

*Mr George M. Snow*

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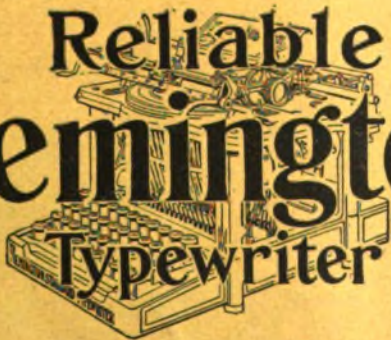
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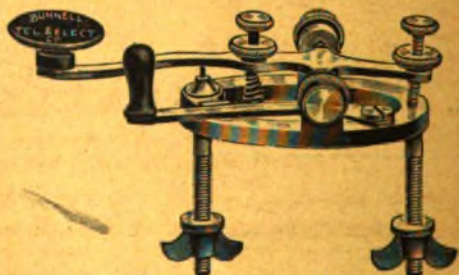
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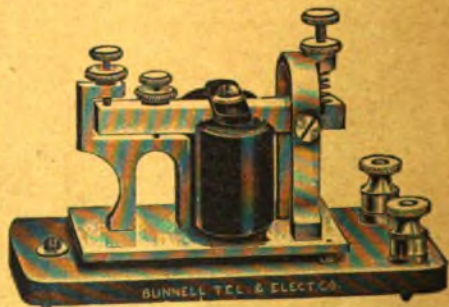
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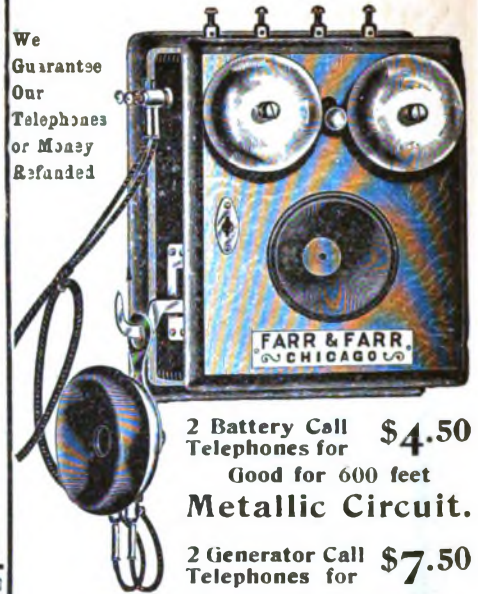
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# THE TELEGRAPH AGE.

No. 17.

NEW YORK, SEPTEMBER 1, 1901.

VOL. XXIV.

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## SOME POINTS ON ELECTRICITY.

### The Equipment of a Modern Telegraph Office—Current Distribution.

BY WILLIS H. JONES.

Quite frequently this journal is asked to describe the manner in which battery power is distributed to the various apparatus in a telegraph office and the arrangement of house wires for current distribution; also, how to go about ascertaining the required current capacity and voltage of the dynamo or dynamos to be installed, as well as the size and character of conductors employed.

To answer this question intelligently one would require to have full details of the particular office to be equipped, for an estimate suitable for one office might be utterly unfit for another. It is quite evident that a large telegraph office demanding from 50 to 250 milliamperes of current from each of several hundred, or perhaps a thousand, circuits would require a dynamo of greater current capacity than one possessing a lesser number, even though the voltage of the two machines be identical.

Again, on account of the varying heat capacity of different sizes of wires, the house conductors for the larger office must necessarily possess a greater cross-section than those which may, for the sake of economy, be used in wiring the smaller station.

Now, we know exactly how much current each

instrument requires, and also the limit beyond which each gage of wire must not be crowded with current, so that the proposition of estimating the necessary capacity of a dynamo is merely a matter of multiplying the number of circuits to be fed by the value of the current in milliamperes required to actuate one instrument of the type employed in each circuit, and add to the product enough to allow for the drain due to wet weather and the future growth of the office. In very wet weather the amount of current drawn from a dynamo is nearly double that absorbed on dry days, hence the product obtained should be at least doubled. For future growth add to this sum what in your judgment may be required. Thus, for a relay circuit the multiplier could be .050, while for a 4 ohm sounder circuit it would be .250. The total value of the current absorbed by all the wires determines the size and construction of the machine to a great extent. If the quantity be very great it means that the arma-

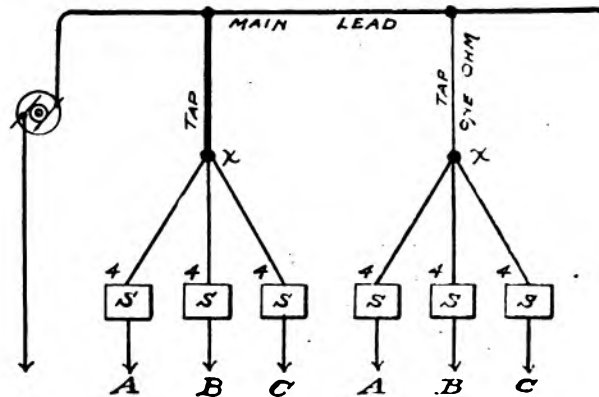


FIG. 1

FIG. 2

ture of the dynamo required must be wound with large copper wire in order to safely carry it without overheating. This in turn means that the armature itself must be correspondingly large in size in order to hold the many convolutions of wire necessary to bring the voltage up to the required value. From this the reader will see that where both quantity and pressure of unusually great value are demanded the lineal dimensions of the machine must be great in all directions, such, in fact, as are found in the types embodied in the Sprague and Crocker-Wheeler machines now so frequently employed in the telegraph service.

These facts are stated merely to show the importance of making a proper capacity estimate at the start. An inexperienced person might imagine that any machine would serve the purpose so long as the voltage was right, and be tempted to purchase one of the small patterns in order to economize financially. Should he make this mistake he

would soon learn that on account of the fine wire used in winding the armature of such machines, in order to reduce the dimensions, his purchase would be utterly useless the moment he attempted to feed more than two or three circuits therefrom. Right here is a point which cannot be too strongly impressed upon the minds of all young engineers. In every electrical proposition the size of each vehicle of an electric current must be large enough to carry the maximum quantity of current which may ever be demanded at one time to the point of delivery without materially reducing the initial electromotive force of the dynamo producing it. This caution applies particularly to the selection of house wires leading from the dynamo to the switchboard and other circuits to be supplied. It is especially important where the apparatus is at any considerable distance from the machine. If such leads be too small the value of the current in the various circuits fed therefrom will fluctuate (due to the laws of joint resistance), with the result that the instruments will work with that unsteady, choppy effect so disagreeable to all operators. House wires should invariably be of insulated copper, and as large as can be afforded. Remember that the larger the conductor the less unnecessary work will the machine be called upon to perform before reaching the external circuits, and the steadier will be the supply of current delivered to the latter.

To make this point plain let us run a single wire from the dynamo, or from the main lead (which is the same thing), as shown in Fig. 2, and note the effect when we attempt to feed two instruments from the one tap. For the purpose of simplicity assume that the instruments in the three circuits shown were four ohm sounders requiring one-quarter of an ampere of current each, and that the effective electromotive force at the point where the tap was made is just one volt. Now, so long as the resistance of the tap wire is negligible, as in Fig. 1, the sounder will receive, according to Ohm's law,  $\frac{1E}{4R} = \frac{1}{4}$  of an ampere of current—its proper value.

Should you have made the mistake of using a small steel or iron wire for the tap, it may have caused a resistance of say one ohm to be inserted between the main lead and *X*. In this case the total resistance of the circuit would be 5 ohms, which would give the sounder but one-fifth of an ampere of current. The slight reduction would not interfere materially with the working of the one instrument while circuits *B* and *C* are open; it would simply work a little weaker than before. But should you attempt to feed two or more sounders through this small conductor the effect would be as follows: With circuits *B* and *C* open (Fig. 2) sounder *A* would receive one-fifth of an ampere of current; with *A* and *B* closed and *C* open, *A* would receive but one-sixth of an ampere, because the total resistance of the circuit fed by 1 volt, being now reduced to 3 ohms, owing to the joint resistance of the two sounders *A* and *B*; that is to say,  $2JR + 1$  in tap = 3, draws one-third of an ampere of current through the tap wire, which amount

divides equally at *X* between the two sounder circuits *A* and *B*, giving each but one-sixth of an ampere.

With *A*, *B* and *C* closed there would be but two and one-third ohms in the circuit and something less than one-half of an ampere in the tap up to the point *X*, but as that amount must now divide equally between the three circuits, *A*, *B* and *C*, each instrument obviously receives less current than ever. As the same number of sounder circuits, while working, are seldom actually closed at the same instant, each instrument receives a current constantly varying in volume, with the result that the sound given out by the lever is uneven and "choppy."

Of course, in actual practice no one would think of arranging circuits in exactly the crow-foot manner shown in the accompanying diagrams, nor employ but one volt of electromotive force for four ohm sounders; nevertheless, theoretically the illustration shows the general outlines of the plan followed in the arrangement of many pony circuits in our modern telegraph offices to-day, the complete details of which will be given in succeeding instalments of this article.

(To be continued.)

#### Business Notice.

Mr. H. D. Rogers, of New York, an old-time telegrapher, will be remembered by many as the western agent at Cincinnati for the Gold and Stock Telegraph Co., and the Commercial News Department during the period from 1865 to 1875. At that time he was also largely engaged in the electrical business. Mr. Rogers is an inventor of considerable repute, and has taken out a number of patents, the principal ones of which are for printing telegraph instruments, dial telegraph instruments, underground cables, etc. He was also president of the Municipal and Counting House Telegraph Co., the first in the West to introduce private lines, and he has the distinction of being the first to introduce underground wires in the West, he having appeared before the city authorities of Cincinnati on several occasions in reference to the same.

In 1867, while representing the Commercial News Department of the Gold and Stock Telegraph Co., he invented a process for printing on manifold sheets so that they registered, and on which was written in the blank spaces the reports of the markets, as well as for Gold and Stocks. They became very popular and were adopted by the company, as well as by the Government for the Signal Service; in many departments of trade they are now in constant use for duplicating purposes.

He is treasurer of the Rogers Manifold and Carbon Paper Co. (incorporated), 75 Maiden lane, New York, manufacturing stationers, whose advertisement appears on another page. Their specialties are carbon papers for typewriter, pencil and stylus use; manifold books, typewriter ribbons, etc.

Practice patience—I can tell you that requires nearly as much practicing as music.



**Twenty-first Annual Reunion of the Old Time Telegraphers and The United States Military Telegraph Corps.**

The Old Time Telegraphers' Association and The United States Military Telegraph Corps, long identified in mutuality of interests and bound together by ties of intimate companionship, have reached their majority. To fitly celebrate the twenty-one years of existence, they have prudently stolen away from home, stepping across the border at the cordial invitation of a Canadian president and vice-president, and there, beyond the ken of domestic restrictions, to render proper recognition in joyous abandon of so important an event as that of "coming of age." Of course no one would be so churlish as not to wish the "boys," under the circumstances, one of the best of times, even though they abandon their own country for the purpose. Yet so important a delegation and one bearing the insignia of the tele-



L. B. MCFARLANE, OF MONTREAL, QUE.  
President of the Old Time Telegraphers' Association.

graph, which brings all the world into closer community, has it quite within its power to further emphasize and seek the perpetuation of the era of national brotherhood and other kindred good feelings between the two countries that speak the same tongue. It will be the duty of the delegates to see to it that this fraternal spirit is duly enjoined at the banquet which is announced for the mid-evening of the convention meet. There will be told on this occasion stories galore of thrilling Civil War incidents, and of marvelous old-time feats of telegraphing, compared with which modern accomplishments in that direction will rank as trivial, to all of which it is expected the Canadian hosts will listen with eager and respectful attention.

During the year past, a large number have been added to the ranks of the Old Time Telegraphers,

and the roll of membership was never so large as it is to-day. The growth and vigor of this association appear to increase with advancing years, and its hold on the telegraph fraternity is deep and strong. A large measure of this prosperity is due to the energetic methods pursued by Mr. John Brant, the secretary of the association. He has



JOHN BRANT, OF NEW YORK.  
Secretary-Treasurer of the Old Time Telegraphers' Association.

given to it much of his time, keeping in touch with members everywhere, imparting to them the enthusiasm which he feels for the society, aiding



WINDSOR HOTEL, MONTREAL, QUE.  
Headquarters of the Old Time Telegraphers' Association and the United States Military Telegraph Corps.

in securing transportation to and from conventions, and otherwise rendering many acts of personal kindness calculated to promote their welfare.

Two notable deaths have occurred within the ranks of the Old Timers, whose presence at the meeting at St. Paul and Minneapolis last year added so much to the pleasure of that occasion. Reference is made to Senator Cushman K. Davis and to James D. Reid, the former, who rose to the rank of one of the foremost statesmen of the country, and the latter affectionately known as the "Father of the Telegraph."

A matter of much interest to be brought before the Montreal meeting will be the question of the merger of "The Telegraphic Historical Society of North America" with the Old Time Telegraphers' Association, for which act official application has been made. The members of the Historical Society are unanimous in the request to join forces, and as the interests of the two associations are largely

will be made by Mayor Prefontaine, M. P. At 10.30 the Old Timers will hold a business meeting at which the project of a "Telegraphers' Home," about which so much has been said during the past few years, will be brought up for discussion. At this meeting also, the proposition to merge The Telegraphic Historical Society of North America with The Old Time Telegraphers' Association will be considered. Following this meeting, a business meeting of The United States Military Telegraph Corps will be held at 11.30 in the same place. This brief business of the two asso-



THOMAS AHEARN, OF OTTAWA, ONT.

Member of the Executive Committee of the Old Time Telegraphers' Association.



JAMES KENT, OF MONTREAL, QUE.

Member of the Executive Committee of the Old Time Telegraphers' Association.

identical, made up in part by a common membership, it is to be hoped that a consolidation may be effected. Such action would result in the acquisition by the larger society of a large number of valuable and interesting records, books, papers and telegraphic curios, a valuable asset every way considered.

The place of meeting of this convention will be at the Windsor Hotel, Montreal, one of the finest hostleries in Canada. The programme of business and entertainment covering the three days' stay will be as follows:

Wednesday, September 11: At 10 o'clock, A. M., a joint and informal social meeting of The Old Time Telegraphers' Association and The United States Military Telegraph Corps will be held in the ladies' parlor, Windsor Hotel, at which an address of welcome

will be made by Mayor Prefontaine, M. P. At 10.30 the Old Timers will hold a business meeting at which the project of a "Telegraphers' Home," about which so much has been said during the past few years, will be brought up for discussion. At this meeting also, the proposition to merge The Telegraphic Historical Society of North America with The Old Time Telegraphers' Association will be considered. Following this meeting, a business meeting of The United States Military Telegraph Corps will be held at 11.30 in the same place. This brief business of the two asso-

ciations disposed of, the remainder of the stay at Montreal will be given over exclusively by the visiting telegraphers to social recreation, the first feature of which after luncheon will be a drive through the city and up to the summit of Mount Royal.

Thursday, September 12: At 10.30 A. M. a visit to the electrical buildings of Montreal has been arranged. At 2 P. M. the steamer "Duchess of York" will convey the telegraphers on an extended river excursion. This will be made via the Lachine Canal, and will include the shooting of the rapids and an inspection of the harbor of the City of Montreal. In the evening, at half past eight o'clock, a banquet will be held at the Windsor Hotel.

Friday, September 13: A trip by trolley cars will be made, when visitors will be taken to in-

spect the great power plant of Lachine Rapids Hydraulic and Land Company. In the evening a theater party is announced for 8 o'clock.

Members who propose attending the conven-



W. J. CAMP, OF MONTREAL, QUE.

Member of the Executive Committee of the Old Time Telegraphers' Association.

tion are requested to communicate this fact early to Mr. Fred. H. Waycott, manager, Anglo-American Telegraph Company, Montreal, Chairman of



WM. B. POWELL, OF MONTREAL, QUE.

Member of the Executive Committee of the Old Time Telegraphers' Association.

the Hotel Committee, who, upon request will endeavor to secure the necessary room accommodations in advance. Tickets for the banquet, price

\$3.00 each, can also be had from Mr. Waycott. On arrival, members will be expected to first register their names with the Reception Committee, pay for their banquet tickets and receive their badges.

Arrangements have been made with the Richelieu and Ontario Navigation Company for the issue of excursion tickets at single fare to such members as desire to visit the City of Quebec.

The officers of the Old Time Telegraphers' Association are L. B. McFarlane, President, Montreal; J. E. Hutcheson, Vice-President, Ottawa; John Brant, Secretary-Treasurer New York. Executive Committee: H. C. Hope, St. Paul, Minn.; H. J. Pettengill, Boston, Mass.; J. J. Dick-ey, Omaha, Neb.; J. Compton, Nashville, Tenn.; Thos. Ahearn, Ottawa, Can.; James Kent, W. J. Camp, Wm. B. Powell, Fred'k H. Waycott, Montreal, Can.

The officers of The United States Military Telegraph Corps are: Col. Wm. B. Wilson, President, Holmesburg, Philadelphia, Pa.; Wm. L. Ives, Vice-President, New York; J. E. Pettit, Secretary and Treasurer, Chicago, Ill. Executive Committee: E. Rosewater, Chairman, Omaha, Neb.; A. H. Bliss, Chicago, Ill.; Col. A. B. Chandler, New York; W. R. Plum, Chicago, Ill.; George C. Maynard, Washington, D. C.; D. Wilmot Smith, Breckenridge, Minn.; R. B. Hoover, Springfield, Ohio; L. A. Somers, Cleveland, Ohio; J. D. Cruise, Kansas City, Mo.

**A Complete List of the Living U. S. Military Telegraphers.**

The following is a complete list of the living United States Military Telegraphers so far as known:

- |                      |                       |
|----------------------|-----------------------|
| Anderson, Joseph.    | Childs, A. F.         |
| Atwell, J. W.        | Cruise, J. D.         |
| Ash, Wm. M.          | Doyle, P. C.          |
| Armstrong, S. T.     | Davis, Sam'l.         |
| Armstrong, E. L.     | Dewitt, Ira.          |
| Boyle, E. C.         | de Bree, N.           |
| Baxter, Geo. W.      | Dealy, W. J.          |
| Brooks, J. N.        | Dougherty, C.         |
| Brush, Sam T.        | Dougherty, A. D.      |
| Bliss, A. H.         | David, Capt. T. B. A. |
| Barth, Martin.       | Duncan, F. H.         |
| Burch, C. B.         | Dixon, J. R.          |
| Burnett, Geo. A.     | Dennis, L. B.         |
| Brennaman, A. T.     | Dwyer, Con.           |
| Bowerman, H.         | Eckert, Gen. T. T.    |
| Bruner, P.           | Eckman, W. H.         |
| Bodell, W. J.        | Fimerick, J. H.       |
| Bates, D. H.         | Egan, Jno. J.         |
| Boyd, J. W.          | Elliott, R. H.        |
| Biggart, W. L.       | Eitemiller, Geo. M.   |
| Bender, R. W.        | Evans, Frank H.       |
| Barwick, Thos.       | Flynn, J. D.          |
| Benedict, C. H.      | Furr, Robert.         |
| Ruell, Madison.      | Farnham, G. M.        |
| Crittenden, J. N.    | Fuller, Col. W. G.    |
| Cole, Geo.           | Fairchild, S. B.      |
| Clowry, Col. R. C.   | Fitch, D. H.          |
| Chandler, Col. A. B. | Flagg, J. A.          |
| Chandler, C. E.      | Fish, E. G.           |
| Chasteau, Louis M.   | Fonda, T. H.          |
| Culbertson, C.       | Ferris, D. V.         |
| Clark, J. B.         | Geiger, J. M.         |
| Connor, Paul D.      | Glascott, W. H.       |
| Cochran, C. P.       | Golding, Geo. J.      |

Grcene, E. C.  
 Gross, Col. W. L.  
 Gordon, Matt.  
 Griswold, M. E.  
 Gilmore, Col. J. R.  
 Gentry, W. D.  
 Gough, R. S.  
 Gardiner, O. A. A.  
 Guthridge, J. F.  
 Gulick, C. W.  
 Hadman, Chas. A.  
 Hoover, R. B.  
 Huyck, Maynard.  
 Hammond, C. D.  
 Hammond, C. W.  
 Henderson, Geo.  
 Hotchkiss, Z. P.  
 Hallam, Isaac W.  
 Hull, H. P.  
 Hull, A. K. V.  
 Hansen, Jos.  
 Hancock, A. G.  
 Hatton, O. C.  
 Ives, W. L.  
 Jacques, C. W.  
 Knittle, Jos.  
 Kerner, M. H.  
 Knapp, A. C.  
 Kanode, A. H.  
 Knapp, S. B.  
 Korty, L. H.  
 Laird, T. A.  
 Long, F. C.  
 Ludwig, F.  
 Ludwig, D. J.  
 Logue, W. S.  
 Lonergan, Jno.  
 Lewis, W. T.  
 Mason, J. Q.  
 Murray, P. J.  
 Martin, H. S.  
 Maynard, Geo. C.  
 Moreland, T. E.  
 Matlock, H. H.  
 Macklind, Mrs. L. E.  
 McMichael, I.  
 McKelvey, A. T.  
 McKenna, J. A.  
 McReynolds, C. W.  
 McCleverty, J. D.  
 McMurtry, B.  
 Morgan, J. B.  
 Montayne, C. D.  
 Martyn, D. E.  
 Meagher, J. R.  
 Moore, C. W.  
 Morrison, Thomas.  
 Mixer, Chas. H.  
 Nichols, J. H.  
 Nichols, A. M.  
 Naille, G. W.  
 Nohe, A. W.  
 Numan, P. H.  
 Newton, E. C.  
 Nye, J. M.  
 Norris, J. B.  
 Orton, A. W.

O'Brien, Dr. J. E.  
 O'Brien, Richard.  
 Powers, Richard.  
 Parsons, Jas. K.  
 Parsons, J. W.  
 Plum, W. R.  
 Plum, H. W.  
 Pettit, J. E.  
 Palmer, C. H.  
 Perdue, L. Ford.  
 Phelps, Ransom.  
 Feel, E.  
 Robinson, Merritt F.  
 Robinson, B. L.  
 Robinson, S. L.  
 Robinson, J. H.  
 Rosewater, F.  
 Raitlon, G. W.  
 Ryan, Crosby J.  
 Rose, L. A.  
 Rawlins, T. E.  
 Somers, L. A.  
 Stumm, F. A.  
 Schnell, Jos., Jr.  
 Schnell, Thad.  
 Sholes, C. G.  
 Strubbe, W. G.  
 Showerman, I. C.  
 Safford, A. G.  
 Stillman, Geo.  
 Sheldon, Capt. L. F.  
 Sheldon, W. A.  
 Smith, D. Wilmot.  
 Sanburn, F. A. H.  
 Shuman, W. A.  
 Sprague, H. C.  
 Shepherd, O. M.  
 Snow, H. N.  
 Tinker, Chas. A.  
 Torrance, J. A.  
 Talbot, R. M.  
 Thomas, John.  
 Townsend, N. S.  
 Trowbridge, H. R.  
 Von Eye, E.  
 Vincent, H. C.  
 Volts, J. D.  
 Wilson, Col. Wm. B.  
 Wilson, Ellis J.  
 Whitford, E. P.  
 Woodward, B. F.  
 Woodward, W. R.  
 Woodring, W. H.  
 Williams, D. A.  
 Williams, J. S.  
 Whelpley, C. L.  
 Winder, A.  
 Waterhouse, T. Q.  
 Wintrup, J.  
 Wolff, C. C.  
 Weir, Col. L. C.  
 Webb, J. G.  
 White, W. N.  
 Warner, O. I.  
 Wood William.  
 Ward, Edward T.

Forty-Niners of the Telegraph.

The following list embraces the names of the oldest living members of the telegraph profession, so far as known those who entered the service during the forties.

Name.	When entered the service.	Where entered the service.	If telegraphing now.	Present address.
Adams, Frank	1849	Akron, O.	No.	Mt. Dora, Fla.
Allen, George E.	1847	Utica, N. Y.	No.	Utica, N. Y.
Allen, Wm. C.	1849	Akron, O.	No.	Akron, O.
Ansden, Ian R.	1846	Philadelphia, Pa.	No.	Buffalo, N. Y.
Balch, G. W.	1848	Detroit	No.	Detroit.
Barr, M. W.	1847	Wheeling	No.	Washington, D. C.
Barta, Martin	1848	Pittsburg, Pa.	No.	Westmoreland, Tenn.
Benedict, G. G.	1849	New York	No.	Burlington, Va.
Berry, Stephen	1846	Boston	No.	Portland, Me.
Bethune, S. W.	1847	Montreal	No.	Ottawa, Ont.
Booth, N. M.	1849	Louisville	No.	Evansville, Ind.
Brenner, J. A.	1849	Washington	Yes	Augusta, Ga.
Brigham, Geo. F.	1844	Fredonia, N. Y.	Yes	Sharon, Wis.
Brigham, Henry H.	1849	Warren, Pa.	Yes	Sharon, Wis.
Bright, Louis A.	1849	Pottsville, Pa.	Yes	Erte, Pa.
Brown, John S.	1847	Carmel, N. Y.	No.	Chicago, Ill.
Brownson, W. G.	1849	Po'keepsie, N. Y.	No.	Toledo, O.
Buell, Madison	1847	Buffalo, N. Y.	Yes	Buffalo, N. Y.
Carnegie, Andrew	1848	Pittsburg	No.	New York.
Chasteau, Lou's M.	1846	Baltimore, Md.	No.	Sedgely, Pa.
Clark, Wm. H.	1849	Frankfort, Ky.	No.	Washington.
Cleveland, Urial	1847	Toledo, O.	No.	Toledo, O.
Clum, Wm. B.	1846	New York	Yes	New York.
Colb, Emory	1848	Fredonia, N. Y.	No.	Kankakee, Ill.
Crompton, J.	1848	Wheeling, W. Va.	Yes	Nashville, Tenn.
Cornell, A. B.	1846	Ithaca, N. Y.	No.	New York.
Cutler, Chas. S.	1849	Buffalo, N. Y.	No.	Buffalo, N. Y.
David, T. B. A.	1849	Pittsburg Pa.	No.	Pittsburg.
Deagherty, A. D.	1848	Coldwater, Mich.	No.	Kalamo, Mich.
Davis, A. G.	1849	Po'keepsie, N. Y.	No.	Baltimore, Md.
Dewey, Benj. H.	1849	Mannec City, O.	No.	New York.
Dodge, L. C.	1847	Burlington, Vt.	No.	San Rafael, Cal.
Dunham, J.	1847	Po'keepsie, N. Y.	No.	Valley Springs, S. D.
Dwight, H. P.	1847	Montreal	Yes	Toronto, Ont.
Eason, R. F.	1849	Toronto	Yes	Toronto, Ont.
Eckert, Theo. T., Gen.	1848	St. Clairsville, O.	Yes	New York
Fairchild, Sidney B.	1847	New Haven, Conn.	Yes	St. Louis, Mo.
Farnsworth, Geo.	1849	Boston	No.	Detroit, Mich.
Frey, Geo. H., Sr.	1849	Springfield, O.	No.	Springfield, O.
Fuller, Wm. G.	1848	Lowell, Mass.	No.	Gallipolis, O.
Gentry, W. D., Dr.	1848	Hopkinsville, Ky.	No.	Chicago, Ill.
Guthridge, J. F.	1849	Attica, Ind.	Yes	New York.
Haskins, Chas. H.	1846	Buffalo, N. Y.	No.	New York.
Haskins, Clark C.	1846	Buffalo, N. Y.	No.	Chicago, Ills.
Haviland, Jas. D.	1847	Detroit	No.	Ludlow, Mass.
Hepburn, H. C.	1845	Philadelphia	No.	New York.
Homans, Benj.	1848	Baltimore	No.	New York.
Hoyt, Samuel	1848	Milan, O.	No.	Clinton, Iowa.
Hucker, Nathl.	1847	Buffalo, N. Y.	Yes	Buffalo, N. Y.
Hunt, Thomas	1849	Morrow, O.	Yes	Kennedy, O.
Kauffman, S. H.	1848	Wooster, O.	No.	Washington, D. C.
Kissock, David	1847	St. Catharines, Ont.	No.	Lancaster, N. Y.
Larcombe, J. H.	1847	Philadelphia, Pa.	No.	Washington, D. C.
Louis, L. A.	1848	Louisville, Ky.	Yes	Centralia, Ill.
Matthews, Chas. P.	1849	Columbus, O.	Yes	Detroit.
Merrithew, James	1849	Wilmington, Del.	Yes	New York.
Melbourne, W. A.	1848	Bardstown, Ky.	Yes	Swanwick, Ill.
McCargo, David	1849	Pittsburg	No.	Pittsburg, Pa.
Mingle, James L.	1845	Philadelphia	Yes	New York.
Newell, Robert	1848	Buffalo, N. Y.	No.	Buffalo, N. Y.
Porter, E. P.	1846	Geneva, N. Y.	Yes	New York.
Pitcairn, Robt.	1849	Pittsburg	No.	Pittsburg.
Reed, Henry A.	1849	Carmel, N. Y.	No.	New York.
Ryan, Reuben H.	1848	Milan, O.	Yes	Tama, Ill.
Scott, M. A.	1848	Toledo, O.	No.	Toledo, O.
Stebbins, Chas. M.	1848	Milan, O.	No.	Hartsdale, N. Y.
Stone, John D.	1846	Rochester, N. Y.	No.	Syracuse, N. Y.
Sutherland, John A.	1849	Buffalo	No.	Newark, N. J.
Swan, G.	1845	Utica, N. Y.	Yes	New York.
Talcott, A. B.	1849	Boston	No.	Washington, D. C.
Titcomb, H. B.	1848	Memphis, Tenn.	No.	Columbus, Tenn.
Tomlinson, E. M.	1846	Hartford, Conn.	No.	New York.
Townsend, John A.	1849	Akron, O.	Yes	Dunkirk, N. Y.
Tree, J. B.	1847	Washington	Yes	Richmond
Tubbs, F. H.	1848	Milan, O.	Yes	Chicago, Ill.
Yvor, Artemus E.	1848	Erie, Pa.	No.	Etna, N. Y.
Van Duzer, A. M.	1849	Fredonia, N. Y.	No.	Cleveland, O.
Ward, Henry H.	1848	Springfield, Mass.	Yes	New York.
Wellen, Alfred	1847	Marshall, Mich.	No.	Milwaukee.
Williams, George T.	1849	Sinclairville, N. Y.	No.	Cleveland, O.
Wood, Chas. F.	1848	Washington	Yes	Boston.
Wood, Orrin S.	1844	Washington	No.	Rosebank, N. Y.
Wood, Oles E.	1846	Buffalo	No.	Ithaca, N. Y.
Worl, Jas. N.	1848	Philadelphia	No.	New York.
Worl, W. S.	1849	Philadelphia	No.	New York.
Wright, E. P.	1849	Geneva, N. Y.	No.	Cleveland, O.

From the false statements made in the ordinary telegraph college prospectus, it seems that no one can be induced to enter the telegraph business unless they are misled in the first place. Soft jobs at good pay are not in evidence anywhere else outside of the specious prospectus.—Railroad Telegrapher.

Many people will never admit there are any classes until they find themselves hustling for a living in the working class.

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

### Sixth Annual Meeting of the International Association of Municipal Electricians.

It has been announced that the International Association of Municipal Electricians, which is to meet at Niagara Falls, N. Y., on Monday, Tuesday and Wednesday, September 2, 3 and 4, would hold its sessions in the Natural Food Company's Convention Hall at that place, but owing to the unfinished condition of that building the meetings will be held instead in the Banquet Hall of the International Hotel, at which house headquarters will be established. At this point Mr. Frank P. Foster, of Corning, N. Y., the secretary of the Association, will be in attendance until noon on the morning of Monday, the 2d inst., and all members and guests are requested on arrival to first report to him, register their names and secure badges.

As the years go by this Association, particularly since it took on its broader municipal scope and



MORRIS W. MEAD, OF PITTSBURG, PA.

President of the International Association of Municipal Electricians.

thus measurably extended its sphere of operations, has shown a sturdy growth and development. This is due in the first place to the practical necessities that brought such an organization into existence; and secondly, because it is actively supported by intelligence and enthusiasm, thoroughness of organization and progressiveness in its methods.

Much energy has been shown this year on the part of the Executive Committee to reach not only the individual members themselves and urge them to attend this convention, but all electricians as well who may be identified with, or interested in, the objects of the meeting, have also been cordially invited to be present. As a result the prospects now are for a very full attendance, delegates from every part of the United States, from Canada and from Mexico being expected.

In addition to the great natural attraction af-

forded by the Falls of Niagara, the proximity of the convention city of that name to Buffalo will doubtless also act as a great drawing card for many, as a visit to the Pan-American Exposition, which naturally every one desires to see, can readily be taken in conjunction with attendance at the convention.

Another attractive pro-convention feature, which promises much enjoyment to those who participate, is the proposed excursion to Montreal, there to join with the Old Time Telegraphers' Association and The United States Military Telegraph Corps, who meet in that city in joint convention on Wednesday, Thursday and Friday of the following week, September 11, 12 and 13.

Delegates to the convention will be pleased to learn that the Western Union and Postal Telegraph-Cable companies, as well as the local telephone companies, have courteously tendered the free use of their lines, including long-distance telephoning, to members during the sessions of the Association.

The official programme of the convention is as follows:

Monday, September 2.—At 1.30 P. M. the proceedings will be opened by prayer. This will be followed by an address of welcome by Mayor M. B. Butler, of Niagara Falls, to which Morris W. Mead, of Pittsburg, president of the Association, will respond, and who will also deliver an address. Then will come the roll call, payment of dues and the report of the Executive Committee. After this a paper will be read on the "Need and Value of a Set of Rules for Outside Construction," by P. H. Trout, Jr., city electrician of Lynchburg, Va. This will be discussed by the members, and then will come adjournment.

At 3 o'clock carriages will be provided to convey the ladies of the convention from the International Hotel through the park and to visit the Natural Food Conservatory, as well as other points of interest. In the evening there will be a ride down the Gorge Electric Road to the Whirlpool Rapids and return. An electric searchlight will be attached to the rear car, lighting up the entire scene through which it passes. As this has been arranged especially for the benefit of the Association and its friends, it should not be missed, as the scenic effects along the river and in the gorge are grand.

Tuesday, September 3.—At 9.30 A. M. the morning session of the second day will begin with the roll call. Following will come the appointment of the Nominating and other committees, and the reports of the various special committees. The reading of the papers, "Municipal Control vs. Municipal Ownership," by E. F. Schurig, city electrician of Omaha, Neb., and "Inadvisability of Placing High and Low Potential Wires Through the Same Series of Conduits, or through the Same Manholes," by William Brophy, of Boston, Mass., will be followed by their discussion, when an adjournment for lunch will be taken.

At 2.30 P. M., following the roll call, two papers will be read, one "The Protection of Fire and Police Telegraph Wires from High Tension Currents and Lightning," by W. M. Petty, superintendent of

fire telegraph, Rutherford, N. J.; the other "Improved Storage Battery for Municipal Purposes," by J. W. Aydon, superintendent of fire and police telegraph, Wilmington, Del. A discussion on these papers will then follow, after which there will be special papers and remarks and then adjournment for the day.

At the close of the afternoon session the entire delegation will be taken on the "Maid of the Mist" and an accompanying boat up to the falls and down the river, affording all an opportunity to view the falls from the river, as well as a most enjoyable boat ride. In the evening a dance will be enjoyed at the International Hall.

Wednesday, September 3, the transactions of the convention will be dispatched at a single session, convening at 9.30 A. M. The order of business will be as follows: Roll call; report of secretary; report of treasurer; report of Nominating Committee; unfinished business; general business; election of officers; selection of place for next meeting; adjournment.

On Wednesday afternoon members of the convention are invited to visit the various power houses and inspect the greatest electrical generating plants in the world, the root from which springs the blossoms of light which so brilliantly illuminate the Pan-American Exposition.

The officers of the International Association of Municipal Electricians are as follows: Morris W. Mead, president, Pittsburg, Pa.; J. F. Zeluff, first vice-president, Paterson, N. J.; Burt McAllister, second vice-president, Bradford, Pa.; R. E. Moran, third vice-president, Memphis, Tenn.; Frank P. Foster, secretary, Corning, N. Y.; Adam Bosch, treasurer, Newark, N. J. Executive Committee—M. J. Donohue, chairman, Niagara Falls, N. Y.; William Brophy, Boston, Mass.; J. W. Aydon, Wilmington, Del.; Frank C. Mason, Brooklyn, N. Y.; Frank G. Boyd, Baltimore, Md.; William Y. Ellett, Elmira, N. Y.; G. F. MacDonald, Ottawa, Ont.; M. G. Canfield, Grand Rapids, Mich.; F. L. Michael, Peoria, Ill.

#### Old French Clock Used for Signal Telegraph.

One of the most curious clocks in the world represents a square tower ornamented with a dial, and it is surmounted by an aerial telegraph. At the base is a fountain, and while this flows the arms of the telegraph are also in motion, giving regular signals. This primitive method of telegraphing was definitely adopted by the national convention in Paris, on July 25, 1793. During the wars of the French republic and empire it rendered great service, and did not fall into disuse until the close of the Crimean war.

The mechanism of the clock moves the telegraph and the fountain. It is placed in the lower part of the tower, and consists of a toothed barrel, four wheels and a fly wheel. It can run for twelve hours without being wound, and a small bolt suffices to stop it and set it in motion. The large arm of the telegraph, known as the regulator, turns now in one direction, now in another, and so forms various signals. The small wings, or indicators, are

moved by wires which are connected with pulleys. Only four different figures can be produced by the mechanism, but each of these can be so modified that it becomes quite easy to make no less than 196 telegraphic signals.

This old clock is still in working order, and several old persons in France say they remember seeing telegraph instruments of this kind in their youth, and that they worked well, except when there was a mist or a fog, for then their signals were invisible.

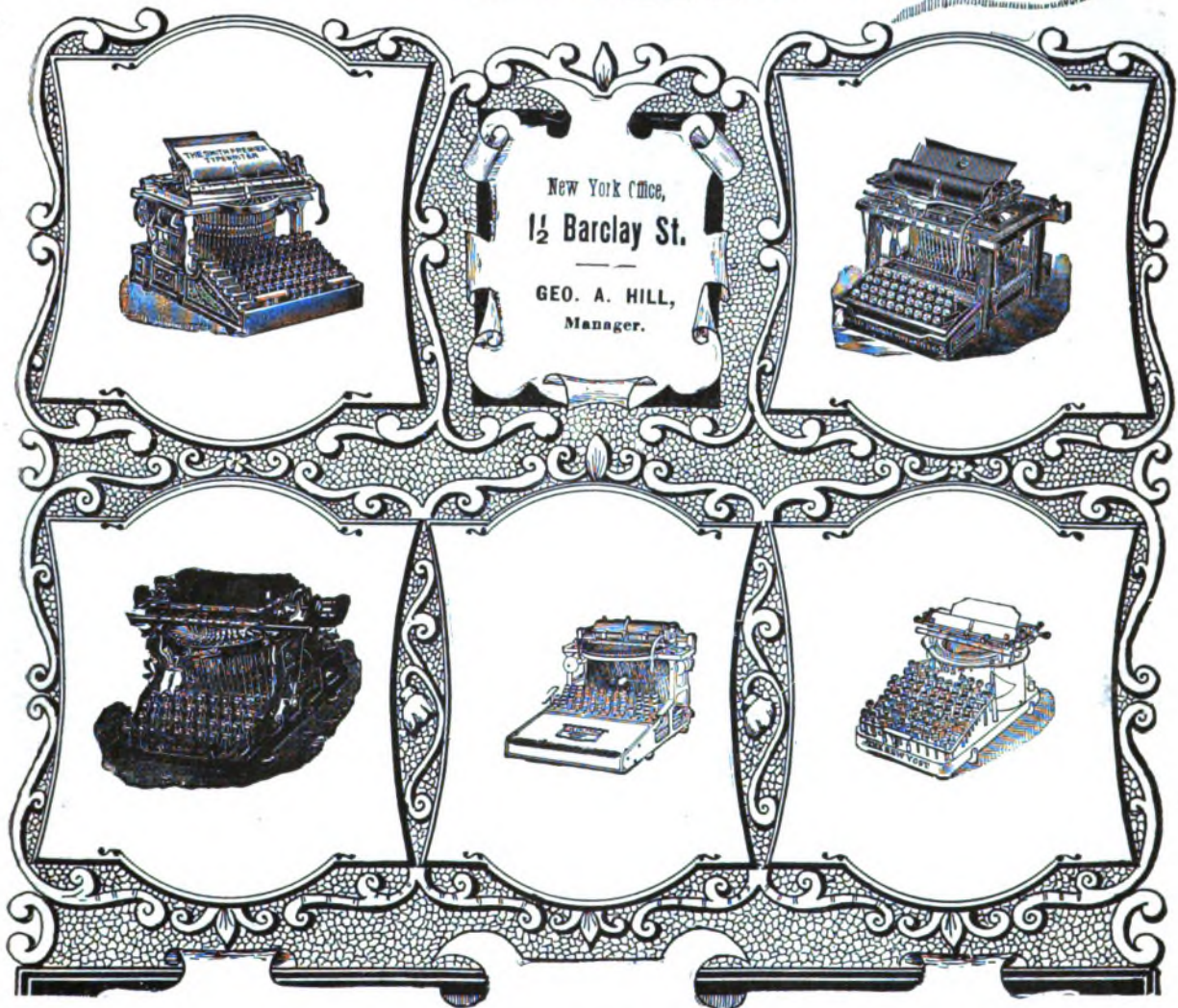
#### Mistakes in Telegraph Messages.

The latest volume of the English Ruling Cases (24) contains the leading case of Great Britain on the subject of the liability of telegraph companies for mistakes in messages. There the rule is that no action will lie by the receiver of a telegraphic message against the telegraph company for a mistake in the message delivered. In the United States the English rule is not adopted, and, it is held, almost without exception, that a telegraph company is liable to the person to whom a message is sent for negligence in the transmission or delivery of the message. The following are two interesting cases decided in New York: In the suit of Leonard vs. the New York, etc., Tel. Co., an operator of the defendant wrote "casks" for "sacks." The message called for 5,000 sacks immediately, and being written casks, the receivers shipped coarse salt instead of fine salt, as they would have done if the word had been sacks. The defendant was held to be liable. In an action brought by William C. Will and another against a telegraph company to recover damages for the failure of the defendant to transmit a telegraphic message, it appeared that one of the plaintiffs addressed to his firm in Buffalo a dispatch relative to important business, and demanded an immediate reply. The manager of the defendant sent the dispatch by a messenger to the firm, and told the messenger to wait for an answer. The messenger received an answer, which he put in his pocket and returned to the telegraph office. The answer remained in his pocket until accidentally discovered the next day. The message blank of the company contained a condition to the effect that whenever a message was sent to its office by one of its messengers the messenger was to be deemed the agent of the sender. The Fourth Appellate Division held that the company was liable for the default or omission of the messenger, and that the rule or condition interposed as a defense was not reasonable in its character, nor in accord with good, sound public policy. Even if the condition were given the effect claimed for it, the Court said, the company was still liable, for the reason that, when the manager of the company directed the boy to obtain an answer to the message, the boy became the agent of the company, and the fact that he asked, waited for, and received the plaintiff's message constituted a waiver of the regulation by the company.

Heard on the Way Wire—Can February March? No, but April May.

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NEW YORK, September 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.

**THE ROBERSON QUADRUPLIX.**—The Roberson Quadruplex System, which has been recently adopted by the Western Union Telegraph Company, and which will be put into extensive use throughout that system, was illustrated and described in our issues of March 16 and April 1 of this year. Those who desire copies of these issues can obtain the same at 10 cents apiece. As there are only a few of these numbers left, we would urge those who wish to become posted on this new system to procure copies before they are entirely out of print.

### The Conventions.

This is the convention month, and those meetings occurring therein, of which this journal is the official exponent, and whose proceedings are always reported in full in its columns, are referred to at length elsewhere in this issue.

The first of these associations to hold its convention is that of the International Association of

Municipal Electricians, now developed into a strong, vigorous and highly representative body, which meets at Niagara Falls in this State, this week; and the second, the joint affair of The Old Time Telegraphers' and The United States Military Telegraph Corps, which will assemble at Montreal, Que., next week.

The former association meets for purposes of business mainly, and bestows much time and thought in an interchange of ideas, as embodied in a series of papers, followed by discussion, dealing directly with practical questions affecting the welfare of the municipality as reflected in its police and fire alarm systems, and other closely allied interests; the two latter associations gather for social reasons, and afford to their members an opportunity once a year to join in fraternal fellowship, and is an event eagerly looked forward to and highly prized by all.

Both of these two great gatherings, each typical in its way, one so closely following the other, will be replete with interest to all who may attend, and TELEGRAPH AGE extends its greetings and congratulations to members upon occasions so auspicious.

A full account of the proceedings of the conventions will be published in the September 16 issues of this journal.

### Inefficiency of the German Telegraph Service.

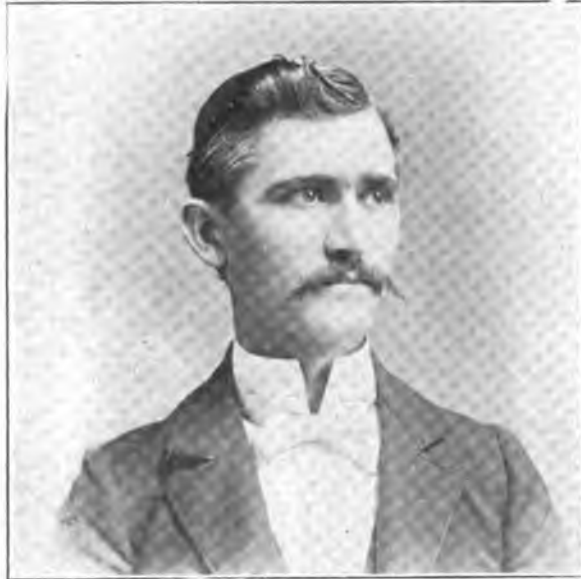
One of the latest telegraph errors in Germany, where the senders and receivers have no redress on account of the wires being in the hands of the government, has struck the newspapers so forcibly that an item explaining the mistake has been transmitted all over the world. At Frankfort, Germany, on August 24, fifteen delegates to the Tailors' Congress, at Osnabruck, planned an excursion to a neighboring resort, and telegraphed to the hotel to prepare a dinner for fifteen. When they arrived they were astounded to find covers for 135. The landlord produced a telegram reading that number.

The original message read plainly fifteen; hence the error was indisputably the operator's. The hotel is suing for damages, and the government is disclaiming responsibility. This is not an isolated instance of the inefficiency of the German telegraph service, which is causing numerous complaints.

**LEGAL.**—In an action against a telegraph company to recover damages for the failure to promptly deliver money transmitted through such company to the plaintiff, the fact that plaintiff was evicted from her house because of her failure to receive such money, and the injury to her reputation generally because of such eviction, are consequences too remote to be considered as elements of damages. Mental distress, unaccompanied by physical injury, is not a proper element of damages recoverable from a telegraph company for a failure to promptly deliver money sent through its agency to plaintiff. *Stansell vs. Western Union Tel. Co.*, U. S. C. C., S. D. (Cal.), 197 Fed. Rep. 668.

**Oliver Thomas Moore.**

The subject of this sketch, who is manager of the Western Union Telegraph Company at Eufala, Ala., was born in Pittsboro, N. C., September 23, 1862. His parents moved to Apex, N. C., where he received his education, and where, in 1879, he entered the telegraph service as a student, learning telegraphy. In October, 1880, he accepted a position as operator with the Richmond & Danville Railroad Company (now the Southern) and continued in their service until January, 1883. He then resigned to accept a po-



OLIVER T. MOORE.

sition as operator in the Western Union office at Wilmington, N. C. In January, 1884, he was moved to Charlotte, N. C., working for the same company until July, 1885, when he was transferred to Augusta, Ga. There he remained until April, 1887, when, on account of his efficiency and executive ability, he was appointed to his present position. He has filled this place ever since with much credit to himself and to the company whose interest he has served so long and so faithfully. Mr. Moore was married January 20, 1887, to Miss Della E. Aiken, of Durham, N. C. He has two children.

**Loan Associations Consolidated.**

The practical union of the Serial Building Loan and Savings Institution and the Electric Building Loan and Savings Association, of 195 Broadway, New York, into one working body with a total capital of over \$700,000 is an event for congratulation on the part of every member. It is needless to say that the affairs of both corporations are in first class condition as the statements recently published speak for themselves.

It is well, however, to observe that the same careful, conservative management which has characterized both of these associations in the

past will no doubt prevail under their united management in the future; and as the affairs of both institutions will be conducted with one object in view, the interests of the members and the future welfare of both corporations will be identical.

TABLE OF TOLLS ON DAY OR NIGHT MESSAGES OF FROM 10 TO 50 WORDS.

Number of Words.	Rate 22-1	Rate 25-1	Rate 25-2	Rate 30-2	Rate 35-2	Rate 40-3	Rate 50-3	Rate 60-4	Rate 75-5	Rate 100-7
10	20	25	25	30	35	40	50	60	75	100
11	21	26	27	32	37	43	53	64	80	107
12	22	27	29	34	39	46	56	68	85	114
13	23	28	31	36	41	49	59	72	90	121
14	24	29	33	38	43	52	62	76	95	128
15	25	30	35	40	45	55	65	80	100	135
16	26	31	37	42	47	58	68	84	105	142
17	27	32	39	44	49	61	71	88	110	149
18	28	33	41	46	51	64	74	92	115	156
19	29	34	43	48	53	67	77	96	120	163
20	30	35	45	50	55	70	80	100	125	170
21	31	36	47	52	57	73	83	104	130	177
22	32	37	49	54	59	76	86	108	135	184
23	33	38	51	56	61	79	89	112	140	191
24	34	39	53	58	63	82	92	116	145	198
25	35	40	55	60	65	85	95	120	150	205
26	36	41	57	62	67	88	98	124	155	212
27	37	42	59	64	69	91	101	128	160	219
28	38	43	61	66	71	94	104	132	165	226
29	39	44	63	68	73	97	107	136	170	233
30	40	45	65	70	75	100	110	140	175	240
31	41	46	67	72	77	103	113	144	180	247
32	42	47	69	74	79	106	116	148	185	254
33	43	48	71	76	81	109	119	152	190	261
34	44	49	73	78	83	112	122	156	195	268
35	45	50	75	80	85	115	125	160	200	275
36	46	51	77	82	87	118	128	164	205	282
37	47	52	79	84	89	121	131	168	210	289
38	48	53	81	86	91	124	134	172	215	296
39	49	54	83	88	93	127	137	176	220	303
40	50	55	85	90	95	130	140	180	225	310
41	51	56	87	92	97	133	143	184	230	317
42	52	57	89	94	99	136	146	188	235	324
43	53	58	91	96	101	139	149	192	240	331
44	54	59	93	98	103	142	152	196	245	338
45	55	60	95	100	105	145	155	200	250	345
46	56	61	97	102	107	148	158	204	255	352
47	57	62	99	104	109	151	161	208	260	359
48	58	63	101	106	111	154	164	212	265	366
49	59	64	103	108	113	157	167	216	270	373
50	60	65	105	110	115	160	170	220	275	380

A kind word and a pleasant smile for our fellow-workers does much to lighten the cares of life, but what the workers want most, and should have, is good wages and shorter hours.

TELEGRAPH AGE is the only telegraphic paper published in America. It is up to date, covering its field thoroughly, and no telegrapher, official or operator, can afford to be without it.

### A Change on the Road.

BY WILL R. JOYES.

There was something peculiar, or rather, out of the ordinary, about him. I noticed it at first the day Mr. Cleves, the agent, brought him up to the office and introduced him as "Mr. Johnson, the man who will take Mr. Hays' place."

I gave him a hasty glance as I arose from the table—a smooth shaved, well dressed, little man, of about 45. Something about him attracted my attention, but I was very busy and had little time to speculate.

I was chief operator in a relay office of a big western railroad. There were usually three of us, but for three days the place the new man was to fill had been vacant, and "Cripps" and myself had been doing the work—"Cripps" was a little cripple fellow—of course, the title was a nickname—given him by the trainmen, with whom he was a general favorite. He was a good operator, very accurate, his work was satisfactory, and he was a splendid man to have in a case like the present, as he understood the work thoroughly.

We had only been doing the most important work, as it was a busy season, but even that had been too much for us, and we both felt relieved to know that we would have help.

I saw "Cripps" watching the new man with sly glances, for a while—I'll admit I did, too, as for that. But he settled down to work at once, and although he did not put on any fancy flourishes, he did good, solid work, the kind that counts; and at 7 o'clock, when the relief force came on duty, we had the business in much better shape than for several days.

"Cripps" and the new man formed a fast friendship from the first. They were together every night after we were off duty. Another thing, which I remembered afterward, they returned to the office every night, and instead of sitting around, telling jokes and exchanging experiences, they were always rummaging through the old messages and books in the office.

Matters ran along smoothly in our department for about a week; by that time we had all the wire business moving nicely.

But if the wire work was progressing nicely it was certainly just the opposite with the rolling stock. Every day there was a wreck of some kind. It kept the wrecker rushing back and forth, from one end of the division to the other, with sometimes two or three calls at a time. A peculiar circumstance connected with these wrecks was that nobody was found to be at fault, or if any person was in fault, just who it was could not be ascertained; and out of a total of some fifty or more wrecks which had happened during the summer, some half a dozen brakemen and two or three section foremen were the only ones found at fault, and discharged.

Several times, too, Mr. Hall, the trainmaster, had believed he had found some conductors at fault, and even went so far as to discharge them; but in each instance Mr. Harvish, the superintendent, had reinstated them at once. This had been repeated several times, until finally Mr. Hall had discharged a conductor named Benson, a big, strapping, red-faced fellow, who, it seemed, the superintendent had a

great regard for. They were often together when off duty or when out for pleasure or recreation. What Mr. Harvish should find attractive in the company of such a coarse, overbearing man was rather a mystery to all of us—but, come to think of it, Mr. Harvish's appearance and manner were not a very great improvement over Benson's. He was a low, heavy man, with a thick neck and repulsive features, and was never pleasant except when in company with some of the superior officers of the line.

Mr. Hall had discharged Benson about a month before, which act had brought a storm about his ears from the superintendent, who had reinstated him. It was the last man he had tried to discharge, and his position had been made almost unbearable ever since.

Those who were acquainted with him and who understood the situation knew that he would not endure, for any length of time, the treatment which had been accorded him since then. They knew the superintendent was "after his scalp," to use the trainmen's expression, and that Mr. Harvish would neglect no opportunity to make his position as unpleasant as possible. The employees unanimously sympathized with Mr. Hall. He was a capable railroad man, and had won their good will by acts of kindness. He had not neglected his work in any way, and, like the other employees of the division, I did not think he would long submit to the treatment accorded him by the superintendent. The climax came sooner than I expected, however.

No. 73 was called to leave at 5 o'clock one afternoon, and Benson was booked as conductor. At 4 o'clock No. 6 came in from the south and Mr. Hall got off. In a short time Benson came into the office. The minute he stepped into the room it was plain to see he was intoxicated. His face was flushed and the fumes of liquor were strong upon his breath; he did not notice Mr. Hall, but stepped over to "Cripps'" desk, and, throwing a message down upon it, he shouted with an oath:

"Send that, and be pretty quick about it!" Then, turning around, he kicked a chair over, and banging his fist down on Johnson's table, said: "Tell that d—d dispatcher I don't want any layouts on this run, and if I get any I'll settle with him when I get in."

He was going ahead out of the office when Mr. Hall stepped over and tapped him on the shoulder.

"I will not need you to take No. 73 out to-night, Benson."

He spoke in a low, clear tone, with a ring of decision in it, which meant business.

"You can report to my office to-morrow," he continued, as Benson stood eyeing him with amazement, and without replying. Benson's big neck swelled to twice its ordinary size, his face flushed to a deep red, and finally he found his voice with an oath.

"I have an order from the superintendent to take No. 73 out to-night, and I'll take her, as certain as she goes."

"Not if No. 73 goes while I am trainmaster," came the low, firm response.

Mr. Hall turned to the caller and gave the necessary instructions for calling another conductor, while

Benson staggered away towards a saloon across the street, with an ugly look upon his coarse face. In a few minutes No. 7 came in from the north, and Mr. Harvish got off. Benson saw him, and in a few minutes they came into the office together.

"What is this I hear, Caller, about Mr. Benson not taking his run out this afternoon?" the superintendent asked, as he stepped over to the register desk.

"That is my order, Mr. Harvish," Mr. Hall said, as he raised from a desk across the room, where he was writing, and came forward.

"Well, those kind of orders will not be recognized, and another thing, I am getting tired of your meddling with the train crews and I do not intend to put up with it much longer."

The superintendent's face wore a dark scowl as he spoke these words, and, turning, he roughly addressed the caller:

"Change Benson back to No. 73."

Mr. Hall's face had flushed crimson when the superintendent first addressed him. He had not answered a word. But by the time Mr. Harvish had given the order to the caller he had regained control of himself.

"Mr. Harvish," he said, stepping forward, "I gave that order, and if I am trainmaster no drunken man shall go out as conductor on No. 73 to-night."

The words, and the clear, low tones of Mr. Hall's voice appeared to stagger the superintendent for a second, but the wild roar of Benson, who was trying to push by him to lay hands on Mr. Hall, brought him back to his position suddenly. Mr. Harvish had the reputation of being a dangerous man when aroused; he grasped Benson by the collar and slowly walked him out the door, then turned and came directly back to Mr. Hall. He had regained control of himself, and the words he addressed to him were meant to be sarcastic.

"For fear that a drunken man should take No. 73 out to-night, and that your word of honor should be broken, you can consider your services as trainmaster at an end."

He said this with an ugly sneer upon his face, and turning short about, walked out. Passing the caller, he asked in a rough voice:

"I suppose you have made the change for No. 73?"

Mr. Hall had listened to the superintendent with a white face, but had not ventured a word in reply, and as soon as he was gone returned to the desk where he had been writing when Mr. Harvish came in. There were some eight or ten employees about the room, and during the events which have just been related all of us were more or less excited—all except Johnson, the new operator. Although he had watched every move and heard every word spoken he appeared to note everything in that cool business way which characterized all his work.

Mr. Hall left that night for the general manager's office. A message came, calling Johnson also, and a man was sent to take his place. I did not get back to the office that night, but the next morning learned that No. 73 had wrecked about 40 miles south and a brakeman had been killed. A few days after that and just before the end of the month we received

circulars over the road, saying that on the first of the incoming month the management would change, and that Mr. Hayward, a prominent official from an eastern railroad system, would take charge as vice-president and general manager, and that the first thing he would go over the system and get acquainted with the officers of each division.

So, in a few days, I received a message from Mr. Harvish to bring the officers and meet the general manager's train at the end of the division—our office.

There was a big stir to get things ready, and when the day arrived Mr. Harvish and Mr. Benson (now Trainmaster Benson) came on No. 2 at 7 A. M. Mr. Harvish had put on his best humor for the occasion, while Benson strutted around the office and yards, trying to assume an air of official dignity which he did not possess.

Finally the official train pulled in and the officers came filing into the office, some four or five directors, general passenger agent, superintendent of transportation and several others.

Mr. Harvish was in the lead, showing and explaining, when, who should step in with the last of the party, but Johnson.

The moment I saw him the truth of the situation flashed into my mind—he was the new vice-president and general manager and had been on a real prospecting trip—when he had worked here several weeks before. Behind him came Mr. Hall, the discharged trainmaster. Harvish's countenance underwent many changes during the next few minutes after he was introduced to Mr. Hayward, while it was amusing to note the efforts of Benson to keep out of his way and sight. But it did not avail them anything; they were too late. In a few weeks a new superintendent was appointed; his name was Hall; there was also a new trainmaster. "Cripps" is now the general manager's private secretary. There are very few wrecks on the division now, and things are running smooth.—The Railroad Telegrapher.

#### Telegraphy and Invention.

The Abbe Barthelemy seems to have had a prevision of the practical use to be made of electricity in sending messages. Writing to Mme. du Deffand in 1772, he observes:

"It is said that with two timepieces, the hands of which are magnetic, it is enough to move one of these hands to make the other take the same direction, so that by causing one to strike 12 the other will strike the same hour. Let us suppose that artificial magnets were improved to the point that their virtue could communicate itself from here to Paris. You have one of these timepieces, we another of them. Instead of hours we find the letters of the alphabet on the dial. Every day at a certain hour we turn the hand and M. Wiard, Mme. du Deffand's secretary, puts together the letters and reads. This idea pleases me immensely. It would soon be corrupted by applying it to spying in armies and in politics, but it would be very agreeable in commerce and in friendship."

You can't afford to be without TELEGRAPH AGE.

**Hear Ye! Hear Ye!**

BY JOHN A. DREAMS.

Now that the recent titanic struggle, waged with the ferocity of uncivilized warfare for supremacy in the affairs of the Northern Pacific Railroad has been amicably concluded, and by reason of which I was enabled to dispose of my large holdings at fabulous prices, thus enriching myself beyond my wildest dreams; and being imbued with a strong, healthy, able-bodied desire to emulate the altruistic example of the world's noblest philanthropist, whose many grand gifts of unparalleled munificence for educational purposes will prove an everlasting monument to his memory, I purpose coughing up the major portion of my suddenly acquired and colossal wealth ere I am ferried across the river Styx during commission hours (and I would say right now that if this river Styx is any worse than some senders I know of I'll walk around it), thereby securing immunity from the awful peril by the aforesaid philanthropist presaged. My unshaken belief in the ancient proverb, "Tis more blessed to give than receive" is, I confess, born of the memories of my early telegraph days when George Irwin used to ring in on me his world-renowned long-distance stuph; the good old days when the hold-fast-going-round-the-curve sender of the present was, happily, undiscovered. There still lingers on this mundane sphere many old operators who together have shared the joys and sorrows of the block, touching and retouching friends and acquaintances until the latter looked nearly as good as new, and to whose hearts these traditions of the profession are ever near and dear; non-acquiescence, in which, meaning relinquishment to all claim or ever having been first class. For the benefit of these and others my plans, in part, as determined upon and subject to change without notice, are:

1—The establishment of a fund in perpetuity from which those hereinbefore mentioned may draw a monthly pension, and of which I shall, for the present, serve as disbursing officer. I am familiar with the idiosyncracies of every blockite in the land, his needs, the limit of his touch, the uses to which his gatherings are applied—the same having been told and retold to me times without number in smoother tones than ever were uttered political platitudes by the platitudinarian Platt—and feel perfectly competent to dole out whatever allowance may hereafter be determined upon with a fair and impartial hand, using both hands if necessary.

2—The establishment of a fund from which those who invariably have a good thing in the last race may secure loans at a nominal rate of interest, thus obviating the necessity of dealing with professional money brokers whose charges are exorbitantly excessive, but with whom, as a special inducement, one may conduct negotiations without the knowledge of the management up to the very moment garnishee papers are filed.

3—The establishment of a fund for the creation and maintenance of a society for the protection of the nation's heroes against the diabolical machina-

tions of pink tea and social equality leagues; and let it be heralded far and wide that to find the cream, the flower, the quintessence of this homogenous aggregation of pusilanimous and pragmatistical hybrids one need not look beyond the "exclusive" Army and Navy set. In return for these contemplated benefactions I do not hope for nor desire temporal reward; enough for me that in future ages when my name is spoken at telegraphic gatherings some one will ask: "What did he sign?" This will lead up to shop talk and afford an opportunity for its devotees present to relate, among other tales, that in the different cities they invariably worked the "first" wire leading to another metropolis.

I am but human, and can only pray that my present income of \$500,000 a year will not result in turgidity of the cranium and drive me into the vaudeville ranks. In such event I would probably become a White Rat and demand \$600,000. In conclusion I beg to say that if any there are who feel that failure to make specific provision will precipitate a rupture of our hitherto pleasant personal relations, which I would deeply deplore, and will furnish me with their names and address, plainly written on one side of the paper, I will mail them a blank check, together with a copy of my latest song, pronounced an exquisite love lyric, entitled "Meet Me at Ellis Island."

**The Telegraphic Heart of England.**

The following data from Titbits is quite interesting: The Central Telegraph office at St. Martin's-le-Grand is the busiest spot in London. Day and night, Sunday and week day, throughout the year, the place is the scene of great activity, for the building is never closed. At this one telegraph office between 125,000 and 150,000 telegrams are handled daily. The record number of messages received and dispatched in one day is 195,411, which was the number reached on the day before the late Queen's Diamond Jubilee in 1897. There are no fewer than 1,226 telegraph instruments, and a staff of nearly 4,600 persons is employed. There are 2,470 men telegraphists, about 1,200 lady telegraphists, 880 messengers and 50 special servants. When anything important occurs the Central Telegraph Office is exceedingly busy sending reports across its numerous wires. Often as many as 500,000 words are dispatched in the early hours of the morning of a famous parliamentary speech. When Mr. Gladstone introduced his Irish Home Rule bill in 1886, over 1,000,000 words were dispatched over the wires from the head office. This is regarded at the Central Telegraph Office as a "night's" record.

Messages can be sent from this office to all parts of the world. In addition to the telegraph wires there are numerous telephone circuits, one of the most interesting being that from London to Paris. As many as 300 persons have used it in a single day, and a charge of \$2 is made for every talk of three minutes' duration or less.

TELEGRAPH AGE should go regularly to every one interested in the telegraph. Write for sample copy.

### The Origin of the Term "Bughouse."

It is a curious fact that "slang travels faster than steam." This is vaguely ascribed to the telegraph and the operators, but no one save the operators seems to know how quickly catch phrases are made to fly from city to city. All things center in the telegraph offices; to them go all sorts of people—theatrical folk, "horsey" men, commercial travelers, men about town. Messengers, receiving clerks, and, in smaller cities, even the operators hear and are quick to "pick up" the "latest" phrases and catch words, such as will lend themselves to interjection between the messages handled on a busy wire. Telegraph offices are busy places, and those working in them must needs condense their humor into the smallest possible space or go without it; hence, telegraphic wit is generally confined to crisp things that come out with a click, and are so edged with sarcasm as to reach hundreds of miles to the man at the other end of the wire.

One somewhat vulgar word, "bughouse," originated in a telegraph office, and had a surprisingly quick popularity. An old-time telegrapher, in conversation with a representative of the New York Evening Post, tells the following story in regard to it: On a busy morning the first wire of a telegraph company between New York and Baltimore went out of balance. In other words, the delicate currents traversing it encountered a resistance great enough to cause them to cease intelligibly to actuate the multiplex instruments connected with it. The wire chiefs between Baltimore and New York were called in, and, after much testing, the trouble was located in Baltimore's instruments. The Baltimore wire chief, upon close examination, found that the trouble was caused by a cockroach, which, after tumbling into an ink well, flush with the table, crawled out and dragged its wet body upon the top of the resistance box, trying to escape into the box's interior through one of the switch plug holes.

The insect's wet body formed a connection, and this current traversed it as readily as it would have a metal plug placed in the hole; therefore, many hundred ohms too much resistance was thrown across the path of the passing currents. Hence the resistance box "had a bug," which created "wire trouble." This information was repeated to New York, when the wire started again. The story was told about the metropolitan office, discussed and commented upon, and a new slang word came into being, one just suited to telegraphic uses. Variations were settled upon within fifteen minutes, and the new bit of slang was sent flying over the country in every direction as the poor wit of the operators found opportunity to use it.

Soon afterward I was assigned to the St. Louis wire. I knew the man in the Missouri city personally, and we were much given to joking with each other. I was ready to pass the new word on to him when occasion offered, but before the opportunity came a difference of opinion arose between us over the subject matter of a newspaper special then passing between us. At an interesting point in the controversy my distant friend calmly clicked off the opinion that I "was bughouse." "Where

did you get hold of that?" I asked. He said: "The man on the Cincinnati wire just yelled it at me." So Baltimore had passed the new slang to Cincinnati. St. Louis got it next, and probably passed it to Ogden, and Ogden sent it flying to the Pacific coast. Chicago had it from Cincinnati, and passed it to the Northwest. St. Louis clicked it to New Orleans and the Southwest. It could, traveling at the rate it maintained in the first fifteen minutes of its life, have traversed the United States and Canada within an hour. The operators passed it to the clerks in each office, the clerks to the messenger boys and the boys bore it into every nook and corner of their respective cities. The next day the smaller cities had the new idiom, with variations; next the small towns and rural communities received it; in a week it was worn threadbare.

### Heroism of the Rail.

Railroad men, as a rule, are inclined to discount the deeds of bravery among their cult, and to scoff at newspaper accounts concerning them.

During the beginning of the work of excavating a collapsed union tunnel recently a green newspaper reporter was trying to twist together certain facts by which an express messenger, a treasure box and a "stand-by-my-post-until-death" determination should be telegraphed to appear in a local paper under the glaring headlines: "A Thrilling Deed of Heroism; or, How an Express Messenger Stood at His Post."

Asked about the matter and complimented upon the fact that his train service should develop such heroes, an official laughed merrily.

"That reminds me," said he, "of a wreck on an eastern road some years ago, in which I was interested. Through a mistake in the telegraph train orders, a freight and an excursion train were on the same track. While moving along at a lively rate the freight engineer discovered to his horror the passenger just around a curve ahead. The lever was reversed and the train came to a standstill just in time. Then occurred a scene of rejoicing such as I never before witnessed, and the joyful passengers insisted upon raising a purse for the 'intrepid' engineer. The latter allowed them to do so, and received a handsome compensation in silence. He was approached by a newspaper man, who asked him how it was that he had had the bravery to remain in the cab in the face of death.

"'Begorra, because I couldn't get out,' was the reply."

The Transmitter, a publication devoted to the interests of the Australian Post and Telegraph Association, reaches us for the month of July in a very much enlarged and improved form. The illustration of the telegraph office at Rockhampton, Australia, is particularly clear, and the general make-up of the paper would indicate that the interests of the Australian telegraphs are in excellent hands and that the publishers of the Transmitter thoroughly understand the requirements of the telegraph.

**On Balancing Quadruplex's and Duplex's.**

BY D. B. GRANDY, ST. LOUIS, MO.

I noticed in your issue of August 1 a communication from my old friend, Mr. Bugbee, on the art of balancing quadruplex's and duplex's without the formality of a "ground" at the distant end, and my memory carried me back to the days before the quad was known, and before the Western Union had acquired the duplex from Mr. Stearns. In those days Mr. Bugbee and I worked together at 83 State street, Boston, and he used to do a trick in "balancing" which filled my youthful soul with envy. It consisted in tipping his chair back and balancing on the two rear legs. At this he was an expert. I tried hard for years to master the trick, without success, and I never saw his equal at it. I mention this reminiscence merely to show that feats of "balancing" come naturally to Mr. Bugbee.

But seriously, much valuable time would be saved if all who have the handling of multiplex apparatus would make it a point to "get on" to that trick of balancing without having the distant end "ground." I may here suggest, in this connection, that a balance to the neutral relay, in the case of a quad, may be obtained more speedily and accurately than by the method mentioned by Mr. Bugbee. The polar relay will work fairly well, even when far out of balance, but the neutral relay must have a perfect balance for satisfactory work, and this can easily be obtained without a ground at the distant end.

Again, Mr. Bugbee says that in adjusting the condenser for a static balance, "if the polar armature jumps when the key is closed, more condenser is needed," etc. Not necessarily. Whether it "jumps" when the key is opened or closed depends wholly on the way the home battery is connected to the pole changer and its consequent effect on the polarity of the home relay.

Some years ago I urged in the columns of TELEGRAPH AGE the advantages of an ironclad rule requiring all quadruplex and duplex batteries to be connected to pole changers in such a manner that, with keys open, the negative pole should go to line. With a uniform system so established, the polar relays of all quadruplex and duplex sets would always be "regular," no matter what wire they were placed in, and no reversal of their connections would ever be necessary. Then, too, we could know invariably whether the "jump" of the armature, when the key is closed, means "more condenser" or less. With the present lack of uniformity in "setting up" quadruplex sets you are never sure until you prove it.

**NEW POSTAL OFFICE AT DENVER.**—The Postal Telegraph-Cable Company has recently completed a very elaborate office at Denver, Col. The work was done under the supervision of Mr. Guy E. Paine, the superintendent of the company at Kansas City, Mo., and Mr. W. C. Black, the assistant superintendent, and Mr. J. B. Coggins, the chief operator of the Denver office.

**The Delany Rapid Telegraph System.**

The Delany rapid telegraph system, which has been undergoing a long process of improvement at the hands of its inventor, Mr. Patrick B. Delany, of South Orange, N. J., is now being exhibited, according to the *Electrical World and Engineer*, at the Pan-American Exposition. Mr. Delany some time ago perfected apparatus for the perforating of tape and sending of messages to be received and read in the ordinary way by a Morse operator. The greatest interest centers, however, about the recently completed very rapid system which uses a chemical receiver. The chemical receiver marks a radical change in rapid telegraph methods. It is based on a principle conceived some time ago by Mr. Delany, but not put in a shape to make it commercially available until the invention of a tape puncher which could be worked by an ordinary Morse operator without previous practice. Such a puncher has been perfected and completes a system of rapid telegraphy which has overcome many of the obstacles that have stood in the way heretofore.

One of the greatest obstacles to rapid sending by the Morse code has been the "tailing" or drawing out of the dots on account of the capacity or condenser effect of the line. If the line is long it acts as a condenser to discharge current through the receiving instrument for an interval after the current has been cut off at the sending instrument. Mr. Delany has ingeniously made this condenser effect or tailing help instead of hinder his work. In fact, a certain amount of capacity is necessary in the line to have the receiver work successfully, and if the line is not long enough to give this a condenser must be used.

In the Delany system a tape is first perforated by an operator working as he would with an ordinary Morse key. The tapes so prepared by the operators in an office are then put into a sending instrument to be run through at the rate of 100 to 8,000 words per minute, according to the length of the line. The message is received on a tape by a chemical receiver, and this tape is given to the various tape readers in the receiving office to decipher.

The chemical receiver is driven by a small motor, makes use of a receiving tape which has been dipped into prussiate of potash, an electrolyte which will make a blue mark when an iron cathode is brought against the tape. The damp tape is passed over rollers under three electrodes arranged side by side. The middle one is of iron, and the two outside ones of platinum. When a current passes in one direction from the two outside electrodes through the moist tape to the iron electrode in the middle, the electrolytic action causes the iron electrode to make a blue mark. Current in the other direction leaves no record, as the outer electrodes are of platinum.

To understand the working of the receiver it is now necessary to go into the working of the sending tape and instrument. The sending tape is perforated, and is run through a motor-driven sender. On the tape there is a punch mark on the under half at the beginning of each dot or dash, and a punch

mark on the upper half at the close of each dot or dash. The horizontal distance between punch marks represents the relative length of dots, dashes or spaces. As this tape goes through the sending machine it passes under two contact fingers, one of which is over one row of holes and the other over the other row of holes. When a hole on one side of the tape passes under the contact finger on its side, a current impulse is sent over the line and through the receiver in one direction. When a hole on the other side passes under a contact finger, current is sent over the line in the other direction.

When a dot or dash is to be made, current is sent over the line in such a direction by the punch mark at its beginning, that the iron electrode on the receiving tape leaves a blue mark on the tape. The battery is, of course, immediately cut off as the punch mark passes from under the contact finger, but the capacity of the line causes it to discharge through the receiving tape and continue the blue mark until current is sent in a reverse direction by the punch mark at the close. The instant the current is reversed the electrolytic record of the dot or dash is stopped. All difficulty from tailing due to the capacity of the line is thus avoided, and the capacity is made a help instead of a detriment.

The rate of transmission possible with this arrangement is almost inconceivably rapid, and telegraphers who watch the sending of a message by this system at the Pan-American can hardly realize that a telegram has been sent in the second or two which it takes to run through a lengthy message.

In a system of this kind it is extremely desirable that the tape be perforated by a Morse operator by methods he is accustomed to. A punching machine by which the peculiar kind of tape used in the sender can be punched by the ordinary operation of a Morse key has recently been perfected by Mr. Delany. It operates one punch upon the depression of a key and the other punch upon the release of the key.

#### Simultaneous Telephony and Telegraphy.

An article describing the system employed on some of the main German metallic circuit telephone trunk lines, by means of which these lines can carry simultaneously telephonic conversations and Hughes type-printing telegraph messages, appears in a foreign paper. It says that bridged across the two lines in addition to the usual telephonic apparatus is an induction coil, consisting of two similar coils wound in the same direction at the two ends of an iron wire core (not one over the other). These two coils are connected in series, and their junction point is connected to the telegraph apparatus, which works with an earth return; and the same point is connected through a condenser to earth, the condenser thus shunting the whole of the telegraph apparatus. The connections of the lines at the two ends are, of course, precisely the same. It is seen that when traversed in series by the telephone currents the two windings on the induction coil tend to magnetize the core in

the same way, and therefore the joint inductions of the coil is great, and it does not shunt off much of the speaking current. On the other hand, the telegraphic currents traverse the windings in parallel, and as by this arrangement they offer less inductions, they only suffice to damp the current variations just enough to prevent their acting on neighboring circuits without prejudicing the working of the Hughes apparatus. The condenser which assists this dampening action can, in some cases, be omitted or diminished in capacity, as, for instance, when the telephone line is on a pole by itself. Thus, on the bronze Berlin-Vienna line, the condenser at Berlin has been omitted, and at Vienna it has been reduced in capacity from two microfarads (which has normally been found the best value on such lines) to 0.25 microfarad. The condensers must also be carefully protected from lightning by sensitive lightning guards. Each of the windings of the coil has 15,700 turns, and a resistance of 1,150 ohms. This combined telephone and Hughes service has already been put in on the following lines: Berlin-Vienna, Berlin-Budapest, Posen-Breslau, Dresden-Chemnitz, Frankfurt-on-the-Main-Strassburg (Alsace) and Hamburg-Lübeck.

#### Penalty for Divulging a Telegraphic or Telephonic Message.

A correspondent wishes us to inform him what the New York State law is covering the improper divulgence of a telegraphic or telephonic message. There is a special statute in this State, enacted at the last session of the Legislature, which may be found to give an effective remedy. It is Chapter 661 of the Laws of 1901, amending section 641 of the Penal Code. The object of the section, as thus amended, is to subject to a fine of not more than \$1,000 or imprisonment for not more than two years, or both, "a person who (1) either wrongfully obtains, or attempts to obtain, any knowledge of a telegraphic or telephonic message by connivance with a clerk, operator, messenger or other employe of a telegraph or telephone company; or (2) being such clerk, operator, messenger or other employe, wilfully divulges to anyone but the persons for whom it was intended, the contents or the nature thereof of a telegraphic or telephonic message or dispatch entrusted to him for transmission or delivery, or of which contents he may in any manner become possessed.

Manager: "Young man, this is the 30th of the month, and it is the thirtieth time you have been late. Now, sir, unless you have a first-class excuse I am going to fire you."

Operator: "Well, the reason I have been late each of these thirty days is owing to the fact that I stepped into church on my way to work purposely to pray for the continued prosperity of the company."

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



**The Pacific Cable.**

The bill which recently passed the English Parliament, appropriating \$10,000,000 for the Pacific Cable, which grew out of approaches made to England by some of her self-governing colonies, was interesting and important, because it was the first occasion when that country had been invited by the colonies to unite with them in so great an undertaking. It was agreed by the British Government and the Dominion of Canada, and the Governments of New South Wales, Queensland, Victoria and New Zealand, that the mother country should advance a capital sum of \$10,000,000 for the manufacture and laying of the cable, and that for maintenance England should be liable for five-eighteenths and the colonies for thirteen-eighteenths. The bill provided for the raising of the money and for the establishment of a Board of Control, which was to have the supervision of the manufacture and laying of the cable and its subsequent management. The Board was to consist of three representatives of England, two of the Dominion of Canada, and two each of the Governments of Australia and New Zealand.

In Parliament this subject was somewhat aired a few days ago, when Mr. Harrington said that the policy to be embodied in the bill contained a principle to which the House had never yet been committed. Public money was about to be used to interfere with private enterprise. Many interests in the country would be touched, and doubtless the scheme would be hotly criticized. Some particulars ought surely to be given. Was there to be a special tariff? Was the enormous amount of money which British citizens had already sunk in private cable undertakings to be jeopardized merely to satisfy the sentiment of a few faddists in the colonies? He, Mr. Harrington, could understand the Government proposing to have a cable to be used only for governmental or public purposes, but this was to be a competing commercial cable, to interfere with the existing cables. It was not to be worked, however, on ordinary commercial lines, but by nominees of the Governments concerned, doubtless with large salaries attaching to their positions. Mr. Harrington added the whole scheme was monstrous and absurd.

T. M. B. Association.—Assessment No. 383 has been levied to meet the claims arising from the deaths of William A. Oridge, at Elizabeth, N. J.; John Fottrell, at Wilmington, Del.; James F. Valentine, at Jacksonville, Fla.; John M. Casey, at Denver, Col.; Edgar Snyder, at Woodstock, N. Y.

If the new Edison storage battery is as efficient and economical as has been stated, it will not be surprising to hear in the near future of power being stored up in these little cells at Niagara Falls, to be transported by railroads to all sections of the United States. That appears to be the tendency of the times.

**TELEGRAPH AGE** should go regularly to every one interested in the telegraph.

**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.

**ST. LOUIS, MO., WESTERN UNION.**

Mr. S. A. McClure, of the Chicago & Alton Railway Company, Virden, Ill., was a recent visitor.

Mr. A. V. Curran, night wire chief of the Atlanta, Ga., office, spent a few days in the city the middle part of August. Mr. Curran had been rusticated in the Rocky Mountains for about six weeks, making observations on mining, etc., for a brokerage firm of Atlanta, Ga. Mr. Curran may engage in the mining business in the Rockies, being very favorably impressed with the result of "delving into Mother Earth."

To say that we are taking "Old Father Time" by the forelock is but expressing it mildly. We will be in good shape for the Fair long before the advent of that occurrence in 1903. With an enlarged office and a coating of paint, both inside and out, our office does credit to the efforts of Manager Boble and Chief Operator Spencer.

Claire Hull died of consumption on August 21. A floral offering was sent by his many friends in this office, on the day of the funeral.

**EVANSVILLE, IND., WESTERN UNION.**

The wife of Lineman George Augustine, died July 28. She left one child, a little boy.

Manager W. V. Duke spent a few days recently in Chicago with his son Warren. Mrs. Duke and her youngest son are spending the summer at White Sulphur Springs, Va.

Mr. Joseph Madden is translating code to English for the Journal-News. Henry Kilburn is filling the vacancy made by Mr. Madden's absence.

N. M. Booth, who was manager of this office in days long gone by, drops in occasionally and talks by

wire to his old friends. He is hunting the forty-niners that assisted in organizing The Old Time Telegraphers' Association in Cincinnati, September 7, 1880.

#### EVANSVILLE, IND., POSTAL.

Manager Charles Shea has the supreme title of Director-General of the Elks Carnival that comes off September 2-7.

Mr. George O. Christie has transferred his services to the Postal, St. Louis. C. O. Balden fills the vacancy thus created.

C. C. Jacobs, of Chicago, is night operator in place of Smith Dunning, now working for the Western Union, New York. Mr. Jacobs works this end of the wire for J. J. Chandler, broker.

Miss Ella Boyle, chief clerk, is very popular with all who do business with the Postal. Six hustling young men rush to answer district calls and deliver messages. They are paid for each message delivered and each "pick up" brought in. This insures better and more satisfactory service than when boys are paid by the month.

#### ST. LOUIS, MO., POSTAL.

It may not be generally known that the St. Louis Postal office has the fastest long-distance duplex in the world. On our New York duplex, July 26, with Messrs. W. H. Miles and W. C. McCain at St. Louis and G. O. Heath and J. I. Hilliard on the New York end, we handled 916 messages between the hours of 8 A. M. and 5 P. M. It is an every day occurrence to handle 1,000 messages on shorter circuits, but to handle 916 messages in nine hours on a circuit of more than 1,200 miles through two sets of repeaters is something to brag about. This duplex will be one of the World's Fair features in 1903.

#### CHICAGO, ILL., WESTERN UNION.

Mrs. Arthur Galey has been seriously ill for some time, but we are pleased to hear of her recovery.

Mr. George Porter had a serious attack of apoplexy. He was found in an unconscious condition and was taken to his home.

Mrs. Lowe has recovered from another spell of sickness.

Miss Jessie F. Wilson, who resigned July 24, is working for the Western Union in New York.

Mrs. Adonis T. Hebe, who came here a few days ago, has been assigned to the La Crosse local.

Dr. Ault, the optician and former operator, is with us now and then nights on the extra list.

Wire Chief Benjamin Powell is taking a much-needed vacation.

The uppermost thought among members of The Old Time Telegraphers' Association is the reunion, which will be held in Montreal September 11, 12 and 13. All anticipate a fine time.

Miss Mary E. Thorp, formerly of the Wheatstone department, was quietly married on August 12 to Mr. Arthur J. Buffington, who is connected with the Swift Packing Co., of this city. Miss Thorp was a general favorite while here, and the happy couple have the congratulations of the entire force. Mr. and Mrs. Buffington will go to housekeeping in about a month, when cards will be issued to their numerous friends.

Mr. and Mrs. Edward Ames, recently of this office, have taken up their abode in Milwaukee, and are employed in the Western Union there.

Miss Annie Morrison has returned from her vacation looking much improved.

Messrs. Chromister and Ditch, detailed to Oklahoma Territory temporarily, have just returned to Chicago.

#### NEW ORLEANS, LA., WESTERN UNION.

The heavy storm which visited this section about mid-August caused a few poles to go down, but the Western Union's skilled hands soon had things to rights again.

Recent visitors: Messrs. C. H. Johnson, wire chief, Memphis, Tenn.; A. H. Stewart, chief operator; W. K. McClare, chief foreman, and Mr. McLane, "conduit man," all of Nashville, Tenn.

#### PHILADELPHIA, PA., WESTERN UNION.

Miss Eva Clinger, daughter of Mr. Thomas Clinger, of this office, was married recently to Postmaster W. T. Parkinson, of Norwood, Pa.

Mr. D. A. Mahoney is the proud and happy father of a boy.

Mr. H. A. Leavitt is another jubilant father of a first-born son.

Mr. Edward Kearns, a well-known Pennsylvania Railroad operator, and brother of Benjamin Kearns, of the Record office, died recently in New York.

Miss M. Gaffey, late of this office, but now located in Baltimore, was a recent visitor.

Mr. R. C. Toft, a well-known operator, who was formerly with us, suffered a bereavement in the loss of his father, who died recently.

#### INDIANAPOLIS, IND., WESTERN UNION.

Our quad chief, Mr. M. S. Allen, with his family, recently visited relatives at Terre Haute, Ind.

Recent visitors: Mr. Arthur Burr, chief operator of the Western Union, at Richmond, Ind., with his wife, stopping on their way to Montezuma, Ind., where they were to spend a vacation; Mr. Deacon Hunt, one of the oldest telegraphers in Indiana, who is employed with the Vandalia Line, at Ben-Davis, Ind.

Mr. James Berry, of our extra force, resigned to accept a position with Granger Farwell Co., brokers. He is a candidate for Council, Thirteenth ward, and his election is considered most certain.

Mr. William Fette, after ten days' vacation, is again at his usual post, Chicago local, nights.

Mr. Joseph Rapp, of the St. Louis office, after spending a month with us, has returned. He was one of the stars in the recent ball game between the Indianapolis and Cincinnati clubs, played here. During his stay with us he made many friends who were sorry to have him leave.

Miss Flo. Greely, after spending a month's vacation at Yellowstone Park, is again on duty looking after the St. Louis local.

Arrivals: Messrs. H. F. Sarbar, F. W. Kellogg, I. A. Merrick.

Departures: Messrs. H. F. Thorpe, G. B. Hawley.

Mr. Harry King, of Trons pool room, has been helping out during the rush.

# Crocker-Wheeler Company,

Manufacturers and Electrical Engineers.

Motor-Dynamos.

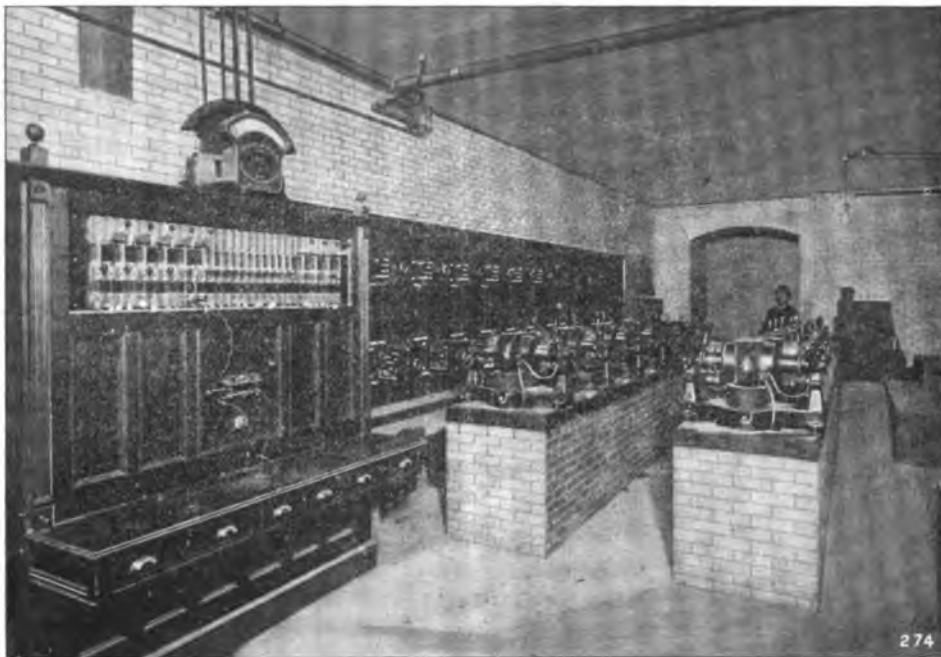
Dynamotors.

Direct Current Machinery of Every Description.

Power Generators.

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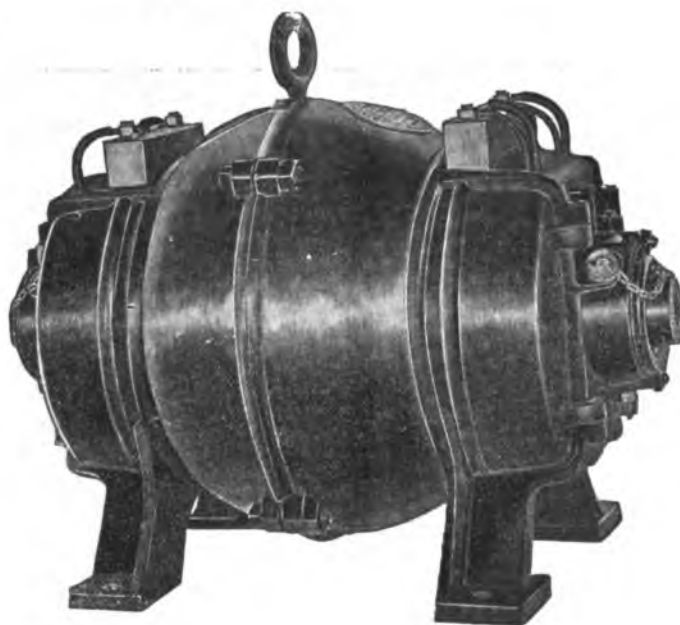
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## CHICAGO, ILL., POSTAL.

Mr. M. M. Smith has been appointed traffic chief vice M. H. Arthur, resigned. Mr. Smith was relieved by Mr. W. H. Mills, of the Milwaukee and city line division. Mr. W. G. Phillips relieved Mr. Mills as assistant in that division.

Our esteemed chief operator, Mr. J. E. Pettit, was away last week enjoying a vacation.

Night wire chief, B. C. Elder, has just returned from a ten days' vacation.

Mr. Forrest, of the Milwaukee bonus wire, has been doing remarkably well of late. Some days ago he had gotten his day in at 1 P. M.

Quad chief, G. K. Smith, has been absent for some time, caused by sickness.

Mr. George Dorr, of the Indianapolis local, is also away on the sick list.

Mr. Deno, of the office at the Board of Trade, is with a broker for a short time. Mr. P. A. Duffy, manager at Kalamazoo, Mich., was a recent caller at our office.

Arrivals: Miss Lucy Wigton and Frank M. Lowe, transferred from Des Moines, Ia.; Messrs. Merrick, Murphey, Paxton and Abrams.

## PHILADELPHIA, PA., POSTAL.

Peaches, melons and sweet potatoes have the call on the new Delaware lines. Mr. Richard Ziegler, the well-known old-timer, at this end, is establishing a record in moving that business which gives satisfaction to everybody along the line.

"Put Me Off at Buffalo" is the popular reply to the query: "Where will you spend your vacation?" Traffic Chief Geo. W. Dunn, and Cashier Geo. G. Glenn, are among the latest to take the trip.

Mr. Benjamin H. Moore, private secretary to Superintendent Adams, had a few days pleasant outing.

Mrs. C. W. Power and Mrs. E. J. Matthews have arranged for a month and five weeks' vacation, respectively.

General Manager Jas. R. Ash, of the New York, Philadelphia and Northern Telegraph Company, was a recent visitor, returning with Superintendent C. C. Adams from a tour of inspection.

Miss E. Stratton has been transferred to the North-American office, days, vice Joseph Hockery, gone with the Western Union.

Mr. Geo. B. Morris, of the Chicago local, has been called upon considerably of late to fill temporary vacancies at various broker's offices.

Chief Operator C. A. Stimpson, and family, spent a week's vacation visiting at several near-by points.

Don't get disheartened over your lost grip and hard work sending, a few weeks' persistent use of the new Twentieth Century Relief Key will do wonders for you. Terms and information cheerfully given. Leo Miller, this office. (Adv.)

## MONTREAL, QUE., CANADIAN PACIFIC.

A telegram has been received from Mountain Grove announcing the condition of Mr. George Ivory, to be serious and that his ultimate recovery is unexpected. Mr. Ivory passed through here from Philadelphia about six weeks ago, where he

had been employed for the Western Union. He was also employed in this office several years ago.

Mr. J. F. Richardson has returned from Windsor, Ont., where he had been for the past six weeks, superintending the construction of a cable for the Dominion Government.

Mr. David Ryan, train dispatcher at Brownville, Me., who is spending two weeks' vacation in this city, and Mr. Thomas Greator, of Holeb, Me., called to see the boys.

Mr. J. H. Hemming, of the Commercial cable office, Hazel Hill, N. S., passed through here en route from the Pan-American.

Mr. Herdman, of the Canadian Pacific Railroad, Halifax, N. S., was a recent visitor.

Mr. J. Giguere and Mr. J. Lavigne, of the receiving department, are spending a vacation in the country.

## KANSAS CITY, MO., POSTAL.

Manager W. C. Burrows, of Leavenworth, Kan., was a recent visitor to the operating room.

Traffic Chief Thomas Ingram has been on a vacation at his old home, Bowling Green, Mo. During his absence C. C. Holloway assumed the duties of his office. John Hall, of the Chicago wire, nights, has also been absent on a month's vacation.

Business was heavier in this office during July and the first part of August than ever before in its history.

## NEW YORK, POSTAL.

Mr. J. F. Skirrow, the assistant manager, is an extremely busy man these days, devising and planning schemes to cover the various telegraph points during the International boat race, which is to take place the latter part of this month.

Returned from vacation: Mr. John Fredericks, night western wire chief; general traffic chief, F. F. Norton; Miss M. Bryant, Mr. H. Marks, Miss Bella McDonald, of the city department.

On vacations: Manager C. Shirley is in the Adirondacks; western wire chief Edward Rankin, is at Greenwood Lake, N. J.; chief check, T. J. Sullivan, J. H. Twyford, night loop chief, are in Canada; James Mingle is at Rangeley Lakes, Me.; Isaac Naital at Seagirt, N. J.; Miss L. Moss and Annie Marmion at Long Branch. Miss Emily Marmion transferred to a private wire position during a two months' vacation of the regular operator.

Resignations: Miss Sophie Menting, Miss A. Simmons.

Arrivals: Miss F. Jessen, Miss C. Holmes, Fred E. Brown.

## MONTREAL, QUE., GREAT NORTH-WESTERN.

Circuit manager Thomas Rodger, has returned from Toronto and Buffalo, N. Y. Walter Graham, chief operator, acted as circuit manager during his absence.

Chief operator Walter Graham, has completed extensive improvements to the switch and wires coming into this office.

Wire chief R. E. McCord, has recently com-

pleted the erection of a third quad to Quebec. The Montreal office is fast becoming one of the finest in America.

Miss Ida Phelan has returned from her vacation at St. Agathe, Que.

Messrs. William Buckingham, E. Y. Daly, W. E. Burris, C. W. Souls, Herbert Keating, Mr. Dungan and Miss E. G. Peeples are the latest additions to our staff of telegraphers.

Clifford Swinburn, Gertie Egli and Gertie Lucas are the latest additions to the check force.

Miss May Howard has been promoted to one of the tickers.

Miss E. G. Peeples, of Halifax, is doing fine work on our New York quad.

Mr. W. M. Thompson suits very well on our cable wire to North Sydney and duplex to St. John, N. B.

Clifford Byrd does fast work on Quebec at night.

Albert Ross and Mr. Elwell are on extra.

Resigned: Miss Dunn, Miss Phelan, Halifax, N. S.; Mr. Walter Cosgrove, Ottawa, Ont.

Mr. N. W. Bethune, superintendent at Ottawa, Ont., paid us a visit recently, accompanied by his laughter.

Mr. Nobles, our press operator, is subbing for Operator T. Dewitt, at the Daily Star, Mr. Dewitt being on his vacation.

Herbert Baker is away on his vacation.

Miss "Joe" Phelan has accepted a position with a broker.

Mr. J. Lanskail speaks very highly of the operators in Quebec.

#### NEW YORK, WESTERN UNION.

Miss Mattie Van Ausdall, one of the most expert lady telegraph operators in the country, has been added to the force. Miss Van Ausdall comes from the West, where she gained her experience in telegraphy.

Mr. Gardner Irving, manager of the Commercial news department, is rusticated at Lake George, N. Y.

Mr. James McParlan, manager of the Marine Department, is now enjoying his annual vacation.

The members of The Old Time Telegraphers' in this office, headed by Mr. John Brant, the genial secretary of the association to the number of some fifteen, expect to attend the Montreal reunion.

On vacation: H. A. Fitchett, D. W. McAneeny, T. F. McGannon, W. N. Shiber, in charge at New York Journal.

Appointments: J. L. Danback, E. E. Cunningham, J. C. Powers, R. A. Dickinson, E. C. Bailey, B. A. Metzger, James N. Sapp, W. M. Wolff, Frank E. Barrett, C. J. Applegate, F. M. Byrne, E. J. Moon, W. A. Yoell, J. D. Kirby.

Resigned: H. O. Wydman, Miss Minnie J. Garey, Miss Ruth D. Jessen, and J. F. Keogh.

Mr. Perry F. Irish has again resumed duty, working short hours.

Mr. Harry A. Sauer, president of the Telegraphers' Aid Society, is still in the Catskills, and it is said is regaining his health.

The wife of Daniel A. Murphy, and the mother of A. F. Murphy, operators, both of this office, died August 21.

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.)

Artistic and mechanical drawing by J. B. Barrett, 195 Broadway, New York. (Adv.)

#### Miscellaneous Items.

A trade publication is invariably taken and read by the most progressive men in the business represented.

The cable steamer Mackey-Bennett, after doing some cable repairing in Nova Scotian waters for the Commercial Cable Company, has returned to Halifax.

Mr. E. W. H. Cogley, assistant superintendent of telegraph of the leased lines of The Associated Press, New York, will leave in a few days on his annual vacation.

Mr. L. R. Freeland, chief operator of the Postal Telegraph-Cable Company, Binghamton, N. Y., was married on August 14 to Miss Mabel Davison, of that city.

Mr. E. Stannard, chief operator of the Western Union Telegraph office, Shreveport, La., has embarked in the brokerage business. His friends wish him every success.

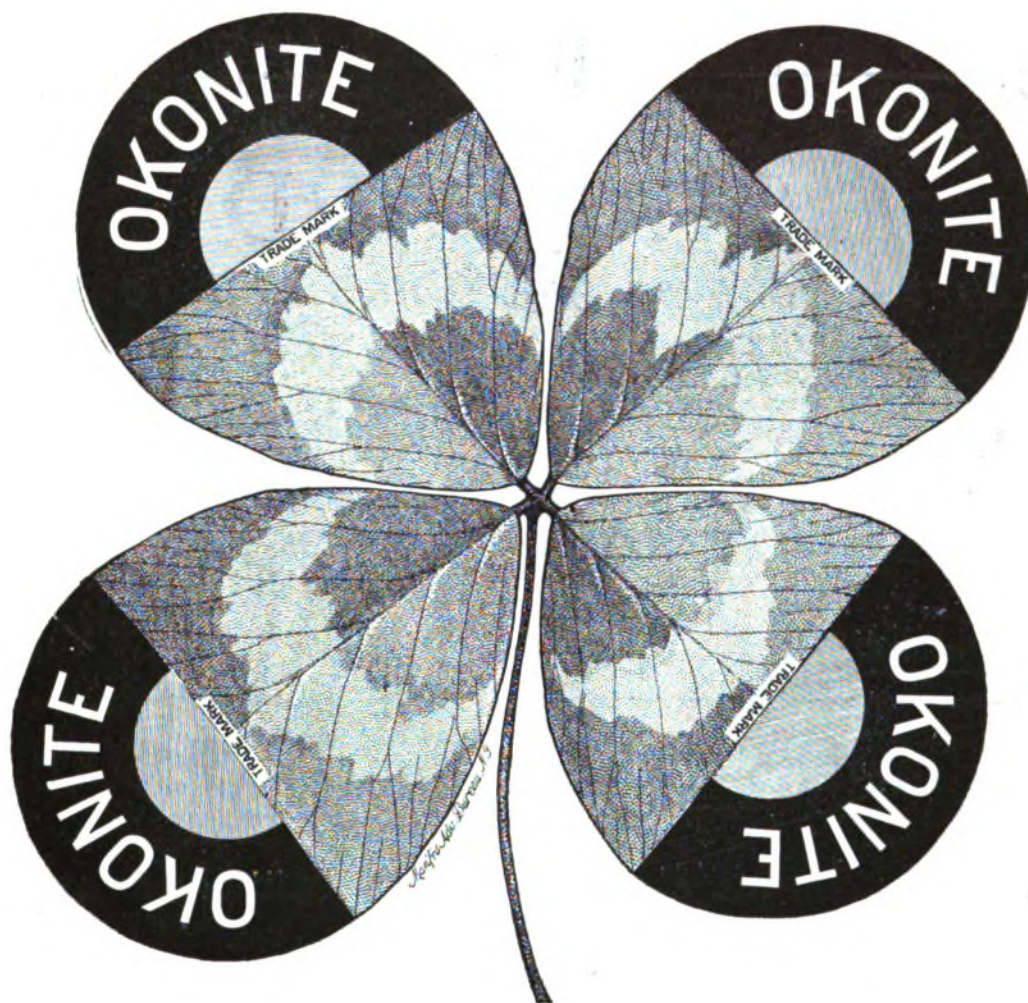
The veteran telegraphers of The Associated Press will meet in annual convention at Cincinnati, Ohio, on September 7, when it is expected a most enjoyable time will be had.

The North-American Telegraph Company, with headquarters at Minneapolis, Minn., Mr. H. A. Tuttle, general manager, has decided to string two additional copper wires connecting Minneapolis with Chicago, to accommodate the increasing business.

Mr. J. J. Davis has been appointed acting chief operator of the New York Stock Exchange office of the Postal Telegraph-Cable Company, vice B. F. O'Reilly, resigned. This extremely busy telegraph center is presided over by Mr. S. E. Ostrom, who has been a hustling manager in the financial district ever since the company was organized for business. Mr. Ostrom understands the telegraph situation in the financial district from A to Z, and although an old-timer, he is still youthful in appearance.

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

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**Personal Mention.**

Mr. Albert Beck, secretary of the Commercial Cable Company, New York, has arrived from Europe.

Mr. E. G. Cochrane, general superintendent of the Postal Telegraph-Cable Company, New York, is absent enjoying his annual vacation.

Mr. Geo. G. Ward, vice-president and general manager of the Commercial Cable Company, New York, accompanied by his wife, has returned from Europe.

Mr. H. J. Pettengill, for many years superintendent of the Postal Telegraph-Cable Company, and now vice-president of the Michigan Telephone Company, at Boston, Mass., sailed for Europe on August 24, accompanied by his two youngest sons, to be absent about two months.

The many friends of Major R. B. Hoover, one of the old time telegraphers, will be pleased to learn that he is now in business in New York city, where he is secretary of the Magneto Electric Co., a position he is well qualified to fill. The Major will be recalled as having suggested the memorial to Professor Morse, which resulted in the erection of the fine statue in Central Park. For several years past he has been connected with the Central Union Telephone Company, in Ohio and Illinois.

Mr. J. B. Van Every, vice-president and auditor of the Western Union Telegraph Company, recently presented to Mr. Charles A. Tinker, president of the Telegraphic Historical Society of North America, the original annual report of the New York, Albany and Buffalo Telegraph Company, to cover the year 1848. The document, although in the handwriting of a bookkeeper, is a voluminous as well as an interesting one, and is a valuable addition to the archives of the Historical Society.

The bronze statue of the late Gen. E. B. Fowler, the war commander of the Fourteenth New York Regiment, who at the time of his death, in January, 1896, was auditor of the Commercial Cable Company, New York, which is to be placed in Fort Greene, Brooklyn, will be unveiled on Sunday, May 18, 1902. It will be the forty-first anniversary of the departure of the Fourteenth from Brooklyn for the front in the Civil War. General Fowler's granddaughter, Ethel Baker Moody, daughter of Mr. William H. Baker, general manager of the Postal Telegraph-Cable Company, will unveil the statue.

**Obituary.**

Robert Moore, aged 50, a train dispatcher on the Grand Trunk Railroad at Bellville, Ontario, died recently at that point.

Z. R. Bennett, a well-known New York printer, and who in the early seventies published *The Operator*, the paper of those days representing the telegraph profession, died recently in New York city.

Hector Mackenzie, vice-president of the Montreal Telegraph Company, Montreal, Que., and the head of a prominent dry goods firm, that city, died on August 20.

Charles E. Hotaling, manager of the Postal Telegraph-Cable Company at Albany, N. Y., died of consumption at Loon Lake, N. Y., on August 20, whither he had gone in hope of arresting this dread disease. Previous to his promotion as manager, about six months ago, Mr. Hotaling was night chief operator at the same place for a number of years.

Erastus Lewis, who for the past quarter of a century had been train dispatcher of the Erie Railroad, Jersey City, N. J., died on August 17. Mr. Lewis was one of the fattest men in the United States, tipping the scales at 520 pounds. He was well and favorably known in the railroad and telegraphic fraternity, and notwithstanding his great weight, was a first-class telegrapher. He was for a number of years president of the Fat Men's Association of New Jersey. Notwithstanding the crowded condition of his division, he never had a railroad accident charged to him.

Samuel J. Gifford, who was the first telegraph operator on the Lake Shore and Michigan Southern Railroad, and dispatched the first train ever run over it on telegraphic orders, died in Dunkirk, N. Y., August 18, aged 67 years. After filling positions on the Erie and Lake Shore road as operator and train dispatcher, he became a partner in the firm of Skinner & Gifford, which built large shops in Dunkirk for constructing engines and railroad fixtures, and also built in 1875 and 1876 the Texas and New Orleans Railroad, now the Southern Pacific Railway. Mr. Gifford later went into the insurance business. He is survived by his wife and one son. He was a forty-niner of the telegraph, and was a member of The Old-Time Telegraphers' Association.

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by local applications, as they cannot reach the diseased portion of the ear. There is only one way to cure deafness, and that is by constitutional remedies. Deafness is caused by an inflamed condition of the mucous lining of the Eustachian Tube. When this tube is inflamed you have a rumbling sound or imperfect hearing, and when it is entirely closed deafness is the result, and unless the inflammation can be taken out and this tube restored to its normal condition, hearing will be destroyed forever; nine cases out of ten are caused by catarrh, which is nothing but an inflamed condition of the mucous surfaces.

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**A New System of Signaling, for Telegraphy, Fire and Police Alarm, Railway Semaphores, Switches, &c.**

Among the many inventions that have come in with the new century none in the electrical field have caused more interest and inquiry than the practical application of the magneto to all forms of signaling apparatus, as lately introduced by the Magneto Electric Co.

This system, without the aid of any battery or dynamic currents whatever, is capable of being applied to telegraphy, fire alarm and police telegraph, military field telegraph, railway semaphores and switches, fog signals, flash lights, etc. The invention has passed the experimental stage, and now demands of the intelligent electrician and investor a place among those discoveries which mark epochs of evolution and revolution along the lines indicated.



DR. L. E. NILES.

President of the Magneto Electric Company.

With the new apparatus messages have been sent by the Morse code from New York to Buffalo and return, while experiments show that the same current will carry clearly from New York to San Francisco, without the necessity of repeaters. The fire alarm apparatus has also had an exhaustive test, an alarm having been turned in over a circuit of actual working wire, in wet weather, for a distance of over 100 miles. The semaphore system is a wonderful application of the power of the magnet. With it a man can with ease transmit his own energy along ordinary telegraph wires of a railway to any distance required for block or other systems, where it is reproduced with power enough to raise and lower signals of all kinds, including crossing gates, and to throw switches with ease, thus getting rid of all the cumbersome levers, wires along the tracks, and the battery, which in some places, has to be buried in wells to keep from freezing in winter. In addition to changing semaphores and

switches, the same movement lights at night lamps of any color at given points, thus giving notice to the operator of the signals that his movements are correct.

This system will bear careful investigation by all who are interested in signal apparatus of any kind. By dispensing with all battery currents, and their cost and care, the expense of operation and maintenance will be reduced to the minimum, while the efficiency will be greatly in advance of the other systems depending on mechanical or battery means, which are ever subject to changes in temperature, defective insulation, etc.

The Magneto Electric Company has a line of instruments showing the different applications of their system at their general office in the Park Row Building, New York. The president of the company is Dr. Louis E. Niles, formerly of Springfield, Ohio, but who is now giving his entire attention to the new enterprise, and who has demonstrated by his keen ideas of finance and business the success of the proposition. At the start his friends discouraged him, and even electricians told him it was impossible to do the work outlined. While it was admitted that signals could be made in this way, it was doubted whether the length of the signals could be controlled so as to make the Morse code, but this was soon proven to the satisfaction of all concerned, and good and basic patents were granted on all the claims. Had Dr. Niles been an electrician this important system might have remained undiscovered for years, as he might have thought, like others, that it could not be done. But he looked upon the matter as one of business importance to the world, and insisted that the new system would work perfectly, and, with that tenacity peculiar to his nature, fought the matter through to success. Like Morse with the telegraph, Bell with the telephone, and Field with the Atlantic Cable, he worked against great odds, and with many discouragements, until finally he has established a business, which is a credit to his untiring energy and faith in his own convictions.

The inventor of the magneto system is L. G. Woolley, of Kenton, Ohio, a gentleman of retiring disposition, but with a very active mind, who has taken out over two hundred patents, many of great importance, and who is a great help to President Niles. Much of the success of the new company is also due to the treasurer, W. S. VanBrocklin, of knit goods fame, of Amsterdam, N. Y. Major R. B. Hoover is secretary of the company, and is well known all over the country as the originator of the plan to erect the Morse statue in Central Park, New York, and of late years has been identified with the telephone business in the central States.

There is certainly a great future for this system, supplanting, as it will in time, the battery systems, and substituting therefor one which has no points of contact to corrode, and which can be relied upon at all times. After the first installation it costs nothing to operate it. As the saying goes, it does not run back into the coal pile at any time, and in this way, as in many others, has much to

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Sixth Annual Convention

Niagara Falls, New York

September 2, 3, 4, 1901

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commend it to the careful attention of those who are constantly on the alert for that which is better than the old at a less cost of production.

### Rapid Telegraphy.

BY PATRICK H. DELANY.

The comments on automatic, or rapid telegraphy, in *The Electrical World and Engineer* of August 3, and reprinted in *TELEGRAPH AGE*, August 16, and the presentation made of the views of those opposed to such systems, invites a few criticisms. It seems strange that in drawing comparisons between the operation of the Morse and the automatic, Morse men, who must know better, invariably assume that the Morse wire is always clear, and the operator holding his key open for the next message to be handed to him, hence the argument that a message can be sent by key in the time that it takes to prepare it for automatic transmission. Nothing could be more misleading. The main delay between the handing in of the message at the window and its lodgment in the messenger's delivery book at the distant station is at the sending end, where it hangs on the operator's hook anywhere from one minute to an hour, according to the time of day and working condition of the lines.

Any one who has ever spent a week in a telegraph operating room knows this to be the case.

The average delay in transmission of messages by the Morse system throughout this country is over thirty minutes. This is the time they hang on the operators' hooks waiting their turn.

In times of serious interruption to lines four or five hours' delay is not unusual, and the train is not infrequently resorted to for avoidance of still greater detention. Telegraph companies provide wire capacity adequate for their traffic when all the wires are in good working order. They do not maintain reserve facilities for interruption contingencies. A day's rain over an area of two or three hundred miles causes a drop in carrying capacity of about one-third. Here is where messages accumulate on the operators' hooks to be culled out by the traffic clerk who decides from their contents which will bear the most delay.

The claim that a Morse operator can send a message while another operator is punching one is, of course, true, but when there are twenty messages on the Morse man's file, the last one will be delayed about three-quarters of an hour. With the rapid system affording ample facilities under all circumstances so long as there is one wire left, no such accumulation could take place, and if all the wires were stopped the idle force could be employed in perforating, so that upon partial restoration of facilities, all business could be cleared out quickly, thereby avoiding delay to fresh business coming in for hours after full repairs had been made.

Now, with reference to the estimate of the time it takes a message to get from the sender to the receiver, obviously the time it takes to get it to the office, or the time used up by the messenger delivering it has nothing to do with systems of

operation. It is true, the sum of the whole transaction is what interests the customer, but to assume that in practice, one minute, or one-sixtieth of the whole, covers the transmission period, is, as every telegraphist knows, as wrong as the Scotchman's conception of extravagance.

It is all well enough to point out the half-minute transactions between stock exchanges. No one disputes them. But what about the ordinary telegram? The receiver has no means of knowing when it was lodged at the distant office. The time of its reception around the corner is plainly shown, but the "6.15 P. M." lends no suspicion of the fact that the message was filed at its point of origin at 10.20 A. M. On the contrary it inferentially conduces to the conclusion that it is fresh from the pen of the sender. It is claimed that telegram time has been greatly shortened of late years, and I believe it to be so; but when the companies let the receiver know how long the message has been on the way it will be a great benefit to the public, and an honest transaction on the part of the company.

Until telegraph companies are compelled to follow the post office example in this respect the best tip to those using the telegraph would be to state the time in the body of the message and pay for it. It will have a wonderful effect, although the receiver may not be impressed with it.

In view of the fact that ordinary messages average about three-quarters of an hour from the filing window to the messenger's delivery book, and that during at least two-thirds of this time it is on the operator's table, it seems like straining at the gnat to dwell upon the time consumed in perforating and transcribing. Admitting that it may take from five to twenty minutes, according to the number of messages upon one tape, for these two operations, is it not better to get them off this way than let them hang on the Morse hooks?

Recently, owing to two notable improvements in printing telegraphs, perforation of messages on tapes, heretofore held by Morse managers to be so serious a drawback, has, I am glad to see, been recognized as an advantage, owing to the increased speed of transmission over the line. Up to this point, then, the rapid system and the printing systems are equally handicapped. The difference now lies in the fact that at the receiving end the message is printed, either directly by the receiving instrument, or as a secondary operation by using a received perforated tape to operate a type machine automatically. In the case of the rapid system the message is transcribed on an ordinary typewriting machine from the dot and dash tape by any one knowing the Morse code, and as fast as they can read and work the keys. Transcription in this way being a local operation, gives the operator the same control of the type machine as when working from printed matter or manuscript. It is neither difficult nor uncertain. Nearly all cable telegraphy is done in this way, and this is the most difficult and urgent of all telegraph working. The perforator used by the rapid system is worked by an ordinary Morse key, and the speed of transmission is at

least twenty times greater than is possible by any printing system. Any Morse operator can perforate at his best speed, and any operator can transcribe. The working force of an office is instantly available for the new system.

The rapid will work over any kind of a line, any distance without repeaters—at a speed—and in its operation is simple compared with quadruplex outfits and their repeaters. It requires practically no adjustment, being within a wide range unaffected by changes in circuit conditions; and it affords at all times absolute certainty of communication, with facilities equal to any emergency. These advantages, impossible of attainment by any electromagnetic combination, are of paramount importance, and indispensable for reliable communication and low rates.

The official reports of economical managers show that the limit of cheapness has been reached with the present systems. It is also evident from these same statistics that the numbers of messages at present charges is about at a standstill—one per head per year—at 30 cents for ten words. Telegraph managers have contended that there would be no economy in high speeds, no increase of business by lower tolls, that the telegraph is an emergency medium, and urgency cannot count the cost. It is strange that business men should argue this way. Examples are overwhelmingly against them. One will suffice just now. It is most apposite. Sunset methods in telephony have been moved eastward to Chicago to pull the “pay high or go without” policy out of a \$5,000,000 deficit.

Messrs. Theo. Audel & Co., publishers, New York, have just placed on the market a book entitled “A B C of the Telephone.” As is indicated by the title, this book is an elementary and general treatise. It deals with the telephone industry and the leading features of its development to the present time in such a fashion and in such language as to enable the student and the non-professional reader to derive an intelligent idea of the broad facts and general principles. Of course, with such an aim in view, it cannot be claimed that the book will furnish all the details and formulæ that may be required by the thoroughly equipped telephonist. Such facts, at best, can be mastered only after practical experience and careful training and, without this, no book can guarantee a thorough education in the profession of constructing and maintaining telephone plants.

The price of this book is \$1.00. Copies can be obtained from John B. Taltavall, TELEGRAPH AGE, 253 Broadway, New York.

#### On Our Literary Desk.

The July number of the Pennsylvania Railroad Men's News contains a biographical sketch of Col. William Bender Wilson, of Philadelphia, Pa., an old-time telegrapher and president of the United States Military Telegraph Corps. Photographs of Mr. Wilson taken in 1850, 1856, 1862, 1865, 1876 and 1885 are shown. The history of Colonel Wilson is an extremely interesting one, and the author, Martin C. Carey, has placed before the readers of the News a finished and satisfactory story of the colonel's life up to the present time. This reminds us that Colonel Wilson has been quite a voluminous writer. His works include: “Acts and Actors in the Civil War,” “History of Emmanuel Church,” “General Superintendents of the Pennsylvania Railroad Division, Pennsylvania Railroad Company,” and two octavo volumes, “History of the Pennsylvania Railroad Company.”

“Acts and Actors in the Civil War” is now quoted among the rare Americana pertaining to the Civil War. Colonel Wilson's history of the Pennsylvania Railroad makes up about 750 pages of matter that is intensely interesting, particularly to railroads, and which is fully and profusely illustrated.

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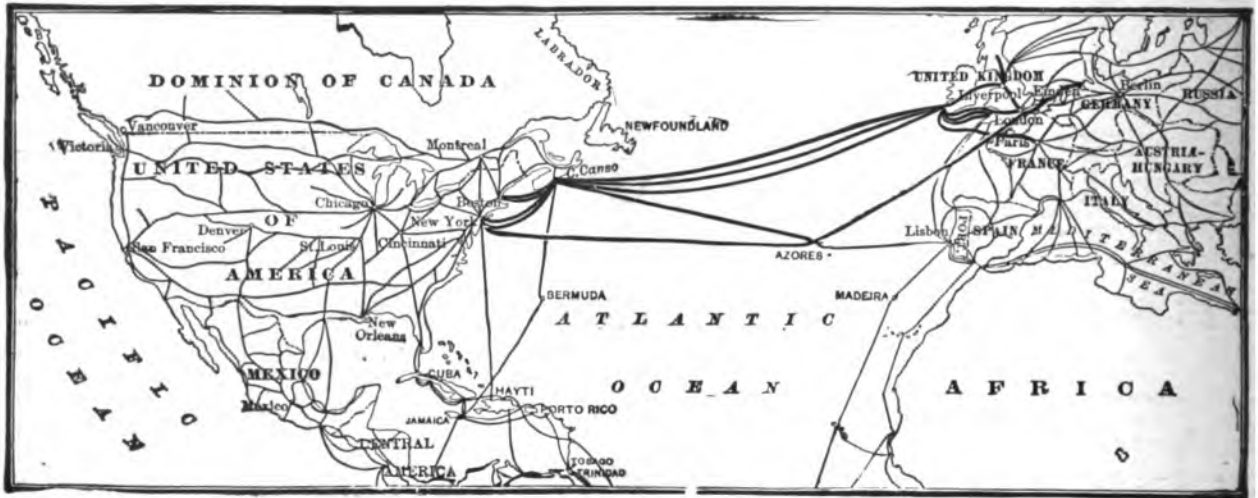


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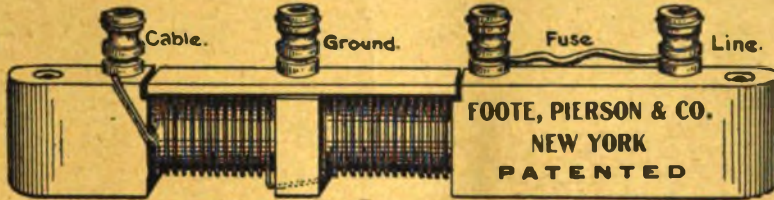
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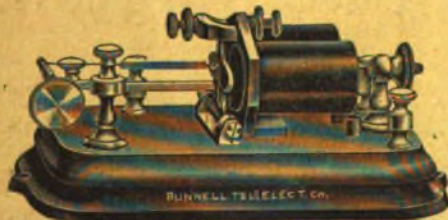
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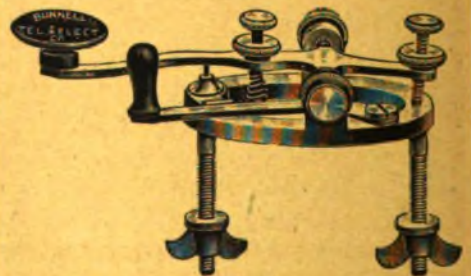
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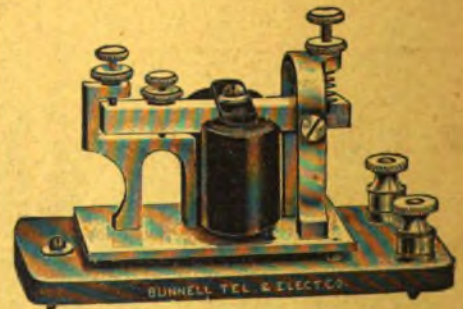
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# THE TELEGRAPH AGE.

No. 18.

NEW YORK, SEPTEMBER 16, 1901.

Vol. XXIV.

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## SOME POINTS ON ELECTRICITY.

### The Equipment of a Modern Telegraph Office, Continued.

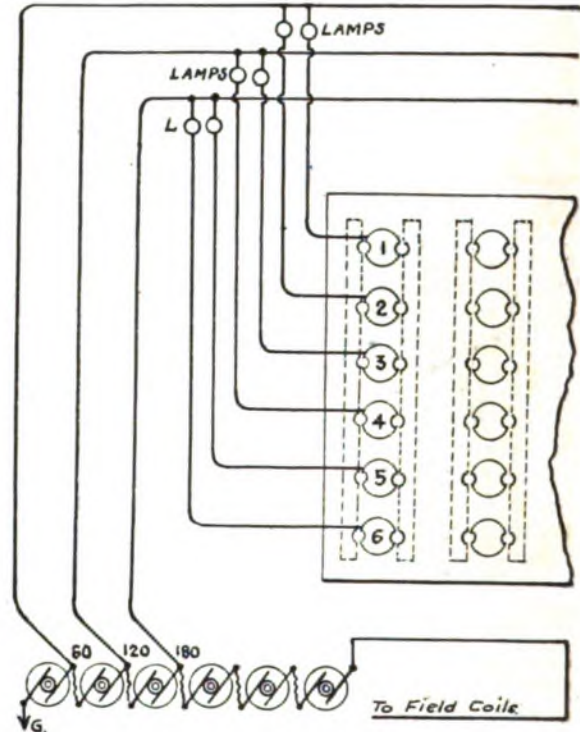
BY WILLIS H. JONES.

In the preceding issue of this journal the manner of determining the proper type of dynamos and gage of house wires necessary to equip a modern telegraph office were explained in a general way, but it still remains to show the number of such machines required and the actual running and connections of conductors throughout the building.

At this point it may not be out of place to state that the same plans arranged for a dynamo system will hold good where storage battery furnishes the current. This is because the latter, like a dynamo, possesses practically no internal resistance, its energy being exerted entirely upon the external circuits. Where bluestone or gravity batteries are used, an entirely different plan from the one about to be described obtains, for the reason that a great portion of the work such batteries perform is done within the jars themselves.

The capacity of the dynamos having been decided upon, the next question to be settled is that of their value of their respective electromotive forces. To a certain extent this is somewhat a matter of choice, especially so far as local circuits are concerned. In a large office the various lengths of circuits demand separate values of elec-

tromotive force, usually designated as first, second, third, etc., potentials, while the longer quadruplex circuits require a still greater pressure. Where the number of potentials demanded do not exceed two or three it would be possible to meet the requirements by purchasing two machines, one of, say, 100 volts and the other 200, and run them separately. A better plan, however, is to divide the value of the highest electromotive force required for the longest circuits into as many practically equal parts as there are potentials required and place that number of like machines together in series as you would ar-



range a row of bluestone battery jars. Thus six machines of, say, 60 volts each in series would give 300 volts at the brush of the last dynamo.

Taps from the first, second and third machines, extended to three separate rows of disks at the main wire switchboard, would be designated the first, second and third potentials, or 60, 120 and 180 volts, respectively. The fourth and fifth taps are usually reserved for quadruplex apparatus. In addition to the tapped dynamos they usually add another machine to the series, the duty of which is to furnish exciting current to the field coils of its five companions, which coils being also in series consequently share equally in volume received,

thereby maintaining a constant value of electromotive force in each machine.

A row of machines arranged in this manner is called a "gang," and there must be a duplicate of the series, identical in every respect, to furnish an opposite polarity of current from that of its companion; then a third gang, also identically arranged, is necessary as a reserve, to be substituted instantly should either of the other two become temporarily crippled and need repairing. Having decided upon this arrangement the plant should be located in the cellar, if possible, or at least as near the ground as convenient in order to secure a firm foundation and avoid vibrating the building.

The accompanying diagram shows the general outline of the manner in which the current is distributed to the main switchboard of the operating department. A tap from the first machine carries the first potential of 60 volts along the top of the switchboard, from which lead a connection is made with each individual disk in a designated row which extends horizontally across the full width of the board. Similar leads from the second and third machines extend in like manner, the second and third potentials of 120 and 180 volts, respectively, to the switch, and thence to other rows assigned for battery purposes.

The taps from the dynamo room are called main "leads," and should be composed of a strand of a dozen or more large copper conductors twisted together and carried to the operating department in the form of a well-protected cable.

In practice such leads are not actually connected to the brushes of the machines, as shown in the cut for the purpose of simplicity, but to what are called "bus" bars, to which the respective brushes are connected. As the cross section of the said leads is sufficient to carry all the current demanded by the many circuits to the top of the board without causing a material "drop" in the value of the electromotive force of the machines, the former are themselves sub-tapped and each new branch connected through a lamp resistance to one of the disks in a row numbered and designated for battery purposes only. Each potential occupies a separate row of disks, or rather two rows, in order to avoid the necessity of feeding two external circuits from one disk.

A glance at the diagram will show that the battery disks are situated directly between two perpendicular brass bars, which latter being the beginning of two external circuits, may either or both be fed by the one disk, but on account of the lamp resistance inserted between the said disk and the connection with the main lead at the top of the board, it is better to provide an additional disk of identical potential for the side companion in case both circuits should demand the same electrical pressure. The presence of any considerable amount of resistance in a branch conductor prevents the practical subtapping of such circuit for the reason given in the preceding installment of this article—viz., it would cause an inconstant volume of current to flow into the two wires fed therefrom owing to the law of joint resistance.

As each separate disk is connected through a lamp the value of the ohmic resistance, of which is just double the number of volts per potential, its presence would cause the said annoyance to develop in a very exaggerated form, where one circuit is decidedly longer than the other. The importance of providing separate taps from the main battery leads to each individual circuit should not be overlooked. It is a mistake too frequently made by novices. The rule is to insert at least two ohms resistance for each volt of electromotive force per potential; thus for 60 volts the lamp should contain 120 ohms, the second potential 240 and the third 360, respectively. The object of inserting this resistance between the dynamos and the wires is to prevent the overheating, or destruction of the armatures of the machines through the excessive volume of current which would otherwise follow the accidental grounding of a circuit near the office. The resistance material employed for the purpose may be either lamps of carbon filament, or coils of fine German silver wire. The advantage of using lamps for the purpose lies in the tell-tale light which appears the moment a circuit becomes dangerously loaded with current and thus instantly warns the chief operator in charge.

(To be continued.)

#### Recent Telegraph Patents.

J. Burry, of New York, has received a patent for a printing telegraph.

I. H. Blessing, of Albany, N. Y., has obtained a patent for a telegrapher's finger guard.

A patent for a fire alarm system has been granted to C. E. Lombard, East Wilton, Me.

A United States patent for a method by which several telegraphic messages can be transmitted at the same time through one conductor or by wireless telegraphy has been awarded to A. Bull, Cologne, Germany.

#### New York Visitors.

Mr. J. E. Dunning, a veteran telegrapher, Paterson, N. J.

Mr. Francis J. McKenna, Western Union Telegraph Company, Pittsburg, Pa.

Mr. Edward E. Cord, night chief operator Western Union Telegraph Company, Memphis, Tenn.

Mr. William de la Motte, manager of the Western Union Telegraph Company, Sandy Hook, N. J.

Mr. Thomas T. Clark, of the Western Union office at Palestine, Tex., accompanied by his wife.

Mr. C. B. Horton, assistant superintendent of the Western Union Telegraph Company, Omaha, Neb.

TELEGRAPH AGE should go regularly to every one interested in the telegraph. Write for sample copy.

**Personal Mention.**

H. P. Dwight, president of the Great North-western Telegraph Company, who a year or two ago presented a library to the village of Dwight, Ontario, has established two other libraries at Baysville and Dorset, Ontario.

Mr. John Van Horne, up to three years ago vice-president of the Western Union Telegraph Company, New York, and who since that time has retired to his country home in Kentucky, was visiting friends in New York a few days ago.

The steam yacht Rapidan has been chartered for the season by Mr. H. L. Shippy, of J. A. Roeb-ling's Sons Co. This yacht is up to date in every particular, and Mr. Shippy is issuing invitations to telegraph and electrical officials to accompany him on his weekly cruises.

Sir Wm. Van Horne, the old time telegrapher and now a capitalist of Montreal, Que., has gone into a submarine signal company which has been organized at Waterville, Me. He said recently: "I went into it owing to the interest I feel in the St. Lawrence route, and because the recent discoveries in submarine signaling seem to me to promise just what is necessary for the safety of navigation."

Mr. Astley C. Terry, for twenty years a chief operator and electrician for the Western Union Telegraph Company, at Buffalo, Syracuse and Pittsburg, has resigned his position to accept the management of the American Telephone and Telegraph Company, at Pittsburg, Pa. A host of friends in the telegraph service regret to see Mr. Terry sever his connections with telegraphic interests. They, however, wish him every success in his new venture which begins so auspiciously for him.

**Obituary.**

Geo. Boland, for thirty years a telegraph operator at Hoboken, N. J., died on August 22.

George A. Kent, aged 35 years, operator of the West Shore Railroad Company, at Palmyra, N. Y., shot and killed himself on September 2.

E. C. Hart, aged 56 years, manager of the Western Union telegraph office at Wooster, Ohio, for the past twenty-five years, died of apoplexy on August 30.

**Resignations and Appointments.**

Mr. M. B. Reynolds has been appointed manager of the Western Union Telegraph Company at West Chester, Pa.

Mr. R. A. Lewis, of Springfield, Mass., succeeds M. W. Walsh as manager of the Western Union telegraph office at Holyoke, Mass. The latter returns to White River Junction, Vermont.

**Miscellaneous Items.**

Mr. James Douglas Reid, a nephew of the late Hon. James Douglas Reid, and son of Douglas Reid, of River Falls, Wis., was married to Miss

Mabel J. Peters at New Richmond, Wis., on August 15. Their future home will be in Minneapolis, Minn.

A new storage battery system has been installed in the office of the Western Union Telegraph Company at Jacksonville, Fla. Mr. L. R. Vignes installed the plant.

Mr. Frank W. Mack, up to a few weeks ago superintendent of The Associated Press, New York, has become connected with the Minneapolis, Minn., Times, as managing editor.

Wire tappers at Tonawanda, N. Y., a few days since attempted to tap pool room wires, but the scheme leaked out before they had an opportunity to accomplish their purpose.

Mr. A. D. Bartholomew, of Battle Creek, Mich., writes the following: "I am pleased to hand you \$1.50 subscription to TELEGRAPH AGE, an amount which I consider very small in comparison to what the paper contains. Every operator should appreciate what you are doing for the fraternity in many ways. Those who do not take the AGE certainly are missing much valuable information that might aid them in their work."

**Business Notices.**

Part six of "The Ericsson Series," the attractive little eight-page brochure published by the Ericsson Telephone Company, of 296 Broadway, New York, has made its appearance. It is fully up to the preceding issues in regard to the fund of telephone information furnished, and contains an interesting article concerning the telephone in Belgium. Telegraphers and others will find it useful for reference. It may be obtained for the asking, and the company will take pleasure in forwarding copies to all who may send requests for them.

The Audison, a secret sounder, an advertisement of which appears in another column of this issue, was adopted by several of the leading dailies seven years ago and found a ready market throughout this country, in Canada, and in Mexico. It was adopted by the War Department of the United States Government at the opening of the Spanish-American war, and in April of this year the United States Signal Service at Washington ordered an equipment of improved Audisons. The instruments are thoroughly well made and are indorsed by operators and newspaper men generally.

The application for a position as an operator of a left-handed lady telegrapher was rejected for mechanical reasons. She was told that she could be employed if she could use her right hand, which change she refused to make, but suggested that if some one would place a diamond ring on her middle left finger she would willingly change her name.

Those who contemplate subscribing for TELEGRAPH AGE, and who would first like to inspect a sample copy, should not fail to write for the next issue.

### Names That Incorrectly Designate.

With all the experience this generation has had in the manufacture of new names for the products of invention and discovery, it seems, says the New York Times, as though great skill and facility in the performance of the task ought to have been acquired, but such is not the case. Possibly the ancients had the same, if not as frequent, trouble in deciding what to call things, but if so, the records of their controversies are strangely few, and fewer still were their failures to reach entirely satisfactory solutions for the problems of this sort encountered by them. The case of "automobile" is only one of many in which we have confessed ourselves utterly beaten, and, after long and profitless struggles, have weakly accepted a name that violates all the rules of the game, and illustrates every possible fault a word may possess. So, too, we are close to the point of confessing that "wireless telegraphy" is the best we can do with the several related methods of communication of which Marconi's is the best known. "Of course it isn't "wireless telegraphy," except in the very absurd sense that there is a break of greater or less extent in the wires used, but nothing that is really much better has yet been proposed, and the misnomer has practically taken a permanent place in the language it disgraces. Discussing this name in The Western Electrician, Mr. A. F. Collins shows that of all the suggested substitutes—"space telegraphy," "spark telegraphy," "etheric wave telegraphy," and one of his own invention, "cableless telegraphy,"

which is quite the worst of the lot in our opinion—none can correctly designate all of the different systems in the new class, and none either deserves or promises to replace the wretched "wireless telegraphy" among laymen or electricians themselves. Mr. Collins sees hope only in the probability that at some future period the all-wire system will be abandoned entirely, and that both telegraphing and telephoning will be done in the so-called wireless fashion. "Then," he says, "there will be no confusing qualifying adjectives, for there will be no dual systems requiring qualification, and wireless telegraphy and telephony will be spoken of simply as telegraphy and telephony."

We have received from the publishers, D. Van Nostrand Co., New York, a copy of "Electromagnets," by A. N. Mansfield, S.B., 155 pp. This volume is the outgrowth of an attempt to revise No. 64 of "Van Nostrand's Science Series," that is, "Electromagnets, the Determination of the Elements of the Construction," by T. H. Du Moncel. As it was found impossible to revise it without completely rewriting it, it was deemed best to publish the present volume as a new number in the "Science Series." No claim is made for originality, but an attempt has been made to collect, in convenient form, formulæ and data which are essential to the design and construction of electromagnets for various purposes.

The price of this book is 50 cents. Copies can be obtained by remitting to J. B. Taltavall, TELEGRAPH AGE, 253 Broadway, New York.

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**Cipher Code for General Railroad Telegraphing.\***

BY C. S. RHOADS.

While no doubt the majority of the railways here represented either now have, or have had, during the past, some form of "Cipher Code," the fact that your Topic Committee has asked us to consider the question at this convention, must be taken as evidence that there is need of something that will enable a "Knight of the Key" to have a better conception of the old saying that "Brevity is the soul of wit." Can this not be done by reducing the length, if not the number of telegrams, so that the poor fellows will have time to exchange witticisms with one another across the table instead of "pegging" away every moment of their hours while on a "trick," and then put in extra time at the close of day in getting together to forward by train mail what should have gone by wire in an abbreviated form, and no doubt have saved money thereby for the company by having them acted upon much sooner?

Since being requested to prepare something on the above caption, the writer has not had time to make any extensive research as to just what extent the cipher code is being used, nor with what success among our neighbors. But, judging principally from my own limited experience (which has been rather of an experimental nature), I am of the opinion that what we need to make it a thorough success is to have a code that will apply to the stereotyped phrases used in the different departments of the railroad service, and then have the same adopted as the standard for North America, the action to make it so presumably to come through the American Railway Association.

On the Big Four system we prepared a code specially for the local freight department, and put it in use between three of the largest cities. The result was of a satisfactory nature so far as applied to the local business of our own road, but when it came to the joint service with connecting lines (which form a large portion of this class of telegrams) we soon observed the necessity for a standard system for all roads to make it thoroughly practicable. Our traveling auditors have a code of their own, which only the general auditors and traveling auditors for obvious reasons have copies of.

The Association of American Railway Accounting Officers have adopted a code which was formulated by a committee of that association some two or three years ago, which, it seems to me, contains the basis of what might be enlarged upon to fill the requirements of every department of the service. It contains numerous sub-divisions, one for each department. For example: Car Service Department, cipher words beginning with "C." Freight Auditing and Freight, cipher words beginning with "F." General Freight Department, cipher words beginning with "G."

Each subdivision is arranged in alphabetical

order, this arrangement being considered better than an arrangement by subjects, for the reason that no two persons would have the same idea as to the best way of classifying subjects, etc., under the latter plan. Consequently, there would be more or less difficulty in finding a desired phrase, while an alphabetical order is very simple. By having the code words in each subdivision begin with a letter having a direct connection with the department using that subdivision, instant reference can be made to the proper part of the code when a message is to be interpreted. A number of extra code words were inserted in each subdivision, with the understanding that after the code was adopted by the association, any road wishing to add one or more phrases might apply to the secretary to insert such phrases, designating a code word for each, and notifying all members of the association by the monthly bulletin.

In addition to a code of the nature outlined above, would it not be well to have a private code for the use of presidents, general managers and general superintendents only? There are often telegrams pertaining to the executive and administrative affairs of the service that should be so strictly private that not even the clerks in their own offices should have copies of their code. It is not my purpose to insert herein a list of code words to be recommended. One can soon be arranged after the matter of adopting a standard has been perfected. At a previous meeting while the question of unnecessary telegrams was being discussed, a member of the association suggested as a remedy that "each person be furnished a telephone." While this plan is being rapidly adopted, it don't seem to have the effect of reducing the telegraphing, which, like our country, appears to still be on an "expanding" basis. We make a request for a certain number on the 'phone, and about two times out of three get the reply, "line busy." Now the query is: "Shall our code not be useful in reducing the number of 'phones?" Just imagine what a saving in time of both the wire and the clerk (or even official) to have, for instance, instead of: "Yes, we had a delightful time at the theater last night; that ice cream was immense, but I didn't like the way you made 'goo-goo' eyes at that blonde waitress one bit," the one word "Quack." Then the reply: "Oh, don't say a word—I overslept myself, got to the office an hour late this morning and couldn't get down to business until I'd called you up—don't mention blondes—your black sparklers are good enough for me. Will be around again to-night. The 'old man' is waiting to use the 'phone—so long"—all contained in the one word "Smack."

This may sound too ludicrous, but if we can say anything that will have a tendency to cut out unnecessary telegrams, whether by Morse or 'phone circuits, in addition to establishing a standard cipher code, we will be entitled to a line from the general manager, reading: "Well done, thou good and faithful servant; enter your name for an increase on next month's pay-roll."

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

### The Argus Lightning Arrester.

BY W. E. ATHEARN.

The Argus lightning arrester, now adopted as a standard by the Western Union Telegraph Company and used largely by the United States Government on its military lines, represents the culmination of many efforts to secure an adequate protection to telegraphic apparatus, and, at the same time, to keep the lines in working condition during the continuance of a thunderstorm.

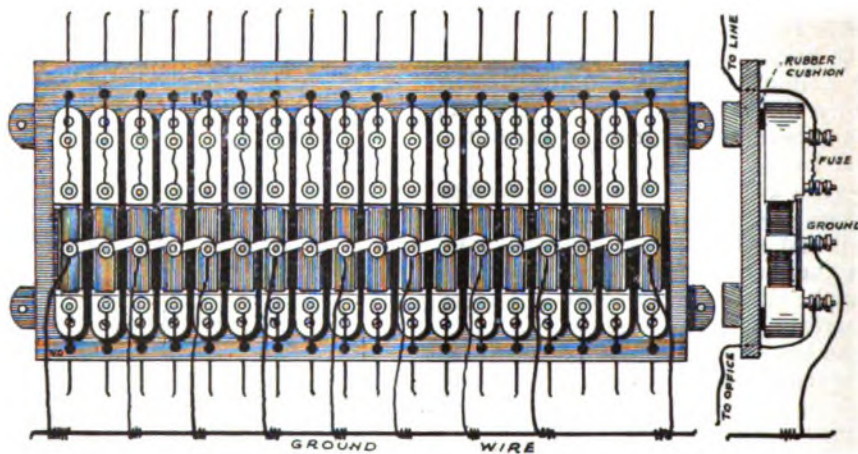
An outline of the principles involved in its construction, and the steps taken in its development, may be of interest to those who have to do with telegraph and telephone service.

It is a well-recognized fact that one effect of a lightning discharge is to cause a more or less powerful alternating current to surge along any wire or electrical conductor in the vicinity of where the discharge takes place. The great development within the past ten years of electrical systems, making use of alternating currents, has directed at-

dam, and at the same time providing a path for the lightning to the ground by connecting to the wire, just before the dam, a metal plate, separated by a small air space, from another metal plate connected to the earth.

It is not enough, however, simply to free the line from lightning, but we must do this without disturbing the working conditions of the circuit. When the lightning discharge jumps from the line plate to the ground plate its heat is apt to raise a burr or projection on the latter, which reaches across the air gap and forms a metallic path to the ground for the direct currents, thus destroying the usefulness of the line till the burr has been filed off.

In the Argus arrester the coil is made of a bare wire wound in a spiral groove on a porcelain shank. The coil itself acts as one plate, and a metal strip connected to the ground, placed lengthwise of, and adjacent to the coil, completes the lightning path to earth. This plate is adjusted at a slight angle, so that the distance from the convolution of the coil, nearest the line, is about one-



THE ARGUS LIGHTNING ARRESTER.

tention to the peculiarities of such currents, and thus paved the way for a more thorough understanding of the effects of lightning, and of what to do to ward off its destructiveness. When we deal with direct currents we bear in mind Ohm's law and concern ourselves only with the three items—current, voltage and resistance. With alternating currents, however, there is one more, and a very important matter, too, to be taken into account, and that is impedance. A few feet of wire, which would hardly be taken into consideration, if dealing with direct current, can be wound into a coil and form almost a perfect barrier to the passage of an alternating current.

This principle has been made use of in the lightning arrester invented by Dr. Lodge, of England, and also by other inventors, both before and after him.

Here, then, we have a simple means by which we can arrest the surging current passing along a wire by placing in its path a coil, acting as a barrier, or

eighth of an inch, while further along the coil the distance is about a thirty-second of an inch. This causes the arc of lightning discharge to be broken up into a dozen or more little discharges, no one of which is of sufficient intensity to raise a burr on the ground plate.

With this construction of a lightning arrester we appear to have the ideal arrangement, in that it arrests the lightning, and at the same time maintains the circuit in perfect working order without attention from a lineman. The proper proportions to give its various parts have only been ascertained after years of experimenting and with upwards of 40,000 arresters in actual use.

There is also to be considered, in protecting a line from lightning, where the arresters should be placed. Its proper place is where the wire leaves the pole line to enter an underground, submarine or office cable. There is more than one reason for selecting this place for the arrester. Naturally one would say, it was so placed simply to protect the



cable itself. This is true, so far as the cable is concerned, but the arrester thus placed is also in its most effective position for protecting not only the cable, but the apparatus inside the telegraph or telephone office. As I remarked before, in dealing with alternating currents, impedance must be taken into consideration, and there is a certain impedance in all wires gathered into the form of a cable far greater than when the wires are supported separately on the pins and glass of a pole line.

If you should place a lightning arrester at the office end of an underground cable, you would note this peculiar effect. Thunderstorms in your immediate vicinity would do but little damage, while those at a distance would be likely to burn out some of your instruments. The reason is plain: When the surging wave of distant lightning is produced, current enters the underground cable, its voltage is greatly reduced by the impedance of the cable, and it may pass the arrester without jumping to earth, and yet have sufficient quantity to melt the wires in the delicate electrical instruments. If the storm is close at hand and the cable short the impedance would not be enough to reduce the voltage, so that it would fail to be deflected to earth by the lightning arrester.

As it would be impracticable to connect each line wire direct to its arrester cables are used to gather the lines to a box on the pole, or to a cable house, in which the arresters can be placed.

Cables in general use for such purposes can carry a current of about fifteen amperes without injury. It often happens that accompanying thunderstorms are furious gusts of wind, so that the wires may be blown into contact with electric light or power circuits. Should such a cross exist and the lightning, by jumping to the ground plate establish an arc for the power circuit, the latter might develop sufficient current to melt the cable leading from the line wires to the arresters. To guard against this the Argus lightning arresters are provided with a fuse, which can carry from five to seven amperes. This fuse is not designed to be blown by the lightning itself, and therefore should be made as heavy as is consistent with the safe carrying capacity of the leading in cables. What is called five-ampere fuse is about right for general use. The protection of office instruments from sneak currents below five amperes is no part of the duties of the lightning arrester, and should be attended to by suitably designed protective fuses.

There is one more important subject to be considered in connection with lightning arresters, and that is the size and surface of the ground connections. The laws governing this do not appear yet to be well understood, but practice has shown that in addition to mere carrying capacity considerable surface is requisite. When several Argus arresters are mounted together frequent taps of smaller sized wire should be made from the ground plates of the arresters to the large, common ground wire. Care should be taken to have the main ground avoid all sharp bends, and especially not to have any coils in it, otherwise it may itself act as a dam or barrier to the free passage of the lightning dis-

charges. Too much care cannot be exercised in providing the best possible ground connections.

Of course, when we speak of lightning on the wires we mean its inductive effects, for when lightning directly hits an object it generally smashes it to pieces. In a case like that the Argus arrester will save your office, but the arrester itself is likely to be melted into a heterogeneous mass of brass, copper and porcelain.

#### New Western Union Tower.

The old tower of the Western Union Telegraph Company at Sandy Hook, owing to its long years of service, has been taken down and a splendid new structure erected in its place.

The new tower is ninety feet high, and thirty feet wide at the base. Especially selected timber, of which the tower is constructed, is bolted with iron rods and plates, making the structure as sub-



NEW TOWER OF THE WESTERN UNION TELEGRAPH COMPANY,  
SANDY HOOK, N. J.

stantial as it is possible to construct works of this character. The tower has to withstand a terrific wind pressure, there being a clear sweep of the wind across this portion of Sandy Hook. The lower part of the tower is finished as a dwelling with all modern improvements to be used by Western Union employees. In addition to this tower the company owns three houses in the vicinity, where reside the operators whose duty it is to constantly watch at the top of the tower to sight and report incoming vessels.

William de la Motte is manager of the company's interests at this point, and his assistants are Emil Zilly and S. F. Phillips.

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

### The Morse-Graph.

A recording telegraphic apparatus, known as the Morse-Graph, has been patented by Mr. J. F. Skirrow, the electrical expert and assistant manager of the New York main office of the Postal Telegraph-Cable Company. The specific purpose of the apparatus is to make an accurate record of the signals transmitted by telegraph operators.

Heretofore there has been no check upon or record made of these signals by telegraph and railroad companies and lessees of telegraph circuits, the operator's statements that the signals were transmitted or received in a certain manner being the only explanation available in case of error.

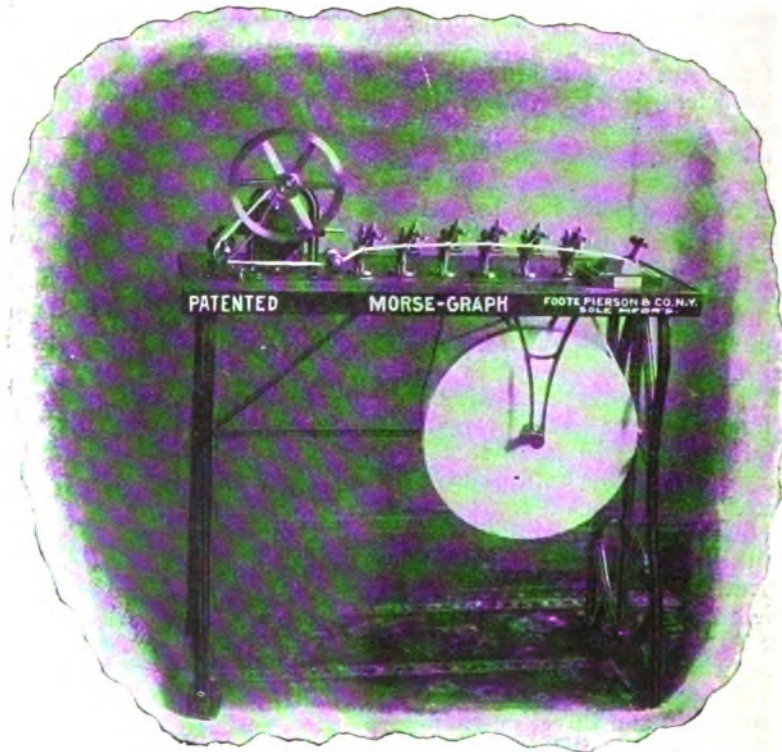
A number of these machines have been constructed for the Postal Telegraph-Cable Company's

is desired to record. Each of the armatures of these magnets carries a small steel writing wheel that is constantly fed with ink by a layer felt inking wheel also carried by the armature.

It is obvious that with the tape running over the tables constantly the recorders will indicate upon it all signals that are transmitted on the various circuits connected to the apparatus.

The tape supply consists of a ten pound roll of paper eighteen inches in diameter, a strip that runs for twenty-five hours continuously. Elaborate arrangements are made to control this strip so as to maintain a constant speed, this being a prime requisite in an apparatus in which errors in manual transmission are to be detected.

The supply tape is braked by a device which re-



THE MORSE-GRAPH.

principal offices and for some of the firms using leased wires, as a check upon telegraphic errors. All users of this device have had satisfactory results.

The apparatus, herewith illustrated, consists of a shunt wound motor which draws a paper tape over a series of marking or recording tables at a constant speed of 80 feet per minute. The motor has connected to it a variable winding up mechanism which rolls up the tape compactly after it has passed through the drawing rolls. The marking tables are arranged in an arc so that the tape is drawn tightly over each one, presenting at each a perfectly smooth writing surface.

Upon the standards which support the tables are placed vertically adjustable recorders. These recorders consist of electro magnets connected in series with telegraph circuits, the signals of which it

duces the braking pressure automatically as the leverage pull on the tape decreases with its size. Lint is removed from the surface of the tape by camels' hair brushes and surplus ink is removed from the tape before it passes through the drawing rolls, by means of revolving blotters. These blotters, and in fact the entire series of rollers over which the tape has to pass, from the supply wheel to the winding up reel, are on ball bearings, to reduce friction and eliminate speed variation. Any number of circuits can be connected to one machine. The responsibility of errors, involving in the aggregate the loss of thousands of dollars, have been steadily traced where this apparatus has been in use.

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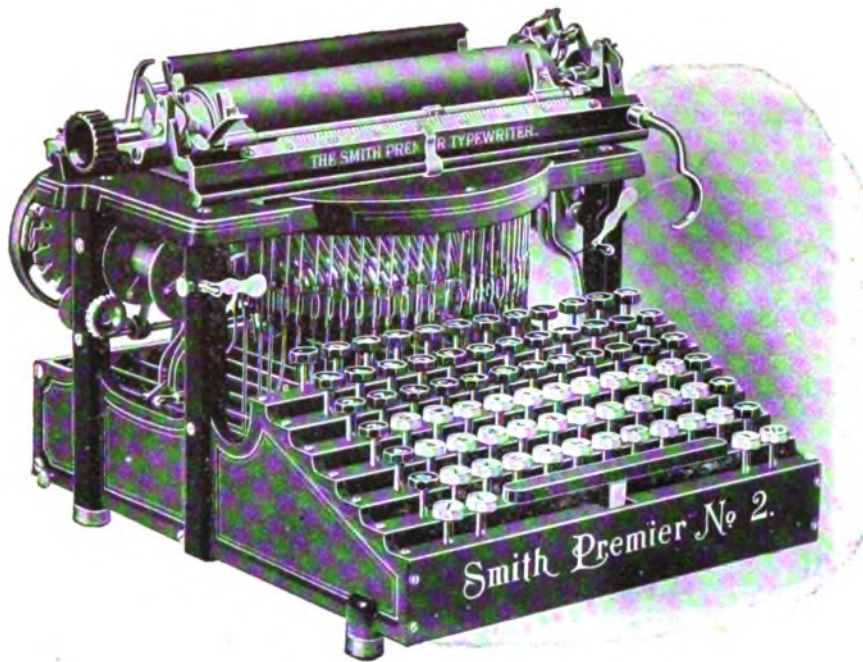
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NEW YORK, September 16, 1901.

**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.

**THE ROBERSON QUADRUPLEX.**—The Roberson Quadruplex System, which has been recently adopted by the Western Union Telegraph Company, and which will be put into extensive use throughout that system, was illustrated and described in our issues of March 16 and April 1 of this year. Those who desire copies of these issues can obtain the same at 10 cents apiece. As there are only a few of these numbers left, we would urge those who wish to become posted on this new system to procure copies before they are entirely out of print.

### A Flatter to Consider.

The attempted murder of the President of the United States, which so lately horrified the civilized world, constitutes a foul blot upon this land of freedom. The bullet evidently was not aimed at Mr. McKinley as an individual simply, but rather at the executive head of a great nation, because

in him was exemplified the governmental idea, with which anarchism is not in sympathy. The shooting furnishes an episode, graphic and acute, calculated to excite profound reflection as to the underlying causes that led to the action of the scoundrel who perpetrated the hideous deed. It calls for the exercise of wise legislation that shall result in the enactment of laws which, in their operation, shall effectually reach, eradicate and stamp out, wherever found, the treason to humanity and disloyalty to government, alien in its origin, that has taken root and found accursed expression in this country by certain persons of foreign birth, or whose immediate ancestry is exotic.

The liberty of these hospitable shores, of speech and of action thereon, have been mistaken in their meaning and ideals, and degraded by false interpretation into unrestricted license. Emanating from low conditions of birth and surroundings, influenced by ignorance and baseness, fostered in the saloon and nurtured by idleness, it is a shame and a disgrace that this nation should be terrorized, threatened or disturbed by the ravings and outbreaks of anarchism. The demand that has sternly gone forth made by an outraged people, that anarchy in this country must be cleared from its midst, must be heeded. More than that, it must be kept out, and emigration laws to this end must be revised, made more strict and be more faithfully administered. America should no longer tolerate the swarming to its shores of the vast and unregenerate scum of Europe. The undesirable should be carefully winnowed from the desirable. Our tariff laws are designed to protect us commercially; emigrations laws should protect us in our moral and political welfare.

The situation that confronts the American people in this regard is most serious and rises far above the level of partisan politics; it demands the exercise of an energetic and lofty patriotism that shall unite the intelligence and thrift of the country in a common cause against the most diabolical ideas and festering unrest of modern times.

### The Juvenile Operator Again.

Once more we are called upon to make mention of a remarkable young lady, one Miss Jessie Johnson, age nine years, who, it is claimed, is an expert telegrapher, and doing excellent work in the town in which she resides. Almost every week we receive similar information. It looks to us as though the cradle is being robbed in order to establish juvenile telegraph records. There can be no doubt about the "expert" work performed by these child operators. Their "mature" judgment, no doubt, comes to their relief when they are called upon to transmit the average newspaper man's copy, or decipher the poor Morse which is frequently heard on many telegraph circuits.

The Western Union Telegraph Company has purchased the Pecos Valley Telegraph Line, running from Amarillo, N. M., that State, to Pecos City.

### International Telegraph Conference.

The International Telegraph Conference will meet in London, England, on February 10, 1902. This is the conference that was to have been held at London in the spring of this year, but which was postponed on account of the death of Queen Victoria. The Telegraph Conference is made up of delegates representing all the countries of the world which control and operate their own telegraphs.

These conferences take place every five years, and have been held in turn in the principal European capitals, as follows: Paris, 1865; Vienna, 1868; Rome, 1871-72 (at which the cable companies were first represented); St. Petersburg, 1875; London, 1879; Berlin, 1885; Paris, 1890; Budapest, 1896. The delegates include representatives of nearly all the government administrations in the world which work telegraph lines, as well as of all the companies working cables and land lines. The latter are allowed to speak, but not to vote.

The object of the Conference is to promulgate from time to time service regulations for the efficient working of international telegraphy, the adjustment of accounts, tariffs, etc. The director-general of telegraphs of the country in which the Conference is held presides over its deliberations, and matters of detail, together with the framing of the rules, are delegated to two commissions, one dealing with all tariff matters and the other with the rules for working. All the decisions of the commissioners are, however, subject to confirmation by the full Conference.

The International Telegraph Conference now includes almost all of the countries of the world, the only exceptions being China, the United States and Canada. It is understood that China has agreed to join the London Conference. In the United States and Canada the telegraph companies are private corporations, and are, therefore, not eligible to membership. They can, however, take part in the discussion, but they have no voting power.

The settlement of all questions, whether of regulations or of tariffs, so far as the latter are dealt with by the Conference, rests with the government delegates; and the companies may find their interests seriously affected by decisions in which they have no part. The Conference, as a whole, is usually very considerate to the companies, but if their legitimate interests are attacked the duty of defending them devolves very largely on the representatives of the country (if represented) to which they belong.

The Conference of Budapest would, in the ordinary course, have taken place in 1895, but it was postponed in order to coincide with the Millenary celebration. It was the eighth in succession.

The most important work before the Conference that interests the public was the consideration of what is known as the Official Vocabulary for code telegrams. This is a compilation of some twelve hundred thousand words, for use by the patrons of the cable. This vocabulary was decided upon at the Paris Conference, since which time experts have been at work at the International Telegraphic Bu-

reau's general offices located at Berne, Switzerland, arranging words suitable for cabling purposes. The use by the public of this vocabulary was made compulsory at the Paris Conference, to go into effect on January 1, 1898. At the Budapest Conference, however, it was clearly shown that the vocabulary finished up to that period contained only 260,000 words, a number wholly inadequate for the transactions of the world's commerce. The postponement of the above date was, therefore, agreed upon in order that the number of words might be increased, with the result that the Official Vocabulary, now about finished, contains, as above stated, the vast aggregate of nearly a million and a quarter of words.

The London Conference will no doubt set a date when this finished vocabulary will finally be approved on all international lines, when, of course, it will then become binding to all concerned.

### Erastus Wiman.

Erastus Wiman, of New York, whose name a few years ago was continually before the public as heading some gigantic commercial enterprise, and who was a prominent telegraph official, is now, at the age of seventy, a financial wreck, as well as a hopeless paralytic. His millions of money have been fritted away in various enterprises, until now he is penniless.

Erastus Wiman was a man of big ideas and tremendous energy. He exploited his ideas in letters to the papers of the country by the thousand, and in that way, as much as any other, became known from the Atlantic to the Pacific. He was born in Canada, received a country school education, went to Toronto, where he became a printer, and finally reporter on the *Globe*. In 1856 he entered the service of R. G. Dun & Co.'s commercial agency. In 1861 he became a partner in its New York house and subsequently its general manager. Soon after he became president of the Great Northwestern Telegraph Company of Canada, a director of the Western Union Telegraph Company and president of the Staten Island Rapid Transit Company. He succeeded in carrying through Congress the authorization of the Arthur Kill bridge, between New Jersey and Staten Island, which makes ten miles of water front in New York harbor accessible to trunk railroads, and through his influence chiefly the project of commercial union of Canada with the United States assumed public importance in the former country, and was finally adopted in 1888 as the main clause of the platform of the Canadian Liberals under the changed name of unrestricted reciprocity. He was also instrumental in 1886 in the abolition in New York State of imprisonment for debt.

Operators interested in the method of treatment of writers' cramp will find very complete information in the little booklet entitled "The Cure of Telegraphers' Paralysis," published by TELEGRAPH AGE, New York. Price 50 cents.

### The Convention of the International Municipal Electricians.

The sixth annual convention of the International Association of Municipal Electricians, which met at the International Hotel, Niagara Falls, N. Y., on Monday, Tuesday and Wednesday, September 2, 3 and 4, marks an epoch in the history of the association, and will pass into its annals as such. The affair had been extensively advertised by its energetic Executive Committee, and it drew together a large and able company of men gathered from all parts of the United States, including delegates from many points in Canada and even distant Honolulu, collectively as fine a body as ever sat together in a representative capacity of municipal electrical interests. As one looked out over the assembled convention and noted the strong faces there to be seen and listened to the broad-minded intelligence that marked all utterances, showing the practical and comprehensive grasp of the subjects in hand which the members had met to present and discuss, the impression gained became profound in the belief that the welfare of our cities and towns, electrically considered, was, as a whole, in the hands of highly efficient officials.

Morris W. Mead, the president of the association, called the meeting to order at 2 P. M. on Monday, September 2, nearly 150 members being present, besides a number of ladies. The Rev. A. S. Bacon offered the opening prayer, following which Mayor M. B. Butler delivered the address of welcome. He referred to the great power development and how closely allied to it were the interests of members of the association in its application to general utility. Mayor Butler's remarks explained clearly many interesting features of the power developments, and he told how Niagara would soon have 200,000 developed horse power. He welcomed the delegation and gave them the freedom of the city.

Captain William Brophy, of Boston, responded to the Mayor's address in behalf of the association.

President Mead referred to the excellent work of M. J. Donohue, chairman of the Executive Committee, and Mr. Donohue, who is city electrician of Niagara Falls, and an old-time telegrapher, was called before the convention. He made a brief speech.

The address of President Mead was then delivered. Its import was that the members were there for business. His remarks, which were of a thoughtful character, contained many excellent suggestions, and were replete with valuable information. He believes in progressive electricity and desired every member to keep fully abreast with the times.

When President Mead finished his address, which was listened to with close attention, Frank C. Mason, of Brooklyn, stepped to the front, and, on behalf of the association, presented Morris W. Mead, Jr., the latest member of the Mead household, with a solitaire diamond ring and a Niagara souvenir spoon. Three cheers were given for

Master Mead, and he was made an adopted son of the association.

Master Mead, it will be remembered, was born at Pittsburg, Pa., about the time of the previous meeting of the association a year ago in that city, and the compliment paid to the young man may be regarded as a sequel to a similar action performed at Wilmington, Del., when the little daughter of Mr. W. H. Thompson, of Richmond, Va., was elected as the adopted daughter of the association, she having been born in 1899 while the convention was in session at Nashville, Tenn.

Various letters and invitations were read, and then Mr. W. Y. Ellett, of Elmira, N. Y., was appointed sergeant-at-arms. W. M. Petty, superintendent of telegraph of the Rutherford, N. J., fire department, read a paper on "The Protection of Fire and Police Telegraph Wires from High Tension Currents and Lightning." He thought the term "lightning arrester" was a misnomer, the apparatus should more properly be known as a "diverter." He also advised the abandonment, except for testing purposes, of the ground wire now found in almost general use in the fire alarm boxes.

Mr. Petty's paper was warmly discussed by all the members, the debate consuming the entire remainder of the day's session.

Before adjournment, however, President Mead announced that Friday, September 6, had been bulletined as Municipal Electrician Day by the managers of the Pan-American Exposition at Buffalo.

During the session the ladies of the party were entertained by a local committee by a carriage drive through the park, a visit to the Natural Food Conservatory and other points of interest. In the evening there was a ride down the gorge electric road to the Whirlpool Rapids and return. An electric searchlight was attached to the rear car, lighting up the entire river and gorge. This feature had been arranged especially for the association and its friends, and the scenic effects produced were very beautiful.

The convention reassembled on Tuesday morning at 9.30. Mr. Guy Owen, a delegate from Honolulu, Sandwich Islands, was introduced. He stated that he would be glad to explain the fire alarm system in use in Honolulu to any of the members.

Mr. H. W. Pope, general manager of the Bell Telephone Company of Buffalo, N. Y., was next introduced, and he addressed the convention at some length. Mr. Pope in his preliminary remarks mentioned the fact that in 1870 he called a convention of American district telegraph superintendents, which included the fire alarm people of those days. He explained the availability of the telephone in fire and police telegraph service, and stated that the company, of which he was manager, had a record of giving local telephone connection in the average time of three seconds.

In the discussion that followed F. C. Mason, of Brooklyn, described his telephone system, which, he said, was a very efficient one, and gave general satisfaction to all of the city departments.

Mr. H. W. Pope was voted the thanks of the

association for his address, and was elected an honorary member of the organization. It was decided that a certificate of membership should be issued to all members, and the matter was referred to the Executive Committee. The report of the Committee on Statistics was next received, and the committee was ordered to continue its work and to report further at the next convention.

Next in the order of exercises was a paper entitled "Municipal Control vs. Municipal Ownership," which was read by the author, E. F. Schurig, city electrician of Omaha, Neb. Mr. Schurig in summing up his argument expressed himself as not in favor of municipal ownership, but approving municipal control. This paper was freely discussed, together with the paper following, written and read by Capt. William Brophy, of Boston, on "Inadvisability of Placing High and Low Potential Wires Through the Same Series of Conduits or Through the Same Manholes."

The thanks of the convention were tendered to Capt. Brophy for his admirable paper.

Secretary Frank P. Foster, then read a paper entitled "Improved Storage Battery for Municipal Purposes," contributed by J. W. Aydon, of Wilmington, Del.

Mr. H. C. Bundy, of Watertown, N. Y., explained the make-up of his storage battery, which has given good satisfaction for several years past.

At the afternoon session Secretary Foster read a paper from the pen of Mr. P. H. Trout, Jr., of Lynchburg, Va., on the "Need and Value of a Set of Rules for Outside Construction."

After adjournment at 4 P. M. the entire convention party enjoyed a trip on the steamer Maid of the Mist, obtaining a fine view thereof of the Falls. In the evening a dance was had at the International Hotel, an entertainment which was thoroughly appreciated by those who took part. Alexander Henderson, of New York, proved himself to be a skilful floor director on the occasion.

On Wednesday, September 5, the meeting was called to order at 8.30 A. M. by President Mead who introduced P. H. Alexander, of New York. Mr. Alexander read an interesting paper on "Magnetic Electric Car Brakes." This received the close attention of all present, and a vote of thanks was given to the author for his contribution.

Dr. L. E. Niles, president of the Magneto Electric Company of New York, was introduced and asked to explain his magneto system for fire and police telegraph. He described the new system, which is operated by magnetos instead of by gravity batteries, and gave illustrations of what had been accomplished in the fire alarm work up to the present time. The discussion following his remarks became somewhat animated, and it was brought to a close by the appointment of a committee of five to examine and report upon the magneto system at the next meeting of the association. This committee consists of F. C. Mason, of Brooklyn, N. Y.; R. E. Moran, of Memphis, Tenn.; Capt. Wm. Brophy, of Boston, Mass.; E. F. Schurig, of Omaha, Neb., and J. Murphy, of Cleveland, O.

Secretary Foster's report was then read, and it proved to be a very satisfactory document.

The report of the treasurer, Adam Bosch, of Newark, N. J., showed a cash balance on hand of \$315.50.

Upon motion of Capt. Brophy it was decided that hereafter all papers to be read at conventions must be distributed by the secretary among the members at least thirty days in advance of such meeting.

Richmond, Va., was selected as the next place of meeting, the date thereof to be named by the Executive Committee.

The following officers were then chosen for the ensuing year:

A. S. Hatch, president, of Detroit, Mich.

W. M. Petty, first vice-president, of Rutherford, N. J.

A. C. Farrand, second vice-president, of Atlantic City, N. J.

Wm. Crane, third vice-president, of Erie, Pa.

Wm. A. Barnes, fourth vice-president, of Bridgeport, Conn.

F. P. Foster, secretary, of Corning, N. Y.

Adam Bosch, treasurer, of Newark, N. J.

Executive Committee—W. H. Thompson, of Richmond, Va.; M. W. Mead, of Pittsburg, Pa.; Capt. Wm. Brophy, of Boston, Mass.; J. W. Aydon, of Wilmington, Del.; F. G. Boyd, of Baltimore, Md.; F. C. Mason, of Brooklyn, N. Y.; W. Y. Ellett, of Elmira, N. Y.; G. F. MacDonald, of Ottawa, Ont.; M. G. Canfield, of Grand Rapids, Mich.

Finance Committee—M. J. Donohue, of Niagara Falls, N. Y.; J. F. Zeluff, of Paterson, N. J.; Jeremiah Murphy, of Cleveland, O.; Elmer Loomis, of Allegheny, Pa.; Ion Simons, of Charleston, S. C.

Capt. Brophy, in a few well-chosen remarks, eulogized the efficient work performed by Frank C. Mason, of Brooklyn, in organizing the Association of Municipal Electricians, stating that he had devoted the greater portion of his leisure time in the past seven years in the interest of the organization. As the association had adopted a daughter and a son, Mr. Mason should accordingly be accepted and known as the father of the association. By a unanimous vote of those present Mr. Mason was elected a life member of the association, a well-deserved compliment for faithful and enthusiastic service, and which frees him from the payment of further dues.

After all this had transpired Secretary Foster stated it was evident that Mr. Mason had received a hint as to what was going on in his behalf, for he had forestalled his proposed exemption from the payment of future dues by paying the same himself for five years in advance. This statement was received with much merriment.

The new members elected during the meeting included D. W. Dugdale, of Kearney, N. J.; J. A. Seely, of Troy, N. Y.; Thomas Covne, of Washington, Pa.; Charles H. Crampton, of Bay City, Mich.; Frank E. Pierson, of Morristown, N. J.; William M. Habershaw, of New York; H. B. Kirkland, of Chelsea, Mass.; J. F. Jacobs, of Pekin, Ill.; Charles E. Bryce, of Homestead, Pa.; John Bell, of New



Rochelle, N. Y.; J. W. Cupps, of Pittsburg, Pa.; Frank Richardson, of Boston, Mass.; T. K. Harding, of Bay City, Mich.; J. F. Jaeckell, of Pekin, Ill.; A. S. Hatch, of Detroit, Mich., and Dr. L. E. Niles, of New York.

The convention adjourned, to meet at Richmond, Va., next year.

The social features of Wednesday afternoon's entertainment were a trolley ride to the various power houses, visits to the Carborundum works and to the Natural Food Company's building. Thursday and Friday were devoted to sightseeing at the Pan-American Exposition, at Buffalo.

Among those present were: Will. Y. Ellett, of Elmira, N. Y.; A. C. Farrand and wife, Atlantic City, N. J.; M. G. Canfield and wife, Grand Rapids, Mich.; Frank C. Mason, Brooklyn, N. Y.; E. W. Dugdale, Kearney, N. J.; Frank E. Pierson and wife, Morristown, N. J.; J. W. Cupps, Pittsburg, Pa.; M. J. Donohue, Niagara Falls, N. Y.; M. W. Mead and wife, Pittsburg, Pa.; Chas. Downs, Altoona, Pa.; F. P. Foster and wife, Corning, N. Y.; L. M. Tillotson and wife, Yonkers, N. Y.; Wm. S. Hoffman and wife, Reading, Pa.; W. M. Petty, Rutherford, N. J.; J. F. Zeluff, Paterson, N. J.; Chas. Greenwald and wife, New Brunswick, N. J.; Adam Bosch and wife, Newark, N. J.; J. W. Aydon and wife, Wilmington, Del.; Wm. A. Barnes and wife, Bridgeport, Conn.; Capt. Wm. Brophy, Boston, Mass.; F. G. Boyd, Baltimore, Md.; W. S. Logue, Chicago, Ill.; J. F. Jaeckel, Pekin, Ill.; E. G. Loomis, Allegheny, Pa.; Wm. Crane and wife, Erie, Pa.; W. H. Thompson, Richmond, Va.; H. L. Angloch and wife, Pittsburg, Pa.; A. P. Eckert, New York; H. B. Kirkland, Chelsea, Mass.; Alex. Henderson, New York; Gen. C. H. Barney, wife and daughter, New York; Chas. Crampton, Bay City, Mich.; E. F. Schurig, Omaha, Neb.; W. J. Gardner, Detroit, Mich.; H. Smith and wife, Buffalo, N. Y.; W. M. Habershaw and wife, New York; Thos. Coyne, Washington, Pa.; O. E. Dunlap, Niagara Falls, N. Y.; G. F. Breitenstein and wife, Utica, N. Y.; Guy Owens, Honolulu, Sandwich Islands; G. F. MacDonald, Ottawa, Ont.; Ion Simons, Charleston, S. C.; H. D. Reynolds, Buffalo, N. Y.; H. C. Bundy, Watertown, N. Y.; F. N. Ferrin, Boston, Mass.; J. A. Seely, Troy, N. Y.; J. Jones, Jr., New York; T. Torry and wife, New York; E. L. Brown, Beaver, Pa.; C. F. Hauth, Niagara Falls, N. Y.; F. H. Wilson, Jamestown, N. Y.; P. H. Alexander, New York; R. E. Moran, Memphis, Tenn.; W. C. Banks, New York; Dr. L. E. Niles, New York; G. T. Manson, New York; J. S. Craig, Toronto, Ont.; Wm. Martin, A. F. Palmer, S. C. Jamison, J. C. Hill, M. M. Marcy, J. H. Dorrington, Chas. H. Pryor, Thos. Harmore and wife, K. Morgan, T. A. Howeler, and F. A. Cupps, Pittsburg, Pa.; Jessie B. Williams, Miss I. D. Fenley, H. F. Woodburn, B. S. Barnard, T. E. Wood, F. A. Williams, F. S. Palmer, F. W. Harrington, D. H. Darling, E. S. Downs, E. M. White, Mrs. J. H. Morton and daughter, W. R. Drummond, W. de W. Russell, P. L. Wilbur, and J. H. Hallberg, New York; E. R. Webb, H. W. Pope, Buffalo, N. Y.; Gray W. Johnston, Memphis,

Tenn.; D. F. Lucas and wife, and Mrs. A. M. Browning, Brooklyn, N. Y.; Thomas O'Reilly, E. D. Very, G. H. Swan, A. J. Hamlin, W. J. Morton, Geo. H. Anthony, S. A. Greenwood, W. C. Barber, W. Y. Green and wife, B. W. Seuppril, and E. F. Omsted, Niagara Falls, N. Y.; Wray Winnett, Washington, Pa.; A. S. Hatch and wife, Detroit, Mich.; Henry March, Mrs. Ellett Murch and daughter, and J. D. Longmire, Allegheny, Pa.; Rose Knodloch, E. T. Kirkpatrick, and Thos. G. Grier, Chicago, Ill.; Kittie Rhodes, Port Byron, N. Y.; James Seanny, Ottawa, Ont.; J. W. Davis, Newark, N. J.; John Cavetti, and F. O. Snow, Bridgeport, Conn.; G. R. Downs, Altoona, Pa.; Frank Ingraham, Providence, R. I.; L. E. Meader, Oneida, N. Y.; G. W. Taylor, Richmond, Va.; Jeremiah Murphy and wife, Cleveland, O.; Arthur J. Bell, New Rochelle, N. Y.; Geo. Dickens and wife, A. D. Stevens and wife, R. O. Lilly and wife, Corning, N. Y.; C. A. Rolfe, Adrian, Mich.

#### THE EXHIBITS AND EXHIBITORS.

A room was set apart for exhibits, and there quite a display was made of appropriate fire and police telegraph apparatus.

The Okonite Company, of New York, was represented by George T. Manson.

J. Jones & Sons, of New York, were represented by Mr. J. Jones, and their exhibit was an elaborate one.

The Montauk Fire Detecting Wire Co., of New York, was represented by Mr. F. S. Palmer, of the New York office. An interesting exhibit was given showing the practical operation of this system in affording prompt fire alarm. The fire that was detected was effectually suppressed by the application of Kilfyre. This exhibition was given in front of the hotel and was witnessed by several hundred people.

The Circular Loom Co., of Boston, Mass., was represented by F. N. Ferrin.

The Edison Manufacturing Co., of Orange, N. J., was represented by W. S. Logue, of Chicago, the general manager of the Edison interests at that point.

The Gordon Battery Co., of New York, was represented by W. C. Banks.

The United States Battery Co., of New York.

The Safety Insulated Wire and Cable Co., of New York, was represented by A. P. Eckert, who distributed leather covered memorandum books.

The Gamewell Fire Alarm Telegraph Co., of New York, was represented by T. Torry, who gave away as a souvenir a silver match box of unique design.

The Carborundum Company, of Niagara Falls, distributed pocket knife sharpeners.

The Sprague Electric Co., of New York, was represented by Alexander Henderson. The conduit exhibit was a very complete one and highly interesting. Greenfield flexible steel conduits and steel armored conductors were shown, and samples of these goods were distributed among the members. A large sample board originally built for the Pan-American Exposition attracted a good deal of attention. Mr. Henderson was the first chief of

the Electrical Inspection Bureau of the Fire Department of New York city, and is extremely popular with municipal electricians everywhere.

Mr. Louis W. Miller, superintendent of fire alarm telegraph at Rochester, N. Y., explained the merits of the Miller cut-out, which absolutely cuts out when not in use fire and police telegraph boxes. Mr. Miller's device is in use in many cities, and he is at present installing a full set of these instruments at Syracuse, N. Y.

#### NOTES.

About the time the convention adjourned Mr. W. Y. Ellett, superintendent of fire alarm telegraph at Elmira, N. Y., received a telegram announcing that the Court of Appeals had rendered a decision restoring him to the superintendency from which he had been suspended since last February by newly appointed fire commissioners. This great victory for Mr. Ellett caused that gentleman to receive the hearty congratulations of every member of the association who were glad to learn that the municipal telegraph system of Elmira was to remain in the hands of this very competent official.

Mr. Frank P. Foster makes an ideal secretary of the association. His faithful work was apparent on every hand, and he had a courteous answer for every question.

After the selection of Richmond, Va., as the next place of meeting, Delegate W. H. Thompson, of that city, was kept busy receiving congratulations and telegraphing the glad tidings to the Richmond city officials.

#### Look Out for This Man.

Editor TELEGRAPH AGE:

Kindly do me the favor to warn your readers against an impostor representing himself to be Frank E. Hood, assistant superintendent of telegraph of the Mexican Central Railway Company. The man is not in this company's employ and there is no such official as assistant superintendent of telegraph. When last heard of he was operating in East Texas, where he had been successful in victimizing a number of people for various amounts. I enclose a sample of the business card he is using.

Yours very truly,

G. O. PERKINS,

Superintendent Telegraph.

Compañia Limitada del Ferrocarril,  
Central Mexicano.

Mexico, September 2, 1901.

#### No Looking Glasses During Business Hours.

The controller of the central telegraph office in London, Eng., has ordered the closing, during working hours, of the dressing rooms where looking glasses are kept. To the indignant petition of the hundreds of women telegraphers against what they called his tyranny, the controller replied by accusing them of squandering the time of the government. So the girls have to take messages for eight hours without having a look at themselves.

You can't afford to be without TELEGRAPH AGE.

#### Col. Clowry on a Young Man's Business Chances.

I have received your letter asking for my views in reference to the young man's chances of success in commercial life and do not hesitate to say, that, in my opinion, the chances of success in commercial business, for the right sort of young men, have never been so good as at the present time; provided that the young men are well educated, honest, industrious and faithful, and not handicapped by mental or physical defects, or by a full university course of education, and enter business early in life so that they may be molded to their work, and in line for promotion when opportunities present themselves.

To be successful, the young man should be not only industrious and faithful but always willing and anxious to perform more service than is allotted to him; to guard and watch his employer's interests at all times, regardless of stipulated hours—whether the employer is the United States Government, a large corporation, a firm, or an individual, and the service should be performed not only intelligently, but modestly and unostentatiously, so as not to excite the ill-will of other employees. He should, if possible, acquire the habit of performing extra work for his employer, visiting his place of occupation at night or on Sunday—if consistent with his religious convictions. He should take a large view of the whole business of his employer, and become familiar with the details of the different departments. He should be a constant student and reader, when not at work, giving special attention to biography, travels, history and geography. He should know what great and successful men have really accomplished, rather than what some imaginative novelist would have them do. He should read such works as the journals of Lewis and Clark on their expedition across the continent to the Pacific coast of the United States, in 1803, and when discouraged or disheartened, remember the sufferings and vicissitudes encountered by them. He should read "John Halifax, Gentleman," and not only never forget to be a gentleman, without being prudish, but endeavor to associate with gentlemen and ladies in social life, and cultivate the acquaintance of persons of more experience and culture than himself.

It is a great mistake for a young man to think that his efforts to be efficient and to perform more work than is set apart for him will not be noticed by his employers or superior officers. The appreciation of such service may seem tardy, but is almost sure to come, and then it will only be a question of time when his services will become indispensable, and his success certain.—Col. R. C. Clowry, vice-president and general superintendent of the Western Union Telegraph Company, Chicago, Ill., in *The Conservative*.

TELEGRAPH AGE should go regularly to every one interested in the telegraph.

\*I think that a full university course has a tendency to unfit young men for the rough struggles, incident to the small beginnings of a commercial business career.

### The Skagway-Juneau Cable.

The laying of the marine cable from Skagway to Juneau has been completed and the latter town now forms one of the points on the route which will shortly be in direct telegraphic communication with Seattle and thence with the entire United States. The actual completion of the laying of this cable was accomplished at noon, August 23, by the force of experienced men on board the steamer Lakme, which sailed from Seattle on August 15. Allowing nearly five days, which were occupied in the journey to Skagway, the actual laying of the cable consumed less than three days.

The details of the laying of this cable are interesting. On August 12 the cable arrived in Seattle over the Great Northern Railroad. It was then loaded into the Lakme, whose hold was specially prepared for its reception. It is said to be the longest telegraph cable manufactured and laid by any American manufacturer and the largest cable within United States territory.

The Lakme arrived at Skagway on August 20 at 2.30 P. M., Skagway time, and the landing of the shore end of the cable was completed two hours later. By the establishment of this end on the shore telegraphic communication between the ship and the shore was effected. At six o'clock the next morning the actual work of laying the cable began. The conditions were declared most favorable, there being no wind prevailing, and the water being perfectly smooth. By means of the batteries on the ship connected with the cable, communication was kept up with Skagway, and as the laying of the cable progressed the reports were duly posted for the benefit of the interested crowd on shore, gathered around the bulletin board. Exceptionally good time was made in the work, a uniform speed of five miles per hour being maintained. No accident of any sort interfered with the success of the operation.

At 9.30 P. M. that night the fog thickened to an extent rendering it necessary to anchor until daylight. The anchor was dropped off Shelter Island in ten and one-half fathoms of water, eighty-four miles of cable having been laid in sixteen hours. Work began again early next morning, and at 3 P. M. of that day anchor was dropped three miles from Juneau, in order that the shore end might be spliced. The shore end of the cable being of double armor, it is much heavier than the main cable, and weighs 12,000 pounds to the mile. The splicing was completed in four and a half hours, and the laying was again resumed to within one-half of a mile of Juneau, when the anchor was again dropped for the night.

Early in the morning following preparations were made to land the shore end of the cable to connect with the land line built by the signal corps to the regular office. A line was first sent ashore to be passed through a snatch block attached to a tree. One end of this line was attached to the cable and the other end to a winch on the vessel. The end of the cable was passed over one of the ship's boats, and the boat was towed ashore by power from the winch. After all the slack was drawn in the cable was anchored to the shore by means of chains. Tele-

graph instruments, batteries and instruments for measuring cables were at once landed and connections were again established with Skagway. By 12.30 o'clock instruments for measuring installation resistance, conductor resistance and capacity of the current were completed, and all was found to be in perfect order. The cable was then attached to the end of the telegraph line and telegraphic communication between Skagway and Juneau was an accomplished fact.

At Skagway, Major Glassford, of the United States Signal Corps, who performed the Government's land share of the work, joined the cable corps and participated in the work described. The cable is primarily laid for the use of the United States Signal Corps, but by an act of Congress its use is permitted to the public at the rate of .7 cents per word for commercial messages and 4 cents per word for press dispatches. The total cable equipment weighed over 300 tons, there being over 124 miles of cable coiled in the hold of the Lakme. When coiled the cable measured thirty feet in diameter, six feet ten inches high and contained seventy-five layers. In loading the cable great care was taken that the cable coils should be laid thoroughly even and right handed from the outer edge of the circle to the center. Laths were placed between each layer of the cable.

The process of laying was a delicate one. The cable was first passed through a large lead suspended directly over the center of the cable coil. The cable then passed four times around an iron drum and then through a snatch block fastened to the foreboom. The boom was rigged at right angles over the port side in order to carry the cable clear of the ship's side and the propeller. To prevent the cable from running out faster than the speed of the vessel a friction brake was attached to the iron drum. The average speed observed in the laying was five statute miles per hour. This was said to be unusually fast work, in view of the depth of the water, the rugged bottom, especially within twenty miles of Skagway, and the facilities afforded by the improvised steamer. The Lakme was not a cable ship and the hold and deck had to be changed in several particulars to adapt her to the purposes intended.

The cable, which is fifteen-sixteenths of an inch in diameter, is composed of seven copper wires covered with a coating of pure Para rubber. Outside of this kerite is added to a diameter of nine-thirtyseconds of an inch. Two wrappings of rubber tape, two of jute, a covering of No. 9 steel armor wire and two wrappings of a jute covered with tar and soapstone form the consecutive outer coverings of the cable. On account of the resulting friction and strain each shore end is covered for two miles with eighteen strands of No. 6 B. & S. steel armor wires and two wrappings of jute, tar and soapstone. The shore ends of the cable are one and five-eighths inches in diameter.

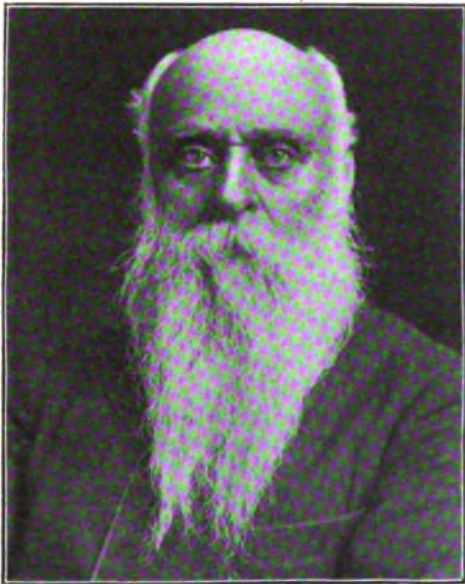
The manufacturer and contractor of the material is W. R. Brixey, of New York, his representative and superintendent, George F. Porter, having supervised the operation of laying. The cost of the operation is placed at \$71,000. The extraordinary close

calculation indulged in is apparent from the fact that there remained but 1,800 feet of cable to spare after the laying was completed.

While not officially engaged, great assistance of a practical kind was afforded the men engaged in the work by J. G. Blake, manager of the Postal Telegraph-Cable Company, of Seattle, Wash. Alexander Kline, of the Western Union Telegraph Company, of New York, had charge of the actual work of cable laying. University students who were with the party also rendered material assistance in minor matters.

#### John Horn.

John Horn, an engraving of whom is herewith presented, was born in Montreal, Que., in 1837. Early in life, becoming interested in the telegraph, he found employment with the Montreal Telegraph Company, in that city. This was in 1853. Four years later, in 1857, he removed to New York,



JOHN HORN.

where he became identified with the American Telegraph Company. Afterwards he entered the service of the Western Union Telegraph Company and for a period was manager of the Stock Exchange office of that company. Returning to Canada he next engaged in the Canadian Military Telegraph service in the Northwest. For many years past Mr. Horn has been a resident of his native city of Montreal. He is the possessor of one of the finest collections of early American and Canadian history of the telegraph, of which he has been a diligent student. This is embraced in five large volumes and includes many interesting original letters and portraits.

We always notice that the operator whose favorite hymn is "I Would Not Live Always," invariably works a way wire with fifty offices on it.

#### LETTERS FROM OUR AGENTS.

##### LONDON (ENGLAND) NOTES.

Among the recent telegraph visitors from America in this city were Mr. Arthur C. Frost, superintendent of the Direct United States Cable Company, New York; Mr. William B. Gill, superintendent of the Western Union Telegraph Company, Philadelphia, Pa., who intends to visit the Continent before his return to America; Mr. George G. Ward, vice-president and general manager of the Commercial Cable Company, New York; Mr. John W. Mackay, president, and Mr. A. Beck, secretary, of the Commercial Cable Company, New York.

Mr. D. Le Rougetel, superintendent of the Western Union Telegraph Company, this city, is away on a month's vacation.

##### CHICAGO, ILL., POSTAL.

The Postal Company's Chicago office, located on the thirteenth floor of the Stock Exchange Building, can justly lay claim to being one of the best equipped telegraph offices of the Postal Company. A new and very complete switchboard has replaced the old one and what is known as the Skirrow pin-jack and transfer system has been installed. The work of installation has been going on since about May 1 under the supervision of S. F. Jones and J. H. Hess, of the electrical department of the Postal Company in New York. The Skirrow transfer system does away with the old style jack and card running from one board or section to another, which has so long been a means of delay and trouble to the wire chiefs. With the Skirrow system any combination of transfers, from one board to another, from one table or set to others, outside loops to the board of trade, broker's offices, newspaper loops, leased wire, branch office loops, etc., can be instantly made and with practically no chance of a "mix-up." Another very great improvement and aid is a system of indicator and bell taking in all leased wire and broker offices. When the bell rings a blind falls, showing instantly what wire the wire chief is wanted on.

The work of installing this Skirrow system has been quite a remarkable feat when it is learned that every wire into the switchboard has been changed, sections of the board taken out one at a time, and all this with practically no interference to business. The Skirrow system has also been installed in the Philadelphia, Indianapolis and Cleveland offices of the Postal Company, Mr. Jones and his assistants having just completed the work at the latter office before coming to Chicago.

##### PHILADELPHIA, PA., WESTERN UNION.

Charles T. Seibert, a well known operator, and formerly manager of the Camden and New Brunswick, N. J., offices, died of consumption, from which for several years he had been an invalid, on September 5. He was a well-beloved member of the fraternity. He leaves a wife who is also an operator in this office. His funeral was largely attended by members of the force.

The attempted murder of President McKinley caused a large force of operators to be held in read-

iness here to provide against all contingencies. In response to an appeal for assistance from the Buffalo office, where the wires were taxed to the utmost, Messrs. Durnin, R. P. Stoddard, James McGrority, and J. H. Daily were sent on.

Messrs. H. A. Emanuel, T. W. Bair, J. H. Abdill, and M. J. Madden were sent to Northfield to handle press matter during the National Golf Tournament which was played there.

Mr. Harry Paulhamus is the proud father of a girl. Mrs. Paulhamus (nee Miss Ida Godfrey) is well known here, and many friends extend congratulations.

#### CLEVELAND, O., WESTERN UNION.

Mr. Samuel Scharf is the happy father of a son.

Several of the fraternity visited the Pan-American at Buffalo during the past two weeks. Among them were Messrs. G. E. Koplin and Gales. All report a good time.

#### LOUISVILLE, KY., POSTAL.

Chief Operator, O. W. Krider, resigned September 1 to accept a position with the Western Union, this city. The boys presented him with a handsome shaving set, and expressed many regrets upon his departure.

Night Chief Operator L. W. Janes, has been appointed to fill the vacancy made by Mr. Krider's resignation, with John D. Holland as assistant.

Assistant Chief Operator A. L. Fogg, has been appointed night chief.

#### KANSAS CITY, MO., POSTAL.

Mr. Kenefick has resigned and gone to New Orleans to work for this company. John Hall has returned from a vacation. Night Chief Charles Falk is absent on account of sickness, and G. S. Palmer is acting in his stead. Mr. Dobel, late of the Armour Packing Company's telegraph department, is now with us.

Mr. Joseph Ingram and Miss Maud Mitchell, of the city lines department, were married a few weeks ago, and the office force unites in an expression of congratulation. Mr. Tobin is off on a vacation.

#### SEATTLE, WASH., WESTERN UNION.

Chief Operator Chas. Baxter, has returned to work after an absence of three weeks caused by sickness.

Miss Knox was called home on account of the death of her father in Eugene, Ore.

Arrivals: W. C. Neele, F. A. Church, F. W. Bowes, W. H. Murphy, and M. Dooley.

Departures: J. McDonnell, to Northern Pacific Railroad, Helena, Mont.; C. Nutter, to Flagstaff, Arizona, and C. T. Bell, to Skagway, Alaska.

#### ST. LOUIS, MO., WESTERN UNION.

The Kinloch Race Track Western Union office was opened August 17, with H. Horton in charge; Thomas Phelan, Al Frey and Herman Wegerman, operators; John T. Brophil and Chas. W. Groos, race correspondents.

At Delmar we find Mr. Geo. J. Goehringer as manager, while the operators are Mark Crain, Jr., Joseph Barry and James Grady, and race correspondents, W. L. Roberts and Chas. W. Jost.

Mrs. Josie Schmitt is filling in Mr. Goehringer's position as assistant to Mr. Frank Spencer, of the way department.

Miss Marie Lacher returned recently from a month's visit to Buffalo.

Misses Mamie and Annie McLaughlin spent their vacation during July in Southern Michigan and Wisconsin.

Miss Alice Crotty passed her vacation in South Haven, Mich., the early part of August.

#### NEW ORLEANS, LA., WESTERN UNION.

W. H. Bauder has returned from Havana and is with the Western Union. Arthur Wemett holds the boards for a new brokers' office. Sympathy is extended to J. J. Thompson, whose mother died recently in Mobile, Ala.; and to E. W. Westerfield, a former Western Union man, but now manager for the United Fruit Co., located at Minneapolis, whose wife died on August 20.

Mrs. J. B. Mobley and daughter have been spending the summer in Alabama, and Mrs. F. W. Longmire and daughter are in Mississippi. One of the most popular local railroad and telegraph men is B. Weeks, manager of an Illinois Central Railroad office.

The Southern Pacific local office is now furnished battery from the Western Union storage plant. Mr. A. F. Wark, assisted by Messrs. Turner and Meitzley, are credited with the installation.

M. M. Lott is now with the Postal. Mr. Nogel is a late arrival from Nashville, Tenn. Messrs. E. L. Hamm and Wm. Gowland are numbered among promising young telegraphers.

Messrs. Pillow and Sevat have returned from their vacation. Mr. Ellzey, former Illinois Central manager, now with Southern Pacific, was a recent visitor.

Percy W. Morrow, a former operator for the Southern Pacific, and lately assistant city ticket agent for the Louisville and Nashville Railroad, has been promoted to the post of traveling passenger agent for Texas for the same company, with headquarters at Houston.

#### PHILADELPHIA, PA., POSTAL.

The terrible catastrophe which befell our nation's Chief Magistrate at the Pan-American Exposition brought with it one of those sudden rushes of business which tax the emergency facilities to their utmost. Men everywhere were pressed into service. At the newspaper offices particularly, it was a common thing for operators to remain on duty all night. Considering the depleted state of our present night force we made out very well.

The demand for good talent still exists, but it is expected by the latter part of the present month, when the summer offices will be about all closed, that the supply of operators will be greater than the demand.

The vacation season is about over. Among other fortunate ones to get away for a brief period were All-night Chief Wm. J. Poppert; Mr. Horace Holtzinger, to Ocean City; Night Wire Chief M. A. Baker, to Atlantic City; Quad Chief Chas. Dreher, to the Pan-American; Miss Nellie Hayes,

of the city department; Harry Thompson, assistant traffic chief, enjoyed the benefits of his country home; Leo Miller, accompanied by his son, spent a few days at Niagara Falls and the Pan-American Exposition; Mr. Fred. Kohler, of the North American staff, spent his vacation at Atlantic City, and Harrisburg, Pa.

The latest arrivals include the Messrs. A. M. Moore, Wm. S. Meck, W. H. Heeps, Claude C. Figgs, J. J. Horner, H. V. Allen, J. J. McNernay, and C. W. Williams.

A played-out arm was responsible for Mr. Benj. Crawford's detention at home for several days; while a severely ulcerated tooth did the same for Mr. Geo. Plattenburg.

Departure: Geo. B. Morris.

One of the fiercest specimens of a bulled-up message we ever saw stated: "All trying to leave home left hotel at house, last heard woods homeless." The original read: "Am trying to locate him, left postal at house, last heard Woods Hole, Mass."

#### NEW YORK, POSTAL.

The following changes have been made among the traffic and wire department chiefs: John B. Rex, from nights to assistant to F. F. Norton, general traffic chief, days; J. H. Twyford, nights, to traffic, days, Southern Division; E. A. Coney, to the Western board; C. B. Obst, to all-night traffic. Mr. F. M. Smith, formerly of the main Postal office, Boston, Mass., has been appointed night loop chief. The sympathies of the force are with former City Chief Daniel Grogan, in the recent loss of his wife.

A. E. McKiernan, Western wire chief, and Geo. F. Randolph, leased wire chief, attended the Montreal Convention of the Old Time Telegraphers' Association. They will also visit the Pan-American Exposition at Buffalo while absent from the office. Wire Chief Edward Rankin has returned from his vacation spent at Greenwood Lake, where he added to his already well known reputation as a successful fisherman.

The attempted assassination of President McKinley caused an immense volume of business to be suddenly thrown upon this office, and which has continued unabated ever since. The day and night force are working almost continuously to keep files clear. The yacht races being near at hand will also add greatly to the already enormous business being transacted.

Miss Avis Gibney has returned to duty after an absence of two months spent in Chicago and on the Pacific coast.

Chief J. H. Twyford returned after a two weeks' tour of New York State and the Canadas, taking in the Pan-American.

#### NEW YORK, WESTERN UNION.

Mr. Jules Rodier, of the Executive Mansion, Washington, D. C., was a recent visitor.

Miss Minnie Garey and Mr. William McElroy, of the Wheatstone department, were married on September 4. Mr. Robert McElroy, of this office, was best man, and Miss Annie Garey, of the Buck-

ingham department, a sister of the bride, acted as bridesmaid. There was a large attendance at the wedding from this office, and many beautiful presents were received.

On account of the pressure of business throughout the office many operators were unable to get away to attend the Old Time Telegraphers' Convention held at Montreal last week.

Mr. Charles J. Powers, of the Commercial News Department, has returned from his vacation.

The marriage of Geo. W. Stephens, of this office, son of Superintendent J. M. Stephens, of Atlanta, Ga., is announced.

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.)

Artistic and mechanical drawing by J. B. Barrett, 195 Broadway, New York. (Adv.)

#### Unsatisfactory Condition of the British Telegraphs.

The London Electrician of recent date thus sums up the telegraphic situation in Great Britain:

"The Postmaster-General's annual report, just issued, for the financial year ended March 31, 1901, is unusually dreary reading, a change having come over its literary style concurrently with the retirement of Mr. Cardin, the late comptroller and accountant-general. Its general dulness is rendered perfectly doleful when the telegraph accounts are dealt with, matters in that quarter being even less satisfactory than usual. For the first time in ten years the receipts in respect of the telegraph service have fallen below the year preceding; and for the first time since the service has been worked by the State the total number of telegrams has diminished. This looks as if the revenue from that source had reached high-water mark; and as the expenditure has continued at the usual rate of augmentation, the net result is that, at this critical turning point, there is a net deficit on the year's business of £353,216—a sum which is raised to £652,104 if the annual interest due (but never paid) on the original capital outlay be added. Taking into account the fact of a general election—a fact referred to as explaining a large increase of postal business—this falling off in the telegraph branch is somewhat startling. For the five or six previous years the growth of inland telegrams year by year has been at the rate of between three and four millions; in 1900-1 there was an actual decrease of 838,162, the bulk of this being under the heading of 'London.' Scotland and the provinces show also each a falling off, the only gratifying item being the one under 'Ireland' which, happily, holds its own fairly well."

**The Montreal Meeting of The Old-Time Telegraphers' Association and The United States Military Telegraph Corps.**

For the first time in twenty-one years of such assemblings, The Old-Time Telegraphers' Association, together with its coadjutor, The United States Military Telegraph Corps, celebrated an annual reunion on foreign soil, meeting in Canada at the delightful yet quaint old city of Montreal, on September 11, 12 and 13, and under the auspices of a Canadian president and vice-president. While such a meeting partook largely of the quality of novelty, as was to be expected, it was a most agreeable innovation to the usual order of things. No thought of boundary line divisions and differences in nationality existed in the minds of these casual visitors, for after all the one is but an imaginary mark, visible only on the map, and the other exists only in name, for was it not but a step just over the way, so to speak, and into the midst of a neighboring family of near relatives? What could be more natural?

This was the spirit in which the trip to the convention was undertaken and carried out by the boys from Yankeeland. Certainly the splendid hospitality shown, the kindly feelings expressed, and the thousand and one acts of generosity extended on the part of the telegraphers and others of Montreal gave evidence of kinship, proving, indeed, that "blood is thicker than water."

The meeting of The Old-Time Telegraph Association was called to order by President McFarlane on Wednesday, September 11, at 11 A. M. in the Windsor Hotel, Montreal, when Col. Wm. B. Wilson, of Philadelphia, presented the president with the badge of his office, the miniature portrait of Professor Morse, which has been worn by the presiding officer at the last six conventions.

Mayor Prefontaine, of Montreal, was then introduced. He addressed the meeting at some length and tenderly touched upon the attempted assassination of President McKinley, every citizen of Canada, he said, joining in fervent prayers for his speedy recovery. He tendered the freedom of the city to the 250 delegates present and wished the society continued prosperity. Col. Wm. B. Wilson responded in his usual interesting way, and President McFarlane made the mayor a member of the association during its stay in the city, by affixing a badge to his coat.

The minutes of the previous meeting having been printed and distributed among its members, their reading was dispensed with. The committee on the subject of a Telegraphers' Home made a lengthy report, which went into the matter very minutely. After a lengthy discussion, lasting two hours, almost all of the members taking part therein, it was unanimously resolved that a Telegraphers' Home was not practicable.

The secretary, John Brant, of New York, read his report, which stated that the society was in a very satisfactory condition. He recommended that the age limit should be changed from twenty to twenty-five years, making it necessary hereafter that applicants for membership must have been in the telegraph service twenty-five years.

A letter was read from the corporation of Montreal welcoming the association to the city.

The question of merging The Telegraphic Historical Society of North America with The Old-Time Telegraphers' Association was next taken up and unanimously agreed to and the necessary change in the title of the association was ordered.

Letters from H. P. Dwight, president and general manager of the Great North Western Telegraph Company, of Toronto, Ont., and from James Kent, general manager of the Canadian Pacific Railway Telegraph Company, and from L. B. McFarlane, superintendent of the Bell Telephone Company, of Montreal, extending the courtesies of their respective lines to the delegates, were read.

Resolutions of condolence on the death of ten members which occurred during the past twelve months, were adopted.

Salt Lake City, Utah, was selected as the next place of meeting and the following officers were then chosen: G. H. Corse, of Salt Lake City, president; Belvidere Brooks, of Denver, Col., vice-president; John Brant, of New York, secretary and treasurer. Executive Committee, L. B. McFarlane, of Montreal, Que.; H. C. Hope, of St. Paul, Minn.; H. J. Pettengill, of Boston, Mass.; J. J. Dickey, of Omaha, Neb.

The treasurer's report showed an amount of \$663 on hand and a collection during the year of \$820. During the year 203 new members were admitted, thus breaking the record for all previous years. The convention then adjourned.

Around the meeting room were the following names on large cardboards: Galvini, Morse, Wheatstone, Preece, Volta, Franklin, Bell, Reid.

On the large banner of the association was placed an English shield bearing an English and American flag; also on a shield "73" in large print. Around the room numerous English and American flags and shields were displayed.

The meeting of The United States Military Telegraph Corps was called to order at 8.30 P. M. by Col. W. B. Wilson, of Philadelphia, the president of the society.

**There is More Catarrh**

in this section of the country than all other diseases put together, and until the last few years was supposed to be incurable. For a great many years doctors pronounced it a local disease, and prescribed local remedies, and by constantly failing to cure with local treatment, pronounced it incurable. Science has proven catarrh to be a constitutional disease, and therefore requires constitutional treatment. Hall's Catarrh Cure, manufactured by F. J. Cheney & Co., Toledo, Ohio, is the only constitutional cure on the market. It is taken internally in doses from 10 drops to a teaspoonful. It acts directly on the blood and mucous surfaces of the system. They offer one hundred dollars for any case it fails to cure. Send for circulars and testimonials.

Address, F. J. CHENEY & CO., Toledo, O.  
Sold by Druggists, 75c.  
Hall's Family Pills are the best.

The report of President Wilson was an elaborate one, reciting the work done by the society for some years past. He also dwelt at considerable length on the deaths of four prominent members during the past year, namely, Cushman K. Davis, L. D. Parker, E. M. Shape and Geo. D. Cowlam.

Salt Lake City, Utah, was selected as the next place of meeting.

President Wilson was instructed to telegraph the condolence of the society to William McKinley, President of the United States, as follows:

Hon. William McKinley, Buffalo, N. Y.:

The Society of The United States Military Telegraph Corps in annual meeting assembled, detesting the horrible crime perpetrated against your person, tender you its hearty sympathy and express the hope while uttering the prayer that you may soon be restored to health and be preserved for our country.

Wm. B. Wilson, President.

Col. William B. Wilson, of Philadelphia, was elected president for the ensuing year; W. L. Ives, of New York, was chosen vice-president, and J. E. Pettit, of Chicago, was re-elected secretary and treasurer.

Mr. John Wintrup, of Philadelphia, acted as secretary of the meeting in the absence of Mr. Pettit.

The thanks of the society were voted to the mayor, the corporation of Montreal, the telegraph and telephone companies for courtesies extended.

President Wilson also received a vote of thanks for his indefatigable work performed in behalf of the society during the last five years. The convention then adjourned.

Those present were:

Albany, N. Y.—J. J. O'Connor, C. D. Hammond, Geo. C. Thompson.

Altoona, Pa.—Wm. Findlay, M.D.; W. G. Hughes and wife, C. N. Swoyer.

Asheville, N. C.—T. H. Drakeford and wife.

Bangor, Me.—P. J. Feeny and wife.

Blairville, Pa.—W. E. Richey.

Boston, Mass.—H. W. Gillespie, J. H. Connors, M. F. Maher, wife and son; J. A. McCoy and wife, W. E. Durgin and wife, C. T. Thompson and wife, C. E. Bagley and wife, G. H. Yetman and wife, Miss M. A. Walker, S. A. D. Forristall and wife, E. A. Smith, J. W. Larrish, A. D. Brewer and wife.

Canso, N. S.—S. S. Dickenson and wife.

Chicago, Ill.—Frank Richardson, J. N. Crittenton, E. W. Mayfield, W. I. Capen and wife, C. M. Baker and wife, G. Parker, Miss J. D. Pfeifer, R. E. Cuppage, C. S. Loewenthal and wife, R. Z. G. Davidson, John S. Henderson, D. S. Anderson, wife and daughter; W. J. Lloyd and wife, F. J. Scherrer and wife, C. H. Bristol and wife, J. Leary and wife, H. L. Baker and wife, F. M. Randolph and wife, Mrs. W. R. Holligan.

Cincinnati, O.—A. T. Gould, C. R. Tilghman and wife.

Columbus, O.—O. H. Newell, George Cole.

Covington, Ky.—J. J. Grant, wife and daughter.

Carbondale, Pa.—Frank Smith.

Cresson, Pa.—H. Taylor, wife and daughter.

Denver, Col.—T. McCammon.

Duquesne, Pa.—G. M. Ferry, wife and son; Miss M. D. Shryolk.

Englewood, N. J.—C. W. Chamberlain, Perry Chamberlain and wife and Annie E. Chamberlain.

Erie, Pa.—G. J. Golding and daughter.

Hartford, Conn.—L. Hempstead, R. P. Martin and wife.

Hutchinson, Kan.—W. C. Carswell.

Hazel Hill, N. S.—J. W. Lawson.

Jersey City, N. J.—J. B. Bertholf.

Keene, N. H.—G. S. Ball and wife.

Kansas City, Mo.—M. S. Wood and wife.

Louisville, Ky.—F. B. Williams.

Lyndonville, Vt.—A. D. Paige and wife.

Memphis, Tenn.—E. E. Cord.

Mt. Pleasant, Pa.—J. Landis.

McKees Rock, Pa.—D. F. Henlock and wife.

Montpelier, Vt.—D. E. Mason and wife.

Minneapolis, Minn.—Dr. S. Friedlander, wife and daughter.

Montreal, Que.—L. B. McFarlane, wife and daughter; W. B. Powell and wife, W. J. Camp, wife and daughter; James Kent and wife, F. H. Waycott, J. J. Graham, Chas. Noble and wife, John Horn and daughter, Wm. McKenzie, James Poustie, D. C. Dewar and wife, A. Walsh and wife, W. G. Slack and wife, H. Bott and wife, W. P. Martin, W. B. Rivet, W. D. Scott and wife, T. Rodger and wife, James Cochrane and wife, S. R. Martin, F. L. Jennings and daughter, R. F. Jones, J. F. N. Caisse, J. F. N. Richardson and wife, Mrs. W. T. Grose and James Bayles.

New York City—T. P. Scully and wife, G. F. Randolph and wife, C. A. Hicks and son, J. B. Sabine and wife, John B. Taltavall and wife, F. E. McKiernan, W. C. Burton, John Brant and wife, J. A. Regan, R. C. McDonald, Wm. Maver, Jr.; T. E. Fleming, C. P. Bruch, M. J. O'Leary and wife, E. F. Howell and wife, W. L. Ives, Jesse H. Bunnell, Mrs. J. H. Bunnell, Mrs. D. B. Mitchell and daughter.

Nutley, N. J.—M. D. Abercrombie and mother.

Newberne, N. C.—Geo. Henderson.

Newark, O.—Chas. A. Anderson.

Natchez, Miss.—C. W. Montgomery and wife.

Nashville, Tenn.—H. B. Geer and wife, W. C. Atkinson, J. W. Fisher.

New Orleans, La.—E. J. Davis.

Newark, N. J.—J. A. Sutherland.

New Canaan, Conn.—Dr. L. M. Monroe.

New Britain, Conn.—Mrs. H. B. Humason.

Ottawa, Ont.—J. E. Hutcheson and wife, T. Ahearn, J. D. Fraser, G. F. MacDonald.

Omaha, Neb.—U. G. Crispell and wife.

Philadelphia, Pa.—Col. W. B. Wilson, W. E. Van Arsdall and wife, John Wintrup and wife.

Pittsburg, Pa.—W. A. Case and wife, J. W. Yealy, F. J. McKenna and wife, J. W. Stump and wife, Chas. R. Stough, J. E. Rowe, Dr. Zant, T. Miller, wife and daughter; W. I. McQuown, Wm. Allenbaugh, J. A. Wilson and son, Mrs. J. Adams, Perry O. Adams, J. Adams.

Portland, Me.—C. D. Livermore and daughter.

Paterson, N. J.—J. E. Dunning and wife.

Poughkeepsie, N. Y.—Mrs. J. B. Nelson.

Richmond, Va.—J. S. Calvert, Samuel R. Crowder, G. A. Sinclair.



River Falls, Wis.—F. S. Ainsworth.  
 St. Paul, Minn.—A. J. Willard and wife, G. W. Hurd.  
 So. Framingham, Mass.—C. N. Gibbs.  
 St. Johns, N. F.—A. M. Mackay.  
 St. Johns, N. B.—P. W. Snider and wife.  
 San Francisco, Cal.—Cal. Byrne.  
 South Fork, Pa.—T. S. Fleming and wife.  
 St. Louis, Mo.—J. P. McClure and wife, Miss F. Meyer.  
 Troy, N. Y.—J. W. Copeland and daughter.  
 Toronto, Ont.—H. P. Dwight.  
 Washington, D. C.—W. E. Peirce.  
 Wilkesburg, Pa.—C. A. Nutinger.  
 Winsted, Conn.—C. K. Hunt, wife and daughter.

Too much praise cannot be accorded to the various committees for the excellent work performed by them, the result of which was shown in the smoothness with which all details were carried out. The Reception and Entertainment Committee was simply indefatigable in their attentions, especially that portion devoted to the welfare of the ladies of the party. Everything possible was done to render the stay of the visitors agreeable, and the remembrance of these efforts and the kindly impressions produced will not be forgotten.

The Reception and Entertainment Committee was made up as follows:

Mayor Prefontaine, Alderman Sadler, John Ross, W. G. Ross, H. R. Lockhart, P. G. Gosseler, M. J. Kennedy, Jas. Cochrane, M.L.A., John Horn, G. F. Gildersleeve, Capt. Sheppard, B. A. McNab, J. F. H. Caisse, W. J. Camp, F. H. Waycott, C. R. Hosmer, Hon. L. J. Forget, R. Forget, W. L. Wanklyn, W. H. Browne, Dr. Drummond, C. W. Spencer, Mathew Hodge, James Poustie, C. F. Sise, Judge Carriere, W. D. Scott, J. F. Richardson, W. B. Powell, Charles Noble, Samuel Martin, W. McLea Walbank, G. B. Burland, R. S. Kelsch, W. C. Dalrymple, James Kent, J. E. A. Robillard, C. P. Sclater, Thos. Henry, D. C. Dewar, J. J. Graham, W. G. Slack, Thos. Rodger, Arthur Walsh and W. B. Rivet.

The Ladies' Reception Committee embraced the following names:

Mrs. L. B. McFarlane, Mrs. E. Ahearn, Mrs. D. C. Dewar, Mrs. James Kent, Mrs. B. A. McNab, Mrs. W. G. Slack, Mrs. J. Poustie, Mrs. Wm. Grose, Miss Ruth McFarlane, Mrs. Jas. Cochrane, Mrs. C. R. Hosmer, the Misses Horn, Mrs. T. Rodger, Mrs. F. H. Waycott, Mrs. W. D. Scott, Miss Townsley, Mrs. J. E. Hutcheson, Mrs. W. J. Camp, Miss C. Camp, Mrs. John Brant, of New York; Mrs. W. B. Powell, Mrs. A. Walsh, Mrs. Chas. Noble and Miss Jennings.

#### THE ENTERTAINMENT.

At 2 o'clock in the afternoon of September 11, some two hundred carriages conveyed the entire party around the city and up Mount Royal, where refreshments were served, the delegates thus entertained being the guests of Mayor Prefontaine. A very enjoyable afternoon was spent in this beautiful park, speeches and toasts were made and responded to.

In the evening those who did not attend the annual

meeting of The United States Military Telegraph Corps, made up theater parties and in other ways enjoyed themselves. Telegraph stories were indulged in by the delegates congregated in various corners of the large corridors of the hotel, and many a telegraph yarn of remarkable occurrences in olden times gained publicity for the first time.

At 10.30 A. M. on September 12, a visit to the electrical buildings of Montreal was made. In the afternoon the steamer Duchess of York conveyed the entire party up the Lachine canal, shooting the rapids on the return trip, after which an inspection of the harbor of the city was made.

Friday, September 13, the third and last day of the meeting, was devoted by the delegates largely to sightseeing, and groups and stragglers of visiting telegraphers, the vast majority of whom were in Montreal for the first time, might have been observed all over the city, viewing the many points of interest with which the old town abounds, and peering into various odd nooks and corners. Early in the afternoon a trip by trolley cars was made to the power plant of the Lachine Rapids Hydraulic and Land Company. The ride was a delightful one and revealed a succession of charming views that elicited much pleasing comment, while the inspection of the extensive plant was invested with much interest.

Altogether the meeting at Montreal was one full of interest and pleasure to all who participated.

#### THE BANQUET.

At the banquet Thursday evening over two hundred members and their friends were present, including many distinguished citizens of Montreal. After coffee was served, Toastmaster W. C. Burton, of New York, rapped for order and called upon President McFarlane, who proposed the toast: "The King." The toast to the "President of the United States" was responded to by Col. Bettinger, United States Consul-General to Canada. Telegrams of good cheer were read from President-elect of The Old-Time Telegraphers' Association, G. H. Corse, of Ogden, Utah, and from Vice-President-elect Belvidere Brooks, of Denver, Col. Letters of regret were read from many prominent telegraph and railroad officials, including Gen. Thomas T. Eckert, William H. Baker, Thomas F. Clark, and Orrin S. Wood, of New York. The latter stated that it was now fifty-seven years since he began his telegraphic career as a student on the first telegraph lines of Professor Morse, at Washington, D. C. A letter of regret was also read from H. J. Pettingill, of Boston, Mass.

The first speaker was Mr. H. P. Dwight, of Toronto, Ont., president and general manager of the Great North Western Telegraph Company of Canada. He stated that many of the telegraph people referred to him as the "Father of the Canadian telegraph." If this were so, Mr. Orrin S. Wood, now of New York, but in 1847, of Montreal, must be the "Grandfather" of Canadian telegraphs. Mr. Dwight's remarks were of a reminiscent nature and extremely interesting to those present.

Mr. Wm. Maver, Jr., of New York, gave his experience as a telegraph operator in Montreal thirty

years ago, naming his associates at the key at that time.

Mr. S. R. Crowder, of Richmond, Va., entertained the assemblage with several songs, accompanying them with the guitar.

Col. Wm. B. Wilson, of Philadelphia, responded to the toast, "The Ladies," in his usual gallant style. During his remarks he paid a glowing tribute to the late J. H. Bunnell.

Mr. L. I. McMahon, of Montreal, sang an appropriate song.

Mr. M. J. O'Leary, of New York, was the next speaker and gave some interesting facts bearing on fraternal organization.

Miss Fannie Meyer, of St. Louis, sang with magnificent voice and pleasing effect the "Holy City."

Mr. W. M. Walbank, of Montreal, was the next speaker.

Mr. A. M. Mackay, of St. Johns, N. F., gave a history of his fifty-one years of telegraph service. Mr. Mackay gave the credit to Cyrus W. Field, of New York, for conceiving the first idea of an Atlantic cable, but he conceded the honor to John Brett, of London, England, of having first invented and made successful deep sea cable laying.

Mr. W. L. Ives, of New York, spoke eloquently on the memory of the late James Douglas Reid.

The festivities were brought to a close at a late hour by appropriate remarks of the toastmaster.

#### Simultaneous Telegraphy and Telephony.

Mr. C. G. Sholes, superintendent of the Atchison, Topeka and Santa Fé Railroad, Topeka, Kan., is experimenting with simultaneous telephony and telegraphy. Mr. Sholes has been experimenting with his device between stations on the line of the Santa Fé between Kansas City and Topeka, and has succeeded in eliminating difficulties met with in first trials. While the arrangement has so far worked only for short distances, the Santa Fé superintendent is of the opinion that there is no reason why it should not work for long distances. He now proposes to make tests at long range, and if these prove satisfactory, the matter of equipping offices will be taken up by the Santa Fé management.

Those desiring electrical or telegraph books will consult their own interest by securing our book catalogue. We make it a point to fill all orders the same day they are received. Address TELEGRAPH AGE, 253 Broadway, New York.

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

#### The Importance of Reliable Municipal Work.

In municipal work, more than in any other, the electrical equipment must be absolutely reliable. A bad contact, sticking together or full of oxides, may mean loss and danger of the gravest sort to the community. Through failure of the fire apparatus to respond to an alarm, or of the ambulance to answer its call, or of the police to appear promptly when summoned, a bad contact may exact a fearful toll in conflagration, or death or riot. And, in the saving of a few cents' worth of platinum, the vast expenditures of municipalities for fire and police protection and of the generous public for hospitals, may be nullified. There is no room for economy of this wasteful kind in instruments upon which so much depends and to which the public looks with perfect confidence for perfect results.

#### Canadian Telegraph Statistics.

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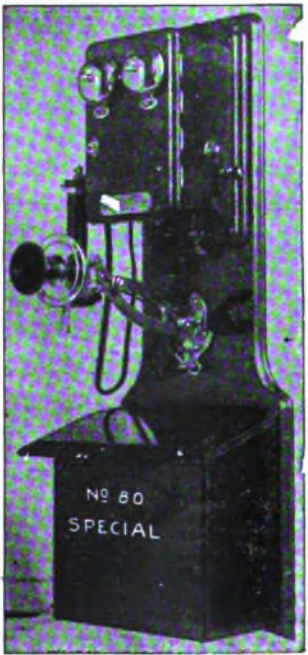
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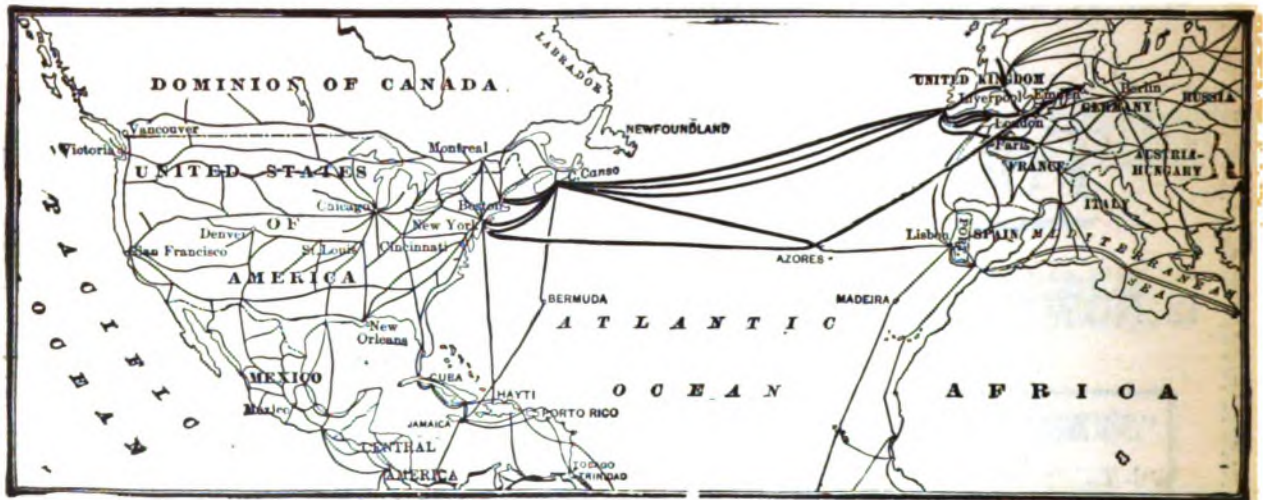


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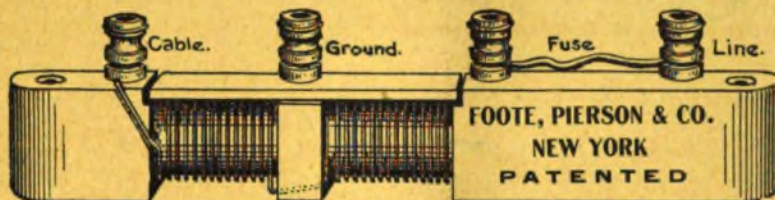
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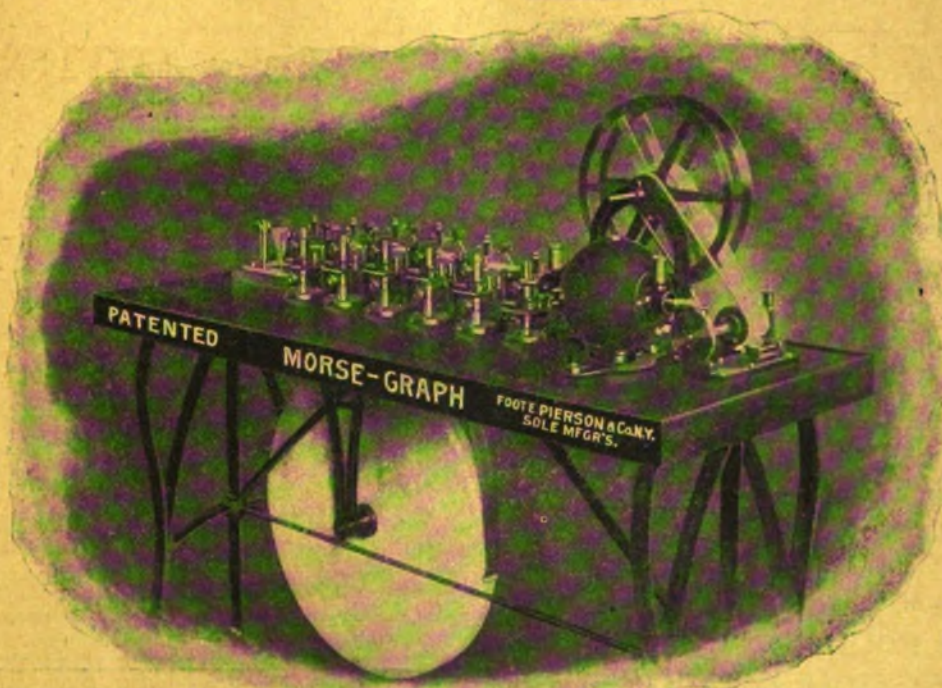
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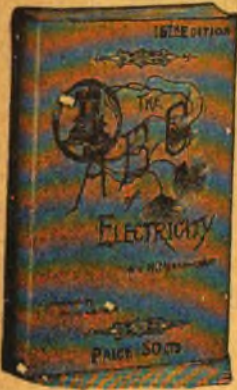
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