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A SEMI-MONTHLY JOURNAL DEVOTED TO TELEGRAPHY

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Vol. XXIV—No. 13.

NEW YORK, JULY 1, 1901.

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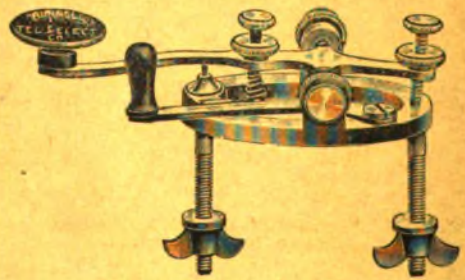
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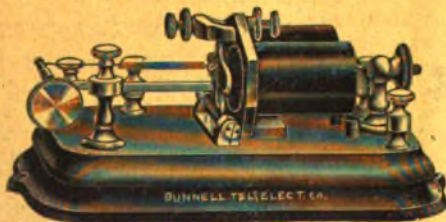


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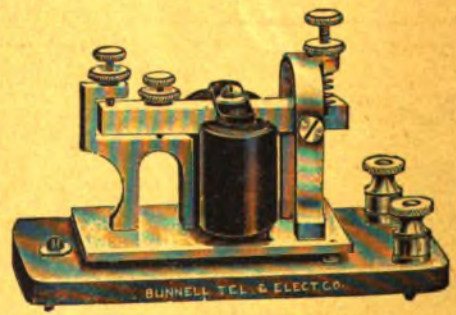
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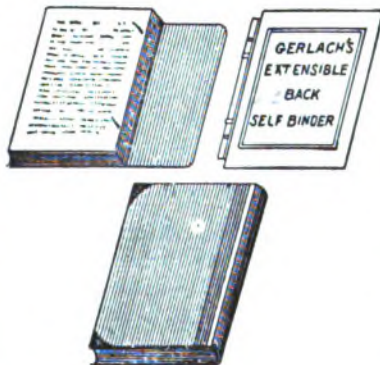
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THE TELEGRAPH AGE.

No. 13.

NEW YORK, JULY 1, 1901.

VOL. XXIV.

CONTENTS.

Some Points on Electricity.....	267
Recent Telegraph Patents. T. M. B. Association. Resignations and Appointments.....	268
Personal Mention. Miscellaneous Items. Obituary.....	269
Outing of the Magnetic Club. New York Visitors.....	270
The Application of Storage Batteries to Railway Telegraph Service.....	271
Prof. Henry's Magnet Apparatus.....	273
The Story of Edison and the Inventor's Institute. Coming Conventions. Publications.....	274
Editorial. Governing Promotions.....	275
Why Great Britain Loses Money on Nationalized Telegraph Lines.....	276
New Pacific Cable System.....	277
Inefficiency of the Ordinary Operator.....	278
The Convention of the Railway Telegraph Superintendents.....	279
Wireless Telegraphy on Shipboard.....	281
A Brave Telegrapher Saves a Train. Government Control of Telegraph and Telephones in Canada. Selections from the Mail. Telegram Stamp Tax Repealed.....	282
To our Correspondents. Beaumont, Western Union; Seattle, Postal; St. Louis, Western Union; Kansas City, Western Union.....	283
Austin, Western Union; Philadelphia, Postal; Los Angeles, Postal; Seattle, Western Union; Los Angeles, Western Union; Newport, Western Union; Chicago, Western Union.....	284
The Associated Press Notes; Chicago, Postal; New York, Postal.....	285
Philadelphia, Western Union; New York, Western Union.....	286
A Case of Writer's Cramp Cured.....	287
Important Telephone Decision. Andrew Carnegie's Gift to House the Wheeler Electrical Library.....	288

SOME POINTS ON ELECTRICITY.

BY WILLIS H. JONES.

[In our issue of May 1, in the article appearing in this column on "Wire Gauges," the illustration used therein and the brief text descriptive thereof, although taken from my "Pocket Edition of Diagrams," where it appeared with duly acknowledged permission, should have been credited likewise to the "Pocket Handbook," published by the Standard Underground Cable Co., of Pittsburg, Pa., from which it was originally obtained.—W. H. JONES.]

A Chicago correspondent requests the writer to explain the manner in which an intended signal is registered at the distant station on a polar duplex circuit when the polarities of the two batteries oppose each other on the main line.

The question was answered through this journal less than a year ago, but as the problem still continues to perplex a great many students, we will again try to make the point clear.

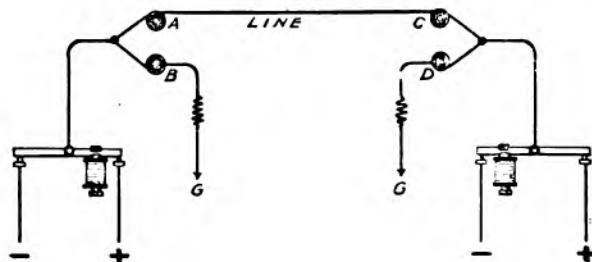
After we have taken a line balance and the distant station is still on the "ground," coils A, B and C, each receive an identical strength of current derived from our home battery. Coil D receives no current because the distant battery is cut off. Our own current will not flow through the resistance in coil D, because it can take a short route to the distant ground through the pole changer and battery after traversing coil C and the line.

The iron core between coils A and B will not become magnetized under these conditions, because the magnetism in coil A is killed by the counter magnetic effect produced by the current in coil B; in other words the home relay is magnetically bal-

anced. Coil C, however, is not opposed by a current in coil D, hence the distant relay becomes magnetized and the armature belonging to the distant relay is attracted to, or repelled from the local contact points according to the direction of the current we send out.

Now, when the distant station "cuts in," his battery is added to the circuit, and the increment of current thus obtained destroys the magnetic balance in the relays at both ends of the wire. That is to say there is an effectual magnetizing current flowing through one of the two coils at each station regardless of whether the polarity of the two multiplex batteries oppose or assist each other.

If the polarity of the distant battery should oppose ours at the moment we are making a signal, of course our own current will be stopped, and so will that from the other end, so far as the main line is concerned, but the current which continues to flow through the artificial coils B and D, magnetizes their respective relays and necessarily attract or repel their own armature according to the polarity of the home batteries.



Now, the secret of how the intended outgoing signal is registered at the distant station is, that the artificial coils are so wound that when they act alone—that is when the current in the main line coils is killed—they give their own relays the same magnetic polarity as the distant battery would have produced had the main line current reached its destination.

Just bear in mind that the home artificial line coil is always trying to make the identical signal that the incoming current produces on our relay, but is ineffective as long as the current flows through both coils of the relay. But the moment anything happens to its companion, the artificial coils jump in and registers the intended incoming signal.

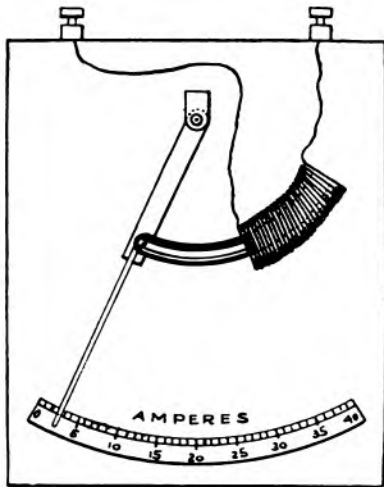
A reader of this journal wishes to know how he can construct an ammeter cheaply which will measure strong electric currents with reasonable accuracy.

A very simple and fairly accurate instrument may be made by means of a solenoid and a short

bar of soft iron attached to a pointer, as shown in the accompanying diagram. It is constructed on the principle that a solenoid, a hollow coil of wire, when energized by a current of electricity, will tend to suck into its center any small piece of iron within its influence.

The solenoid may be composed of a comparatively few turns of coarse copper wire, where the requirement is for strong currents only. For smaller currents the number of turns should, of course, be proportionately greater. The scale may be graded by comparing the deflection of the pointer with that of a standard meter, when both are influenced by the same strength of current.

It will be seen that when the iron is drawn within the solenoid it carries the pointer over a certain portion of the scale, while the distance it travels depends entirely upon the strength of the current traversing the coil, the value of which will be indicated by the figure or figures at the point where the needle stops.



In like manner a voltmeter may be constructed very much upon the same plan; in fact, the only difference lies in the solenoid, which must contain a very high resistance. The latter is usually composed of a coil of fine German silver wire, because that metal is of unusually high resistance and otherwise well adapted for the purpose.

The principle upon which the voltmeter is operated is taken from Ohm's law, $R \times C = E$. Hence if we multiply the known resistance of the solenoid by the strength of the current flowing through the coil the product must represent the value of the electromotive force.

By properly grading the scale in volts by means of comparisons made with a standard voltmeter and given strength of current direct readings in electrical pressure are thus obtained.

The degree of accuracy in such readings depends upon having the resistance of the solenoid so much greater than that of the circuit up to the point where the voltmeter is inserted, that the smaller resistance may be practically ignored.

The discrepancy in the readings should not necessarily exceed one or two per cent in extreme cases.

Recent Telegraph Patents.

A patent for a printing telegraph receiver has been taken out by J. M. Joy, of New York city.

A patent for a printing telegraph, No. 675,380, has been granted to Robert A. Fowden, of Philadelphia, Pa.

A patent for a printing telegraph, together with an improvement on the same, has been awarded to F. H. Littlefield, of St. Louis, Mo.

A patent for a protector of telegraph and telephone instruments has been granted to Jean Piel, of Schöneberg, near Berlin, Germany.

A patent for a printing telegraph transmitting apparatus has been issued jointly to K. Himrod, of Chicago, and I. R. Tucker and C. C. Hinckley, of Aurora, Ill.

T. M. B. Association.—Assessment No. 380 has been levied to meet the claims arising from the deaths of James D. Reid, of New York; John T. Pyle, of Midway, Pa.; Robert T. Quarterman, of Natchez, Miss.; John A. Ecker, of Fayetteville, N. Y.; Wilmer H. Apgar, of High Bridge, N. J.; Michael S. Higgins, of Kansas City, Mo. With this assessment is printed the following:

Your attention is specially directed to the announcement in this notice of the death of Hon. James Douglas Reid. Mr. Reid was one of the founders of this association, and during the early years his career was marked by untiring zeal and devotion to its interests. He acted as treasurer from October, 1867, until March, 1872, when he resigned, and again from November, 1873, until November, 1877, when he was elected president, serving in that capacity until November, 1881. Prior to November, 1877, the office of president did not exist; Mr. Reid was therefore the executive head of the association, with the exception of the short interval stated above, for fourteen years. He lived to see the association, of which he may be considered the parent and founder, become the oldest fraternal life insurance association in the country; an association which has paid to the beneficiaries of deceased telegraphers nearly \$1,000,000, and is at present disbursing benefits averaging \$50,000 yearly; with a membership of more than 5,000, and a reserve fund for the protection of its present and future interests of \$180,000; the largest reserve in proportion to liabilities held by any similar institution.

Resignations and Appointments.

Mr. W. C. Black, for several years past manager of the Postal Telegraph-Cable Company, Denver, Col., has been promoted to be assistant superintendent of the same interests at that point.

Mr. W. S. Truesdale, manager of the Postal Telegraph-Cable Company at Columbus, Ohio, has been promoted to be the assistant to the superintendent of the same interests, with headquarters at Chicago, Ill.

Personal Mention.

Mr. A. S. Brown, electrical engineer of the Western Union Telegraph Company, New York, will spend a prolonged vacation in Connecticut and Maine.

Mr. E. C. Platt, treasurer of the Postal Telegraph Cable-Company, sails for Europe early in July for his usual vacation. He expects to visit the lakes of Scotland.

Mr. Charles P. Bruch, assistant general manager of the Postal Telegraph-Cable Company, New York, is sojourning for the summer at Greenwich, Conn., and spending his spare time between a boat and the piazzas of the Indian Harbor Yacht Club.

Col. A. B. Chandler, Chairman of the Board of Directors of the Postal Telegraph-Cable Company, New York, has gone to Randolph, Vt., his native place, where he will spend the summer. His trip thither was made by the way of Buffalo, where he went to visit the Pan-American Exposition.

The marriage of Miss Ethel Chandler Baker, daughter of Mr. William H. Baker, vice-president and general manager of the Postal Telegraph-Cable Company, New York, to Mr. Harry Le Roy Moody, of Marion, Mass., occurred on June 18, at her home in Brooklyn. The wedding gifts included presents from Mr. John W. Mackay, president, and other officers of the Postal Telegraph and Commercial Cable companies

Miscellaneous Items.

Mr. E. M. Fisher, manager of the Western Union Telegraph Company, Portsmouth, N. H., has, with a party of friends, gone to the Moosehead Lake region, Maine, on a fishing trip.

The Western Union telegraph operators of Omaha, Neb., were recently complimented by the newspapers of that city for their liberal contribution to the Fresh Air Fund, organized in that city to assist the poor in enjoying summer outings.

Mr. E. M. Harvey, an American telegrapher, who has been in Cuba for the past six months, has returned to New York from San Domingo, where he was last located. Mr. Harvey is a native of Norfolk, Va., and expects to remain in New York.

The Morse Club of New York, through its secretary, M. H. Kerner, suitably decorated the Morse statue in Central Park on Decoration Day. The Morse Club has assumed this duty for the past ten years, and on every Decoration Day during that period suitable wreaths and flowers have been placed on the statue of the inventor of the telegraph, which is located near the Seventy-second street and Fifth avenue entrance to Central Park.

Mr. E. J. Nally, general superintendent of the Postal Telegraph-Cable Company, Chicago, in a recent note to Mr. W. G. Phillips, our Chicago Postal local agent, writes as follows:

"I thank you for reminding me that my subscription to TELEGRAPH AGE has expired. I take pleasure

in enclosing herewith my check for a renewal subscription.

"This gives me an opportunity to say what I have long felt, that is, that Mr. Taltavall, of the AGE, is doing splendid work. If the fraternity generally will avail themselves of opportunities for study and advancement and will follow the sensible advice contained in the editorial pages of the AGE from month to month they cannot fail to be benefited."

Obituary.

J. N. Ansley, an old-time telegrapher, died at Aiken, S. C., on June 15, aged sixty-five years.

A. O. Brooks, a telegrapher of Kansas City, Mo., was drowned while bathing in the lake at Fairmount Park, Mo., on June 17.

Robert H. Brown, a former telegrapher, and for the past ten years connected with the Carnegie works at Homestead, Pa., died at his home in Pittsburg, Pa., on June 9. He was a native of Pennsylvania and a veteran of the Civil War.

Miss Hettie Humphreys, a well known telegrapher in Nevada, died at Carson City, that State, on June 12. She was thirty-four years of age and for twelve years had been in the employ of the Western Union Telegraph Company at Carson.

Mrs. C. T. Glover, an operator at Corry, Pa., wife of C. T. Glover, an operator at Sheffield, Pa., on June 21, on answering a call on one of the wires, received a telegram addressed to herself announcing that her husband had been killed by a railroad train.

Charles D. Tull, an old telegrapher, and member of the United States Military Telegraph Corps, died at Monroe, Mich., on June 22. His death was due to a fall sustained in Chicago. Mr. Tull served principally in the Western Division of the Army during the Civil War.

Samuel T. Goodwin, superintendent of the American District Telegraph Company at Troy, N. Y., was shocked to death on June 6 by coming in contact with a live wire on the roof of the Troy Club, where he was superintending some work. He was twenty-nine years of age.

Mr. E. W. Parsoné died recently in Brazil in his fifty-third year, having for the past thirty years been intimately connected with the submarine telegraph industry. In 1870 Mr. Parsoné joined the staff of the late Sir Charles Bright, and was connected with the cable laying of the West Indian & Panama Company. In 1884 he was appointed manager of the West African Telegraph Company and organized the service which connects the Cape Verde Islands with the principal settlements on the west coast of Africa. At the time of his death he was manager and secretary in Brazil of the South American Cable Company. The governments of France and Portugal had decorated him for his services, and he was also a Fellow of the Royal Geographical societies of London, England, and Lisbon, Portugal.

Outing of the Magnetic Club.

The regular summer outing of the Magnetic Club of New York, occurred on the afternoon and evening of June 25, the celebration being held as usual at Cove Hotel, Livingston Station, Staten Island. Through the courtesy of the Western Union Telegraph Company, the steamer "Western Union" was placed at the disposal of the excursionists, and made two trips across the bay to the point of destination during the afternoon, leaving the foot of Cortlandt street, New York, at 1.30 o'clock and again at 3.30 o'clock, carrying jolly telegraphers both times. Upon the arrival of the last boat at Staten Island a photograph of the excursionists was taken.

The hotel grounds were well adapted for recreation, and here a number of sports were indulged in, and much fun and merriment followed.

The baseball game resulted in a tie, 8 to 8.

The 100 yard dash, open for all, was won by W. A. Kane, with J. W. Gibbons, second and A. Duffy, third.

Then another 100 yard dash, for members only, was won by Wm. Fleming, with J. Connolly, second and C. Jacobson, third.

A 220 yard dash, open for all, was won by A. Wintracken, D. J. Gallagher coming in second and C. H. Seymour, third.

A 220 yard dash for members only was won by D. J. Murphy, with C. Jacobson, second, and R. J. Murphy, third.

In the "old gentlemen's" race, Senator William L. Ives won in handsome fashion, with W. W. Briggs a close second.

In the ball throwing contest Harry S. Young, Jr., came out first, G. G. Davis, second.

Dinner was served at 7 o'clock, President F. W. Jones welcoming all the guests in a graceful speech.

The following gentlemen were elected members: A. E. Price, L. F. Requa, R. W. Shefler, D. G. Hohan, W. Horton Baker, W. R. Pope, Clark E. Diehl and H. S. Young, Jr.

Resolutions regarding the deaths of A. G. Hummel and D. C. Bunnell, and expressing sympathy with their families were adopted. Sympathy was expressed with Mr. E. C. Cockey for his bereavement in the death of his wife.

Addresses were made by Messrs. H. L. Shippy, T. H. Morris and others.

Prof. David Bimberg rendered some selections on the violin, J. E. Stanley sang "Annie Laurie" and Geo. C. Davis sang "The Scientific Man."

Owing to the fact that there were so many prizes donated it was decided that each member present should have a chance at drawing for those not awarded to the winners of the games. Mr. T. L. Cuyler, Jr., was selected to do the drawing.

The prizes and by whom contributed were as follows: Foote, Pierson & Company, a Twentieth Century telegraph key; F. M. Ferrin, of Boston, a scarfpin; Manufacturers' and Inventors' Electric Company, a Morse watch; Fred. Pearce, medical battery; I. H. Bunnell & Co., medical battery; Patterson Bros., electrical cigar lighter; R. E. Fagan, a boneless beam; Bridenport Brass Co., two lamps; E. G. Willyoung, gold cuff links; R. E. Gair, a globe of

the world; C. P. Bruch, desk paper weight, pipe and tobacco and "King's Hand Book of New York"; Surbrug Co., box of tobacco; Young Bros., outing caps; President F. W. Jones, various prizes.

The following members won prizes: W. C. Burton, outing belt; J. C. Watts, toilet soap; W. Maver, Jr., gold scarfpin; H. L. Shippy, silver cigar cutter; T. J. Smith, book; G. F. Fagan, ornamental clock; A. E. Price, silk umbrella; J. H. Montgomery, American watch; T. E. Fleming, a purse; M. H. Kerner, gold cuff links; Geo. Roehm, bottle perfume; Col. A. B. de Frece, toilet soap; J. McParlan, a doll; F. W. Jones, Ingersoll watch; A. H. Brown, gold cuff links; Donald Murray, toilet soap; T. A. Brooks, Morse watch.

The judges were W. Maver, Jr., and John Brant.

The following were among those present: J. F. Ahearn, C. Jacobson, J. H. Robinson, W. W. Briggs, T. A. Brooks, Geo. W. Fleming, F. C. Mason, C. H. Seymour, Fred. Pearce, A. Wintracken, L. G. Egbert, Donald Murray, Chas. Pearce, J. F. Cleverdon, A. H. Brown, J. Edmund Stanley, F. W. Jones, Prof. David Bimberg, Jas. McParlan, Col. A. B. de Frece, Geo. Roehm, M. H. Kerner, R. W. Shefler, H. L. Garwood, C. W. Morris, F. L. Stowe, E. B. Bruch, C. P. Bruch, Thos. E. Fleming, A. E. Price, J. H. Montgomery, Geo. C. Davis, F. Northrup, W. L. Ives, D. J. Murohy, D. W. McAnecny, W. Finn, J. D. Mann, Alex. Kline, G. T. Olmstead, C. Brooks, J. A. Dunn, J. Whitney, Thos. G. Singleton, J. W. Connolly, D. J. Gallagher, H. S. Young, Jr., R. C. Sinclair, G. F. Fagan, E. F. Peck, James Kemoster, C. M. Peck, L. F. Dowling, T. J. Smith, C. L. Chase, E. A. Kane, J. A. McClary, Jos. O'Donnell, F. M. Ferrin, M. A. Henderson, H. L. Shippy, W. L. Fairchild, Geo. E. Harding, W. T. Larkin, J. L. Vail, John Brant, Wm. Maver, Jr., M. J. O'Leary, J. D. Underhill, W. S. Ross, Geo. M. Neuman, F. E. McKiernan, Geo. F. Randolph, A. B. Proal, Theo. L. Cuyler, Jr., J. Makenzie, J. C. Watts, A. Duffy, E. A. Coney, E. J. Rankin, R. J. Murphy, R. Fagan and P. Gries.

A vote of thanks was extended to the Western Union Telegraph Company for the use of the steamer "Western Union."

New York Visitors.

Mr. George L. Lang, superintendent of telegraph, Queen and Crescent Route, Lexington, Ky.

Mr. Arthur Cox, of Toronto, Ont., auditor and purchasing agent of the Great Northwestern Telegraph Company.

Mr. W. F. Williams, superintendent of telegraph of the Seaboard Air Line Railway, Portsmouth, Va.

Mr. Charles F. Annett, assistant superintendent of telegraph of the Illinois Central Railroad, Chicago, Ill. Mr. Annett was accompanied by his daughter.

Send for a sample copy of the next issue of TELEGRAPH AGE.

THE APPLICATION OF STORAGE BATTERIES TO RAILWAY TELEGRAPH SERVICE.*

BY W. E. ATHEARN.

When I received an invitation from Mr. Jacoby to prepare a paper on the subject of Storage Batteries, for railway telegraph service, I did not have before me a copy of the paper that gentleman himself read at your meeting last year and I rashly assented to his proposition.

Had I looked a little more carefully to see what had already been presented to your attention on this subject, I think I should have been a little slower in committing myself to the task set for me. However, nearly every subject connected with the telegraph service has been presented so many times by different writers, that I may be pardoned if, in this paper, I reiterate many truths already known to you.

The importance of uninterrupted telegraph service for the handling of trains almost precludes the trial of any new departures, and what might be termed ultra conservativeness, may, after all, have been the most prudent course to pursue. This, I think, probably accounts for the limited use to which the storage battery has been put, up to the present time, in the railway telegraph service. It has, however, been my good fortune to be connected with the Western Union Telegraph Company, where there are so many wires, and so many battery stations, that the failure of any one of them could be quickly taken care of, by supplying current from other nearby battery centers. One or two copper wires, with their low resistance, serve readily for battery leads for points many miles apart.

In the development of any new invention, there are generally three, or at least two, different classes of people involved. First comes what we might term the pure scientist, who may spend a lifetime in delving out new, or rather, heretofore unknown, properties of matter. This class is followed by the men who, accepting the facts discovered by scientists, set themselves to work to see what practical uses can be made of them. These we term inventors. After them, again, come those, whose task it is to determine what ones, of the numerous inventions at hand, are applicable to their own peculiar needs. To this latter class, I take it, belong the majority of the gentlemen present. I do not mean to infer that you, in yourselves, may not all of you be inventors, or possibly pure scientists; but I take it rather, you have, as a whole, attained to your present position through you special aptness, for what I have called the third class, in the logical chronology of new departures.

Having in mind, then, this view, it will be my endeavor to show, mostly by my own personal experience, in what ways the storage battery may be made useful for your telegraph service.

At the Jersey City terminus of the Central Rail-

road of New Jersey, in 1894, there were five hundred cells of gravity battery, maintained for locals, and for the railroad wires that did not cross the river to the Western Union main office in New York. This seemed an excellent place for trying, what might be termed, the experiment of substituting storage, for gravity batteries for the railway telegraph service—as passing through that office are more than a hundred Western Union commercial wires—and I assured my friend, Mr. Robert Stewart, at that time superintendent of telegraph for the Central Railroad of New Jersey, that it was definitely understood, that, in case of failure of the proposed storage battery, the Western Union would send him power from their dynamo plant in New York, to operate the railroad wires. With this reserve to fall back on, he readily gave his consent. I am pleased to be able to say, that in the seven years following, they have never had to call on the New York office for help. The railroad company furnished power, for charging these batteries, from their own electric light plant, and gain in return, the use of nearly all the space formerly set aside for a battery room, as the storage cells are small, only about four inches square, and less than a hundred in number.

Their lighting plant, in clear weather, runs only at night, and the power taken, for the storage batteries, is about what would be required for two incandescent lights. There are two distinct sets of batteries for the main lines. One set furnishes current to the telegraph wires for twenty-four hours, and is then put on charge over night, while its companion bank of cells, takes care of the telegraph service during the succeeding twenty-four hours. This makes the work easy for both banks, and would permit the maintenance of the service for four days, even if their electric light plant should fail, and no fresh charge could be put into the cells for that length of time. The locals are also taken care of by the use of four cells of 125 ampere hour capacity. Two cells charge in series and discharge in multiple. One leg of the electric light branch, that furnishes light to the operating room, is looped down, so that all the current passing to those lamps, also passes through the two storage cells in series. This creates a back pressure, dropping the voltage of that particular room from 110 to between 105 and 106 volts. Lamps of the latter voltage are used, when full candle power is expected from them. The reason for using four cells, instead of two, is that the current, in that particular branch of the light service, would not put sufficient charge into one storage cell, to enable it to supply the twenty or thirty four ohm sounders they require in their service.

It would be poor engineering if we had to burn lamps at 110 volts, when we did not need them for light, but simply required some two and a half volts per cell for charging the storage batteries. The first cost of the storage plant, required for the displacement of the 500 cells of gravity battery, was a little under \$200. No expense was entailed for the first two years, when a new set of positive plates

* Read before the convention of the Association of Railway Telegraph Superintendents, at Buffalo, N. Y., June 19, 20, 21, 1901.

was put in, at an expense of less than \$100. At the end of six years, a complete set of new cells was furnished, but many of the old cells are still in use where the demands for capacity are lighter.

Letting the saving in battery room space, and the labor of cleaning, offset the cost of the charging current, and it will be seen that the total expense for six years was \$300 for storage battery service, whereas it would have cost \$3,000 to have maintained the gravity batteries for that length of time, allowing an expense of \$1 per year for each gravity cell. I have dwelt somewhat in detail on this particular installation, as it is one of the oldest with which I have been connected. Since that was put in service, I have installed nearly a hundred other plants, and have seen no reason for modifying my views as to the great economy, both as to actual cost, and as to the labor involved in keeping the plants in efficient operation. At first I paid regular and frequent visits to the various installations under my care, but with the development of more perfect batteries, I have found this unnecessary, and I have some thousands of cells in daily use that I have not seen in two years' time. In fact some storage batteries have been put in at remote points, where no lineman is stationed, for the very reason that they will maintain constant service with so little attention. My instructions, when setting up these small plants, is for the operator to reverse his switches once every twenty-four hours, and as often as once in three months, to look at the batteries and add water if needed, to keep the plates covered by the solution.

No small plants, say where there are not over three hundred cells, have any meters, but when setting up the batteries, I calculate the output demanded by the wires they are to feed, and set the charging rate so that it will be sufficient for a week of foggy weather. In large installations it pays to have meters as much less current is taken by the telegraph wires in dry weather, and the charging current can therefore be reduced, and enough saved to eventually pay the cost of the meters.

The fact that one may not have meters to use, even in starting an installation, need not matter, as the batteries are not at all delicate affairs and work very well when one goes by the rule of thumb. Where the charging current is about 110 volts, the bank of batteries should not exceed forty cells. One ordinary fifty volts sixteen C. P. lamp, in series with forty cells of storage battery, will permit a current of 110 volts, to charge the cells at about one-quarter of an ampere rate. When the charge first begins it is a little more than this, but towards the end it is somewhat less, so that to say the rate is one-quarter ampere is a fair average. Another simple rule that works admirably in practice, is to allow one ampere hour of capacity in size of the storage cells, for each single telegraph wire that is to be supplied. This is based on a twenty-four service and has ample allowances for the gradual wearing out of the cells. For example, if one had five wires to battery, he would allow forty mill-amperes as the ordinary current for each wire. The five wires would take, then, two-tenths of an am-

pere, or four and eight-tenths amperes in the twenty-four hours. So it shows that a cell, of five ampere hour capacity, would maintain current to lines, even if they were closed all the time. But in practice, busy wires are actually open a little over half the time. So it is apparent, from a theoretical standpoint, that the rule, one wire to each ampere hour of cell capacity, is correct, and what is of still more value, an experience of over five years and with nearly 20,000 storage cells, has demonstrated the truth of this theory.

Another point is that special care should be taken in the construction of the battery stands.

With gravity batteries we have always thought most any old thing would do, so long as it was strong enough to hold up the cells. I started in using the old gravity stands, just as I found them, but before long I began to get complaints that there was a great deal of escape put on the wires, whenever a storage battery was cut in as an intermediate battery. I soon found that wherever a little solution had been spilled, or any leaked out from a cracked jar, the wooden shelf was turned black, and reduced to almost a state of punk. A wooden shelf in such condition is a fairly good conductor in itself.

Build your stands so that the shelves shall be short pieces, say not over four feet long, and carefully insulate each shelf by porcelain knobs. Small knobs, costing half a cent apiece are well suited, and they can be screwed to the cross braces between the uprights of the battery stand.

One more matter I wish to call to your attention. You will observe that the manufacturers of storage batteries lay considerable stress on having chemically pure acid, and distilled water used in preparing the solution for their cells. No doubt this is a help, and it avoids the risk of something being introduced into their cells that may shorten their life. I would not, knowingly, make use of water impregnated with lime, or what we ordinarily term, hard water. When I find a place with water of this nature I use rain water. For acid I find most, if not all, of the ordinary commercial sulphuric acids do very well. Put four quarts of water into an earthen jar, add slowly one quart of acid, stirring it as it mixes, for this mixture develops great heat. Place the jar on wood, otherwise the bottom may crack, if it stands on a cement floor. Let the solution get cold before putting it into the cells. Fill, to cover the lead plates, and then add from an eighth to a quarter or an inch of paraffine oil, which will float on top of the solution and prevent evaporation. The oil also serves other purposes, as it prevents the cells from spitting or bubbling when over-charged. This spitting out of the solution by the escaping gas bubbles would wet the battery stands, and would make necessary frequent testing of the solution by hydrometer, to see that it contained the proper amount of acid. The oil checks the bubbles of gas, and they simply make a froth on the cell. The density of the solution is thus preserved. I have used the same solution for years without having to add anything but water,

and still its density stands at twenty-five degrees Beaumé.

The paper on this subject, presented to you last year, is replete with suggestions as to how storage batteries may be set up to conform to the various sources of charging energy, and I will add but one more point to my remarks at this time.

Always bear in mind that the insulation of the cells, and the style of wiring adopted, must be as carefully attended to as for any regular electric light work. Be sure, also, that a fuse is put in with each bank, or group of cells, for while they look harmless, they have an enormous amount of energy stored up in themselves, and a short circuit would mean the almost instantaneous melting of the wires, unless there was a fuse to protect them.

PROF. HENRY'S MAGNET APPARATUS.

BY GEORGE C. MAYNARD.

Mr. Geo. C. Maynard, of Washington, D. C., recently described in the *Electrical Review* of New York, the electrical collections in the Smithsonian Institution, and the National Museum, and the following interesting extract is taken from his writings:

The chief director of the Museum, who is known as the Executive Curator, is Dr. F. W. True. The exhibits are arranged in three departments, each under the charge of a head curator. Dr. George P. Merrill is the chief officer of the Department of Geology; Dr. F. W. True, of the Department of Biology, and Dr. William H. Holmes, of the Department of Anthropology. One of the divisions of the Department of Anthropology is that of Mechanical Technology, of which Mr. J. E. Watkins is the curator. This division includes the Section of Electricity, in which much interest has been manifested by persons engaged in the various electrical industries whose co-operation has resulted in largely increasing the collections. The knowledge that there is a safe repository for valuable historical relics in an institution controlled by the government, in which every citizen has a common interest and may properly feel a sense of ownership, has given great satisfaction to possessors of interesting objects which they desired to place beyond the chance of destruction and where they could be examined and studied by the public.

An account of the objects in the Museum illustrating electrical development should, naturally, begin with a reference to those connected with the work of Professor Henry. Unfortunately, much of his experimental apparatus has been destroyed or scattered, but a very interesting collection has been preserved. This includes three pieces of apparatus which illustrate his most important discoveries.

This apparatus was devised by Henry somewhere about 1830, while he was at Albany. The original apparatus has not been preserved and there appears to be no record of the experiments made at the time it was used. In 1857 Henry made the

following statement: "I arranged around one of the upper rooms in the Albany Academy a wire of more than a mile in length, through which I was able to make signals by sounding a bell. The mechanical arrangement for effecting this object was simply a steel bar, permanently magnetized, of about 10 inches in length, supported on a pivot, and placed with its north end between the two ends of a horse-shoe magnet. When the latter was excited by a current, the end of the bar thus placed was attracted by one arm of the horse shoe and repelled by the other, and was thus caused to move in a horizontal plane and its further extremity to strike a bell suitably adjusted. The fact that Henry did exhibit the apparatus he describes some time prior to 1833, is fully substantiated by several persons who witnessed the experiments.

This machine was made by Professor Henry about 1831 for Professor Silliman, of Yale college. It is the only one of several similar pieces of apparatus now in existence. Henry directed and watched the blacksmith who forged the iron, and wound the wire with his own hands. The apparatus was carefully preserved at Yale College for about 60 years and was then transferred to the National Museum, where it is regarded as a most interesting and valuable relic. In the *American Journal of Science and Arts*, 1831, Volume 20, page 201, the following description written by Henry is published: "The magnet weighs 59½ pounds, avoirdupois (exclusive of the wire wound upon it), and was formed from a bar of Swede's iron, three inches square and thirty inches long. Before bending the bar into the shape of a horseshoe, it was flattened on the edges, so as to form an octagonal prism, having a perimeter of 10¾ inches. The armature, or lifter, is a piece of iron from the same bar, not flattened on the edges; it is nearly three inches square, nine and one-half inches long, and weighs 23 pounds. . . . The magnet is wound with twenty-six strands of copper bell wire, covered with cotton thread, thirty-one feet long; about 18 inches of the ends are left projecting, so that only 28 feet actually surround the iron; the aggregate length of the coils is therefore 728 feet." This magnet is suspended in a wooden frame six and one-half feet high and three and one-half feet wide, standing on a base seven and one-half feet long and sixteen inches wide. Henry used a single cell of battery "formed of concentric copper cylinders with cylinders of zinc plates interposed and so united as to form but one galvanic pair. It was twelve inches high and about five inches in diameter, and the plate, measuring both surfaces, presented four and seven-ninths square feet to the action of the liquid." This is a type of battery cell figured in Sturgeon's account of his scientific researches. The lifting power of this magnet was tested by loading the wooden platform suspended from the armature with heavy weights. A set of seven cast-iron weights, weighing from 45 to 100 pounds each, accompany the machine, and it was the custom to add to this weight by having a number of men stand on the platform which projects outside of the frame for this purpose. The iron

lever, nine and one-half feet long, was used to raise the platform and hold it until the battery was connected. President Noah Porter, of Yale College, referring to this apparatus, says: "I well remember the excitement which this discovery occasioned when the first experiment was tried at Yale College, in the presence of a few spectators who casually met at the call of Professor Silliman, who was glowing with animation and delight. The ponderous platform was loaded with pig iron and other heavy weights, with a few additions of living freight. Among the latter was the speaker." The magnet was capable of sustaining a weight of between 2,000 and 3,000 pounds.

The original apparatus used by Henry is in the museum collections. It consists of a steel bar magnet, one inch square and twenty inches long, rigidly held in a horizontal position in a wooden frame, with a straight solid core electromagnet, ten and one-half inches long, hung on central trunnions above and parallel with the permanent magnet. The wire coiled around the core has a pair of terminals at each end arranged so that when either end of the magnet is depressed the wires will dip into the mercury cup connections of a single cell of battery. Henry's account of the apparatus and of the experiments tried with it is printed in the American Journal of Science and Arts, 1891, Volume 20, page 340. The paper is entitled "On a Reciprocating Motion Produced by Magnetic Attraction and Repulsion."

The Story of Edison and the Inventors' Institute.

Daily newspapers have the news that Thomas A. Edison is planning to establish an institute in Paris for the benefit of impecunious inventors. Why Paris, is not stated. However, Mr. Gourand, the European agent for Mr. Edison, is said to be authority for the statement. The institute is to be in active operation within a year and a half, according to the story. Mr. Edison will donate all the machinery, a completed, fitted laboratory and a reference library. There will be no restrictions as to nationality, race or creed. It is stated that every deserving man who is an inventor, or who is struggling with some invention his lack of means prevents him from completing, will be welcomed at the institute and aided. This, of course, means an undertaking of great magnitude. It is expected, moreover, that the institute will have branches for all the various sciences, one department being entirely devoted to electricity, another to chemistry, etc.

Coming Conventions.

The International Association of Municipal Electricians, at Niagara Falls, N. Y., September 2, 3, 4.

The Old Time Telegraphers' Association and the United States Military Telegraph Corps (jointly), at Montreal, Quebec, September 11, 12, 13.

The Chicago pork packer who has decided to give all his telegraph operators a month's vacation with full pay has not been corrupted by his association with hogs.

Publications.

"PHILLIPS' CODE," by Walter P. Phillips, 9th edition, 69 pages. This unique and efficient guide for the transmission of press reports still maintains its great popularity; bound in flexible leather; price, \$1.

"THE QUADRUPLIX," by Wm. Maver, Jr., and Minor M. Davis, 128 pages, 63 diagrams and other illustrations; treats of the technical side of telegraphy in a manner at once simple, comprehensive and easily understood; bound in cloth; price, \$1.50.

"LIGHTNING FLASHES AND ELECTRIC DASHES," 160 pages, illustrated. An original and sparkling collection of telegraph stories, quaintly descriptive of scenes and incidents that a telegrapher will appreciate and heartily enjoy; bound in cloth; price, \$1, reduced from \$1.50.

"AMERICAN TELEGRAPHY," by William Maver, Jr., enlarged and improved: 600 pages; 475 illustrations; clear, lucid and comprehensive in its treatment of the subject, the ranking work of its kind, and of high practical value to every telegrapher; bound in cloth; price, \$3.50.

"TELEGRAPHERS OF TO-DAY," by John B. Taltavall, 354 pages. This volume, of which but a few copies of the first edition now remain, presents a compendium of illustrated life sketches of over 800 well-known telegraphers who have been prominently identified with the telegraph during the past fifty years; bound in cloth; price, \$5.

"POCKET EDITION OF DIAGRAMS AND HANDBOOK FOR TELEGRAPH ENGINEERS," by Willis H. Jones, 115 pages. 54 full-page diagrams. This book places before the telegrapher a pocket edition of diagrams designed to take the place of the incomplete drawings which nearly every chief operator, lineman and student carries; bound in flexible imitation leather; price, \$1.

"THE TELEGRAPH IN AMERICA," by James D. Reid, 894 pages, illustrated. This book is of marked interest and worth, inasmuch as it contains telegraphic records of great historical value, not to be found elsewhere. There are only a limited number of volumes of this great work now available; bound in full morocco; price, \$7.

"TALES OF THE SIERRAS," by J. W. Hayes, 136 pages, illustrated. This volume, full of laughable incident, presents a collection of original and well told telegraph sketches, partaking in character largely of the former wild life of the frontier. The fun in the book, which never descends to vulgarity, is accentuated by droll illustrations by John L. Cassidy; bound in cloth, \$1.10.

Any of the above publications will be sent on receipt of price to any point in the United States or Canada, express charges prepaid. Address J. B. Taltavall, TELEGRAPH AGE, 253 Broadway, New York.

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NEW YORK, July 1, 1901.

NOTE.—We desire to state that back numbers of this paper, those issued more than six months prior to any current date, will be charged for at the rate of twenty-five cents apiece when they can be furnished. This price is fixed because of the necessarily limited stock we carry, and of the difficulty we commonly have in filling an order. Oftentimes the request is for papers of a more or less remote date, with the expectancy of being supplied at but ten cents a copy, whereas in order to obtain the desired issue we are ourselves frequently obliged to pay the larger sum, or even more. The growing value of complete files of TELEGRAPH AGE should cause our readers to carefully preserve their issues.

Governing Promotions.

Mr. A. R. Swift, of Chicago, superintendent of telegraph of the Chicago, Rock Island and Pacific Railroad, in a paper read before the late meeting of the Railway Telegraph Superintendents at Buffalo, on "The Inefficiency of the Ordinary Operator," and which is printed in full in another column of this issue, gives expression to some ideas which are well worth the careful scrutiny and mature consideration by both operators and officials, whether in railroad or commercial service. Fundamental truths of the character there enunciated are the same in every department of telegraphic and all business life, and apply with equal force to all concerned. They are strictly in line with those this journal has so often sought to impress upon its readers.

The situation does not always place the burden of proof and of entire responsibility of shortcoming upon the shoulders of the operator, for it is a broad and many sided question of equity frequently at issue and demanding settlement between the tele-

graph official and the telegraph operator. And with the latter we are in bonds of close fellowship and sympathy. For from within the telegraphic ranks we retain vivid recollections of personal experience; knowledge born of contact with the atmosphere of dots and dashes bringing firmly and clear to mind the needs, the hopes, the aspirations and the disappointments of the fraternity; the friendships there begun and still cherished—all calculated to place us in familiar and, we believe, discriminating touch with the great body of telegraph operators as a potent and living factor of to-day.

Yet our sympathies, however strong, should not be permitted to close our eyes or shadow our understanding to the faults that too frequently possess the operator, and because of which hold him in bondage to positions away from and above which he should aspire and might attain.

We refer more particularly to the apparent lack of interest shown by many in technical study, especially among the younger men. It is the happy-go-lucky spirit, the indifference with which so many look out upon life, even if not fully contented with the present, yet without force of character sufficient to enable them to take hold earnestly upon the great confronting problems of their calling. In these days when electrical science is making such great progress, causing many innovations into old methods; when a technical knowledge of this great force is so requisite to the practical requirements of the modern telegrapher, it is amazing that so many in the profession, clinging to the avocation like last year's dead leaves to the living branch, yet making no effort to master its urgent demands, continually made apparent and thrust upon their notice, and resting content with the bare understanding long ago acquired, of being able to send and receive, merely.

Sometimes it is pleaded in excuse for inadequate education in these particulars that an operator has no chance of promotion, hence "What's the use" to prepare for something that will never be realized? This is the plea of the lazy man. To master one's profession is to put oneself in the line of promotion. It is more than that, it is to command promotion. The really competent man rarely has his abilities overlooked. He rather is the one who is being sought. His study and preparation, in order to fit him for better work, will be found to have trained his mind and elevated his moral force to the point of favorable recognition by his official superiors. There is a place always waiting for good and capable men. The reward may not come when or as expected. It may not be necessarily always in the telegraphic field that operators shall find the advancement they believe to be their just due, although from the telegraphic force itself the companies must primarily look for its future officials; but if not, then in other and analogous callings, where the pecuniary rewards may be even higher. No lasting promotion will come without fitness. Our earnest advice, then, is for operators to take every advantage their present positions and surroundings permit to better fit themselves to successfully wage the battle of life which confronts every one of us.

Why Great Britain Loses Money On Nationalized Telegraph Lines.

BY JOHN FITZPATRICK, OF CHICAGO.

I would like to correct any false impressions which may have been formed by persons who read George A. Schilling's recent article on "England's Success in Running her Own Telegraph System." He states that W. S. Harwood in the *Century Magazine* of April, 1900, said that England loses from \$1,000,000 to \$1,500,000 annually because of low press rates, and throughout the article Mr. Schilling lays the responsibility for the loss principally upon the newspapers, while, as it is within the power of the Government to rectify any existing wrong, the Government itself is to blame. In the year ending March 31, 1898, the deficit was over \$2,933,000; the following year over \$2,520,000; in the year ending March 31, 1900, over \$2,718,000, and during the last fiscal year \$3,500,000.

If, say, \$1,500,000 of last year's shortage is chargeable to the newspapers, as claimed, what about the other \$2,000,000? Who makes good the deficit? The taxpayers throughout the kingdom, directly or indirectly. Over ninety per cent of those taxed on this account rarely if ever use the telegraph; in other words, the vast number who do not use the telegraph at all must help pay for messages sent by bankers, stock brokers, etc., and such an assessment is manifestly unjust. In the United States, on the contrary, the telegraph companies pay taxes amounting to about \$1,500,000 annually, consequently the taxes of citizens all over the country are reduced to that extent.

Sir Michael Hicks-Beach, chancellor of the exchequer, stated the deficit last year was "due to public eagerness for more rapid communication than the revenues warranted, and that unprofitable extensions must be discouraged."

Mr. Schilling quotes a paragraph from Mr. Harwood's comments, in which, after lauding the cheap and efficient British service, he states it is "accomplished with no increase in taxation, the business being not only self-supporting, but so far profitable as to insure it against the need of parliamentary appropriations." Mr. Schilling says that the public profits by Government ownership. How can this be when the official annual reports of the British postmaster general show that there has been a large deficit every year since the Government purchased the lines in 1869?

The inference from Mr. Schilling's article is that the telegraph service of Great Britain is first class, while that of this country is very poor. On the contrary, it is a notorious fact that the service in the British Isles is abominable. The *New York Sun's* London correspondent in a special dated Nov. 17, 1900, referring to the poor telegraph service over there, states that in 1899 the *Telegraph Chronicle* (the organ of the telegraphers of the United Kingdom) by some means "obtained and published a confidential report of the secret commission appointed in 1895 for the purpose of ascertaining how much money could be saved in the administration of telegraph. The commission de-

liberately reported in favor of economy before efficiency. Practical men agree that what is imperatively required to extricate the Government telegraph service from the slough into which it has been allowed to fall is the appointment of a trained telegrapher as 'telegraph master general,' with full powers of control and administration and subject only to the postmaster general or parliament. Failing that, the only hope of salvation would be a reversion to the system of private competing telegraph corporations, which parliament arbitrarily abolished thirty years ago."

Eighty-five per cent of the telegrams are on commercial and speculative business, only 5 per cent being messages of a social and family nature, and less than 2 per cent of the population ever uses the telegraph in a single year. The question of rates is of small consideration to the banker or stock broker as compared with quick and accurate service, and a few cents are as nothing to five minutes' time.

Where is there a telegraph service which excels or equals that performed between the Boards of Trade of this country, where messages are daily transmitted, orders executed, replies received and delivered, all in one minute or less time?

In England people using the telegraph have no redress beyond the amount of tolls paid in case of damage or loss caused by errors in or delays to telegrams, whereas in this country, telegraph patrons have proper recourse through the courts.

Mr. Schilling adds that "over 13,000 miles of wire were added to the (British) service in 1899, and there are now more than 11,000 public telegraph offices in the kingdom. The highest praise is given to the character of the service rendered, and the operators employed are of such ability that but eight have been discharged during the past fifteen years."

British telegraphers, before entering the Government's employ, undergo a civil service examination, and if they pass they cannot be discharged unless they commit some heinous offense. When once in the Government's employ they are reasonably sure of their positions until they die or are too old to work, therefore there is not the compulsory incentive for careful work that exists in this country, where operators, in order to hold their positions, must do first class work.

There are also better chances for promotion here. Seldom does an English messenger boy become even an ordinary operator, while here we have numerous instances where messengers have attained the positions of presidents of railroad or telegraph companies.

Regardless of the kind of service it performs, the Government is sure of all the business, but in the United States, where competition is so sharp, each telegraph company must do its utmost to render the best possible service, otherwise the business goes to its competitors.

During the past year the telegraph facilities in the United States were increased by 47,905 miles of wire, making a total of about 1,159,618 miles

now in operation, and nearly 45,000 points can be reached by telegraph. Here there is a telegraph office in every railroad station. In the United Kingdom there are hundreds of post offices in which telegrams are not handled.

In London there is one sub-office for every 7,000 people, whereas in Chicago, for instance, there is one branch office for every 4,000 inhabitants.

We pay a higher rate for material, construction, maintenance, and operators' salaries are higher than in Great Britain and distances being greater the wires are more susceptible to interruption. A wire running from New York to San Francisco passes through various temperatures, as in the Eastern states the weather may be fair, in the Mississippi Valley there may be sleet, in the Rocky Mountains snow, and in California summer heat, all simultaneously, which necessarily makes operation more expensive.

The lines in most parts of this country run through sparsely settled territory, whereas those in Great Britain pass through a compact, densely populated country.

The average tolls per message handled over the Western Union Telegraph Company's lines for the year ending June 30, 1900, was 30.8 cents; the average cost per message handled was 25.1 cents. It is only natural then that the charges here should be higher than in England, where the rate is sixpence (12 cents) for a minimum of twelve words and a half-penny (1 cent) for each additional word, the words in address and signature being counted and charged for.

In many cases our rate is as low and sometimes lower than in Great Britain. For instance, the following message may be sent from Chicago to Buffalo (535 miles, or almost as great distance as that between any two points in the Kingdom) for twenty-five cents:

To J. H. Brown, 2,943 Fifth avenue, Buffalo, N. Y. Goods go to-day via Wabash. Exhibit soon as they arrive.

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A message of similar length (twenty-five words, including address and signature) would cost 25 cents in Great Britain. The area covered by our 25-cent rate is very much larger than that of the United Kingdom.

The rate from New York to San Francisco (nearly 5,000 miles) is \$1 for ten body words, with no charge for address and signature. To send a telegram from any point in England a similar distance on the continent would cost three or four dollars, probably more.

When events of public interest come up here the telegraph companies, on a moment's notice, without figuring whether or not it will pay, send linemen with material and instruments to make wire connections and skilled operators to transmit any matter that may be filed, while our friends on the other side of the Atlantic, on account of the formalities through which they have to go, are unable to cover many important events.

It is insinuated that telegrams intrusted to companies in this country are not kept secret. This is wrong. There is a law here making it a criminal

offense for any official or employee of a telegraph company to divulge or make improper use of the contents of a message. The fact is that the telegraph companies here have spent thousands of dollars in defending the privacy of telegrams before courts, legislative committees and other tribunals that assumed to send dragnet subpoenas to telegraph offices to find evidence. The courts have ruled that where messages are properly described by their date, address and signature they must be produced, and the telegraph companies are compelled to comply with this ruling.

Outside of London, and possibly one or two of the other larger offices, the British telegraph business is under the supervision of the postmaster, who, although probably very competent in the post office work proper, usually has had no training whatever in the telegraph department. On this account the real telegraphers under him have a continuous disgruntled feeling which prevents hearty co-operation with their superior. This state of affairs has a bad effect upon the general telegraph service.

I believe that England's failure to successfully operate her own telegraph system to be due, first, to the charges being too low; secondly, to the handsome salaries paid the higher officials, who look wise and dignified but perform little or no labor and know little or nothing about practical telegraphy; and, thirdly, to an antiquated telegraph system.

New Pacific Cable System.

Caroline Islands, which were purchased by Germany from Spain after the United States had declined to take them, and which form natural landing places half-way across the Pacific, will soon be connected telegraphically with the rest of the world. Germany and the Netherlands are planning to lay a new cable to connect with the Dutch East Indies and make them independent of the British cable system. It is proposed to lay the main line to Shanghai, with branch cables thence north to Kiao-Chau, east to Japan and America, and south to the Indian Archipelago. The southern line will have its first station on the Bismarck and Caroline Islands, and thence will go west in a roundabout way through the Dutch dominions to the North Natuna Islands, without touching any of the British possessions. The North Natuna Islands will form the terminus of the line. The Netherlands will construct the following cables: First, from Natuna Islands to Pontinac, Billiton, Banka, and Palembang, in connection with the land line, which will traverse the country by way of Kalianda, through the Sunday Straits to Batavia. Second, from Palembang direct to Batavia. Third, from Macassar to Ambon, where Germany will continue the cable to German New Guinea to connect with the main line.

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INEFFICIENCY OF THE ORDINARY OPERATOR.*

BY A. R. SWIFT.

Upon the receipt of a letter from your Chairman of Topics asking for a brief suggestion upon this subject, my first thought was to inquire in what respect does this inefficiency consist, for certainly no operator would be employed or retained in service who was inefficient in all his duties. Many good all-around men are deficient in some parts of their work, while they excel in others. So many and so varied are the duties required of the ordinary operator that should he fail in none of them, he certainly would be regarded as a curiosity and should be preserved in a glass case. No man can be perfect; only the angels are absolutely so. Very much depends upon the teacher or instructor who imparts to the operator his fundamental knowledge of telegraphy and the other requirements accompanying it necessary to the making of an efficient operator, and which tend to make him trustworthy. But, however efficient the instructor and painstaking his efforts, he cannot make bricks without clay, and he cannot transform the untutored applicant into even a fair operator, without some material requisite for such an evolution. There must be some ability, some natural talent. Nor can his best efforts produce a reliable and trustworthy man, without there has been the early training in which only the parent can lay the foundation of future character. It requires, too, an appreciation of the importance of carefulness, determination, as also patience, perseverance and the cultivation of good habits to transform the crude embryo into the first-class operator.

One obstacle to perfection lies in the fact that as soon as the operator has reached that stage of his development which finds him able to take a message or handle a train order in an ordinary manner, he is rushed away to fill a pressing vacancy before his education is completed, or he is qualified for his vocation, and from that time he is his own teacher and his work is thereafter accomplished in accordance with his own peculiar views of how it should be done, and so become, as time lapses, so deep rooted in his mind, that future attempts to instruct him in a line opposed to that which he has habituated himself and the instruction would be unavailing as, in his own estimation, he knows more than his instructor and his own way he considers the best. He has formed the habits that have caused countless failures.

To reach that efficiency worthy of promotion to higher fields, nature must have provided him with a bright active brain, and he must with it, possess an ambition which will inspire him to work for that perfection which will bring to him a better future than that of a mere operator, plodding along from day to day, year in and year out, without that inspiriting hope that by his own exertions he may reach, in time, the very top round

of the ladder, as many others have done. Nine-tenths of the best general managers of our most extensive railroads started as telegraph operators. As such examples to the youthful operator, I may mention such names as Marvin Hughitt, of the Northwestern, and A. J. Earling, of the St. Paul—in short most of the presidents and general managers of our greatest railway systems, commenced their practical educations at the telegraphic key.

Indifference, laziness, intemperance, lack of ambition, are the obstacles preventing many in the ranks from advancing to commanding positions, in this, as in all other professions and vocations. The meager salaries paid at the start do not, as a general thing, serve as an inducement to many to leave other fields, who would doubtless enter this service and become bright stars in this profession.

Of course there may be exceptions found to the rule of advancement for merit. An employee may be injured in such a manner as to incapacitate him from pursuing the duties of his employment. He urges his claim against the company and in the negotiations for a settlement it is suggested by the claim agent that he learn telegraphy and a place would be given him with the company, which is done to the detriment of those already in the service. Partiality arising from friendship, relationship or individual liking, also sometimes bar the advancement of the worthy operator. To see others less qualified advanced over him, when he feels himself entitled to promotion, through the enmity toward him by a trainmaster or superintendent, or the friendship to another, is a discouraging factor which tends to destroy ambition, and transform a bright mind into a mere machine, to the injury of both the operator and the service.

We, ourselves, are many times to be blamed for not advancing men who fill their places to perfection, and are qualified to advance, for fear we may not find as suitable an operator for the place which would be thus vacated.

As to the remedy for the inefficient operator I do not feel competent to do more than suggest what my experience has shown to be the best rule, that is to employ the best men we can, treat them well, overlook their smaller errors and teach them to strive for advancement, with the assurance that they will obtain it if deserving; not to allow our chief operators to change men too often and for trivial reasons, but to be patient and to help the new men to know and appreciate the right way and the wrong way of performing their duties. If necessary to relieve a man for the reason of discipline, do so, but if his case will admit of it, when he is sufficiently punished, reinstate him, then if there be good in him, it will be shown.

A new submarine cable between England and Germany was laid on May 31 and June 1, the shore end at Bacton, England, having been completed on the former date. The work was carried out by the German cable ship, Von Podbielski.

No up-to-date telegrapher can afford to be without TELEGRAPH AGE. Send for a sample copy.

* Read before the Convention of the Association of Railway Telegraph Superintendents at Buffalo, N. Y., June 19, 20, 21, 1901.

The Convention of the Railway Telegraph Superintendents.

The twentieth annual convention of the Association of Railway Telegraph Superintendents held at Buffalo, N. Y., on Wednesday, Thursday and Friday, June 19, 20 and 21, was, every way considered, a memorable affair. The attendance, which has steadily grown from year to year, surpassed all previous records, and brought together a highly representative and intelligent body of men, and a really great convention was the result. Much interest was taken and an earnestness of purpose displayed in the conduct of the proceedings. Doubtless the Pan-American Exposition, with its beauty and wealth of display, acted also as a drawing card, for why not "kill two birds with one stone" under such an exceptional opportunity? Nevertheless full credit as a distinctive attraction must fairly be awarded to the intrinsic value and interesting features inherent in the purposes of the convention itself. Enthusiasm for, and worthily growing pride in their association was notably manifest among delegates on all sides. And perhaps especially so, because this meeting marked the twentieth anniversary of its organization. It was out of its teens, so to speak, vigorous and alert, and its mature years places it well in the van of fraternity associations.

Headquarters were established at Statler's Pan-American Hotel, located conveniently near the main entrance to the Exposition grounds, and the meetings were held in a large room within the hotel structure. These sessions were confined to the morning hours, thus leaving the members free during the rest of the day to go wherever they liked. A large amount of important business was dispatched. A number of excellent papers were read, all appropriately bearing on the improvement of the railway telegraph service, and the discussions which followed were at all times animated, thoughtful and well sustained.

The meeting was called to order on Wednesday morning, June 19, by the president, Mr. W. F. Williams, of Portsmouth, Va., superintendent of the Seaboard Air Line, who introduced Mr. H. W. Pope, of Buffalo, N. Y., the acting general manager of the Bell Telephone Company, of that city. Mr. Pope welcomed the delegates to Buffalo and stated that his company had instructed him to extend an invitation to them to participate in a trip to Niagara Falls, and other features of entertainment, which were accepted.

Mr. Charles Selden, of Baltimore, Md., responded to the address of welcome on behalf of the association.

Mr. J. B. Donner, superintendent of telegraph of the Southern Pacific Company, San Francisco, Cal., and Mr. Geo. F. Weidman, superintendent of telegraph of the Pere Marquette Railroad, Detroit, Mich., were elected members of the association.

The report of the treasurer showed that the association was in a prosperous condition.

The next business acted upon was the selection of Boston, Mass., as the place for next year's

meeting. It will be remembered that that point was originally selected as this year's convention city.

The election of officers which followed resulted in the selection of Vice-President C. F. Annett, assistant superintendent of telegraph of the Illinois Central Railroad Co., Chicago, Ill., as president; Mr. F. P. Valentine, superintendent of telephone of the New York, New Haven & Hartford Railroad Co., Boston, Mass., as vice-president, and Mr. P. W. Drew, of the Wisconsin Central Railroad Co., Milwaukee, Wis., the old wheel horse of the association, was re-elected secretary and treasurer, the nineteenth consecutive time he has been elected to that position. A letter from Mr. Thomas A. Edison, of Orange, N. J., regretting his inability to be present, was read, as were also letters from other prominent telegraph and railroad officials.

Invitations were read inviting the members of the association to inspect the exhibits of Mr. P. B. Delany, of South Orange, N. J., who showed his rapid automatic telegraph system in actual operation in the Electricity Building; of J. H. Bunnell & Co., of New York, who had a full line of telegraph instruments; of the Ericsson Telephone Company, of New York; of the Railroad Supply Co., of Chicago, represented by Mr. E. W. Vogel, of Chicago; of the Bunnell Telegraphic and Electrical Co., of New York, and of the Bell Telephone Co. An opportunity was then given to Messrs. J. H. Bunnell & Co. to amuse the members of the association for a few minutes by rehearsing on telegraph instruments appropriately arranged around the hall for the purpose, what usually happened on the press circuit running out of New York, and known as "Number Four East," when the regular "Sending" operator was absent for the evening.

The next order of business was the reading of papers, and the first one to occupy the attention of the members was that prepared by Mr. Walter P. Phillips, of Bridgeport, Conn., entitled, "Rapid Telegraphy." This paper mentioned what had been accomplished by the Wheatstone and other rapid systems of telegraphy, some of which he praised highly. He then went on to explain the use that could be made of the Phillips-Morse Automatic Telegraph by the railway superintendents.

Mr. Charles Selden, of Baltimore, Md., then read an interesting paper on "The Voltaplex," written by the inventor, Mr. H. S. Bartholomew, chief operator of the Western Union and the Baltimore & Ohio telegraph offices, of Newark, O.

Mr. W. E. Athearn, of the electrical engineer's office, of the Western Union Telegraph Co., New York, read a paper on the application of storage batteries to railway telegraph service. It was replete with valuable information and statistics bearing on the efficiency, cost and reliability of storage batteries, and is published in full elsewhere in this issue.

Mr. C. S. Rhoads, of Indianapolis, Ind., superintendent of telegraph of the Big Four Railroad, read a paper on cipher code for general railroad

telegraphing, and after it was exhaustively discussed a committee was appointed to further investigate this subject and make suitable recommendations at the next annual meeting of the association. The committee named consists of Messrs. C. S. Rhoads, of Indianapolis, Ind.; C. M. Lewis, of Reading, Pa., and J. H. Jacoby, of South Bethlehem, Pa., and it will endeavor to formulate a cipher code that will meet the approval of the American Railway Association, the idea being to prepare a flexible, yet simple code, looking to the reduction of the amount of unnecessary telegraphing now transacted on railroad lines.

Mr. A. R. Swift, of Chicago, Ill., superintendent of telegraph of the Chicago, Rock Island & Pacific Railroad, read a paper on the inefficiency of the ordinary operator, which gave wholesome truth that ought to be heeded by all employers of telegraph help.

When the convention re-assembled on Thursday morning, June 20, Mr. W. E. Athearn, of New York, was elected an honorary member, after which Mr. Thomas D. Lockwood, electrical engineer of the American Bell Telephone Co., of Boston, Mass., read his paper on the "Importance in Telegraphy of Apparent Little Things." This document proved to contain many valuable suggestions appertaining to the telegraph service, and its discussion was taken part in by almost every member present.

Mr. F. P. Valentine, superintendent of telephone of the New York, New Haven & Hartford Railroad Co., Boston, Mass., read a paper on "Railroading by Telephone." This paper discussed the progress and development of the telephone in the railroad service during the past few years. He stated that this useful device has become indispensable in all departments of the railroad service, and that every trunk line appreciated its great value. The convention adjourned at noon to enable those in attendance to accept the invitation of the Bell Telephone Co., extended through its acting general manager, Mr. H. W. Pope, to visit Niagara Falls, which trip was greatly enjoyed by all who participated.

On Friday, June 21, the convention was called to order at 9.30 A. M. A paper on the usefulness of the telephone in handling trains at terminals was read by Mr. G. N. Clark, who is superintendent of the Illinois Central Railroad at Omaha, Neb., was then read. He gave a very explicit illustration of this new method of moving trains by telephone at terminal points, and furnished samples of the various blank forms which are used for this purpose.

Mr. H. W. Pope, of Buffalo, N. Y., addressed the convention at some length on the advisability of the railroads making further use of the telephone in the operation of the various departments.

Mr. Wm. Maver, Jr., electrical engineer, of New York, read some notes on the subject of underground cables, giving his opinion and advice as to the best insulation for the various conditions met with in underground work.

Dr. G. A. Cardwell, of New York, the well-known telegraph inventor, was introduced and in-

vited to explain his typo-telegraph system which is now in successful operation experimentally on the Long Island Railroad, at Long Island City, N. Y.

President Annett appointed Messrs. F. P. Valentine, E. A. Smith, S. A. D. Forristall, of Boston; F. L. Blendinger, of New York, and M. Magiff, of St. Albans, Vt., as the Committee of Arrangements, and E. A. Chenery, of St. Louis, Mo.; A. B. Taylor, of New York, and H. T. Simpson, of Richmond, Va., as the Committee on Topics, for next year's meeting.

The convention then adjourned to meet at Boston, Mass., June 18, 1902.

Among those present were:

Reading, Pa.—C. M. Lewis.

New York—Wm. Maver, Jr., and wife, W. E. McLaughlin and wife, Thomas E. Fleming, A. P. Eckert, W. S. Eckert, E. C. Lunt and wife, L. B. Foley and wife, Wendell Baker, P. W. Miller, F. H. Bethel, W. E. Athearn, E. P. Griffith, H. S. Young, Jr., and wife, W. S. Logue, wife and son; J. F. Hemenway, John J. Ghegan and wife, T. R. Taltavall, Mrs. J. H. Bunnell and daughter, Jesse H. Bunnell, A. B. Taylor, L. S. Wells, Dr. G. A. Cardwell, J. B. Taltavall and wife, F. L. Blendinger, W. E. Gilmore.

So. Bethlehem, Pa.—J. H. Jacoby and wife.

Richmond, Va.—H. T. Simpson, Mrs. M. B. Leonard.

Jackson, Tenn.—Kenneth McKenzie.

Baltimore, Md.—Chas. Selden, wife and daughter.

Chicago, Ill.—A. R. Swift and wife, C. F. Annett and daughter, S. C. Mason and wife, C. H. Bristol and wife, W. W. Ryder, W. J. Holton and wife, E. W. Vogel and wife, Geo. M. Dugan.

Decatur, Ill.—G. C. Kinsman, wife and daughter.

Lexington, Ky.—G. L. Lang.

St. Louis, Mo.—Mr. E. A. Chenery and wife, Geo. Hannauer and wife.

Seymour, Ind.—T. S. Blish.

Buffalo, N. Y.—H. W. Pope and wife.

Portsmouth, Va.—W. F. Williams and wife.

Indianapolis, Ind.—C. S. Rhoads and wife.

Sedalia, Mo.—S. K. Bullard and wife.

Washington, D. C.—C. A. Darlton, wife and daughter.

Toledo, O.—W. H. Lovekin and wife.

Boston, Mass.—T. D. Lockwood, F. P. Valentine.

Milwaukee, Wis.—P. W. Drew and wife.

NOTES OF THE CONVENTION.

Some beautiful and useful souvenirs were distributed at the convention by various manufacturing concerns.

The Safety Insulated Wire and Cable Co., of New York, through Mr. A. P. Eckert, presented some memorandum books.

Messrs. J. H. Bunnell & Co., of New York, represented by Messrs. W. S. McLaughlin and J. J. Ghegan, bestowed celluloid pocket tablets. This firm also distributed some very pretty silk

handkerchiefs of various colors and embroidered with views of the Pan-American Exposition.

The Keillogg Switchboard and Supply Co., of Chicago, through Mr. Paul W. Bossert, and the Webb C. Hall Co., watch manufacturers, of Cleveland, O., distributed pocketbooks.

The Bunnell Telegraph and Electrical Co., of New York, through its representative, Mr. H. S. Young, Jr., gave away silver pocket match boxes.

The Railroad Supply Co., of Chicago, Ill., was represented by Mr. Eugene W. Vogel, signal and electrical engineer. A handsome souvenir in the shape of a book of short railroad stories entitled, "The Railroad," was presented to all members present. Mr. Vogel stated that he would gladly send a copy to those not present upon their request. The signal and electrical department of this company handle all kinds of electric signals for railroads, and the company has lately acquired control of several other crossing signal companies, and manufactures all the various signals for these as well as "The Chicago Signals."

Messrs. J. H. Bunnell & Co., of 20 Park place, New York, exhibited a full line of telegraph apparatus, and messrs. J. J. Ghegan and W. S. McLaughlin explained the merits of their goods and distributed interesting literature regarding the same.

Mr. W. S. Logue, of Chicago, represented the Edison Phonoplex, which system is in extensive use on various railroads.

The Bunnell Telegraphic and Electrical Co., of

110-116 Beekman street, New York, which was represented by Mr. H. S. Young, Jr., and Mr. Jesse H. Bunnell, of that company, showed samples of telegraph instruments and call boxes.

Mr. J. F. Hemenway, of the Ericsson Telephone Co., of New York, distributed Garcia cigars among the members of the convention.

Mr. H. W. Pope, the general manager of the Bell Telephone Co., Buffalo, N. Y., received a vote of thanks of the association for the entertainment and courtesies given to the members by his company.

The Independent Telephone Association was represented by Mr. W. S. Eckert, of the Knickerbocker Telephone and Telegraph Co., of New York.

Wireless Telegraphy on Shipboard.

The Marconi system of wireless telegraphy received a thorough test on board the Cunarder *Lucania* at the beginning of the voyage which ended at New York, June 22. The test would have been continued as the vessel approached New York in the fog had the aerial wire aboard the giant *Kaiser Wilhelm der Grosse*, then in port, been in position.

The Marconi test on board the *Lucania* began the moment she started to leave the Mersey on June 15. John Pletts was the operator in charge of the instrument for Signor Marconi. Many vessels and lighthouses along the English and Irish coasts were communicated with for twenty-four hours after the *Lucania* left Liverpool.

THE CHICAGO CROSSING SIGNAL

IS A PERFECT

Highway Crossing Alarm

WRITE FOR PARTICULARS

The Railroad Supply Co.
CHICAGO, ILL.

A Brave Telegrapher Saves a Train.

An exciting experience is related as happening recently to a telegraph operator, Lawrence Hannan, and his friend, Thomas Horan, in the Big Mountain signal station, near Shamokin, Pa., on the Philadelphia and Reading Railroad.

Two well-dressed strangers entered the office, and while waiting for a train, as they stated, began talking with the men, and upon request of Hannan, supplied them with tobacco. This had a bad taste and the men spat it out. The strangers went to the water tank, and coming back handed them a cup of water to rinse their mouths. Horan became unconscious a few minutes later. Hannan felt his head reeling. He looked up and saw one of the strangers trying to throw a switch lever. The other robber stood in the doorway. Hannan staggered to his feet and threw himself on the man at the switch. At the same moment he heard the whistle of the coming express. Hannan tried to grapple with the man, but he dodged and both strangers went out at the door as the express thundered past in safety. Hannan staggered back to the telegraph key, and managed to tell the office at Shamokin that the express had come and gone in safety. Then he set the danger signal for all trains and collapsed.

While the men lay unconscious the robbers returned, stripped and beat them and seem to have begun to rifle the office when they were in some way frightened off. By injecting heart stimulants the men were revived. They had been drugged with chloral hydrate.

Government Control of Telegraph and Telephones in Canada.

The Ottawa Board of Trade has made a practical departure that must bring the question of governmental cable, telegraph and telephone services to the attention of business men in all parts of the British Empire, says the *Electrical World and Engineer*. A circular letter has been drafted and will be forwarded to boards of trade and chambers of commerce throughout the United Kingdom and the colonies, urging the importance of the establishment of state-owned cables connecting the mother country with other parts of the empire. The proposal requires that not only the connecting transmarine cables shall be under Government control, but that land telegraphs, in the several British possessions, shall be state-owned. Canada is the only important part of the empire in which the telegraph service is in private hands, and the circular alludes to the report that the transfer of the Canadian telegraph lines to the Post Office Department, and the laying of a state-owned cable across the Atlantic, are now under consideration of the Dominion Government. The question of establishing the telephone service under post office management will also soon come up for consideration by the Government.

A subscription to TELEGRAPH AGE is one of the best investments a progressive telegrapher can make; it keeps him thoroughly posted.

Selections from the Mail.

Prof. H. S. Webb, M.S., of the International Correspondence Schools at Scranton, Pa., writes as follows:

"I appreciate TELEGRAPH AGE very much indeed and take pleasure in renewing my subscription for another year. It seems to me that at least every one interested in any way in the telegraph service should take your efficient journal. I frequently prepare descriptions of telegraph systems and apparatus for the sole use of students of electricity, and some time ago I wrote to you saying that I presumed you had no objection to my quoting from your paper. I should like the privilege to do so occasionally, if you have no objections, in each case of course giving both your paper and the author full credit for what I may use."

A reorganization of the various police and fire departments in the Philippine Islands was determined upon last spring, and Mr. Wm. C. Ergenzinger, a member of the Signal Corps, now stationed at that point, was tendered an important position in one of the departments as electrician. Having read in TELEGRAPH AGE of a paper prepared by Mr. Frank C. Mason, superintendent of the bureau of Police and Fire Alarm Telegraphs of Brooklyn, N. Y., entitled "The Progress and Needs of Fire and Police Departments," and read before the League of American Municipalities, he wrote to Mr. Mason for a copy of the same, and also for printed rules and regulations governing such departmental work.

Mr. Mason, in a note to this journal, dated June 15, says: "I enclose a letter just received from Wm. C. Ergenzinger, Candon, Philippine Islands, which speaks for itself. I have received many letters of similar character regarding the paper mentioned from all over the world, viz.: Queensland, Australia, South Africa, etc. Judging from this I conclude that TELEGRAPH AGE is a most valuable advertising medium; it certainly reaches all remote corners of the earth, and is read by people who are seeking information regarding electrical matters in general. I congratulate you upon your success."

Tel-gram Stamp Tax Repealed.

The repeal of the tax of one cent on all domestic telegrams went into effect July 1. Hereafter no messages, except those relating to foreign money orders, will require revenue stamps. Stamps may be redeemed, but they must be presented in quantities of the face value of not less than two dollars. And all claims for redemption must be prepared in the district where the claimant resides and forwarded by the collector of that district to the internal revenue bureau in Washington.

The Railroad Supply Company, of Chicago, has recently acquired numerous patents issued to W. W. Slater, II, C. Barnes and Frank A. Landee, controlling valuable features in electric signaling on railroads, both for highway crossing alarms and electric block signals. Hereafter the goods will be manufactured and sold exclusively by the Railroad Supply Company.

LETTERS FROM OUR AGENTS.

To Our Correspondents.

While we are desirous to receive from our agents letters for publication respecting their various offices and of their personnel, for all efforts of this character are appreciated, we would earnestly request that such communications be confined strictly within the limits of the subject, and not so much space be devoted to hunting and fishing items and other extraneous matter, as is frequently the case. We wish to make the department of "Letters from our Agents" an attractive one, but if we were to publish all that comes to us in the shape of irrelevant matter, of no possible interest to the general reader, it would frequently require us to surrender a number of additional pages to contain it all. The current information of any office will, if carefully chronicled, furnish a welcome digest of news that will be read with pleasure and satisfaction by thousands, and this limit should be the legitimate contents of all letters. And we wish that our correspondents would avoid the too frequent habit, at all times a bad one, of abbreviating words in writing. This is a peculiarity among telegraphers, we know, but what may be plain to the writer, and for local interpretation, is usually a mystery to the editor, and is apt to lead to error in the printed statement.

BEAUMONT, TEXAS, WESTERN UNION.

The personnel of this office is as follows: P. G. Tompkins, manager; A. B. Forres, chief operator; John L. Henning, night chief operator; operators, Messrs. T. D. Ford, J. B. Oberfell, E. T. Whitbread, Albert Lupau, Pierre Mercer, J. H. Mundy, E. W. Cassidy, Samuel Guess, Claire Vallette, M. J. Ashford and Miss A. W. Godbury. Clerks: Messrs. Tulley, Chapman, Robertson, Talbert, Smelker, Dargan, Huston and Campbell, and a force of fifteen messengers.

There are three pool rooms here, which are doing a splendid business. Operators E. W. Cassidy, J. H. Mundy and Fred Boutz attend to the telegraphing. There are also two oil exchanges, and both doing a thriving business. Operator M. J. Ashford handles the quotations at the Oil Exchange.

Foreman O'Malley is kept busy putting in a clock circuit. Ten clocks are already installed, and orders for many more are in his hands. Besides this clock circuit he has orders for two hundred call boxes, in addition to 182 boxes already in position. Several large office buildings are under construction, some of which are to be five stories in height. When these are completed we expect to be kept busy for some time furnishing call boxes, etc.

SEATTLE, WASH., POSTAL.

The personnel of this office is as follows: J. G. Blake, manager; J. A. Forehand, chief operator; J. J. Dunne, night chief; operators, H. S. Martin, Miss Rosa Bvers, J. F. Kelley, C. D. Clark, W. J. Mead; Geo. Welch, day check; C. H. Funne, night

check; R. S. Clark, delivery; Mrs. L. A. Nye, day receiving; N. L. Blake, night receiving; Miss Emma Zealand, bookkeeper; Mrs. Gritman, assistant bookkeeper; L. J. Brunette, lineman. Mr. J. Ralston Lytle has been transferred to Fresno, Cal., as manager for the Postal.

ST. LOUIS, MO., WESTERN UNION.

Miss Elsie Tanner returned from Eureka Springs, Ark., June 6, after an absence of two months.

Mr. P. D. Wark has been transferred to the main office, permanently, from the branch office list.

A "Book Shower" was tendered Miss Elsie Pauli, a sister of Miss Louise Pauli, June 6. Among the books received were copies of Dickens, Marlitt, Winston Churchill and others. Miss Elsie Pauli was married to Mr. Wm. B. De Young, June 10.

Mr. A. D. Wack, night operator for the Wabash Railroad at Ferguson, Mo., was a visitor June 12.

Business having outgrown the confines of the operating room it was found necessary to move the Metropolitan Department on the third floor.

The assignments of chiefs of the various divisions, and the new additional one are as follows:

Day force—C. W. Groos, eastern division; G. A. Riber, assisted by W. J. Armstrong, central division; C. W. Crary, assisted by C. W. Frey, southern division; Frank Spencer, way department; Andrew Steinbach, metropolitan. At the Board we find A. E. Van Tyne, wire chief, assisted by J. J. Lane and L. N. Boone. M. A. Hawley is chief of the wheatstone department. O. L. Turner helps out all around whenever occasion requires. Chief operator, W. H. Spencer.

Night force—Sid. B. Fairchild, wire chief; H. V. Crain, loop chief; E. H. Johnson, chief of eastern and central division; Henri Gosting, chief of southern division; C. H. Shell, general traffic chief; C. W. Henry, chief of the metropolitan; J. H. Gallagher, chief of way department. At the helm we find the same old congenial Col. M. D. Crain.

All night—L. P. Custer, chief operator.

KANSAS CITY, MO., WESTERN UNION.

Mr. Archie Rainey is again with us, after temporary absence in Chicago, and has been assigned to the regular force. All were pleased to welcome his return.

The many friends of Miss Florence Thompson will regret to learn of her very serious illness at her home in this city.

The wife of Geo. E. Parkell, of this office, died on June 12. A beautiful wreath and a choice lot of cut flowers were sent on the occasion of the funeral as a token of respect. Messrs. Clyde W. Severs, of Chicago, and O. C. Severs, of White Pigeon, Mich., half brothers to Mr. Parkell, were in attendance at the funeral. Both are telegraphers in the employ of the Lake Shore Railway.

Dr. S. D. Bowker, father-in-law of our esteemed manager, Mr. M. D. Wood, died very suddenly on June 8. He was local examiner for the

T. M. B. A. and one of Kansas City's leading physicians.

T. M. A. Haston has severed his connection with the Western Union and is now a letter carrier in the Government service. He passed an excellent examination, only one going higher.

AUSTIN, TEX., WESTERN UNION.

Mr. H. S. Sawyer, formerly manager of the Western Union at Palestine, Tex., was recently appointed night chief of this office, vice W. S. Arnold, resigned.

Mr. Frank Vaughan, formerly with the Western Union at Corsicana, Tex., is a new addition to our force, taking the place of R. D. Bond, resigned.

Miss Mary Evans, recently of San Antonio, Tex., has charge of Igleharts branch office for the remainder of the cotton season, vice Miss T. A. Anderson, resigned.

PHILADELPHIA, PA., POSTAL.

Rheumatism has confined Mr. C. T. Koch, of the city department, to his home for several weeks, while Miss Jennie Melville is also at home on account of nervous trouble.

After spending many years on the Allentown-Eastern local, Mr. Samuel F. Higo was granted a change to another wire, the Reading-Pottsville local. Mr. H. O. Steltz has been assigned to the first named circuit, vice Mr. Higo.

Miss Lou Koch is looking forward longingly to her customary summer's vacation, anticipating a two months' stay at her home near Pottstown.

The latest report from Mr. Horace Holtzinger is that he is homeward bound from Hot Springs, Ark., whither he had gone in search of health.

Messrs. Fitzgerald and Monett enjoyed a short visit to friends in New York city.

Miss Hannah Brosnahan, of the city department, has resigned to accept another position at Mahanoy City.

Since moving out to a handsome suburban home in Germantown, Mr. James Wilson, manager of the Bourse office, declares that he has just found out the difference between living and existing.

LOS ANGELES, CAL., POSTAL.

Business is unusually good for this time of the year, and looks as though it would continue active throughout the summer months. Mr. Kubel leaves for the Springs August 1 for a two weeks' vacation; Mr. Lewis will leave for a month when Mr. Kubel returns.

Mr. Wallis will take a short vacation about June 1, and Mr. McIntosh leaves for a two weeks' absence July 15.

SEATTLE, WASH., WESTERN UNION.

Arrivals: Mr. E. S. Swift, from Vancouver, B. C.; Mr. H. M. Hammond and Miss C. Knox.

Departures: Mr. C. C. Willis, to Skagway, Alaska.

Mr. E. C. Warren is back at work after a month's sick leave.

Mr. H. Warren, manager of the Western Union at Zanesville, O., has returned home after a two weeks' visit with his son, E. C. Warren.

The recent raise of the standard salary for first class men, from \$75 to \$80 per month, by both telegraph companies, owing to the high rate of living expenses, was received with much gratification by the boys in the Northwest.

LOS ANGELES, CAL., WESTERN UNION.

Business has dropped back to about its normal proportion, and the members of the force are beginning to feel the need of a rest at the numerous beach resorts. Mr. McDonald will probably head the list, but may not return, as he had a better position in view.

The marriage of Miss Laura Coates, former manager of the Western Union office at San Bernardino, to a banker of that city, is announced.

NEWPORT, R. I., WESTERN UNION.

Mr. Frank H. Fay, of Westerly, R. I., has arrived to fill the position of operator at the Reading Room on Bellevue avenue, an aristocratic club composed of cottagers. Last season Mr. Fay was operator for the Postal Co. in the Newport Casino, and recently with the Postal at Manchester, N. H.

CHICAGO, ILL., WESTERN UNION.

Mr. James Jameson is reported very ill with lung fever.

Mr. William Barnard has the sympathy of all in the death of his wife, which occurred on June 6.

Mr. J. J. McCormick was seriously poisoned by poison ivy while gathering wild flowers in the woods recently.

Recent visitors: Manager Davis and the night report operator, of Decatur, Ill., and Mr. C. Warth, chief operator at Milwaukee.

Mr. George K. Nebray has returned from a vacation to his home at Cincinnati.

Miss Greeley has returned to her home in Indianapolis, Ind.

Mr. Fred Ferris has gone to New York.

The old timers were not a little aroused to satisfaction when they beheld Mr. Edward Lomasney rejoin the ranks after an absence of nearly nine years. His beautiful penmanship is a revelation to a great many of the younger set. The older ones will never forget those pretty specimens of workmanship he turned out years ago on first Boston.

There were "doings" at Fox lake recently when our assistant chief operator, Mr. Finley, traffic chief, Frank Richardson, and Dr. Cunningham set out on a Saturday evening upon a piscatorial incursion into pickerel and bassdom. There isn't much to say of the venture, although it lasted until Sunday evening.

Ohm Court, 673, C. O. F., gave their annual stag to its members and friends on April 25. The attendance was the largest this court has yet had. Addresses were made by Mr. Theodore B. Thiele, high secretary of the order; chief ranger, J. B. Kennedy, Thomas Hanley and others. The Electric Quartet, composed of Messrs. Meaney, Delavan, Rich and Anderson, rendered some fine selections, and there were solos by Messrs. F. X. Duenwald, McClure, Charles White and W. Gos-

horn, while instrumental music and the accompaniments were furnished by a fine mandolin quartet, of which Messrs. Jay Phelps, Bert Forbes and Upp were members. One of the pleasant features of the evening was the splendid exhibition in ventriloquism by Ormsby Mitchell. The affair concluded with a program of athletic exercises.

THE ASSOCIATED PRESS NOTES.

New York office: Messrs. T. L. Mahan and C. E. Martin have resigned, and Messrs. A. M. Routt and O. W. Smithson have been appointed to fill vacancies. Mr. W. L. Waugh is off on sick leave.

Hartford, Conn.: Mr. W. A. Adams has resigned, and Mr. W. B. Seibert has been appointed to the vacancy thus created.

CHICAGO, ILL., POSTAL.

The entire force join in extending congratulations and best wishes to Miss Nellie Fiske, of this office, who resigned June 15, and was married on June 17 to Mr. J. F. Books, of this city.

Mr. A. E. Wilder has been appointed traffic chief in the St. Louis division, nights. Mr. R. B. Bradley has also been appointed to a similar position in the New York division, nights.

The telegraphers at the Board of Trade office of the Postal have organized themselves in two baseball teams, known as the "Easterners" and the "Westerners." Division Chief Cook is president of the Eastern team, and Division Chief Hawkins is president of the Western team. Their first game came off June 23, resulting in a victory to the Easterners, the score standing 13 to 12. There was an attendance estimated at 2,500.

Special skill was exhibited by Edward Williams and J. J. Brosman, the pitchers in the Westerners team. Following are the players: Westerners team—J. Barnett, T. Barnett, J. Duffy, J. J. Brosman, G. C. Williams, H. Ginsburg, J. Carroll, Edward Williams, Edward Hearn. Easterners team—T. Taylor, W. P. McGann, G. Harding, C. Egelston, E. Egelston, W. J. O'Brien, G. Dodson, J. Ebbs, L. Perrin. H. B. Allen, umpire.

Mr. Maddock, of the San Francisco local, nights, has resigned and gone to New York.

Mr. S. D. Barger has been given a straight night trick and is working the New York bonus wire with Mr. Swift, vice Edward Hurn, who is on days at the Board of Trade.

Mr. Fred W. Hans, of the New York division, is now wire chief on the east board, Mr. B. C. Elder holds a similar position on the west board, and S. J. Thomas is our newly appointed loop chief.

Miss Jenny Sanborn has resigned to accept a position with the Chicago Telephone Co. The best wishes of all go with her.

Mr. Al. Bolasie has been appointed chief of the check force, vice Mr. Haggerty, resigned.

Mr. T. P. Harrington is reporting regular at the Board of Trade.

Mr. W. G. Phillips, repeater man of the San Francisco-New York wire, has been absent a few days, visiting relatives in Minnesota.

Mr. E. P. Sherman is also away on leave of absence.

Mr. David Duff, of Winnipeg, has been added to the night force.

Arrivals: Messrs. W. H. Conklin, of Winnipeg; W. E. Goodrich, of New York; L. M. Walden, of Prescott, Ariz.; J. J. Uhel, of the Western Union, Chicago; Aginaw, Roabe, Abrams, Konefsky, Splann and Fox.

Departures: James O'Brien, to The Associated Press at Milwaukee, Wis.

NEW YORK, POSTAL.

Mr. F. F. Norton, our general traffic chief, and Mr. Joseph Carr, one of our operators, were on the ill-fated ferryboat Northfield, of the Staten Island line, when it sunk, after a collision in the harbor a few days ago. They had a very narrow and thrilling escape, the boat sinking in less than seven minutes.

Mr. E. A. Coney, lately from the electrical engineer's office, now traffic chief on the South and West, and assistant to General Traffic Chief F. F. Norton, locates all the faults in the underground, submarine and aerial cables for the Postal Company in the metropolitan district. He has become very proficient in this important branch of the service, and has made some very close measurements. Mr. Coney has had a long experience as chief operator, having filled nearly every position since he was appointed in 1893. He is also an expert operator, and knows all the code in the book.

We were honored the past week by a visit from two of the finest lady operators in the West, Misses Lowe and Wilson, from the Postal office, Des Moines, Iowa. They made a brief call upon Mr. E. A. Coney, who was in Des Moines during the Kansas City convention last year, in charge of the repeaters at that point. They were very much impressed with our city and will return with many pleasant memories.

Mr. Glen Newman, quad chief, has returned from a two weeks' vacation passed at his home and at the Pan-American Exposition.

Messrs. J. M. Quill and E. B. Stockwell have returned each after an illness of two weeks.

Mr. B. F. Wilson leaves on July 3 for a trip to Lake George and the Adirondacks in search of a well earned rest.

Beware of Ointments for Catarrh That Contain Mercury,

as mercury will surely destroy the sense of smell and completely derange the whole system when entering it through the mucous surfaces. Such articles should never be used except on prescriptions from reputable physicians, as the damage they will do is tenfold to the good you can possibly derive from them. Hall's Catarrh Cure, manufactured by F. J. Cheney & Co., Toledo, O., contains no mercury, and is taken internally, acting directly upon the blood and mucous surfaces of the system. In buying Hall's Catarrh Cure be sure you get the genuine. It is taken internally, and made in Toledo, Ohio, by F. J. Cheney & Co. Testimonials free.

Sold by Druggists, price 75c. per bottle.
Hall's Family Pills are the best.

The Postal is represented at the World office days by Mr. W. H. Rhodes, who handles the press matter for that journal in fine shape.

The force loses a bright lad, and a favorite with all, by the death of John Meehan, of the distributing force in the gallery. He was taken ill suddenly June 12, and died on June 13. A fine floral piece was sent by the force on the day of the funeral, and six members acted as pall bearers.

Mr. Joseph Weighart, formerly of this office, who recently graduated from the medical department at Cornell University, has received an appointment at the French Hospital, New York.

Resignations, City Department—Miss Kittie Coleman, Miss M. S. Christian, Messrs W. C. Wilson, G. Lehane and E. M. Canedy; Southern and Western Divisions—Messrs. John Faircloth, E. S. Runyon, B. M. Martin and J. O. Newman.

Arrivals, City Department—Messrs. P. O. Purcell, J. M. Breslin, H. S. Hicks and J. P. McCarthy; Southern and Western Divisions—D. J. Ellington, J. J. Fournery, J. J. Horner and J. E. Maddock.

PHILADELPHIA, PA., WESTERN UNION.

The Western Union branch office in the Bourse Building, this city, ranks as the finest and most up to date branch office in the downtown district. It was established December 15, 1895, with Mr. V. G. Hudgins acting as temporary manager, being assisted by one operator and one clerk. After organizing this office Mr. Hudgins was called upon to open another downtown office, Mr. D. White relieving him January 1, 1896. Mr. White acted as manager until September 17, 1896, when he was appointed manager of the office at 307 Walnut street.

Mr. Morris C. Nepling was then appointed permanent manager, and has continued in charge since that date. Under his direction the increase of business has necessitated an increase in the office force from one operator and one clerk to three operators and three clerks, to say nothing of a corresponding increase in the number of the "Boys in Blue."

The office is situated in the most active section of the broker district, and the bulk of the business consists of stock and grain messages, all of which require careful and speedy handling.

Having direct wires to all commercial centers, Mr. Nepling, with the able assistance of Operators E. Francis Groena, Joseph E. Mullen, William J. Seymour and Clerks Miss Florence B. May and Messrs. O'Keefe and Fallon, has been able to handle the business to the entire satisfaction of all his patrons.

Mrs. DeGinther, the new manager at Broad street station, is very popular with the patrons of that office.

Arrivals: Messrs. E. V. Wedin, Jr., New York; W. Morrison, Postal, Philadelphia, and C. Kelley, Philadelphia.

Miss Cullen entertained recently at dinner at the Parkside, West Philadelphia, Misses Mintzer, Riley, Golden, Dennis and Bullen.

NEW YORK, WESTERN UNION.

Mr. Alex Kline, the cable expert of the Western Union Telegraph Company, New York, will leave

for Alaska on August 1, to lay a cable now being manufactured by Mr. W. R. Brixey, at Seymore, Conn. This cable will be used by the United States Government.

Mr. Theodore L. Cuyler, Jr., assistant secretary of the Postal Telegraph-Cable Company, New York, has been elected a member of the Board of Directors of the Serial Building Loan and Savings Institution.

Mr. R. M. Telschow, formerly of this office, is the happy father of a daughter, born June 14.

Mr. Thomas Donahue, of the wheatstone department, resigned June 15, to accept an appointment as letter carrier in Brooklyn, N. Y.

Mr. E. Payson Porter, while walking on Broadway, had his pocket picked of a wallet containing valuable papers and \$25 in cash.

The father of E. M. Anson had a serious fall from a ladder in Lockport, N. Y., and the worst is apprehended.

Appointed to regular force: Messrs. J. G. Hoppes, Thomas Gregg, A. J. Roberts, A. H. Vanlandingham, C. L. Williams, C. R. Crowell, J. F. Wood, J. J. O'Brien, J. T. Moran, W. W. McNamara, L. B. Goodwill, A. J. Tierney, N. C. Sears, H. A. Roberts and Frank Lowery.

Appointed to waiting list: Messrs. J. H. Williams, C. W. Minier, W. G. Wilkie, W. V. Hill, J. B. Muir and T. J. O'Regan.

Resigned: Messrs. C. H. H. Cottrell, who returns to New Orleans; F. T. Disney, P. J. Heffernan, P. O. Purcell and T. J. McGinn.

Mr. George Cornwall, secretary to President Wheeler, of Wheeler & Wilson Sewing Machine Company, Bridgeport, Conn., was a recent visitor.

Charles E. Barto has returned after a week's absence, on account of a fall, which strained his hand.

Mr. John R. Heidemark, wire chief on southern switch, and Mr. George Schriever, traffic, southwest, are on vacations. Also Mr. J. W. Heech, of the Boston wire.

Seventy-six persons were on board the "Western Union," which went to the fishing banks on June 2-3. Many phenomenal catches were made, but it would be invidious to name the principal one.

Miss Emma Ganong will go to Belmar, N. J., and Mr. T. F. Nolan to Long Branch, N. J., for the summer, July 1.

Mr. John Rathbone has had another abscess, this time in his right eye, and is not yet able to work.

Lieut. W. H. Gunning has gone to the Hotel Normandie, N. J., for the summer, as room clerk and operator. Mr. Gunning proved his efficiency as a room clerk at the Royal Poinciana Hotel in Florida last winter.

It is a pleasure to announce that Mr. J. W. Evans, who was first sergeant in the Signal Corps in the Philippine Islands, and served through the war with Spain, recently passed the State regents' examination with high honors. Mr. Evans is a credit to the profession.

The following named young ladies have left us for the summer season, and are now working in Long Branch, N. J.: Miss Anna C. Love, Hollywood Hotel; Miss Jennie Sykes, Ocean House; Miss Nellie Cleary, West End Hotel; Miss Anna Schwin-

ger, The Pannaci; Miss K. Morrissey, Scarborough Hotel, and Miss M. Hopkins, United States Hotel.

Mr. Chas. F. Annett, assistant superintendent of telegraph of the Illinois Central Railroad, Chicago, Ill., was a recent visitor in this building. He was heard to remark that General Eckert was the best preserved man for his age he had ever met.

Mr. A. R. Brewer, secretary of this company, is the youngest looking official in the service. It will be a surprise to many to know that Mr. Brewer has been secretary of this vast corporation for twenty-six years, and that he is only 53 years of age. He began his telegraphic career, like thousands of other successful men, at the key.

Fred T. Meyer, a native of the South, and for the past twenty years one of New York's prominent telegraphers, died of cancer of the stomach, in Brooklyn, N. Y., June 28. Mr. Meyer had been in poor health for some months past, but his friends did not realize that the end was so near. For several years he has been connected with the race bureau in this office, where he was regarded as one of the most efficient men in the service. He was a governor of the Magnetic and Morse clubs and a member of all the telegraph organizations.

All popular music at less than half price. "Utopian Waltzes," "Whirlwind March," "Ben Hur Chariot Race," "Belle of Manhattan" March and Two-Step, "When You Were Sweet Sixteen," "My Old Virginia Home," "Left On the Battlefield," "Dolly Gray," "The Sweetheart That I Loved In Boyhood Days," "Spider and Fly," 18 cents each. "Palms," "Popular Gems," "Lang's Flower Song," "Calvary," "Rusticana," 10 cents each. Pianos—all prices—sold \$1.00 per week. B. L. Brannan, 195 Broadway, New York. (Adv.)

A Case of Writer's Cramp Cured.

Editor TELEGRAPH AGE:

A word or two about paralysis and my own experience may be of interest, I venture to say, to a great number of operators. Considerable has been said about a probable cause, treatment, etc., but I have yet to find one case as stubborn that had as phenomenal a recovery as mine.

I am going to give a history of it from the beginning to its wind-up.

While working nights at Los Angeles, Cal., I put in the greater part of my time during the day studying, averaging about five hours' sleep. True, there were days when I could have had more sleep, but was, as a rule, far too nervous to benefit by it. After nearly a year of this kind of thing there could be but one result, namely, breakdown. Of course, it will be said I should have foreseen that, but when one has an ambition there is no telling how far one will go. I plead an ambition.

About this time I was transferred to a day trick, and my studies for the time being were shelved. My grip had been troubling me for some time, and a red-hot circuit soon saw my finish. What I experienced during the next three or four weeks can

only be described as agony in its most intense form. I took a lay off of four months, which were spent in improving my health generally, and succeeded in overcoming all ailments but my grip. Every bit of writing was done with my left hand. I camped in the mountains, chopping brush and doing heavy work and almost anything in the way of outdoor exercise that I thought might help me. At times I found it a great effort handling any light object like a knife or spoon, and it was quite out of the question trying to butter my bread. At the expiration of these four months I resigned my position and engaged in other business. A year later I returned to the key at San Francisco and found I could use my right hand quite a little, but two weeks on an overland circuit wound up its career with a snap that was not to be mistaken for a temporary setback. My left hand did not hold up long and was soon almost as bad as the right, and receiving was about all I could do. You may imagine my position on an "extra" list—very discouraging to say the least.

A friend suggested static electricity, but as I had tried both galvanic and faradic with bad results, I was loth to make matters worse. Indian clubs, dumb bells and wrist machines had only aggravated the case, the way I accounted for this being that the nerves controlling the muscles used in telegraphing and penmanship were completely exhausted while the others were normal. Exercise strengthened the normal ones, but the exhausted nerves remained as they were; ay, they were even worse off than before, for where they were outclassed before they now were completely overpowered. These played out nerves had first to be restored to a normal condition before exercise could be thought of.

I finally tried static electricity. From the very first it acted soothingly, whereas the other electrical methods had only riled up my poor arm. After about two months of treatment I got my first reward. It was not much, simply a slight twitching of the index finger, but after this first awakening the nerve connected with it could be made to respond more and more. I finally could use my right hand by resting the wrist on the table and turning the hand sideways, working the key with my little finger. Gradually I gained the use of the third finger in the same manner; then my thumb, which I was enabled to use for several months. The middle finger came into line presently, and now and then the index finger could turn out an occasional letter and even a word by clasping the side of the key firmly with the thumb. About this time business increased to such an extent, I could not find time to take my daily treatment, and finally had to give it up. From now on I was obliged to work from fourteen to eighteen hours every day. This continued for four or five months, my hand improving all the time. On December 1, 1900, I was given a regular day trick on the Chicago stock wire. I took the stocks on manifold with a pencil and it did not bother me at all.

Little by little I could feel my grip improve, and now, June 15, I can safely say it is as good as

any one could wish for. Any operator at Chicago working a San Francisco wire can testify to the condition thereof, my wire signal being "A." An overland circuit is not an easy wire for the best of grips, and I feel very well satisfied with the result of the static treatment.

From my own experience I should judge that any man can do what I did, and every one that witnessed my trouble pronounced it as bad a case as they had ever seen.

Several right here in San Francisco tried this treatment before I did, but not one followed it up any length of time. I put in nearly six months, receiving a treatment every day, Sundays excepted: After I was compelled to give up the treatment I gave my arm a brisk rubbing with a brush from shoulder to elbow every night, finding this the best time for such exercise as the rubbing made it nervous and the night's rest gave it a chance to recover. I have suggested this rubbing practice to quite a number here that have been troubled with bad grips, and those who followed my suggestion claim it has helped them.

Because it made their hands nervous for a few days at first, some of them became alarmed and discontinued the practice. That was the time when they should have kept it up. I find that the average operator will listen to all you have to say about helping him, but he will do little or nothing to help himself.

Since my arrival here, a little over two years ago, I know a dozen men that might have been benefited by this same treatment, but nearly every one either begrudged the small expenditure for what would readily have brought them from \$80 to \$130 a month or the little time it required. I was not making \$50 a month when I began the treatment, but I had the backbone to see it through, and now it's a poor month that does not bring in twice as much.

W. S. OTTE.

San Francisco, Cal., June 15, 1901.

[Operators interested in the method of treatment presumably employed in this and many other cases will find very complete information in the little booklet entitled "The Cure of Telegraphers' Paralysis," published by TELEGRAPH AGE, New York. Price, 50 cents.—EDITOR.]

The French Government is undertaking the construction of an extensive submarine cable system comprising some 10,000 miles at an estimated cost of \$30,000,000. The Government proposes to connect France with its colonies in all parts of the world, and compete for business with the existing cable companies.

Important Telephone Decision.

Judge Brown, of the United States Circuit Court, decided at Boston on June 24 against the American Bell Telephone Company in the suit for infringement of patents brought against the National Telephone Manufacturing Company and the Century Telephone Company.

Bills in equity entered by the Bell company are dismissed on the ground that the patent involved in the first case was void, and that the one affecting the second was either void or so limited as not to be infringed by the defendants. These cases have been pending for six years, having been brought by the Bell company in August, 1895. The plaintiff, it is said, will take an appeal.

Andrew Carnegie's Gift to House the Wheeler Electrical Library.

The interesting announcement is made that the American Institute of Electrical Engineers has just received from Mr. Andrew Carnegie a check for \$6,880.28, with which to house, catalogue and complete the Wheeler electrical library. This sum is said to duplicate exactly the cost to Dr. Schuyler S. Wheeler of the Latimer Clark library presented to the Institute on May 21. Mr. Carnegie's gift will enable the conditions imposed upon the institute for cataloguing and housing the library to be fulfilled soon.

A fault was discovered recently in the Eastern Extension Telegraph Company's cable to New Zealand which the cable ship Recorder was dispatched to repair. It was found that the cable, which rested on the sea bottom, about 300 fathoms deep, had been nearly bitten through, the broken tooth of a huge fish being found embedded in the cable at the bit-ten point.

Mr. Frank C. Mason, superintendent of the telegraph bureau of the police department, Brooklyn, N. Y., and a member of the Executive Committee of the International Association of Municipal Electricians, desires it to be stated that a handsome souvenir badge will be mailed to any telegraph operator or electrician who will call the attention of the Superintendent of Fire or Police Telegraph or City Electrician of their city or town to the notice of the next annual convention of the Municipal Electricians on September 2-4 next, as announced on cover page xiii of this issue, and will send the name of the party so notified, provided he is not already a member of the association, to Mr. Mason.

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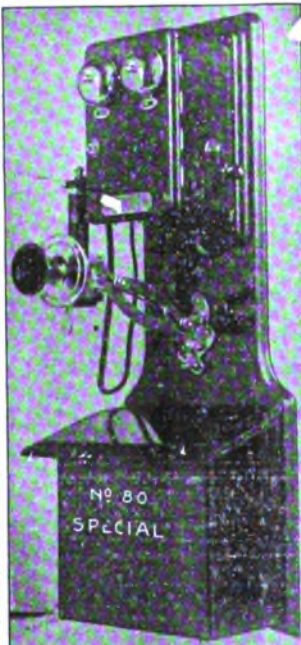
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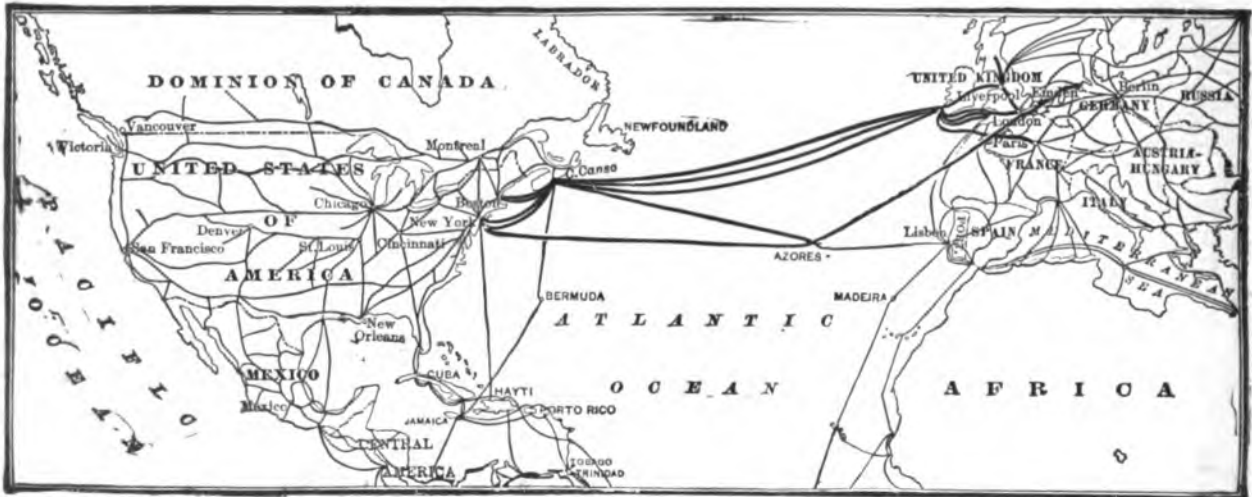


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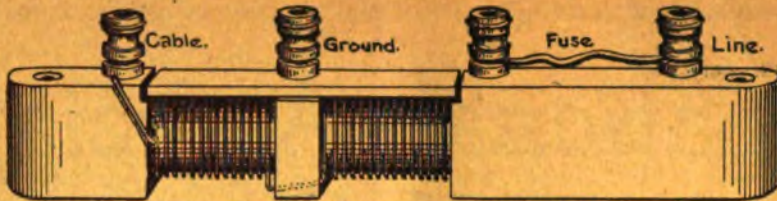
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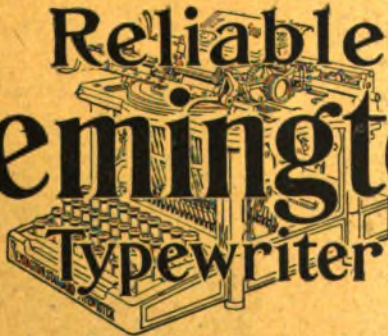
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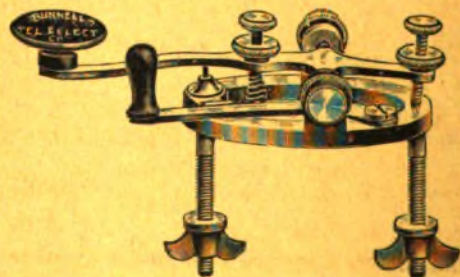
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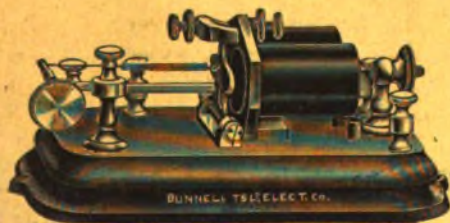


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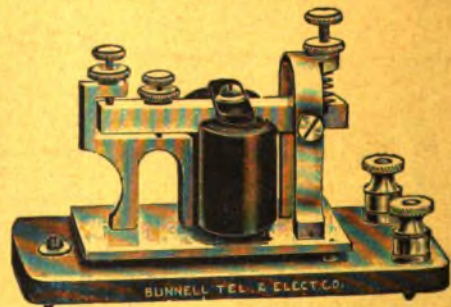
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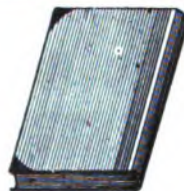
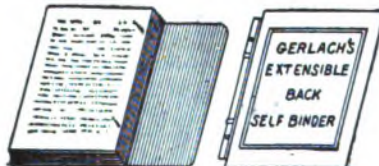
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THE TELEGRAPH AGE.

No. 14.

NEW YORK, JULY 16, 1901.

VOL. XXIV.

CONTENTS.

Some Points on Electricity.....	289
Recent Telegraph Patents, Business Notices, Personal Men- tion, Miscellaneous Items, New York Visitors.....	290
Resignations and Appointments, Obituary, American Union Telegraph Company, The Keep-Out List, The Old Time Telegraphers and the United States Military Telegraphers.....	291
Consolidation of Building Loan Associations, New Pacific Cable, New Telegraph Line, Twenty-four Messages on a Wire, To Transmit Actual Handwriting.....	292
The Importance in Telegraphy of Apparently Little Things.....	293
Sir William Van Horne in Cuba.....	294
Something More About Wall Street News Methods, Gold and Stock Life Insurance Association.....	295
The Telegraph in the Philippines, Western Union Stock Publications.....	296
Editorial, A Lesson for Chief Operators.....	297
Curious Libel Suit, A Non-Desirable Telegraph Field, First Telegraph Line Into Chicago.....	298
Compulsory Overtime in England, To the Memory of Morti- mer D. Shaw, Admonishing the Sounder.....	299
Andrew Carnegie and the Telegraph, An Apt Catch Line, Sec- lections from the Mail.....	300
The Telegraph Office, Why Do They Do Such Things?.....	301
A Telegraph Yarn.....	302
Telegraph in the Yukon, Betting Scandal in England.....	303
To Our Correspondents, Springfield, Western Union; Kansas City, Postal; Indianapolis, Western Union; St. Joseph, Western Union; Philadelphia, Postal.....	304
Savannah, Western Union; Lake Charles, Postal; Beaumont, Western Union.....	305
Topeka Notes; St. Louis, Western Union; Denver, Western Union; St. Joseph, Postal; Philadelphia, Western Union.....	306
Kansas City, Western Union; Chicago, Western Union; Balti- more, Western Union; New York, Postal; New York, Western Union.....	307

SOME POINTS ON ELECTRICITY.

BY WILLIS H. JONES.

Now and then some subscriber asks a question to be answered through this journal, which at first seems so easily explained that we frequently find ourselves wondering why he did not first seek a solution of the problem nearer home before writing to the AGE.

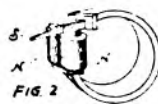
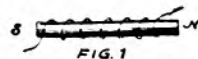
A little reflection, however, discloses the fact that there is often more in an inquiry than appears on the surface, and in addition to emphasizing nicely the difference between a thorough and a superficial understanding of a subject, shows upon what thin ice we all at times find our knowledge unconsciously resting until attention is thus called to some simple matter which we may have either forgotten, or possibly never thought much about. At any rate when studying we too readily accept bare technical statements as conveying full knowledge of a subject, where as in qualifications lie a distinction which frequently perplexes us later on when the same subject is presented in a different form.

These remarks are called forth by the following note from a correspondent:

"Will you please explain the manner in which the armature of a polarized relay is alternately repelled and attracted between the local contact points according to the direction of the electric current traversing the coils? According to text books if a current of electricity be caused to flow through a coil of wire encircling a bar of iron the respective ends of that piece of metal will be either N—S or S—N, according to the direction of the flow (Fig. 1), but always unlike in polarity; hence

if the said extremities be bent so as to nearly touch each other they will invariably attract each other regardless of the direction of the current magnetizing the metal.

Now, if I understand the construction of a polarized relay correctly the iron core, the steel magnet, and the movable armature form one continuous bar or mass of metal bent so that the two ends thereof—the movable armature and magnet core—touch each other, as seen in Figure 2. What perplexes me is this: When the line current sends alternating polarities of current through the coil around the spool end of this bar what prevents the armature from being invariably opposite in polarity to that in the other extremity and consequently remaining permanently in one position? Of course, I understand that the steel in such a relay—barring the soft iron cores within the coils—is a permanent magnet; but even so my impression is that if the magnetizing current in the coils be strong enough the initial lines of force are merely overpowered and the surplus energy gives the magnet a polarity of it's own—the original rule holding good."



In reply we will say that the enquirer's perplexity arises from the erroneous impression that the manner in which a current of electricity traverses the coils of a "bar magnet" and that of a polarized relay, respectively, is identical. If he will trace the route of the current through each apparatus he will learn that in case of the bar magnet the current encircles the metal entirely in one direction, thereby creating opposite polarity at each end of the bar. In the polarized relay we find practically three extremities (see Fig. 3), as the iron in the spools make two projections at one end of the horseshoe. A current of electricity entering one of the spools naturally follows the windings, hence it leaves via the other spool. The consequence is that the magnetic circuit set up by the current itself lies entirely within the two spools. The whole mass of the steel horseshoe and armature merely playing the part of a very thick heel piece, the initial permanent magnetism of which is in no wise disturbed by the action of the electric current traversing the coils in the spools.

Now the cores within the spools of a relay being

composed of soft iron contain no permanent lines of force and assume polarity in accordance with the direction of the magnetizing force. When no current traverses the coils the soft iron, through inductance from the steel, takes on the same polarity as that end of the steel itself, hence both cores of the spools are of identical polarity. That explains why the armature will cling equally to either contact point when we go on the "ground" in order to take a balance.

Directly a current of electricity traverses the coils, however, the two cores and helix become a little separate horseshoe-shaped magnet perched on one end of the original steel magnet—each spool possessing opposite polarity. Under these circumstances the armature of the relay, the polarity of which does not change, will naturally be attracted to the core possessing a polarity opposite in sign to it's own, hence it is the alterations of polarity which takes place in this little annex magnet alone that does the trick.

Recent Telegraph Patents.

Mr. H. T. Johnson, of Jersey City, N. J., has been granted a patent for a telegraph instrument.

Mr. H. Shoemaker, of Philadelphia, Pa., has been granted a patent for an automatic telegraph system.

Business Notice.

The Rogers Electrical Works, formerly at 55 Dey street, New York, has moved into its new quarters at 53 Dey street, where they have a fully equipped factory with a capacity of 1,000 telegraph keys, 500 pony relays, 300 regular standard relays, 800 learners' relay outfits, 500 medical apparatus and 300 switches, lightning arresters of divers kinds and sizes. The machinery is of the latest type. There is also included a complete nickel plating outfit of Harrison & Van Winkle make, which is the best on the market. This new organization is manufacturing everything under patents granted to and held by Mr. Ulysses G. Rogers, who is a practical man in every respect, having learned telegraphy when a boy, but leaving it to pursue different walks in life, and taking up mechanical engineering. Having mastered the machine shop and the drawing board, he roamed over the country at this business until nine years ago, when he settled in New York. He never forgot the "click," and after having been superintendent of the factory of J. H. Bunnell & Co. at 440 Canal street, New York, he founded the firm known as above—the Rogers Electrical Works, of which he is manager as well. Mr. Rogers has a record that any man of his age should be proud of, and is turning out goods ranking in quality first, afterwards in quantity. As will be seen on another page of this issue, one of Mr. Rogers' patents is in the shape of a telegraph key, and it is a strictly first-class article in every respect. The concern reports plenty of orders and good profits.

TELEGRAPH AGE should go regularly to every one interested in the telegraph. Write for a sample copy of the August 1 issue.

Personal Mention.

Mr. John W. Mackay, president of the Commercial Cable Company and the Postal Telegraph-Cable Company, New York, is in London, England, on a vacation.

Mr. Charles A. Tinker, general superintendent of the Western Union Telegraph Company, New York, is off on a fishing trip of ten days at Lake Ontario and vicinity.

Mr. C. M. Sheaffer, formerly division operator at Pittsburg, Pa., has been appointed superintendent of telegraph of the Pennsylvania Railroad Company, with headquarters at Philadelphia, Pa., vice, Mr. Arthur Hale, resigned.

Mr. Edward A. Leslie, an old time telegrapher, formerly general superintendent of the Baltimore and Ohio Telegraph Company, New York, has accepted the position of general manager of the Kings County Electric Light and Power Company, of Brooklyn, N. Y.

Mr. Charles H. Boynton has been appointed superintendent of the eastern division of The Associated Press at New York, vice Mr. Frank W. Mack, resigned. Mr. Boynton is the son of Charles A. Boynton, superintendent of the southern division of The Associated Press at Washington, D. C., and nephew of Gen. H. V. Boynton, the most prominent figure in newspaper circles at the Capital since the days of the Civil War. The new appointee, who is an exceptionally bright newspaper man, so qualified, both by birth and by training, is well fitted to undertake the peculiar work of this important position.

Miscellaneous Items.

Mr. W. D. Terrell, chief of the Postal Telegraph-Cable Company, Washington, D. C., has accepted a position with a New York manufacturing house.

Mr. Perry Chamberlain, an old time New York telegrapher, is now representing The Osborne Company, an art printing manufacturing concern of New York.

The outing of the Magnetic Club of New York, which occurred on June 25, was the most enjoyable in the history of that organization. The numerous and costly prizes which were given away has caused regret among several hundred members of the craft that were not present to participate in the drawing for these prizes.

In a previous issue in an item stating that the Western Union Telegraph Company's main office in Cleveland, O., had been moved from one floor to another in the same building without the slightest interruption of business, the credit for this work should have been given to Dr. J. C. Barclay, the electrician of the company at Chicago, Ill., and to Mr. H. D. Jones, of Cleveland.

New York Visitors.

Mr. C. R. Richardson, an old time telegrapher, now engaged in outside business at Marietta, O.

Mr. E. J. Nally, general superintendent, Postal Telegraph-Cable Co., Chicago, Ill.

Mr. B. P. Hancock, chief operator of the Postal Telegraph-Cable Company, St. Louis, Mo.

Mr. M. C. Corbett, superintendent of the Western Union Telegraph Company, Cleveland, Ohio.

Mr. B. F. Dillon, superintendent of the Western Union Telegraph Company, Jacksonville, Fla.

Mr. G. C. Felton, assistant superintendent of the Western Union Telegraph Company, Dallas, Tex.

Mr. Morris W. Mead, of Pittsburg, Pa., superintendent of the Bureau of Electricity and president of the International Association of Municipal Electricians.

Resignations and Appointments.

Mr. A. H. May has been appointed manager of the Western Union office at Topeka, Kan., vice H. L. Bevelle, resigned.

Mr. W. Y. Nolley, formerly manager at Shreveport, La., for the Postal Telegraph-Cable Co., has been appointed manager for the same company at Fort Worth, Tex.

Mr. George E. Fletcher, who has been manager of the Duluth office of the Western Union Telegraph Company, has resigned. His successor is W. Humes, of Marquette, Mich.

Mr. Ernest Pare, son of Chief Operator Pare, of the Western Union Telegraph Company, Fall River, Mass., has been appointed operator for the Western Union at that point, vice John Walsh, appointed manager at Jamestown, R. I.

Mr. Morgan Jones, who was connected with the wire service of the Carnegie Steel Company in New York, has been promoted to be manager of the telegraphic and telephone service of the United States Steel Corporation, at New York.

Obituary.

Daniel P. Hartley, a telegraph operator of Columbia, S. C., died in that city on July 6.

Charles E. Abbott, a telegraph operator, 21 years of age, died of peritonitis after a brief illness at Toledo, Ohio, on June 24.

William A. Oridge, a well-known telegrapher of Elizabeth, N. J., and for the past few years in charge of the telegraph interests of the Central Railroad of New Jersey, committed suicide by shooting himself on July 6.

AMERICAN UNION TELEGRAPH COMPANY.—The annual meeting of the American Union Telegraph Company of New Jersey was held at 76 Montgomery street, Jersey City, N. J., on July 10. The following named officers were elected: Thos. T. Eckert, president; Chas. A. Tinker, vice-president; Thos. T. Clark, secretary and treasurer. Directors—A. R. Brewer, J. B. Bertholf, Thos. F. Clark, Thos. T. Eckert, Chas. A. Tinker.

The Keep-Out List.

What is called the "Keep-out list" maintained by TELEGRAPH AGE is a register of persons who desire for various reasons to have their names withheld from publication. This list has been kept by this journal for years, and now embraces many thousands of names on its pages, a silent record of many now in active service and of those who have come and gone and who have figured with more or less prominence in the history of the telegraph. A reference to these pages, eloquent in the number and in the names there revealed, is apt to awaken a long train of reminiscence, and an interesting chapter might readily be written from the recollections thus incited. The fraternity is well represented there; no distinction is made, for under the proper headings in this enrollment appear in regular order the names of officials and operators alike.

All this leads us to say that frequently we are called to account for eliminating from correspondence the names of individuals occasionally mentioned therein, and asked why we do so. The answer is a simple one. The name is on the keep-out list; and this list is and has been held sacredly inviolate.

On this list, for instance, appear the names of Leonard Cox, traveling auditor of the Western Union Telegraph Company, and of Thomas E. Fleming, special agent of the Postal Telegraph-Cable Company, New York. It is easy, of course, in such cases as these, to understand why items concerning these gentlemen are withheld from publication. From the very nature of their business they do not, of course, wish the entire telegraphic profession to be posted as to their whereabouts or future movements. Yet nearly every week we receive paragraphs containing favorable mention of these officials from regular agencies and other sources, and frequently correspondents take exception to our withholding such items from our columns. They imagine that TELEGRAPH AGE, in refusing to print information of this character, has deliberately slighted those whom it should be pleased to honor. It appears, however, in this instance there is more honor conferred in the breach than in the observance. So, too, of others. There are excellent reasons why the names sent for publication should be omitted. We must, therefore, once again say to our correspondents to keep in good temper these warm days, even if the carefully prepared notices, the well-intentioned "puff" of certain individuals do not appear in print. The names so mentioned are on the keep-out list, and until they are taken off of that list by those immediately concerned, their names cannot appear in these columns.

The Old Time Telegraphers and the United States Military Telegraph Corps.

Preparations for the joint annual meeting of the Old Time Telegraphers' Association and United States Military Telegraph Corps, to be held at Montreal, Quebec, September 11, 12 and 13 next, goes on apace. The Executive Committee met at Montreal, July 3, and transacted considerable business. At this meeting a special committee was chosen to consider the project of a home for telegraphers, and to report on the same at the convention in September.

Expressions of opinion bearing on the subject are invited from members of the fraternity, whether members of the Old Time Telegraphers' Association or not. These should be addressed to any one of the committee just appointed, which is made up as follows: Addison C. Thomas, superintendent of leased lines of The Associated Press, Chicago, Ill., chairman; Frank Richardson, chief operator, Western Union Telegraph Co., Chicago, Ill.; S. A. Duncan, assistant general superintendent of the Postal Telegraph-Cable Company, Atlanta, Ga.; Walter C. Burton, Western Union Telegraph Company, New York; Col. W. B. Wilson, president United States Military Telegraph Corps, Holmesburg, Philadelphia, Pa.

As an evidence of the vigorous growth of the Old Time Telegraphers' Association, Mr. John Brant, the secretary-treasurer, states that 158 applications for membership have been received since the last annual meeting, among them being one from Robert J. Einbeck, an old time telegrapher, and now sheriff of Dawson, Yukon Territory, Canada.

The proposition of the Telegraphic Historical Society of North America for consolidation with the Old Time Telegraphers' Association will come up for consideration at the meeting in September.

Consolidation of Building Loan Associations.

The Electric Building Loan and Savings Association, at a special meeting of its shareholders held in New York on July 12, accepted, by a practically unanimous vote, the proposition to consolidate with the Serial Building Loan and Savings Institution, whose offices are located at 195 Broadway, New York. This action will greatly strengthen both organizations, it being the intention to conduct the business in future under the charters of both associations. Hereafter the management of both associations will be conducted by the officers of the Serial. The secretary of the Electric Building Loan and Savings Association, Mr. E. S. Butterfield, who has acted in that capacity since its organization, will turn his office and effects over to Mr. E. F. Howell, the secretary of the Serial, who will in the future act as secretary of the consolidated organizations.

Mr. F. W. Jones, Mr. E. S. Butterfield and Mr. Geo. W. Blanchard, of the Electric Association, have been elected directors of the Serial Association. The officers in future of the Electric will be the same as those of the Serial.

New Pacific Cable.

The State Department is in receipt of information concerning work on the British Pacific cable, which is to connect the Dominion of Canada with the Australian confederation. The new cable is to be 5,834½ miles in length, the longest ever constructed, and will be transported and laid by one ship, which is now being built for that purpose. The cable will run from Vancouver Island to Fanning Island, which lies south of Hawaii, a distance of 3,337 miles, before landing is effected; thence it will be laid to the Fijis, to Norfolk Island and then to Queensland.

New Telegraph Line.

The local manager of the Pacific Postal Telegraph-Cable Co., at Seattle, Wash., announces that telegraphic communication is now open from that city to Port Simpson, Alaska. The completion of the line to the latter point marks a stage in the great scheme which has been under way for years --to carry telegraph lines by way of Fort Cudahy and Eagle City down the entire length of the Yukon river to its mouth. The route to Port Simpson is via Vancouver and Ashcroft, thence by the old government line to Quesnelle, thence to a point on the Skeena river, and then down the river to Port Simpson.

Commencing at Dawson and going in a southerly direction work on the line is also being prosecuted. This has been so far accomplished that there remains now only a gap of about eighty miles in the direct connection from Vancouver with Dawson. This gap exists between Hazleton and Telegraph Creek.

There has been telegraph connection all winter between Skagway and Telegraph Creek. This summer the work of completing this gap is being pushed with vigor and it is now predicted that with the advent of winter telegraphic communication with Dawson from Vancouver will be an established fact.

Twenty-four Messages on a Wire.

Some important experiments in connection with a new telegraph system have recently been conducted by the postal engineers between London and Glasgow. The new apparatus is the invention of a French engineer named Mercadier, and by its means it is possible to send twelve separate messages over one wire at the same time. The system is also capable of being duplexed, by which twenty-four separate messages can be sent at one time over a single wire.

This system is very similar to the Delany Multiplex and it depends upon synchronism for a successful operation.

To Transmit Actual Handwriting.

A number of inventors have from time to time endeavored to devise an apparatus that would telegraphically transmit the actual handwriting or drawing of the person sending the message, but the difficulties to be overcome have up to the present time rendered all attempts futile.

Some systems require four wires, others three, and others again two for the proper operation of a writing telegraph system. Until some inventor devises a system that can be successfully worked on one wire, writing telegraphs will not prove a success.

A young New Yorker claims that he has solved the problem of telephoning without wires. He says that he can make his invention commercially practicable in short order if he can get capital. There are several thousand other New Yorkers who make the same claim. Lack of capital suppresses many enthusiastic electrical inventors.

The Importance In Telegraphy of Apparently Little Things.*

BY THOMAS D. LOCKWOOD.

The telegraphic circuit in working condition comprises three essential parts, the source to produce the electrical current, the conductor to be traversed by the electrical current, and the station instruments to manifest the electrical current.

Any fault or weakness tending to affect any one of these, necessarily affects the entire circuit. This fact, and the correlated facts that the available working current depends on the margin between the resistance of the circuit, and the resistance of the insulation, and that the latter is variable, the inevitable leakage at each insulator varying with the weather, renders it necessary, to secure the best operative results, that every detail however apparently small, in the construction, arrangement and operation of each of these three factors of the circuit, must be constantly and intelligently cared for.

Let us consider the conductor first. This may be regarded as including the line and office wires. In ninety cases out of a hundred at least, the line wire is iron; and when that is the case the joint is the part mainly to be looked after. If I should lay down a set of conditions about the grade of wire, the tensile strength and the maximum resistance per unit of length, they would be of little or no use to any one having their wire delivered to them, being in the condition of having to take this wire or no wire, or having to accept wires already strung. But it is never too late to attend to joints. After many years of considering and using joints in iron wire, and after careful comparison of the regular twist joint of the United States lineman and the Britannia joint, I feel free to say that I think the twist joint, soldered, is the better of the two all things taken into consideration. For it is not only simple to make, but holds well, is comparatively easy to solder, and leaves no projecting points. The short projecting ends of the Britannia joint would, I think, on our lines be productive of trouble, as tending to hook neighboring wires, thus introducing crosses. But, unquestionably, iron wire joints ought always to be soldered, at least when the wire is first strung; and I believe in a general soldering campaign at intervals say of three years. Such a practice would tend to economy alike in battery power, time in operating, and in profanity.

Copper wire is a thing apart. The twist joint, in my opinion, ought not to be employed with it, nor should copper joints be soldered. There is too great risk of burning the wire. Either the two sleeve MacIntyre joint or the three-wire joint should be employed.

And while it seems a thing that every one stringing copper wire ought to know, it is a fact that every one does not know that in the attachment to insulators of copper line wires, copper tie wires must be used. I once found a man whom I had regarded as an expert, preparing a lot of iron tie

wires for some copper lines, and thus arranging a copper-iron voltaic cell with a rainwater exciting solution for each wire on each pole. He realized the state of the case as soon as I suggested it, but he simply had not thought. Learning to think, now as ever, should be an important part of the education and equipment of the practical telegraph man.

In making connection between line and leading in wires, especial care should be taken in making the joints. Here, soldering should be employed. The copper wire in such cases is generally soft, there is usually plenty of time to take the necessary care, and the person doing the work is usually a superior man.

A little detail sometimes carelessly performed is making the holes through which the wires enter. These should always be bored in an upward direction; never in a downward course.

The glass insulator seems to have become standard with us, and in a country generally so dry as is ours, it is probably good enough. I think it is a question, however, whether carefully tested porcelain insulators would not, along the coast, and for some fifty miles inland, be a material improvement. But it is to be understood that when I say porcelain insulators, I do not refer to the porcelain door-knob abominations, which are sometimes—I fear far too frequently—used by constructors of a saving turn of mind.

Referring to the matter of ground wires, I suppose the average wire chief or dispatcher would incline to the opinion that nothing could be more exasperating than a good ground wire at a way station indiscriminately used in season and out of season. It is a thoroughly bad thing without doubt; but I think a bad ground wire under similar environment, and similarly employed is worse. For here a fine adjuster has his righteous indignation aggravated by hearing the working of stations beyond the ground, and if there is but one wire, there is nothing to do but wait until the ground wire fiend remembers what he has done, and takes his earth off.

As to way station ground wires, of course at places of fair size, gas or water pipes are in general attainable, and as a rule, the earth connection can easily, under such conditions, be made fairly good; but even then and also in the making of terminal earth connections, there are "little things" to be looked after if the work is to be done well.

These are: To choose a water pipe in preference to a gas pipe when we can have either; but if we are restricted to a gas pipe to make the connection, if at all possible, on the street side of the meter; to choose in either case a comparatively small pipe in preference to a very large one; to file or scrape the pipe clean and if possible bright, before making the connection; to wind a great deal of copper wire also scraped bright round the pipe thus prepared; to solder the same to use for a connecting conductor, copper wire of as large a size as is attainable, and as is mechanically convenient.

Returning briefly to the way station earth wire where there is no service pipe—an iron bar or pipe may be driven into the earth in some place which

*Read before the convention of the Association of Railway Telegraph Superintendents, at Buffalo, N. Y., June 19, 20, 21, 1901.

can be relied upon for dampness, and the ground wire carefully attached to this.

I have sometimes seen office wires festooned loosely and carelessly all over the wall, instead of being properly stretched and neatly secured. This is only a little thing, but it proves that the wireman who connected them was a careless and neglectful man, who some day will be sure to cross-connect a main with a local circuit, or perform some like enormity. I have even seen bare wire used on the walls and table of an operating room for office wire. Where but a single wire enters an office, as good a way as any is to screw up porcelain picture-hanging knobs on the wall, and to run the office wire from knob to knob as far as the switchboard or cutout, tacking it the rest of the way. In tacking, a poor wireman will be under a strong temptation to put two wires under one staple, but that particular temptation must always be resisted.

Where a number of circuits enter the office there is no better way to run the insulated office wires than through perforated cleats, anchoring them by a half-hitch at the cleat nearest to the switchboard, or cutout.

Linemen and wiremen as a rule require a considerable amount of instruction. Some need to be told a thing once only; others have a natural aptitude for wire running, and trouble finding; but others again can never learn to work alone, having to be told a thing every time it is to be done, and even then cannot be relied upon to do it properly. It was to such persons that Lewis Carroll referred, in his comment: "It isn't much use teaching chess to a whale, or the language of flowers to a cat."

Such men ought to go into other business. Yet I advocate the constant instruction of good line and wire men, and also of operators for that matter, as new conditions are always coming up to which experience does not apply.

A young and enthusiastic operator naturally likes to have his table present a tasteful appearance, and even spends money from his own all too scantily filled pocket to buy an oilcloth cover for the table on which the instruments are to be placed. The wire man comes and connects the instruments all right, but there is an escape or partial cross in that office which until removed sadly interferes with the working of the line. I think it likely that others here, besides myself, have introduced a trouble by means of a painted or oiled table cover to which the key was screwed; and while the desire to have a neatly arranged office is laudable and to be encouraged, oilcloth covers for instrument tables are to be looked after, and generally discouraged.

This brings us to the consideration of instruments. Beginning with lightning arresters, so-called (although since lightning was never known to be arrested by anything, the term seems to be a misnomer), I think there are still a goodly number in use, of the old-fashioned style wherein a piece of paper or similar poor conductor is placed between two plates having conductive connection with the line and ground respectively. A little thing to be looked out for in these is a fault not infrequently occurring after a lightning storm. The operator

sees a bright flash, and hears a sharp crack as of a pistol shot. As his relay is not burned out he thinks that no harm is done. But an escape has appeared on the line which presently is located in his office, and it is then found that a spark has perforated the paper, and that a partial contact has been established through the carbonized edges of the perforation between the line and ground plates. After the flash and crack, of course this should have been looked to.

When a line of telegraph is constructed, reconstructed or rearranged, the battery power is, I suppose, proportioned to the resistance of the line and instruments. It is, however, to be apprehended that cases frequently happen when additional relays are added to the circuit without a corresponding addition to the batteries; and with, of course, a corresponding diminution of current. Again, instances are not wholly unknown, wherein (as when employes have been permitted to use a relay of their own), relays have been introduced whose resistance and number of turns are entirely out of harmony with the relays previously on the line. For example, a line has twenty-five relays of—let us say—100 ohms each; but a new office is opened, and it may be that the operator himself owns a pet relay and is allowed to use it, or perhaps a spare relay is sent from stock. But in either case the relay is one having a resistance—say as high as 200 ohms. Of course this reduces the working average of the line, and if no increase of battery is made, the working capacity of the line may be seriously decreased. For the abnormal increase of circuit resistance weakens the current in all relays, but at the station where the high resistance relay is introduced the weakened current is compensated for by the extra turns of the winding, and thus this particular station obtains an advantage at the expense of all others. Little matters of this kind should not be permitted to occur.

(To be continued.)

Sir Wm. Van Horne in Cuba.

The Cuba Company, of which Sir Wm. Van Horne is president, is engaged in constructing a railway through the eastern part of Cuba. It has no charter to construct a line, but under a special enactment, still in full operation, owners of land are entitled to construct railways upon it without any one's interference. The Cuba Company, therefore, purchased whole estates along the route of its proposed railway, on some of which the rails had already been laid, and so secured the right of way through the provinces of Santiago de Cuba, Puerto Principe and Santa Clara, giving a main line of about 400 miles in length, extending from Santiago to the city of Santa Clara and to Cienfuegos. Sir William Van Horne was formerly president of the Canadian Pacific Railroad, and is an old-time telegrapher.

The French Administration announces that a cable from Tourane (Annam) to Amoy (China) was opened for business after July 1.

Something More About Wall Street News Methods.

In our issue of June 16 we printed an article entitled "How Wall Street News is Circulated," which gave the modus operandi for the distribution of stock quotations throughout the world. This article explains how the financial news is gathered.

The news bureaus which engage in the process of enlightening the financial district in New York are located almost side by side on Broad street—two of them, friendly rivals. They make a business of sending to brokers, bankers and speculators news of any happening that has a bearing on the money market—events not only of Wall street, but of all the world. They must first gather this news, so they have correspondents scattered over the globe to the remotest spots touched by cable or wire.

It is these bureaus, then, and not the newspapers, upon which Wall street relies for earliest information. Ten minutes after a foreign country calls for a loan, five minutes after an Albany strike is settled, the news bureaus make the facts known to Wall street. Information is sent out, first by a news tape; second, by a system of printed bulletins delivered by boys, and known as "slip service." News tape is operated by an electric typewriting machine, practically the same as a stock tape, but there is a good deal more to it. For news tape is as wide as two newspaper columns, and instead of containing characters unreadable save by the initiated, news tape leaks out of the ticker bearing telegrams of from five to fifty words that can be read as easily as any typewritten correspondence.

The second branch of the news bureau work, "slip service," gives even fuller information than the news tape. Here is an illustration of how the slips, or circulars, which are in reality little newspapers, are produced: It is the day of the panic, May 9. There is a "squeeze" in Northern Pacific and shares are selling for \$1,000. In the midst of the financial mêlée, when a great many of the operators in Wall street, according to the market, are insolvent, the manager of J. P. Morgan & Company sends for a representative of the news bureau. "Announce," says Morgan's man, "that deliveries of Northern Pacific will not be enforced to-day." At the same time, some one representing the associated banks also sends for a news bureau reporter: "Announce that we will loan money at the legal rate to the extent of \$25,000,000." (At this particular moment money was being loaned at 60 to 80 per cent.) "Announce, too," continues the mouthpiece of the banks, "that we will not call loans made this day—that such loans can stand for a while, at least.

Now, the two news bureau men rush to the nearest 'phones, which have been held open to their offices for the purpose, and repeat the news which has been intrusted to them. As they speak, two editors in the office are writing their very words on pieces of yellow paper. Into pneumatic tubes the editors thrust the yellow sheets and down they shoot to the press room. Here the "copy" is distributed to three linotypers, and half a minute later those messages are being printed on the very tiniest cylinder press in New York.

As they gush forth in cold type, in the form of circulars, boys seize a handful and rush out. There are forty of these Mercuries of the Street, and woe be to the man who is merely "rubbering" around the money quarter—he finds himself considerably "jarred" by the boys who are rushing on without stopping to apologize. The esprit de corps among these boys would shame the staff of an ordinary newspaper.

Each of the forty boys has a certain route, given block or building, and he must deliver a bulletin to each customer of the bureau in that block or building. He enters an office, walks direct to where a file furnished by his bureau is hanging, sticks a bulletin on that file, and then hurries away to the next office. By this time forty bulletins, at least, have been posted, and the news thus given saves the day. The crash of millions is averted. And only ten minutes have passed since Morgan and the associated banks sent for the reporters of the news bureau.

Many brokers repeated the news over their private wires to customers or branch offices all over the country, some houses having as many as thirty-five such wires between Montreal, San Francisco and the Gulf.

As the news furnished by the bureau has a very definite influence on the trading on the floors of the Exchanges, and as each bureau is not for a moment unaware of the enterprise of its competitor, every tick of the clock is as full of importance as a Diamond Jubilee. If one bureau is one minute behind its rival in delivering news for which the "Street" is agog, the telephone of the delinquent gets immediately red in the face, as it were, with the fury of customers.

The most elaborate but least important channel of Wall street news is the financial newspaper. Each news bureau issues a paper, but south of Chambers street there are a score of such financial journals.—Collier's Weekly.

Gold and Stock Life Insurance Association.

The report of the auditing committee of this association for the quarter ending June 29, shows the condition of this company to be as follows:

Balance on hand, last report.....	\$15,415.83
Receipts	2,081.70
Total	\$17,497.53
Disbursements	1,299.84

Balance on hand.....	\$16,197.69
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F. H. Nicholls, Wm. Shone, M. J. O'Leary, auditing committee.

It is stated in official naval circles at Washington, D. C., that the wireless telegraph system of Lieut.-Col. Reber has been adopted by the Government. It is also claimed that the Reber wireless telegraph system is not an infringement in any way of the Marconi telegraph system, the latter being deemed too expensive for the Government to adopt. Experts on the other hand state that the Reber system clearly infringes the Marconi patents, and as soon as the Government begins to equip war vessels it will have an infringement suit to defend.

The Telegraph in the Philippines.

The telegraph has been in vogue in the Moros country for over a year. The Signal Corps of the United States service has been stringing wires between garrisoned cities and towns since the beginning of American occupation. At the present writing there are hundreds of miles of wires in the section, and more lines are being added daily. As soon as a new district is opened, the linemen are sent there with native helpers, and the latter dig the holes for the poles, cut the poles from the forests, and in a very short time the wires are put up and the instruments installed. A great many new Signal Corps men have come over from the United States during the last six months and the offices of the telegraph lines are well furnished with trained men.

The telegraph was not used by the Spanish, except in the immediate vicinity of Manila. There are now nearly 1,000 military telegraph offices in the Philippine archipelago, and new ones are being opened constantly. The telegraph lines and poles were at first cut and torn down very often in the Moros section, as in the islands of Luzon and Panay, but the death penalty was administered in a few cases to the Filipino ladrones and rebels who did these things, with the result that the lines are now very seldom molested. In some of the worst places it was necessary for the guards to shoot at all natives who were acting suspiciously about the lines, but usually the shooting was in the air, for the purpose of terrifying the natives. This scheme succeeded well, and nowadays it is seldom that the lines are cut or the poles torn down.

The telegraph is used considerably in the Moros section by the mining corporations and the Filipino business houses. The Government established the lines for military purposes, but the private concerns can use the wires upon showing that the business is legitimate and upon paying the proper price which the Government has established for private messages. Many of the messages go over the lines in the native languages and some of the American operators are often puzzled over the inscriptions. Some of the mining concerns have lately combined with the proprietors of the cocoanut lands and sugar plantation owners for the purpose of putting in private telegraph lines. There is a very good demand for fittings, such as wire, instruments and all the necessary furnishings for telegraph lines.

Western Union Stock.

The stock of the Western Union Telegraph Co. is steadily retrieving its former position in the estimation of investors. The shares have been within a few points of par recently, which indicates that they are gradually rising to a level commensurate with the dividend paid. It is now understood that the spreading of the country telephone service, so much dreaded when first inaugurated, has furthered, rather than retarded, the telegraph business. Rural districts having the telephone use it to communicate with telegraph offices, thus creating traffic for the latter where none had existed hitherto.

Publications.

"**PHILLIPS' CODE**," by Walter P. Phillips, 9th edition, 69 pages. This unique and efficient guide for the transmission of press reports still maintains its great popularity; bound in flexible leather; price, \$1.

"**THE QUADRUPLEX**," by Wm. Maver, Jr., and Minor M. Davis, 128 pages, 63 diagrams and other illustrations; treats of the technical side of telegraphy in a manner at once simple, comprehensive and easily understood; bound in cloth; price, \$1.50.

"**LIGHTNING FLASHES AND ELECTRIC DASHES**," 160 pages, illustrated. An original and sparkling collection of telegraph stories, quaintly descriptive of scenes and incidents that a telegrapher will appreciate and heartily enjoy; bound in cloth; price, \$1, reduced from \$1.50.

"**AMERICAN TELEGRAPHY**," by William Maver, Jr., enlarged and improved; 600 pages; 475 illustrations; clear, lucid and comprehensive in its treatment of the subject, the ranking work of its kind, and of high practical value to every telegrapher; bound in cloth; price, \$3.50.

"**TELEGRAPHERS OF TO-DAY**," by John B. Taltavall, 354 pages. This volume, of which but a few copies of the first edition now remain, presents a compendium of illustrated life sketches of over 800 well-known telegraphers who have been prominently identified with the telegraph during the past fifty years; bound in cloth; price, \$5.

"**POCKET EDITION OF DIAGRAMS AND HANDBOOK FOR TELEGRAPH ENGINEERS**," by Willis H. Jones, 115 pages. 54 full-page diagrams. This book places before the telegrapher a pocket edition of diagrams designed to take the place of the incomplete drawings which nearly every chief operator, lineman and student carries; bound in flexible imitation leather; price, \$1.

"**THE TELEGRAPH IN AMERICA**," by James D. Reid, 894 pages, illustrated. This book is of marked interest and worth, inasmuch as it contains telegraphic records of great historical value, not to be found elsewhere. There are only a limited number of volumes of this great work now available; bound in full morocco; price, \$7.

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CHANGES OF ADDRESS.—The address of a subscriber will be changed as often as desired. In ordering a change of address the old as well as the new address must be given.

NEW YORK, July 16, 1901.

NOTE.—We desire to state that back numbers of this paper, those issued more than six months prior to any current date, will be charged for at the rate of twenty-five cents apiece when they can be furnished. This price is fixed because of the necessarily limited stock we carry, and of the difficulty we commonly have in filling an order. Oftentimes the request is for papers of a more or less remote date, with the expectancy of being supplied at but ten cents a copy, whereas in order to obtain the desired issue we are ourselves frequently obliged to pay the larger sum, or even more. The growing value of complete files of TELEGRAPH AGE should cause our readers to carefully preserve their issues.

A Lesson for Chief Operators.

A gentleman well versed in telegraph affairs writes as to the effect that it is nothing less than a calamity to the telegraph profession that a man like W. R. Holligan, who formerly and for so many years successfully managed the main office of the Western Union Telegraph Company at Chicago, Ill., has been permitted to leave the telegraph service. He stated that while it was perhaps an easy matter to name a successor to Mr. Holligan, it would be difficult to fill his place in all that that term implies. Few men measure up to the standard required for the successful handling of large bodies of operators, and of getting from them the maximum amount of work, attributes of character possessed by Mr. Holligan in a remarkable degree. Many men, doubtless there are, who imagine themselves competent for high executive positions of this kind, but men of Mr. Holligan's calibre in charge of large telegraph offices can be numbered on the fingers.

The regret at this departure from the profession

will be keenly felt by hundreds of telegraphers, who at one time or another worked for Mr. Holligan and have nothing but words of praise for his fairness and good judgment, which were always manifest while exercising the authority of the official positions which he held.

But this article is not intended in eulogy of Mr. Holligan, although it may bestow a tribute well deserved by that gentleman. He has passed from the scene, yet has left an indelible imprint in the telegraph service, a record that may be well used as a text and held up as an example.

The importance of the position of chief operator in a great telegraph office cannot be overestimated, for to the executive ability, tact, judgment and educative force of such a head, depends in large measure the welfare of the office itself, as well as the personal development and betterment of the individual operator, provided, of course, he has the right stuff in him. For it is in this practical school that the wise chief by the exercise of proper discipline and careful, painstaking methods can elevate the esprit de corps of his force, increase its efficiency, while at the same time effectually training those under his management in the direction for promotion to more responsible fields of telegraphic endeavor.

No appointment to the office of chief operator ought to be made through favoritism, or through any influence that will prejudice the best interests, not only of the telegraph companies, but of the operating staff, which is, or should be, the fundamental force of any telegraph company. No matter what the claim of the individual may be, or how acquired, or under what obligation a company may consider itself to be to any aspirant for office, only merit should govern the appointment to this responsible office. And this is equally true respecting all managerial appointments. Not only do the best interests of the companies demand this, but the moral obligation to the operating staff likewise should inspire such action.

Then eliminate all favoritism in the management of the operating department. It is out of place there; merit alone should be rewarded.

It is natural that employees should respect their superiors, but those superiors must show a worthiness for this respect or it is withheld. We have never yet heard of a case where a chief operator was severely criticized because he was too strict. Discipline is always appreciated by the force; favoritism never, for it has proved the ruin of many an otherwise good chief operator.

Favoritism quicker than anything else will destroy the discipline of an office, beget ill feeling and stir up insubordination. As soon as it once becomes known among favored members of a force that a chief operator can be "worked," or that he can be persuaded to favor them, just so soon does that official lose the respect of his entire staff. And this when once lost it is a work of years to regain. The aim, therefore, of a chief operator always ought to be to act in a perfectly fair and just manner to all under him; to be a strict disciplinarian; to command respect, and to be a gentleman in his office as well as out of it.

If a chief operator is other than what is here indicated the effect on his staff is detrimental to the service. The men under such conditions naturally would do as little work as possible and in every manner show their disrespect to their superior and disgust of the telegraph service in general. This is the natural sequence where unfairness prevails in dealing with the men, and there are too many such offices to be found in the telegraph service of to-day.

Curious Libel Suit.

Preliminary steps have been taken in England in a libel suit which is remarkable even in that land of strange libel suits. About three weeks ago Septimus Parsonage and a co-director were jailed for contempt of court in having fraudulently obtained 60,000 proxies in order to secure the voluntary instead of the compulsory winding up of their company. In sending the news over the country the Government telegraph department telegraphed "pounds" instead of "proxies."

The imprisoned Parsonage says he was injured by the base accusation that he had stolen £60,000, and immediately demanded substantial damages from forty newspapers, with the option of standing libel suits.

The newspapers turned to the Government telegraph department, which, while deploring the blunder, pointed out the special act of Parliament under which the department was exempt from all liability. The newspapers appealed to Parsonage, but he was obdurate and demanded damages or said he would go to law.

The strangest part of the case now comes. Parsonage has also begun suit against the persons who sent the news telegrams. He argues that although the message was accurate yet they employed the Government to transmit it, thus making the Government their agent and one of the first axioms of law is that principals are bound by the acts of their agents. The journalistic world is keenly interested in the case and the newspapers will combine to fight it, but the vagaries of British juries, especially in newspaper libel suits, make the outcome dubious.

A Non-Desirable Telegraph Field.

Telegraph operators in South Africa, particularly in the Orange River Colony and in the Transvaal, complain of the inadequate rate of wages paid them for their services. While these sums frequently vary in amount from £200 to £400, the equivalent of \$1,000 and \$2,000, it is said that the cost of living is so high in those countries that even these apparently liberal payments are insufficient to make both ends meet. Many operators who were induced to go out to South Africa from England and America, tempted by high rates of pay, would gladly return and accept employment at home at their old salaries. A warning note has been raised against accepting service in South Africa by those who are already there.

A subscription to TELEGRAPH AGE is regarded as a good investment.

First Telegraph Line Into Chicago.

An orator, a politician, an organizer, an inventor, an electrical expert, a carpenter, a lineman, a telegraph operator, and a teamster, all in one, was what Dr. S. D. Cushman had to be when in 1847 he strung the first telegraph wire into Chicago, and then extended it northwards towards Milwaukee.

Dr. Cushman, who has reached the venerable age of eighty-two years, now lives in Chicago. He was at that time in the employ of the Erie and Michigan Telegraph Company, which was extending a line west from Philadelphia, through Pennsylvania, Ohio, Indiana, Illinois, and Wisconsin. Dr. Cushman's construction squad moved in a camping wagon. The farmers along the way contributed the telegraph poles freely in most cases, being much pleased that the much talked of telegraph line was passing so near to their farms. Some of the poles the farmers brought were logs two or three feet thick, while others were as slender and graceful as bamboo fishing poles, and the telegraph linemen would often have to go out and select their own trees and trim them into proper shape.

At every town that was reached by Dr. Cushman and his party a campaign of education would first have to be inaugurated. The linemen would go around the town and summon the citizens and the farmers who lived in the vicinity to attend a meeting that night in the town hall. Here Dr. Cushman would have two telegraph instruments rigged up at either end of the hall and connected by wire so that messages could be transmitted from one to the other. He would explain in detail the construction of the mysterious instruments, and then send messages from one end of the hall to the other and back again to assure the people that the telegraph would do all he said it would. After this was done he would organize a committee to solicit subscriptions from the townspeople to raise a fund to give as a bonus to the company for carrying the line through that particular town.

Dr. Cushman said that the people of the various towns were skeptical in regard to the new invention. Most of them looked upon it as a sort of amusing toy that might work for a little while at short distances, but which would not prove of any great practical value. Chicago itself was exceedingly slow in taking action for bringing it into the city.

For a long time the line abruptly ended at a little town in Indiana, as there was no more money in sight to bring it any farther. Finally the bonus was raised in Chicago and the wire brought in. It ran along close to the lake shore, the telegraph office being near the courthouse. Dr. Cushman says his recollections of Chicago as he first saw it are that it was a dismal, gloomy sort of a place, with bottomless mud and muck everywhere.

The line was extended from Chicago north through Evanston, or, rather, what is Evanston today, Waukegan, Racine, and finally Milwaukee. After a few years another wire was put in operation between Chicago and Milwaukee, but it was taken down in a few months on the orders of one of the superintendents of the company, who

said there was not enough business between the two cities to justify two wires.

Dr. Cushman claims to have invented the telephone away back in 1851 and has had several hard legal battles in the United States courts with the Bell company over the validity of patents. Dr. Cushman also experimented successfully many years ago with wireless telegraphy and has invented numerous electrical and mechanical devices.

Compulsory Overtime in England.

The United States is not the only country where extra service after regular hours is declared to be a bugbear. In the London, Eng., central telegraph office much fault is found with the administration on account of not being able to relieve the men when off duty. The following letter which appeared in the last issue of *The Telegraph Chronicles*, London, will prove to the Americans that in other countries there exist peculiar telegraph tricks as well as in the United States.

"I should like to call your attention to the increasing tendency of the department to draw on compulsory overtime after 8 P. M., operators employed in the central telegraph office, whose own duty already covers ten hours, i. e., 10 A. M. till 8 P. M. Except upon former isolated occasions, this inconvenient practice is but new born; in fact, since the alterations of the night duty. Now an operator performing 10 A. M. till 8 P. M. duty is never certain of getting away from the office at the expiration thereof, in spite of the fact that he has already done a long day's work. That the overtime after 8 P. M. is unpopular is evidenced by the fact that the full complement of officers required is seldom, if ever, obtained voluntarily, and this result follows—that many operators who, from point of principle or other reasons best known to themselves, never volunteer for overtime, are forced to take these fag ends, so to speak, whether they will or no. Little notice has been taken up to the present of this new bugbear to T.S., (which is the telegraph call for the London main office by the Telegraph Association) and it is a pity, because it may be reasonably concluded that, under pressure, the department could not possibly maintain its position in this respect. Was not the ten-hour day itself, and, as a fact, is it not so still, the subject of a grievance on account of its length? Its abolition has been sought upon previous occasions by the Telegraph Association, but now, in addition to this inconvenience, the hours are to be compulsorily extended at the will of the department. I myself, after unsuccessful protests, have been obliged to financially induce a fellow operator to stay on for me in order that I might keep appointments made while on this duty. Very bizarre, is it not, to have to pay to get away at the legal expiration of a duty, but nevertheless a fact."

The Dominion Government has decided to establish the Marconi system of telegraph in the gulf of St. Lawrence. D. H. Keeley, superintendent of Government telegraphs, has been ordered to install a station during the present expedition of the chartered cable steamer *Tyrian*.

To the Memory of Mortimer D. Shaw.

The accompanying engraving shows the monument that has been erected lately at Sumner, Ill., to the memory of the late Mortimer D. Shaw, the well known old-time telegrapher of St. Louis, Mo. The erection of this shaft was made possible by the contributions of telegraphers, to whom the memory of Shaw as the champion in the cause of telegraphic labor, an agitation which culminated in the memorable telegraphic strike on July 19, 1883, endeared



THE MORTIMER D. SHAW MONUMENT.

him to so many. The monument is of light colored granite, eight feet in height, and was placed in position on May 23, last. It bears this inscription: "In Memoriam. Mortimer D. Shaw, Dec. 21, 1853; July 13, 1900. Resting in Peace." On the base appear the words: "Erected by telegraphers of the United States of America."

Admonishing the Sounder.

It was after hours at the Exchange, the men had returned to the downstairs office, and here and there could be heard the stray clicks on sounders before they were cut out. The room had been given over for the purposes of cleaning to the care of colored porters, one of whom, approaching a clicking sounder, watched and listened to it attentively for some time with a face expressive of great curiosity, when at length bending over the instrument, he said: "Lawd, but you'se makin' lots o' fuss! Why, good gracious, all ob dem men has gone down stairs; yeth, they has all gone down stairs. You'd better wait till to-morrow mornin'. Den dey'se all comin' back 'bout nine o'clock." And as he spoke the wire seemed to understand, for it became quiet. The darkey smiled a grin of satisfaction, stroked his gray whiskers and turned away to resume his labors in another part of the room. Wonderful miracle! But plainly and simply, the wire had been cut out.

Andrew Carnegie and the Telegraph.

If some strange combination of circumstances should ever make it necessary for Andrew Carnegie, the millionaire iron king, to begin life over again and to start from the foot of the ladder, there is no doubt that the doughty little Scotchman would carve a way for himself. To prove this an incident which occurred some months ago at Atlantic City, N. J., where Mr. Carnegie had gone to take part in the conferences at which differences between Mr. Frick and Mr. Carnegie, that at one time threatened to result in a mighty legal battle, were amicably settled, may be related. While Mr. Carnegie was sojourning at the Hotel Brighton he was, naturally, the most observed guest in the hotel. He was also more in demand than any person in the house. Reporters and other individuals filled the corridors during his stay and the hotel clerks were almost driven to distraction by the innumerable "requests" to see Mr. Carnegie. Mr. Carnegie is without formality in speech or action. While at the hotel he engaged the telegraph operator, Stanislaus Miller, in conversation. "Let me have a pen," he said, and taking up two or three telegraph blanks he began to write. The operator thought he was writing messages to be sent, but he was astonished when the telegrams were handed him to find that Mr. Carnegie had copied messages coming over the wire. Noticing his surprise, Mr. Carnegie said:

"Oh, that was formerly my employment; I was just trying my hand to see if I was in trim. That's good copy, is it not?"

The operator said that it would pass muster, and added that he thought if Mr. Carnegie ever had to start life over again he could earn a living at the business.

Mr. Carnegie smiled good naturedly and said he thought so, too. Just then the operator was called over the wire, there being several messages for guests in the hotel. Mr. Carnegie took receiving blanks and he "took" the messages as they came in, doing the work rapidly and well.

An Apt Catch Line.

When manuscripts are sent to the composing room by the editors in newspaper offices, a catch-line is placed at the top of each sheet for purposes of identity, that is, on a subway article, "subway;" on a political article "Roosevelt" or "Depew," as the case may be. In one office the other day the word "gas" was written at the top of an item dealing with the latest expense to householders in the evolution of the gas monopoly. "That reminds me," remarked a copy reader, "of my days on the telegraph editor's desk. The telegraph operator had the habit of finding out from the other end of the line how long a certain dispatch was going to be, and he would put the number of words at the top of the first page. I came to think sometimes, when I saw a catchline at the top, '3,500 words,' that it was the aptest characterization anybody could invent for the matter which followed."

Subscribe for TELEGRAPH AGE, \$1.50 per year.

Selections from the Mail.

Mr. S. J. Bloodworth, an old-time telegrapher, and now associated with the Cuba Company, builders of a railroad on the island of that name, in a recent letter, dated at Ciego de Avila, writes as follows:

I dare say there are to-day as proficient operators in service as there were twenty years ago, but the typewriting machine has made it possible to hide many faults—if not sins.

I do not mean to imply that the standard of efficiency has changed or deteriorated, but returning after an absence of fifteen years to the telegraphic field, I think I have discovered that there is a want of that pride of correctness in transmission (sending) that was so visibly patent with the old-time operator. There is no excuse with other than paralytics to make a six spot for the "P;" nor an indefinite number of spots for the figures six and eight. It is an expression of inaptitude, want of application, and consequently, from the practical point of view, want of ability. Such operators were intended for other vocations.

There is one characteristic, however, that clings like an hereditary affliction to the operator. With all his good intentions to subscribe "next pay day" for a paper devoted to his interests, he continues to read his neighbor's copy, and sometimes without malice or forethought "swipes it!" Latterly (and I must confess it) I have been guilty on the first charge, and can find no defense or extenuating fact therefor. The facility with which I could find a TELEGRAPH AGE "laving around" developed in me that old malady of letting others pay for my reading matter. But fortunately it requires no knowledge of therapeutics to eradicate the malady, it being a disease that is tractable and quickly amenable to a small dose of thought tinctured with honesty. From a publishers' standpoint, as well as a subscribers,' it is dishonest for a person to continuously depend upon another's paper for information. You will, therefore, please find the amount of my subscription herewith enclosed.

I am pleased to see the great improvement you have made in TELEGRAPH AGE since the eighties. Apart from the general information it gives of whatever affects the social side of the fraternity, the technical and mechanical knowledge of applied electricity so lucidly analyzed and illustrated therein makes it a necessity to every one connected with the telegraph or other kindred pursuits.

The American District Telegraph Company, recently incorporated at Spokane, Wash., with a capital of \$100,000, and empowered to do business in the States of Washington and Oregon, is rapidly extending its service within those States. The officers, all well-known Western Union men, are as follows: H. D. Bennett, of Columbus, O., president; I. McMichael and J. Levin, both of Minneapolis, Minn., vice-president and treasurer, respectively. The manager of the company is A. D. Campbell, who is also the local manager of the Western Union Telegraph Company at Spokane.

The Telegraph Office.

The innumerable tiny drops of water, intermingling, create an irresistible power, as their united forces form an imposing river.

The everlasting clicking of the many instruments in a telegraph office, each contributing its own gentle musical tick, to the general combine, appears to the uninitiated as they step from the busy street into the office like unto the roaring of a coming tornado, and their great amazement is the fact, that anything intelligible can be distinguished in such a bedlam. The different "knights of the key," as they sit quietly in their designated places appear to be in a state of absolute equanimity in the horrid din, as they gracefully turn off message upon message, each containing matters of importance to those for whom they are intended; aye a lifetime of misery for many, in the few words indited. Some dear treasure of a household gone forever. A cloud of gloom overspreads a happy family, at the unexpected announcement of the sudden demise of one of its absent members. The operator himself, although accustomed to the reception of great numbers of such heart-rending communications, often feels a pang of sorrow when he knows of the misery the few simple words will occasion, and can but wish that some other hand than his might copy the misery contained in the relentless tale of the remorseless clicker. However, the tales of the telegraph are not all of a sad nature. Many hearts are made glad by joyful news. By its wings of lightning they know that all are well at home. Many, wallowing in the slough of despondency, with a pauper's doom staring them in the face, almost rendering a meditation of suicide, have suddenly been elevated to the highest pinnacle of exuberant joyfulness, at the reception of glad intelligence contained in a few short words flashed over the wire. Being myself a veteran, having grown gray in the service, I often indulge in a retrospective view and meditate upon the happiness and woe which I, as a medium, have been instrumental in causing, and as particular messages flit through my mind I can but reflect that I have filled an humble niche in the world's events. I being only one of the many thousands engaged in the occupation, what a myriad of volumes filled with weal and woe have the fraternity in the aggregate written.

A large telegraph office is interesting even to the one who may have spent the most of his life in it. Each day is a book of itself, finished and delivered to the world of patrons. Each operator has his own wire to attend to and while paying attention to that is perfectly oblivious to the clickings of other instruments.

While the chief is busy testing wires and troubled by the sonorous cries of the different operators to answer "no" on the other side, or "Dallas wants to double up," and "Galveston says pass New Orleans," the imperturbable manipulator of the key sits with a look of contentment upon his face, such, perhaps, as the Lymners gave the beloved disciples, rushing some "ham" at the other end, or perhaps getting rushed himself. It's all the same to him, as he claims the key was made to brake with.

Perhaps in a few moments this serene look will

have disappeared, when the manager, who is the boss in all matters, calls his attention to a "bulled" message, and intimates that such work cannot be tolerated and must not occur again. This little episode makes the operator unusually careful for a little while, but he soon regains his serenity and appears as innocent as an unshorn lamb.

The operator generally feels solicitous when the manager sits poring over piles of back date business, for he has an idea that something may be wrong, and might come his way. Especially is this the case with young and "flip" operators, who experience such ecstatic delight in rushing everybody regardless of the correctness of the matter being turned out. The staid old manipulator, whom many winters have rendered hoary headed, having gotten accustomed to such affairs long since, isn't much troubled, for he is aware that he has been as careful as possible, and if there is a "bull" he may wiggle out of it and place it upon the shoulders of the "ham" at the other end. The messenger boys, hurrying and scurrying around, are about the only animated beings to be seen, and although so lithe and active within the confines of the office seem to lose all their energy after reaching the sidewalk with a long list of "pink" telegrams. To the operator the hour at 5 P. M. is the most welcome of the twenty-four, for his nine hours of constant work, without intermission, are over and he is much rejoiced to witness the night force coming in on time to relieve him.

The night man (so says an old Methuselah, who persists in calling himself the kid of the Houston force) has an utter abhorrence of the hour of 5 P. M., for he knows there is a roast (as the telegrapher styles hard work) ahead of him, away into the wee sma' hours of the night.

All in all, the telegrapher works hard and his hours of labors are not too long when he is not called upon to do extra work. This extra work is an abomination to the old timer, who did enough of it in his younger days to dim his eyes all too soon.

It is to be hoped that in "the sweet by and by," when we cross the river the old timers will have an everlasting convention and salute each other with their hearty "73."

OLD TIMER IN THE HOUSTON POST.

WHY DO THEY DO SUCH THINGS?—An observant European correspondent writes to the Electrical World and Engineer: "One afternoon about a fortnight ago a shower came down in Berlin, and although there was not the slightest indication of lightning or thunder the whole telephone service of Berlin was suspended for several hours. It was the most ridiculous piece of officialism that I ever heard of. It seems that the minute a drop of rain falls they shut up the telephone exchanges and all hands go for beer. They don't do it anywhere except under the administration of the Reichpost, there being no such nonsense in Bavaria or Wurtemberg."

A Telegraph Yarn.

A veteran telegrapher in Washington, D. C., gave a Washington Times reporter a good story recently; it is one without a moral, but will bear repeating notwithstanding. He said:

"The field of telegraphy was more inviting twenty-five years ago than it is to-day. I started in the business when I was ten years old, and made more money than many superintendents of branch offices do now. I remember that when I was in Woonsocket, at the age of eleven, I made more than the combined salaries of the mayor and chief of police. My salary was \$75 a month, and during the three weeks the country was in doubt concerning the Hayes-Tilden election I more than trebled the amount. I was working for the old Franklin Telegraph Company. It was the New England division of the Atlantic and Pacific Company. The Western Union used to be allowed to send certain messages over our wires, and the operators got extra pay for handling their work.

"After a while I was sent to Providence, R. I., and as I was fair at receiving and was a fast and legible writer for a youngster, I was soon detailed on newspaper work. The two rival papers in the town were the Star and the Journal. It was before the day of the great press associations, although the business of getting news over the wire was gradually becoming systematized. The Journal got its report over the Western Union, and the Star patronized the Franklin Telegraph Company. Competition between the two papers was very keen, for even in those days the readers appreciated the value of exclusive news.

"I soon got into the stride and caught the fever. It hurt me just as badly to see the Star beaten as it did the managing editor, and I crowed just as loudly over a scoop as a cub reporter. The facilities for gathering the news were about equal, and about the only disadvantage we labored under was the loss of wires on account of a storm. That was where the Western Union had us. Their line ran alongside of the railroads, and if the wires were down they could send their men out on trains and hand cars and make repairs in short order. The Franklin ran along the New England turnpikes and the linemen had to drive in buggies and put up the wires. We could only cover about thirty miles a day, where the opposition could get over a hundred. In case of a sleet along the coast, the operators would have to leave their instruments and go out on the line to assist in the repairs. Luckily for us, such things did not happen more than two or three times a year.

"One summer afternoon in 1877 a brief but destructive storm swept over New England. As a result, the wires of both companies were down. All the men in our office except three, including myself, went out to help in the repairs. I was left in the hope that we might establish communications so that the Star could get at least a portion of the news of the day. I went home to supper and came back and waited for developments. The wire was absolutely dead, and I could not arouse the nearest operator. A messenger came over from the Star building, telling me that they would try to get

along if we could only give them a story on the storm. That was, of course, the news of the day. It was before the time of the up-to-date signal service now maintained by the weather bureau, and the masters of the ships depended on the papers for storm signals and prophecies concerning the weather.

"Along about ten o'clock I stepped out of the office on the street. It was absolutely quiet. It was that sultry stillness that follows a summer storm. To appreciate the utter silence that reigns over a New England town it is only necessary to remember that when the nine o'clock bells ring everybody goes home and goes to bed—or at least they did in those days. The only sound that broke the deep stillness was the clicking of a telegraph instrument up in the third floor of the Western Union building. They had picked up their New York wire and were receiving news for the Journal.

"The Franklin Telegraph Company's offices were located in a triangular building, situated at the intersection of two of the main streets. The Western Union building was across the street, still further separated by the wide plot caused by the intersection of the two streets. The instrument was fully 150 feet away, and up in the top of the building, but I heard it distinctly. They had evidently been sending for some time for they were then giving the last of the markets.

"I made up my mind that I would at least take their report of the storm, which I was pretty certain would come in early. I went back up to the office and got a pad of writing paper. I told the messenger boy in the office to come down and let me know at any time a wire was found. I also told him to come to me every half hour and get copy. I then went down on the sidewalk and sat in a chair at the side of our building where the light from two windows shone brightly. I got there just as the report of the storm was starting. I could hear the instrument as plainly as if I had been right in the room with it. The leverage of the sounder had been increased so that I could 'read' every word with the greatest ease.

"The two papers got about a 7,000 word telegraphic report, and it did not come so fast that it could not be taken down without difficulty in long hand. I caught the storm story without any trouble. It was a good one, and I was as pleased as could be that my paper would not get left on it. The messenger boy came down and took the copy up to the Star every half hour. He was not an operator, and did not have the slightest idea what I was doing sitting out there on the sidewalk writing. If he had any thought at all, it must have been that I was faking telegrams. But he was a discreet youth, about nine years old, and he said nothing.

"When I got through with the storm story, everything was coming along so easily that I thought I would take the rest of the report. We had not got any wire as yet, and the fun of the thing struck me so that I decided to go on with the news pilfering. Strange to relate, not a single vehicle rolled along the pavement, and I did not have a break in my story. Several pedestrians passed

by, but the spectacle of a boy sitting in a chair on the sidewalk was not sufficiently remarkable to attract unusual attention. If they had understood the code, things might have been different. I kept the things up without interruption from any one, and stayed out until 'thirty' came over the wire, about a quarter past two. I had written about 4,500 words, a little more than half the report, and certainly the cream of the news.

"I said nothing as to where I had been when I went back to the office. Nothing was doing on our line that night, and in fact we did not get a working wire until nine the next morning. I went home patting myself on the back on the little scheme I had engineered. I did not know enough about the newspaper business to realize that there would be all kinds of explanations to make.

"When I got down to the office late that day, I was told to step into the office of the manager. He looked me over with a show of exceeding sternness. Somehow or other I had expected a different reception.

"I see that you were not satisfied with loafing last night,' he said.

"I looked sheepish and said nothing. He then showed me two letters. The first was from the managing editor of the Journal to the managing editor of the Star, and it ran about as follows:

"I see that your report of yesterday's telegraphic news in your issue of this morning is a verbatim copy of that which appears in our paper. I learn that you had no wires working. Please explain this.'

"The other letter was from the managing editor of the Star to the manager of our office. He merely enclosed the other letter, and asked for an explanation.

"Well, what have you got to say?' asked my superior.

"I saw that the whole thing was up to me, and I resolved to make a clean breast of it. I told the whole story, and he listened without a word.

"A bad mess,' he said, when I had concluded my narrative. 'Didn't you know that the similarity of the two reports would be noticed at once?'

"I confessed that I hadn't thought of that. Then I made a bold attempt at justification.

"I don't think I did anything wrong,' I said. 'It would be different if I had tapped their wire and cut in on their report. But I got it out of the air. It was any one's property. It was as free as the atmosphere. I couldn't help hearing it.'

"That is true enough,' said the manager, 'but it doesn't help our explanation.'

"There is no need of an explanation,' I blurted out. 'No one knows anything about it but you and I. We can just stand pat, and let them find the leak if they can. We have done nothing illegal in taking their report. They had no business to leave the window open and key up the sounder to so loud a tone.'

"I guess you're right after all. We will make an explanation to the Star, and we can trust them to keep the thing quiet. Go over there and tell the managing editor the whole story.'

"I went over to the Star office and told my story. The managing editor laughed at my greenness in overlooking the fact that the similarity of the two reports would be noticed, but he took my suggestion and wrote the Journal to the following effect:

"In replying to your inquiry as to how we got this morning's telegraphic report, I beg leave to state that we received it from the Franklin Telegraph Company. If you desire any further information you may appeal to them.'

Telegraph in the Yukon.

The Dominion Government is building a telegraph line from Fort Simpson, at the south entrance from Portland canal, which separates British Columbia from Alaska, inland 180 miles to Hazelton, where it joins the Dawson-Ashcroft line. J. B. Charleson, superintendent of the northern telegraph construction, reported, May 12, that 90 miles of the line had been constructed, and that the whole work would be completed by July 15. The small gap in the Dawson-Ashcroft line, on the Atlin-Ashcroft section of the line, will be completed about the same time. When these portions of line are completed there will be in operation an all Canadian telegraph route from Ashcroft, B. C., to Dawson, with a branch of 180 miles to the coast at Fort Simpson. The length of the different sections of the main line, as stated by the minister of public works in the House of Commons, May 29, will be: Ashcroft to Atlin, about 1,250 miles; Atlin to Tagish, 75 miles; Tagish to Dawson, 518 miles; total, 1,843 miles.

Speaking of the revenue of the lines completed up to Dec. 31, 1900, the Minister of Public Works said 41,816 messages had been sent, and the revenue amounted to \$107,712. The average number of messages per month was 2,681 and the monthly revenue was \$7,302.87. He added that the cost of the line so far had been \$430,000, while the total estimated cost was \$460,000.

Betting Scandal in England.

A great betting scandal has been discovered recently in the Government telegraph department. The operators in the central office in London have been in league with others in suburban and provincial offices for swindling bookmakers. The methods adopted have been ingenious, elaborate and successful and included a resort to forgery. About a score of men have been suspended, preliminary to their dismissal and an exhaustive inquiry is now proceeding with a view to ascertaining the exact extent of the evil. The present intention is to institute criminal proceedings against the ringleaders.

The Postal Telegraph-Cable Company is making rapid progress in stringing its wires over the Pacific Northwest section. A line from Denver, Col., to Salt Lake City, Utah, and to Spokane, Wash., is in course of construction, the first portion being nearly completed. A line between Spokane and Portland, Ore., will be finished by next winter.

LETTERS FROM OUR AGENTS.

To Our Correspondents.

While we are desirous to receive from our agents letters for publication respecting their various offices and of their personnel, for all efforts of this character are appreciated, we would earnestly request that such communications be confined strictly within the limits of the subject, and not so much space be devoted to hunting and fishing items and other extraneous matter, as is frequently the case. We wish to make the department of "Letters from our Agents" an attractive one, but if we were to publish all that comes to us in the shape of irrelevant matter, of no possible interest to the general reader, it would frequently require us to surrender a number of additional pages to contain it all. The current information of any office will, if carefully chronicled, furnish a welcome digest of news that will be read with pleasure and satisfaction by thousands, and this limit should be the legitimate contents of all letters. And we wish that our correspondents would avoid the too frequent habit, at all times a bad one, of abbreviating words in writing. This is a peculiarity among telegraphers, we know, but what may be plain to the writer, and for local interpretation, is usually a mystery to the editor, and is apt to lead to error in the printed statement.

SPRINGFIELD, MO., WESTERN UNION.

This is the fourth largest office in Missouri and does an immense relay business for Indian Territory, Arkansas and Missouri points, handling the fruit messages from northern Arkansas. We have never seen anything lately about our office in THE AGE, which we read with much interest. The personnel of this office is as follows: E. A. Rippey, manager; chief operator, L. E. Hedge; night chief, G. R. Alger; operators, S. A. Mulroy, Geo. H. Bagot, Will Martyn, Phil T. Martyn, L. A. Garrett, C. B. Dubbs, R. A. Hawk, Geo. Schmidt, A. L. Goodwillie, O. C. Cook and J. Trent; clerk, Miss Nona Dwyer, besides a number of blue coats. Mr. Rippey has just recently been appointed to the position of manager and is the most efficient official manager Springfield ever had.

KANSAS CITY, MO., POSTAL.

Manager Will Emerson, of the Lamar, Col., office visited us lately.

Manager Roy Fike, of Peabody, Kas., is spending a vacation in California.

Business is good here and the extra men are making full time.

On the St. Louis and the Chicago bonus wires, Messrs. Summers, Edwards, Tobin and McConaha are doing good work, averaging between 800 and 900 messages per day each wire.

Mr. Ernest Kaapcke has been assigned to the early morning trick.

Mr. P. W. Kenefick, formerly of the Postal, Chicago, is working a night trick.

Mr. Paul Joyner, late of Atlanta, Ga., has been placed on the regular force.

Mr. Young is spending a vacation in Kansas.

Night Chief Falk was confined to his home by sickness several days recently. Mr. Thornton, formerly of the Postal here, is now with Swift & Co., this city. A swimming club is the latest out. Chief Operator Rommell and some of the boys on every Monday night hie themselves to Fairmount Park for a dip in the lake.

INDIANAPOLIS, IND., WESTERN UNION.

The Western Union Baseball Club made a visit to Cincinnati June 23, played the Cincinnati boys, losing the game by a score of 9 to 13.

Cincinnati boys have accepted a challenge to play here July 21. Manager Kurz is very busy arranging for the occasion. Neither time nor expense will be spared to make the visit an enjoyable one.

Those who attended the Cincinnati game report having been treated royally.

Mr. James M. Sanders, for many years connected with the clock department in this district, with headquarters in this city, left with his family for El Paso, Tex., where he has a position awaiting him. Mr. Sanders is a bright young man, and we shall be disappointed if he is not heard from in his new field of labor.

The burning of the West Baden hotel necessitated the sending of an additional force of telegraphers there. Arthur Hamilton went from this office and during the week spent there reports having had plenty to do.

H. W. Thorpe, of Kokomo, has been assigned to a regular position in this office.

Traffic Chief J. W. Price was on sick list for a day or so, but we are pleased to say he is again on duty.

ST. JOSEPH, MO., WESTERN UNION.

This is the fourteenth year for Manager Rodney Smith and Chief Operator G. W. Hale in this office. A heavy city business is done here on account of the packing houses and the stock yards business, which is increasing rapidly.

The rest of the force is made up as follows: W. H. Heyser, night chief; Mrs. Nolia B. Mullen, on Chicago; Ross G. Wheaton, Kansas City; Joseph Chrissinger, Omaha; T. J. Mullen, Arthur L. Stock and Leo Busse, way wires. D. C. Thompson; cashier; Miss Anna A. Fleming, stenographer; L. H. Gramer, Ivan Wood and Wilber Best, clerks.

Mr. Albert Lamora is the manager, and Mr. Otho K. Morrison, operator, at the stock yards.

Messrs. E. Kendricks and R. L. Mallott are at the Hammond Packing Company; Mrs. Mary Heyser, at Hotel Metropole; Messrs. G. G. Bowers and H. T. Reneau, at Nelson, Morris & Co. Packing Company; Mr. Robert Grief, at the Swift & Co. packing house, and Messrs. Geo. H. Imbrie, A. J. Eroderick and Wm. T. Young, The Associated Press.

PHILADELPHIA, PA., POSTAL.

The intense heat, through which we have just passed was almost unbearable, and, that no one was carried out of the place overcome was next to a miracle. As it was, almost everybody without exception abandoned all ideas of appearing in a "dressed up" condition and discarded every piece

1901 ANNOUNCEMENT.

FOR MORE THAN EIGHTEEN YEARS TELEGRAPH AGE has represented the great telegraphic interests of this country. During this long period, so eventful in the history and development of telegraphy, this paper has endeavored faithfully to advance the welfare of every individual connected with the telegraph. How well this has been appreciated is attested by the fact that thousands of names are still on its books of those who, having drifted into other callings, never have forgotten their former telegraphic experience, or ceased to cherish the friendships and associations then formed. For telegraphers are clannish, loyal to each other, and, we are pleased to say, eminently so to their single representative paper, and which, let it be said, has ever sought to be loyal to them.

THE DEPARTMENT OF CORRESPONDENCE, so long finding expression in the familiar and chatty pages by which members of the fraternity in all parts of the country are kept constantly and pleasantly informed of all changes and transfers, business and social events, marriages and deaths, occurring within their ranks, has proved to be of abiding interest to thousands everywhere.

THE TECHNICAL ARTICLES, highly instructive in character and conveying practical and much-needed information on every phase of modern telegraphy, have won high commendation because of their intelligence and the broad scope of the subjects brought under discussion. **THEY HAVE BEEN INVALUABLE TO THE ACTIVE OPERATOR AS A PRACTICAL AID IN HIS DAILY EMPLOYMENT.** The series of articles now being contributed by Willis H. Jones, to which attention is especially requested, are alone worth more than the subscription price of the paper. Mr. Jones is a prominent New York wire chief operator. His articles explain, in simple and easily understood language, the duplex, the quadruplex (how to install and balance them), batteries, dynamo machinery, the condenser, galvanometer and electrical testing, switchboard testing, repeaters of all kinds, etc. All sorts of possible combinations that the telegrapher is asked to solve are given painstaking and careful attention.

THE GENERAL SUBJECT OF TELEGRAPHY in its many aspects, its progress and development, in this and other countries, has been so treated as to present a vast fund of information. The bound volumes of TELEGRAPH AGE have come to be regarded as works of reference. They will increase in value as time goes by.

THE PROGRESSIVE CHARACTER of the paper itself is generally recognized, and its influence and high standing in all telegraphic and allied electrical circles is freely acknowledged.

CONDUCTED BY EXPERT TELEGRAPHERS, graduates themselves from the key, their training and sympathies put them in close touch with the conditions and needs of the craft still engaged in receiving and sending the dots and dashes.

THE SUBSTANTIAL ENCOURAGEMENT received in the past has already given TELEGRAPH AGE a wide circulation. And this has steadily grown. Yet the field is constantly expanding. Considering the variety, extent and character of the important matter the paper is now offering in all of its departments, so thoroughly meeting the requirements of up-to-date telegraphic information, technical and general, this journal should be an indispensable factor, not only in every telegraph office in the United States, Canada and Mexico, including those of the railroad, the police-telegraph and fire-alarm systems, but to every individual telegrapher as well. To the up-building of this larger circulation, the accomplishment of which means as much to the subscribers as to the publisher, because affording the guarantee of a still further improved paper, we ask the active co-operation of our friends everywhere.

TELEGRAPH AGE has always sought to exert a helpful influence to the fraternity collectively, and to the telegrapher as an individual. Now in turn, when it has mapped out for its future a larger, fuller and a more broadly comprehensive course, still ever keeping in view the advancement of the telegraphers' best interests, it appeals to its friends, to the members of the craft everywhere, to render the aid which they alone can give to make this subscription effort supremely successful.

THE PERSONAL CONSIDERATION OF TELEGRAPHERS is earnestly called to this statement, and their subscription and those of their office associates are solicited. Will the reader kindly call attention to this matter? A sample copy will be sent free to any address on application.

Address, remitting by express or post-office money order, draft or check,

J. B. TALTAVALL,

THE TELEGRAPH AGE,

253 BROADWAY, - NEW YORK, U. S. A.

of attire not absolutely necessary, in order to insure the greatest degree of comfort attainable. The great blower fan was started none too soon, and the next very acceptable addition to the office furniture was the new fan installed in the city department, where the heat is always the greatest.

The arrivals and departures of late have been very many, so many in fact, that it has been quite a task to keep up with them.

We were glad, however, to note the return of our friend, Horace Holtzinger, who had been touring the West and Southwest in search of recreation and health. He is considerably improved, but the prospect of a busy summer in a hot office is none too inviting for him.

Mr. Chas. T. Koch, another long absentee, due to sickness, has also returned.

Mr. William H. Duckett is again a member of the "extras."

After working very hard on the first New York bonus wire, Mr. Owen has resigned, and Mr. Frank Holloway, of the first Chicago wire, appointed to succeed him.

Atlantic City seems to be holding out great attractions, so much so that a resignation was handed in by one of our men who went there willing to take chances of securing employment.

Miss Jennie Melville of the city department is very much missed, and the prospects are that she is likely to be away for a long season. Her many friends in the office will be pleased when she is able to return to her duties.

SAVANNAH, GA., WESTERN UNION.

Business is fairly booming at this point, the new office is a certainty and Manager L. J. Maxwell and his force are happy in contemplation thereof. The improvements will be made under the direction of Col. J. E. Fenn, electrician of the Southern division.

The force here, in addition to Manager Maxwell, consists of chief operators: Messrs. J. Marshall and Rivers; operators, Messrs. L. M. Walker, T. H. Drakeford, J. A. Hays, Hancock, Isaac White, Casey, W. O. Hampton, Ledlie, H. W. Link, Nance, and Harry Zeigler; clerical department, Mr. Galvin, chief; Mrs. M. Smith, Miss Stella Pacetti and Messrs. Rivers, Peacock, Haygood and Kelly, clerks.

Messrs. Curry, Harry McEwen and Lucas are at the Cotton Exchange for the summer.

Messrs. C. C. Brown and H. E. Stokes are now at the Western Union office, 195 Broadway, New York.

LAKE CHARLES, LA., POSTAL.

Mr. A. O. Boudreaux, manager of the Postal Telegraph-Cable Company, has just returned from a week's vacation. He looks much improved after a few days fishing and woodland exercises.

Miss Gussie Olsen, who has been operator for the last two years, left on the 6th for Little Rock and Hot Springs, Ark. This is her first vacation since being admitted to telegraphic circles.

Mr. George Elms has been appointed manager at Sulphur, La.

Mrs. M. E. Jones, of Sulphur, has been transferred to Jennings, La., and Mr. W. H. Reese, of Jennings, to Crowley.

Mrs. M. S. Reynold, who has been manager at Crowley for the last three years, has resigned.

The oil excitement has caused an increase of business to some extent and also increased the forces along the line.

Mr. Geo. Boudroc has been added to the messenger force.

Mr. S. Cropper is now in charge at Welsh, La.

Mrs. W. A. Owens, wife of Mr. Owens, manager of the Western Union Telegraph Company here, is spending a few days in Mississippi with relatives.

BEAUMONT, TEX., WESTERN UNION.

Departures: J. W. Oberfell, for New Orleans; Samuel Guess, for Galveston; Messrs. Haynes and Mercer, for Shreveport, and Waddell, for Houston.

Mr. John L. Henning, our popular night chief, returned from Sour Lake, where he went in the interest of the Henning Oil Co. There are others in the Beaumont office who will soon bring in gushers. Our chief operator is heavily interested as owner of large bodies of oil land. We all wish them success. Our American District Telegraph force is up to date. All messengers have wheels, and the boys are all competing for the bonus offered by Manager Tompkins, \$5 for the boy who makes the most runs, and \$3 for the second best average. This inducement has caused a scramble among the boys for first place.

The average words of specials sent out daily is 13,000 words, while the receipts are equal to those of any city in the State.

The Western Union Telegraph Company has just erected two of the highest telegraph poles in the United States, and so far as known they are the highest in the world. The poles stand on the opposite sides of the Neches river, in this city, and each is one hundred and fifty feet high. The height of the usual telegraph pole is forty-five feet, but these are designed to carry wires above the masts of all vessels.

Yes, there has been a boom here, and great ex-

How's This?

We offer One Hundred Dollars Reward for any case of Catarrh that cannot be cured by Hall's Catarrh Cure.

F. J. CHENEY & CO., Props., Toledo, O.

We, the undersigned, have known F. J. Cheney for the last 15 years, and believe him perfectly honorable in all business transactions and financially able to carry out any obligations made by his firm.

WEST & TRUAX, Wholesale Druggists, Toledo, O.
WALDING, KINNAN & MARVIN, Wholesale Druggists, Toledo, O.

Hall's Catarrh Cure is taken internally, acting directly upon the blood and mucous surfaces of the system. Price 75c. per bottle. Sold by all Druggists. Testimonials free.

Hall's Family Pills are the best.

citement, but it has calmed down. There has been unwonted and intense interest in the development of the oil fields near this city. That has not abated. The crowds of men one encounters here—and they are to be found on every street corner—are earnest, serious, business like, conversing in animated tones. New comers are eager for information, while those already on the ground are eager to give it. Up and down the avenues pass the hacks, carrying parties to the oil fields to view the wells. The oil people are too busy now boring for oil or making shipments in response to orders, foreign and domestic, to “turn on a gusher” simply to gratify the curiosity of the crowd. Everything is being put upon a sound business basis.

At the wells one of the most interesting sights is that of the boilers generating steam by employing for fuel the oil already obtained.

Only a small tank holding a few barrels is needed for the purpose, and it is fed directly to the furnace. The number of storage tanks already constructed gives the field a business like appearance, and when the derricks already erected, of which there are nearly 300, are in full operation, with men and machinery, the result may be predicted as being beyond all present conception. This is a truly conservative view of the facts, and is thoroughly reliable.

The twelve wells already in are the result of patience and hard work; not, it is confidently believed, of luck or of specially fortunate location. There is no possible reason why, from all present indications, there may not be as many wells successfully opened up in the Beaumont field as have been found in the California, Russian or Pennsylvania fields.

TOPEKA, KAN., NOTES.

The Associated Press operators at this point are Messrs. W. W. Carr, days; George Hart, nights.

The Chicago, Rock Island and Pacific Railway operators are Messrs. Charles Anderson, C. A. Wallace and Theodore Finley.

ST. LOUIS, MO., WESTERN UNION.

Among the latest arrivals are Mr. Moses Frankel, who returned from Fort Scott, Kas., after an absence of one year, and Mr. John Canavan from the St. Louis Postal, formerly of this office. Mr. Canavan resigned about a year ago on account of poor health. After several months spent in recuperation he went to work with the Postal, but finally returned to this office.

Miss Ella Sack, a sister of Miss Bertha Sack, of the wheatstone department, and Mr. Edward Grot-peter, of this city, were married June 19.

Mr. Arthur Jackson has the profound sympathy of his many friends in the loss of his 16 year old sister, Miss Ellen Louise Jackson, who died June 17. A very pretty floral offering was sent from this office on the occasion of the funeral.

Mr. William J. Score and Miss Josie Jacobus were married June 20.

Mr. E. J. Williams was called to South Carolina the early part of June on account of the death of his brother.

Mr. M. M. O'Neill had a finger on his left hand broken during the early part of June while attempting to board a street car. His accident laid him up several weeks.

Mr. George J. Goehringer, who works at the race track office in the afternoon, has been detailed to assist Mr. Frank Spencer, chief of the way department, in the forenoon.

Mr. Klem Madden is having a great deal of trouble with his arms and fingers on account of rheumatism, being unable to work more than half time. Mr. Madden does a great deal of “subbing” for brokers around town.

DENVER, COL., WESTERN UNION.

Mr. Harry Thomas has returned from Las Vegas, N. M., where he relieved Manager Birdsall a few weeks. Mr. Jeremiah Hogan spent several days looking over his mining interest in Cripple Creek district.

Mr. Johans left for Portland June 1.

Messrs. H. E. Madison and G. O. Henning have resigned to accept service with other companies.

Miss Carrie Smith spent a vacation of four weeks at Glenwood Springs, Col., where she enjoyed the delightful baths.

Mr. Geo. Allen of The Associated Press is visiting his parents at Cripple Creek, Col.

Arrivals—Warren Wootton, of the Postal, St. Louis, Mo.; J. W. Hogan, Postal, Denver; Mr. Carswell, of Hutchinson, Kan.; Mr. Estes, of Cheyenne, Wyo.

Mr. J. W. Gargan is handling the baseball wire at the Collender pool room.

Mr. Wm. S. Pitts, of the telegraph staff of the Daily News, was married June 1 to Miss Agnes Loughran. The groom's friends at this office presented the couple with a handsome bedroom suite.

Mr. Fred Wessel is holding down the leased wire at the News office during Wm. Pitts' absence on his wedding tour.

Mr. T. A. Gargan, former manager at Ouray, Col., has been appointed manager at Albuquerque, N. M., vice Mr. G. F. Touhy, who returns to Denver for the Western Union Telegraph Co.

ST. JOSEPH, MO., POSTAL.

Mr. W. G. Brinson, manager of the Postal for the past ten years, has a model office and does a thriving business, with his brother, F. M. Brinson, as cashier and operator; Miss Pearl Smith, book-keeper, and Paul L. Weber, night manager.

Henry P. Shea is at the stock yards office; C. L. Forcy, at the Hammond Packing Co. Mr. Edward Rugger is the pioneer lineman.

PHILADELPHIA, PA., WESTERN UNION.

Mr. B. M. Langstroth has resigned, to accept a more lucrative position with a private firm.

Mr. H. W. Sharp, of the Evening Telegraph office, had the misfortune to step upon a needle which penetrated his foot to such an extent that the X-rays had to be used to determine its location. It was safely removed, and the injured member is now doing well.

Miss Clara Grimley was overcome by the recent heat while on a visit to the country. She is recovering, and expects to return to duty shortly.

Miss Katharine Bullen was another heat victim who has just recently returned to duty.

Apropos to the recent hot spell and the heavy volume of business, everybody deserves praise for their faithfulness and patience through the trying ordeal. The operating department, by the way, wish to express their thanks to the officials for their thoughtfulness in erecting four large electric fans, which help greatly to make life more bearable when the weather is hot.

Mr. F. R. Rose is the happy and proud father of a son.

With the summer rush, which is unusually heavy, many new faces are seen in the operating department.

Mrs. Schofield and Miss Heileman are located with Manager Meloney at Atlantic City for the summer, and doing excellent work.

KANSAS CITY, MO., WESTERN UNION.

Our chief operator, Mr. G. W. Brownson, is making an extended eastern trip, and among other points of interest will devote several days to sightseeing at the Pan-American Exposition, Buffalo. His position is being very ably filled during his absence by Mr. S. W. Atkinson. Miss Lulu Lentz has also taken a month off for pleasure and rest.

Mr. H. D. Roach was called to Macon, Mo., on account of the death of his mother, which occurred June 30. Our most profound sympathies are with him.

Mr. James W. Fie, of this office, who went to Las Vegas, N. M., some months ago on account of failing health, died July 8, only a few days after his return home. He began as a check boy about five years ago, and by his kind and gentlemanly manner won the respect and friendship of all with whom he was associated, as was evidenced by the liberal floral contributions which accompanied his remains to their last resting place.

CHICAGO, ILL., WESTERN UNION.

James P. Jamieson died after a brief illness on June 24. He leaves a wife and young child. Mr. Jamieson, who was a native of Hamilton, Canada, had a pleasing personality and was highly esteemed in this office.

Mr. John Wagner is very ill with his old complaint—stomach trouble.

Mr. Edward Wood, of the Jacksonville local, returned after a vacation of two weeks, looking much benefited.

Mrs. Ida Palmer is also back from a vacation trip of two weeks, passed at Spring Valley and at LaSalle, Ill., where she has friends.

The large division of Illinois, Wisconsin and Iowa wires (Otto Enking, division chief) has been divided, the Iowa wires being transferred to Benjamin McKee's division, thus evening up the divisions and relieving the congestion.

The Misses Alice and Eva O'Brien, of Sioux City, Ia., en route for Dayton, Ohio, called here recently.

Mr. Jerry Book and Miss Nellie Fisk were recently married at Waukegan, Ill. Of course they have the well wishes of the entire force.

Through the efforts of Mr. McKee "Old Glory" adorned the space over the loop switchboard on the 4th.

Business is wonderfully brisk, and some say it never has been so heavy since the days of the World's Fair.

BALTIMORE, MD., WESTERN UNION.

Among recent changes are the following: Additions to extra force—Messrs. Wm. P. Keen, J. E. McDonald and Geo. W. Sheppard, from the Postal, and Mr. Jacob G. Kohler, from the American District Telegraph Company. Departures—Mr. Galloway, to Greenville, S. C.; Spencer Kendall, to North Platte, Neb., and Louis J. Lapsley, to El Paso, Tex.

Miss Katherine Coniff has been appointed operator at Orem's Produce Depot, and Miss Bessie Lucas, of Chester, Pa., has been placed in charge of the office recently established at the Johns Hopkins Hospital.

F. T. J. McCaghey has gone to Ireland to visit relatives.

NEW YORK, POSTAL.

The boom in the summer business still continues and so far is the heaviest ever done since the Spanish-American war. June and July, usually considered very dull months here, have thus far been extremely busy, and the force has been taxed to its utmost limit to move business promptly. The late heated spell happily ended in time to prevent a large absentee list developing from its effects. Quite a number were compelled to give up for two or three days, but all are in as good shape now as can be expected.

Mr. Chas. Obst, assistant traffic chief south and west, is absent, enjoying a well earned vacation.

Mr. Edward Hodnett, of the Postal Boston Herald staff, left July 8 for a two weeks' rest in the Adirondacks. His place is being filled by Mr. Geo. McGill, of the main office force.

Miss Avis Gibney started July 6 for San Francisco, to be absent about six weeks, to look after an inheritance recently left her by a relative.

Mr. W. H. Rhodes has returned from the World newspaper to duty in the main office, Mr. W. L. Herron taking his place there.

The many friends of genial and ever good-natured "Pop" Bennett, formerly of this office, will regret to learn that he lies very ill in a hospital with no hopes of recovery.

Arrivals: Mrs. J. S. Nicols, Messrs. H. A. Dunningan, S. C. Dodd, Miss A. Simmons, Mr. G. F. Lawler, Mr. P. W. Brownell.

Resignations: Mr. Arthur Fitzsimmons and Miss L. Moon.

Mr. J. F. Skirrow, assistant manager of this office, during the recent college boat races, installed three quadruplex sets, a complete dynamo plant and a set of repeaters in the Poughkeepsie, N. Y., office within twelve hours after receiving the supplies, which is record breaking time.

NEW YORK, WESTERN UNION.

Mr. Fred O. Nourse, the general traffic chief, who has been on a two months' vacation at his Littleton, N. H., home, returned to duty July 10, having fully

recuperated his health, which has been poor for a long time.

The Phelps printing system, which has been working on the Boston circuit for nearly forty years, has been abandoned, and those in charge, Messrs. Joseph L. Edwards and Thomas P. Scully, have been assigned to the Buckingham system, T. B. Fullon to a Morse wire, and J. K. Calvert and Joseph Knittle to the Philadelphia printer.

Assistant Manager Thomas Brennan has again taken up his residence for the summer at Rockaway Beach, L. I.

During the excessive heat the men were permitted to sport themselves in shirt waists to their heart's content.

Mr. George S. Brown, formerly of this office, writes from Los Angeles, Cal., that he is in good health, except for a slight attack of bronchitis. Mrs. Cora Mauer is still in the Memorial Hospital, Brooklyn, and is slightly improved. Mr. Harry W. Sauer, it is said, continues to improve in the Catskills.

The old timer, John Desmond, of the night force, has resigned on account of poor health.

Messrs. V. A. Burnes, chief of tubes; W. E. Rath, traffic chief, eastern division, and J. F. McGuire, wire chief, southern switch, are on vacation.

The father of Mr. Harry S. Pearce, assistant traffic chief, died in San Francisco, Cal., July 5.

Mr. J. E. Hall, of the Western Union, Richmond, Va., office, on his way to the Pan-American Exposition, was a recent visitor.

Mr. George W. Brownson, chief operator of the Kansas City, Mo., Western Union office, spent an hour or two here on July 11 greeting old acquaintances whom he had not seen since 1880. He is visiting New York in company with his wife.

Appointments to regular force: Messrs. G. U. Morris, J. H. Kenney, J. F. Moran, D. Drew, J. Gibbons, L. V. Goodwill, G. W. Ivory, H. Marshak, N. C. Scars, A. T. Harrison, E. B. Johnson, J. F. O'Connor, E. A. Connelly, T. E. Dilkes, P. A. Gersbach, A. F. Murphy, E. A. McElroy, B. Pogue, J. K. Thrower, S. L. Welp, W. W. Heard, L. W. Sitzenstatter and D. A. Florie.

Appointed to waiting list: Messrs. G. B. Guthrie, E. F. McGinn, F. Deems, J. K. Munnerlyn, F. A. Ferris, R. Bunch, J. McGann, S. M. Thurston, F. E. Robinson, H. M. Horton, W. H. Egan, C. M. Robertson, J. F. E. Hopkins, J. H. Bowman, G. Matthews, F. Morris and L. D. Gaskill.

Resignations: Messrs. H. E. Gillman, A. J. Tierney, W. H. Herr, W. M. Stewart, H. B. Rogers, L. N. Mackenzie, R. M. Hall, C. E. Williams, G. B. Fisher, N. E. Popp, A. J. Booth, W. W. Scott, to Spring Lake, N. J., for the summer.

In the quadruplex department, which is one of the busiest sections in the building, Mr. Charles Thom

is chief, with the following staff of electricians: O. K. Newton, E. M. Smith, A. M. Pennock, F. A. Lopez, C. W. Moores, H. W. Barbour, P. H. Shaugness and W. Finn.

The funeral of Fred T. Meyer, of this office, whose death was recorded in the previous issue, took place at Brooklyn, N. Y., on July 1, and was attended by the various telegraph societies of which Mr. Meyer was a member. Among those present were Messrs. Francis W. Jones, M. H. Kerner, Walter C. Burton, John Brant, M. F. Gaffney, Thomas E. Fleming, R. C. McDonald, M. J. O'Leary, D. P. Smith, D. J. Christie and other old telegraph associates of Mr. Meyer.

Mrs. Mary E. Kirtland, wife of C. S. Kirtland, died of consumption at Brooks, W. Va., on June 20.

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It being especially desired that the next annual convention of the International Association of Municipal Electricians, to be held at Niagara Falls, N. Y., on September 2, 3 and 4 next, may be fully attended, Mr. Frank C. Mason, superintendent of the telegraph bureau of the police department, Brooklyn, N. Y., and a member of the Executive Committee of the association, desires it to be stated that a handsome souvenir badge will be mailed to any telegraph operator or electrician who will call the attention of the superintendent of fire or police telegraph or city electrician of their respective city or town to the notice of the convention on September 2-4 next, as announced on cover page xv of this issue, and who will send the name of the party so notified, provided he is not already a member of the association, to Mr. Mason.

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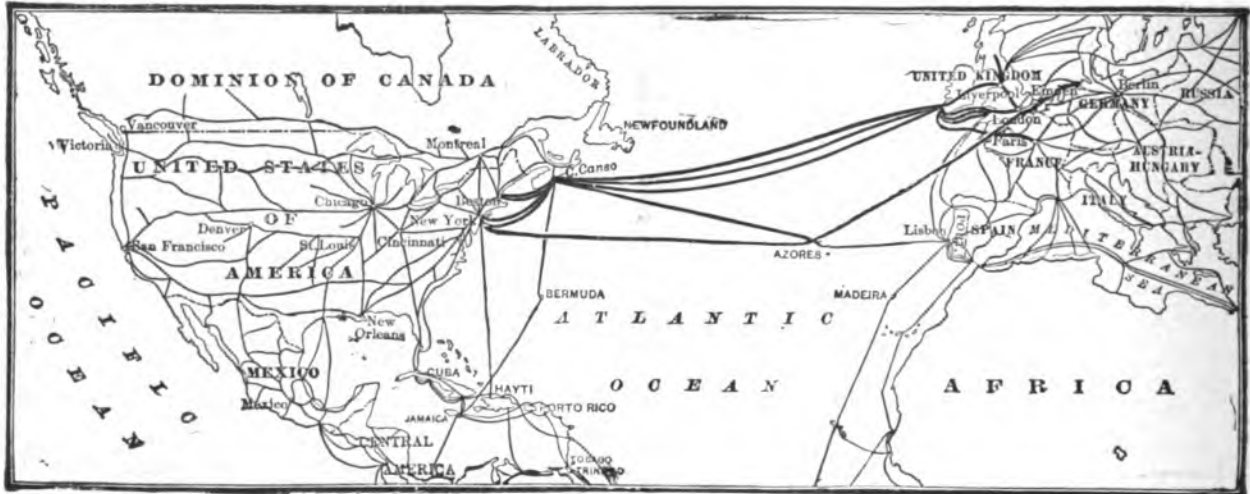


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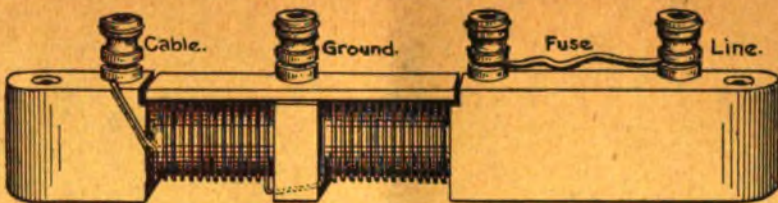
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