph Company at San Francisco. Mr. Mason will also continue his present duties as secretary to Vice-President and General Manager E. C. Bradley.

Mr. R. W. Sears, of the great mail-order house of Sears, Roebuck and Company, Chicago, and a well-known old-time telegrapher, has retired from business and expects to live and work on a model farm which he owns at Gray's Lake, Ill. Mr. Sears, though only forty-five years of age, has a fortune estimated at \$25,000,000. He laid the foundation for his great fortune by selling watches by mail while employed as a telegraph operator seventeen years ago. Mr. Sears attributes his great success to two principles, honesty and advertising.

Western Union Telegraph Company.

EXECUTIVE OFFICES.

Mr. A. R. Brewer, treasurer, is back at his desk after a vacation of a month spent in New Hampshire.

Mr. F. C. Coyle, chief clerk in the office of Belvidere Brooks, general superintendent, is enjoying a vacation.

Mr. W. H. Jackson of the leased wire department, has returned from his vacation spent at his old home at Wellington, Ont.

Mr. A. C. Wetmore is acting chief operator in the Boston office, vice Captain Thomas F. Clark, who has resigned and accepted a position in a broker's office.

C. W. Conklin, for thirty-five years identified with the company, and for eighteen years past an attache of the treasurer's office, died August 21, aged forty-nine years. Mr. Conklin was state secretary of the Catholic Knights of America, and his funeral was largely attended by his many friends.

RESIGNATIONS AND APPOINTMENTS.

Mr. O. H. Sombke has been appointed manager at Anniston, Ala., vice L. R. Daniell, promoted to the management of the Hattiesburg, Miss., office.

Mr. William T. Brown, formerly manager at Muskogee, Okla., has accepted a position as chief clerk to Manager G. W. Brownson at Kansas City, Mo.

Mr. R. O. Walters has been appointed manager at Uniontown, Pa., vice Mr. G. F. Stadtmiller, promoted to the management of the Erie, Pa., office.

Postal Telegraph-Cable Company.

EXECUTIVE OFFICES.

Mr. E. J. Nally, vice-president and general manager, is again at his desk much improved by his vacation of three weeks.

Mr. C. C. Adams, vice-president of the company, leaves September 1 for a vacation.

Colonel A. B. Chandler, chairman of the board of directors, spent a few days in New York recently, but has returned again to his home at Randolph, Vt.

Among those on or returned from vacations are: L. Lemon, division superintendent; E. Kimmey, superintendent; John Doran, superintendent of the complaint and claim department; Charles Shirley, assistant superintendent of traffic; H. F. Hawkins, assistant secretary; Thomas E. Fleming, manager of the contract message bureau; W. D. Dunn, chief clerk to Vice-President Charles P. Bruch, and Miss E. D. Noller, of the traffic superintendent's department.

Mr. J. B. Rex, of the New York main office, and T. W. Hans, of the Chicago main office, have been appointed traffic chiefs of their respective departments, their appointments being to expedite the "S. R. S." service.

Mr. S. B. Haig, superintendent of traffic, was in Washington last week on business connected with the service. Mr. G. W. Ribble, superintendent at Richmond, and J. P. Edwards, division electrical engineer at Atlanta, Ga., were also Washington visitors at the same time.

Among the recent executive office visitors were: George H. Usher, of Atlanta, Ga., general superintendent of the Southern division; G. H. Mills, manager at Providence, R. I., and J. D. McDonauld, chief operator at Boston.

Mr. E. B. Pillsbury, general superintendent, has returned from an eastern trip of inspection during which he visited Beverly, Mass. He expresses himself as well pleased with the company's facilities and arrangements for handling the increased business at that point.

Mr. G. M. Foote, assistant traffic chief at Washington, has been appointed assistant manager at the same place. Mr. Foote was for several years manager at Newport, R. I., and while there acquitted himself of his duties in a manner highly creditable to himself and the company. His service in the Washington office has extended over the past two years.

The division superintendents of the company are relieving the district superintendents while the latter are on vacations. This gives the division superintendents of the four divisions into which the country is divided an opportunity to become familiar with the routine of each district.

The company has issued the following circular letter to all managers:

"The Postal Telegraph Company on August 2 inaugurated new and improved methods in its general service between important cities and towns. This new service is called "Special Rush Service," and has proved a revelation in the rapidity with which messages and answers thereto are exchanged between all points, including those on the Pacific Coast.

A system of the most rigid supervision is employed from the time a message is signaled for by call box or handed in at a Postal office, until it is delivered to the addressee. Every second possible is saved in the various channels through which a message passes. The improved methods in expediting the traffic over the wires has reduced the time of transit so that now patrons may receive answers from Chicago, Boston, St. Louis, Denver, San Francisco, New Orleans and other points in less than thirty minutes after the messenger has been signaled to take the message. A maximum schedule time limit is fixed for the transit of every message in the operating, delivery clerks and messenger departments. Failure to keep within this time limit is sharply checked up on each message. Messengers receive extra pay for the delivery and collection of every message within the time allowed for the service. All employes of the Postal Company from managers to operators, clerks and messengers are enthusiastically and efficiently co-operating in maintaining this "fastest telegraph service in the world."

The average elapsed time, for instance, from the time a messenger is called in New York to delivery to addressee in Chicago is fifteen minutes. In cases where the distance from office to addressee is short messages are more frequently delivered in less than fifteen minutes.

RESIGNATIONS AND APPOINTMENTS.

Mr. H. H. Clark has been appointed manager at Bloomington, Ill., to succeed Mr. H. J. O'Donnell, promoted to the management of the Rockford, Ill., office.

Mr. C. B. Maston, of Crawfordsville, Ind., has been appointed manager of the Lafayette, Ind., office; vice Mr. L. R. Clary, who has resigned to study medicine.

The following changes have been made in the Pittsburg office: H. J. Colebrook, night chief operator, has been appointed assistant manager; G. W. Dull, wire chief, succeeds Mr. Colebrook; F. L. Bender, assistant wire chief, becomes wire chief; A. J. Eaves, assistant night chief operator, succeeds Mr. Bender as assistant wire chief; E. E. Heasley, night repeater chief, has been appointed assistant night chief operator, vice Mr. Eaves; E. A. McKeone has been appointed night repeater chief, vice Mr. Heasley.

Mrs. W. F. Dunning has been appointed manager of the Freeport, Ill., office, to succeed Mr. Newsome, who has been transferred to the Jacksonville, Ill., office.

The Cable.

It is reported that the laying of the Borkum-Teneriffe section of the new South American cable of the German-South American Telegraph Company, will soon be completed.

According to a consular report a representative of the River Plate Telegraph Company has offered to lay a direct cable from Buenos Aires to Europe via Tristan de Cunha free of all cost to Argentina.

The negotiations which Canada entered into with Great Britain and the other states of the British Empire contemplating a cheaper cable and telegraphic service around the empire are at an end. At one of the recent meetings of the Cabinet it was determined that Canada would not become a party to any such movement.

A conference of the states of the empire was to have been held in the autumn on the subject of cable, telegraphic and wireless communication around the empire, but as a result of the decision of the Canadian cabinet it will not take place; or, if it does, Canada will not participate.

At the semi-annual meeting of the Anglo-American Telegraph Company, held in London, July 30, it was announced that their cable, which was broken last winter, was still out of commission on account of unfavorable weather for repairing. The report stated that up to the present time the company has used over 400 miles of cable in making repairs of damage caused by trawlers off the northwest coast of Ireland. That the provisions made to prevent injury to the cables by the fishermen are not sufficient is shown by the fact that one of the trawlers recently picked up about 450 feet of cable, while fishing about thirty-five miles from the coast, which proved to be part of the 1865 or 1866 cable.

The conditions of the agreement between the Argentine government and the Western Telegraph Company for the laying of a cable between Buenos Ayres and Ascension Island, have now been made public. One clause in the contract provides that if within a period of twenty-five years from the date of the completion of the agreement, any company should make proposals to the government, which would appear advantageous to the latter for the laying of a new submarine cable between Argentina and another country, preference will be granted under the same conditions to the Western Telegraph Company.

The company also receives a monopoly of the transmission of all official cable messages, and of all those trans-marine messages reaching the state telegraph offices which do not expressly specify another route. The company is also granted exemption from import duties for all materials, freedom from dues for its cable ships, and exemption from all state, provincial and municipal taxes for the period of twenty-five years. The only return given by the company is a reduction of at least fifteen centavos per word in the tariff for messages via Brazil.

Municipal Electricians.

Now that the time of the fourteenth annual convention of the International Association of Municipal Electricians is drawing near, those in charge of the arrangements are busy completing the plans, which bid fair to make it one of the most successful gatherings ever held by the association. Anyone who is connected in any way with the operation of municipal fire-alarm or police telegraph systems, whether a member of the association or not, is urged to attend the coming meeting and spend three pleasant and profitable days, September 14, 15 and 16, at Atlantic City. The committee has arranged for a well-selected list of papers dealing with various subjects of interest to municipal electricians and have made elaborate preparations for occupying the leisure hours of the visitors at this world-famous seaside resort. They also have the assurance of a good exhibition of electrical apparatus which will be displayed by several well-known manufacturing concerns. For further particulars address Frank P. Foster, secretary, Corning, N. Y.

General Mention.

The Russian government, in order to stimulate trade between that country and China has decided to greatly reduce telegraph rates, both between St. Petersburg and Peking and between St. Petersburg and other European countries.

M. Millerand, the new minister of public works of France, who now has direct oversight of the posts and telegraphs, expects to reorganize the telephone service and also to press the adoption of a measure which will determine the exact status of state employes.

Reports from different parts of the country that there is a shortage of telegraph operators throughout the country does not signify that this condition is caused by the men leaving their trade to become millionaires, as did Andrew Carnegie, Richard W. Sears and Thomas A. Edison.

A telegraph operator of Great Falls, Montana, has invented a flying machine which he expects will be an improvement upon that of the Wright brothers. While many telegraphers have left the wire service to become wireless operators upon shipboard this, we think, is the first operator to make a study of aerial navigation.

Mr. James Compton, of Nashville, Tenn., for many years superintendent of the Western Union Telegraph Company at that point until 1903, when he retired from active business life, in renewing his subscription a few days ago, said:

"I find that after you have spent over a half century of active participation in building up a business enterprise from its infancy to stalwart manhood, there remains a strong attachment for the business and for those who labored in the same field with you. It is a pleasure to hear of their progress and prosperity; Telegraph Age supplies this want."

Legal.

According to a recent decision of the Kentucky Court of Appeals, shares of stock in the Western Union Telegraph Company are not subject to taxation in that state. After setting forth the fact that the company had complied with all state laws in regard to taxes on their property and franchises in Kentucky, the court says:

"Throughout the whole scheme of taxation adopted by this state there is an evident purpose to avoid double taxation, not alone in not taxing the same property twice in the same year for the same purpose, but as well as in not taxing the same thing, whatever its form, twice in the same year for the same purpose. Double taxation is recognized as oppressive, and where it is imposed upon some classes of property and not upon others, work an inequality that is fundamentally vicious."

Psychology of Successful Effort.

A recent article in one of the leading daily papers of the country calls attention to the large number of men and women who have begun to learn a trade or a profession, and after a conscientious trial have given up the task. After spending weeks or months of painful effort the work fails and goes for naught. The person becomes discouraged and considers it impossible to accomplish an ambition for future success.

If this matter were understood by the parents of these young people, many who have given up in despair at the turning point of a useful career would have become successful men and women.

William Lowe Bryan, professor of psychology in Indiana University, noticed that this fact was true and determined to know the cause in order to help the boys and girls of the country.

He began a laboratory experiment with a young man studying telegraphy. The student learned the telegraphic alphabet and made reasonable progress for three or four months, after which there came a period of stagnation. For several months there was no progress. But finally the mysteries of the subject again began to be unfolded and in the usual length of time the young man was qualified to accept a position.

Other similar experiments and observations revealed to Professor Bryan the important fact that a great many students of telegraphy become discouraged at this very point of stagnation, which of course varies with the individual, and drop the work. This same result has also been found to be true in the learning of other trades.

The difficulty lies in the fact that so many young people are not able to cross over this period of non-progression. They do not receive the proper encouragement from instructors or parents. If they could only be aided for a short time and taught the necessity of sticking to the task, final success would be assured.

The Newfoundland Cable Controversy.

The trouble between the Commercial Cable Company and the Newfoundland government has apparently assumed international importance. The Commercial Cable Company sought to fight out its battle directly with Premier Morris, of Newfoundland, but the Anglo-American Telegraph Company, which lands in Newfoundland, has joined forces with the Premier by writing to the British Colonial Office in London. The Commercial Cable Company, therefore, has two opponents.

The issue is whether the Newfoundland government has the right to repudiate a legal agreement on the faith of which over a million dollars has been expended by an American corporation. The Anglo-American Telegraph Company, according to the Commercial Cable Company, is trying to inject another issue into the controversy, namely, whether it shall hereafter have a monopoly of the Newfoundland business, as it had for fifty years.

The Commercial Cable Company's present trouble is with the new administration of Newfoundland, headed by Sir Edward P. Morris, as Premier, which was in opposition to Sir Robert Bond, and which succeeded in the election which took place a few weeks ago. The new administration repudiated the Commercial's contract. Thereupon the Commercial Cable Company wrote a letter of protest to Sir Edward P. Morris, a summary of which appeared in our August 16 issue, and Sir Edward, who is in London, made an answer.

The Anglo-American Telegraph Company, through Mr. F. A. Bevan, chairman, sent a letter direct to the Secretary of State for the Colonies, under date of July 8, in which they gave their position in the matter. In their letter to Lord Crewe they state that the agreement in question is unfair and prejudicial in many respects to the Anglo-American Telegraph Company, Limited, which is an English company, and would create in favor of the Commercial Cable Company, which is an American company, a monopoly for twenty-five years of the transmission of all cable messages passing over the Newfoundland government land lines. Mr. Bevan, dealing with the general relations of the Anglo-American Telegraph Company with the colony, recalls that in 1854 a company called the New York, Newfoundland and London Telegraph Company was incorporated in the Colony of Newfoundland by an act which empowered the Newfoundland company to establish submarine telegraphs between America and Europe by way of Newfoundland. The Atlantic Telegraph Company, Limited, was another company which at about the same time attempted to establish cable communication between America and Europe, but both were unsuccessful notwithstanding the expenditure of large sums of money and most strenuous labors, and it was not until 1866 that telegraph communication was effect-

ally established between Ireland and America by the Anglo-American Telegraph Company, Limited, which was incorporated in that year for the purpose and which subsequently took over and now holds all the rights and privileges of the Newfoundland Company and of the Atlantic Telegraph Company.

The writer then refers to the various agreements between the Newfoundland Government and the Commercial Company and the Marconi Company, and especially to the one dated August 26, 1905, between the Island Government and the Commercial Company. This document was signed for a minimum period of ten years from its date; it provides that the Newfoundland Government shall hand over to the Commercial Cable Company at Canso, in Nova Scotia, all traffic destined to points outside Newfoundland and coming within the Government control or to the Government land lines for the time being unless directed by the sender via some other route, the Commercial Company on its side handing over to the Government at Canso all traffic destined to points in Newfoundland coming within the Commercial Company's control or to its lines for the time being existing unless directed by the sender via some other route. The agreement further provides, Clause 4, that the Government will grant the Commercial Cable Company the right to land any of its through cables at Newfoundland on terms and conditions as favorable to the Commercial Company as those under which any other cables present or future are granted landing rights, and privileges by the Government except any special privileges then enjoyed by the Anglo-American Company inclusive of the right of the Anglo-American Company to compete with the Government Telegraph system, and by Clause 5, if the Commercial Company with the permission of the Government lands cables as before provided it shall be optional for the Commercial Company to transfer at its Newfoundland station instead of at Canso a part or the whole of the traffic exchanged with the Newfoundland Government system provided the terms of transfer are the same as at Canso. The Chairman of the Anglo-American Company criticises the agreement of February 18, 1909, as unfair and prejudicial to his company because Clause 2 extends the period of the Commercial Company's 1905 agreement to 25 years from February 18, 1909, and together with Clause 3 confirms in specific terms the monopoly during that period to the Commercial Cable Company, which is an American Company, of all traffic from the Government land lines to the exclusion of the Anglo-American Telegraph Company, which is a British Company, and whose land lines are also excluded from all business passing over the Commercial Company's cable. When read in conjunction with the Marconi Company's agreement this monopoly also covers messages received or transmitted partly by Marconi Wireless stations on the island and partly by cable. The Anglo-American Tele-

graph Company is thus precluded from all opportunity of competing for the above traffic although the satisfactory service rendered by it, its superior equipment, and its faithful performance of all its undertakings should have fairly entitled it to more equitable and business-like treatment at the hands of the late Government. Mr. Bevan also complains of Clause 4 under which the Island Government is to pay the Commercial Company \$4,000 a year. He says such payment is in the agreement stated to be in consideration of the advantages and facilities secured by the cable which the Commercial Company agree to extend from the Flemish Cap to Newfoundland and to continue thence to New York, but the system of the Anglo-American Company with its four cables to Europe and five lines to the United States has been and is available for all Government cable purposes without risk of interruption. The Government's own cable to Canso has been in operation for a period of four years and has only once been interrupted and the cost to the Government of the transmission of its traffic over the Anglo-American Company's cables during such interruption did not amount to \$300 while the subsidy to the Commercial Cable Company during the corresponding period of four years would have amounted to \$16,000 under the agreement of February 18, 1909. Moreover it will be seen that the practical effect of the subsidy is to remit to the Commercial Cable Company the landing tax imposed by the taxing act. Such a provision of a money subsidy would seem to be beyond the powers of the Newfoundland Government without special authority from its legislature. In conclusion Mr. Bevan says in carrying out its enterprise the Anglo-American Company has made a large expenditure of capital and makes a large annual expenditure within the colony, the latter being greatly in excess of any revenue earned in the colony, and this capital and annual expenditure as an economical resource and contribution to the prosperity of the island are of great value to the colony. That company has, however, in the past been and still is subjected to heavy taxation amounting in all to as much as £4,600 per annum from which its competitors, including the Government land lines, are practically exempt. It is perfectly ready to compete on fair and equal terms and considers it should be dealt with in the same spirit. It has, therefore, welcomed the action of the present Government in refusing to ratify the agreement of February 18, 1909, as indicating that the Government appreciates that the arrangements contemplated by that agreement are not consistent with fair and equal competition and it trusts that under no circumstances will the Government confirm an agreement which bears so hardly and unfairly on its enterprise."

The following statement by Sir Edward Morris, premier of Newfoundland, was published in London, August 16:

"I read a day or two ago in the London papers the following despatch: 'The American press is

giving much prominence to an alleged breach of faith on the part of the Newfoundland administration with the Commercial Cable Company of New York. It is asserted that The Commercial Cable Company made a contract with the previous administration in Newfoundland providing for the landing of a new cable at St. Johns, and on the strength of that contract invested upwards of £200,000. Now it is represented that the present Newfoundland Government does not recognize the contract made with the preceding administration as binding, and offers obstacles to the successful operation of the cable. The Commercial Cable Company has addressed a remonstrance to Sir Edward Morris, the Newfoundland Premier, saying that the company invested on the strength of the contract, and that great benefits would accrue to the Colonial Government if the contract were kept. The letter to the Premier adds if repudiation were characteristic of the British Government or of its dependencies, we would not have entered into contract relations with Newfoundland at all, and we think this is the first time in the history of Great Britain or its dependencies that a contract which has been made with a responsible Government has been repudiated by a successive administration of the Government itself. The Commercial Cable Company regrets that the change of administration which has taken place should cause the Government to repudiate a solemn contract which was executed only a few months ago and which has caused the Commercial Cable Company to expend more than \$1,000,000, and the Company denies your legal right to repudiate it.'

"In the first place, I emphatically deny that there has been any breach of faith on the part of the Newfoundland administration with The Commercial Cable Company of New York or any other Company or that the Government of Newfoundland does not recognize the contract made with its predecessors, or that it is in any way offering obstacles to the successful operation or the laying of the Commercial Cable Company's cable.

"As regards the remonstrance referred to in the preceding item, the publication of it in the New York press was the first intimation I had of any such remonstrance or communication. The Government of Newfoundland does not refuse to ratify agreements entered into. It did, however, refuse without ample consideration to bring before the Legislature for ratification the contract of 1909, principally for the reason that it was unfair and prejudicial in many respects to the Anglo-American Telegraph Company, Limited, which is a cable company and would create in favor of the Commercial Cable Company a monopoly for 25 years of the transmission of all cable messages passing over the Newfoundland Government land lines.

"The Commercial Cable Company, under its agreement made in 1905 with the Newfoundland Government, are now bringing in their cables. There is no objection to this as the Government

only a few weeks ago gave them the land they require, but the Government have not felt justified, not, however, without fully considering the matter, in granting by Act of Parliament, the further concession attempted to be given in the agreement of 1909 namely, a monopoly for 25 years and freedom from taxation while taxing the Anglo Company, doing business on the same street, \$20,000 per annum.

"I have not by me the contracts referred to in the despatch in question. The present Newfoundland Government, who were only in office a few days when this legislation was asked for, were fully justified in taking time to consider the matter before embarking on legislation. It was unfair to publish such an ex parte statement of the case without having published side by side the reasons well known to the Commercial Cable Company why the Newfoundland Government halted before giving their assent."

Addressing the British Secretary of State for the Colonies under date of August 20, General Manager George Gray Ward, of the Commercial Company, writes in reply to the contention of the Anglo-American Company:

"The Anglo-American Telegraph Company, in its letter to you, says that this contract is unfair and prejudicial to them, and creates a monopoly. That is a remarkable statement, indeed. So far from our contract being a monopoly, it was made solely to break up a monopoly which the Anglo-American Telegraph Company had for fifty years, to the detriment of business interests, and which it would continued to have were it not for the Commercial Cable Company. If the Commercial Cable Company were to sever its connections with the Newfoundland Government, the monopoly of the Anglo-American Telegraph Company would be restored, and that seems to be the policy of the present Newfoundland Government, although the Anglo-American Telegraph Company, by keeping other companies out of Newfoundland, for fifty years deprived that country of a large revenue from those companies.

"As to the twenty-five-year agreement of the Newfoundland Government to exchange business with us, under which we receive a reduced toll, with whom would the Government exchange this cable business if not with us? It certainly could not consistently exchange business with the Anglo-American Telegraph Company, because the Anglo-American Telegraph Company competes with the Newfoundland Government, and hence would decline to forego any such portion of its tolls as we do, and for the Government to transfer its messages to the Anglo-American Telegraph Company would be to re-establish the monopoly that existed before the Commercial Cable Company connected with Newfoundland. It is to be borne in mind that the Anglo-American Telegraph Company competes with the Government for local as well as foreign business. The Anglo-American Telegraph Company has some five hundred and ninety miles of land lines in

Newfoundland, and some fifty telegraph offices. It has three telegraph and cable offices in St. Johns alone.

"At all of these offices it competes with the Newfoundland Government, not only for telegrams, but also for cablegrams. The Commercial Cable Company, however, by its contracts with the Newfoundland Government, is excluded from doing any telegraph or cable business in Newfoundland except through the Government. It is not surprising that the Anglo-American Telegraph Company should want to prolong its monopoly by joining in the attempted repudiation of our agreement. That company's argument seems to be that repudiation is justified if a British Company's interests are advanced thereby, and this seems sufficient. How would Newfoundland get any benefit from transferring these cablegrams over to the Anglo-American Telegraph Company, with no part of the tolls to go to the Newfoundland Government, and what would Newfoundland do with its present cable facilities? Again, suppose both contracts, the one of 1905 and the one of 1909, were abrogated now by mutual consent, or our 1905 contract was not renewed when it expires in 1915, and The Commercial Cable Company commenced doing business on its own account in St. Johns, where nearly all the Newfoundland cablegrams originated or are delivered, then there would be three competitors for that business, namely, the Anglo-American Telegraph Company, The Commercial Cable Company and the Government. The Government would get very little business under those circumstances. It would be no answer to say that The Commercial Cable Company would not be allowed to do business in Newfoundland. President Grant in 1870 refused to allow a French cable to land and operate in the United States unless the French Government allowed American cables to be landed and operated in France, and in December, 1875, in a special message to Congress, he declared that this was the legal right and settled policy of the United States. The Commercial Cable Company might have appealed to that principle in regard to doing business in Newfoundland. Instead of doing so, however, it submitted to the condition imposed upon it by the Newfoundland Government, namely, that it should not compete with the Government telegraph lines either for land line or cable business. We have no doubt that the Anglo-American Telegraph Company consider our contract prejudicial to their interests inasmuch as it disturbs their monopoly of the Newfoundland business, but public interests should be studied and the introduction of our competition is decidedly in the interests of Newfoundland and its people. Without that contract the Newfoundland Government would get no part of the cable tolls. The Commercial Cable Company has not obtained a monopoly in Newfoundland. It has broken up a monopoly, and is to-day giving a competitive service to Newfoundland.

"The Anglo-American Telegraph Company in its letter to you also states that we are practically exempt from taxation in Newfoundland by our contract. They could not have read the contract carefully. The contract obligates us to pay \$4,000 per year for every cable which we run through Newfoundland, and if we should have five cables running through Newfoundland we would have to pay \$20,000 a year to the Government, the same as the Anglo-American Telegraph Company is now paying. It is true that by the contract we are to receive \$4,000 a year to reimburse us for the expense of establishing and maintaining an office in St. Johns for the accommodation of the Government, and giving them an alternate route free of charge during interruptions of their Port au Basque cable or land lines, but that has nothing to do with the \$20,000 per annum mentioned previously.

"I take this opportunity of calling attention to a statement made by Premier Morris which appeared in the press a few days ago, in which he alleges that the first intimation he had of my letter was when it was published in the New York press. That certainly is a mistake, because I informed him at our last interview on August 4 that my company intended to answer his Government's communication and offered him a copy of our proposed reply to read, which he declined to do. In fact I had two interviews with him, the first on July 24. My letter was not published in the New York press or anywhere else until August 11. In Sir Edward Morris' published statement he declares that he considers it unfair that I should publish an ex-parte statement of the case without publishing the reasons why the Newfoundland Government refused to carry out the contract. The only reason I have heard is that such a contract required the action of the Legislature of Newfoundland, and that reason is clearly and fully stated in my letter, and hence, I think that this too is a mistake in the report of Sir Edward Morris' statement. My company's position is that it has made a reasonable contract with a responsible British Government and has invested over a million dollars on the faith of that contract, and has complied with the contract, and it expects that the Newfoundland Government will do the same. Inasmuch as the Anglo-American Telegraph Company has just given to the press its letter to you of July 8, I take the liberty of doing the same with this letter."

What Is a Telegraph?

According to the London Electrical Review the English law interprets the word telegraph as covering a broader field than it is generally understood to cover, the word telegraph as used in the telegraph acts of 1863 and 1869, having been held by the English courts to include the telephone, although the telephone was not invented or contemplated in 1869. A conversation through the telephone was held in the famous Edison case

to be a communication transmitted by telegram within the meaning of those acts. This principle has been reaffirmed by the House of Lords in a recent case, where it was held that private telephone lines connecting two or more separate and independent persons or businesses, and electric fire alarms and similar signals, are not excepted from the monopoly of the Postmaster General.

It is interesting to find, however, that this principle is not to be universally adopted. In a recent Irish case a serious and important question arose as to the meaning of "telegraph," which phrase was used in a contract between the Postmaster General and a railway company. The contract provided that "the company shall . . . convey from station to station . . . free of expense from the Postmaster General all telegraph materials used—or intended to be used—for the construction, maintenance, repair, or renewal of any of the Postmaster General's lines of telegraph situate on their system of railway." It was contended that, having regard to this clause, the company were bound to carry all kinds of telephonic instruments, appliances and apparatus. By another clause the company undertook to convey free of expense, all salaried officers and workmen, except telegraphers, employed by the Postmaster General in the construction and repair of the lines of telegraph on the company's system. Mr. Justice Dodd held that in construing covenants the fulfilment of the evident intent and meaning of the parties was the design of the courts, which did not confine themselves within the narrow limits of literal interpretation. Accordingly, he held that the word "telegraph," as used in the deed, could not receive the same wide interpretation as it had received in England on the construction of the telegraph acts, and he declined to accede to the contention of the Postmaster General. Inasmuch as similar agreements are in force between the Postmaster General and most of the railways in Great Britain, this decision is likely to be far-reaching in its effects.

How Would You Like to Be the Manager?

Manager to his wife over the telephone: "I won't be home for supper. I have been sent to jail because the company has failed to pay its occupation tax."

Both the Western Union and Postal managers at ——— have been arrested for contempt of court for refusing to produce copies of messages relating to a famous trial.

The manager of a telegraph office in a southern city has been fined \$100 and ordered to jail for thirty days because he is managing a telegraph office without license.

Telegraph Age constitutes a "school of instruction" to every would-be telegrapher. It is accurate and authoritative and worth many times the price of subscription (\$2.00) to any who would inform themselves respecting the telegraph.

The Ready Messenger



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This typewriter has for twenty years held first place with telegraph operators as the easiest and speediest “mill” to operate. The **New Model No. 10 Smith Premier** is even better suited to the use of telegraphers.

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SEPTEMBER 1, 1909.

The Book Department of Telegraph Age has always been a prominent and carefully conducted feature of this journal. The desire has been and is to furnish our readers and buyers everywhere the readiest means possible of securing such technical books as they may require. Aiding buyers in their selection with advance information, which at all times is cheerfully furnished; promptness in sending books, filling all orders on the same day of their receipt, has brought to this department a generous clientage. Catalogues fully covering the range of books treating on the telegraph, wireless telegraphy, the telephone, as well as those on the general subject of electricity, together with the principle cable codes, will be sent to any one asking for the same.

The Cost of the Telegraph.

Those persons who argue that the telegraph companies should reduce the tolls on messages would do well to investigate the actual cost of handling the telegraph business at the present time. A common argument advanced by the antagonists of the telegraph management is that the business of the telegraph has increased to such an extent in the past twenty-five years that the companies should in the meantime have been able to make reductions in the tariffs. At first sight this reasoning may seem sound, but upon making an analysis of the conditions prevailing twenty-five years ago and those prevailing at the present time the fallacy of such a proposition will be clearly shown.

Twenty-five years ago the telegraph reached only about half as many places as it reaches today, and while the tariffs averaged only about fifteen per cent. higher than now, the operating expenses per message were over thirty per cent. lower than at the present time. This increase in

the ratio of operating expenses to receipts may be easily accounted for. In the first place the telegraph companies in extending their systems have reached thousands of small towns, the business receipts from which do not begin to pay the expense of maintaining an office. As a result, while the expense of maintenance per mile of wire has increased because of the greater cost of material and labor, the receipts per mile of wire have decreased over fifty per cent. To the expense account may also be added the increased taxes under the guise of franchise, occupation, pole and other impositions which the companies are now required to pay, and which they did not pay twenty-five years ago.

The placing of wires underground is another item of expense which the present day telegraph management has to meet. Even some of the telegraph managers believe that it would be largely to the advantage of the companies to have their wires underground in the smaller towns and cities. This idea is based largely on the fact that telephone companies in those places have their wires buried. In a city of thirty to forty thousand inhabitants an enterprising telephone company will have at least 2,000 customers which, of course, means a larger number of wires than they could readily accommodate on pole lines. In the same city four or five wires at the most will be all that will be required to handle the business of the telegraph. While it is true that for a large number of wires the maintenance cost of underground lines is smaller than for overhead lines, it is not true for a few wires, and if we add to that cost the interest on the large investment necessary for the construction of an underground system, the balance will be very large in favor of the overhead line for the four or five telegraph wires. This is due to the fact that the cost of underground construction for a hundred wires is but little greater than for four or five. As a result the cost per wire to the telephone company is but a fraction of the cost per wire to the telegraph company. It is a noticeable fact in this connection that except in restricted residential sections the telephone companies do not place their wires underground until they have more in use than the telegraph companies have, even in the larger cities. Taking all of these features of the situation in consideration it is inconceivable that any sane minded person can argue that telegraph tolls should be reduced and in the same breath demand the burying of the wires.

"Do You Wait Until To-Morrow?"

In "The Postal Telegraph," for July Mr. Harvey D. Reynolds, superintendent of the company at Buffalo, N. Y., has an interesting communication to managers, in which, in addition to other questions, he asks: "Do you 'Wait until to-morrow' to answer correspondence, check error cards and letters of complaint or inquiry?"

A long sermon could be preached from these few words. How many men who occupy posi-

tions of responsibility there are who put off until to-morrow what they could just as well do to-day. As a result of such procrastination the work piles up on them so that when they do take up the tasks that have been delayed they are overwhelmed by a mass of detail and consequently unable to give each subject under consideration the attention which its importance deserves. This, however, is not the only feature of such methods which throws them open to criticism. Very often letters are received asking for information which is of great importance to the writer, and the delay in procuring which may mean loss of time to him as well perhaps as financial loss to his company. In fact even a short delay in the receipt of information sometimes renders that information of no value whatever when it is received. Everyone appreciates a prompt answer to his correspondence and feels more or less annoyed at any delay in receiving a reply. The man who does not wait until to-morrow can not fail to acquire a reputation for his businesslike methods, and when a vacancy occurs in a position higher up such a reputation is bound to carry weight with his superior officials in their search for a man to fill the vacancy, and he is sure to have preference over the man who does wait until to-morrow or the day after to do what should and could be done to-day.

Telephone Competition.

There are many who believe that competition is necessary in the telephone business in order to secure good service. Many of these same people believe that the telephone should be regulated by State and National authorities. One who has studied the telephone situation in this country has this to say upon the subject:

"Regulation and competition cannot work together. Regulation would demand equal service and equal conditions of each competitor. There is no such competition in the telephone business, and to establish such competition is probably impossible. Real competition would mean extending over and connecting all parts of the same territory as is covered by the comprehensive service of the existing system. If competition were necessary or desirable its benefits should not be limited to a chosen few. To build a street railway line on a single street alongside of the lines of a system which covers a whole territory and furnishes unlimited transfers, is not competition. At best such a second line can only divide the business of a very limited area, and in the end public convenience will demand its removal. In any public service it is demanded that all portions of the community should receive ample facilities, and telephone service, more than other, requires complete territorial development.

"The telephone business is different from almost any other enterprise. Theoretically it would be said offhand that competition might be desirable. Practically, however, competing companies have

not proved satisfactory to the average community. For business men it means a duplication of service with double rental; for householders it is a case of incomplete service or else two instruments. The telephone business seems to be a monopoly by necessity. When the companies are rightly managed, however, this should not be any serious objection."

The French Postal Situation.

In view of the total rejection by the French courts of the claims of the postal, telegraph and telephone employes, to the right to form a trades union, M. Millerand, minister of public works and of posts and telegraphs, deemed the time appropriate for the government to show its magnanimity and reinstated eighty of the postal employes who were dismissed for participation in the strike last May.

The court held that under the law of 1884 the right to form workmen's unions did not apply to state employes, and ordered the dissolution of the union which the postal, telegraph and telephone employes organized during the recent strike.

This decision confirms our contention made at the time of the strike that if government employes were allowed to form unions and dictate to their employers, they would actually usurp the functions of the government itself and be in a state of revolution.

New Regulations for Counting Code Words.

The Western Union Telegraph Company and the Postal Telegraph-Cable Company have announced that on and after December 1, 1909, all groups of letters, when such groups do not form dictionary words and are not combination of dictionary words, will be counted, in land-line telegrams, at the rate of five letters, or fraction of five letters, to a word; and figures, decimal points and bars of division will be counted, each separately, as one word.

These changes do away with the rule that each letter, in an arbitrary, unpronounceable combination, must be counted as one word; but do not affect words taken from the English dictionary and used as code words. Such dictionary words will continue to be counted as one word each.

The rule as amended applies to groups of letters forming artificial words; and also applies to groups of letters made up of combinations of misspelled or abbreviated dictionary words. In short, all combinations of letters contrary to the usage of the language are made subject to the five-letter count. When such groups are made up by combining dictionary words, each dictionary word so used will be counted.

The rules relative to cablegrams are unchanged, these rules being governed by international agreement.

The new classified catalogue of books on the telegraph, telephone, wireless telegraphy, electricity, etc., published by TELEGRAPH AGE, may be had for the asking.

The Reunion of the Old-Time Telegraphers' and Historical Association and of the Society of the United States Military Telegraph Corps.

The twenty-eighth annual reunion of the Old Time Telegraphers' and Historical Association and of the Society of the United States Military Telegraph Corps was held at the Fort Pitt Hotel, Pittsburg, Pa., on August 17, 18 and 19, there being about 200 present. The weather was unusually cool and delightful for this season of the year. This, together with the unsurpassed hospitality of the citizens of Pittsburg, the splendid hotel accommodations and the enthusiasm of the officers of the two organizations, all contributed to make



WILLIAM J. LLOYD, CHICAGO.
President-Elect of Old Time Telegraphers' and Historical Association.

this one of the very best and most pleasant conventions of the series. The elaborate program arranged by the various committees was carried out without the slightest hitch. When we consider that arrangements had been made to occupy the entire time of the visitors for three days in sight-seeing and pleasure, it will be realized that the committees had their work in excellent shape at all times. G. A. Cellar, president of the Old Timers, was on hand day and night caring for the comfort of his large army of guests, and the graceful manner in which he looked after the interests of all those present elicited much favorable comment. The chairmen of the various committees were also conspicuous and contributed largely to the success of the reunion. Among these gentlemen may be named J. G. Splane, J. B. Yohe, A. C. Terry, N. E. Church, W. I. McQuown, and others, all of whom were assisted by their wives.

The program of entertainment being an extensive one, promptly at 10 a. m. the convention was called to order in the parlor of the hotel by G. A.

Cellar, president of the Old Time Telegraphers' and Historical Association. Harvey D. Reynolds, of Buffalo, the former president of the association, presented Mr. Cellar with the badge of his office, the miniature gold-framed daguerreotype of Professor Morse.

Colonel Wm. B. Wilson, of Holmesburg, Philadelphia, president of the Society of the United States Military Telegraph Corps, then assumed the chair, and the visitors, in the absence of Mayor William A. Magee, were greeted to the city of Pittsburg by Captain Howard B. Ousler, his private secretary. After Captain Ousler had finished his address of welcome, M. J. O'Leary, of New York, was called upon to reply, which he did in a most gracious manner.

Colonel Wilson at once proceeded to read his annual report, which was a most interesting resume of the work accomplished by his society during the previous year. Referring to the first telegraph line constructed to Pittsburg in 1846, Colonel Wilson said:

"Pennsylvania had been called upon by the General Government to furnish two regiments for service in the land of the Montezumas, and Gen-



THOMAS W. CARROLL, CHICAGO.
Vice-President-Elect of Old Time Telegraphers' and Historical Association.

eral Bowman was here to expedite the forwarding of the second regiment. Simultaneous with the completion of the telegraph to Pittsburg was the assembling here of that regiment and that fact caused General Bowman to wire the following message:

Headquarter Pennsylvania Militia,
Pittsburg, December 29, 1846, 3 p. m.
To the President of the United States,
Washington, D. C.:

The compliments of Adjutant-General Bowman to His Excellency, James K. Polk, President of the United States. The Second Pennsylvania Regiment will be organized and ready to leave this place by the sixth of

January. The weather is mild and the river in good order. Through the politeness of Henry O'Reilly I have the honor conferred on me of making the first communication by telegraph west of the Allegheny Mountains to the President of the United States over the Atlantic and Ohio Telegraph Line.

G. W. Bowman, Adjutant-General.

Marion H. Kerner, of New York, who had been appointed secretary of the meeting in the absence of David Homer Bates, was requested to read the report of the latter gentleman. The report recounted in detail what had been accomplished in the secretary's office during the previous twelve months, and satisfaction was expressed at the thoroughness with which the able secretary had accomplished his work. The old officers were re-elected as follows: William Bender Wilson, president, Holmesburg, Philadelphia, Pa.; William L. Ives, vice-president, New York; Charles Almerin Tinker, vice-president, Brooklyn, N. Y.; David Homer Bates, secretary and treas-



BERNARD E. SUNNY, CHICAGO.

Vice-President-Elect of Old Time Telegraphers' and Historical Association.

urer, 658 Broadway, New York; executive committee—Colonel Robert C. Clowry, New York; William R. Plum, Lombard, Ill.; Colonel Albert B. Chandler, New York; Colonel Levi C. Weir, New York; Charles A. Tinker, Brooklyn, N. Y.; Richard O'Brien, Scranton, Pa.; John Wintrup, Philadelphia, Pa.; Marion H. Kerner, New York.

President G. A. Cellar, of the Old Timers, then assumed the chair and in a brief address welcomed those present to the city of Pittsburg on his own behalf as well as on that of the other officers and members of the various committees.

The report of the secretary and treasurer, Franklin J. Scherrer, of New York, was then read by M. J. O'Leary, who had been appointed acting secretary in the absence of Mr. Scherrer. The report was a most satisfactory one, and showed a balance of over \$1,000 on hand notwithstanding the fact that there had been unusually heavy expenses which had to be met during the previous year.

Other routine business having been dispensed with, numerous telegrams and letters of regret from absent members were read, after which Chicago was selected as the next place of meeting, the time to be decided by the president and executive committee, and the following officers were elected for the ensuing year: President, William J. Lloyd, of Chicago, superintendent of the Western Union Telegraph Company; first vice-president, Thomas W. Carroll, of Chicago, general superintendent of the Postal Telegraph-Cable Company; second vice-president, Bernard E. Sunny, of Chicago, vice-president of the American Telephone and Telegraph Company; third vice-president, Frederick W. Cushing, of Highland Park, Ill., retired; secretary and treasurer, Franklin J. Scherrer, of New York, assistant secretary of the Western Union Telegraph Company.

The executive committee consists of the last five presidents, namely, G. A. Cellar, of Pittsburg; Harvey D. Reynolds, of Buffalo, N. Y.; John C. Barclay and Charles C. Adams, of New York, and U. J. Fry, of Milwaukee, and four additional local members, to be selected by President Lloyd.

The thanks of the joint convention was extended to the Western Union Telegraph Company, the Postal Telegraph-Cable Company, the Pittsburg and Allegheny Telephone Company, the Central District and Printing Telegraph Company, the American Telephone and Telegraph Company and other interests for courtesies extended.



FREDERICK W. CUSHING, HIGHLAND PARK, ILL.

Vice-President-Elect of Old Time Telegraphers' and Historical Association.

After the business meeting adjourned the party, including the wives and daughters of members, boarded special cars and were taken to the plant of the H. J. Heinz Company, where, after visit-

ing the enormous plant, an elaborate luncheon was served at 2 o'clock, with the president of the company, H. J. Heinz, as host.

Several souvenirs were presented to the visitors by this firm. At the conclusion of the luncheon, Colonel W. B. Wilson, of Philadelphia, and W. L. Ives, of New York, in appropriate speeches, thanked the Heinz Company for their enjoyable entertainment. In the evening the guests attended the Pittsburg Hippodrome, where an interesting entertainment was enjoyed.

On Wednesday, August 18, at 10 a. m., automobiles were taken and a trip of twenty-five miles was made through the various boulevards and parks until 1 p. m., when a special train was boarded at the Pittsburg and Lake Erie station and a trip was made along the Monongahela River to the Pittsburg Steel Company's plant at Monessen, a distance of forty-eight miles from the

tivities of the reunion. It was a brilliant assemblage of the members, many of them accompanied by their wives and daughters. Palms and greenery banked the walls and clusters of gladioli adorned the tables. War-time songs and favorite airs were sung. A silent toast was drunk to S. F. B. Morse, inventor of the telegraph.

After coffee had been served, President G. A. Cellar in a very fittingly expressed address, introduced the toastmaster, J. B. Yohe. Mr. Yohe read many letters and telegrams of regret, among them being communications from Colonel R. C. Clowry, E. J. Nally, General Thomas T. Eckert, J. C. Barclay, B. Brooks, Charles C. Adams, I. McMichael, W. J. Camp, Charles P. Bruch, F. J. Scherrer, S. A. Duncan and others. Mr. Yohe, who made an ideal presiding officer, introduced the speakers in a humorous vein.

At the speaker's table was Colonel Schoon-



MRS. A. C. TERRY.



MRS. J. B. YOHE.



MRS. N. E. CHURCH.

MEMBERS OF THE LADIES' RECEPTION COMMITTEE.

city. The train was in charge of Mr. J. B. Yohe, general manager of the road, a prominent member of the Old Timers' Association. An elaborate lunch was served on the train, and the trip was a most enjoyable one. At the steel plant the visitors were presented with appropriate souvenirs. On the return of the party to the city, the visitors were conveyed to the Pittsburg Country Club, where dinner was served, followed by dancing. This was a most enjoyable occasion. The clubhouse is situated on the top of a hill, in the midst of a great estate, and is in an ideal location, about seven miles from the city. The return to the hotel was made at midnight.

At 11 a. m. on Thursday a visit was made to the Carnegie Institute and Art Galleries. After lunch, which was had at the Hotel Schenley, the party was conveyed to Forbes Field, where a game of baseball between the Pittsburg and St. Louis National League clubs was enjoyed.

THE BANQUET.

At 7 p. m. on Thursday evening 200 persons enjoyed the banquet which concluded the fes-

maker, vice-president of the Pittsburg and Lake Erie Railroad.

Near Colonel Schoonmaker sat two companions of his boyhood days in old Manchester, now a part of the northside of Pittsburg, Colonel Albert B. Chandler, chairman of the board of directors of the Postal Telegraph-Cable Company, New York, and George Durand, a prosperous Kentucky farmer. The latter he had not seen since before the war.

Mr. Schoonmaker, who was the first speaker, made a very interesting address upon "The Relation of the Telegraph to the Army."

"Pittsburg men established the telegraphic arm of the army, now a recognized branch of every military force," said Colonel William Bender Wilson, who spoke upon "The Telegraph in Pittsburg a Half Century Ago."

J. W. Wardrop, who is Mexican Vice-Consul in Pittsburg, the next speaker, made a brilliant address upon "Then and Now." He stated that the old timers of this age are not the "has beens," but the most up-to-date men of our life.

Colonel Albert B. Chandler, speaking upon "The Telegraph Office as a School for Railroad men," was the third speaker of a similar title to grace the program.

Marion H. Kerner, of New York, then read a poem written by Mrs. J. W. Freeland, of Marion, O., dedicated to Colonel William Bender Wilson, president of the United States Military Telegraph Corps. Mr. Kerner also related many interesting episodes of military telegraph life during the Civil War.

M. J. O'Leary, of New York, responded to the toast "The Ladies."

The singing of "Auld Lang Syne" brought the twenty-eighth annual reunion to a close, after which handshaking and good-byes were indulged in.

Among those present were the following:

Atlanta, Ga.—C. E. Witt, C. C. Witt and wife.
Buffalo, N. Y.—N. Hucker, L. M. More, H. D. Reynolds.

Chicago, Ill.—T. J. Benson, Samuel E. Ingram, J. McRobie and wife.

Cincinnati, O.—C. E. Sawtelle.

Cleveland, O.—G. W. Baxter, F. J. Dayman, O. F. Stow, G. T. Williams.

Columbus, O.—Otis H. Newell, George K. Smith.

Danville, Ill.—Daniel Hogan.

Denver, Colo.—R. F. Weithrec.

Des Moines, Ia.—Thad. M. Schnell.

Detroit, Mich.—Alfred Lowther.

Freeport, Pa.—T. K. Weaver.

Johnstown, Pa.—S. W. Kirk, Peter Weitz and wife.

Latrobe, Pa.—John B. Miller.

McKees Rocks, Pa.—Mrs. C. A. Gibens, D. F. Henlock, M. C. O'Donovan and wife, D. L. Wilson and wife.

Marietta, O.—H. C. Vincent.

Marion, O.—J. W. Freeland and wife.

Mount Pleasant, Pa.—Joseph Landis and wife.

Newark, N. J.—J. A. Sutherland and wife.

New York—Colonel A. B. Chandler, J. H. Flood, Mrs. Marguerite C. Gates, E. P. Griffith, Win. L. Ives, M. H. Kerner, M. J. O'Leary, J. B. Taltavall and wife, J. J. Whalen, A. Winder.

Newport, Ky.—J. A. Cassell.

New Wilmington, Pa.—G. W. Perkins.

Philadelphia, Pa.—Mrs. E. Coar, Frank E. Maize, Miss Mary Maize, Mrs. A. P. Sell, Colonel W. B. Wilson.

Pittsburg, Pa.—Win. Allenbaugh and daughter, S. J. Armstrong, George C. Barnes, E. C. Bishop, J. W. Boyd and wife, R. R. Brown, W. W. Campbell, G. A. Cellar, N. E. Church and wife, Miss Jane L. Collins, T. B. A. David, W. J. Dodge and wife, Thomas Gosden and wife, H. O. Hukill, H. W. Jeffers, Dennis Kelley and wife, G. H. Kendrick, wife and daughter, Samuel S. Kipp and wife, E. J. Kirbey and wife, B. F. Lloyd, Geo. A. Low, Sr., F. J. McKenna and wife, Miss O. R. McKenna, W. H. Maize and wife, L. D. Miller, Dr. Z. T. Miller and wife, L. C. Moran and wife,

T. E. Moreland and daughter, Wm. Munson, G. C. Nash, A. W. Rinehart and wife, A. W. Rossiter and daughter, C. H. Rugg, F. E. Schiller and wife, F. M. Schock, H. Scrivens, A. M. Smith, W. R. Smith and daughter, J. G. Splane and wife, C. R. Stough, John W. Stump and wife, A. C. Terry and wife, O. A. Thomas, E. T. Whiter and wife, James Allen Wilson, J. B. Yohe and wife, G. E. Young.

Roscoe, Pa.—J. A. Gray.

Rowlesburg, W. Va.—W. W. Schock.

South Elgin, Ill.—J. D. Voltz.

Springdale, Pa.—Miss Lizzie C. Adams, Percy O. Adams and wife, Miss Ella M. Anderson.

St. Louis, Mo.—R. H. Bohle and wife, James P. McClure and wife.

St. Paul, Minn.—W. Weisel and wife.

Tarentum, Pa.—James G. Camp, O. C. Camp and wife,

Titusville, Pa.—Daniel Colestock.

Toledo, O.—W. G. Brownson.

Warren, O.—F. J. Jones and wife.

Washington, D. C.—Mrs. Cora P. Barclay, J. O. Kerbey, Miss Mamie M. Kerbey.

Wellesville, O.—Phillip Bruner.

Wilkesburg, Pa.—J. F. Amend and daughter, Frank Benner, S. W. Geary, W. I. McQuown and wife, C. A. Mitinger, J. W. Yealy and wife, Miss Luella Yealy.

Youngstown, O.—Alexander Craw.

NOTES OF THE CONVENTION.

Mr. C. A. Blanchard, manager of the Fort Pitt Hotel, made himself very agreeable to the visitors, arranging for their comfort. He seemed to consider each one of them his personal guest.

George H. Corse, Jr., son of the late G. H. Corse, of Salt Lake City, who was president of the Old Timers' Association in 1902, sent his greetings to the gathering by cable from Kobe, Japan.

The badge worn by the members during the reunion was a very handsome one. The pendant bears the name of the organization, with a bas-relief of Andrew Carnegie and S. F. B. Morse. The bar bears the name Pittsburg, with the convention dates.

The chairmen of the various committees having in charge the arrangements were: A. C. Terry, arrangements; J. G. Splane, reception; N. E. Church, finance; E. T. Whiter, hotels; W. I. McQuown, badges; Mrs. J. B. Yohe, ladies' committee; Theodore E. Moreland, reception committee, United States Military Telegraph Corps.

During the interval between the musical numbers at the banquet some of the guests caused amusement by practicing telegraphic communication with the aid of the silverware on the table. By the general laughter it was evident that the humorous messages were read by almost everyone in the room.

Over one hundred members of the two associations sent regrets because they were afraid of Pittsburg weather in August. As a matter of

fact the weather was delightfully cool, the thermometer never registering above seventy, while the atmosphere was clear. It was ideal weather for a reunion.

The dinner and dance at the Pittsburg Country Club proved one of the principal social features of the convention. The committee in charge of this feature was composed of N. E. Church, J. G. Splane, E. T. Whiter, Theodore E. Moreland, W. I. McQuown and J. B. Yohe. A subcommittee composed of the wives and daughters of members assisted in the arrangements.

Mr. R. F. Weitbrec, of Denver, Colo., and Alfred Winder, of New York, met for the first time since the war. They were both inmates of Libby Prison, and were discharged together. They separated at Washington, D. C., after having their photographs taken forty-five years ago. On their meeting at Pittsburg they again had their photographs taken.

Mr. G. W. Brownson, of Toledo, O.; John A. Sutherland of Englewood, N. J., and Nathaniel Hucker, of Buffalo, three forty-niners of the telegraph, looked the picture of health. It was evident from their appearance that they will live to enjoy many future reunions. These gentlemen have witnessed the telegraph developed from a mere experiment to its present vast system.

Colonel A. B. Chandler, of New York, one of the "sacred three," was a conspicuous figure. Colonel Chandler began his telegraph career in a small railroad office in Pittsburg previous to the breaking out of the Civil War. Many of his old-time friends were delighted with the opportunity to greet and entertain him.

M. H. Kerner, of New York, and George K. Smith, of Columbus, O., were introduced to each other and in the conversation that followed it developed that Mr. Kerner had been ordered during the war to occupy a telegraph office that had been vacated by Mr. Smith on account of sickness. Shortly after relieving the sick operator Mr. Kerner together with the staff officers and garrison was captured by the Confederates. Kerner never saw or heard of the operator whose place he was assigned to fill until this meeting forty-seven years after, when he related the circumstances of his capture to which Mr. Smith listened with apparent interest. When he had finished his story, Mr. Smith said: "Well, I am the operator who left the post uncovered and I am the one responsible for your capture." He then drew a most convincing diagram of the situation and concluded his assurances by saying that he knew Nancy Hart, the girl to whom Kerner perhaps owes his life.

A Tribute.*

BY MRS. J. W. FREELAND.

Fraternally we meet again,
Old friends and new to greet,

*A poem dedicated to Colonel William Bender Wilson, president of the Society of the United States Military Telegraph Corps, and read at the Pittsburg reunion, August 19.

To talk of future hopes and joys,
And memories sad, yet sweet.

To live again the old war days,
But we were brave and true,
With loyal hearts, and willing hands,
We helped "the boys in blue,"

With good right arm, and manly strength,
And courage in our heart,
We each went forth, at country's call,
To dare, and do our part.

The war is o'er, the years are long,
Our comrades numbering few,
And yet, our country holds from us,
The recognition due.

But one there is,—All hail to him!
With eloquence and pen,
His voice is heard, his words go forth,
To aid his fellow men.

Uncrowned, he stands before us all,
Yet from each heart, to-night,
The thoughts of love that emanate,
Would make a halo bright.

Another, to whom honor's due,
From Scotia's rugged land,
He calls each man his brother here,
And lends a helping hand.

If we reach first, that blissful shore,
We will greet them with a smile,
If we go last, they will wait for us,
We are journeying all the while.



MRS. J. W. FREELAND, MARION, OHIO.

Mrs. John W. Freeland who before her marriage was Miss Isabella McMurray, was born and brought up at Steubenville, Ohio. She is a prominent member of the Ohio Women's Press Club of Cleveland, Ohio, and of the Ohio Newspaper Women's Association. She has written many beautiful poems which will appear in book form in the near future.

The Military Telegrapher in the Civil War.

PART XXVI.

Levi D. McCandless served as superintendent of construction of military lines with the Army of the Potomac during the early part of the war. Some of the important achievements of the military telegraphers were due to his foresight in directing the operations of the men in his charge. In writing to Colonel William R. Plum, historian of the United States Military Telegraph Corps, in 1878, he told in part the following story of the events with which he was connected during that memorable conflict:

"My first connection with the military telegraph lines was just after the battle of Rich Mountain. I went from Pittsburg to Wheeling, thence to Grafton and via the Parkersburg branch to Clarksville, where I left the railroad, taking in charge three army wagons loaded with wire and insulators. Passing through Weston, I followed the newly built line. At dusk the second night out I overtook the party building the line under the superintendence of my old acquaintance, W. G. Fuller, with a company of 110 men under Captain Gaines, of Cincinnati, as escort and guard. My first night was interesting, as up until eleven o'clock they were busy telling me stories of the brutal murders done by the bushwhackers. One by one they went to sleep, while I lay awake wondering if it was not pleasanter to read history than to help make it.

"I had been asleep but a short time when I was awakened by the discharge of muskets. As I left the tent scarcely awake and badly scared, the tent pole which I was grasping was shattered by the ball from a musket discharged only a few feet away. The shooting was done by our own party. It first started with the picket, who fired his musket when he heard the clanking of sabres worn by a party of Union cavalry who had been scouting and clearing the road of bushwhackers.

"The army under General Rosecrans overtook us just before we reached the little town of Sutton, on the Elk River. When after a few days delay at that point the army was prepared to move forward, our party received orders to go ahead with the construction of the line. In the morning a courier was sent with a message countermanding the order, but he was too late, as we had already crossed the river. When in the evening the general sent an order for us to be prepared to move in the morning, he learned that his second order countermanding the first had not reached its destination. We were all that day following close on the heels of the retreating Confederate army. That night we slept on the mountain, while in the valley below were several thousand of the rear guard of Floyd's army.

"The Confederates must have known of our presence. A company of cavalry some miles in our rear was attacked and forced to fall back to Sutton. The line we had built had been cut,

but we were allowed to continue on our way unmolested. Having been ordered by Fuller to take two men and go backwards towards Carnifax Ferry to repair the broken line, I started early in the morning. Arriving at headquarters, I presented my order for a company of cavalry to guard us on our expedition, but General Benham gruffly refused to allow his cavalry to go. Our orders being imperative and the great need of the line admitting of no delay, we went without the guard. When late the next day we arrived at the wreck that had once been the ferry house, we found ourselves in a dilemma. The wire was down across the Gauley River. There was no boat, and Meadow Creek was scarcely less turbulent than the mad Gauley, into which it emptied. On the top of the high hill on the other side of Meadow Creek was a Confederate picket station. On the other shore of the Gauley was our surprised Union pickets. With our mouths close to the water we were enabled to talk with them. They called our attention to the Confederate pickets on the opposite hill and comforted us with the assurance that we would certainly be captured during the night. We finally secured a dilapidated counter that had once done duty in the bar-room and fashioned it into a rough, flat-bottomed boat, and with bloodstained cotton that had been used to dress the wounds of Confederate and Union soldiers, we caulked it. Then with our axe we hewed out a pair of oars. After completing our task we made supper of hard tack and pork, then left a fire burning in the old ferry house.

"If the Confederates came in the night we did not know of it, for we were sleeping comfortably beneath some overhanging rocks a half a mile away. In the morning the flood in the river having somewhat abated, we made an effort to cross with the wire and failed, barely saving our boat from going over the falls just below, but our second effort was successful.

"While on the road returning several different times, we saw Confederates come out of farm houses a short distance from the road. They would look at our little caravan then suddenly disappear. Near our journey's end we saw as evidences of a conflict some new graves and several dead horses. We afterwards learned that they belonged to a party who had been sent out to recall us.

"When we reached our own forces, who were on the move, we were surprised to learn that we were heroes and astonished to hear from the enthusiastic soldiers of our daring boldness in passing for many miles close to where were encamped a large force of the enemy. We did not know this before, and it accounted for the Confederates we saw who were afraid of us, who would have been worse scared than they had we known of the Confederate encampment in Meadow Valley. We did not tell any of the soldiers so, however, but let them hurrah for us as we passed them on the march, submissively

accepting their homage and bearing our honors as became brave men—meekly.

"After the line was built down the Kanawha (rendered necessary from the great length of the line over the hills to Clarksburg and the many murders by bushwhackers of the men sent to repair breaks in the line) I returned home, but very shortly after was ordered to report to General Kelley at Cumberland. With a detail of Maryland volunteers I built a short line from Green Spring to Romney.

"I reported next to Major Thomas T. Eckert at Washington, and while General George B. McClellan was busy organizing the army we were constructing and completing the lines around and in Washington. Early in the spring when General Banks moved towards Winchester, I followed closely after him with the line. While delayed at Charleston, Va., I secured a handcar, with which I made several trips out along the line of the rudely constructed railroad leading to Winchester, mending the broken telegraph line and thinking that perhaps we would make use of it in the future. During one of our trips we made the acquaintance of a loyal Irishwoman, who proved to be a good friend just at the right time. A few miles out from Charleston is a station known as "The Summit," where there is a stone house used as a store. One day while conversing with the citizens, who seemed to be unusually numerous, and unaware of any danger, I was startled by the sharply whispered ejaculation of our Irish friend as she passed close to where I stood at the end of the counter. 'Yer a bloody fule.' In a moment I realized my position. I was cautious not to show any haste, but passed out to where my men were conversing with several of these citizens. I carelessly asked the boys how they would like to run down and have a chat with the Confederate pickets about a half a mile down the road. They agreed, and when we were all on the car ready to move I quickly and quietly told them I suspected we were in a trap. When we started moving towards Charleston, one of the men gathered round the store door shouted, 'You are going the wrong way.' 'Oh, no,' I replied, 'It's getting late; we will come around to-morrow.' Two of the party hurriedly mounted their horses and rode off into the woods. I guessed their purpose to be to reach the road crossing before us, but I felt little fear on that score, and we were well past the point where they meant to intercept us when they came in sight.

"When the forces were ready to move, I was ordered by way of the line to The Summit and from there build the line across the country to the little town of Berryville, on the pike that runs nearly parallel with the line of the railway to Winchester. Arriving at The Summit, I could get no satisfaction in regard to my route, so decided to go on toward Winchester. As we were going rapidly down grade we saw our Irish friend hastening from her house to the roadside. We stopped when opposite to where she stood. When

we told her that we were going to Winchester she told us that they had heard firing in that direction. She also told us that the rebel pickets had left several hours before. We hurriedly bade her goodby and went on until we reached the point lately occupied by the pickets. After mending the line broken by them when they vacated, we started again, here and there mending the line and still hurrying on until we came to Stevenson Station, only a short distance from Winchester. Here we found evidence of a recent conflict and the road being badly damaged, we were compelled to carry our handcar up through the cut to the depot, where we left it. I sent some of the men along what seemed to be the route of the wire down the main street, and with a stone broke open the door of the Confederate telegraph office and secured the end of the wire. Upon testing, I found that there was no current upon the wire. After repeated tests with my tongue, however, I received a signal. I then telegraphed to Washington, 'Our forces occupy Winchester.' Receiving no answer, I again repeated my message, adding that I had no instrument. While waiting for the reply one of my men came in with the instrument which the Confederate operator had given to him. It was not long before I received the reply from Washington, and the operator coming along soon, I hurried to find a courier to take word back to General Banks where I was. The excitement now being over, I began to realize that I had disobeyed orders, although under the circumstances it might not prove a very serious matter, and General Banks was known to be very kindhearted. My success was rendered almost useless to me by the dishonorable course pursued by the operator, whose name I have forgotten. A message from President Lincoln recognizing my success and thanking me for what I had accomplished, he meanly suppressed.

"On my way to Washington I stopped at Harper's Ferry to secure transportation for my men and material. While waiting in the quartermaster's office, General Banks, just returning from Washington, introduced me to those in the room with words of praise and told me that he had secured a commission for me. I never received the commission, as some of the operators in the War Department office at Washington saw it burned by one in authority, who explained that if they commenced commissioning the telegraphers they would all crowd into the military service, and there would soon be none left to work the commercial lines.

After the evacuation of Yorktown by the Confederates, although they left buried torpedoes around the works, which made it very dangerous for one to walk anywhere in that vicinity, I immediately occupied their telegraph headquarters and commenced rebuilding the lines as our army moved after them towards Williamsburg. One of our operators, named Lathrop, met his death by stepping on one of the buried torpedoes. Just before arriving at Williamsburg, the Confederates made a determined stand. I had kept well

along in the advance and when the further progress of our army was disputed, we telegraphers were in the ditch at the side of the road. The air was full of shot and shell, and General Heintzleman was excitedly shouting to the music to play 'Yankee Doodle' and 'Hail Columbia.' With this inspiration our armies soon overcame the resistance of the Confederates, and I continued my line building with the advance of the army. That night I camped at New Trent Court House, ten miles in advance of General McClellan's headquarters. I even advanced two miles beyond, until I came in sight of the rebel pickets, but upon their advice decided it would be best not to go any farther.

"While we were laying in front of Richmond a line was wanted at the extreme front, where it was very difficult to build one. I divided the heavy coils of wire among the men, and with some difficulty we finally managed to reach the opposite bank of the Chickahominy River by crossing on the timbers of the destroyed railroad bridge. While making the connection at the railroad, a Confederate sharpshooter, seeing us standing in a group, made us his target, but fortunately did not hit any of us.

"After the failure of the Peninsular campaign, Lee was in Maryland and our connection with Harper's Ferry was broken. The order came to repair the line to Point of Rocks at all hazards. It was a dangerous task, as the Confederate army was flocking across the route of the line. Operator Connelly volunteered to open the office and two cavalymen were chosen to accompany us. We crossed the Monocacy River near the mouth, finally reaching Point of Rocks in safety, but finding that the line which we had supposed to be intact was broken. I went back along the line, meeting here and there stragglers from the Confederate army. In a corn field along the bank of the Monocacy, where the wire crossed the stream, I found it had been cut and a considerable length removed. I did not have enough wire with me to fill in the gap, but fortunately found a coil of tinner's wire hidden among some oats in a barrel in a storehouse, and with this mended the broken line and returned.

"At Frederick City I received a message to go by rail to Lone Star station on the Baltimore and Ohio Railroad, and from there build a line to the north and follow the army moving to intercept Lee at Gettysburg. As I had neither material or men to do the work, I telegraphed to Major Eckert that there was formerly a short line running from Hanover Junction, on the Northern Central Railroad, and it seemed to me that if we could reach that point we could get a connection in much less time. Receiving no reply to my message before it was time for the train to leave, I sent another message, saying that I would await instructions at Baltimore, and asking for a special train to take us to Hanover Junction. Arriving in Baltimore, I found that there was no answer awaiting me, and I sent several more messages with the same result. Finally about midnight I

asked the operator at Washington why I had received no answer to my messages. He said that Major Eckert was entirely worn out and was at home in bed. I was determined, however, to get the train and carry out my proposition to go direct to Hanover Junction. Looking around, I soon came to the headquarter's office, where I found the answers to my messages, which had been promptly sent there while I had been waiting at the Calvert street station. My special train started early in the morning, and when we arrived at the Junction I found that the line was already being used. Colonel Thomas A. Scott having seen the necessity of communication, had gathered the line repairers from along the Northern Central Railroad and built the line. When we learned the result of the battle I started back to Baltimore and from there started for Frederick City, going from that place along the line leading through Middletown to South Mountain Pass. I was confident that our army would keep between the retreating Confederates and Washington, and knew, of course, that they would need telegraph connections. When General Meade reached Middletown the line was waiting for him.

"When General Grant was reorganizing the army I was sent to Hilton Head, S. C., where I remained until nearly the close of the war."

Book Reviews.

"The A B C of Electricity," by William A. Meadowcroft, has been revised and brought up to date, a chapter on wireless telegraphy now being included in the contents. Other chapters of the book explain in simple language magnetism, the telegraph, the telephone, electric light and power and batteries. This book of 114 pages and containing thirty-six illustrations, is one of the most popular elementary books on electricity ever published, and being endorsed by Thomas A. Edison, it goes without saying that the information contained therein is strictly accurate. The price of this interesting and valuable work is fifty cents, and orders may be sent to J. B. Taltavall, Telegraph Age, 253 Broadway, New York.

"Electric Railway Troubles and How to Find Them," by Paul Lowe (Frederick J. Drake and Company, Chicago, 351 pages, 118 illustrations), is a comprehensive treatise on motors, motor operation and repairs, car breakdowns, control systems, repairing of control apparatus, air brakes, air-brake troubles and electric railway operation in general. It is written for the use of the electric railway employe who has not had the advantages of a technical education, and should prove a great help to any who are thus employed and who desire not only to make their services of value to their employing interests, but also wish to advance to higher positions. Price \$1.50. Orders may be addressed to J. B. Taltavall, Telegraph Age, 253 Broadway, New York.

Telegraphic Brevity Spells Economy.

BY H. D. TEED, OF ST. LOUIS.

Superintendent of Telegraph of the St. Louis and San Francisco Railway.

With a limitation of ten words in the average commercial message the general public struggles and often fails to convey what it desires to express in this space.

Perhaps the greatest story ever written, and certainly the most ideal telegram, is told in eight words. This can be found in the first sentence of the first chapter of Genesis, and relates when, who and what were the agencies in the creation of the world.

Indeed, the entire chapter serves for all time as a model for brevity and lucidity.

At the same time, due stress should be laid upon the loss occasioned by too great an effort towards brevity, as the need for an explanation causes more delay and expense than would have been occasioned by a more complete message in the first instance.

An instance is related where an importunate friend of a railroad official, becoming stranded at a distant portion of the line, requested the agent at that point to wire the official for authority to issue transportation in favor of the slack-kneed friend. The official in question having become worn out by frequent calls made by his friend, replied as follows:

"Don't, let John walk."

In transmission the comma was dropped and the stranded friend received his transportation. This is an instance of brevity gone mad, but it is safe to assert that in ninety-nine out of one hundred cases the words in an ordinary railroad message can be reduced from thirty to fifty per cent., and rather increase than decrease clearness.

In December, 1908, 240,415 railroad telegrams were sent and received at the relay offices of the Frisco; namely, Springfield, Memphis, Fort Scott, Sapulpa and St. Louis. With the local messages sent over the wire between points on the different divisions in that period, the total was at least 340,000 messages.

An analysis of these messages will prove that practically 100,000 were unnecessary. Further, that carefully edited or recast, ten per cent. of the words used in these messages were unnecessary.

It is obvious, therefore, that a very important economy can be effected by a proper regard for the telegraph service, both in the use of the wire and in the brevity of the message.

It should be borne in mind that the telegraph service should not be used as a convenience, but for an emergency. Further, that the transmission of a carelessly written, long-worded message frequently delays important ones.

In addition to this the fact should be recognized that slipshod messages make careless operators. A good operator used to concise, lucid telegrams, when compelled to wade through a morass of

words becomes careless and frequently destroys the sense of the message.

Curtness is rarely good, but brevity is certainly demanded in a telegram, and when it is necessary that instructions should be sent by wire, only in very rare instances should these instructions be followed by reason therefor.

The following is an example of a telegram:

At 9 a. m. to-day at — station switch engine 9999 Conductor —, Engineer — while preparing to make drop of three cars and while backing up to the crossing just south of the depot at a speed of about three or four miles an hour struck a two-horse delivery wagon on the crossing driven by — forty-five years old. Married and living at — who is a livery man at that point demolishing the wagon and skimming both horses slightly, throwing — under the lead car S. F. — mty box breaking both legs and badly crushing one of them. Injured man taken charge of by company surgeon who will send — to — hospital on — this morning accompanied by his wife. Injured man turned the corner of cars on team track at the crossing and drove right around the end of the cars on to the main track apparently not looking for the train. Witness to the accident —, Drayman: —; —, occupation unknown. — local rep — Company — all of — Brakeman — was on rear end of car which was being shoved over the crossing but it was impossible to stop before striking the wagon. Wagon was loaded with merchandise which had just been delivered him from Midse. car on team track. One leg will be lost and possibly both. Man not fatally injured.

This message could have been written as follows, and be just as satisfactory:

Switch engine 9999 struck two horse delivery wagon driven by — to-day, breaking both — legs. Details by letter.

Another example is:

While attempting to cross our tracks at — 1:20 p. m. to-day — residing four miles north of — team and wagon which he was driving was struck by our No. — which was switching at — bruising him severely and killing one fourteen year old horse also slightly damaging front end of wagon — attended by — who advises injuries not serious. Injured man claims could not see approach of train account of water tank and baggage room of depot. He is married, farmer and about 55 years old.

This can be reduced to:

Team driven by — struck by No. — at — to-day — bruised one horse killed.

Examples of unnecessary reasons for instructions:

I am alarmed at the delay some of the cars shown on the list to me to-day. Pls. do not order cars for only days supply in advance and get this equipment cleared out, you have cars at — that have been on hand entirely too long. I want you to load the old cars before ordering another supply. We must keep per diem down to the minimum and unless you help out in line with the above we cannot do this.

(Condensed.)—Cars on list to-day delayed entirely too long. Order for days supply only and get moving.

Please issue instruction to your yard at — to bill all hopper bottom coal cars to — and try and move on trains coming through. Cannot use hops at —

(Condensed.)—Bill all hopper bottom coals — and move on through trains.

Herewith some shining examples of telegraphic verbosity, with condensations. Dashes are used in place of proper names and names of towns:

Forty-one empty foreign box cars your division 22 report yesterday. Are these cars being loaded to-day or in direction home or off line? Clean up.

(Condensed.)—Forty-one empty foreign boxes 22 report yesterday. Are they loading home. Clean up.

O. R. & N., —, C-000-X, carries special rush shipment mdse consigned —, T — Okla. out of — train — 7:50 p. m. date. Rush forward advising destination arrival and delivery.

(Condensed.)—O. R. & N., —, C-000-X carries rush shipment mdse. — T —. Out of — train —, 7:50 p. m. date. Rush advising delivery.

Your wire of the 9th, regard to more information in regard to the riprap wanted for bridge approaches north of —; you are aware that they are badly washed with the heavy rains of a few days ago, and unless protected, before another heavy rain the approaches will all be washed out.

(Condensed.)—Wire 9, more information regard riprap wanted for bridge approaches north of —. They are badly washed with recent heavy rains and unless protected before another heavy rain, approaches will wash out.

I can use 40 A. B. & A. flat bottom at — Monday. If you have a surplus and time to line up 40 I will get them over to —. Pls. ans.

(Condensed.)—If possible line up 40 A. B. & A. flat bottom for use — Monday. Ans.

Your W. B. 0000 Feb. 19 Car 0000 glucose —, —, is refused at destination. Consignees advise that should be fully prepaid. How about it. Answer quick.

(Condensed.)—Your W-B. 0000 Feb. 19 0000 glucose —, —, refused destination, consignees advise should be fully prepaid.

B. & O. 000 delivered C. & E. I. — Feb. 7th. You should be aware wire 20th would be too late to make this change.

(Condensed.)—B. & O. 000 delivered C&EI — Feb. 7.

Your wire date. We have 17 cars at — for — and he shows four loading to-day, total 21 cars. Have none between — and —. Have at — this p. m. 17 cars chute coal and 2 cars slack coal, make a total of 38 cars for eng. use. Have instructed agent — to make correct reports to you.

(Condensed.)—Wire date. 17 cars Co. coal — for —, 4 loading to-day. None between — and —, — to-day 17 cars chute coal, 2 slack. Instructed — make correct reports.

Our phone conversation about delay R. I. 0000 —. Please send me copies of advices made to — about this car, showing telegraph service on same, also secure and send me statement from agent — as to offering of this car to Third District conductors and their refusal.

(Condensed.)—Phone conversation delay RI 000 —. Send me copies advices to — showing telegraph service and statement agent about conductors refusing.

Mrs. —, wife of engineer, on 000 to-day via — enroute —, holds pass F-000. Instruct conductor train 000 to-night to honor, attaching message to pass as authority for so doing, also stop 000 at — to permit her to get off at that point, account death family. Answer.

(Condensed.)—Mrs. — on 000 via — en route —, pass F-000. Instruct conductor 000 to-night honor, attaching message. Stop 000 —. Death family. Answer.

However, to console many whose telegrams are in the accompanying examples, we will add that the title of the assistant inspector in the railway telegraph service in Germany is: Eisenbahnbetriebstelegrapheninspektionassistenten.

The Origin of the Symbol "O. K."

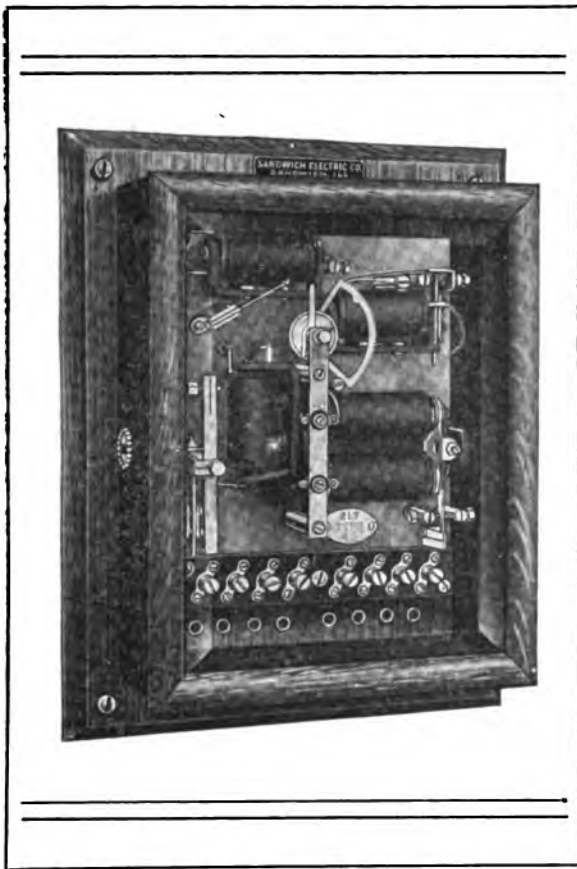
The origin of the use of the letters "O. K." is a subject which has often been brought up for discussion. Mr. James D. Reid, who died in 1901, and who during his lifetime was often affectionately spoken of as the "Father of the Telegraph," having associated himself with Professor Morse in 1845, gave the following account as his understanding of the first use of these characters:

"There is a little obscurity about the first introduction into literature of the characters O. K. They originated, it is believed, in the answer of a Southern postmaster to a communication from Washington to which he replied 'Oll Koreect,' and which caused much amusement at the time, as the communication had some relation to the retention or loss of his head. This was in 1839, or early in 1840. In the Maine campaign of 1840 the Democrats of Portland arranged with the Captain of the Boston steamer to place the letters 'O. K.' on the wheel house of his boat if the elections were going all right for the party, which many interpreted 'out of kole.' Its first use on a commercial telegraph line was in January, 1846, on the line of the Magnetic Telegraph Company, of which I was superintendent, and was as follows: 'To prevent all doubt of the reception of messages, no message will be regarded as received by the office to which it has been transmitted until the signal O. K. has been received acknowledging its reception.' The same signal was used on the Government experimental line in connection with the repetition three times of the letters i. i. i. i. i. O. K. The signal soon became universal."

How Edison Was Once Discharged.

Mr. B. F. Bush of Denver, Colo., who is still in telegraph harness and who after the close of the war, until 1869, was chief operator of the Western Union Telegraph Company at Nashville, Tenn., while acting in that capacity, had the distinction of discharging Thomas A. Edison. In relating the incident some time ago Mr. Bush gave the following explanation: "It was this way. Edison was in Nashville on the New York circuit No. 3, and he was so full of ideas about inventions that he didn't keep his wire clear. I was given orders to lay off all the men who neglected to keep their work up and I had to lay off Mr. Edison. He was about 20 years of age and was even at that time recognized as a genius in invention. I guess he has forgotten all about it by this time, but all the old operators when we get together have to tell that story on me. Edison was a good operator, but he had too many ideas in that head of his to pay attention to details on the New York circuit."

There is much for telegraph operators to learn respecting their calling which can be readily obtained by reading *Telegraph Age*—\$2 a year.



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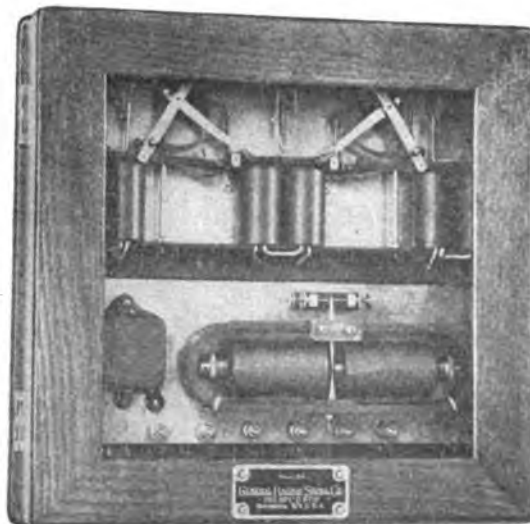
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Results count. KERITE wires and cables installed half a century ago are in service to-day. The wonderful durability of KERITE insures the highest safety and economy.

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Railway Exchange, CHICAGO, ILL.



The Railroad.

Mr. W. S. Melton, superintendent of telegraph of the Queen and Crescent route, has transferred his headquarters from Lexington to Danville, Ky.

The annual meeting of the Railway Signal Association will be held at Louisville, Ky., October 12, 13 and 14. Friday, October 15, the members and visitors attending the convention will enjoy an excursion to the Mammoth Cave.

The Sunning Railroad, which has recently been completed in China, has been built entirely by Chinese capital and labor. The new road, which is forty miles long and has twenty stations, is equipped with a telephone train despatching system.

The Boston and Maine Railroad, S. A. D. Forristall, superintendent of telegraph, placed in operation their first telephone despatching circuit on August 22. The new circuit extends over the Fitchburg division, is fifty-three miles in length and is giving complete satisfaction in its operation.

The Michigan Central Railroad, James J. Ross, superintendent of telegraph, is equipping two divisions from Jackson to Niles and from Niles to Kensington with telephone train despatching circuits. The total length of the two divisions is 200 miles, and it is expected that the Niles-Kensington circuit will be in operation by September 10, and Jackson-Niles circuit will be completed by October 10.

The twenty-ninth annual convention of the Association of Railway Telegraph Superintendents will be held in Los Angeles, May 16-20, 1910.

John L. Davis, superintendent of telegraph of the Chicago and Eastern Illinois Railroad, president of the association, has announced the following committees:

Topic Committee—J. B. Sheldon, F. E. Bentley and J. G. Jennings.

Committee on High Tension Wire Crossings—G. A. Cellar, C. Selden, G. H. Groce, W. W. Ashald and W. P. Cline.

Entertainment Committee—I. T. Dyer, F. S. Rawlins, E. A. Klippel, B. F. Frobes, B. A. Kaiser, P. W. Miller and A. P. Eckert.

Ladies Reception Committee—Mrs. B. F. Frobes, Mrs. I. T. Dyer, Mrs. F. S. Rawlins, Mrs. E. F. Raymond and Mrs. H. C. Chase.

The telegraph instruments used on the railroads in New Zealand are mostly old style Morse tape machines, but these are gradually being replaced by sounders and more up-to-date apparatus. Most of the smaller stations are worked by telephone, or phonophone. One railroad has five telephone circuits, on one of which there are twelve offices within sixty miles. During the day the telephones are worked by boys (probationers), and as they are in the same room as the Morse instruments, the noise of these boys shouting, combined with the ringing of the telephone bells, tooting of phonophones, and the train noises outside, make a perfect "bedlam" and is at first very

trying on the nerves. At night the operators look after the telephones, as well as the Morse instruments.

Woodpeckers Attack Telegraph Poles.

Considerable damage is being done to telephone, telegraph and electric light poles by members of the woodpecker family. These birds originally built their homes in the dead or dying trunks or limbs of trees, but for some reason best known to themselves, have come to the conclusion that the peeled pole offers better conditions for a home.

They have become so ravenous of late that their depredations are attracting considerable attention among those who are compelled to use quantities of wooden poles. Their activities spread over a wide portion of the United States, notably in the south, southwest and central west. Cedar poles seem to be the ones most frequently attacked. The birds bore into them at any height from the ground, and the holes which they make are often two or three inches in diameter and four or five inches deep. Such an amount of wood drilled from a stick of timber which is carrying a load of wires naturally weakens the strength of the line.

It would, of course, not be a difficult matter to exterminate these birds. However, this is not desirable, as they are among the most beneficial forms of bird life native to this country, because they destroy large numbers of insects which seriously damage forest and food crops. It seems, therefore, that methods should be undertaken to compel the birds to revert to their former habit of boring rather than to exterminate them.

Frequent inquiries have been made by the Forest Service in this connection, but the only information to date which the Government has been able to obtain is that on a casual inspection of treated and untreated pole lines in Louisiana. In that region it was found that poles which had been impregnated with creosote oil were not attacked by the birds, whereas untreated poles under the same conditions were very severely injured.

Whether or not creosote will prevent such attack is not definitely known, but the service is investigating this problem, and should this oil prove a preventive it will fulfill a two-fold purpose: It will protect the poles from decay and destruction from animal life. In southern Indiana, some members of a traction company thought that they could prevent further destruction of their poles by filling the holes in the wood with stones. The birds, however, simply drilled around the stones and made the conditions much worse. This apparently does not seem to be a means of preventing their depredations.

Orders, if sent to Telegraph Age, Book Department, for any book required on telegraphy, wireless telegraphy, telephony, electrical subjects, or for any cable code books, will be filled on the day of receipt.

Radio-Telegraphy.

Willemstad, Curacao, now has a wireless telegraph station for commercial business.

It is claimed that wireless telephonic communication was carried on recently between Toulon, France, and Port Vendres, a distance of 155 miles.

A bill has been prepared in France prohibiting the employment of any radio-telegraphic apparatus on French territory or on any French vessel without state authorization.

A patent, No. 929,349, for a wireless telegraph system, has been granted to C. R. Underhill, of Providence, R. I. A wireless receiving device in which all the devices are controlled by a high-resistance relay or equivalent device.

A patent, No. 929,745, for wireless communication, has been taken out by C. D. Babcock, of New York. A platinum wire terminal whose end is flush with the glass envelope and dips into a conducting liquid, acts as a wireless detector.

The main station of the Marconi Wireless Telegraph Company at Glace Bay was destroyed by fire August 21. It can be at least a month before the equipment can be replaced. The usual wireless service to and from steamers off the coast, however, is still maintained.

The "Aerogram," the daily publication which is issued on board ships equipped with United Wireless Telegraph Company's apparatus, is an interesting sheet which, besides printing the latest news of general interest, tells of late developments in the wireless field and also publishes some interesting stories to help the ocean traveler pass the hours away.

As a result of the increased safety of vessels which are equipped with wireless apparatus, as has been shown so conclusively in many instances, it is reported that steamship companies having wireless equipment on their vessels will apply for lower insurance rates. A proposition to this effect will be considered by the international marine insurance congress which meets at Baden-Baden, Germany, September 8.

A French experimenter during recent researches on detectors consisting of bodies in imperfect contact, found that a detector consisting of a metallic point resting on a piece of copper pyrites behaved like an automatic decoherer when it was connected in circuit with a battery and telephone, but also possessed the additional property of receiving signals without the battery, thus exhibiting the same properties as an electrolytic detector. In the case of the electrolytic detector this property is explained by a polarization which gives rise to a dissimilarity of the electrodes. In the case of the metallic point and copper pyrites electrodes, however, the property is believed to be explained by the production of an electromotive force due to a thermo-electric effect at the point of contact.

A patent, No. 929,487, for a wireless signaling system, has been issued to V. Poulsen, of Copenhagen, Denmark. Supplies an atmosphere of hydrogen to the arc for producing electric waves and varies the supply according to the signals to be transmitted.

A patent, No. 930,508, for a receiver for high-frequency electrical oscillations, has been secured by Frederick K. Vreeland, of Montclair, N. J. Two relatively movable coils are arranged in close inductive relation with their magnetic fields mutually opposed, such coils being connected in parallel.

The Wireless Institute of New York has appointed a committee to draw up rules for wireless telegraph standardization similar to the rules adopted by the American Institute of Electrical Engineers covering other branches of the electrical industry. At the next meeting of the Institute, to be held in the Engineering Societies Building, September 1, Mr. Harry Shoemaker will present a paper on the subject of "High Frequency Oscillations."

Many experiments of remote control by wireless are being conducted in different quarters of the globe. Both in France and in Sweden torpedoes designed to be controlled by wireless have been constructed and are being thoroughly tested. The inventors expect that they will be able to direct the course of the torpedo for several miles, as well as to explode it from a distance when desired. An American inventor has recently succeeded in controlling the movements of a dirigible balloon from a distance of over a mile. We may next expect to hear of the invention of a wireless telegraph repeater.

The value of wireless as a burglar alarm is one of the latest discoveries. The steamship *Corwin*, while off Nome, was riding high in the water, and the heavy band of copper that encircles the wooden hull and to which is attached the ground wires of the wireless apparatus, was shining only a few inches below the surface of the water. Three Eskimo who had come out in their boat noticed the bright copper and immediately began trying to wrench it off.

The crew were soon attracted to the side of the vessel by a commotion and cries of pain. They saw the Eskimo writhing in the water and shouting with might and main.

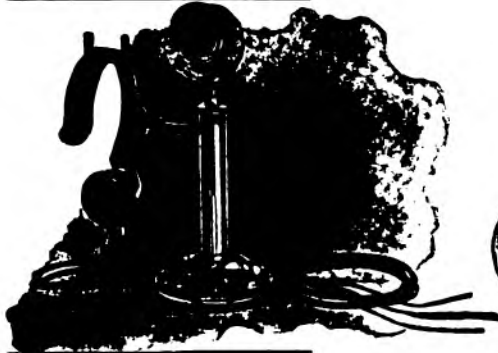
For some minutes they were at a loss to understand the strange actions of the natives. Then it was discovered that the little brown men were hanging to a loose wire with one end attached to the copper plate. Suddenly the whirling ceased and the Eskimo dropped into the water and swam away to the ice floe.

Upon investigation it was found that the United Wireless operator aboard had been sending a message to the government wireless station at Nome and that the natives grasped the ground wire just in time to get the full 25,000 volts of electricity and were unable to let go until after the operator had ceased sending.

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Charles J. Glidden as a Leader of Tourists.

"Old Farmer" Lawton of the Western Union Telegraph Company, Denver, accompanied the Glidden tour people to Kansas, having been sent by Superintendent S. E. Leonard to look after their wants. Mr. Lawton took with him five star operators from the Denver office and at points where the Gliddenites stopped for the night, the railroad stations were transformed into hustling city telegraph offices utilizing the depot waiting rooms for the accommodation of operators and representatives of the press that accompanied the tour. The amount of press matter handled at the different stops exceeded, by several thousand words, the amount ever handled at those offices before, and the small towns were all on the map of the world the following mornings when the news sent out was published in the papers all over the United States.

Mr. Lawton returned with many kind remembrances of the Gliddenites and says that Charles J. Glidden is in the same class with President Roosevelt, when it comes to making friends with the public in his travels.

Under the guise of escorting Mr. Glidden to a prayer-meeting the evening they spent at Hugo, Colo., the "Old Farmer" piloted Mr. Glidden to a country dance. The music was stopped and Judge Miles introduced their distinguished visitor. Mr. Glidden responded in his pleasant way, thanking the citizens of Hugo for the great trouble they had gone to in decorating their town and the warm reception they had met with upon their arrival, after which a general handshaking took place, practically turning the ballroom into a social gathering until the "Old Farmer" suggested to the fiddler that he had best resin up his bow and give the young people a chance to resume their heel and toe festivities before he and Mr. Glidden were accused of breaking up the dance.

Mr. Glidden was also much interested in a 500-acre field of wheat just ready for harvest near Hugo, and when the "Old Farmer" told him up to three or four years ago that the same soil would only produce range cattle, he asked for a photograph of the field, which was furnished him.

Mr. Lawton said that Mr. Glidden not only enjoys meeting the people at the small towns they stop at, but that he also makes a study of the country, its crops and general resources, which data he puts into book form covering the twenty-eight different countries of the world that he has driven his automobile through in the past few years. The favorable impression he gained of Colorado and Kansas while passing over nature's macadamized public roads and seeing the rich harvest of the grain and the green growing crops, will give these States fine notices in his continued articles.

Near Kit Carson the first cars were detained several minutes while several thousand cattle crossed the roadway going to water. The tour-

ists were a little angry at first, but when the ranchman who owned the cattle came out with a large can of fresh buttermilk and made the excuse of thirst upon the part of the cattle for blocking the public thoroughfare, they made the best of it, and Mr. Glidden asked the ranchman how he had succeeded in getting such a large herd of cattle. When informed by the ranchman that he and his wife arrived in eastern Colorado about 40 years ago with one yoke of oxen from which beginning this vast herd had sprung and in addition said that their ten children had all been sent off to college, there was some tall figuring done by the tourists in the tied up cars while Mr. Glidden made his usual notes for future reference.

At Oakley, Kan., the railroad agent produced his last year's book and showed where 150 cars of wheat had been shipped from that station that year, after which the two elevator men showed Mr. Glidden where they had already contracted for almost 300 cars of wheat this year, doubling the output from that station. All this information was noted.

In addition to being one of the world's greatest automobile travelers, Mr. Glidden is enthusiastic over ballooning, owning two fine balloons in which he has made over thirty ascensions, being his own aeronaut. He says he likes to take out a balloon on a hot day and go up where it is nice and cool and where he can see more of God's beautiful earth that he prepared for us.

It is not generally known that Mr. Glidden is an expert telegrapher. At Oakley, Kan., while the force of imported operators were at supper, Mr. Glidden and the "Old Farmer" sat in on a couple of wires just to keep things moving. Upon the operators' return and hearing the perfect Morse that Mr. Glidden was handing to Chicago, they felt a little shaky about relieving him. The "Farmer" says he don't suppose Mr. Glidden will ever be looking for a position with the telegraph company, but if he does, there is always a job open for him in the Denver office.—Denver Republican.

Among a number of books on the market treating of the general subject of train despatching, that bearing the generic title of "The Train Dispatcher," written by A. W. Early, a train despatcher himself, has gained a wide popularity, its value being based on the fact that it is one of the best books of the kind ever produced. It supplies a certain practical information of a class desired by the ambitious worker as a guide and inspiration to him in his daily work. Its 104 well printed pages are packed full of educatory matter, and the volume should be, as it has been, a welcome possession to every telegraph operator and train despatcher in the railway service. This book will be sent to any address on receipt of price, \$1.00. Address J. B. Taltavall, Telegraph Age, 253 Broadway, N. Y.

The Robert W. Martin Fund.

The fund for the assistance of the well-known old-time telegrapher, Robert W. Martin, is growing slowly, but the committee having charge of the fund feel that there are many who expect to contribute something to this worthy cause, but have neglected to send in their remittances when the matter has been brought to their attention, thinking they would "do it to-morrow." The committee, which consists of J. B. Taltavall, of Telegraph Age; Charles W. Price, of the Electrical Review; T. Comerford Martin, of the Electrical World, and T. A. McCammon and Fred Catlin, of the Western Union Telegraph Company, urge all such to "do it now" and help to brighten the days of adversity which have befallen one who, when in his prime, was a brilliant and honored member of the telegraphic profession. All contributions should be addressed to J. B. Taltavall, Telegraph Age, 253 Broadway, N. Y.

To give an example of the ability of Mr. Martin as an expert telegrapher thirty years ago, the following story was received with a contribution of \$2.00 from Mr. H. C. Richardson, then an operator in the service of the Western Union Telegraph Company, at 195 Broadway, N. Y., but for many years past in the general electrical business. He says: "In 1879, one day on being assigned to the Springfield, Mass., circuit, I impersonated a pair of Bob Martin's old pants. The first message I transmitted was addressed to the Spring-

field manager. It read, 'The pants have been bought and hung out as requested, A. S. Downer. I learned later that this message was in reply to one from Springfield, which read, 'If you will buy a pair of Bob Martin's old pants and hang them out on No. 4 we will get better service.'"

Mr. Harvey D. Reynolds, superintendent of the Postal Telegraph-Cable Company at Buffalo, N. Y., states in a letter addressed to Miss M. J. Macaulay that he is glad to forward \$10.00 to the Robert W. Martin Fund. He added: "I knew 'Bob,' as we called him, and we are all extremely sorry for him and his family." The \$10.00 covers \$5.00 from Mr. H. D. Reynolds, \$3.00 from Mr. J. W. Sullivan and \$2.00 from Mr. N. Hucker, all of Buffalo.

Mr. C. H. Newman, manager of the Postal Telegraph-Cable Company, Buffalo, N. Y., in forwarding \$5.00 for the Martin fund, said: "It was my privilege to copy the Associated Press from his sending back in 1880 and I well remember the beautiful rhythm of his clear-cut Morse. I sincerely sympathize with him and his family in their affliction."

Mr. J. Frank Howell, a former well-known telegrapher, but for several years past a prominent New York broker, in a letter dated August 18, says:

"When I read the appeal of Walter P. Phillips for a rally to the aid of that grand telegrapher, Bob Martin, methought unto myself 'do it now'

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35 to 40	1.50	75 cents
40 to 45	2.00	\$1.00

and be ever happy, but, being heir to that habit so generally characteristic in man—procrasination—when I go into the business maelstrom it seemed as though I became lost, at least in neglectfulness. But to-night, August 18, while the Old Timers are in the midst of their annual 'talk-fest' and all around joyfulness at Pittsburg, I am reminded of a sense of duty by the glowing tribute paid by my old Jersey friend, Samuel Bogart. But I am constrained to think that when Sam said 'hoscry' for 'hosiery' was his only valentine, he was reckoning without his host and meant only valentine ever 'pinned' on him, for it was one of 'Old Man' Kavanaugh's standing jokes that Sam made possible the origination of 'Get me at storehouse' for 'Meet me at Astor House.' However, it is not my desire to enter into a discussion with anyone possessing the rhetorical faculties and reminiscent mood as does Sam, who, it is said, thinks and talks 'wireless.'

"It is a pity that some of 'Rm's' perfect Morse could not have been put on phonograph records and sold to his friends and to the younger generation as an example worth emulating, and at the same time be an asset to his family. Were this man's ability equally musical or oratorical, the record factories would be working overtime.

"The Rev. Harry H. Henry, known from Maine to California telegraphically, and probably one of the gentlest and most sympathetic of his sex, was in to see me a few days ago and waxed warm in his enthusiasm of 'Rm's' receiving ability (which shows he was not a one-sided 'Op') in the early days of the New England Press, years ago when the majority of the present generation were in the 'unheard of' land.

"I am enclosing check for \$20.00, ten from myself and ten collected in small amounts from business friends, including \$1.00 from Rev. H. H. Henry."

The contributions received for the fund to date are: Previously acknowledged, \$127; C. H. Newman, Buffalo, \$5; H. C. Richardson, Metuchen, N. J., \$2; H. D. Reynolds, Buffalo, \$5; J. W. Sullivan, Buffalo, \$3; N. Hucker, Buffalo, \$2; T. Comerford Martin, New York, \$10; Mrs. Margaret Flood, New York, \$5; J. Frank Howell, New York, \$10; Business friends of J. Frank Howell, \$9; Rev. H. H. Henry, \$1; J. M. Adderman, Providence, \$5; A. B. Suesman, Springfield, Mass., \$1; M. F. Lawler, Utica, \$1; Ralph D. Blumenfeld, London, \$5; J. J. Corrigan, Cleveland, \$2; Edwin Peel, Grandin, Fla., \$1; Western Union operators, Buffalo, \$10.50. Total, \$204.50.

Obituary.

Charles H. Parent, aged sixty-two years, a well-known figure in telegraphic and stock exchange circles in Montreal, died in that city August 4.

Frank W. Miller, manager of the Elizabethtown, Pa., office of the Western Union Telegraph Company, died August 4, aged fifty-four years.

John C. Mulkey, an operator employed by the

Western Union Telegraph Company at Jacksonville, Fla., died August 20, aged thirty-eight years.

Mrs. Octavene F. Adams, aged forty-three years, died at Wilksburg, Pa., August 9. Mrs. Adams was well known in telegraphic circles in Pittsburg and vicinity, having been at one time manager of the East Pittsburg office of the Western Union Telegraph Company.

George W. Baxter, of Cleveland, O., died at Pittsburg, Pa., August 19, aged seventy-one years. Mr. Baxter was in attendance at the reunion of the Old Time and Military Telegraphers. As the speeches at the banquet were about to begin he stepped out into the corridor to get a breath of fresh air. While walking in the lobby of the hotel he fell, unconscious, and soon died of apoplexy. Mr. Baxter, who was repeater chief for the Western Union Telegraph Company at Cleveland, was a well-known member of the United States Military Telegraph Corps. A sketch of his military service as well as his engraving made from a recent photograph, appeared in our August 16 issue.

Charles W. Hammond, who for many years was superintendent of telegraph of the Missouri Pacific Railway, died at St. Louis August 13, aged seventy years. Mr. Hammond entered the telegraph service in 1853 and in 1861 and 1862 was a prominent member of the United States Military Telegraph Corps in Missouri. He subsequently served in St. Louis as superintendent of fire and police telegraphs, manager for the Atlantic and Pacific Telegraph Company and superintendent of telegraph of the Missouri Pacific Railway system, which position he held until his retirement from active life in 1903. Mr. Hammond was one of the most widely known and popular telegraph men in the United States, and his passing away is regretted by a large circle of friends.

Western Union Telephone Case.

A finding in favor of the plaintiff for approximately \$5,000,000 has been reached by Everett W. Burdett, special master, in the case of the Western Union Telegraph Company against the American Telephone and Telegraph Company, for an accounting under a contract dated November 10, 1879. The claim of the plaintiff was for 38,188 shares of stock, par value about \$3,500,000, and \$5,873,292 in cash. The master finds that it is entitled to 20,087 shares of stock and \$2,579,914 in cash.

The case has been before Mr. Burdett since February 1, 1904, when he was appointed by Judge Colt as a result of the decision of the United States Circuit Court of Appeals, handed down in December, 1903, in which the court ruled that the Western Union was entitled to an accounting.

The master's report has been filed with the United States Circuit Court and the next move in this famous case will be the filing of exceptions to this report by the defendant and the argument of those exceptions before the court.

LETTERS FROM OUR AGENTS.**PHILADELPHIA, WESTERN UNION.**

George Merrihew, traffic chief, who has served the company for fifty years, has been placed on the retired list.

Mahlon G. Moyer, assistant traffic chief, has been appointed traffic chief, to succeed Mr. Merrihew. Mr. Moyer entered the telegraph service in 1872 with the Philadelphia, Reading and Pottsville Telegraph Company. He afterward was employed by the Atlantic and Pacific Telegraph Company until 1878, when he entered the employ of this company at Philadelphia, where he has been ever since. In 1882 he was transferred to the Phelps printer department, and was in charge of that branch from 1883 until 1894, when he was appointed assistant traffic chief, which position he has since held.

George W. Wood, who has been in charge of the Phelps printer department, has been appointed assistant traffic chief, vice Mr. Moyer.

William P. Curl has returned to this office after an absence of several years.

Miss Nanna G. Hall, who has served for five years as manager of the office at Chester, Pa., has been transferred to the main office in Philadelphia. She is succeeded at Chester by W. F. Gray, of New York.

Miss Jolly Purcell, now of Buffalo, but for a number of years located in Philadelphia, was a recent visitor.

Harry Bolig has resigned to enter other business.

PHILADELPHIA, POSTAL.

Mr. L. Lemon, division superintendent, who relieved superintendent C. E. Bagley while the latter was away on his vacation, paid the operating room a pleasant call before leaving the city.

A new assistant traffic chief's position was created in this office August 1, and M. W. Frankel, who has been working the St. Louis bonus wire, is the first man to occupy the new post.

Daniel Hoffman, manager of the office in the wholesale merchandise district, was married recently to Miss Bessie Ancker, formerly of the Rowland force.

Among the recent visitors to this office were: V. J. Albert, manager at Baltimore; F. B. Travis, manager at Washington; C. H. Newman, manager, and J. W. Sullivan, chief operator, at Buffalo, and J. J. Whalen, assistant manager at New York.

Many of the operating force have returned from or are now enjoying vacations. Charles E. Stump, manager of the fruit and produce district office, is among those away at the present time.

T. S. Johnson, who has been ill for about twelve weeks with typhoid fever, has returned to duty.

Among the arrivals in this office are: James Denniston, recently of Washington; J. J. Sullivan, J. B. Cullen, A. L. Smithers and J. S. Custer.

The "S. R. S." in Philadelphia has caused great enthusiasm among the employees of the company, and they have shown the extent of their loyalty by putting forth their best endeavors to make it a complete success.

Miss Anna Byrne, recently of the telephone department, has been promoted to the Morse department as operator.

CHICAGO, WESTERN UNION.

Charles R. Zink, of the quad room day force, has resigned to go West on account of the poor health of his wife. G. R. Raabe succeeds Mr. Zink.

J. A. Chawk, formerly assistant chief in the Metropolitan division, nights, is now in the quad room. P. A. Shultz, from the Illinois division, succeeds Mr. Chawk.

B. D. Stoll is now assistant chief in the Illinois division, nights.

C. H. Finley is at his desk after a vacation spent in northern Wisconsin.

C. R. Copeland, timekeeper, has returned after a three weeks' trip through Colorado.

W. F. Webber, of the Western switchboard, is taking a vacation among the lakes in Michigan.

C. H. Shell, assistant traffic chief, is away on a two weeks' vacation.

G. R. Raabe, of the quad room day force, had a son born to him August 20.

J. A. Martin has returned to duty after a sickness of three months.

F. L. Donaldson, loop chief, accompanied by his wife, is spending a vacation at Mackinac Island, Mich.

F. J. Daly, of the quad room night force, has resigned to take a position with the Chicago, Milwaukee and St. Paul Railroad, at Miles, Mont.

O. O. Tracy, manager at Keokuk, Ia., and H. F. White, manager at Cedar Rapids, Ia., were recent visitors.

NEW YORK, WESTERN UNION.

L. Leipman has been appointed night traffic chief in the city line, vice Mr. Demskie, resigned. J. D. Price has been appointed night traffic chief in the eastern division, succeeding Mr. Leipman.

W. J. Dixon, formerly of this office and lately employed at 16 Broad Street, died in Brooklyn, August 9.

A. E. Hynds, of the commercial news department, has been appointed chief operator of the commercial news department of Philadelphia, Pa. Mr. Hynds has been with this department in New York for the past two years, and his many friends wish him success in his new field.

J. W. Maher has been assigned to Long Branch, N. J., for the summer.

Messrs. Levinson, C. A. O'Connor, J. B. Large and D. G. Bradford have been transferred to Saratoga for the remainder of the season.

Mr. E. Payson Porter, a forty-niner of the telegraph of this office, but who, for some time past

has been spending his summers at Asbury Park, N. J., has recently undergone an operation on one of his eyes which it is thought will result in his recovering his former sight which has been failing him of late.

A. M. Lewis, chief of the Eastern division, is enjoying a vacation.

OTHER NEW YORK NEWS.

Assessment No. 497 has been levied by the Telegraphers' Mutual Benefit Association to meet the claims arising from the deaths of Orrin S. Wood at Turner, N. Y.; Janet A. B. Brown at Hochelega, Ont.; Charles C. Reynolds at Indianapolis, Ind.; William J. Grier at Oakland, Calif.; Daniel D. Dillon at Ontario, Calif., and William T. Craig at Cherokee, Ala. Mr. Orrin S. Wood was always a good friend of the Association. In 1886 he contributed \$100 to the reserve fund and at his death made the Association his beneficiary to the extent of half the amount of his insurance, or \$500.

Semi-Annual Report of Serial Building Loan and Savings Institution.

The forty-ninth semi-annual statement of the Serial Building Loan and Savings Institution for the six months ended June 30, 1909, was as follows:

Assets.	
Cash on hand.....	\$6,740.19
Mortgages	429,752.75
Stock loans.....	7,585.00
Real estate.....	14,685.75
Land contracts.....	8,611.11
Advances to members.....	2,186.02
Total	\$469,560.82
Liabilities.	
Installments	\$250,456.00
Credited earnings.....	56,830.39
Juvenile savings.....	418.25
Matured shares.....	42,600.00
Full paid shares.....	38,600.00
Borrowed money.....	43,361.56
Due on loans.....	1,000.00
Contingent fund.....	23,000.00
Undivided earnings.....	13,294.62
Total	\$469,560.82

Civil Service Examination for Electrical Assistant in Signal Service.

The United States Civil Service Commission has announced an examination on September 29, 1909, to secure eligibles from which to fill two or more vacancies in the position of electrical assistant in the Signal Service at Large, War Department, at \$1,080 per annum. Applicants should be thoroughly familiar with the practical side of electricity as applied to telegraph, telephone and cable engineering, and also with the methods of testing and installing electrical instruments used in fire control, such as storage batteries, motor generators, power and telephone switchboards, wireless telegraph apparatus, telegraphs, electric clocks, telephones, etc.

Trade Notes.

The Electric Storage Battery Company of Philadelphia has issued an illustrated bulletin upon "The Application of Storage Batteries to Isolated Lighting and Power Plants," in which they give an interesting description of the battery system which they have installed in the Hudson Terminal Building, New York.

The Manufacturers' Advertising Bureau of 237 Broadway, and the Banning Company, of 225 Fifth Avenue, have consolidated, forming the Manufacturers Publicity Corporation, with offices at 30 Church Street. The officers of the new corporation are: Benjamin R. Western, president; Walter Mueller, vice-president and general manager; W. H. Denney, treasurer, and W. Hull Western, secretary.

The United Western Telegraph Company has been incorporated in Chicago for the purpose of operating telegraph lines. The incorporators are F. Dobe, T. S. Roberts and J. H. Vallette.

The Serial Building Loan and Savings Institution, 195 Broadway, New York, invites correspondence with prospective depositors who are directly or incidentally seeking the purchase of a home. Although generously sustained by telegraphers, for whom it was originally established, it should have a larger clientele among the fraternity, and asks their accounts.

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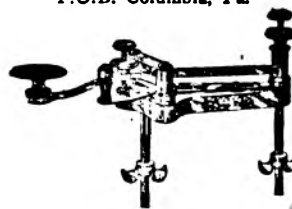
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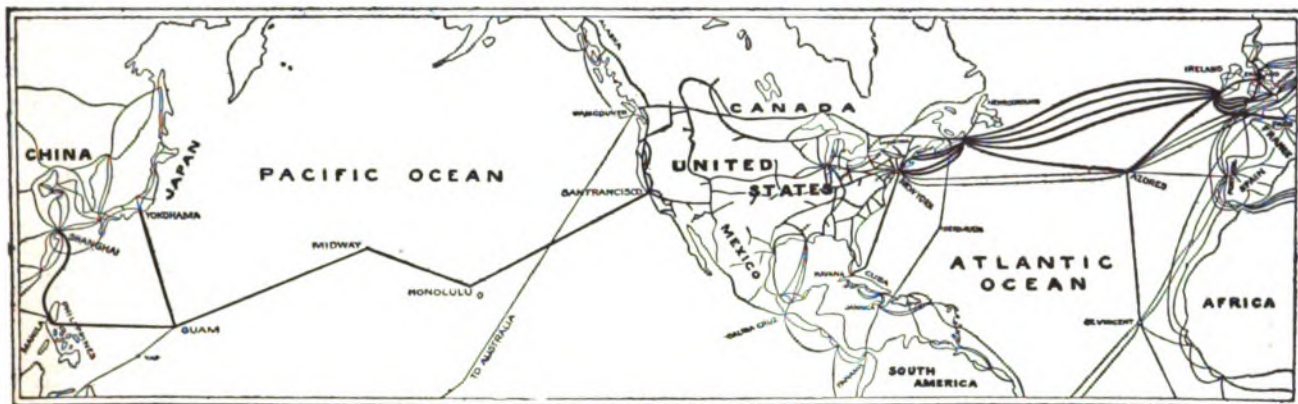
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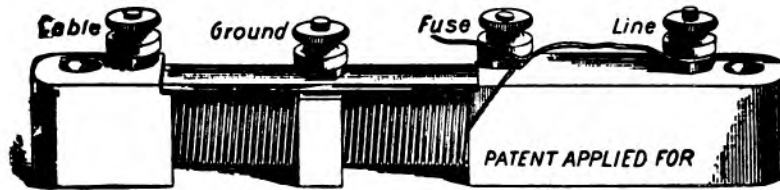
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NO. 18.

NEW YORK, SEPTEMBER 16, 1909.

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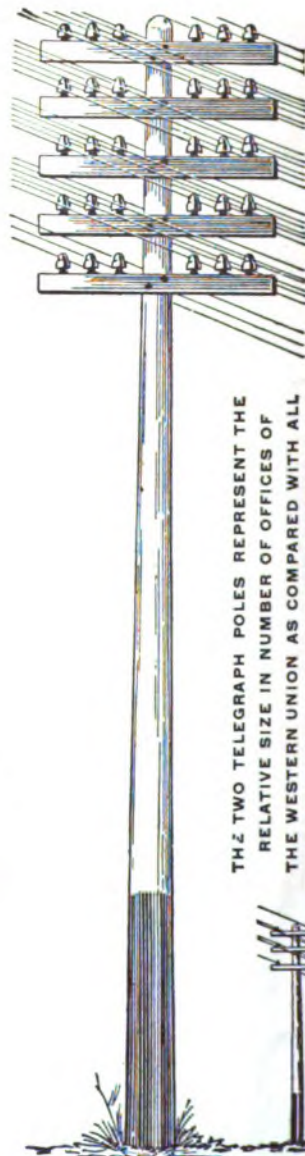
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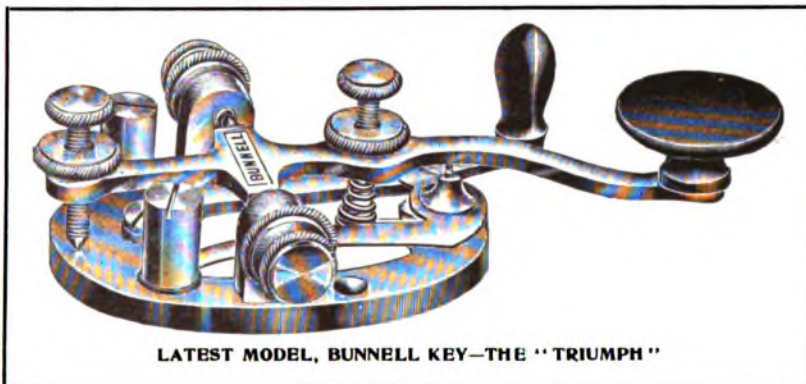
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No. 18.

NEW YORK, SEPTEMBER 16, 1909.

Twenty-sixth Year.

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SOME POINTS ON ELECTRICITY.

BY WILLIS H. JONES.

Confusion of the Electrical Terms, Positive and Negative, Students Greatly Perplexed by Popular Misuse of the Terms.

There are probably no two electrical terms which perplex the student more than the words "positive" and "negative," as conveniently used in connection with currents and magnets, yet their true meaning and application may be readily recognized if one will study the terms closely.

What confuses the beginner most is probably the promiscuous manner in which the terms are defined, applied, and frequently misinterpreted by many.

Thus in some text-books electricity is defined as consisting of two fluids, one of which is called positive and the other negative. In others this definition is qualified by the statement that if there are not really two fluids, electricity at least possesses two distinct properties or forces which act magnetically and otherwise in directly opposite manner.

Again, the words positive and negative are used to represent directions in the flow of an electric current as well as that of the magnetic lines of force circulating in iron or other medium.

In common parlance with laymen, the terms are also linked with words "copper" and "zinc," respectively, the "north" and the "south" pole,

and in various other ways applied in such a manner as to at first lead the student to believe that the words positive and negative are merely general terms which cover a great many electrical conditions.

Probably the best way to get a clear interpretation of the terms is to consider the words positive and negative as representing nothing more than the direction in which electric currents flow, or in the case of a magnet, the direction in which the magnetic lines of force which always accompany the current flow or circulate in the iron core. Remember that a positive current is one which flows **out** into the line from the battery, while a negative current is one which flows **into** the battery from the external line in which it is connected.

In other words, positive means "from" and negative means "towards" the battery. This rule holds good under all circumstances. Whether there is battery at each terminal of the line or merely at one end, while the other terminal is grounded, makes no difference, the polarity of the current will depend upon the direction the current flows with respect to the battery supplying it.

In like manner the terms positive and negative indicate respectively the direction the magnetic lines of force flowing in a horseshoe-shaped magnet are taking. That is to say, if the lines flow out from one pole piece, that end of the iron is the positive, and the other end where it re-enters is the negative pole. The positive pole piece is also called the north pole, and the negative the south pole, probably in order to coincide with the greatest of all magnets, the earth, the positive pole of which is in the north, and the negative in the south, respectively.

Now, unless the student accepts "direction" as the true definition of the terms he may readily be confused as to their application. For example, in the old days of the chemical batteries, when a positive current was desired, it was customary to say "give me copper to the line," or if the negative was wanted, "give me zinc." The natural inference with laymen of course would be that copper is positive and zinc negative, and to this day the idea still clings to many old-timers that this is true. The fact is, copper is the negative element of the battery and zinc is the positive. This point may be made clear by remembering that in all batteries the electrode or plate that is eaten up by the acid solution in the jar is invariably the positive element and that the current thus created starts from that plate and only enters the line

after it has first passed through the liquid in the jar and through the copper plate to which the line is connected. Hence, while it is true that copper to the line gives a positive current, one should not jump to the conclusion that copper itself is positive.

Another erroneous idea is that a positive current necessarily creates a positive magnetic polarity in that end of the iron core of a magnet where the current enters the coil, or a negative pole at the same point if a negative current is used.

The polarity of either leg of a magnet depends entirely upon whether the current used drives the magnetic lines of force "in" or "out" of the leg specified.

Of course, with a given winding a positive current will drive these lines in a direction directly opposite to that which negative will force them, but either current may be so harnessed that the direction of the said lines will be the same. For illustration, the rule is that if a current of electricity flows around, say a straight iron bar or core in the direction the hands of a clock move the lines of force will come "out" of the end of the bar facing us, and, therefore, create a negative or south pole at that terminal. On the contrary, if the current flows in the opposite direction the lines will come out of the far end and go "in" at the leg facing us, hence a positive pole under these conditions. Nevertheless if after we substitute a negative for a positive current we also rewind the coil in the opposite direction to that which it was originally; that is to say, instead of winding from left to right, as the clock hands move, we then start with wire held under the bar and rewind from right to left, a negative current will then drive the lines of force in exactly the same direction that the positive current did with the original winding, hence no change in the polarity of the magnet will occur.

The points to remember are that a battery to the line is positive when the current flows "out" and negative when it comes "in." The end of a magnet is "south" or negative where the lines of force come out, and positive or "north" where they enter, the direction of which may be controlled by means of either rewinding or changing the polarity of the battery as preferred.

Recent Telegraph and Telephone Patents.

A patent, No. 931,231, for a mounting for telephone instruments, has been issued to Herbert E. Shreeve, of Wyoming, N. J.

A patent, No. 931,661, for a telegraph pole arm, has been secured by Lee Tyreman, of Stroudsburg, Pa. The cross arm is made of a channel iron having pivoted clamping members passing around the pole and swinging in between the flanges of the channel when not in use.

A patent, No. 931,806, for a rectifier, has been taken out by C. W. Sirch, of Los Angeles, Cal. Converts alternating into direct current by a

mercury rectifier, the interior of the bulb being kept cool by circulating cooling air through its center by a special construction of bulb.

Patents Nos. 931,904, 931,905 and 931,906, for a telephone system, have been issued to H. G. Webster, of Chicago, Ill.

A patent, No. 932,003, for means for protecting operators' ringing leads from short circuit, has been granted to W. W. Dean, of Elyria, Ohio.

A patent, No. 932,019, for a telegraph key, has been awarded to J. A. Hultit, of Topeka, Kan. A break circuit key arranged near the typewriter keyboard so that the receiving operator can break the circuit when necessary.

A patent, No. 932,105, for a Morse telegraphic apparatus, has been secured by G. Bogni, of Sesto Calende, Italy. Uses a second key so as to make two elementary signs instead of the dot and dash now in use.

A patent, No. 932,545, for a telephone anti-septic mouthpiece, has been secured by J. M. Haff, of Los Angeles, Cal.

The following patents have expired:

Patent No. 480,475, for a telegraph key, held by Alfred E. McClaren, of Joplin, Mo.

Patent No. 480,567, for a duplex telegraph, held by Thomas A. Edison, of Newark, N. J.

Patent No. 481,247, for telegraphy, held by J. G. Smith, of New York.

Personal.

Mr. Richard A. Farrelly, a prominent New York newspaper man, has been made president of the Hearst News Service, vice Curtis J. Mar resigned.

Mr. E. C. Bradley, previous to four years ago vice-president of the Postal Telegraph-Cable Company, New York, but now vice-president and general manager of the Pacific Telephone and Telegraph Company at San Francisco, is visiting at Honolulu.

Mr. Thomas Hooper, of the American Telephone and Telegraph Company of Pittsburg, Pa., has gone to San Francisco where he will act as supervisor of leased wire service for the Pacific Telephone and Telegraph Company.

Mr. E. J. Wehrley, of the American Telephone and Telegraph Company of New York, has returned to his office, after a three months' sojourn in the Pacific coast and Rocky Mountain States in the interest of the telephone service.

Mr. R. W. Pope, secretary of the American Institute of Electrical Engineers, New York, represented that society at the first national conservation congress, held at the Alaska-Yukon-Pacific Exposition, August 26, 27 and 28. He is at the present time taking an extended trip through the Western States in the interests of the Institute.

Major W. A. J. O'Meara, engineer-in-chief of the British Post Office Telegraphs, sailed from England on September 7 for Boston, on a tour of inspection of the telegraph and telephone systems of the United States.

The many friends of Mr. Clyde H. Newman, manager of the Postal Telegraph-Cable Company's main office in Buffalo, N. Y., sympathize with him on account of the recent death of his mother, Mrs. A. S. Newman, of Canton, Pa.

The retirement of Colonel Charles A. Boynton, of Washington, who was for so many years superintendent of the southern division, removes one of the most conspicuous figures in the service of the Associated Press, dating back for more than a quarter of a century. Colonel Boynton was with the organization during its early stages, first in New York as representative of the Western Associated Press, for many years previous to 1882, later as Washington correspondent of the Western Associated Press, and on the formation of the present national organization Colonel Boynton was selected to take charge of its Washington service and also to act as superintendent of the entire southern division. He has long enjoyed the closest personal acquaintance with the men who have directed the affairs of the nation, including many successive Presidents and the members of their Cabinets. By them, as well as by the representative newspaper and telegraph men of the country, he is held in the highest esteem. After years of capable service Colonel Boynton voluntarily sought relief from the exacting duties of the post in Washington, although he continues to be identified with the organization.

Postal Telegraph-Cable Company.

EXECUTIVE OFFICES.

Mr. Minor M. Davis, electrical engineer, is absent from his office on a vacation.

Mr. George H. Usher, general superintendent of the southern division, has returned to his headquarters at Atlanta, after a vacation spent at his old home in Saratoga County, N. Y.

Among those who are on or who have returned from vacations are: F. E. d'Humy, assistant electrical engineer; T. E. Fleming, manager of the Contract Message Bureau, and Wm. B. Dunn, chief clerk in the office of C. P. Bruch, third vice-president.

Miss T. M. Brown, secretary to Mr. E. J. Nally, vice-president and general manager of the company, is visiting her old home in Chicago.

Mr. Ineada, of Tokio, representing the Japanese Government Telegraphs, was a recent executive office caller. He is homeward bound after visiting various European countries, where he made a study of the telegraph systems.

The company is constructing a new line connecting San Francisco and Reno, Nev. An office will be opened at Reno on October 15.

Western Union Telegraph Company.

EXECUTIVE OFFICES.

Mr. T. W. Goulding, European general manager at London, sailed from Liverpool on the steamer Celtic on September 11 and will remain in this country on a visit of business and pleasure for the next two months.

Vice-President G. W. E. Atkins, who has been absent on account of sickness for some weeks past, is now able to visit his office occasionally. After a brief vacation in the mountains he will resume full charge of his department.

Mr. John C. Willever, secretary of the company, has returned to his office after a vacation of five weeks. While absent he visited the Pacific Coast States.

Mr. George H. Fearons, general attorney of the company, has returned from a three-months' trip, spent in Europe. While abroad Mr. Fearons and family enjoyed an automobile trip through the various countries.

Mr. Theodore P. Cook, general superintendent of the company at Chicago, is making a trip of inspection of the western division which will take him as far as Salt Lake City.

Mr. C. R. Tilghman, of the electrical engineers' department, who installs the ticker service in the various cities for the company, was a New York visitor last week.

Among recent executive office visitors were W. A. Neill, superintendent of construction at Atlanta; W. A. Sawyer, superintendent at Philadelphia, and E. A. Baird, manager at Binghamton, N. Y.

Mr. W. A. Sawyer, manager of the Buffalo, N. Y., office, has been advanced to the position of superintendent at Philadelphia to succeed John P. Altberger.

The directors of the company declared a quarterly dividend of three-fourths of one per cent. on September 8. The company under the direction of C. H. Bristol, general superintendent of construction, is erecting a new line between Denver and Salt Lake City, over the Moffatt Railroad system. The construction work keeps pace with the railroad, which is in course of construction between the points named.

RESIGNATIONS AND APPOINTMENTS.

Mr. T. J. Meade, manager of the Albany office, has been promoted to the managership of the Buffalo, N. Y., office to succeed W. A. Sawyer. Mr. E. A. Baird, manager of the Binghamton, N. Y., office, has been advanced to the Albany managership, succeeding Mr. Meade.

Mr. J. C. McGrew has been appointed manager at Jamestown, N. Y., vice M. C. A. Slone, resigned.

Mr. Leslie Whybrew, manager at Argenta, Ark., has been promoted to the managership of the Newport, Ark., office.

Mr. H. D. Spencer has been appointed manager at South St. Paul, Minn., vice Mr. J. G. Pollock, who has been appointed manager at the St. Paul wholesale district office, vice Mr. Nelson, resigned.

Mr. J. E. Cody has been appointed wire chief at St. Paul. Mr. Paul Knaak has also recently been added to the switchboard force at St. Paul.

W. A. Sawyer Becomes Western Union Superintendent at Philadelphia.

Mr. William A. Sawyer, manager of the Western Union Telegraph Company at Buffalo, N. Y., since July, 1902, has been advanced to the superintendency of the fourth district of the eastern division, with headquarters at Philadelphia. Mr. Sawyer was born at New Haven, Conn., November 11, 1857, and began his telegraphic career in 1870 as messenger for the Western Union Telegraph Company. When the Mutual Union Telegraph Company established an office at Water-



W. A. SAWYER, PHILADELPHIA.
Superintendent, Western Union Telegraph Company.

bury, Conn., Mr. Sawyer was appointed manager and carried on the business very successfully until the dissolution of that company. He then organized the Waterbury District Telegraph Company and built up a large business. In 1887, Mr. Sawyer entered into an operating agreement for his company with the Western Union Telegraph Company, and January 1, 1894, the two companies moved into the same office at Waterbury, Mr. Sawyer becoming manager of the combined interests. The Waterbury company became a part of the American District Telegraph Company and in addition to his position as manager for the Western Union Mr. Sawyer was also superintendent of construction for the American District Telegraph Company in Connecticut until his appointment to the managership at Buffalo in 1902. The new appointment thus brings to an

important post a man who, by virtue of nearly forty years' service in the telegraph industry, during which time he has been well tried and never found wanting, is especially qualified to discharge the duties which he will now be called upon to fulfil.

Launching of the Cable Steamer "Robert C. Clowry."

The new cable steamer built for the Western Union Telegraph Company was successfully launched on September 9. A party of about twenty officials of the company and friends were conveyed by the tug "Western Union" to the scene of the launching at Tottenville, Staten Island. Upon arriving at that place the new vessel was boarded and Miss Edith M. Scherrer, daughter of Franklin J. Scherrer, assistant secretary of the company, broke a bottle of champagne over the bow and christened the steamer the "Robert C. Clowry" as she slid off the ways. Among those present were: Colonel R. C. Clowry, J. B. Van Every, J. C. Barclay, B. Brooks, E. M. Mulford, Wm. Holmes, C. H. Bristol, G. F. Swortfiger, W. J. Dealy, H. E. Roberts, Lewis Dresdner, F. J. Scherrer, Miss Edith M. Scherrer, P. J. Casey, Harry Durland, Alexander Klein, A. O. Wallis, J. B. Taltavall, T. B. Miller, James Kempster, Harry Brinkman, A. Fisher, A. Richter, all of New York, and W. A. Neill, of Atlanta, Ga.

The new vessel, which is one hundred and fifty feet long and has a thirty-two foot beam, will be placed in commission about December 1. She will be commanded by Captain Olmstead and Alexander Klein will have charge of the electrical equipment. The most modern and efficient apparatus for cable laying and repairing that can be obtained will be installed. The boat has been constructed under the supervision of J. C. Barclay, assistant general manager and electrical engineer of the company.

The Cable.

Mr. J. W. Lawson, superintendent of the Commercial Cable Company at Havana, Cuba, who has been in the United States for the past month, has returned to his post at the Cuban capital.

Miss Florence Gerrard, youngest daughter of F. B. Gerrard, superintendent of the Commercial Cable Company's station at Canso, N. S., was married on September 8 to Mr. T. Miller of the Canso cable staff.

Daniel Coath, aged 48 years, superintendent of the Commercial-Pacific Cable Company at Shanghai, China, died of Asiatic cholera on September 9. Mr. Coath was formerly assistant superintendent of the Commercial Cable Company at Rockport, Mass. He had held his present position for the past five years.

Novel measures were taken to get rid of a large iceberg at Cuckold's Cove, where the ends of the new Commercial cable at Newfoundland are landed. Gun-cotton was at first tried, without

effect, and then dynamite was resorted to. To place the charge a number of men from the cable steamer "Mackay-Bennett" and the Reid Newfoundland Company had clambered on to the iceberg, when the monster under their weight lost its balance and began to topple over towards the water. Several of the men jumped into the water and were picked up by the steamer's launch. Those remaining on the berg had a narrow escape, as it ceased its downward roll just as the part on which they were standing reached the water's edge, a new balance having apparently been created. The "Mackay-Bennett" finally fastened to the berg and towed it out to the open sea.

The first section of the German-South American cable was opened for traffic on August 26 between Borkum and Teneriffe.

The Robert W. Martin Fund.

The fund for the assistance of the popular old-time telegrapher, Robert W. Martin, has received a few additions in the past two weeks, but contributions are coming in very slowly. Now that the vacation season is over it is hoped that many who by reason of being away from home when the original appeal was printed in our July 16 issue have not had their attention called to this worthy cause before, will now respond and come to the aid of one who in days gone by was one of the most brilliant members of the telegraphic profession.

Mr. Martin, who has been confined to the house for over three years, suffering from the effects of two strokes of paralysis, was so well known in telegraphic and newspaper circles that his friends concluded to make his last days comfortable if possible and to that end Mr. Walter P. Phillips took the initiative and started the subscription list for the benefit of Mr. Martin and his family. The article written by Mr. Phillips setting forth the merits of the case, which appeared in our July 16 issue, is well worth perusing. To any who have not received a copy or have mislaid their issue of that date without reading the article, we will be glad to mail a copy upon application without cost. The committee in charge of the fund consists of J. B. Taltavall, of Telegraph Age; Charles W. Price, of the Electrical Review; T. Comerford Martin of the Electrical World, and T. A. McCammon and Fred Catlin, of the Western Union Telegraph Company. All contributions should be addressed to J. B. Taltavall, Telegraph Age, 253 Broadway, New York.

Through the gracious efforts of Chief Operator W. J. Higgins, ten dollars and fifty cents was contributed by operators employed in the main office of the Western Union, at Buffalo, New York. The names not being given, we could not give individual acknowledgment in our September 1 issue, as we would have liked to do.

Mr. I. D. Maize, of the Western Union Telegraph Company, Philadelphia, writes that he is meeting with considerable success in securing

subscriptions to the Martin fund. Mr. J. W. Reed, manager of the Philadelphia offices, is acting as treasurer of the local fund.

Mr. H. J. Pettengill, president of the Southwestern Telephone and Telegraph Company, of Dallas, Texas, who is spending the summer at Marion, Mass., in a letter dated August 29 writes:

"Having been away from home for some time, I did not see Telegraph Age of July 16, containing Walter Phillips's appeal for assistance for Bob Martin, until yesterday. Enclosed please find check for \$5.00, and if more is wanted, call on me. I hope that all of Bob's old friends will come to his relief."

The contributions received for the fund to date are: Previously acknowledged, \$204.50; H. J. Pettengill, Dallas, Tex., \$5.00; A friend through Walter P. Phillips, \$2.00; J. W. Binder, New York, \$5.00; Walter P. Suesman, Providence, \$5.00; W. H. Crane, New York, \$5.00. Total, \$226.50.

We expect to publish, beginning with our issue of October 1, an article by Walter P. Phillips of sufficient length to run through several issues of Telegraph Age. The nature and scope of the subjects taken up and discussed can be gathered from the appended, which is the heading furnished with the article:

OLD AND RECENT TOURNAMENTS.

General Information as to Early and Late Speed Trials, With Incidental Comments on the Persons Concerned in Them, and Unnecessarily Complete Reports, Perhaps, as to the Part I Have Myself Played in Them and in Other Related Events.

The Wheatstone Telegraph System in Australia,

According to "The Transmitter" the Australian government telegraph authorities have decided to install the Wheatstone telegraph system in several provinces in that commonwealth. This system is in use at present to some extent in Melbourne and no additions are to be made to the equipment in that city. The provinces in which new apparatus is to be installed are New South Wales, Queensland, South Australia and Western Australia. Before deciding to install the Wheatstone system in the provinces mentioned Sir John Quick, postmaster-general, received a report from Mr. F. G. Creed, of Glasgow, the inventor of the Creed perforator, which, among other things, said that the British Post Office during a recent trial handled on a single wire all traffic between London and Edinburgh, and occasionally gave Glasgow a helping hand. There are ordinarily six duplex Morse wires employed between these stations, and the traffic is sometimes very heavy. During certain hours for instance, on the duplex Wheatstone they once handled 500 messages in a single hour in both directions. That is an average of 250 each way, and the speed of working might be taken as about 150 words to 180 words a minute.

The Military Telegrapher in the Civil War.

PART XXVII.

Charles W. Moore, who at present is employed by the Western Union Telegraph Company at Omaha, Neb., was an active member of the United States Military Telegraph Corps during the greater part of the Civil War. It was his misfortune to be captured by the Confederates and confined in Libby Prison along with Marion H. Kerner, Madison Buell, Frank H. Lamb and other military telegraphers who were detained in that famous prison. In writing to Colonel William R. Plum, historian of the Society of the United States Military Telegraph Corps in 1878 he gave the following outline of his experiences while connected with the military service:

"I entered the service of the United States Military Telegraph in November, 1861, and was assigned by Superintendent James R. Gilmore to Great Falls, Md., along with Edward Conway, an old friend and one who proved himself to be one of the most energetic telegraphers in the service, ready at all times, night or day, to do duty at any place he might be ordered. A few days before my arrival at Great Falls a battery of Confederate artillery on its way north on the Virginia side shelled the telegraph office. Fortunately they did not get the range at once, which enabled Conway to make good his escape. In a very short time the office was completely riddled, the few troops that were quartered there making their escape.

"As troops could easily cross the Potomac at this point, alarms were frequent, and the telegraph was resorted to very often. At this time the wire which looped Fort Cochran and terminated at Great Falls was the only wire leading from the War Department. In December a line was built between Great Falls and Rockville. I was transferred to the latter place in January and remained there about two months when the office was closed and I was then transferred to Harper's Ferry, where I remained a month or six weeks, when I was ordered to Manassas Junction. Here I found Edward Conway, as usual in the advance. This being for a short time the terminus of the line, all telegrams for General Sumner were forwarded by couriers. Great anxiety was felt by General McClellan, who spent a large portion of the time in the War Department office awaiting news from the front. This, of course, kept us close to our instruments and constantly busy. Large quantities of subsistence and quartermaster stores were being shipped from Alexandria, and preparations were actively going on for the spring campaign.

"On the 23d of May Frank H. Lamb and William McIntosh came from Alexandria on a special train on their way through Manassas Gap to install a number of offices along that road. I accompanied them to assist in the work. We reached Strasburg all right and having finished our work, started for Manassas Junction. At

Front Royal, hearing that Confederate General Jackson had captured Front Royal village, we lost no time in trying to reach Manassas Junction. We had gone about a mile when right ahead of us we saw Jackson's men tearing up the track and pulling down the telegraph line. Not being able to go any further in that direction we attempted to reach Strasburg. In this we were equally disappointed, the Confederates had sent cavalry men to cut the telegraph line and tear up the railroad track between Front Royal station and Strasburg. Nothing was left for us to do but to try to make our way towards Winchester. This we attempted to do and had gone only five or six miles when a body of Confederate cavalry under Ashby came down the road. Lamb, McIntosh and myself jumped over the stone fence and waited until they passed, when we made an attempt to reach the Shenandoah River. Fred Bickford was with us, but he having kept through the fields finally reached Winchester in safety. Night coming on and being in a strange country we did not know what course to pursue, but kept on through brush and over ploughed fields, now and then crawling on our hands and knees so as not to be observed by the enemy's pickets, whose fires were distinctly seen. We finally came to some negro quarters where we laid down, being completely worn out from fatigue, hunger and our exertions. We had, unfortunately, camped on the plantation of a Colonel Dearmont, and early next morning our slumbers were rudely disturbed by hearing some one calling, 'Come out.' We came out and confronted the muzzles of three shotguns. The colonel after asking us a few questions, kindly took us to his house, gave us breakfast and lunch to last us on our way to Front Royal, which place we reached that afternoon, and were quartered along with other prisoners in the hospital buildings.

"The next day all of the prisoners were marched to Winchester, at which place we expected to be paroled. Here we met Frank Drummond, General Bank's operator at Winchester, and Madison Buell, from Strasburg. After remaining here a day or two, the order came to fall in and in a short time we were headed down the valley. Our hopes of being paroled were ruthlessly shattered. After six or seven days' hard marching we reached North Garden, Va., at which point we were put on cars and taken to Lynchburg and there quartered in the fair grounds. We were kept there until after the seven days' fight before Richmond. After that battle was decided, we were taken to Richmond and quartered in Libby Prison, where we remained until released about August 5, 1862. Colonel Anson Stager then gave us leave of absence for one month, after which I returned and reported for duty and was assigned to Harper's Ferry.

"General Lee's invasion of Maryland began about September 3, 1862. Telegraph connection was destroyed between Harper's Ferry and Mar-

tinsburg. The only wire we had was that running direct to the War Department. All of our troops had evacuated Harper's Ferry and returned to Maryland Heights. The pontoon bridge had been taken up. The planking of the railroad bridge was removed. Myself and two mounted orderlies were all that were left, Major Eckert having given me orders to remain at my post as long as the line remained O. K. This I did until about 11 o'clock September 4, when General French, commanding at Maryland Heights, sent over an orderly with the countersign and a note asking what I wanted at Harper's Ferry after all the troops had left, and telling me to report at his quarters. This information was telegraphed to Major Eckert, who then gave me orders to close the office and report as directed. At 1 a. m. the two orderlies and myself forded the Potomac and reached the Maryland side in safety. Harper's Ferry was occupied by the enemy's cavalry an hour later.

"About September 5 General French evacuated Maryland Heights and took up the line of march for Frederick City. Here ten or twelve operators had centered awaiting the result of the fight at Gettysburg. When that was decided and General Lee had once more reached sacred soil, I returned along with General Kenley's command which led the advance to Harper's Ferry, which was still held by the Confederates. In a few days, however, our troops drove them out and crossed into the Ferry.

"Communication with Washington was restored and I remained here until December when I was transferred to the Department of the Gulf and assigned for duty at Baton Rouge, La., as manager and cipher clerk, and remained there until after the close of the war. I intended then going North, but Captain Fuller asking me to stay, I was assigned to Mobile, Ala., where I remained until all of the lines were turned over to the commercial telegraph companies."

Some Reminiscences of the Confederate Side of the War.

BY E. H. HOGSHEAD, OF MERIDIAN, MISS.

The writer overheard the telegram ordering the attack on Fort Sumter, which inaugurated the war. He was in the telegraph office at Grenada, Miss., one night when the operator in charge, Mr. G. W. Beard, called his attention to the message passing over the wire. It was dated at Tusculumbia, Ala., and was in these words: "Should an attempt be made to land reinforcements or supplies at Fort Sumter, you will proceed to reduce the fort in the most practicable manner." (Signed) "L. P. Walker, Secretary of War." It was in April, 1861. Why Grenada happened to be on the circuit over which it was transmitted is not now remembered. The telegram was addressed to General P. G. T. Beauregard, commanding at Charleston, S. C.

Soon after this the writer was sent to Canton, Miss., as operator for the Mississippi Central

Railroad, where most of his work was with the superintendent's office at Holly Springs, Miss., where the operator was Milton H. Smith, now president of the Louisville and Nashville Railroad. Twenty-five miles further up the line, at Grand Junction, Tenn., the operator was George M. Dugan, late superintendent of telegraph of the Illinois Central Railroad, now retired.

After three or four months' service at Canton, I enlisted for a short term with a levy of state troops and was sent to Columbus, Ky., and later to Camp Beauregard, near Fulton, Ky. Our brigade was disbanded at the end of its term of enlistment without having met the enemy. I was then sent to Meridian, Miss., as manager of the Southwestern Telegraph Company, of which Dr. Norvin Green was president and John C. Van Horne general superintendent.

In September, 1864, I was sent to Verona, Miss., a station on the Mobile and Ohio Railroad just south of Tupelo, where General N. B. Forrest's cavalry command was preparing for an extended raid into Tennessee. I was the only operator and the wire was almost the sole means of communication.

Here a red letter incident in the writer's history occurred, which was a personal collision with General Abe Buford, a Kentuckian West Pointer, ranking next in command to General Forrest, and a man of immense physical proportions. As a result the operator was arrested and sent to the guardhouse with orders to be "heavily ironed and closely confined" until the next day, when, according to the irate general, he would be tried by court-martial and shot. But an offer to accept a written and signed apology was first made by the general, which was emphatically declined. After about an hour's imprisonment an order signed by General Buford himself released the presumptuous young man. The explanation of this sudden leniency was that General Forrest's telegraph service had been abruptly stopped and he was in a towering rage thereat, and when in that frame of mind no one who knew him would willingly cross his path. As there was little love lost between the two generals, so it was said, General Buford forestalled an order from higher authority to unshackle the telegraph. It was the decided opinion of those best informed that only the fact that the operator's services were a military necessity saved his life.

Following the departure of Forrest's forces for Tennessee I was sent to Iuka, Miss., and soon after to Barton Station, on the Memphis and Charleston Railroad, just west of Tusculumbia, Ala., where a line of couriers connected with Hood's army in front of Nashville and all telegrams to and from that army were handled by me. After a few days the battle of Franklin occurred, and a little later Hood's defeated army passed Barton on its retreat westward. The soldiers were in a sad plight, not half clad and many bare-footed.

While at Barton the one wire was one morning found to be dead. All the battery was on the west end, and the trouble was west. There was no linemen and few tools for repairs. It was up to the operator to get the wire closed. The weather was bitterly cold, the ground being frozen to a depth of several inches. With two soldiers detailed to accompany me, I set out on foot over the railroad track in quest of the break, the frozen mud on the crossties presenting a very rough and uneven surface for an amateur pedestrian. From twelve noon till sunset we tramped fifteen miles, when we descried the trouble at the edge of Big Bear Creek Swamp. After mending the wire we found ourselves in the near vicinity of a squad of cavalry encamped to guard the railroad bridge over the creek. My soldier companions found shelter for the night with these guards, but I was not so fortunate. One of the cavalymen offered me his bunk in the tent, but my acceptance of it would have left him out in the cold, so I declined with thanks. There was a large fire of logs in front of the tent and I proceeded to stretch my weary limbs on a plank as near to it as possible, where during the entire long night it was literally freeze on one side and roast on the other. In the morning my muscles and joints were so sore I could scarcely move. Holding to the arm of one of my soldiers, I was helped along until the soreness became less acute, but my strength failed rapidly, and after being almost dragged by the arm about twelve miles, I sat down on one end of a crosstie and told the soldier to go on to Barton and tell Colonel Alexander to send a conveyance for me, that I could go no further. Just then an army wagon hove in sight bound our way and the soldier helped me to climb into it: but the body was full of a heterogeneous collection of things that presented a most uneven and jagged surface. But I tumbled in and was driven three miles to Barton over the roughest possible road, the stiff prairie mud having been cut up into ruts and projections to the depth of a foot or more, then frozen hard. But I felt it not. I knew nothing after climbing into the wagon until, an hour or two later, I was made aware that two men, one on either side, were trying to stand me up and wake me up on the platform of the station. It was ten days before my joints recovered their normal elasticity.

After the retirement of Hood's defeated army the Confederate lines were drawn further back, and I was moved west to Burnsville, Miss., fourteen miles east of Corinth, where an outpost was established, protected by two companies of Texas cavalry. While at Burnsville our scouts one night reported that a force of Union cavalry had come out from Eastport, on the Tennessee River, and camped at Iuka, eight miles east of us. A bright young lieutenant from the Virginia army on furlough was visiting his home at Burnsville, and he and the writer quickly planned a visit to Iuka that night. He had a Colt's re-

volver and myself a small rifle. The moon was full and gave as much light as possible through the clouds, but it was raining steadily. The temperature was mild. We sallied forth at midnight for the eight-mile walk on the railroad track. Lieutenant Hutton was familiar with the geography about Iuka and he avoided the points where pickets would be stationed as we made our way stealthily into the outskirts of the town. Our object was to capture a pair of good horses and ride back. But the town was asleep and there was no enemy in sight. After much difficulty in finding some one among the inhabitants who would answer a hello at 2.30 a. m., we learned that the cavalry had come into town and pitched their tents at nightfall, but had pulled up stakes and returned whence they came. Perhaps they had a premonition of our coming. So we, in turn, retraced our steps with weary limbs, and as we neared Burnsville before daylight our own pickets halted us, and as we could not give the countersign we were taken to headquarters, where we identified ourselves.

Very soon General L. S. Ross sent a courier from Corinth bearing an order for me to report to that place immediately, and leading a saddled horse for my use. The operator at Corinth, John B. Morris, was sick in bed. General Ross (a few years ago governor of Texas) was stationed there with a brigade of Texas cavalry. But our stay was short in Corinth. One morning, soon after my arrival there, General Ross, leading a saddled horse, rode up in front of my office and asked whom I had had that morning. The wire was open, but that was not an unusual occurrence, and I told him I had not had anyone, but thought the wire would soon come O. K. "No, it won't," he rejoined. "The Yankees have burned Tusculumbia Creek railroad bridge, and came near capturing our wagon train, which barely escaped over the dirt road bridge, burning the bridge behind them. Get your traps together and take this horse and let's get out of here." This scribe seized his relay and key, constituting his entire office outfit, mounted the horse and rode with the general and staff at the head of the command in a southwesterly direction, seeking a ford, which was reported practicable when the water was low, to cross Tusculumbia Creek, a small river; but the water was high and the weather cold. After a march of some four miles we reached the ford. The banks were full. We must swim fifty yards on horseback. It was a cool and moist operation, but the passage was made safely and without much difficulty, and the men seemed in a jolly mood. Resuming our march, we soon reached Rienzi, twelve miles south of Corinth. A column of Federal cavalry came into Corinth from the east just as our command withdrew, but there was no reason for the Confederates to hold the place.

After a few days at Rienzi our little force moved southward to West Point, Miss. But the curtain was soon to fall on the last act of the

bloody drama of war. Within a few weeks I found myself stationed at Gainesville Junction, Miss., on the Mobile and Ohio Railroad, thirty miles north of Meridian, where in due time I took the oath of allegiance and became a reconstructed citizen of the United States.

[Mr. Hogshead, whose whole life practically has been spent in the telegraph service, was born at McMinnville, Tenn., in 1841, and learned telegraphy at Grenada, Miss., at the age of twenty. Soon after the close of the war he was sent to Meridian, Miss., where Mr. J. C. Hueston, later general manager of the New York Associated Press, was manager. Mr. O. C. Hatton, afterward Washington agent of the Southern Associated Press and now of New York, succeeded Mr. Hueston, and in 1867 Mr. Hogshead in turn succeeded Mr. Hatton in the management, which position he held for many years. He is now employed by the Postal Telegraph-Cable Company at Meridian in a similar position.]

The Telegraph in the Malay Peninsula.

A consular report gives the following description of the overland telegraph system which the Straits Settlements government opened on June 17:

"It connects with a system already in existence in the Federated Malay States and Siam. This is a marked improvement in communication between Singapore and points on the Malay Peninsula, including Bangkok, Siam, which heretofore could only be reached by the post and submarine cable. For an ordinary message to any point in the Straits Settlements or Federated Malay States the charge is three cents per word, with a minimum of twenty-one cents, Straits currency, payable in stamps; for an urgent message to the same points, nine cents a word, with a minimum charge of sixty-three cents. The former rates by cable were ten cents to Malacca, twenty cents to Penang, and twenty-three cents to points in the Federated Malay States. The rate to Bangkok via land line is eight cents per word, while the rate by cable is sixty cents.

"The new Singapore line also connects with the India land lines, and makes the following rates: India: fifty-three cents; Burma, forty-four cents; and Ceylon, fifty-seven cents. The cable rates are: India, eighty cents; Burma, ninety cents; and Ceylon, eighty-five cents. All of the foregoing figures are in Straits currency, \$1 of which equals \$0.5677 United States gold."

Telegraphic Developments in Panama.

BY R. D. PRESCOTT.

The telegraph lines of the Republic of Panama are under government control and management, one of the divisions of the government being the "Department of Posts and Telegraphs."

The present government line from Panama to David (300 miles), with a branch from Santiago to Las Tablas (fifty miles), has about thirty offices. The European open circuit system of working has been in operation from the beginning, but is now being changed to the American closed circuit, thus eliminating a constant source of trouble, viz.: the main battery of every office. The Morse alphabet is used with the exception

of the letter "Z," which has been changed to the Continental "7," or two dashes three dots (- - . . .). The tariff for the entire republic is fifteen cents for each ten words. By paying double tariff rates the message takes immediate precedence in order of transmission, and the office holding a "rush," as these messages are called, is given wire preference.

The personnel is almost exclusively native young women, with here and there a man in charge. Their salaries range from twenty-five to fifty dollars per month, thus eliminating any fear of an influx of American operators.

The lines between Panama and Santiago, a distance of about 175 miles, are being rebuilt; two No. 10 hard-drawn copper wires replacing the old No. 9 galvanized iron wires and eighteen-foot iron poles and iron cross-arms replacing the old wooden ones. The necessity for iron poles in some sections is imperative on account of the fires which occur during the dry season. The fire not only destroys the pole but damages the wire to such an extent that it makes a break difficult to repair, and in a short time the wire rusts through. Wooden pins and glass insulators, probably to be replaced by porcelain, complete the equipment of this pole line.

A row of four single spring jacks mounted on one base, an ordinary Morse key, four-ohm sounder and 300-ohm relay constitute a way office outfit. The terminal and repeating offices have an eight-strip single jack board; the Atkinson repeater is the adopted standard, but with a special type of French transmitter. Two of these transmitters are mounted on one base and enclosed in a glass case, the spring adjustment of the armatures being made by thumb screws which project through holes in the glass.

Arrangements have been made with the Panama Railroad Company for the stringing of four copper wires on their poles. Two from Panama to Colon and two from Panama to Empire. This will enable the government to handle its own business as well as the public's which has formerly all been done by the railroad. The rate, however, on the Colon-Panama line will, according to agreement, be at the present rate charged by the Panama Railroad Company, viz.: twenty-five cents for the first ten words, including the address, and two cents for each additional word.

The United Fruit Steamship Company has entered into an agreement with the government for the erection of a wireless station at Colon and at Bocas del Toro, which will fill a long-felt want, there being no communication with the latter point except by sea.

[Mr. Prescott, who is engaged in changing the government telegraph system of Panama from the open to the closed circuit system, was born at St. Louis, Mo., March 27, 1882, and entered the telegraph service as operator for the Panama Railroad in 1898. He has since served as cable operator at Panama and Buena Ventura, Colombia, for the Central and South American Telegraph Company, agent for the Guayaquil and Quito Railroad Company, at Guayaquil, Ecuador, and operator for the New York Central and Hudson River Railroad, in New York.]

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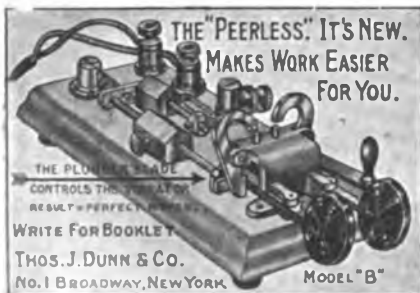
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SEPTEMBER 16, 1909.

The Book Department of Telegraph Age has always been a prominent and carefully conducted feature of this journal. The desire has been and is to furnish our readers and buyers everywhere the readiest means possible of securing such technical books as they may require. Aiding buyers in their selection with advance information, which at all times is cheerfully furnished; promptness in sending books, filling all orders on the same day of their receipt, has brought to this department a generous clientage. Catalogues fully covering the range of books treating on the telegraph, wireless telegraphy, the telephone, as well as those on the general subject of electricity, together with the principle cable codes, will be sent to any one asking for the same.

Honesty the Best Policy.

One can in these times hardly peruse the columns of a daily newspaper without having brought home to him forcibly the truth of that old adage. "Honesty is the best policy." The living illustrations of this trite saying are found in all walks of life, from the high banking official who by his stock gambling proclivities is led to take money from his bank for his own personal use without the knowledge of the other officials, down to the office boy whose wrong-doing may merely consist of taking a few postage stamps for purposes which do not serve the interests of his employer.

The frequency with which such deeds are discovered and punished would seem logically to have a deterrent effect on others who are tempted to take the first downward step, but as a matter of fact it may be said with good grounds for so asserting that the opposite is often really the case. There are certain people who seem to believe that the only crime involved in such transactions

lies in the stupidity of the criminal in getting caught, and these people are usually the class who think they are a little brighter than the great majority of their fellowmen. They follow out the method of procedure of the apprehended wrong doer and map out a course of action which to their minds would eliminate all danger of detection. What wonder then when temptation comes in the way of such individuals that they fall easy victims?

A most common form of appropriating what does not rightfully belong to the one who acts in this manner is the so-called "making money on the side" in addition to the regular salary of the individual who by making use of the operating system of his employing concern or of information which is their private property, and as such should be treated as strictly confidential, furthers his own private ends.

The culprit in such cases may not actually be taking anything directly from the coffers of his employer and may salve his conscience by that argument, but he is nevertheless betraying the trust which is reposed in him by his official superiors, and is thus started on the downward path. In accepting his position his first duty is to safeguard the property of his employing interests and not to permit it to be diverted to other than legitimate channels.

There is, however, very often another aspect of the case when the act of the employe in addition to being a violation of the trust of his employer breaks the laws of the land. When such acts are discovered, committed as they are by the person whom the general public regards as the representative of the employing corporation and as such carrying out its approved policy, the employer is placed by public sentiment in the same class of law-breakers as the criminal and this estimation of their methods of doing business is one that is hard to live down or eradicate.

Another phase of the subject which is not usually as apparent to the general public, but which is nevertheless as regrettable as the other, is the effect which the discovery of such irregularities has upon the family and friends of the guilty party. Many a man who has held a high place in his community and enjoyed the esteem of his fellow men has yielded to temptation and carried with him in his downfall and made to share in his disgrace, many who were entirely innocent.

The outcome of such misdeeds shows conclusively that there is no short-cut to wealth or that wealth obtained by such means is apt to take flight more suddenly than it came.

Very often the ingenuity spent in devising surreptitious ways of obtaining money and in trying to escape detection, if directed along legitimate channels, would result in the advancement of the individual to higher position, and thus secure a permanent increase in his emoluments, while anything gained by unfair means is at best but temporary. To sum up the whole matter in

a few words, we may say that the employe who is strictly honest and conscientious in his dealings with his employer is the one who, without exception, wins out in the end and, best of all, enjoys the continued respect of his fellowmen.

Government Telegraphs in America.

The recent bulletin issued by the Department of Commerce and Labor of the United States Bureau of Census gives some very interesting data concerning the extent of the government telegraph and telephone system in this country. The figures given are for the year 1907.

During that year the government had charge of the operation of telegraph and telephone systems in our outlying possessions amounting to 65 miles in Panama, 484 miles in Porto Rico, 1,403 miles in Alaska and 6,438 miles in the Philippines, and in addition there were 2,524 miles of submarine cable in Alaska and 1,437 miles in the Philippines. More than one million messages were transmitted over these lines during the year. Because of the excessive cost of maintaining land lines in the interior of Alaska, the use of wireless telegraphy is particularly desirable in that country. In detailing the telegraphic and telephone operations of the Weather Bureau the bulletin states that during the year 1907 it operated 537 miles of telegraph and telephone lines, including about 96 miles of submarine cable. At the end of the fiscal year 1907 the telegraph was being used to supply 2,280 places with daily forecasts, 734 places with special warnings, and 5,998 places with emergency warnings, all at the expense of the government. Through the service of governmental telegraphs, railroad telegraphs, telephones, railroad trains and mails, daily forecasts were being sent to 2,141,151 addresses, and through the co-operation of other telephone companies the dissemination of this information was materially increased.

The telegraph system of Porto Rico, which is operated by the insular government, comprized 128 offices and 774 miles of wire and transmitted during the year 216,489 messages. The business is transacted in both English and Spanish and operators are required to be able to speak and read and write both languages.

Transmitting Photographs and Drawings by Wire.

L. Semat presented recently before the French Academy of Sciences an interesting paper upon the "Telautocopist." The object is to transmit writings, photographs and drawings over a transmitting line without the use of selenium or photographic apparatus. There are two revolving rolls, one at the transmitting end and the other at the receiving end. They are of different diameter, but if the transmitted picture shall have the same size as the original picture, both rolls have the same length. On the smaller roll of the transmitting apparatus a metallic film is wound on which the picture to be transmitted is

imprinted, or inserted in some other way, so that the picture covers the whole surface of the cylinder. The black lines of the drawing are electric insulators. A stylus touches on the cylinder and closes the circuit whenever it is in contact with the metallic film. The circuit is opened when the stylus gets in contact with the insulating black lines of the drawing. The roll on the receiving station has a large diameter, and on it is wound a sheet of carbon paper and above it a sheet of ordinary paper. If the surface of the smaller cylinder is seven-eighths of the surface of the larger one, the reproduced picture on the larger cylinder will cover only seven-eighths of its surface. The speeds of the two rolls are in the reverse ratio of the surfaces—that is, the small roll completes a full revolution within seven-eighths of the time of the revolution of the larger roll. Moreover, the small roll, whenever it has completed a revolution, stops to revolve. It begins to revolve again only after the larger roll has completed its revolution. If a picture is to be reproduced in larger or smaller size the dimensions of the rolls must be correspondingly changed. The apparatus can be connected to ordinary telegraph or telephone lines.

Telegraph Companies Benefit by Telephone Competition.

The unique condition of the telegraph companies being benefitted by the lowering of rates by the telephone companies, is said to exist in Ohio and adjoining States at the present time. The Independents and the Bell have been fighting each other for long distance business and as a result of the war, rates have been lowered away below normal.

Right here is where the telegraph companies reap the benefit. People who formerly would not think of spending money to talk to relatives in another town, will cheerfully spend the amount called for in the cut rates and as a result the long distance lines are kept pretty busy with ordinary conversations. Business messages which are important are not held until the telephone line is available but are rushed to the telegraph offices, their record of business showing that a good many messages have been diverted from this cause.

The legislative committee of New York State which was appointed to look into the question of whether the telephone and telegraph companies should be placed under the supervision of the Public Service Commission, has begun the preliminary work of the investigation. Public hearings will begin about December 1 and the committee hopes to have its report ready for the legislature in January. Senator George A. Davis, of Buffalo, is chairman, and the other members of the committee are: Senators John Kissel and James J. Frawley and Assemblymen Edwin A. Merritt, Jr., John Yale, Artemus Ward, J. A. Waters and Thomas B. Caughlan.

International Association of Municipal Electricians Meets in Convention at Atlantic City.

The fourteenth annual convention of the International Association of Municipal Electricians is in progress at Atlantic City, N. J., having opened September 14 and continuing through September 16. The attractions of this noted seaside resort are so numerous, especially in September, that those in charge of the arrangements have felt justified in making plans to entertain a large number of visitors, and the program which they have arranged has an attractive enough appearance to justify the prediction that this will prove one of the most successful meetings ever held by the



J. B. YEAKLE, BALTIMORE.

President of International Association of Municipal Electricians.

association. The headquarters of the gathering are at Young's Hotel, and ample space has been provided for the exhibits, of which there are a goodly number. Among the manufacturers represented are: The Gamewell Fire Alarm Telegraph Company, Kirnan Fire Alarm Telegraph Company, The Leeds and Northrup Company, Queen and Company, Kerite Insulated Wire and Cable Company, The Okonite Company, Frederick Pearce Company, Sprague Electric Company, Troy Electric Company, Valentine Electric Sign Company, Vallee Electric Sign Company, Duplex Metals Company and others.

The following most interesting program has been arranged for the business sessions and the entertainment features of the gathering:

Tuesday, September 14, a. m.—Registration of members and guests and address of welcome by Honorable Franklin P. Stoy, mayor of Atlantic City: 12 to 1, bathing hour: 2 to 4 p. m., business session: 4 to 5, rolling chair parade on boardwalk; in the evening boardwalk amusements will be visited. During the morning and afternoon the visiting ladies will be entertained along the boardwalk by the ladies' committee.

Wednesday, September 15.—Business sessions, 10 to 12 a. m. and 2 to 4 p. m. In the evening a dance at Young's million-dollar pier will be enjoyed. At 10 a. m. the ladies will take a sail on the yacht "Princeton" from Inlet Wharf.

Thursday, September 16.—Final business session of convention, 10 to 12 a. m. The ladies will enjoy a shopping tour in the morning and in the afternoon at 2 o'clock the entire party will take a trolley ride to the Inlet, where they will partake of a shore dinner at Bates's Inlet Hotel, given by the Gamewell Fire Alarm Telegraph Company of New York.

The officers of the association are: J. B. Yeakle, superintendent of fire telegraph, Baltimore, president; W. S. Devlin, city electrician, New Castle, Pa., first vice-president; H. C. Bundy, superintendent of fire telegraph, Watertown, N. Y., second vice-president; F. A. Cambridge, city electrician, Winnipeg, Manitoba, third vice-president; Clarence R. George, city electrician, Houston, Texas, fourth vice-president; Frank P. Foster, superintendent of electrical department, Corning Glass Works, Corning, N. Y., secretary; C. E. Diehl, superintendent of fire and police telegraph, Harrisburg, Pa., treasurer; executive committee, A. C. Farrand, chairman, C. G. Sundquist, L. L. Kingsbury, C. F. Gall, S. W. Manning, T. C. O'Hearn, R. A. Smith, Wm. Crane and John O'Brien.



FRANK P. FOSTER, CORNING, N. Y.

Secretary of International Association of Municipal Electricians.

The reception committee consists of Frank Shinnen, chairman; H. G. Turner, George B. Gale, W. S. Cuthbert, Wm. J. Black, Chas. E. Ingalls, W. L. Crook, John J. Nesbitt, E. M. Plummer, W. S. Laumaster and John W. Gary. The ladies'

committee consists of Mrs. A. C. Farrand, Mrs. Chas. E. Ingalls, Mrs. W. L. Crook, Mrs. E. M. Plummer, Mrs. W. J. Lutton, Mrs. John W. Gary and Mrs. William Shannon.

Among the subjects upon which papers have been prepared to be read and discussed at the convention are: "The Construction of Underground Conduits," "Grounding of Alternating Current Secondaries," "National Electric Code, and Its Proper Interpretation," "Locating Faults in Fire and Police Telegraph Circuits Without Opening the Lines," "Progress of the Fire Alarm Telegraph," and "The Storage Battery for Fire and Police Telegraph Systems."

A BRIEF HISTORY OF THE ASSOCIATION.

The history of this organization dates back to 1894, in which year Mr. John M. Gamewell, whose



CLARK E. DIEHL, HARRISBURG, PA.

Treasurer of International Association of Municipal Electricians.

name is so admirably perpetuated in that of the Gamewell Fire Alarm Telegraph Company of New York, suggested to Frank C. Mason, who at that time was superintendent of police telegraphs in Brooklyn, but who is now living in retirement at his country home in Washington Mills, N. Y., the idea of forming an association composed of fire and police telegraph superintendents of the United States and Canada. The proposition meeting with his hearty approval, Mr. Mason began the preliminary steps necessary for forming such an organization. He first made a personal visit so far as he was able to all of the fire and police telegraph superintendents throughout the country. Receiving much encouragement during these visits, he, two years later, in 1896, sent out a circular letter pointing out the need of an association of this character and calling a meeting to be held in Brooklyn for the purpose of forming such an organization. As a result of his appeal a meeting was held at the Clarendon Hotel,

Brooklyn, September 15, 1896, and an organization was effected, constitution and by-laws adopted and officers elected. This gathering was attended by the following twelve delegates:

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. Zuluff, 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 concerns whose products were of interest to the municipal superintendents, together with several others identified with the telegraph, the press, etc.

The organization was first called the International Association of Fire and Police Telegraph Superintendents. The object of the association as set forth in the constitution was "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 to improving the service and reducing its cost; and the establishment of a spirit of fraternity among the members of the association."

This statement of the object of the organization shows how thoroughly the subject had been discussed and considered before the first meeting and the thoroughness of the organizers in performing the work which they started out to do is the cause in a large measure of the great power



A. C. FARRAND, ATLANTIC CITY, N. J.

Chairman of Committee of Arrangements, International Association of Municipal Electricians.

and influence which the association has wielded in municipal electrical circles. How well their successors have carried out the aims of the organizers is shown by the high character of the papers which have been read and discussed by the members at their annual meetings.

The second annual convention met 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.

Elmira, N. Y., entertained the third convention, August 9 and 10, 1898. At this meeting Dr. W. F. Channing, the originator of the fire-alarm telegraph, was honored by being elected a life member of the association. The title of the association was also changed to "The International Association of Municipal Electricians."

The fourth annual convention assembled at Wilmington, Del., September 4, 5, 6 and 7, 1899. Governor E. W. Connell welcomed the municipal electricians to Delaware, and a very profitable as well as interesting meeting followed. Mr. F. C. Mason was at this time honored by being elected to represent the association at the International Electrical Congress which met at Paris the following year.

Pittsburg, Pa., was the meeting place for the fifth annual convention, which assembled in that city September 25, 26 and 27, 1900. This was one of the banner conventions of the association, both from the standpoint of attendance and the number and character of the papers presented. As to the social side of the affair anyone who has ever attended a similar gathering in Pittsburg knows that that feature was not neglected.

For their sixth annual convention the municipal electricians visited Niagara Falls, meeting there September 2, 3 and 4, 1901. The Pan-American Exposition then being in progress at Buffalo, many of the members took the opportunity to attend the convention and the exposition at the same time.

The seventh annual convention met at Richmond, Va., October 7, 8 and 9, 1902. This, like the previous convention, was a well-attended event, the chief social feature being a trip by steamer down the James River. The visitors were entertained with true southern hospitality throughout their entire stay in Richmond, being welcomed there by the Honorable Andrew Jackson Montague, governor of Virginia.

Atlantic City, N. J., was selected for the meeting place of the eighth annual convention, which met in that place September 2, 3 and 4, 1903. Those who attended this gathering retain such pleasant memories of Atlantic City that it is safe to say that if it is possible for them they will attend the 1909 convention.

The ninth annual convention was entertained at St. Louis, September 13 and 14, 1904. The exposition in that city then being in progress, its attractions afforded the chief point of entertainment for the visitors.

The tenth annual convention met at Erie, Pa., August 23, 24 and 25, 1905. The address of the

president, Walter M. Petty, delivered at this time, giving some suggestions as to means of increasing the membership and adding to its value, was one well worthy of consideration by all of the members who have the best interests of the association at heart.

New Haven, Conn., entertained the eleventh annual convention, which met in that city August 15, 16 and 17, 1906. Again the gathering of the association was honored by the presence of the governor of the state, who extended to them a cordial welcome.

Norfolk, Va., was the successful bidder for the twelfth annual convention, which met in that city August 7, 8 and 9, 1907. The Jamestown Exposition was then in progress and the visit of the association on August 8 was recognized by the day being called Municipal Electricians' Day and special electrical decorations were arranged in their honor.

The thirteenth annual convention, held in Detroit, August 19, 20 and 21, 1908, is still too fresh in the memories of the members of the association to need any special comment.

The International Association of Municipal Electricians is thus but a youth in point of years, but is an exceedingly vigorous and precocious youth in point of strength, influence and educational value to its members. The annual meetings have proved a source of great benefit to those who have attended and taken part in or listened to the discussions which have taken place upon subjects of vital interest to all municipal electricians and police and fire-alarm telegraph superintendents. It is to be hoped that the organization may continue to enjoy the prosperity and success which has attended it in the past.

The following is a list of the places of meeting and the officers of the association since its organization:

1896—Brooklyn, N. Y., Frank C. Mason, president; Morris W. Mead, vice-president; L. Lemon, secretary; Adam Bosch, treasurer.

1897—Nashville, Tenn., W. Y. Ellett, president; William Brophy, vice-president; H. F. Blackwell, Jr., secretary; Adam Bosch, treasurer.

1898—Elmira, N. Y., John W. Aydon, president; G. F. Macdonald, vice-president; H. F. Blackwell, Jr., secretary; Adam Bosch, treasurer.

1899—Wilmington, Del., William Brophy, president; G. F. Macdonald, vice-president; H. F. Cottrell, secretary; Adam Bosch, treasurer.

1900—Pittsburg, Pa., Morris W. Mead, president; J. F. Zuluff, Burt McAllister and R. E. Moran, vice-presidents; Frank P. Foster, secretary; Adam Bosch, treasurer.

1901—Niagara Falls, N. Y., A. S. Hatch, president; W. M. Petty, A. C. Farrand, Wm. Crane and Wm. A. Barnes, vice-presidents; F. P. Foster, secretary; Adam Bosch, treasurer.

1902—Richmond, Va., W. H. Thompson, president; Jerry Murphy, A. C. Farrand, W. A. Barnes, C. L. Williams, vice-presidents; F. P. Foster, secretary; Adam Bosch, treasurer.

1903—Atlantic City, N. J., A. C. Farrand, president; W. M. Petty, G. F. Macdonald, F. F. Pierson and F. A. Cambridge, vice-presidents; F. P. Foster, secretary; Adam Bosch, treasurer.

1904—St. Louis, Mo., Walter M. Petty, president; J. B. Yeakle, G. H. Holderman, C. E. Diehl and Charles Greenwald, vice-presidents; Frank P. Foster, secretary; George F. Macdonald, treasurer.

1905—Erie, Pa., Jerry Murphy, president; Wm. Crane, H. R. Allensworth, R. Blakey and F. A. Cambridge, vice-presidents; Frank P. Foster, secretary; C. E. Diehl, treasurer.

1906—New Haven, Conn., T. C. O'Hearn, president; James Grant, Clarence R. George, John Berry and Wm. H. Bradt, vice-presidents; Frank P. Foster, secretary; C. E. Diehl, treasurer.

1907—Norfolk, Va., R. A. Smith, president; J. B. Yeakle, R. Blakey, C. F. Gall, Charles S. Downs, vice-presidents; Frank P. Foster, secretary; C. E. Diehl, treasurer.

1908—Detroit, Mich., J. B. Yeakle, president; W. S. Devlin, H. C. Bundy, M. C. Cambridge and Clarence R. George, vice-presidents; F. P. Foster, secretary; C. E. Diehl, treasurer.

The Construction of Underground Conduits.

W. S. DEVLIN, NEW CASTLE, PA.

The committee in deciding to take up the all important question of underground construction and to have the same discussed at this time, have proven beyond a doubt that the association is keeping abreast the times of the twentieth century. It is the duty of this association, not only to care for and construct electrical conduits for the transmission of electrical energy in the form of signals, lights, heat, telephone and telegraph, but to see that the corporations and individuals engaged in the business of the transmission of electric energy for any purpose, shall cause the public the least possible inconvenience, and expose their lives and property to little or no danger.

It will not be necessary for me to give the history of the underground conduits as you are acquainted with the same, the writer will therefore confine himself to the different classes of construction and material used in this work.

The ideal conduit or housing for underground conductors must have smooth, clear, jointless, fireproof duct openings, free from pockets or depressions in which water may lodge; should be laid to true grade to drain to the manholes, must be constructed of a material of high electrical resistance, and which will not deteriorate with age; must be strong and able to sustain itself and a considerable load over fairly long spans.

While there are about six different kinds of material used in the construction of conduits, namely: the clay duct, cement lined pipe, iron pipe, fibre ducts, wood ducts and cement ducts, but three of these are used to any extent, they are the cement duct, the clay duct and the fibre duct. The clay duct is the most generally used. These ducts are made in the single duct eighteen inches long with the hole two inches or three and one-half inches in diameter; they are also made in four, six or nine multiple, that is to say that in the one piece there will be four, six or nine holes running through the tile, these holes are three and one-half inches square, the length of the duct

being from three to six feet; they are made in this way to save space and in laying the same they can be kept in line better and also save concrete.

Fibre ducts are made up of paper, etc., and pass through a process which preserves them, they are made in lengths of ten feet and the holes are made of different sizes from two inches to six inches in diameter. The concrete ducts are made in the trench where they are moulded and constructed as the trench is being made.

In laying the ducts, it is necessary to use care to obtain perfect alignment and sealing. Each new section of duct must be fitted to the preceding one, after they are laid no absolute inspection of the ducts is possible, and the only information the owner can obtain relative to the presence of foreign matter, alignment and sealing, is derived from the passage of a short mandrel through the various ducts. Drawing a mandrel through a duct can do no more than demonstrate that there exists a hole sufficiently large and straight to permit the mandrel to pass through it. It is desirable in any conduit that the ducts be completely isolated from each other, and that they be free from water-pockets or depressions, and present a large and smooth surface as a bed for the cable, in order that ground currents may be equally distributed over the greatest possible area of the cable sheathing, so that the local electrolytic action may be minimized. Conduits built up of single duct tile or pipe offer greater isolation than individual ducts, but are more expensive to construct than conduits built up of multiple duct.

The first step taken in the construction of an underground conduit system is the digging of the trench. This must be made some six or eight inches wider than the width of the ducts, depending on the thickness of the concrete to be placed for the walls. After the trench is dug the first thing is to place the concrete in the bottom of the trench, usually six inches. This is levelled and left to partly set. The ducts are then placed on this concrete, the joints are wrapped with burlap and are tarred or cemented; they in turn are levelled and made as true as possible; after the bottom concrete is set the sides are filled in with concrete which is usually three inches thick, also the top is covered with about three inches. The trench is then refilled and your conduit is ready for use.

While it is necessary that the ducts shall be laid level, it is also as important that there are no sharp turns in the line. They should be laid straight from one manhole to the other.

In the construction of these underground ducts the manhole is of as much importance as the ducts, as it is in these that the actual work is done by the Company that is operating the same, all the cables are spliced here and should something happen to the cable it is opened at one of these holes and is repaired there.

The manholes are constructed, some of brick, and others of concrete. The walls are usually

about nine inches in thickness. The other dimensions depend on the number of ducts that will come into the hole. They are, however, never less than five feet square. This size hole will accommodate about six ducts, but in a hole where there are coming into it from all sides thirty to ninety ducts the holes sometimes are made from twelve to eighteen feet square and from seven to twelve feet deep. This all depends upon the conditions that are met with in the construction.

There are also built what is known as service boxes. These are used where it is desired to feed a large building.

These holes are also made of different sizes from three to four feet square, and the same deep.

All manholes are then covered with a casting with a square or round cover. The round cover is more generally used, the diameter of the opening being from twenty-four to thirty-six inches.

The manholes should also be ventilated. This is done by means of pipes running from the manhole to a pole.

Then in the construction of the conduit you must have poles. They are known as distributing or terminal poles. These are connected to the manholes by means of pipes which are run up the pole from eight to ten feet to protect the cables from injury.

Progress of the Fire Alarm Telegraph.

S. W. MANNING, ST. PAUL, MINN.

Since the adaptation of the Morse telegraph for fire alarm purposes by Channing and Farmer in 1851, long strides have been made in the art, looking to improvement, until to-day it would almost seem that we have reached the limit.

The first fire alarm boxes were thought to be perfect when produced, but this was soon proven to be fallacy, as the citizen required some training before he could properly send in an alarm. This was overcome later by the improvements of Gamewell who, in turn, was improved upon by Gardiner, Stover, Crane, Ruddick and others, until to-day we seem to have in the perfect non-interfering succession fire alarm box one so perfect that it hardly seems as though further improvement was possible. One of the principal features of this box is that several of them on one circuit may be pulled for a fire and one may depend upon getting the alarm from all. Further, the boxes are so protected from destruction by abnormal electrical currents that it would seem impossible to damage them or put them out of service.

The introduction in 1894 of the storage battery for the operation of the system was another long step in the direction of efficiency and economy, as the saving in the cost of maintenance over the gravity battery formerly used is so great that it usually pays the cost of installation of the entire storage outfit, including switchboards and bat-

tery, in the first five years, and the continuous saving thereafter is very large. The constant flow of current of the storage battery has cured many of our old adjustment troubles, which were almost a constant annoyance under the old system.

The advent of the non-interfering fire alarm repeater is another stride forward, and is of special advantage where the old style fire alarm boxes are still in use, as it prevents any interference in the sending in of an alarm from the box on one circuit from a box pulled on another circuit.

The improvement in gongs, which makes their operation positive so that false blows are almost impossible, is another step forward; and the introduction of the punching register is an improvement very much appreciated by the Fire Department, as its action is such that the holes are punched in the tape so that they can be easily read, and there is no blurring as with the inking register, where often the first or more rounds of a box was lost, and oft times the record so uncertain that the Captain of the house was in doubt just where to go.

The manual central fire alarm office used in the larger cities to-day is equipped with instruments for the receipt of alarms from the fire alarm boxes by sight and sound, not only giving the box number, but the circuit on which the box is located; also for automatically recording the time of receipt of the alarm, as well as means of sending the alarm direct through to the engine house on the joker while it is being recorded by the register in the office automatically, thus insuring speed in the receipt as well as perfect record.

The manual transmitter, arranged for sending out the box number, as well as special signals, over several different circuits and sounding the same on a number of different speeded instruments, such as gongs, registers, tower bell strikers and whistle blowing machines at the same time, is an instrument that apparently almost reasons.

The automatic line tester, which tests all circuits every twenty minutes, is another valuable addition to the service, as it insures the circuits being tested regularly.

The automatic protection of the office from abnormal electric currents is a feature not to be despised, and the advent of the steel cabinets and stands for the switchboards and other instruments goes a long way to add to the fireproofing of the office.

The diagrams appearing in "Official Diagrams of the Postal Telegraph-Cable Company's Apparatus and Rules Governing the Construction and Repair of Lines" were made from the company's blueprints and are absolutely correct. This volume, which is published by Telegraph Age, under official sanction and supervision, is of especial value to operators and linemen. It will be sent to anyone, postpaid, on receipt of fifty cents. Address J. B. Taltavall, TELEGRAPH AGE, 253 Broadway, New York.

Characteristics of Dry Cells.*

BY F. H. LOVERIDGE.

It is not the purpose of this paper to go into a technical description of dry cells, but to give some of their characteristics, to indicate what classes of service they are best adapted to meet and to point out some of the precautions that should be taken to insure the best results in practical working. So far as the user is concerned a dry cell might be termed—"an original package" sealed up tight and must be accepted for better or worse, as received from the manufacturer. The user of dry cells cannot hope to improve or replenish them, though schemes of this nature are continually being proposed. None of them so far as I am aware ever proved to be of practical utility.

The electrical energy of the cell is, generally speaking, a certain quantity, and so long as it remains on open circuit none of the energy is drawn out. When the circuit is closed, however, energy is given off and the sum total is diminished correspondingly. It should be explained that a certain quantity of energy in the cell is intended to imply definite service conditions—as these conditions vary the available energy will vary, and between wide limits.

In making a dry cell the aim is to so construct it that there is a balance between the various chemical elements, and so long as this balance is maintained, the cell is inert. When this balance is disturbed, either because of a closure of the circuit through an external path, or interaction between the contained chemicals, a change will take place which cuts down the available output. This interaction takes place when cells are "on shelf," which means the period during which they are stored preceding placing in service. In the course of time it will be noted that both the E. M. F. and the internal resistance have changed in such a way that less energy is available.

The question of providing a condition under which the maximum energy may be drawn from a cell is one which is not of practical interest, but the question does come up as to the number of watt-hours available under various service conditions. If the rate of discharge is too high then the cell will not have time to properly recuperate or depolarize when the open circuit interval occurs. On the other hand, if the rate of discharge is too low, there is a tendency for the cell to use itself up internally and thus restrict the amount available. In tests which we have made, and from which this result is simply an inference, it seems that if the energy is drawn out under ordinary conditions at such a rate that the cell is exhausted in a period of about a month, the maximum energy is obtained, but if the work is such that the time during which the cell is in service is ex-

tended over a year the percentage of the maximum amount of energy available is considerably reduced. This fact is to be accounted for on the basis of the longer period during which internal chemical action producing no current is going on. It is not to be understood from this that a cell may not be depended upon for long periods of service. It simply means that a reduced watt-hour output (which in itself may be more than sufficient for requirements), is to be expected.

In making this statement it has been assumed that average temperature conditions prevail. It is a well known fact that there is an increase of chemical action at high temperatures, and a decrease at low temperatures. Since the chemical action in a cell may be considered of two kinds, that is, first useful action producing flow of current in the external circuit, and second, harmful action, which cuts down the efficiency of the cell, it will be seen that the climatic condition under which the cell is stored or worked is very important. On "shelf" a cell will deteriorate slowly at low temperature and this deterioration will increase as the temperature is increased. Cells stored in a dry atmosphere where the temperature is kept below the freezing point of water will probably show no appreciable deterioration, whereas at 100 degrees Fahrenheit or above, the effect of harmful action will be noted in a comparatively short period, hence the desirability of storing cells in cool places. Where cells are on light service, requiring only a small energy drain, it follows that the ratio of useless chemical action producing a flow of current, will be low at low temperatures and high at high temperatures. Where the rate of energy drain is high, then the temperature is not of so much importance, because the time during which harmful action can take place is greatly reduced. It would be difficult to state this as a formula, but the general law is quite definite.

There is a characteristic difference between wet and dry cells, in that the internal resistance enters as a very different factor in the two cases. The internal resistance of wet cells in general is fairly constant, while of dry cells it is a constantly varying quantity. When a dry cell is new, its internal resistance may be approximately one-twentieth of an ohm, and it increases from this up into the hundreds of ohms. The magnitude of the internal resistance of the dry cell determines the age it has reached in its period of useful life.

I am showing on the chart two sets of curves which bring out very strongly this factor of internal resistance. The test conditions were the closure of the circuit at certain intervals through an external resistance for a period of time which remained constant throughout the test. In the first set, Figure 1, there is a high rate of energy discharge, and in the second, Figure 2, a low rate. The ordinates of these curves are expressed in volts and the abscissas in time. The three curves in each set marked A, B and C represent respec-

* Abstract of a paper read at the convention of the Association of Railway Telegraph Superintendents, at Detroit, June 23-25, 1909.

tively the E. M. F. on open circuit, the potential difference at the time of closure of the circuit through an external resistance and the potential difference at the end of the period, which is constant throughout the test.

It will be seen from these curves that at the start the potential difference at the beginning of closed circuit and the potential difference at the end of the period are practically identical. The E. M. F. curve is somewhat higher. As the cell is used, it will be noted that these curves diverge, and if carried far enough, the lowest curve would finally touch the line indicating zero potential difference. The high E. M. F. on open circuit is of no particular value, because it indicates a condition where no work can be done. The instantaneous drop, when the circuit is closed, shows the magnitude of the internal resistance when the current starts to flow.

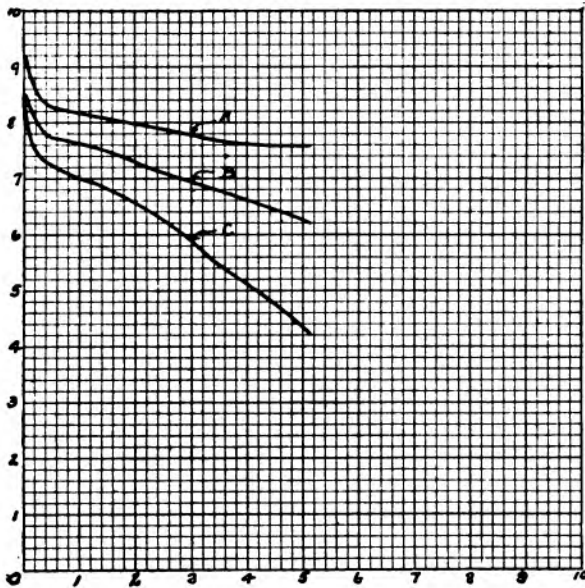


FIGURE 1.

The difference between the potential at the beginning of the period of closed circuit and the potential at the end indicates to what extent the internal resistance increases, or the "practical polarization." These curves give a very correct idea of the characteristics of the dry cell, and from them may be deduced most of the data which should lead to their proper use under service conditions.

As will be seen from the chart, the available energy from a cell decreases from the start. If the drain continues long enough the zero point will ultimately be reached. There is no reason why cells should not be left in circuit as long as they contribute an E. M. F. to the current flowing, but if the potential of individual cells is allowed to drop to a very considerable extent, it will be necessary to correspondingly increase the total number in series so that the required potential for working conditions may be maintained.

The determination of the point at which cells should be taken out is something that must depend on the particular service condition. If in telegraph work there is a permissible variation in the current from 90 down to 60 mil-amperes the average potential per cell could drop from one and one-half volts to one volt. When this point is reached the entire set must be replaced unless additions are made to the series. This expedient is often adopted and works out as follows: If there are ten cells at the start, giving a potential of fifteen volts (ninety mil-amperes), then when the potential is only ten volts (sixty mil-amperes), the addition of one cell allows the

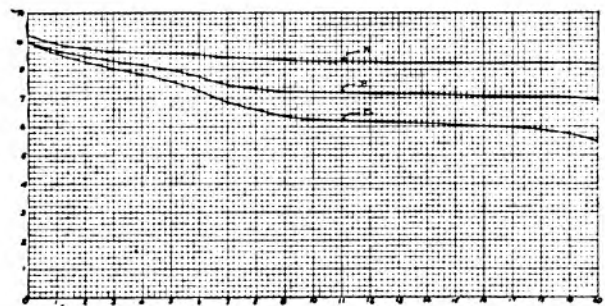


FIGURE 2.

average to come down to .91 volts per cell. Similarly, the average for 12 cells would be .833 volts, for 13 cells, .769 volts, etc. Thus, cells can be run down to lower averages and more of the total energy utilized. If, however, this plan is carried too far, and cells are left in circuit until they reach the zero point, they become resistances which simply increase the circuit resistance as though additional lengths of wire were inserted, additional work being thrown on the remaining cells. I believe the best practice is to set some potential difference at which the cells are to be taken out of circuit, thus preventing the number in series from becoming excessive.

I wish to call attention to the fact that if a sufficient number of cells to do the work are placed in a circuit, a larger number is objectionable for the reason that too heavy a flow of current is produced. For instance, if ninety mil-amperes be sufficient to operate the apparatus, then the addition of enough cells to bring the current up to 150 mil-amperes would be decidedly objectionable since the flow of current in the circuit tends only to draw energy from the cells at an excessive rate. Where dry cells are used in circuits of widely varying resistance, this fact points to the desirability of determining the necessary E. M. F. for each circuit and connecting the proper number of cells in series to give the required flow of current.

If the circuit resistance is known a voltmeter across the terminal of the battery will show whether or not there is sufficient E. M. F. to produce the desired flow of current, or if the resistance is not known, a mil-ammeter will serve the purpose equally well.

I have understood that in general, for telegraph and block signal work, a current of 60 to 90 mil-amperes is required. If the proper number of cells are put in circuit to produce 90 mil-amperes at the start, the cells may be run down to a point where their internal resistance will be such that only 60 mil-amperes will flow. It has been found by experience that where dry cells are installed as a unit, that is, a certain number in series which are all put in and taken out together, it is highly desirable to have cells uniform in quality and condition. One defective or run down cell among fresh ones will drag the others down so that the set is unfit for service before the fresh cells have given out their normal amount. The greater the degree of uniformity, the more satisfactory will be results.

The best way to test cells in service is to allow the current to flow through its circuit under standard conditions and then to apply a high resistance voltmeter of good construction, noting the potential difference at the terminals of individual cells. By this method each cell will show what it is doing under regular working conditions.

For testing new cells a high resistance voltmeter is desirable to see if the E. M. F. is up to normal and the instantaneous current flowing through a low resistance ammeter will give a good indication of the internal resistance. However, it does not always follow that the cell which will give the best service has the lowest internal resistance.

The question is often asked as to the quality of new cells of various makes or of various lots of the same make as determined by instrument readings. It is impossible to answer intelligently with only such limited data to go by. The only satisfactory determination is to give cells a closely observed service test and from results form conclusions. Cells must have time to show their staying qualities, and these cannot be demonstrated in a moment. It is possible to make cells that will give remarkably good initial readings, but which have no staying qualities, and the reverse is also true. The best plan for the user of dry cells is to determine by service tests the make adapted to his requirements which he knows he can best depend on as being reliable in quality and uniformity of grade.

Mr. Fry has made a valuable investigation of actual conditions found in railway telegraph and block signal work. His data shows that the average time of circuit closure is less than five minutes per day. This is reckoned on a basis of ten minutes total of telegraphing per day which would mean that there would not be more than 150 communications. As the open and closed fractions are respectively five-ninths and four-ninths, the total closed period will not be over five minutes. The requirements as to flow of current are from 60 to 90 mil-amperes, or say an average of 75. On this basis the watt-hours per cell per day would be expressed by $.075 \times 5/60 \times 1.25 = .0078$, or for 1 year $.0078 \times 365 = 2.847$. on

the assumption that the average voltage per cell is 1.25. Such an energy drain is very light and represents only a small portion of what would be obtained under ordinarily favorable conditions.

In the operation of telephones, the conditions are more severe—it is, of course, necessary for current to flow during the entire time of speaking into the transmitter, and though the transmitter resistance is constantly varying, it cannot be said to approach open circuit as in telegraph transmission. With high resistance transmitters a minimum of 140 mil-amperes is required, and it may go as high as 320. With transmitters adapted for some railway work which have a lower resistance, a current not less than 300 nor more than 600 mil-amperes would be used—we may say roughly that 500 would be about the average working strength. I have no data as to the length of time per day during which a telephone would be used, but the magnitude of current flow, and its continuity, indicate the severe condition of battery drain.

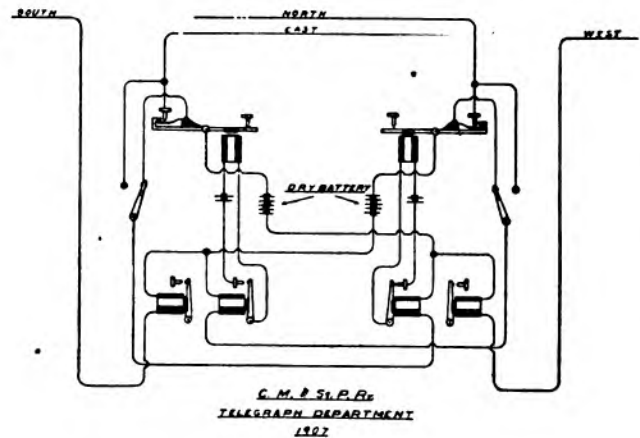


FIGURE 3.

With the majority of telephone equipments for train despatching, now being recommended, a key is associated with the transmitter and so arranged that when the transmitter is in use, the key is depressed, thus closing the battery circuit. During the period when the distant party is talking the button is released, thus opening the local transmitter circuit and saving the cells from a current drain during the time it is not required. A device of this kind is also of benefit from a transmission standpoint, for the reason that if the cells are given intermittent service during conversation they will have a chance to recover during the intervals of open circuit, and will maintain a more nearly constant voltage on the transmitter.

I am indebted to Mr. Fry for a circuit diagram showing a very ingenious arrangement of dry cells used with a telegraph repeater. The arrangement, as shown in Figure 3, is such that the current requirement of the dry cell is reduced to a minimum and the current energy is used to the

best advantage. From the diagram it will be seen that only the set of dry cells on the receiving side is in service, and that there the current flows only during the "space" or "open" period of the sending line. As the sending and receiving functions are alternated it will readily be understood from the diagram how the two cells are alternately brought into action, thus carrying the reduction of closed circuit periods to its limit.

The numerous advantages of the dry cell for open circuit work are now being appreciated. The wet cell formerly used in telephone service has disappeared and with its exit has gone a source of annoyance and expense. The possibility of having a certain quantity of electrical energy in a form requiring no attention for maintenance, giving out its energy as demanded and so cheap that it may be thrown away when no longer useful, is almost ideal. As time goes on the field of application will certainly widen until all requirements for a small amount of electrical energy used intermittently over a long period will be taken care of by the dry cell.

French Telephone Service.

The telephone service in Paris has long been notorious for general inefficiency and is very poorly developed. The Marquis de Montebello gives the results of five years' constant study of the telephone problem. As regards engineering matters, his report describes the antiquated plant maintained in service in the French telephone system, and attacks the policy of the postoffice administration in adopting for Paris a mutilated form of the central battery system, in which local batteries and miscellaneous types of instruments are to be maintained at the subscribers' stations, whereas it is the universal practice with the central battery system to abolish the local batteries and to equip subscribers' stations with a uniform type of instrument.

Dealing with the staff and general administration, the Marquis de Montebello shows that the French telephone service largely owes its backward condition to the confusion between the telegraph and the telephone, and deals with the important question of technical supervision, and with that of general administration, as follows:

"When the State bought the early telephone systems the telephone service was annexed to the telegraph. This was an initial error, for the telegraph is one thing, and the telephone quite another. The two services should be completely independent. In France the telephone has always suffered from its connection with the telegraph. Officials are passed from one service to another without having the time or opportunity to become specialists. In charge of telephone installations are placed telegraph engineers, graduates of the Polytechnic School, full of self-confidence, who imagine that they know everything, and who are in perpetual conflict with the older and more practical men whose advice they are unwilling to

listen to. Professor Turpain also attributes the destruction by fire of the great Paris Exchange in September, 1908, to the lack of technical knowledge on the part of engineers graduated from the Polytechnic School, and says that this school turns out graduates who under a pretentious appearance of universal knowledge conceal a complete ignorance of all recent progress."

The report further deals with the neglect of proper selection and training of telephone operators, and states that discipline is largely undermined by political influence and favoritism. The operating staff is so much harassed by erratic discipline, by lack of proper accommodation in the exchanges—some of the telephone buildings have neither dining rooms nor retiring rooms for the operators—and by inefficient apparatus, that it is impossible for the employes to give a good service.

In conclusion, the report criticizes the State for its incapacity in business management, and for its general lack of business methods. There are no separate accounts for the telephone, and nobody knows whether the State makes or loses money by the conduct of the telephone service. The system being a rigid Government monopoly, there is no stimulus to improve the service, and among the regulations is one to the effect that the State "is free from all responsibility arising from the telephone service." The subscriber's contract contains very arbitrary clauses, some even being in conflict with the common law. Finally, it is pointed out that the French post-office administration still adheres to the old fashioned flat rate tariff, and, although a reduction of tariff has long been promised, and the introduction of a measured rate tariff, which has frequently been discussed, would result in an important reduction of rates to many telephone users, the plant has been allowed to get into such a congested state that no modification of the tariff can be made for a long time to come, as no facilities would be available to meet the demand if a serious reduction of rates were made.

Mr. Arthur Walsh, of South Auburn, Neb., a member of the society of the United States Military Telegraph Corps, in remitting to cover his subscription for another year takes occasion to say: "Every issue of your publication contains matter that is of interest to me that I could find nowhere else. My comrade, Thad Schnell, formerly of Des Moines, Iowa, wrote me a year or so ago and said: 'If you are not already a reader of "Telegraph Age," I would advise you to subscribe for it as it keeps us informed of matters pertaining to our society and all things telegraphic.' I took his advice and have not regretted it."

"Pocket Edition of Diagrams," etc., the latest revised edition, 334 pages and 160 illustrations, published by TELEGRAPH AGE, contains just the information every telegrapher requires.

The First Telegraph in Bellefonte, Pa.

Thad M. Schnell, of Des Moines, Iowa, who was an attendant at the recent reunion of the Military Telegraphers in Pittsburg, took occasion to visit Bellefonte, Pa., where he was employed in 1851 as operator upon the first telegraph line established to that place. Upon revisiting the scenes of his younger days he told in part the following story of the early days of the telegraph in that locality.

The first telegraph line constructed into Bellefonte was that of The Susquehanna River, North and West Branch Telegraph Company, by Dr. A. C. Goel, of Philadelphia. It was a single wire, strung on poles along the public highway. The line was completed and the first message sent from Bellefonte in the fall of 1851.

The equipment consisted of a Grove battery of fifty jars which provided the electric current to carry the dots and dashes to Philadelphia, the other end of the line.

The instruments were a key, a relay and a register. These instruments were placed on a high table and connected with the wire. The paper tape was placed on a reel and passed through two cylinders of the clockwork register; the top cylinder had a slot into which the steel point of the armature lever indented the dots and dashes of the Morse characters, on the tape from which the operator read off the message. Fifty pounds of weight was the motive power that carried the tape through the register. The offices on the line were: Bellefonte, Milesburg, Mill Hall, Lock Haven, Jersey Shore, Williamsport, Selins Grove, Sunbury, Lewisburg, Northumberland, Harrisburg, Philadelphia and other intermediate offices unremembered. The names of the first operators, as far as remembered, were: Thad M. Schnell, at Bellefonte; Joseph Schnell, Sr. (father of Thad), at Milesburg; the Misses McCormick, at Mill Hall (sisters-in-law of Hon. Edward Blanchard, deceased). W. A. M. Grier opened the Bellefonte office in the year 1851, and taught the art of telegraphy to Mr. Schnell, who took charge of the office after the departure of Mr. Grier, which was about six weeks after the opening of the office.

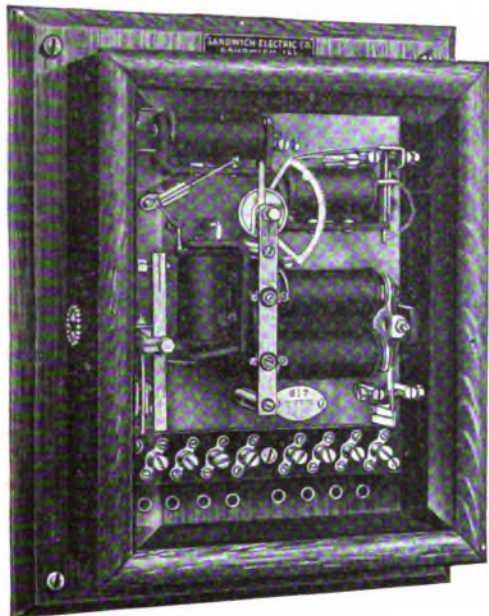
The first telegrams were mainly social, but soon the telegraph became a business medium of communication, and the patronage of the line increased with the knowledge of its reliability. The salary paid Mr. Schnell was the munificent sum of \$3.33 a week, but boarding was cheaper then than now. However some extra was made by inaugurating the Associated Press, selling news to subscribers at twenty-five cents a week, the operator at Philadelphia and Mr. Schnell dividing the profits. The Associated Press was then in its infancy. We always carefully copied the news in a big book and subscribers read the news daily, which was a source of great admiration for the public, and gratification for the operator. Mr. Schnell went on to say: "We played

chess those days by telegraph, some times Philadelphia would beat Bellefonte, but I recall Bellefonte was the victor in the end; the game would last several weeks. Shortly after the office was opened for business, a lady came over from Penns Valley to see how the telegraph worked. She sent a message to Philadelphia and received a reply in thirty minutes. I read the message to her as it reeled through the 'Register,' when she asked, 'La me, does that paper reach from here to Philadelphia?' Another lady refused to pay the charges for a reply, ten cents, because she said 'That's not my sister's hand-writing!' Many laughable incidents occurred in the early days of telegraphing in Bellefonte. The company next engaged me to open new offices down the line, east of Harrisburg. When I finished opening offices and instructing operators, I secured a position on the New York and Erie Railroad at Elmira, N. Y., where I was appointed manager in 1856, and remained on that road until 1861, when I joined the Military Telegraph Corps, and worked in the city office at Washington, D. C., and in the several camps around Washington. Then I was stationed at Hagerstown, Md., Wilmington, Del., and various other military posts. Returning from the war, I became manager of the Western Union Telegraph office at Titusville, Pa., during the oil boom. From there I went to Chicago, where I worked in 1871 when the great fire destroyed the city. Thence to Jackson, Mich., where I assisted in constructing an independent telegraph line from Kalamazoo to Detroit, and from Jackson, Mich., to Fort Wayne, Ind., and was appointed superintendent of these lines, until they were absorbed by the Western Union Telegraph Company. From Chicago I went to Des Moines, Iowa, in 1874, and took press report for the daily newspapers, and have remained in that city since."

The Result of a Telegraph Error.

One of the first reforms which the new French Minister of Public Works, Posts and Telegraphs, M. Millerand, has instituted, has been the transmission of periods by telegraph. The pressing need of the reform was brought home to him in an amusing manner.

A well-known Paris journalist, M. Jacques Normand, was bitten by a dog while he was staying with some friends for the week-end. He thought no more of the matter, and returned to Paris. On the Tuesday morning following he received a telegram: "Chien mange pas symptomes rage." ("Dog does not eat symptoms hydrophobia.") The telegram meant just the opposite. The sender had intended "Chien mange. Pas symptomes rage." ("The dog is eating. No symptoms of hydrophobia.") But M. Normand, thinking he had been bitten by a mad dog, rushed to the Pasteur Institute, and until he received letters from the country congratulating him on his escape, spent some very unhappy days.



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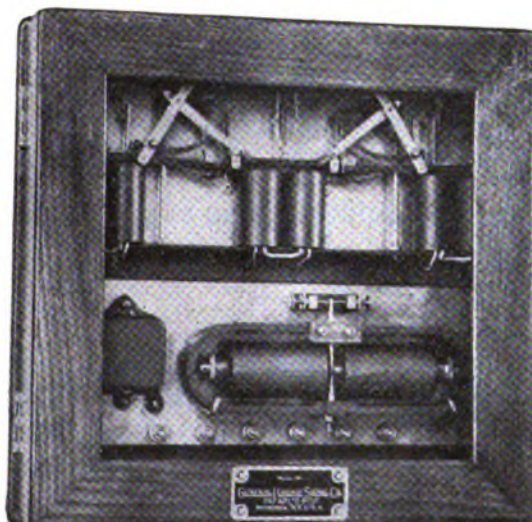
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The Railroad.

Mr. W. F. Williams, of Portsmouth, Va., superintendent of telegraph of the Seaboard Air Line, and J. S. Stevens, of Richmond, Va., superintendent of telegraph of the Chesapeake and Ohio, were recent New York visitors.

The Chicago and Northwestern Railway Company is installing telephone train despatching circuits, which include Racine, Wis., and all of the other points on that railway between Chicago and Fond du Lac, Wis.

A novel feature of the telephone despatching equipment recently installed on the Fitchburg division of the Boston and Maine Railroad was the arrangement of special apparatus at one station to retain a one-armed telegraph operator at his post. The equipment designed for his use consists of a foot switch and a special telephone set. The device permits free use of his hand to record messages.

The Atchison, Topeka and Santa Fe Railroad, C. H. Gaunt, superintendent of telegraph, has 1,090 miles of telephone despatching circuits in operation and 1,186 miles of road upon which the installation of telephone circuits has begun. The largest line is that from Fresno to San Francisco, which is 203 miles in length and the transmission upon which is entirely satisfactory.

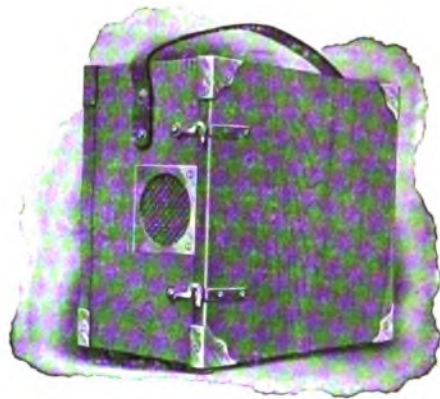
G. H. Groce, superintendent of telegraph and signals of the Illinois Central, the Indianapolis Southern and the Yazoo and Mississippi Valley, has been appointed assistant to the general manager of these lines, with office at Chicago. F. T. Wilbur, assistant superintendent of telegraph at Chicago, has been appointed superintendent of telegraph of the Illinois Central lines north of the Ohio River and of the Indianapolis Southern with office at Chicago, and B. Weeks, assistant superintendent of telegraph at Memphis, Tenn., has been appointed superintendent of telegraph of the Illinois Central lines south of the Ohio River and of the Yazoo and Mississippi Valley, with offices at Memphis. The offices of the superintendent of telegraph and signals and of the assistant superintendents of telegraph have been abolished.

A Composite Telephone and Telegraph Installation.

The Cleveland, Akron and Columbus Railroad Company have recently installed a composite telephone circuit on their lines between Akron and Columbus, Ohio, a distance of 130 miles. The line is constructed of No. 9 copper, and has three intermediate telegraph offices between the terminal telephones. There are also three intermediate telephone stations connected to the line.

In connection with this service the company has equipped their wrecking train with a portable composite telephone, which may be connected to the line at any point along the road, thus en-

abling them to obtain direct telephone connection with headquarters at all times. In addition to this, an extra portable composite telephone is kept at the division headquarters to be used on inspection trips or in cases of emergency.



The Western Electric Company's composite telephones are used in the stations, and their portable set is used on the wrecking train. These sets are shown in the illustrations. It is reported that first-class service is obtained with this equipment.



It will be readily seen that the system described enables additional service to be obtained at a very small cost, as an existing telegraph wire may be used for this purpose without interfering with the operation of the telegraph.

Mr. F. C. Hackett, of Toledo, O., in renewing his subscription recently, said: "I have taken Telegraph Age so long that I should certainly miss it as an old friend if I did not receive it. I wish you the success which you deserve for the manner in which you have handled certain issues of your paper."

Professor Thomson on the Theory of Electricity.

Professor J. J. Thomson, of England, president of the British Association for the Advancement of Science, which met in annual convention August 25 at Winnipeg, Man., in his address had this to say in part:

"We have already made considerable progress in the task of discovering what the structure of electricity is. We know that negative electricity is made up of units, all of which are of the same kind; that these units are exceedingly small compared with even the smallest atom, for the mass of the unit is only 1/1700 part of the mass of an atom of hydrogen; that its radius is only 10⁻¹² centimetre, and that these units, 'corpuscles' as they have been called, can be obtained from all substances. The size of these corpuscles is on an altogether different scale from that of atoms; the volume of a corpuscle bears to that of the atom about the same relation as that of a speck of dust to the volume of a large room. Under suitable conditions they move at enormous speeds which approach in some instances the velocity of light. The whole of the mass of the corpuscle arises from its charge.

"We know a great deal about negative electricity; what do we know about positive electricity? In the first place, we find that the positive particles—'canalstrahlen'—discovered by Dr. Goldstein, which are found when an electric discharge passes through a highly rarefied gas, are, when the pressure is very low, the same, whatever may have been the gas in the vessel to begin with.

"Some experiments made lately by Wellisch, in the Cavendish Laboratory, strongly support the view that there is a definite unit of positive electricity independent of the gas from which it is derived. These and similar results lead to the conclusion that the atoms of the different chemical elements contain definite units of positive as well as of negative electricity, and that the positive electricity, like the negative, is molecular in structure.

"The investigation made on the unit of positive electricity show that it is of quite a different kind from the unit of negative. The mass of the negative unit is exceedingly small compared with any atom; the only positive units that up to the present have been detected are quite comparable in mass with the mass of an atom of hydrogen; in fact, they seem to equal it. This makes it more difficult to be certain that the unit of positive electricity has been isolated, for we have to be on our guard against its being a much smaller body attached to the hydrogen atoms which happen to be present in the vessel. If the positive units have a much greater mass than the negative ones, they ought not to be so easily deflected by magnetic forces when moving at equal speeds; and in general the insensibility of the positive particles to the influence of a magnet is very marked; though there are cases when the positive particles are much more readily deflected, and these have

been interpreted as proving the existence of positive units comparable in mass with the negative ones. I have found, however, that in these cases the positive particles are moving very slowly, and that the ease with which they are deflected is due to the smallness of the velocity and not to that of the mass. At present the smallest positive electrified particles of which we have direct experimental evidence have masses comparable with that of an atom of hydrogen.

"A knowledge of the mass and size of the two units of electricity, the positive and the negative, would give us the material for constructing what may be called a molecular theory of electricity, and would be a starting-point for a theory of the structure of matter; for the most natural view to take, as a provisional hypothesis, is that matter is just a collection of positive and negative units of electricity, and that the forces which hold atoms and molecules together, the properties which differentiate one kind of matter from another, all have their origin in the electrical forces exerted by positive and negative units of electricity, grouped together in different ways in the atoms of different elements.

"As it would seem that the units of positive and negative electricity are of very different sizes, we must regard matter as a mixture containing systems of very different types, one type corresponding to the small corpuscle, the other to the large positive unit.

"Since the energy associated with a given charge is greater the smaller the body on which the charge is concentrated, the energy stored up in the negative corpuscles will be far greater than that stored up by the positive. The amount of energy which is stored up in ordinary matter in the form of electrostatic potential energy of its corpuscles is, I think, not generally realized. All substances give out corpuscles, so that we may assume that each atom of substance contains at least one corpuscle. From the size and the charge on the corpuscle, both of which are known, we find that each corpuscle has 8×10^{-7} ergs of energy; this is on the supposition that the usual expressions for the energy of a charged body hold when, as in the case of a corpuscle, the charge is reduced to one unit. Now, in one gram of hydrogen there are about 6×10^{23} atoms, so if there is only one corpuscle in each atom, the energy due to the corpuscles in a gram of hydrogen would be 48×10^{-10} ergs, or 11×10^{-9} calories. This is more than seven times the heat developed by one gram of radium, or by the burning of five tons of coal. Thus we see that even ordinary matter contains enormous stores of energy; this energy is, fortunately, kept fast bound by the corpuscles; if, at any time, an appreciable fraction were to get free, the earth would explode and become a gaseous nebula.

"The matter of which I have been speaking so far is the material which builds up the earth, the sun, and the stars, the matter studied by the

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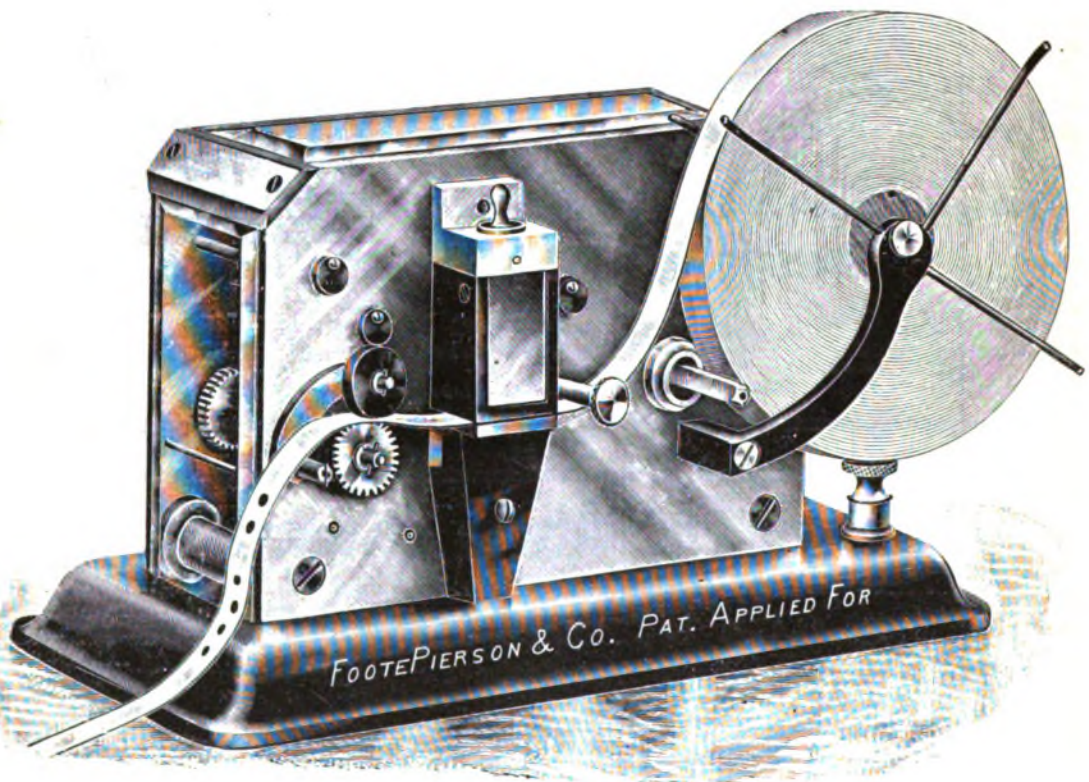
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chemist, and which he can represent by a formula; this matter occupies, however, but an insignificant fraction of the universe, it forms but minute islands in the great ocean of the ether, the substance with which the whole universe is filled.

"The ether is not a fantastic creation of the speculative philosopher; it is as essential to us as the air we breathe. For we must remember that we on this earth are not living on our own resources; we are dependent from minute to minute upon what we are getting from the sun, and the gifts of the sun are conveyed to us by the ether. To the sun we owe not merely night and day, springtime and harvest; it is the energy of the sun, stored up in coal, in waterfalls, in food, that practically does all the work of the world.

"How great is the supply the sun lavishes upon us becomes clear when we consider that the heat received by the earth under a high sun and a clear sky is equivalent, according to the measurements of Langley, to about 7,000 horsepower per acre. Though our engineers have not yet discovered how to utilize this enormous supply of power, they will, I have not the slightest doubt, ultimately succeed in doing so; and when coal is exhausted and our water-power inadequate, it may be that this is the source from which we shall derive the energy necessary for the world's work. When that comes about, our centres of industrial activity may perhaps be transferred to the burning deserts of the Sahara, and the value of land may be determined by its suitability for the reception of traps to catch sunbeams.

"The energy, in the interval between its departure from the sun and its arrival at the earth, must be in the space between them. Thus this space must contain something which, like ordinary matter, can store up energy, which can carry at an enormous pace the energy associated with light and heat, and which can, in addition, exert the enormous stresses necessary to keep the earth circling round the sun and the moon round the earth.

"The study of this all-prevailing substance is, perhaps, the most fascinating and important duty of the physicist.

"On the electromagnetic theory of light, now universally accepted, the energy streaming to the earth travels through the ether in electric waves; thus practically the whole of the energy at our disposal has, at one time or another, been electrical energy. The ether must, then, be the seat of electrical and magnetic forces. We know, thanks to the genius of Clerk Maxwell, the founder and inspirer of modern electrical theory, the equations which express the relation between these forces; although, for some purposes, these are all we require, yet they do not tell us very much about the nature of the ether.

"Is the ether dense or rare? Has it a structure? Is it at rest or in motion? are some of the questions which force themselves upon us."

Radio-Telegraphy.

A bill is pending in the House of Deputies of Uruguay proposing to establish three wireless stations—at Flores Island, at Punta del Este and at Cape Santa Maria, respectively.

The United Wireless Telegraph Company has just completed the manufacture of a three-kilowatt wireless equipment for the new steamer *Wilhelmina*, plying between San Francisco and Honolulu.

A patent, No. 930,780, for a magnetic detector, has been granted to J. Murgas, of Wilkes-Barre, Pa. Produces a stationary magnet field, in which is mounted a conducting disk of magnetic material, to which the oscillations are conducted.

A patent, No. 932,799, for a coherer, has been secured by W. W. Massie, of Providence, R. I. Like patent No. 809,119 with special construction of bridge so that it can be separated from the supports without throwing tapper out of adjustment.

A patent, No. 932,111, for a means of producing high-frequency oscillations, has been granted to R. A. Fessenden, of Brant Rock, Mass. Avoids using a spark gap by charging the capacity of a condenser rapidly by varying the distance between the plates.

A patent, No. 932,112, for a lightning arrester, has been issued to R. A. Fessenden, of Brant Rock, Mass. The discharge gap is in a compressed air reservoir and a highly dampened oscillatory circuit is shunted around the gap.

The Wireless Association of New Orleans has been formed for the purpose of advancing the interests of wireless telegraphy and telephony. One of its objects will be to prevent experimenters from interfering with commercial and naval wireless stations. The following officers were elected: President, L. J. Nadau du Treil; vice-presidents, Messrs. George Siebert and H. S. Chluter; treasurer, L. Reiss; secretary, P. Gernsbacher, 1608 St. Charles Avenue.

H. Shoemaker, of Jersey City, N. J., has been granted patents No. 932,819, for an oscilometer for producing and measuring wave lengths of definite frequency by means of a condenser and inductance and scale; No. 932,820, for transmitting apparatus. An oscillation circuit containing pairs of inductance and a capacity, the pairs in parallel with means for discharging the capacities through the inductances and an oscillation circuit in getting its energy therefrom; No. 932,821, for telephone and telegraph transmitting apparatus. Wireless telegraph having a continuous oscillating circuit of a low, natural period above the limit of audition, a high frequency disruptive oscillation circuit, deriving energy from the first circuit; a radiator and means for controlling the radiator to represent a signal; and No. 932,913, for receiving apparatus. A looped aerial with a wave responder in one loop and an adjustable inductance bridging the legs of the loop.

One of our Australian correspondents writes recently the following: "Wireless telegraphy is now making rapid progress, but the Australian government has not yet taken it up. I cannot understand why as the press and the shipping people are strongly advocating its installation along our coast."

The marines on guard in the Brooklyn Navy Yard were surprised one day recently by the ringing of all the fire gongs. The bugle fire call was sounded and all the marines of the fire brigade rushed to their posts. But no blaze could be found. The alarm had been sounded by a wireless message affecting the electrical apparatus.

A patent, No. 931,586, for a receiver for wireless telegraphy and telephony, has been secured by S. Eisenstein, of Kiew, Russia. A resonant circuit with a primary receiving transformer coil in the circuit, together with a secondary transformer coil arranged to be continuously moved with respect to the primary coil and connected to a detector.

In a recent interview Mr. Marconi said that his ambition was to link up the British Empire by wireless telegraphy, which he said could be accomplished by establishing stations at Malta, Cairo, Aden, Bombay, Singapore, Perth, Adelaide, Sydney, Wellington, Hong Kong, Mombasa, Durban, Cape Town, Bathurst, Sierra Leone, Helena, Mauritius, Nelson Island, Montreal, Jamaica and British Guiana.

Floyd N. Bradley, receiver of the International Wireless Telegraph Company, has instituted suit at Trenton, N. J., against the American De Forest Wireless Company to recover the assets of the International Company, amounting, it is claimed, to \$7,500,000, which the petitioner says, was transferred to the De Forest Company without compensation. As the latter company is also defunct, it is rather difficult to see what advantage will be gained even if the suit is successful.

Wireless Operator Becomes a Martyr to Duty.

Another name, that of George E. Eccles, has been added to the list of wireless heroes. The steamship Ohio, on its way from Seattle to Valdez, Alaska, on August 27, struck on some rocks off the Alaskan coast and soon sank. Mr. Eccles, who was the wireless operator on board, immediately after the ship struck sent out the "C. Q. D." signal and notified two other vessels which happened to be within calling distance, of the position of the doomed vessel. The tale of the disaster, as told by Operator Booth, who was in charge of the wireless station at Ketchikan, Alaska, is as follows:

"About 1 a. m. I was sitting with my receivers to my ears, having just finished with Operator Eccles on board the Ohio, when I was startled by hearing him call 'C. Q. D.' I immediately answered, and he sent the following message: 'Ohio struck a rock; steamer sinking; send aid immediately or everybody will be lost.'

"The steamships Humboldt and Rupert happened to be near at the time, and they both called the Ohio, asking for her latitude. Eccles gave it immediately and the Rupert flashed back that they would change their course and stand by the Ohio as soon as possible.

"In the mean time Eccles sent another message, saying: 'Ohio sinking fast—cannot hold out. Passengers being taken off in small boats. Captain and crew will stick to the last.'

"The Humboldt and Rupert both replied that they were headed for the Ohio and would pick up the passengers. Then came the final message from the stricken ship. It was never finished.

"'Passengers all off and adrift in small boats.' it said. 'Captain and crew going off in last boat: waiting for me now—good-by.'

"I was unable to get him again," concluded Booth, "and I knew he had gone down with his ship."

Booth's story of the tragic sequel of the last message which he received was confirmed by the passengers and crew of the wrecked vessel, all of whom escaped with the exception of four of the crew who stayed behind with the operator while the others embarked in the life-boats.

Mr. Eccles is the first wireless operator to lose his life because of adherence to duty, and his name will long be remembered for his heroic action in sticking to his post when he might have saved his life by going in the boats with the others. A plan is already under way to erect a monument to his memory. He was a native of Almonte, Ont., and was at one time employed by the Canadian Pacific Railway at Winnipeg, where he is survived by a wife and two sons.

Obituary.

J. E. Green, aged sixty years, son of the late Dr. Norvin Green, a former president of the Western Union Telegraph Company, died suddenly at the New York Athletic Club, September 3. Mr. Green was well known in telegraph circles and at the time of his death was a member of a New York banking firm. He was president of the Board of Trade and president of the Fourth National Bank of Louisville, Ky., for many years, and had one of the largest horse breeding farms in that state. He has been a resident of New York for the past eight years.

George W. Dickinson, aged fifty-seven years, at one time a prominent operator located at Seattle, Wash., died at that place on September 2.

Henry F. Beeson, aged thirty-four years, formerly manager of the Postal Telegraph-Cable Company at Davenport, Ia., but who retired from the service a year ago, died on August 28.

Mr. H. D. Spencer, of South St. Paul, Minn., has this to say regarding Telegraph Age: "I am very well pleased with the publication, and have gleaned much valuable information from its pages and I always speak a good word for it."

Interesting Subjects Treated in Back Numbers.

Telegraph Age publishes the best articles which can be obtained anywhere upon telegraphic subjects. We enumerate herewith a few of the many important subjects treated in our columns during the past few years, together with the dates of the papers containing the same. We have a limited supply of the back numbers containing these articles which we will send to any address upon receipt of price, 25 cents each. Any of these issues less than six months old are not regarded as back numbers, but will be sent upon receipt of the regular price, 10 cents. Address J. B. Taltavall, Telegraph Age, 253 Broadway, New York.

Anniversary Number, Twenty-fifth Year, Containing Full-Page Engravings of Officials and History of Various Telegraph Companies.....Jan. 1, 1908

Automatic Telegraph Systems:
Wheatstone Transmitter, C. C. Vyle and E. V. Smart.....Aug. 1, 1907

Batteries:
Dry, C. J. Fry.....Aug. 1, 1908
Storage, in Signal Service, H. M. Beek.....Oct. 16, 1908

Cables:
Atlantic, of 1858, Wm. Mavor, Jr.....Oct. 16, 1908
Commercial Company, G. G. Ward.....Jan. 1, 1909
Semi-Centennial of First Atlantic.....April 16, 1908
Submarine Repeater.....April 1, 1909
Information Concerning W. H. Jones.....Mar. 16, April 1, 1907

Call Circuits:
Arrangement of, J. F. Skirrow.....Feb. 1, 1909

Condensers:
The Condenser, W. H. Jones.....June 1-16, July 1, 1909

Directory:
Complete List of All Telegraphic Officials.....Jan. 1, 1909

Duplex Telegraphy:
Central Battery, C. C. Vyle and E. V. Smart.....June 1, 1909
Common Battery, C. E. Hay.....Dec. 1, 1908
Study of Circuit.....Oct. 16, 1908

Fire-Alarm Telegraphs:
History of.....Aug. 16, 1906
Progress of, J. W. Stover.....Jan. 1, 1903

Induction:
How to Neutralize Effects, W. H. Jones.....April 1, 1908
Disturbances Due to, J. B. Taylor.....July 16, 1907

Instruments, Electrical:
Don'ts for Users of.....Mar. 1, 1908

Invention:
Of the Telegraph, F. W. Jones.....Jan. 1, 1907

Line Construction:
Rules for, Postal.....April 1-16, May 1-16, 1904
Specification of Am. Tel. & Tel. Co.....Feb. 16, Mar. 1-16, 1904
Storms and.....May 16, 1909

Perforators:
Creed Receiving.....July 1, 1907

Poles:
Experiments with Concrete, G. A. Cellar.....July 1, 1907
Preservative Treatment by Open Tank Process.....Jan. 1, 1908

Printing Telegraph Systems:
Barclay, W. Finn.....June 16, 1908, to Mar. 1, 1909
(Price for complete set, \$3.00.)
Buckingham.....Sept. 1, 1902
Burry.....April 1, 1903
Creed.....Nov. 16, 1908
Murray.....Sept. 16, 1906
Rowland.....Sept. 16, 1903, May 1, 1907
Rowland, Discussion of.....May 16, 1907
Story of Systems.....Jan. 1, 1903

Quadruplex Telegraphy:
A New Apparatus, W. H. Jones.....Mar. 16, 1909
With Smith Neutral Relay, J. F. Skirrow.....Jan. 1, 1909

Rectifiers:
Chemical, W. H. Jones.....Sept. 16, 1908
How to Make Chemical, G. P. French.....Mar. 1, 1909
Mechanical.....April 16, 1909
Mercury Vapor, W. H. Jones.....Sept. 1, 1908

Relays:
Polar, Construction of, W. H. Jones.....May 1, 1908
Frim, Self-Polarizing Quadruplex, W. H. Jones.....May 16, 1908

Repeaters:
Atkinson.....Feb. 16, 1902
Elementary Lessons on, W. H. Jones.....Nov. 1, 1908, to Jan. 1, 1909
Half-Milliken.....Feb. 16, 1902
Horton.....Mar. 1, 1902
Defective Loop.....Mar. 1, 1902
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Simple Half Set, J. B. Dillon.....April 16, 1909
Weiny, Half Set.....Oct. 1, 1908
Weiny Phillips.....Feb. 1, 1902
Wood Double Loop.....Mar. 16, 1903

Steno-Telegraphy:
The Polyglot Stenocode, A. C. Baronio.....May 1, 1908

Switchboards:
Way Station, J. H. Gingrich.....Dec. 16, 1908

Telegraph Engineering:
A Study of.....Nov. 1-16, 1908

Telegraph Systems:
Dean Rapid.....Aug. 16, 1907
Of the Future, W. J. White.....Feb. 16, 1907
Phantoplex.....Oct. 1, 1905
Sextuplex, W. H. Jones.....Sept. 1, 1905

Telegraphy and Telephony:
Composite System, E. R. Cunningham.....July 16, 1908
Italian Composite.....Nov. 16, 1908
Rugh Composite System.....May 1, 1908

Telephone:
Construction, J. C. Kelsey.....July 1, 1909
Despatching Trains by, W. W. Ryder.....June 16, 1909
The Telephone, W. H. Jones.....April 1-16, May 1-16, 1909
For Train Despatching, W. E. Harkness.....April 1-16, May 1-16, 1909

Testing:
By Voltmeter and Ammeter, F. W. Jones.....Nov. 1, 1906
Insulation by Milliammeter.....May 16, 1908
Murray Loop Method, W. H. Jones.....Jan. 16, 1909
Use of Wheatstone Bridge, J. I. Edwards.....May 16, 1909
Varley Loop Method, W. H. Jones.....Aug. 1, 1907

Tickers:
Scott-Phelps-Barclay-Page Self-Winding.....Oct. 1, 1903

Undergrounds:
English System.....June 1-16, July 1-16, 1909
Underground Lines.....April 1, 1909

Wire Chief:
How to Become One, W. H. Jones.....Jan. 1-16, Feb. 1-16, 1908

Wireless Telegraphy:
Commercial Application of, G. Marconi.....Mar. 16, 1908
Communication Over Sea by, J. E. Murray.....April 1, 1908
Early History of, J. E. Taylor.....June 1, 1909
In American Republics.....May 1, 1909
Signaling Through Space, C. D. Babcock.....Jan. 1, 1909

The publisher of Telegraph Age urges upon subscribers to this journal the desirability of having the paper sent to their home address rather than to their place of business. The reason is obvious. If it goes to your home it reaches you without danger of obstruction or abstraction by your office associates who are sometimes prone to borrow your copy to your discomfiture and their edification, but at your expense. This naturally is a source of irritation and of course you don't like it. If a man wants Telegraph Age he should pay for it, and the individual who is paying for his copy should be guaranteed in his rights.

As we regard our subscribers as our friends, and believe we are supplying them with a telegraph paper the like of which does not elsewhere exist, we dislike to see them disappointed, and wish to protect them in their prerogative so far as we are able. We believe that a good many disappointments of non-receipt of the paper might be averted if our suggestion of sending it in all cases to the homes of its subscribers were adopted. Changes of address will be made as often as desired.

Directory of Annual Meetings.

- Association of Railway Telegraph Superintendents meets at Los Angeles, Calif., May, 16-20, 1910.
- Commercial Cable Company meets the first Monday in March, at New York.
- Gold and Stock Life Insurance Association meets the third Monday in January, at New York.
- Great North Western Telegraph Company meets the fourth Thursday in September, at Toronto, Ont.
- International Association of Municipal Electricians meets at Young's Hotel, Atlantic City, Sept. 14, 15, 16, 1909.
- Old Time Telegraphers' and Historical Association and the Society of the United States Military Telegraph Corps, will meet at Chicago in 1910, date to be selected later.
- Postal Telegraph-Cable Company meets the fourth Tuesday in February, at New York.
- Telegraphers' Mutual Benefit Association meets the third Wednesday in November, at New York.
- Train Despatchers Associations meets in Spokane, Wash., June 21, 1910.
- The stockholders of the Western Union Telegraph Company meet the second Wednesday in October, at New York; election of officers occurs on the third Wednesday in October.

LETTERS FROM OUR AGENTS.

NEW YORK, WESTERN UNION.

T. A. McCammon, chief operator, is absent, enjoying a well-earned vacation which will include a trip to his old home in Canada.

T. M. Brennan has returned from his vacation, looking as though his trip to the northern part of the state and Canada agreed with him immensely.

Miss Anna Sullivan, of the eastern division, has resumed duty after a two months' absence, during which time she visited England, Ireland and Scotland.

Miss Bessie Eichler has returned from the summer office at Belmar, N. J.

Messrs. W. Levison, D. G. Bradford and C. A. O'Connor have returned from Saratoga, where they have been for some time to assist in handling the traffic at that resort.

Miss Elsie Bohnseck has resigned to accept a position in the Chicago office.

John F. Cullen, of the operating department, was married to Miss Lillie J. Drew, on August 31. The young couple were the recipients of many tokens of esteem and numerous messages of well wishes.

J. A. Hurley, formerly employed by a brokerage firm in this city, who was seriously injured in a railroad accident at Hammond, Ind., August 25, is improving.

Oscar H. Berger, an old-time telegrapher, and formerly employed in this office, died recently in Brooklyn, after a long illness.

G. B. Clarke, a well known telegrapher, lately employed in the New York Times telegraph department, died suddenly on Sunday, August 29.

OTHER NEW YORK NEWS.

The annual meeting of the Telegraphers' Mutual Benefit Association will be held at 195 Broadway, N. Y., Wednesday, November 17.

The Serial Building Loan and Savings Institution of New York, organized by and conducted in the interest of the telegraph fraternity, shows a healthy growth by a great increase of membership during the past six months.

George E. Cromwell, a prominent military telegrapher, is in Bellevue Hospital, New York, where he is convalescing after undergoing an operation.

A new news service, known as the Publishers' Press, has been formed with Mr. Curtis J. Mar, formerly manager of the Hearst News Service, as president and general manager. The new association has established offices at 253 Broadway, New York, and expects to inaugurate its wire service on or about October 1. Offices have also been opened in London and it is announced that an alliance has been made with one of the largest European news services, insuring a complete cable service throughout the world.

General Mention.

In carrying out his reform upon the French postal, telegraph and telephone services, the new minister, M. Millerand, proposes to take a measure which is much needed, that is to separate these three services completely and thus avoid the confusion which now exists.

T. M. Daniels, a telegraph operator employed by the Postal Telegraph-Cable Company at Enid, Oklahoma, in the absence of his manager on vacation, recently issued telegraph money orders to the amount of \$1,100, collected the money and hurriedly left town.

Trade Note.

The Western Electric Company is distributing a bulletin descriptive of the Sunbeam tungsten miniature lamp for use on voltages between one and one-half and twenty. Their efficiency varies from .9 to 1.33 watts per candle, and they may be used in any place where low voltage lamps are used.

The Serial Building Loan and Savings Institution, 195 Broadway, New York, is now in its twenty-fifth year, being the oldest loan association in Manhattan. Their ability to pay five per cent. interest on deposits is due to the fact that they keep no idle funds on hand and do not speculate or invest in anything which has a fluctuating value. Write for their booklet, "The American Home the Best Basis of Security for Savings."

Advertising will be accepted to appear in this column at the rate of fifty cents a line, estimating eight words to the line.

Will buy or sell, in one to ten-share lots, Western Union Telegraph Company and Mackay Companies stocks. Remittances by New York draft or express money order are requested. Address "Stock Investment," care Telegraph Age, 253 Broadway, New York.

Rubber Telegraph Key Knobs.

No operator who has to use a hard key knob continuously should fail to possess one of these flexible rubber key caps, which fits snugly over the hard rubber key knob, forming an air cushion. This renders the touch smooth and the manipulation of the key much easier. Price, fifteen cents.

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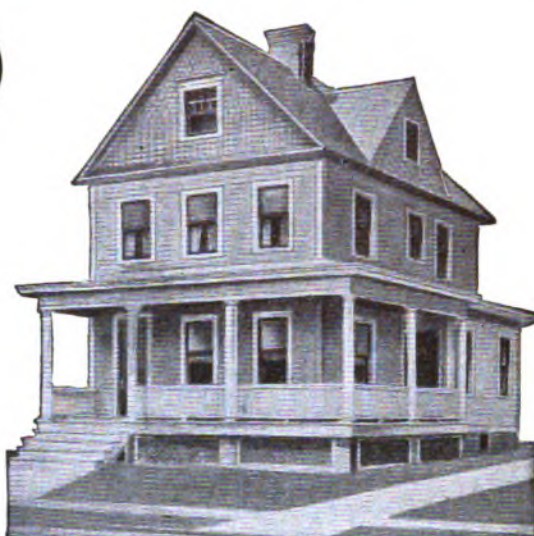
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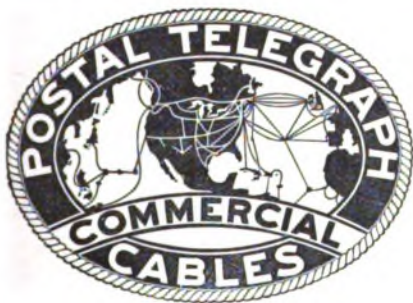


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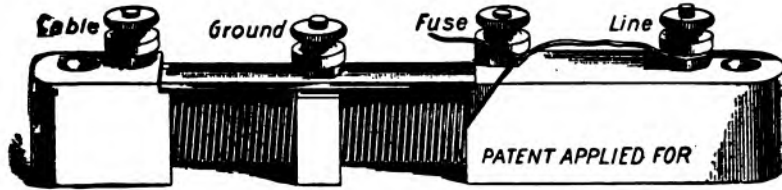
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