

# TELEGRAPH AGE

A Semi-Monthly Journal Devoted to Land Line Telegraphs and Submarine Cable Interests

ESTABLISHED  
1883

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VOL. XXIV., No. 9.

NEW YORK, MAY 1, 1906.

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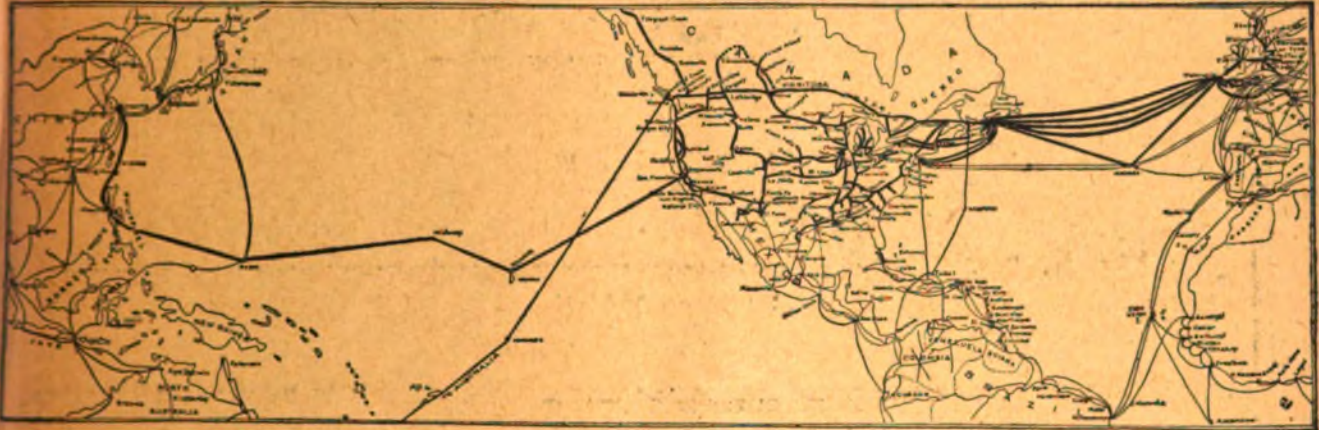
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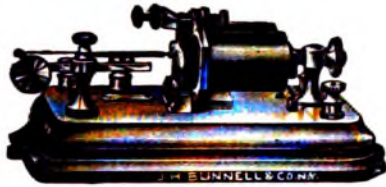
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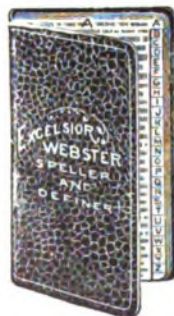
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# TELEGRAPH AGE

No. 9.

NEW YORK, MAY 1, 1906.

VOL. XXIV.

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## SOME POINTS ON ELECTRICITY.

### The Storage Battery. Part IV.

BY WILLIS H. JONES.

It has already been shown that the expense incurred in charging storage batteries varies in degree according to the method of arranging the charging circuit and the available facilities offered.

In some cases the charging current must be purchased outright for that purpose only, in which case economy depends upon arranging the circuit in such a manner that the current drawn will have to do as little other work as possible, aside from charging the cell.

Where the charging energy is derived from currents normally performing other work, such as in electric lamp circuits and other household requirements, economy consists in arranging the charging circuits in such a manner that the double utilization of the current will not appreciably interfere with its original or legitimate duties.

There are many opportunities offered in the telegraph service wherein advantage may be taken of the chance to practically get something for nothing. In fact this method is the rule instead of the exception for charging storage batteries in branch offices to furnish currents for the local sounder circuits.

Probably the most economical and satisfactory method of charging a storage battery for this purpose is that of utilizing the various currents that flow through the separate "legs" or grounded loops, in branch offices. Such currents are supplied from the main office, and after traversing the wire and sounder coils empty uselessly into the ground. The volume of current flowing through each such leg is about one-quarter of an ampere, and as a common ground wire usually serves for the terminal in such offices this ground conductor obviously carries to the earth a total volume of current equal to the sum of all the separate currents flowing in the individual legs connected therewith. The plan, therefore, is simply to collect this great volume of current after it has performed its legitimate work just before it reaches the earth connection, and compel it to first flow through the liquid in a storage battery cell, and thus charge the latter before finally disappearing in the earth. The rate at which the cell will accumulate a charge, of course, depends upon the number of such loops or legs emptying their respective currents into the common ground plate. What makes this method of charging batteries particularly easily accomplished is that, owing to the fact that short "duplex" loops or legs are all built up with added resistance to equal that of the longest loops for the purpose of uniformity, there is necessarily a great deal of energy wasted in the built-up legs overcoming "dead" resistance. This offers an opportunity of still maintaining the normal volume of current in the loop conductors, despite the reduction which would otherwise be caused by the two-volt back pressure of an inserted storage cell. The scheme is simply to remove enough "dead" resistance from the conductor as will compensate for the interposed counter electromotive force. For illustration, to create a current of one-quarter of an ampere of current in a conductor with a 25-volt pressure at the main office, there must be a total resistance therein of 100 ohms.

$$\text{Thus, } \frac{25 \text{ volts}}{100 \text{ Res.}} = .25 \text{ current.}$$

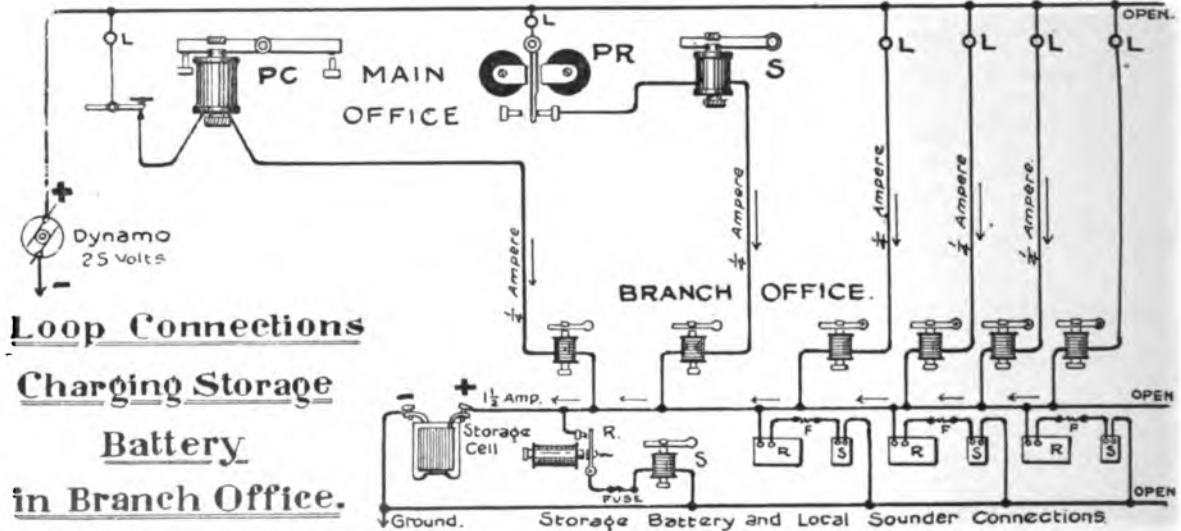
Now, if we insert a storage cell of battery in this conductor it will oppose the 25 volts at the main office and therefore reduce the effective pressure to 23 volts. This would result in a decrement of current in that leg if the resistance was allowed to remain unaltered. To avoid this loss, part of the dead resistance must be re-

removed. This is accomplished by means of the substitution of a smaller lamp or German-silver wound coil, as the case may be, for the one then in use.

$$\text{Thus, } \frac{23 \text{ volts}}{92 \text{ Res.}} = .25 \text{ current.}$$

We thus still get the original volume of current required in the loop conductors for the operation of the sounders, and it does not cost us an additional cent to charge the storage battery. As a matter of fact, it is cheaper by nearly ten per cent. to furnish the branch office with its normal current while charging the cell than it is to supply the same volume with the cell removed and the original lamp restored. In the original arrangement the energy expended is  $25 E \times .25 C = 6.25$  watts, while in the charging arrangement it is  $23 E \times .25 C = 5.75$  watts.

current, or three amperes in all, into the cell when all are closed at the same moment. This would mean one and one-half amperes per hour, but in reality the volume is only a little over half that amount because while the duplexes and quadruplexes are working the local circuits are, of course, open about half the time. The current in the legs will not flow through the branch office sounders shown in the lower part of the diagram because it cuts through the "no resistance" cell to the common ground wire instead of through the four-ohm resistance in the sounders. The branch office sounders used in connection with the relays on single line circuits are arranged in multiple in the usual way. As the electromotive force of the storage cell is two volts and the resistance of the sounder is four ohms, it is necessary to insert an additional resistance of four ohms in series with each such sounder in order to reduce the current to its proper value



This point is brought out for the second time in this series of articles for the purpose of impressing the laymen with the importance of first taking advantage of existing facilities for obtaining charging current rather than pay for it unnecessarily.

The accompanying diagram, taken from "Pocket Edition of Diagrams," shows an arrangement which has been in practical operation in New York city and elsewhere for a number of years and which has not only been highly satisfactory as to service, but eliminates the expense and care required in the maintenance of gravity batteries for local circuits. The diagram shows the storage cell receiving current from three loops, or rather six grounded duplex legs, three sending and three receiving side conductors. The first loop in order is shown in connection with the polechanger and the receiving sounder at the main office. The others, showing lamps only, at the main office, are, of course, similarly connected at that point. Each of these loop conductors empties one-quarter of an ampere of

of one-quarter of an ampere. This is usually accomplished by means of a four-ohm fuse, which serves in the double capacity of resistance and a safeguard.

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



### Business Notice.

The transmitting device of the Mecograph Company, of Cleveland, Ohio, whose advertisement will be found elsewhere in this issue, appears to be meeting with decided favor among the operating fraternity the country over. Its excellent qualities as a transmitter are attested to in the following testimonial dated April 6, of this year, from operators J. H. Gallagher, W. J. Mitchell, C. W. Monett, Daniel Lipshitz and Joseph Scheidlaur, employed by Logan and Bryan, 14 Wall street, New York: "The No. 3 model Mecograph machines in use in this office have shown wonderful working qualities on the many long circuits connecting our various branches. We consider your instruments superior to any in existence."

### Personal Mention.

Mr. Patrick B. Delany, of South Orange, N. J., the well-known old time telegrapher and inventor, has gone to his summer home at Nantucket, Mass.

Miss Adola Greely, daughter of Major General Greely, was married at St. John's Episcopal Church, Washington, D. C., on April 24, to Rev. Charles L. Adams, of Northampton, Mass.

Mr. T. A. Edison has returned with his family to Orange, N. J., after his usual winter vacation on his Florida plantation. He is in much improved health and has resumed active work at the laboratory.

In honor of the bi-centennial of its great founder, Benjamin Franklin, the University of Pennsylvania on April 19, conferred honorary degrees upon famous men from all parts of the world, including William Marconi, inventor of wireless telegraphy, and Andrew Carnegie, the old time telegrapher and philanthropist.

### Western Union Telegraph Company.

#### EXECUTIVE OFFICES.

Colonel R. C. Clowry, president and general manager, accompanied by H. D. Estabrook, solicitor of the company, and Mrs. Estabrook, sailed for Europe on the steamer Celtic, on April 20. The cable steamer Western Union with all of the officials of the company and a few personal friends on board, went down the bay, accompanying the great liner as far as the Narrows. The party on board of the Western Union consisted of J. C. Barclay, T. F. Clark, J. B. Van Every, G. H. Fearons, G. W. E. Atkins, M. T. Wilbur, A. R. Brewer, J. C. Willever, C. H. Bristol, G. F. Swortfiger, F. J. Scherrer, E. M. Mulford, M. W. Hamblin, P. J. Casey, James Kempster, William Holmes, S. H. Strudwick, C. F. Patterson, I. B. Ferguson, Herbert Smith, Belvidere Brooks, A. G. Saylor, Rush Taggart, H. E. Roberts, W. J. Dealy and Frank Jaynes, of San Francisco.

Mr. Frank Jaynes, general superintendent of the Pacific division, with headquarters at San Francisco, Cal., accompanied by his wife, returned to California April 21, after a visit of three weeks in New York and vicinity. Their residence in San Francisco having been destroyed Mrs. Jaynes will for the present make her home with friends in one of the suburban towns.

Mr. S. E. Leonard, manager of the El Paso, Tex., office has been promoted to be assistant superintendent at Denver, Col., vice A. A. Gargan, made permanent manager at that point. Mr. J. W. Dudley has been appointed manager at El Paso, to succeed Mr. Leonard.

Among the recent executive office visitors were John McRobie, superintendent of the American District Telegraph Company, Chicago, Ill.

Mr. John L. Henson, the colored porter who was attached to Col. Clowry's private car for twenty-three years, and who was well known to railroad and telegraph officials throughout the country, died of pneumonia on April 10.

### Postal Telegraph-Cable Company.

#### EXECUTIVE OFFICES.

Mr. William H. Baker, vice-president and general manager, who was accompanied by Mr. Thomas E. Fleming, special agent of the company, is back again from a three week's business trip to the larger Southern cities, returning by the way of Louisville and Cincinnati.

Colonel A. B. Chandler, chairman of the Board of Directors, has gone to his farm at Randolph, Vermont.

Mr. E. C. Bradley, vice-president, is in San Francisco supervising the re-establishment of permanent facilities.

Mr. Edward Reynolds, auditor of the company, who was accompanied by his wife, has returned from a seven weeks' trip to the Pacific Coast, whither he went in the interest of the service.

Mr. John F. Skirrow, associate electrical engineer, is reported to be very much improved in health, and expects to be able to return to his office in the near future.

Mr. J. T. Needham, district electrician, has returned to his office after a brief sojourn in Canada.

Mr. F. D. Nash, formerly superintendent at Jacksonville, Fla., who resigned sometime ago on account of ill health, is now manager at Helena, Mont.

Mr. George F. Fagan, chief clerk in the general manager's office, is absent because of heart trouble.

### Resignations and Appointments.

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

Mr. F. P. Duckett, manager at Saginaw, Mich., has resigned to engage in other business.

Charles A. Faulkner has been appointed man-

ager at Middletown, N. Y., vice J. M. Faulkner, deceased.

Mr. W. S. Calhoun, chief operator of the Atlanta, Ga., office, has resigned to enter the service of the Long Distance Telephone Company. The vacancy has not yet been filled.

Mr. A. W. Woodle, formerly manager of the Portland, Me., office, but for some months past superintendent of the American District Telegraph Company at Boston, Mass., has been appointed acting manager of the Boston office, vice W. A. Rudd, deceased.

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

Mr. Alfred J. Cook has been appointed manager at Johnstown, Pa., vice Mr. E. Y. Ouderkirk, resigned to engage in other business, as previously announced.

#### Recent New York Visitors.

Mr. S. F. Shirley, of the "Globe" staff, Boston, Mass.

Mr. James G. Davies, manager of the Great North Western Telegraph Company, Ottawa, Ont.

Mr. Alex. Craw, claim agent of the New York Central Railroad system at Jersey Shore, Pa., and formerly an old time telegrapher.

Mr. W. L. Truesdell, formerly manager of the Postal Telegraph-Cable Company at St. Louis, Mo., but now engaged in outside business at Columbus, O.

Mr. J. W. Dunn, at one time a prominent Rochester, N. Y., operator, at present in the brokerage business at Wilkes-Barre, Pa. Mr. Dunn was accompanied by his wife.

#### The Railroad.

Mr. W. F. Williams, superintendent of telegraph, of the Seaboard Air Line Railroad, Portsmouth, Va., was in New York, April 17.

Mr. U. J. Fry, superintendent of telegraph of the Chicago, Milwaukee, and St. Paul Railroad, Milwaukee, Wis., was a New York visitor on April 24 and 25.

The Association of Railway Telegraph Superintendents will meet this year at Denver, Col., on June 20, and will make the Adams Hotel in that city its headquarters.

A bill has been introduced in the Maryland Legislature to provide for the examination and license of all telegraph operators engaged in handling block signals and telegraphic train orders affecting the movement of trains on all railroads engaged in Interstate commerce.

Don't borrow your neighbor's paper; subscribe yourself for TELEGRAPH AGE. You can't afford to be without it.

#### The Cable.

Mr. W. J. Fraser, superintendent of the Direct Cable Company, Boston, Mass., and Samuel Fenn, superintendent of the same interests at Halifax, N. S., were among the recent New York visitors in cable circles.

Mr. S. S. Dickenson, general superintendent of the Commercial Cable Company, New York, went to San Francisco in the interests of the Commercial Pacific Cable Company to help out during the trouble growing out of the earthquake at that point.

Cable communication with the following places is interrupted April 25:

Teneriffe, "via Cadiz"	July 20, 1905.
Messages for Canary Islands must go "via France—Dakar"	
Tangier, "via Cadiz"	Feb. 18, 1906.
Colon, "via Jamaica"	Jan. 9, 1905.
Venezuela	Jan. 12, 1906.

Messages may be mailed from Curaçao or Trinidad.

French Guiana (Paramaribo-Cayenne cable)	Apr. 20, 1906.
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Mail from Paramaribo.	
Pinheiro, "via Cayenne"	Aug. 13, 1902.

The Commercial Pacific Cable Company's main office at San Francisco, which was destroyed by earthquake and fire on April 18, was situated in the Hobart Building on Market street, in which the Postal Telegraph-Cable Company's office was also located. Early realizing the enormity of the disaster, Patrick McKenna, acting superintendent, with rare discretion and great energy, removed the artificial cable, the Siphon recorder and other expensive submarine cable apparatus, altogether over three tons in weight, and which could be duplicated only with the greatest difficulty and with considerable delay. The entire office machinery except the battery was eventually removed to the cable hut near the Cliff House on the shore of the Pacific ocean, and cable work resumed. After the fire had subsided it was found that the underground cable lines had suffered no damage from the earthquake shocks.

The Shanghai and Manila offices of the Commercial Pacific Cable Company are in communication by the new cable. Messages between the President of the United States and the Emperor and Empress Dowager of China have been exchanged.

The completion of this cable finishes the work commenced by the laying of the Commercial Pacific Cable from San Francisco to Honolulu and continued by the laying of cables between Manila and Honolulu by way of Guam and Midway. Nearly 10,000 miles of submarine cable have been made and laid in an average depth of 2,640 fathoms. The greatest depth found on the line of the cable was 3,400 fathoms, approxi-

mately four miles. The laying of the cable to China was delayed by the political upheaval in that country, and later by the war between Japan and Russia. After the treaty of Portsmouth the work was taken up again, and the United States is now in communication with its Pacific ocean possessions and with China by means of the cables of an American company operated by American operators and touching only American soil as desired by the Government at Washington. The China end of the cable from Manila is laid far up into the estuary of the Yangtse Kiang river. The cable ship which laid the main part of the cable was unable to maneuver in the estuary, therefore the cable already laid was cut and buoyed and the cable ship proceeded to Woosung, where an intermediate type of cable, designed for shoaling waters, was transferred to a smaller ship. Also the heavy shore end was transferred to a lighter. The difficulties encountered in laying the shore end were somewhat unusual, owing to the shallowness of the water, the necessity for accurate location and the unfavorable character of the weather which prevailed during the operations.

The shore end is led into a hut at Paoshan. From Paoshan the line is continued by underground wires into the Commercial Pacific Company's office in the City of Shanghai, the principal port of Central China, in the immediate neighborhood of the richest silk and tea districts, and the distributing point for the whole of the Yangtse Valley with its one hundred and fifty millions of population.

Mr. George G. Ward, vice-president and general manager of all the Commercial cables, arrived in Shanghai, China, on April 23, with a view to confer with the Government officials of China and to inspect the new cable stations of his company.

The following messages were exchanged April 16-17 between President Roosevelt and the Dowager Empress and the Emperor of China, in commemoration of the opening of the last link of the Commercial Pacific cable connecting the United States and China:

Washington, D. C., April 16, 1906.

Their Imperial Majesties,

The Empress Dowager and the Emperor of China,  
Peking.

I gladly take the opportunity afforded by the auspicious completion of the last link in the new American cable that joins the Pacific Coast of this country to the Far East, to offer to your Majesties my congratulations upon the achievement of a work that must needs contribute to the high purpose of bringing our two governments and peoples closer together in the bonds of mutual understanding and lasting concord. It is fitting that this fresh tie between the western and eastern continents should begin its happy service by bearing a message of good will, and I voice the earnest wish of this government and of my countrymen for the happiness and welfare of your Majesties and for the continued prosperity of the Chinese Empire and of your great people.

Theodore Roosevelt.

Peking, April 17, 1906.

To His Excellency Mr. Theodore Roosevelt,  
President of the United States of America,  
Washington.

Greeting: We are very much pleased on receiving your Excellency's special telegram of congratulations upon the auspicious completion of the new cable joining the Pacific Coast of your country to the Far East. It is our sincere hope that by the completion of this new cable the commerce of your country and China will become more prosperous. By the order of the Empress Dowager, we now offer to your Excellency our sincere congratulations.

Emperor of China.

It is stated in connection with the concluding negotiations at Algeciras that Germany has assured herself the right to land a cable in Morocco—a right already possessed by England, France and Spain—and it is expected that the privilege will be exercised at no distant date. The natural starting point for the cable would be Vigo, where the German Atlantic Telegraph Company already has a cable station, and the landing point would be a Moroccan port on the Atlantic Ocean. At present communication between Germany and her African possessions both in the east and the west is only possible by means of British cables, but a German cable to Morocco would form the beginning of a telegraph line which in future would place Germany in a position to cable to her colonies in Africa without foreign assistance. In this connection the Berlin Tageblatt states it is apparent that in course of time the cable to Morocco will be extended to the Cameroons, whence it will cross Africa through the Congo region, and thus bring German East Africa within its scope. Certain land lines already exist in the Cameroons, while in the last the telegraph service reaches as far as Lake Tanganyika, and the day will come when these two services will be united. The French have for some time past projected a telegraph line which would lead from Algeria across the Sahara, and link up the French possessions on the Congo. It is assumed that the German line, which is to form a connection at Lake Tanganyika with the English land lines between the Cape and Cairo, would also be joined in the Congo region with this French service, which will perhaps not have to be waited for very long. In this way German East Africa and the Cameroons would not only be directly connected together, but also with Germany. A further question for the distant future will be the establishment of direct communication between the Cameroons and German Southwest Africa.

#### General Mention.

The bill authorizing the State of Massachusetts to exercise supervision of telephone and telegraph companies has passed the Legislature.

The telegraph operators in France who went on strike three weeks ago because the government refused to employ sufficient help to move

the traffic expeditiously, are still out. Soldiers are protecting the new employees, and it is said that the telegraph service is handled subject to delay.

A bill has been introduced in the New York Legislature providing that insulators carrying high-tension currents must be made of a red color.

Mr. Thad M. Schnell, a well known old time military telegrapher of Des Moines, Iowa, has removed to Omaha, Neb., where he is still engaged in the telegraph service.

It is stated that 6,700 members were added to the Order of Railroad Telegraphers during 1905, and that new and revised schedules were obtained on thirty-four railroad systems.

Mr. George R. Young, chief clerk and cashier of the Postal Telegraph-Cable Company at St. Louis, Mo., who was short in his accounts, committed suicide when arrested on April 14.

Mr. Richard D. Walsh, of Little Bay, Newfoundland, in a recent letter writes. "I am very much pleased with TELEGRAPH AGE, and sorry I have not been a subscriber these many years back."

Mr. J. Schanher, manager of the Western Union Telegraph Company, Mount Clemens, Mich., writes: "I am glad to renew my subscription; I find TELEGRAPH AGE of great value and would not be without it."

A highly entertaining lecture was given to the New York Electrical Society at the Edison auditorium, New York, April 25, by Melville E. Stone, general manager of The Associated Press, on "Newspapers and the Telegraphic Art."

The official report of the Transvaal, Africa, Postal and Telegraph Department for the year ended June 30, 1905, shows that the revenue from telegraphs and telephones was £154,211, as compared with £138,161 in the previous year.

Mr. T. H. Harper, an old time Western Union operator at Toledo, O., now of the American Telephone and Telegraph Company of Maumee, O., writes in a letter renewing his subscription: "I eagerly look for each issue of your valuable paper."

The Zeitschrift für Post und Telegraphie states that telegraphs were first introduced into Egypt about fifty years ago, and in 1903 there were 4,083 kilometres of line, and 17,486 of wire. Telegrams numbered 1,617,946 in 1902, as against 2,753,488 in 1898.

United States Consul Hamm reports from Hull that the expansion of the English telegraph service has been checked by the more general use of the telephone. A proposition is, therefore, being considered to reduce the cost of a six-word telegram, including the address, to six cents.

In Portugal in the year 1904 there were 8,974 kilometres of line and 20,186 of wire, as well as

482 telegraph and telephone stations and fifteen semaphoric stations. Telegrams dealt with numbered 5,833,522, of which 1,383,062 were forwarded, 1,639,460 were received, and 2,811,000 were transit telegrams, the total being an increase of 8.1 per cent. on the previous year. Lisbon accounted for the greatest number of telegrams, viz., 1,068,812.

A gang of men started in to erect telegraph poles east of Lockport, N. Y.. A farmer claimed he had never sold or given permission to the company to use his land. The foreman produced a blue print and argued that the poles should go where the men were excavating, and furthermore announced his intention of setting them and stringing the wires. Seeing protestation was useless the farmer went to his barn and released a bull. The animal charged on the diggers. As they went over the fence the triumphant farmer called out: "Show him your blue print!"

At the regular annual meeting of the Telegraphers' Mutual Relief Association, of Washington, D. C., held in that city April 15, official action was taken in respect to the death of the late Secretary Elijah L. Bugbee. Mr. Bugbee had been identified with the association since its organization and the success it had achieved has been due largely to the untiring efforts on his part. Mr. George L. Diven, president of the association, referred to Mr. Bugbee's death in his annual report and paid him a beautiful tribute, both as a telegrapher and as an officer of the association. Upon motion, properly seconded, the president appointed a committee to draft resolutions on the occasion of Mr. Bugbee's death.

#### Ennis Printing Telegraph.

George H. Ennis, of New York, has invented a printing telegraph on a new principle, for which he has received letters patent. It is very simple in construction, prints one character at each depression of the type bar and does this with only one impulse of current, thus doing away with complication of parts. The ordinary typewriter keyboard is made use of. It is a page printer, synchronizes at the end of each letter and will print 42 characters.

#### Giraffes Tie up Telegraph.

There has been a temporary interruption in the telegraph service on the Victoria Falls line, Africa, according to the Bulawayo Chronicle.

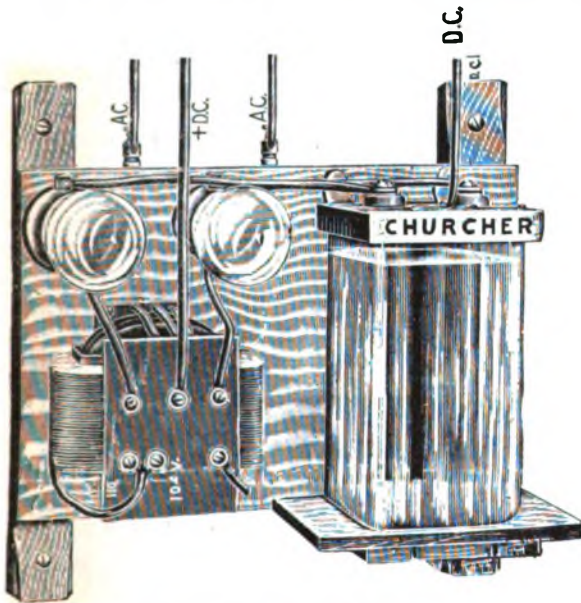
It appears that a herd of giraffes became entangled by their necks in the wires at Intundhla, 125 miles from Bulawayo, and pulled about a mile of wire down, breaking three of the iron poles.

The telegraph lineman was near at hand and communication was interrupted only for a few hours. This is the sixth time since the opening of the Falls line that similar interruptions have occurred. In two cases elephants were responsible.

### The Rectifier.

BY J. B. MC CABE.

The Churcher alternating current rectifier introduced by Mr. L. S. Miller, the inspector of the Western Union Telegraph Company, of Cincinnati, has proven so successful in use that it promises to find general application wherever a direct current is needed, and where an alternating current is obtainable. Four cells of this rectifier at Hamilton, Ohio, replace one hundred cells of salammoniac battery, operating eighty-five clocks and also enabled the cutting out of all the winding batteries on top of the clocks from the main setting batteries. At the same place one cell of rectifier operates the McCullough night watch system, replacing fifty-eight cells of battery; and another cell of rectifier operates a ticker service which required thirty-five acid cells, which were renewed twice a week. The rectifier cells give a force of



TSE CHURCHER RECTIFIER.

fifty volts each, which is produced from a one hundred and ten volt alternating primary current. These rectifiers have also been introduced at Springfield, Chillicothe and Wellston, Ohio, with equal success.

The rectifier is the outcome of the known fact that certain metals such as aluminum while immersed in certain solutions produce upon their surfaces an insulating film while electrically positive to another electrode.

The Churcher rectifier uses a transformer in which the secondary coil is tapped in the center. This tap remains positive to either terminal of the cell.

The transformer is connected to the cell in the manner illustrated. The secondary side of the transformer is wound to twice the resistance necessary to produce the desired direct current with a tap exactly in the middle of it, one-half always

being dead, for the reason that a positive current will not travel through the solution from the aluminum to the lead bar, while the negative current passes freely across the solution, always giving a negative current from the lead bar and a positive from the center tap. The ingredients of the solution are composed of one pound of phosphate ammonia, one ounce phosphate potassium, one ounce cream tartar.

### Under the Sea to Alaska.

John F. Tinsley, electrical engineer of the Signal Corps, United States Army, in an article appearing in *Sunset Magazine*, entitled "Under the Sea to Alaska," states that the length of the several links of cables, three in number, extending from Seattle, Wash., measure to Sitka, 1,070 miles; to Juneau, 291 miles; to Valdez, 640 miles. The Alaskan cable policy of the government was the result of a plan evolved after considerable investigation of conditions, and its accomplishment was made possible by the appropriation by Congress, on March 3, 1903, of \$485,000 for the manufacture and installation of a submarine cable between Juneau and Sitka, and one between Sitka and Seattle.

On April 23, 1904, Congress made an additional appropriation of \$321,580, for the extension of the system from Sitka to Valdez. The fact became imperative that the growing importance of Alaska under the impetus of American jurisdiction made it absolutely necessary, for several reasons, that reliable means of rapid communication between that territory and the United States be established, and the territorial conditions were such as to preclude the fulfilment of this requisite by any other agent than the submarine cable.

Before the Alaskan cables were laid, a telegraphic message from the United States to Alaska was sent by way of Vancouver, British Columbia, across several hundred miles of Canadian telegraph line to the Alaskan border; thence by government line to its destination, its route depending upon the geographical location of the latter.

This was the only line in existence, and was necessarily a very long route, but aside from this fact, its extension over Canadian territory was an objection from the standpoint of the United States government. A government, on general principles, prefers its own line for the transaction of official business to one extending over the territory of a foreign power. From a military standpoint, the installation of the Alaskan cables was a necessity, for with the Canadian line the only one between Alaska and the United States, it is evident that in case of war with Great Britain, Alaska could be absolutely cut off from the United States in a single moment with possibly very serious consequences.

The construction of the land lines in Alaska was begun in 1901, under the direction of General

A. W. Greely, the chief signal officer of the army, and in the past three years, the Signal Corps has constructed 1,439 miles of telegraph line in Alaska. These lines form a great chain of communication, joining together almost all the principal cities and towns of the vast Yukon Valley and Bering Straits region, and southeastern Alaska. At the beginning of last year, therefore, all that was needed to make the system an all-American one, was a cable to connect Valdez, in southern Alaska, with Sitka, in southeastern Alaska, and one to connect Sitka with Seattle.

When one considers that in the spring of 1901 no communication whatever could be had with Alaska, except by steamer, and notes the work that has been going on for three years, steadily and quietly, to overcome this condition of affairs, the marvelous progress made against almost innumerable obstacles is made clear.

In the building of these Alaskan lines, the Signal Corps of the army, upon whom, by law, devolves the construction and maintenance of government lines of communication, performed a work that must always remain a monument to the bravery, perseverance, and resourcefulness of the officers and men engaged upon it.

#### Telephone Underground System Growing.

The American Telephone and Telegraph Company, which is placing its wires underground between New York and New Haven, Conn., has practically finished the work, according to a lengthy descriptive article on the subject printed in the New York Electrical Review of April 14. While the distance between New York city and New Haven is some seventy-odd miles, the cable system which will be installed in these subways is essentially a short-haul system. Use will be made of the Pupin loading coil for the long-distance line, but it must be remembered that this conduit system has been built with reference to the local exchanges in the towns through which it passes. The American Telephone and Telegraph Company is expending large sums of money upon its underground construction. As was pointed out in the recent annual report, at the end of 1905 there were 95,000,000 duct feet of underground conduit installed. The New York-New Haven system is the longest continuous system yet completed. Rights of way, however, have been secured clear through to Philadelphia, Pa., and in other parts of the country extensive work of this nature is going on or is about to be undertaken. So great has been the growth of telephone service that the overhead network has, in many localities, become so extensive that compacting into cable form has been necessary. Then, again, the immunity from interruption by reason of storm or other atmospheric casualty is an important factor in determining the very great in-

vestment which is involved in a permanent conduit system.

#### Improve Your Time.

Going daily: twenty-four hours (precious hours) of your life that can never be brought back. What have you done with them? Have you anything to show for them, or have you frittered them away? It is dreadful that we are so extravagant with time, the one thing that we can never win back. We waste it recklessly, foolishly. From every waking hour we should derive some benefit. Begin to-day and get the most you can out of every day hereafter.

Live, don't stagnate. Have an interest of some kind. Anything is preferable to apathy. Make up your mind to learn something every day.

The older you grow the harder it will be to learn and to receive new impressions. You cannot afford to waste a moment. Put your whole heart and soul into whatever you do, and you will reap better results. Don't drift along thinking you'll do something to-morrow; do it to-day. Remember that you have a duty to yourself as well as to the world at large.

That duty is self-improvement. Seize every opportunity that comes your way. Don't be ashamed to ask questions (this question does not apply to travelers), that is the only way to learn, and don't under-estimate your own powers. Instead of thinking that you can't do a thing well, make up your mind that you will do it well. Don't be too backward—the world will forget all about you unless you push things along. So many people are merely existing. They drag along in a spiritless way, hating their lives, and yet not having sufficient energy to make a change. Shortly they will be so deeply imbedded in their slough of inertia that they will never get out of it. Life is so wonderful and beautiful, do not let us plod down the years of time; let us march proudly with heads up and eyes set steadily on achievement. We must do something, must have something to show for the years of life that have been granted us. We all have a chance to better conditions; if not yourself, help others. If you load the boat too heavy it will sink.

If you look at this in the right light you'll understand what your duty is to better your working conditions.—H. Miller, in the Railroad Telegrapher.

#### To Find the North Pole.

Walter Wellman, the Chicago journalist, who has an assignment to find the north pole by means of balloon travel, announces that he has made a contract for three wireless telegraph stations, which will keep his balloon expedition in constant communication with Hammerfest, Norway, where there is a cable station. If the plans do not miscarry, the explorer, when he reaches the pole, will be able to report to New York immediately. Now all that remains is to find the north pole.

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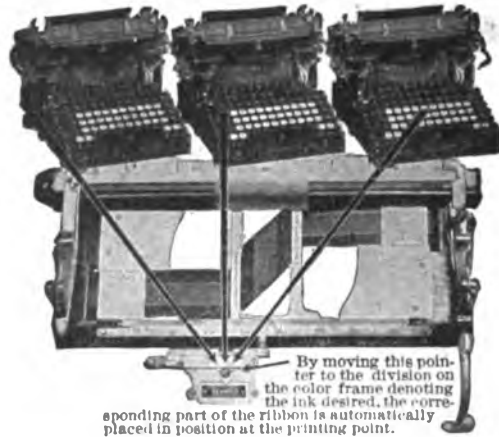
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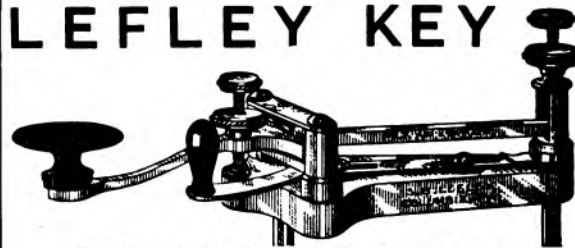
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# Telegraph Age.

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NEW YORK, MAY 1, 1906.

The Book Department of TELEGRAPH AGE, always a prominent and carefully conducted feature of this journal, has, in obedience to continually growing demands made upon it, materially increased its facilities of late. The desire is to furnish our readers and buyers everywhere the readiest means possible of securing such technical books as they may require. Aiding buyers in their selection with advance information, which at all times is cheerfully furnished, promptness in sending books, filling all orders on the same day of their receipt, has brought to this department a generous clientele. Catalogues fully covering the range of books treating on the telegraph, wireless telegraphy, the telephone, as well as those on the general subject of electricity, together with the principal cable codes, will be sent to any one asking for the same. These will be of especial aid to buyers inasmuch as they contain brief descriptive references of each volume listed, frequently with full chapter titles.

### The Telegraph in the San Francisco Calamity.

The awful tide of disaster, by earthquake and fire, which swept over San Francisco on April 18 and on subsequent days, and almost wholly wiped that fair city from off the face of the earth, presented a scene of horror of which no one not present can possibly have any adequate conception. Examples of personal heroism, shown under the most dreadful of conditions calculated to distract humanity, in which the highest type of Christian character, manly courage and devotion to duty were manifest, were exhibited without end, and reflect in the highest possible manner the worth and fortitude of the inhabitants of the stricken city. Many such scenes had their picturesque side in the fearful drama being enacted, vividly appealing to the popular imagination, but none the less because unseen, was the work performed by the telegraphers

less heroic. Remaining at their keys in imminent danger from falling walls and approaching fire, these men performed their duty and gave to the world news that shocked mankind with its terrible story, told with a wealth of detail and fidelity to truth the like of which has never hitherto been equaled. No more valuable service than this could have been performed, for in the open communication maintained it brought relief to thousands of anxious hearts; and all done at the imminent risk of lives that refused to seek safety in flight, giving rather allegiance to their profession sublime in its action. Many of the telegraph people worked from three to five days without rest, separated from their families and away from their homes, which in many instances were destroyed.

The telegraph companies were keenly alive to the exigencies of the situation thus suddenly imposed upon them with all of its attendant disaster and responsibility. The ability which characterized the action of executive authority clearly indicated the energy, resourcefulness and liberal mindedness of those in power. Wires were kept open, maintained under the most difficult of conditions, and certain domestic messages relating to the relief of sufferers in San Francisco were transmitted free of charge.

The main offices of both the telegraph companies were located in the business heart of the city, the Western Union at Montgomery and Pine streets and the Postal in the Hobart building on Market street. These were destroyed as well as all of the branch offices, between forty and fifty in number, all going down in the general ruin which surrounded them.

A disposition is being shown among telegraph men the country over to rally to the relief of their afflicted brethren of the key in San Francisco. Numerous calls have been issued inviting cash subscriptions, for this laudable purpose, and at a number of points considerable money has been raised and forwarded on its errand of mercy. The movement is a most commendable one and it is to be hoped will meet with a popular, sympathetic and generous response on the part of the fraternity.

THE WESTERN UNION TELEGRAPH COMPANY.

When it became apparent that the main office of the Western Union Telegraph Company in San Francisco was doomed to destruction, a temporary office was established in the big Oakland ferry house at the foot of Market street, a structure which although injured by fire had been spared from destruction. From this point a wire was soon in operation, connecting direct with the office of J. C. Barclay, assistant general manager of the company, 105 Broadway, New York. Mr. Barclay at once had another circuit arranged to connect with the Executive Mansion and the War Department at Washington, whereby the government might secure direct communication with San Francisco.

The staff at San Francisco was reinforced by the arrival of J. G. Blake, superintendent at Seattle, and by a large number of operators and expert linemen from various sections of the country.

The phantoplex circuit between Los Angeles, Cal., and Denver, Col., a distance of about 1,500 miles, carried at least 800 messages per day in this emergency. The work of this circuit greatly relieved the congested condition at Los Angeles. This phantom circuit was repeated at Ashfork, Ariz., and at La Junta, Col.

Speaking of the work done by telegraph men in connection with the San Francisco disaster, Mr. W. H. Baker, vice-president and general manager of the Postal Telegraph-Cable Company, says:

Telegraph operators have always shown the highest self-sacrificing spirit, faithfulness and great physical endurance in times of public disasters and calamities, in pestilence and in war. I desire through Telegraph Age to testify to the loyalty of our men in San Francisco, who with little sleep, scarcity of food and water and, in some cases, without knowledge of the whereabouts and safety of their families, heroically stood by the company, realizing the great importance of their work and that without their assistance all agencies for relief and restoration of normal conditions would be, at least temporarily, at a standstill. The various forces, civil and military, and all humanitarian efforts were practically dependent upon the work of the earnest, faithful and patient telegraph operator. Our men stood by us loyally without any promises of reward, simply doing their duty and doing it willingly and conscientiously. Not only the force at San Francisco, but all employees throughout the service have stood to their posts regardless of self-interest and at the cost of personal comfort, and have worked hard and efficiently to maintain the lines and move the traffic. We are proud of our men.

The officials of the Postal Telegraph-Cable Company at San Francisco consist of L. W. Storror, general superintendent; W. Hearn, superintendent; W. C. Swain, assistant electrical engineer; G. W. Holt, manager; F. Arnberger, chief operator; G. Woodward, night chief; G. W. Parsons, all night chief, and M. O'Neill, traffic chief.

The Postal company employs over fifty operators at San Francisco, but at this writing the names are not available.

#### THE ASSOCIATED PRESS.

The Associated Press at San Francisco performed marvelously good work at the time of the great disaster in that city. The staff remained on duty without regard to personal comfort, holding the public welfare in the matter of news to be paramount to all other demands. This band of devoted men must be reckoned in with other heroic telegraphers at that sorely stricken point. Their names are as follows: Paul Cowles, superintendent; R. S. Johnson, E. E. Curtis, J. M. Carroll, John Finlay and H. H. McDonald, editors; R. L. Creighton and R. J. Waters, stenographers; Robert E. Geistlich, chief operator; B. F. McInerney, W. F. Lynch, J. K. Brown and Harry Collins, operators.

#### The Magnetic Club Dinner.

The spring dinner of the Magnetic Club was celebrated with its accustomed eclat at the Hotel Astor, New York, on the evening of Tuesday, April 17. Interest in these delightful affairs suffers no abatement, if a large attendance may be the criterion, for one hundred and sixty persons sat down to the well appointed tables. It was a pleasant company, and good fellowship was manifest on all sides. The diners gathered there represented the telegraph, the telephone and the general electric industries, including manufacturers and dealers in telegraphic and electrical supplies. During the progress of the dinner an interesting programme made up of vaudeville performance and song, was rendered. At the conclusion of the repast, Colonel Albert B. Chandler, the president of the club, made a short and felicitous address of welcome, congratulatory to those present, which was well received. He also read letters of regret from Colonel Robert C. Clowry, Clarence H. Mackay, Frederick P. Fish, E. J. Hall, Belvidere Brooks, William H. Baker and E. C. Bradley. This done, the Colonel called on Mr. T. Commerford Martin, editor of the *Electrical World*, as the first speaker of the evening. Apropos of the two hundredth anniversary of the birth of Benjamin Franklin then being celebrated in Philadelphia, in which observance Andrew Carnegie, himself an old time telegrapher, was taking a prominent part, Mr. Martin very appropriately confined himself largely to the discussion of the work performed by the distinguished servant of another age along the line of electrical experimentation, concerning which he went into many details of explanation. He also took occasion to refer in a facetious manner to the slow going propensities of the denizens of the Quaker City, who apparently had just waked up to the knowledge that this year marked the bi-centennial of Franklin's birthday, although as a matter of fact three months had elapsed since the correct date of the anniversary was reached.

The next speaker was Charles A. Coffin, president of the General Electric Company. Mr. Coffin, who appeared to be in a very earnest mood, referred with strong emphasis to the necessity of hard work and close application in the performance of duty by every one, especially the young, who would attain success in life.

President Chandler in introducing Mr. Abijah R. Brewer, secretary of the Western Union Telegraph Company, remarked that he had first secured the service of Mr. Brewer nearly forty years ago, engaging him at the time as a stenographer and telegrapher, an unusual combination of talent at the period, or even of any later date. Mr. Brewer gave evidence of his former close relations with Colonel Chandler, for in the course of his remarks he dwelt upon the early impressions he had formed of President Lincoln and of Secretary of War Stanton, derived from conversations held with Colonel Chandler and General

The promptness with which this important service was tendered elicited warm thanks, and was quickly made use of in the exchange of messages between President Roosevelt, Secretary of War Taft and with General Funston at San Francisco, the General being reached by a wire constructed by the Signal Corps men from the ferry house to the Presidio. The service thus rendered was never once interrupted during the entire trying ordeal. Over the direct wire to Mr. Barclay's office the company transmitted free bulletin service for several days, virtually for the press of the world. To such an extent did Mr. Barclay's office become the objective point of reporters, that the corridors adjacent thereto were besieged with newspaper men day and night anxious to obtain news concerning the great catastrophe, information which was generously furnished them.

When the magnitude of the disaster became apparent to the officials in New York the company immediately ordered large forces of operators from Portland, Seattle, Salt Lake City, Denver, Chicago and other cities to hasten to San Francisco with all speed to relieve the over-worked force.

Mr. L. McKisick, electrician, and Mr. D. R. Davies, superintendent of construction of the western division, at Chicago, Ill., started immediately with a large force of experts for the stricken city to assist in the restoration of the full telegraph equipment. They took with them immense quantities of telegraphic material, including motor generators, telegraph instruments and Wheatstone automatic apparatus, which reached the point of destination at Oakland, Saturday afternoon, April 21.

The company's private car "Electric," which was also despatched to San Francisco from Chicago, was stocked to its fullest capacity with provisions, and proceeded to Oakland, Cal., conveying thither Mr. Frank Jaynes, the general superintendent of the Pacific Division, who had been in New York, and others connected with the service. Until adequate accommodations can be obtained in the city of San Francisco this car, together with a number of tourists' sleeping cars, will be the home of the officials and the men of the company engaged in the direction of the work of restoring order out of chaos.

Mr. H. S. Converse, the electrician of the Pacific division, with others connected with the service, was constantly on duty. In fact, all connected with the company appeared to render willing and loyal service in the hour of peril, no matter at what personal sacrifice, often two and three days of consecutive work being willingly performed.

The company has established a complete telegraph plant at West Oakland. The cables crossing the bay, as well as those underground in San Francisco, were tested and found to be in good condition.

It is expected that temporary headquarters in

the ruined city will be established within a few days in the partially damaged Merchants' Building. Up to the time of going to press the company has succeeded in opening ten offices within the limits of the burned city.

The officials of the Western Union Telegraph Company at San Francisco are as follows:

Frank Jaynes, general superintendent; F. H. Lamb, district superintendent; H. S. Converse, electrician; T. P. Smith, superintendent of construction; J. V. O'Brien, manager; J. W. Jeffs, chief operator; R. D. Weeks, wire chief operator; R. W. Gillette, night chief operator; J. A. Lowery, all night chief operator, and M. B. Brown, traffic chief.

#### THE POSTAL TELEGRAPH-CABLE COMPANY.

With the first intimation of trouble at San Francisco, Mr. W. C. Swain, assistant electrical engineer of the Postal Telegraph-Cable Company, quickly established a direct wire to the office of Vice-President E. C. Bradley, at the home office of the company, 253 Broadway, New York. This circuit, over which were transmitted message after message, keeping the executive officers informed as to the growing progress of the conflagration which set in coincident with the earthquake, and which were furnished to press associations and individual newspapers, was maintained until two P. M., when Mr. Swain and the entire force were obliged to abandon their quarters, the flames at that time enveloping the structure in which the Postal offices were located. On the following day the company established an office within the Oakland ferry house at the foot of Market street, thus once again opening a local office in the burning city. In the meantime the regular office at Oakland, of which A. J. Smith is the manager, was maintained as the San Francisco terminal. When the earthquake shock came Mr. L. W. Storrer, the general superintendent, was in Los Angeles. He immediately started for San Francisco, and arrived there the following night.

The anxiety felt by President Clarence H. Mackay for those in the employ of the company, at San Francisco, and his resolute determination to quickly reestablish full wire connection with that city, is shown in the following telegram sent to General Superintendent Storrer:

I cannot adequately express to you my feelings regarding the calamity that has befallen San Francisco. I trust sincerely that all is well with you and yours. The men in your division and all our people along the line have done magnificent work, and you may rest assured that the executive not only appreciates this, but that they and all concerned will be fully rewarded. Convey this to staff. I hope you will move heaven and earth to open communication to San Francisco, and thus relieve thousands from anxiety. Do this at any cost within reasonable bounds.

So great was the anxiety felt in New York city respecting the condition of affairs in San Francisco that the executive offices were kept open night after night, many of the officials themselves being in close attendance.

Eckert, when he entered the service of the telegraph company presided over by these two gentlemen, who at that time were themselves fresh from the war department at the close of the Rebellion.

At this point the following telegram, which received the unanimous approval of the club, was read and ordered sent to Mr. Carnegie:

New York, April 17, 1906.

Andrew Carnegie,  
Care American Philosophical Society,  
Philadelphia.

The Magnetic Club in banquet assembled to-night in New York, its members and guests, representative of the telegraphic and other electrical industries of America, requests you to associate it with the great celebration in honor of Benjamin Franklin, the first American electrician, congratulating the society, the university and the city of Brotherly Love on the great and glorious memory thus cherished.

A. B. Chandler, President.

To this telegram the following was received the next day in reply:

Philadelphia, Pa., April 18, 1906.

A. B. Chandler,  
President Magnetic Club, New York.

Telegram received. Will be presented in due form. Very acceptable.

Carnegie.

The closing speech of the evening was that of Charles C. Adams, fourth vice-president of the Postal Telegraph-Cable Company. Mr. Adams was for twenty years a resident of Philadelphia, and his love for the place apparently had suffered no abatement, for he took occasion to pronounce a eulogy on the town, his remarks being actuated in part by what Mr. Martin had previously said. He paid high tribute to the sterling worth of the citizens of the historic old city of William Penn and of Benjamin Franklin, emphasizing the well established permanency of its business concerns and of its numerous other institutions, commercial, educational and otherwise.

At the guest table were: A. B. Chandler, president; C. C. Adams, A. R. Brewer, Charles A. Coffin, F. W. Jones, Alonzo Kimball, T. C. Martin, E. C. Platt, J. C. Reilly and F. G. Southworth. Among others present were:

Albany, N. Y.—W. H. Doherty, S. C. Rice.  
Boston, Mass.—F. M. Ferrin, E. B. Pillsbury, C. A. Richardson.  
Halifax, N. S.—S. Fenn.  
Harrisburg, Pa.—C. E. Diehl.  
North Sydney, N. S.—S. H. Strudwick.  
Ottawa, Ont.—J. G. Davies.  
Philadelphia, Pa.—L. Lemon, F. E. Maize, C. A. Stimpson.  
Portsmouth, Va.—W. F. Williams.  
Troy, N. Y.—I. W. Copeland.  
New York—W. M. Anthony, A. H. Ackerman, W. J. Austin, T. A. Brooks, D. M. Bliss, C. E. Bagley, E. B. Baker, E. S. Butterfield, W. Begg, E. B. Bruch, C. P. Bruch, T. M. Brennan, D. J. Burns, W. G.

Burns, J. B. Bertholf, W. H. Brouwer, T. L. Cuyler, Jr., M. R. Cockey, J. B. Corss, C. F. Colyer, J. F. Cleverdon, W. Cleverdon, W. D. Chandler, A. D. Chandler, A. R. Carmichael, D. C. Cox, John Costelloe, M. M. Davis, B. M. Downs, S. S. Dickenson, J. J. Estabrook, A. P. Eckert, H. C. Entrup, J. S. Ellis, J. S. Evans, H. Fresenius, G. M. Foote, W. D. Francis G. F. Fagan, J. H. Flood, W. L. Fort, William Finn, David Fuchs, R. E. Fagan, W. Geigen, William Gellatly, C. Gaffney, W. R. Harmstad, W. S. Hallett, C. Harmon, L. R. Hallock, G. W. Hickey, J. E. Hoey, Gardner Irving, F. W. Judge, S. F. Jones, H. T. Johnson, James Kempster, H. G. Kitt, Frank Kitton, M. J. Kenna, M. Lapointe, J. M. Lyons, A. Lockwood, J. F. McGuire, Frank Maier, G. F. Miller, R. J. Murphy, W. T. Mapes, George H. Messner, William Maver, Jr., S. B. Murray, C. H. Murphy, C. E. Merritt, William Marshall, D. W. McAneeny, F. W. Manger, N. Malpas, F. E. McKiernan, A. P. Morris, W. B. McCurdy, James Madden, H. J. Noller, J. F. Nathan, Benjamin Nachmann, M. J. O'Leary, H. G. Pierson, E. B. Pollister, F. Alsbury Pirie, Frederick Pearce, C. F. Pearce, A. L. Potts, E. W. Parker, R. C. Peckworth, C. H. Peckworth, H. Pryor, A. E. Price, G. F. Porter, H. B. Quick, T. F. Rochford, H. E. Roberts, J. J. Riley, C. Ruffer, E. J. Rankin, J. Rathbone, C. F. Rathbone, H. D. Stanley, Charles Shirley, W. E. Stewart, F. J. Scherrer, H. L. Snippy, L. A. Stuart, W. D. Schram, F. A. Scheffler, Isaac Smith, J. B. Taltavall, C. H. Tamlyn, W. G. Taylor, C. S. Tebbutt, G. H. Usher, W. B. Vansize, H. C. Van Ness, J. C. Willever, W. D. Willever, H. A. Wilkins, E. Whitmore, J. E. Walsh, H. F. White, T. C. Wood, H. S. Young, Jr.

#### The Northern Commercial Telegraph Company.

The Northern Commercial Telegraph Company will apply at the current session of the Dominion Parliament for an act authorizing it to extend its operations and undertaking throughout Canada; to increase its capital stock and for other purposes. The company was incorporated by an act passed in 1898, power being given to construct land telephone and telegraph lines in British Columbia and the Yukon Territory, and to connect the same by cables. Power was given in 1899 to construct branch lines and in 1900 the capital was increased to £500,000. The offices of the company are in London, Eng., and the incorporators were: Lord Thurlow, T. Van Puten, London, Eng.; E. Friedburg, described as "of the county of Surrey, Eng.;" W. Baird, W. Naismith, Vancouver, B. C.; A. Haley, Windsor, N. S.; I. Burpee, St. John, N. B.

The testimony of progressive operators is that TELEGRAPH AGE is so thoroughly comprehensive in character as to make it absolutely indispensable to those who would keep informed. Its technical articles are of high practical value. Write for a free sample copy.

### Severe Arraignment of the British Telegraph and Telephone Systems.

(From the Montreal Gazette.)

A statement attributed to Mr. Henniker Heaton, M.P., in which he proposes a telephone for every house at a cost of a shilling a week, has evoked spasms of admiration from Canadian advocates of municipalization. There is no prospect of the people of Great Britain witnessing the realization of Mr. Henniker Heaton's dream. A telephone service at \$13 a year is a commercial impossibility. But it meets with acceptance among those who do not know any better, whose ignorance, in fact, extends to the belief that the government control of telegraphs and telephones in Great Britain has been a howling success from a financial point of view. It is true that they carefully omit any reference to the efficiency of the service supplied. As a matter of fact, not only is the service inefficient, but if it did not have the national treasury behind it, it would have been hopelessly bankrupt long ago. It is, indeed, almost as striking an example of the inability of governments to conduct a business enterprise as the Intercolonial Railway. A return made to Parliament the other day and covering the operations of the postoffice telegraphs, which includes telephones, supplies all the proof necessary for this assertion. According to this return the earnings of the department for the year ended March 31, 1905, were \$19,078,952. To earn this amount necessitated an expenditure for operation alone of \$23,553,842, a deficit of \$4,474,890. In other words to earn a dollar the British telegraph and telephone system spent \$1.24. If the amount of the interest charge on the capital invested in the department be added, the cost of earning a dollar of revenue would be increased to \$1.38. And if a reasonable allowance be made for depreciation, the cost of earning a dollar would be easily \$1.50. This condition of affairs is absolutely startling. Yet it is being held up to Canadians by those who do not know any better as ideal.

There are those, however, who while cognizant of the actual state of affairs, excuse it by claiming that the rates charged are so much lower than those in effect in Canada. So far as the telephone service goes there is no truth in this statement. The man in London, for instance, must pay the postoffice £5 per year for his telephone—and a penny for each call he makes. If the person he wants is more than two miles away he pays 2d. For an unlimited service he has to pay £17 per annum. Toll line charges appear low, but are deceptive. Thus, for a five-minute conversation with a person a subscriber to the National Telephone Company, residing 120 miles away, the charge would be 2s. 3d., about 80 cents. The same conversation with Ottawa would cost a Montreal man 80 cents. The same thing is true of the telegraph charges. The rate is 6d. for the first twelve words, and a half-penny for each subsequent word. Out of these twelve words

must come the address of the receiver, and unless a person is in business and has a registered address, this means that most of the 6d. goes for what the Canadian company sends free of charge. Thus the name and address of the receiver and the name of the sender might easily take up the whole of the twelve words allotted, leaving the receiver to pay a cent a word for the actual message, and bringing the total cost up to just about what a Canadian company would charge. As a matter of fact considering the density of the population and the comparatively short distances, the British telegraph charges should only be half of those charged in Canada, for the telegraph, unlike the telephone, shows decreases in operating expenses as the volume of business increases. A Canadian charge of double the British charge can be very easily justified when the higher cost of labor, equipment, capital and taxation is taken into consideration.

But this aspect of the situation is really unimportant. What signifies is that the British government is conducting at a cost of \$1.50 for every dollar's worth of revenue it receives from them, two public utilities which should be self-supporting.

Hon. Robert P. Porter, former United States census commissioner, in a letter from London, gives the figures as to the receipts and expenditures of the British government's telegraph monopoly. For the year ending March 31, 1905, the report for which was published two weeks ago, the expenditures exceeded receipts \$4,610,000. In addition, the government paid interest to the amount of \$1,358,500 on the debt of \$54,500,000 that was created when the telegraph lines were acquired. The total deficit was thus \$5,968,500 for the year. In 1870-71, when the telegraph lines were acquired, they showed a profit of \$1,710,000.

In 1885 the government reduced the minimum charge to sixpence (twelve cents), and since the deficits have been of regular recurrence, although it was predicted by the then postmaster general that the increase of business would make the business profitable. But since 1903 the number of messages, instead of increasing, has actually dwindled. Two reasons are assigned for this, the poorness of the service and competition from telephones. The telephone service, however, is also notoriously poorer than our own, and there is much complaint. The trunk lines between the cities are mainly owned by the government, but within the cities the exchanges are generally privately owned. The government service shows the weakness that seems inherent in government undertakings, and in the cities the private companies, threatened as they are with extinction, are not encouraged to make improvements.

If there is one country in the world where telegraph and telephone service should be good and cheap it is Great Britain. The population is dense, the people are active commercially, the

messages are transmitted a short distance, labor and supplies are cheap. Yet, charging as much or more per mile, notwithstanding the greater volume of business, there is a deficit on both the telegraph and government owned telephone systems, with nothing allowed for interest on investments or adequate provision for betterments. The policy of government ownership has descended, and for the benefit of those who use the lines a general tax is laid on the people as a whole.

### The Flush Times of Nevada.

BY J. W. HAYES.

Nevada is one of the grandest, and it is destined to become, some day, one of the greatest states in the union. It has reared a number of men, who in later years have become identified with the progress of the telegraph and submarine cable. Notably is this the case with the late John W. Mackay, who has done so much to bring these great agencies of human civilization to their present efficiency.

As long ago as 1877, Mr. Mackay was wont to make the Western Union office at Virginia City, Nevada, his rendezvous after office hours, and every operator and messenger was on easy speaking terms with him. His friend, George Senf, recently deceased, familiarly known all over the Pacific Coast as "Graphy," was manager at Virginia City, and through his own sagacity as much as it was by Mr. Mackay's suggestions, amassed fortune after fortune, only to lose them again by unfortunate investments.

Virginia City, it may be remarked, is located on the eastern slope of Mount Davidson, overlooking a vast waste of country to the east. Mountain peaks are visible from this spot fully two hundred miles away.

Among the operators who came and went from Virginia City about this time were the following: A. B. McCoy, whom everyone affectionately called "Baldy;" William H. Murphy, Thomas W. Booth and his brother, A. J. Booth; Edgar B. Beccher, Egbert A. Brown, Edward Kearney, Eugene H. Sherwood, Samuel B. Rankin, Thomas J. Baldwin, James C. De Long, Newton L. Boydston, Andrew C. True, David Crawford, Samuel Kimber, John Skae, Robert Pixley, John Yontz, J. A. Morison, John G. Blake, and the writer. Of these, John Skae became a multi-millionaire, and for three years kept all the wise heads in the stock market a-guessing; but he died a few years ago at Tucson, Ariz., in straitened circumstances. Samuel Kimber, Robert Pixley and A. C. True also acquired large fortunes by judicious investment in mines.

Samuel B. Rankin was the chief operator, and was a genial, whole-souled man. There was a spirit of freedom existing in this office probably unknown in any other telegraph office in the world. I mentioned this fact in my book, "Tales

of the Sierras," in the sketch entitled "The President's Visit to Virginia City."

Of the people I have mentioned, many have passed on to their last home. These are: John Skae, Robert Pixley, John Yontz, George Senf, Edward Kearney, Thomas W. Booth and John G. Blake.

Thomas J. Baldwin, whom we all called "Lucky" Baldwin, was one of the most accomplished linguists in the profession, and would have been an acquisition in diplomatic circles. "Lucky" is still with the Western Union at San Francisco. A. B. McCoy is in the main office of the Western Union, New York; W. H. Murphy is in the cable service of the same company at New York, while Abe Booth is employed with a Wall street broker, and J. A. Morison is now in the New York "Sun" office. Newton L. Boydston, who is with the Western Union at Chicago, was also an accomplished scholar, miner and electrician. Eugene H. Sherwood is manager for the Postal at his old home in Fremont, O. Being stricken with paralysis some twenty-five years ago in San Francisco, he devoted much of his time to the study of music, and has achieved an enviable reputation as a performer on the guitar. Samuel B. Rankin was superintendent of the fire alarm in San Francisco until recently. David Crawford went north to Seattle, where he is in business in that bustling city. Egbert A. Brown mysteriously disappeared ten years ago from Portland, Oregon, and nobody seems to know whether he is dead or alive.

This sketch would not be complete without the mention of other well-known men, members of the profession who were located at different points in Nevada. There was Samuel W. Chubbuck, manager at Gold Hill, who had made and lost several fortunes, and who is now passing his declining years in peace and comfort in Oakland, Cal. James F. Farrell, a Canadian by birth, and one of the best of operators, was manager at Carson City. He died some fifteen years ago. Joseph Sears was a man well known in Chicago years ago. He was manager at Pioche, Nevada, and acquired a fortune, but died of pneumonia before he could enjoy it. His successor at Pioche was Alex. Morison. Joseph Heenan, cousin of the once famous John C. Heenan, of international pugilistic fame, was for awhile manager at Austin, Nevada, and was succeeded by George E. Millar, another old timer of the telegraph, known from Buffalo to the Pacific Coast. William Spinner was manager at Eureka, Nevada, in 1877, and I believe he is doing business at the same old stand yet. He was the most patient and painstaking man I ever knew. There was an operator at Diamond Springs in those days named Cox. No one knew where he came from or where he went after the office was discontinued. At one time during wire interruptions he worked continuously for seventy-two hours, delaying west bound business and exhibiting a degree of tele-

graphic ability that could not be excelled. Many thought he must be the original John Clark, incognito.

William D. Linton, an old time Atlantic and Pacific operator, was keeping a hotel at this time at Wadsworth, Nevada. He will be remembered by the Cleveland and Buffalo contingency of thirty years ago. Linton got rich developing borax mines in his adopted state. John L. May was manager at Winnemucca, Nevada. He distinguished himself during the recent trouble with Spain and was made a captain in the regular army, from which post he resigned to accept a position with the Southern Pacific as train despatcher. Peter A. Rowe, and his brother John, were manager and operator, respectively, at Elko, and were much in evidence on the line. James V. Lovell afterwards succeeded Peter Rowe as manager. His father, Peter Lovell, was the assistant superintendent of telegraph for the State of Nevada. He, too, has passed over to the great majority.

Frank Bell was superintendent at Reno, and a most active and energetic man. Ben C. Shearer was the manager at that point. Mr. Bell had no hesitancy about getting out and repairing the line in company with his humblest lineman. He afterwards served as warden at the state penitentiary, finally serving a term as Lieutenant Governor and Governor of the state. At eighty years of age he has retired from active work to his ranch in Butte County, California.

Most of the men I have mentioned were largely different from the general run of operators. They were enterprising, daring, men of large and strong physique, and with an education much above the ordinary.

#### Dr. L. M. Rheem Indulges in Reminiscence.

(Continued from issue of April 16.)

Dr. L. M. Rheem, of Minneapolis, Minn., who contributed such an interesting chapter in the April 16 number, relating to the telegraph fraternity as it existed in Omaha thirty years ago, his theme being suggested by an article written by J. W. Hayes, of Portland Ore., of similar character, in the preceding issue, continues his pleasant line of thought as follows:

"Cliff Mayne, whom Mr. Hayes mentions, worked the night trick for awhile about this time. This was Mayne's first advent to Omaha. He was one of the most beautiful penmen, as well as one of the most rapid writers I ever saw. That old Union Pacific No. 2 bothered him quite a little at first, as it was not only a long heavy wire, but was full of quips and fancies with which you had to become familiar before you could juggle the business successfully. The letters of the first part of a word used to catch on insulators, hang back for a while and then come in with a plunk all in a bunch; the operator had to sort them out and make a reasonable sounding message out of them. We all remember the frantic

search made for Mr. D. B. Bab. Mr. Mayne had received the message which was quite important. Service messages failed to relieve the situation, which Mr. L. H. Korty finally captured by deciding that the message belonged to Tibbals, the sleeping-car man. I don't know where Mr. Mayne is now; he was a brilliant fellow, and after 1881, when he left the telegraph service, he became one of the leading real estate men of the West, operating from Omaha to the Pacific Coast, handling deals away up in the millions.

"Then there was Charles Havens, who was chief despatcher; he was pretty busy with his trains, but used to mix into the Atlantic and Pacific business occasionally. He went into the coal business and became very wealthy before he died some years ago. Henry Loosley, Wesley Ellsworth, George M. Myers, F. W. Griffith and others, including the great American travelers, Bogardus and John Clark, both of whom are now dead; Frank Farley and William Foley were employed at the Union Pacific-Atlantic Pacific office at various times during this period. The only one of these whose location is known to me is Myers, who is a retired capitalist of Kansas City, Mo.

"At this time the city office at Omaha of the Atlantic and Pacific was up-town in a room six feet wide by twenty feet long; the manager was E. B. Hirst, who was a great student of natural history. He had a large collection of snakes, toads, lizards, etc., which had the run of the office. Hirst had trouble keeping his force filled, small as it was, for the reason that the snakes had a playful habit of taking up their quarters in some part of the clothing of the men, whose salary were not large enough to pay for the mental strain incident to their acting as zoological gardens.

"I relieved Hirst as manager and it took me quite a while to dislodge the snakes and other animals which he left behind him. As long as we occupied that office I was never quite sure whether I was a snake charmer or a devilled ham. Our city business was what you might call slight, for the reason that the frontage of the office was so insignificant that the public as well as myself had trouble in finding it. To remedy this difficulty, Mr. J. J. Dickey, our superintendent, moved the office up-town into a half basement under the 'Herald' office, where the city and repeating offices were consolidated and the Atlantic and Pacific started in as a business factor of the city.

"My 'force' there, if I remember correctly, consisted of Richard Lewis, one of the old Russian-American telegraph men, who I believe is dead; Aaron Hilliker and Ziegenfus, and I also recall Earl Rudd. Besides being fine operators, these boys were all specialists in different lines. Mr. Lewis possessed a quaint humor that was simply irresistible; as Mr. Hayes says, 'Hilliker was one of the greatest characters ever known in the profession. He was a born actor, a minstrel singer, a good newspaper man and a first-class telegraph

operator.' Ziegenfus was a character in his way; he was a most interminable talker, his specialty being to get some one in a corner and talk them into a state of collapse. Mr. Rudd was a genial gentleman in all respects; a good listener, and had an infectious laugh that helped to drive dull care away on all occasions.

"There was another man who was in the Union Pacific-Atlantic Pacific family for whom I shall always have the most affectionate remembrance. This was H. E. Jennison, the general foreman of construction. I know that my feelings for him are shared by every one who had any dealings or acquaintance with him. Any one who ever came in contact with him was a better man after it. Although quiet and unostentatious in all particulars, he was forceful in his methods, and had a faculty for solving successfully the many perplexing problems of construction always confronting him in the extended territory over which he had supervision. He was a hard student of electrical and construction matters, and many of the ideas originating with him are now in use in various parts of the country. He was also an interminable worker, always leading instead of driving his men. His death was due to this trait. He had a piece of complicated tunnel construction in hand in Colorado for the Western Union Telegraph Company, of which he occupied the position of general foreman for the third district. He went into the tunnel with the men to direct the work, was overcome by gas and taken out dead. His death occurred March 26, 1897.

"There is always an element of heroism for me in the death of any man who dies in the discharge of his duty, no matter how peaceful the pursuit in which he is engaged may be. It is not so very much of a trick for a man to perform an act of bravery while the band is beating out the inspiring strains of a Sousa march and the eyes of a thousand people are upon him. A big yellow streak in him is often entirely obliterated by the mediums mentioned. But when I hear of a man going calmly into a place of danger simply because it is his duty, I always feel that he should receive the crown of laurel instead of the cypress. For Jennison, 'Requiescat in pace.'

"I always also remember John Viau, the distinguished French gentleman, whose specialty was 'lookin' fer de trub'. Mr. Viau was never happier than when he had an opportunity to put on the 'hooks' and knock out a complicated cross. His explanations of how, where and when he found it, and how he 'knock heem out, by Gar,' were epics. I would enjoy meeting 'Johnnie' as much as I would any of the old boys, if he is on this side of the Great Divide."

(To be Continued.)

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

### Practical Investigation of the Sulphate of Zinc Storage Battery.

A long and critical examination of the zinc sulphate storage battery is made by M. R. Lacau in the "L'Eclairage Electrique," of Paris, and which has been abstracted by the Electrical Review, of New York. This battery usually consists of zinc, sulphuric acid and lead peroxide. Other metals may be used in place of lead for the positive plate, but they are not as good. The zinc employed should be pure, and may be amalgamated, and is obtained generally by electrolysis from a solution of zinc sulphate. A good many difficulties are encountered in caring for these cells. They are very sensitive to impurities introduced in the water, such as salts of iron, calcium, magnesium, chlorine, etc., and the zinc becomes contaminated by impurities introduced in the lead plate, such as antimony, arsenic, tin, etc. For these reasons it is essential that the positive plate be made of pure lead and not of any alloy. Although the main argument for these storage batteries is the larger output obtained for a given weight, in practice it is found necessary to use a good deal more electrolyte than is called for theoretically, so that although the plates themselves may be light, the cell as a whole is comparatively heavy. If less electrolyte be used the viscosity is too great, thus reducing the rate of discharge and crystallization of the sulphate takes place. Moreover the presence of free acid diminishes considerably the solubility of the zinc salt. Another difficulty is the limited height permissible for the negative plates. If they be more than fifteen centimetres high the difference in density of the electrolyte due to gravity sets up local action. The author has found that it is not practicable to produce a zinc-lead cell having a greater output than thirty watt-hours per kilogramme of total weight, while, as is well known, the lead cells may give thirty-five watts per kilogramme. The zinc cells have a good efficiency and they may be constructed so as to hold their charge well.

Herbert Laws Webb, the well-known electrical expert, and author of works on telephony, has this to say in a recent article in the London Times: "In Europe the telephone service has never been treated as a legitimate business enterprise, and has never had a fair field. From the very beginning it has been treated as a mere offshoot of the telegraph—which it is not—and it has occupied the position of Cinderella in the family of methods of communication placed under government control. As a result, not only have all sorts of harassing restrictions inseparable from a bureaucratic control been brought to bear, but telephony as a science, telephone engineering as a specialty and telephone administration as a distinct branch of organized effort have been neglected."



**International Telegraph Tournament at Boston.**

In a recent conversation held with a prominent New York member of the telegraph fraternity, a gentleman who is likely to take part in the coming Boston telegraph tournament, he had this to say:

"In regard to the telegraph tournament proposed in Boston for June 8, I beg to submit a few observations born of experience. TELEGRAPH AGE is in a position to feel the pulse of telegraphers and I trust what I may say will bring forth expressions on the subjects that I may touch upon.

"Tournaments of the past have almost invariably been conducted as best the promoters knew how but without profiting by the mistakes of their predecessors. Judges are selected because of the illustrious names they bear, because they are known to be honest and their membership on committees will lend dignity to the occasion. It is no reflection upon these gentlemen to say, if they are not actively engaged in high speed telegraphy, that they are unfitted through long inactivity to judge of the work of men who send Morse above fifty words per minute. Even one such old-timer whose position in the world may be high, when placed on such a committee with men who are working at the key, naturally sways the opinions of his less illustrious and less fortunate co-judges. Hence it is a prime necessity that every judge on the active list should be selected for his ability to pass upon high class work, as well as for his honesty of principle. Few men to-day who have not been actively engaged in telegraphy—in press or bonus or brokerage work—even for a year, are capable of reading Morse at fifty words, yet experts know that it can be sent with commercial value at fifty-five. The trouble is with the ears which have slowed down through inactivity, not with the Morse which has quickened with practice.

"Now a word regarding medals and cups. Doubtless the gentlemen who give these prizes would as lief or rather give gold watches or diamond rings which would be of real use. They are usually solicited and the custom seems to be for the solicitors to mention a cup or a medal. The possession of either is honorable and ornamental, but a watch or a ring is just as honorable and far more serviceable. Then let us have more watches and rings, or money, if you will, and less of cups and medals in future. It cannot be considered looking a gift horse in the mouth to make such a suggestion, because a broad-minded man knows it is simply a better understanding of the matter, which brings it.

"We have established records for the world's championship. In 1898 it was the old "Command of Gideon" matter, of which William M. Gibson sent 248 words in five minutes. In 1893 the same record had been made by Frank Catlin and F. J. Kihm. In Atlanta this record was beaten by both McClintic and Bruckner, the former sending 252 and the latter 251½ words, of the same matter. For the championship, however, new matter was used, and a new distance established. The time was doubled, making

championship work include a qualification of receiving straight Morse, five minutes, and ten minutes sending straight Morse. The record established—517 words—was ignored in Philadelphia, as was the time-honored "Command of Gideon," because it was "known" matter and some operator might have taken advantage and been practicing on it since the last tournament. If a fellow has so much perseverance, why not let him have the opportunity to win laurels with it? Why not take the "Command of Gideon," for instance, or the matter used at the first annual tournament in Atlanta in the Carnegie medal contest, as a standard, or select new and suitable matter and perpetuate it as a mark for succeeding generations to hit at? There should be some established record which we should strive to excel. Taking new matter and establishing new distances in each tournament mixes us all up and does not give a line on whether we are improving or retrograding. In New York, May 14, 1898, H. V. Emanuel, of Philadelphia, established a record for thirty minutes receiving messages. He clinched the title in Atlanta and lost in Philadelphia to J. P. Gallagher by a close decision, but the fact that the same class was adopted by all three tournaments gave the fraternity a basis for judging the merits of such work from 1898 to 1903, and it had improved. The same messages should be used and the same identical class incorporated in every tournament. Side classes of from a minute to eight hours may be worked in, but these championship classes should be maintained always as a standard. A telegrapher, whether he be a commercial man, bonus, press or broker, is capable of sending and receiving straight Morse just as well or better than he is of handling telegrams. His particular specialty may be either of the four and he may be excellent in that class, but he can always transmit straight matter just as fast or faster, and receive it, too. For that reason, why ask a press operator or a brokerage operator who has been as fine as the finest, perhaps, at receiving and sending messages, before he was promoted to work just as difficult but more remunerative, and widely different from handling commercial telegrams, to include the sending and receiving of messages with the sending and receiving of straight matter to win a championship, as was the arbitrary ruling of the Philadelphia officers when McClintic, who had won in Atlanta by straight work, was forced, on short notice, to defend his prize in a different manner from which he had won it, including message work from which he had long since been separated.

"If we are to have a definite, permanent organization to hold tournaments at stated periods, it is all very well to have the Carnegie medal or some other suitable trophy as a permanent inspiration. On the other hand, there is no regularity to the thing and the medal won in Atlanta by McClintic and taken from him by Gibson in Philadelphia should be given to the telegrapher who can first win it three times, whether successively or otherwise, or else it should be given outright to its next winner. As the

two former winners have an equity in the medal, however, this latter course hardly seems fair, and the three-time winner is the better one.

"It is to be hoped that free discussion of the subject may be had, so that the Boston promoters may have the benefit of fraternal opinion in their undertaking."

#### Charging and Discharging Storage Batteries.

The "Western Electrician" has this to say relative to the charging of a storage battery for the first time, and also how the battery may be discharged completely without danger of injury, subjects that are of interests in telegraph circles:

With a voltmeter and ammeter in circuit, start charging with a small current, which should be about one-third the normal output and be continued for about four hours. Then increase to normal current and leave this on for about twenty consecutive hours or until the positive plates get a dark-brown color, unless the cells begin to boil and the electrolyte get milky. It is a good plan to continue the charge still longer at a lower rate, gradually reducing the current.

Some care should be exercised in discharging a cell to put it out of service. If the cells are to be put out of commission for several weeks the plates should not be allowed to stand in the electrolyte unless a small charge and discharge be given at intervals, say once a week. When they are to be unused for a considerable length of time they should be charged slowly, then discharged for a couple of hours at normal rate. Then the electrolyte should be drawn off and the tanks immediately filled up with pure water. The discharge is then continued at about one-half normal rate until the voltage becomes very low, say one-half volt. The plates must then be washed thoroughly in running water, allowed to soak twenty-four hours in water and then dried. In order to get the cells to discharge with the pure water for an electrolyte they must be short-circuited.

#### Directory of Annual Meetings.

Association of Railway Telegraph Superintendents meets at Denver, Colo., June 20, 1906.

Commercial Cable Company meets the first Monday in March, at New York.

Gold and Stock Life Insurance Association meets the third Monday in January, at New York.

Great North Western Telegraph Company meets the fourth Thursday in September, at Toronto, Ont.

International Association of Municipal Electricians meets at New Haven, Conn., on August 15, 16 and 17, 1906.

Magnetic Club, business meeting, meets the second Thursday in January, at New York.

Old Time Telegraphers' and Historical Association meets at Washington, D. C., October 9, 10, 11, 1906.

Postal Telegraph-Cable Company meets the fourth Tuesday in February, at New York.

Telegraphers' Mutual Benefit Association meets the third Wednesday in November, at New York.

Train Despatchers' Association meets at Buffalo, N. Y., in June, 1906.

The stockholders of the Western Union Telegraph Company meet the second Wednesday in October, at New York; election of officers occurs on the third Wednesday in October.

#### John Farson's Happy Recipe.

"The millionaire who is unhappy and never smiles would be just as unhappy and without smiles if he were poor. It is a matter of temperament."

This is John Farson's judgment of his brother millionaires. Farson is president of the National Automobile Association. Here is one of his recipes for happiness:

"Live in the open air, think kindly of humanity and make friends. The same care should be used in investing money to bring happiness as is used in investing it to bring in more money. How foolish it is to think that you can get good returns on Happiness Preferred by slinging in your coin any old way any old time. You have to watch the happiness market just as closely as you watch the market of tape and ticker. That's what brings results.

"The trouble with the millionaires that are unhappy is that they are the kind of men who would be unhappy whether they had \$10,000,000 or only 10 cents. That a certain millionaire is unhappy doesn't necessarily indicate that he is unhappy because of his wealth. Wealth doesn't sour a man; he has to be sour by nature.

"The contented man is the happy man. The contented millionaire is the happy millionaire. The contented pauper is really happier than the sour, discontented millionaire.

"But I don't mean to say that every one ought to be perfectly contented all the time. That would mean that the world would stand still. Isn't there a poet somewhere I have read that speaks of a noble discontent? Sure. There is a kind of discontent that means progress, but it is mightily different from the discontent that makes you sour, and dry, and warped, and causes you to look with suspicion on every human being you meet."—Moody's Magazine.

#### Opening of the Electrical Club.

The Electrical Club, of New York City, opened its doors to its members and invited guests on Saturday, April 21, at its clubrooms on the third floor, 14-16 Park place. These clubrooms occupy the entire third floor of the building and are very conveniently arranged for the purposes of the club, which are to provide downtown lunching facilities for the electrical fraternity. The officers of the club are J. P. Hall, president; H. L. Shippy, vice-president; Charles P. Scott, treasurer, and R. B. Corey, secretary. The club begins its career with a very excellent list of 150 members.

"Pocket Edition of Diagrams," etc., by Willis H. Jones, electrical editor of TELEGRAPH AGE, embodies more practical information concerning the telegraph than any book or series of books hitherto published. See advertisement.

No up-to-date telegrapher can afford to be without TELEGRAPH AGE. It furnishes him with information essential to his welfare. Send for a sample copy.

**Book Notices.**

"The Telegraphist's and Telephonist's Note Book" is the final outcome of a purpose in bookmaking long entertained by its English author for the handy requirements of employees in the telegraph, telephone and railway services. Its contents cover a wide range of subjects of interest to the classes named, inasmuch as it presents solutions of problems met with in everyday practice. Price seventy-five cents. For sale by J. B. Taltavall, TELEGRAPH AGE, 253 Broadway, New York.

"Wireless Telegraphy" is the title of a bright little volume of 174 pages that has just made its appearance in England, written by William J. White, of the engineer-in-chief's department of the general post office, London. The author has gone into his subject with evident care, and the discussion of wireless telegraphy and of the several systems now in vogue are invested with much interest. The volume contains fourteen chapters and eighty-six illustrations. Price seventy-five cents. For sale by J. B. Taltavall, TELEGRAPH AGE, 253 Broadway, New York.

The "A B C of the Telephone" is a book valuable to all persons interested in this ever-increasing industry. No expense has been spared by the publishers, or pains by the author, in making this the most comprehensive handbook ever brought out relating to the telephone. The volume contains 375 pages, 268 illustrations and diagrams; it is handsomely bound in black vellum cloth, and is a generously good book without reference to cost or price. Orders and remittances (price \$1.00, express prepaid), should be made to J. B. Taltavall, Publisher Telegraph Age, 253 Broadway, New York.

The twelfth edition of that standard work of Abernethy, on commercial and railway telegraphy, theory and practice, including railway station and express service, arranged on the plan of questions and answers, more than maintains its previous reputation. Revised and enlarged, it affords an excellent study of the telegraph both in its commercial and railway aspects, a guide and help to workers in this broad field of the telegraph of the utmost importance, for the general subject is handled with a minuteness and intelligence rarely reached. The enlarged volume contains 424 pages, and is fully illustrated. Price \$2.00, which includes express delivery charges. Address orders to J. B. Taltavall, TELEGRAPH AGE, 253 Broadway, New York.

Wireless Telegraphy and Telephony, by Prof. Domenico Mazzotto, translated by S. R. Bottone, is the title of a new work, the object of which is to present to the readers in as simple a form as possible the principles on which the wireless system of signaling is founded, and to describe the apparatus required. It also follows step by step the progress of different inventors who have re-

vised wireless systems, and it traces chronologically the progress made in wireless telegraphy from the first experiments of Marconi at Bologna to the last results of transatlantic wireless signaling. It contains 416 pages and 253 illustrations; price \$2.50, express charges prepaid. Orders should be addressed to J. B. Taltavall, TELEGRAPH AGE, 253 Broadway, New York.

"Telegraphy" is the title of a book which gives a detailed exposition of the telegraph system of the British post office, the author being T. E. Herbert, A.M., engineer of the English telegraphs. It embodies a description of the telegraph practice of Great Britain, which is full of interest. Land telegraphy, its systems and apparatus, and the construction of underground lines, are elements of telegraphy alone considered, submarine and wireless telegraphy not being touched upon. To this general consideration of the subject, twenty chapters are devoted, two additional chapters treating respectively of the construction of aerial lines and of the construction of underground lines. Both will be read with special interest. A full description of the Murray automatic system, which has been adopted by the British Government, appears in the appendix, together with much other interesting matter. The comprehensiveness with which the author has handled his theme may be judged when it is said that the volume contains over 900 pages, the illustrations numbering over 500. The price of the book is \$3, including postage. Address all orders for the book to J. B. Taltavall, "Telegraph Age," 253 Broadway, New York.

"Maxwell's Theory and Wireless Telegraphy" is a new volume fresh from the press. It is divided into two parts, one being denominated "Maxwell's Theory and Hertzian Oscillations." by H. Poincaré, translated by Frederick K. Vreeland; two, "The principles of Wireless Telegraphy," by Mr. Vreeland. The volume is comprehensive in its scope of the subject considered, giving a physical treatment of Maxwell's theory and its applications to some modern electrical problems, from which a practical understanding may be derived of the essentials of wireless telegraphy. The book is a welcome contribution to the literature of the subject discussed. It has 255 pages, 145 illustrations, and a very full index; price, \$2.

**Baltimore Telegraphers' Mutual Aid Association.**

The fifteenth annual meeting of the Telegraphers' Mutual Aid Association of Baltimore, Md., was held April 10. The following officers were elected: President—E. S. Anderson; vice-president, Miss Jennie Keplinger; treasurer, A. Grape; secretary, J. C. Hawkins; directors, E. S. Anderson, C. E. Clagett, Ferd. Miller, A. K. V. Hull, S. T. Shutt, H. F. Meister and J. C. Hawkins; auditing committee, William Lepper, George Kelly and William Taylor; examiners, I. Hess, Jr., and F. F. Basye.

After the meeting a banquet was served, which was enlivened by remarks from the different members.

**LETTERS FROM OUR CORRESPONDENTS.**

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

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

**ST. LOUIS, WESTERN UNION.**

Mr. B. E. Black, who worked the first Chicago wire at the Merchants' Exchange, besides other heavy wires, including The Associated Press and Globe-Democrat's leased wire, has been appointed traffic chief, vice Mr. P. A. Peterson, who has been made solicitor.

Mr. L. N. Boone, Mrs. Gartner and Daniel Kelley have returned from Hot Springs, Ark., to which point they were assigned during the races.

The Telegraph Clerks' Aid Society defeated recently the operators of this office in a ball game, the score being 10 to 9.

Mr. Wm. Frohoff from Sedalia, Mo., is a recent acquisition to the operating force and Frank Sassenroth and W. P. Bennett, have gone to Chicago.

Gov. Joseph W. Folk was a recent visitor at this office and was much interested in the Barclay system of printing telegraphy, and the Yetman and Vibroplex transmitters, the workings of all of which were carefully explained to him.

The wedding on April 17 of Ray Alger and Miss Virginia Kaut, was attended by a number from the operating force who presented the couple with a beautiful gift.

**PHILADELPHIA, WESTERN UNION.**

The Electric Aid Society's annual ball and banquet which took place Wednesday evening, April 18, was the most successful affair of the kind from every point of view of any the society has ever held. The attendance was large and select. Many prominent people, outside of the mystic shrine of dot and dash makers, were present, among them being Mayor Weaver. He made a fine speech when he presented to ex-President Frank E. Maize, in behalf of the society, a handsome silver loving cup as a testimonial of their esteem. Mr. Maize, who was deeply affected, could not readily find words to express his surprise and appreciation. President A. S. Weir, C. B. Wood, R. C. Murray, Jr., and others made short but happy references to the presentation, after which dancing occurred, later a sumptuous repast being served.

Rodney Smith of this office will sail for Europe on the Oceanic some time in June, where he will spend several months.

Miss Fannie Schott, who left some months ago to locate at Los Angeles, Cal., has again returned to this office.

Mr. Daniel Carlin has resigned to accept a position with the Carnegie Steel Company, this city.

Recent arrivals are: J. H. Eirich, John Allen, and H. Whitehead from the Philadelphia, Reading and Pottsville Telegraph Company, and Messrs. Dolan and Whitlock from the Postal Company.

A. H. Sprecklin, of this office, the quadruplex expert, was absent recently owing to a severe attack of rheumatism.

**PHILADELPHIA, POSTAL.**

Mrs. Celia Powers and John Kramer have resigned to accept positions with the Western Union here.

Now that the curiosity has, in a measure, worn off, our boys are beginning to entertain an established regard for the usefulness of the Phantoplex circuit on our Pittsburg local.

Since the appointment of Mr. Chas. Slaymaker to the position of collector, Mr. J. J. Quinn, the former incumbent, has been given a clerkship in the manager's office, vice Chas F. Myers, Jr., promoted to a place in the superintendent's office.

Affability and capability are two conspicuous qualifications of Mr. Cyrus Moffett, recognized by the merchants of the North Third street district, as shown by the manner in which they patronize his office.

While passing through this city on his return to York, Pa., Manager S. J. Pickering stopped long enough to make calls.

**CHICAGO, WESTERN UNION.**

The following is the list of operators and chiefs who were sent to San Francisco to help out when communication was re-established with that city after the disaster: Frank Likes, wire chief; F. G. Gardner, quadruplex man; J. W. Coakley, electrician; operators, L. M. Carroll, Patrick Harrington, J. F. Brown, William Otto, T. L. Flynn, William Burley, J. Carter, Carl Congdon, A. R. Burnite, Lewis Price, R. A. Drake, C. A. Willis, and J. J. McCormick. They left at 11 P. M., April 19. Mr. Likes was made the custodian of \$216, a sum contributed by day and night operators here for suffering operators at San Francisco.

Ernest Herman has returned from the Standard Oil Company, where he had been assigned for the past two weeks.

J. F. Costello of the all-night force, is sojourning in Hot Springs, Ark., for two weeks.

Division Chief Charles White, who has been in the Southwest for several months for his health, is back again.

Edward A. Clark of the night force, who recently underwent a painful operation at the Homeopathic hospital, is recovering slowly.

Lewis J. Auld, formerly of this office, and late

of Bartlett, Fraser and Company, is employed by the government at Portland, Ore.

#### NEW YORK, WESTERN UNION.

Mr. A. A. Offutt, of the Eastern division, while crossing Sixth avenue at Eighth street recently, was struck by a trolley car, but fortunately escaped with a few bruises and a general shaking up.

Mr. Thomas H. Grady, for many years connected with this department, died on April 16, after a lingering illness.

Mr. H. J. Dunn, traffic chief of the Southwestern division, has been granted a leave of absence.

Miss Cynthia Smith of the tariff and check bureau, died suddenly on April 15. The funeral service was held at her late residence in Brooklyn, the interment being at Binghamton, N. Y.

Miss Abel, of San Francisco, who worked in this office but one day, upon hearing of the disaster at her home immediately started for that city, where her relatives reside.

Mr. Sidney Shirley, a veteran of The Associated Press, and now connected with the Boston Globe, recently paid a visit to this department and enjoyed a pleasant hour with many old friends.

The recent disaster in San Francisco caused an enormous volume of business, and every member of the force cheerfully responded to the unusual demands made upon him.

Mr. Robert McCartney, of Chicago, was a recent visitor.

Mr. Lawrence Keating, of this department, was badly injured about the back and spine, a few days ago at Coney Island, he being struck by a trolley car.

Henry Holland, aged seventy-three years, manager of the branch office at the Maritime Exchange, covering a period dating back prior to the Civil War, died April 18 at his home in this city of pneumonia after an illness of but five days. When Mr. Holland began his telegraph career semaphore signals were in use in connection with the marine service. He was well known to the shipping fraternity and was one of the oldest, if not the oldest, telegraphers actively engaged in the service in New York city.

An apt "23," the current saying of the day, the following is told: One of the lady chiefs in the City Line had occasion to give a male member instructions to answer on a wire recently, and the following conversation was overheard:

Operator—Am clear on that wire; anything further?

Chief—Yes, 23, please.

At this juncture the operator hastened towards the door and the chief, in surprise, inquired whither he was going.

Operator—Did you not tell me to beat it.

Chief—Why, not at all, sir; please answer on 23.

#### My Motto—Honorable Dealing.

I make a specialty of FACTORY REBUILT Remingtons and Smith typewriters. Send a self-addressed stamped envelope for the booklet. Do you use a Mill? The Mecograph outstripped its competitors at the big "Smoker." Gibson and McClintic have both adopted it. Apply to me for circulars, terms, etc. D. A. Mahoney, 253 Broadway, N. Y.

#### NEW YORK, POSTAL.

Mr. J. Smith has been appointed manager of the 11 West Twenty-eighth street office.

The branch office located at 182 William street, presided over by Manager J. F. Shugrue, is now being removed to the corner of Gold and Spruce streets.

Mr. J. S. Martin has been appointed manager of the 147 East Twenty-third street office, vice R. Jacobs transferred as manager to the office at 570 West Thirty-fourth street.

The entire operating force is overwhelmed with business growing out of the San Francisco disaster, and all are cheerfully working day and night in order to relieve the congestion in California.

Following are the results of the exhibition of sending messages, straight and coded press matter, at the "smoker" of the Commercial Telegraphers' Union of America, New York Local 16, Friday evening, April 20, for the sick benefit fund:

Sending fifteen messages: J. P. Gallagher (using Yetman transmitter), time 9.08; C. P. West (using Mecograph), time 8.10; R. I. Smith (using Vibroplex), time 9.20.

Sending straight press (five minutes): F. M. McClintic (using Lesley key), 226 words of the matter used in Carnegie Medal Class, Atlanta, 10.02.

Sending Phillips code (five minutes): George W. Conkling, 323 words new matter.

Demonstration of the Shirley key: Daniel W. Russell sent four complete messages in three minutes.

Sending straight press (five minutes): P. A. Gersbach (using Autoplex), 215 words.

When in need of dependable typewriters correspond with me. Send a self-addressed stamped envelope and get a Gibson (Billy) picture.—D. A. Mahoney.

#### OTHER NEW YORK ITEMS.

Assessment No. 448 has been levied by the Telegraphers' Mutual Benefit Association to meet the claims arising from the deaths of John A. Blattan at Baltimore, Md.; Joseph H. Kelly at Lebanon, O.; George F. Witten at La Junta, Col.; George Farnsworth at Detroit, Mich., and Walter C. Gamwell at West Brookfield, Mass.

### Death of William A. Rudd.

William A. Rudd, manager of the Western Union Telegraph Company at Boston, died in that city on Friday evening, April 13, at the Boothby Surgical Hospital, death being due to the effects of an operation performed upon him for gall stones. While he had been a sufferer from this trouble for some time he had attended to business to within a week of his demise, so that his end was sudden and came as a great shock to his friends. Mr. Rudd left a wife and son, the latter being manager of one of the larger branch offices in Boston. The interment was at Menominee, Wis. He was a prominent Knight Templar, and a member of the Aleppo Temple, Mystic Shrine, of Boston. In the death of Mr. Rudd the telegraph profession has lost one of its best representatives. He was a man possessing moral force of character, an energetic nature, fine executive capacity, the attributes of a model manager. His ability for organization enabled him to bring the Boston office up to its present high standard of efficiency. Of kindly instincts, gentlemanly in deportment, he held the esteem of his subordinates to a notable degree, and none will more sincerely mourn his loss than they of whose interests he was always considerate. Because of his desire to satisfy and render superior telegraph service, his relations with the business community of Boston were most cordial, as they were also with the company which he so faithfully served.

Mr. Rudd was born at Madison, Wis., on January 29, 1857. Originally in the railroad telegraph service, he became an employee of the Western Union Telegraph Company, serving at various points in Wisconsin and Michigan, working his way steadily upward until he became manager of the office at St. Paul, Minn., a position he continued to fill with conspicuous ability for twelve years. In 1903, however, he resigned to accept the management of the Memphis, Tenn., office of the Postal Telegraph-Cable Company. Early in 1904, he was recalled to the employ of the Western Union, and placed in charge of the Boston office.

Mr. Rudd measured fully up to the requirements demanded of him; he shrank from no responsibility; hard work presented no discouragements; he overcame and mastered difficulties. Throughout his career Mr. Rudd was a steadfast friend of TELEGRAPH AGE, and acted as its agent wherever he was stationed. Dead at forty-nine years of age, his passing awakens a profound regret that will be felt by many and in many places.

#### DEATH OF WILLIAM S. LOGUE.

William S. Logue, the general sales agent of the Edison Manufacturing Company, New York, died in Chicago, April 25. He went west April 16 on business, apparently in his usual health, but on Sunday, April 22, he was suddenly stricken with the illness which so quickly proved fatal. Mr. Logue was born at Frederick, Md., on June

26, 1847. Early in life he learned telegraphy, and in 1863 entered the United States Military Telegraph Corps, in which department of the army service he remained until the close of the Civil War in 1865. He then entered the employ of the American Telegraph Company, at Baltimore, subsequently serving in turn many of the various commercial telegraph companies of the period, until 1886, when, abandoning telegraphy as an occupation, he entered the employ of Thomas A. Edison, at Orange, N. J., with whose interests he had since been identified, and in which he rose through progressive promotions to the position held at the time of his death. Never of robust strength, he yet gained a thorough mastery of the business in which he was engaged, and with his genial, lovable and always companionable nature, attributes of character that proved valuable to him throughout life, for he not only made friends and customers, but was enabled to hold them.

The interment was at Baltimore, Md.

#### OBITUARY NOTES.

Frank M. Mahan, formerly employed by the Western Union Telegraph Company at Albany, N. Y., died at that place on April 20.

Percival K. Jones, aged fifty-six years, a prominent New York telegrapher about twenty-five years ago, died at Rochester, N. Y., on April 18.

H. E. Hawley, vice-president and general manager of the Hudson River Telephone Company, Albany, N. Y., died at that place on April 26.

Charles W. Johnston, chief operator of The Associated Press in Detroit, died of heart failure at Clinton, Mich., on April 11, while on a visit to his mother.

J. M. Faulkner, aged twenty-five years, for many years manager of the Western Union office at Middletown, N. Y., died at Southern Pines, N. C., on April 10.

Thomas E. Walsh, aged fifty-eight years, died at Susquehanna, Pa., on April 7. Mr. Walsh was manager of the Western Union Telegraph Company, and wire test operator at Susquehanna for over thirty-five years.

Robert J. Sheehy, aged sixty-four years, a telegraph and electrical inventor and expert, well known to the electrical fraternity throughout the country, died in New York, on April 26, as the result of an operation.

W. B. Dougall, Jr., aged thirty-six years, formerly manager of the Deseret Telegraph Company, of Salt Lake City, died April 10. He was the son of W. B. Dougall, who was the general manager of the Deseret company up to the time of its being taken over by the Western Union Telegraph Company, about three years ago. Mr. Dougall's mother was a daughter of the late Brigham Young.

### Wireless Telegraphy.

The stockholders of the Marconi Wireless Telegraph Company on April 16, elected Cuthbert Hall, Major Samuel Flood Page and James N. Greenshields directors to serve for five years.

The new Hotel Belmont in New York city will be the first hotel in the world to have a wireless station. The staff to be erected on the top of the building by the American De Forrest Wireless Telegraph Company is to be 150 feet in height. The building is 300 feet high.

Repeated attempts were made April 18 by the Navy Department to get news of the San Francisco disaster by means of wireless telegraph, but without avail. The navy has a station on Goat Island which is in San Francisco Bay, and has another station on the Farallone Islands, and a third at Point Arguella, near Port Harford, on the California coast, through which it was hoped communications might be established by means of the other two stations with transcontinental telegraph lines. The telegraph communication to the station near Port Harford has not been completed, however, and attempts to get wireless dispatches through were unsuccessful.

The Chinese Government has arranged to establish several stations throughout China for experiment with Marconi's system of wireless telegraphy and instruct Chinese operators in working the same. The apparatus has been installed on four Chinese men-of-war at Shanghai and at the three north China cities of Tientsin, Peking, and Paotingfu, the radius of action being about two hundred and thirty kilometers. An Italian officer has been appointed, not only as instructor, but also as engineer to superintend the installation, and under whom a number of students have already been detailed to act as operators and learn the art of management. It is also said that the viceroys throughout the empire have been directed to consider the advisability of establishing other stations to work in conjunction with those mentioned.

During the twelve months ended January 31, 15,076 messages, comprising 203,276 words, were sent and received by the American Marconi Wireless Telegraph Company alone and through its ship and shore stations. During the same period, 1904-1905, 8,314 messages containing 122,424 words were sent and received. These figures do not include the operations of the stations controlled by the English, Belgian, French, Canadian and Italian allied companies. The completion of the new station at Sea Gate, Coney Island, in January last gives an unbroken chain of stations owned and controlled by the Marconi system from New York harbor to Cape Race, N. F., by means of which vessels entering or leaving New York harbor are in constant communication day and night for about seventy hours. Thus, a vessel outgoing, on leaving her dock, takes up Sea Gate, carries this station until communication is estab-

lished with Babylon, carries Babylon to Sagaponack, Sagaponack to Nantucket, Nantucket to Sable Island, Sable Island to Cape Race. Each of these stations is connected with the land lines, so that messages are sent to or received from every part of the United States, Canada, and, indeed, the world. The long-distance station at Cape Cod has according to John Bottomley, who makes this report to the stockholders of the company, transmitted and received messages across the ocean without any relay whatsoever. News and commercial messages are constantly transmitted from this station to vessels 1,700 miles away. At present out of about seventy vessels trading regularly across the Atlantic, which are equipped with Marconi instruments, thirteen are fitted with long-distance receiving apparatus. It is predicted that in a very short time these vessels will be in constant communication with land during the entire trip across the ocean.

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

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

### Kingston, Ont.

(Communicated.)

Kingston is the West Point of Canada, with its military college, its massive grey stone forts, its Martello towns and imposing public buildings. It is beautifully situated at the foot of Lake Ontario, at the head of the St. Lawrence river and at the mouth of the Rideau or Great Catarqui river, which, with the Rideau Canal, connects it by waterway with Ottawa. Kingston is an industrial city as well as a shipping point of great importance. Among the leading industries are: The Canadian Locomotive Company, the Dominion Textile Company, and the Davis Drydock Company. At Kingston is also located the government dry dock, the largest on the Canadian side of the Great Lakes. Closely lies the sinuous channels of the famous archipelago of the Thousand Islands, visited annually by hundreds of tourists from both Canada and the United States. At Kingston the Great North Western Telegraph Company has an office, fully equipped for all branches of the telegraph service, and from which communication can be had with upwards of 40,000 places in Canada, the United States and Mexico. Tourists and others should remember that the Great North Western Telegraph Company is the only company having an exclusive connection with the Western Union Telegraph Company.

### Municipal Electricians.

The published proceedings of the tenth annual convention of the International Association of Municipal Electricians, which was held at Erie, Pa., August 23, 1905, has made its appearance. Within its nearly 200 pages, a complete detailed report of the convention is published. It is a valuable record. Nothing is omitted, and any member of the association may turn to its well-printed pages and readily ascertain exactly what part, if any, he took in the meeting, and certainly what his neighbor said and did. Frank P. Foster, of Corning, N. Y., the secretary, deserves a good deal of credit for the work he performed in compiling the volume, for it shows much painstaking care.

Mr. Kempster B. Miller, who was retained as the electrical engineer by the New York Board of Fire Underwriters to investigate the New York fire-alarm system and report upon it, in his report dwelt at length regarding the dangerous condition of the fire-alarm system in the Borough of Manhattan, New York city. The work required some months and was done most thoroughly, and the conclusions were entirely approved by Mr. John J. Carty, who was acting as consulting engineer. In brief, the report stated that the Manhattan fire-alarm system was in a very dangerous condition and that there was the greatest need for an entirely new system, which would cost about \$1,625,000.

The eleventh annual convention of the International Association of Municipal Electricians will be held at New Haven, Conn., August 15, 16 and 17. At this meeting, as already announced, the following papers will be presented and discussed: "History of the Fire Alarm and Police Telegraph," "Details of Certain Auxiliaries to Fire Alarm Apparatus," "Advisability of Protecting Municipal Electricians by the Civil Service Laws," "Comparison of Underground and Overhead Wiring, and of the Relative Value of Single, Rubber-Covered Wire and Lead-Encased Cable for Underground Construction," and "Conditions Surrounding the Inspection of wires in the Southwest."

### The Jamestown, N. Y., Repeating Office.

The equipment of the Western Union Telegraph Company repeating station at Jamestown, N. Y., is about finished, and hereafter that city will be known as a repeater office for the New York and Chicago trunk line running on the line of the Erie Railroad. Six new copper wires have been recently constructed between New York and Chicago over this road, all of which are repeated at Jamestown. The office, which is under the management of Mr. C. A. Stone, is fitted with a strictly modern equipment, including six set of duplex repeaters and two set of single repeaters. There is also a 50-strap switchboard and a 400-cell storage battery.

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"Modern Practice of the Electric Telegraph," although not a new publication, nevertheless fully maintains its value as an excellent technical handbook for electricians, for telegraph managers and for operators. The fact that numerous editions of the book have been issued proclaims its intrinsic worth. The author, the late Franklin Leonard Pope, was a former president of the American Institute of Electrical Engineers, a member of the Institution of Electrical Engineers of London, an old-time telegrapher, and a writer of marked ability. The volume embraces 234 pages, has 185 illustrations and is fully indexed. Price, \$1.50, postpaid. Address J. B. Taltavall, TELEGRAPH AGE, 253 Broadway, New York.

[Advertising will be accepted to appear in this column at the rate of three cents a word, estimating nine words to the line.]

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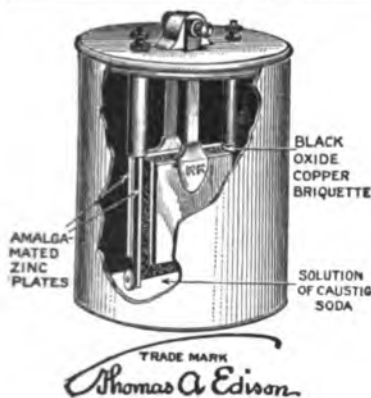
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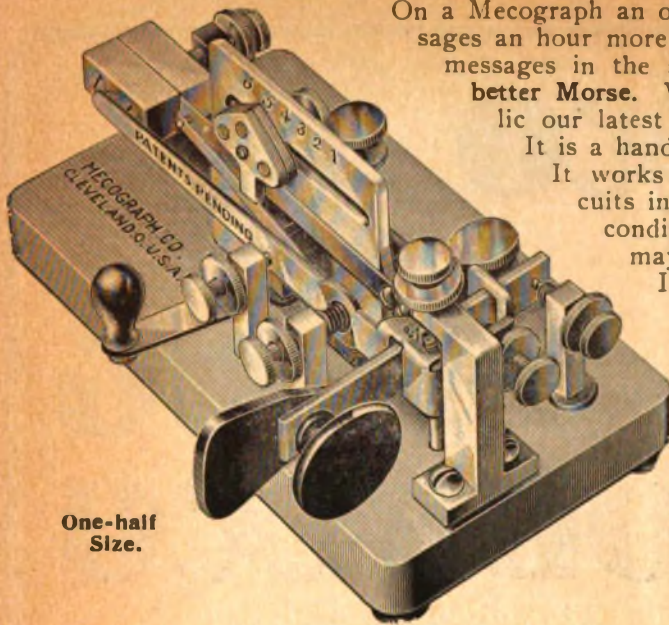
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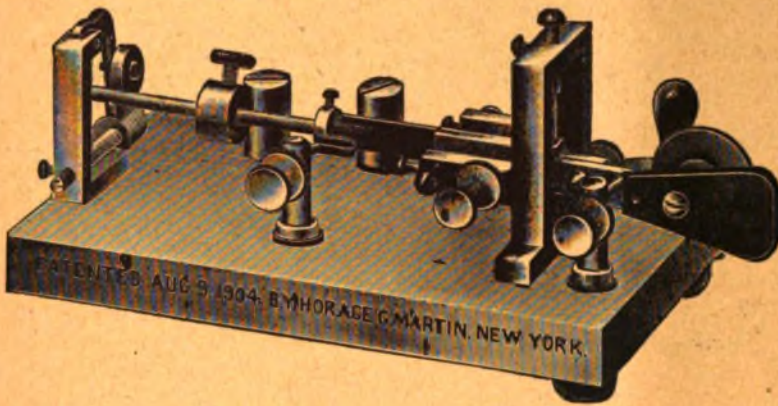
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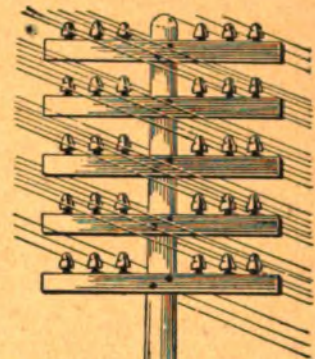
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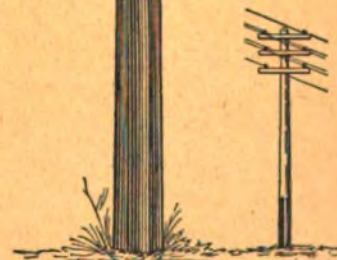
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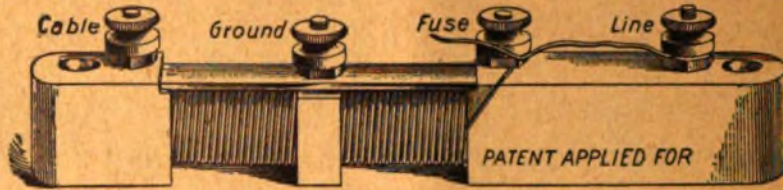
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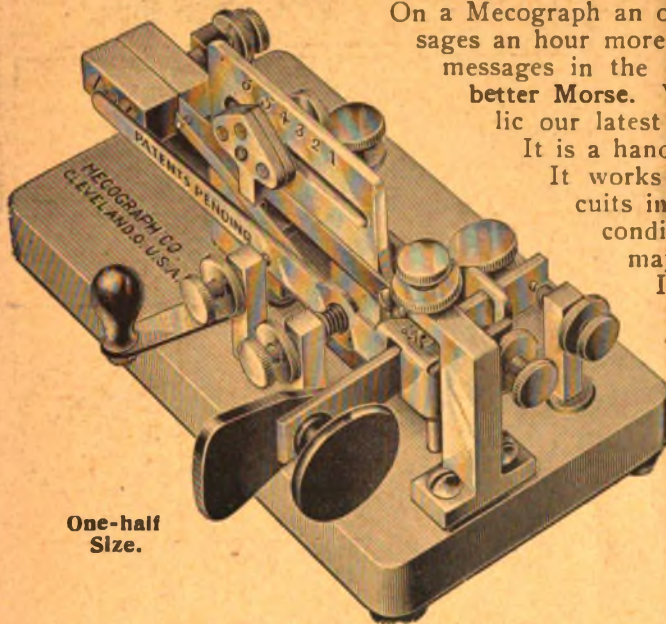
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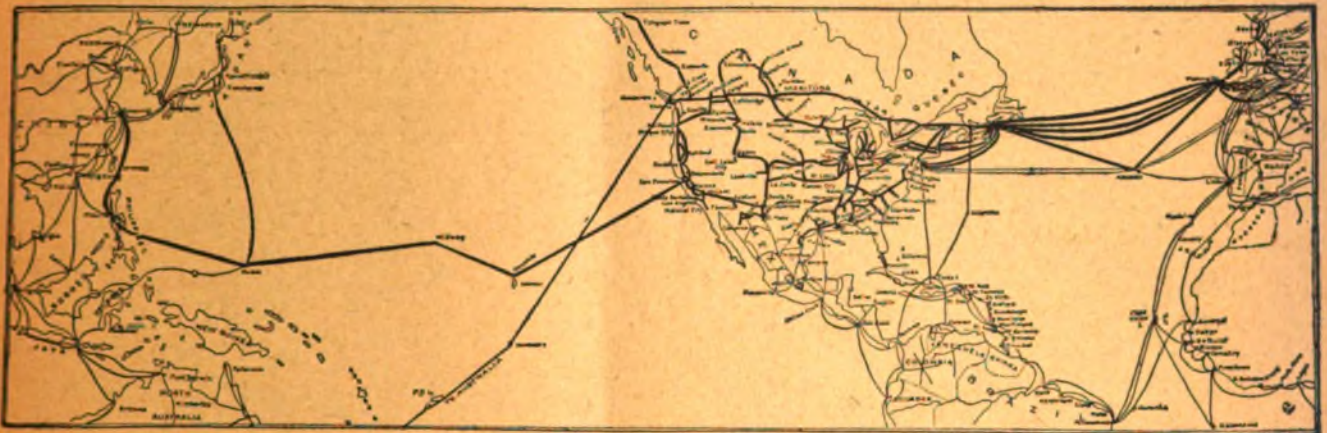
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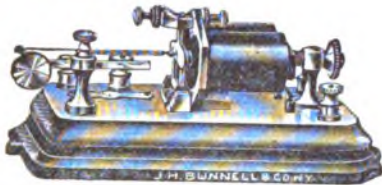
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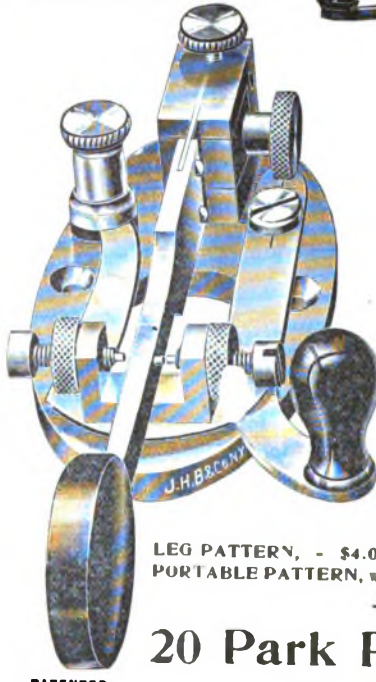
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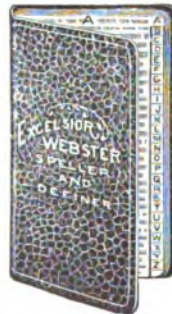
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# TELEGRAPH AGE

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## SOME POINTS ON ELECTRICITY.

### The Storage Battery.

#### Part V.

BY WILLIS H. JONES.

Up to this point the subject matter of the storage battery has been confined principally to a description of its inherent qualities and certain information concerning the most approved rates of charging and discharging it for maximum outputs, as well as showing several convenient and economical sources of electrical power for charging purposes. In this concluding chapter we will endeavor to illustrate the principal methods adopted in arranging the connections to meet problems arising from different conditions.

The first thing to do, of course, is to assemble the plates comprising the cell, unless they are already properly connected together. If there are more than two plates, as there usually are in cells of large capacity, there will be one more negative than positive plate; hence if they are arranged in a row, alternately, negative and positive, beginning with a negative plate, the first and last plates respectively will both be negative.

Now connect all the positive plates together and likewise the negatives. The group of lead plates will then comprise the negative electrode and the other set the positive, each combination of plates becoming the equivalent of one large plate pos-

sessing the same amount of superficial area as is contained in all the small plates so connected. The number of plates thus combined within an individual cell has no appreciable bearing on the value of the electromotive force of the cell, except inasmuch that the output of the cell in the form of current will be much greater owing to the decreased internal resistance of the battery thereby resulting from increased plate surface. The electrical pressure of storage battery cells of all sizes is practically the same, two volts. All that then remains to be done is to fill the jar with fluid consisting of three parts water to one part acid, and it is ready to receive the charging currents.

When a storage battery is to be installed to

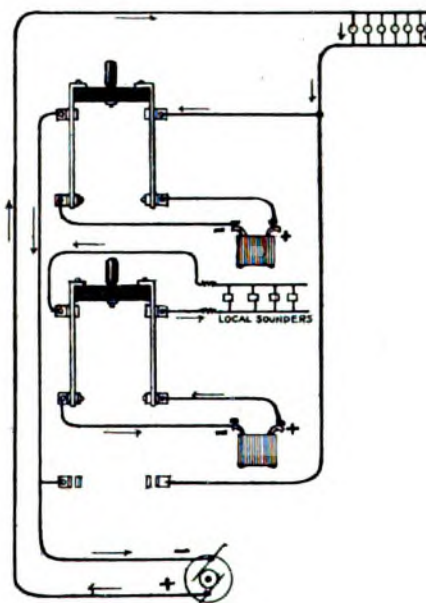


FIGURE 1.

furnish current for local circuits containing 4-ohm sounders only, one cell is all that will be required, provided that it is arranged so as to discharge and recharge simultaneously at approximately equal rates after being placed in active service. If the electric light lamp circuits utilized for charging purposes are only required for illumination during the night and the sounders are in service during daylight only, as is the case in some hotel and other branch offices, it will then be necessary to have a duplicate cell, which can be charged at night and used during the day.

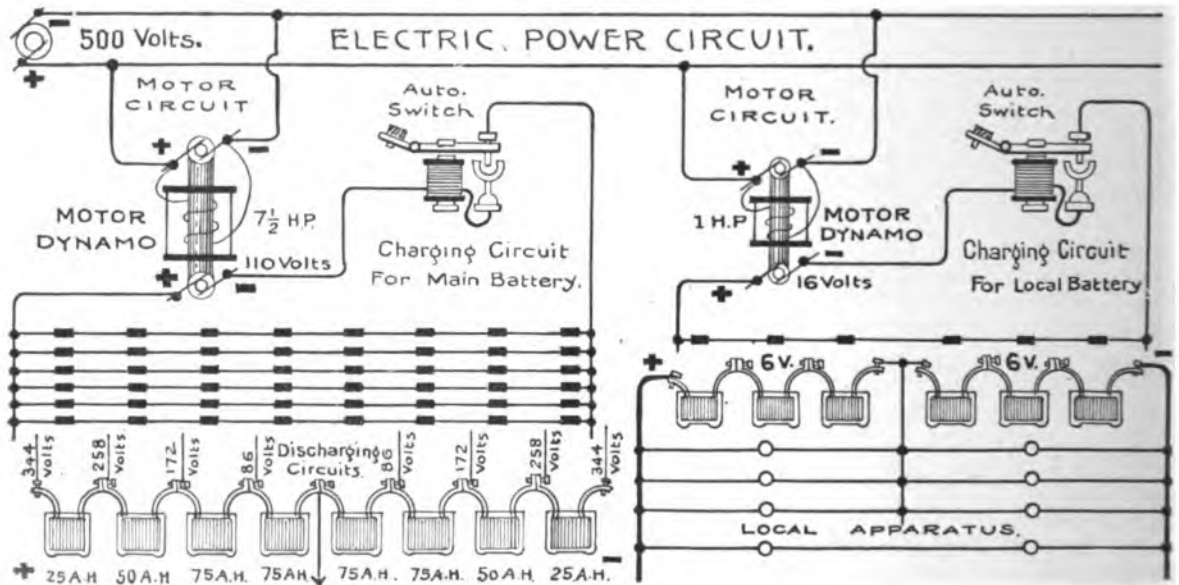
The accompanying diagram, Fig. 1, shows the proper connections for arranging the two cells in

order that one may be quickly substituted for the other in either the charging or the local sounder circuit as desired. Figure 1 represents two double lever or knife-blade switches and connect the two batteries with the electric source and the local circuit. In their present position one storage battery is being charged from the electric light mains, while another is furnishing current for the sounders. By merely reversing the positions of the two levers it will be seen that the bottom battery will then be shifted to the charging circuit, while its companion will begin to deliver current in the local circuit.

The number of lamps to be inserted in the electric light mains depends upon the rate at which the cell must be charged. Each lamp arranged in multiple, as shown in the cut, delivers one-half an ampere of current in the wire leading to the

In this illustration the left hand position shows six separate rows of series-connected cells for main line purposes, being charged in parallel from the 110-volt pressure of the motor dynamo, while the right hand portion shows a similar method of arranging for local battery facilities. In each of the charging circuits is an automatic switch cut-out, consisting of a lever normally dipped into a mercury cup, but which will break the charging current in case the latter should get so strong as to attract the lever armature. This precaution is necessary to prevent the storage battery from discharging through the coils of the 110-volt machine and reversing its duties in case the 500-volt power should accidentally be shut off.

A study of the arrangement and sizes of the cells shown in Fig. 2 should give the reader a



**Charging Storage Batteries from a Power Circuit.**

FIGURE 2.

battery, hence the seven lamps shown will charge the cell at the rate of three and one-half amperes per hour. As the electromotive force of the cell is but two volts, the lights will not be perceptibly dimmed by the charging process, and as the lamps are lighted all night anyway, the charging current costs practically nothing.

When a number of cells are charged in series the electric lamps become useless for illuminating purposes on account of the additional back pressure of the row of storage cells. Under these conditions the charge absorbed by the storage battery must be paid for, as it then becomes necessary to light additional lamps for the illumination destroyed by the series charging method. When it so happens that no smaller electrical pressure than 500 volts of a trolley power is available, the method usually employed to meet the case is illustrated in Fig. 2.

A motor dynamo is employed to create the proper electromotive force for charging purposes.

pretty good idea of the general methods adopted when installing storage batteries.

(Concluded.)

With the mind more intent upon showing, in the April 16 issue of this journal, that it is more economical per cell to charge a number of storage batteries in series from a given charging pressure than it is to charge one cell singly from the same source, it was erroneously stated that the total expense for charging the greater number would actually be less. There is a nice point growing out of this statement which may be made the subject of a separate article at another time. In actual practice the wattmeter, as arranged in the circuit gives the energy due to the full 110-volt pressure instead of that of the 70-volt active electromotive force, which represents the difference between the charging and the counter pressure in the 20-cell battery circuit in question.



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

### Personal Mention.

Mr. J. B. Yeakle, superintendent of the fire alarm telegraph, Baltimore, Md., a well-known old time telegrapher, and a vice-president of the Old Time Telegraphers' and Historical Association, was a recent New York visitor.

Mr. Charles A. Tinker, formerly general superintendent of the Eastern division, Western Union Telegraph Company, New York, and now retired, after a winter passed at Pasadena, Cal., at the home of his daughter, is back again at his Brooklyn residence, 155 Lefferts place, and is looking the very picture of health.

Mr. H. A. Reed, the veteran manufacturer, has resigned as treasurer of the Bishop Gutta Percha Company, and his oldest son, Mr. W. Boardman Reed, has been elected as his successor, while Mr. D. Reed has become vice-president. Mr. H. A. Reed has been with the enterprise twenty-seven years and is now in his seventy-eighth year, hale and hearty, and will remain president. He is a forty-niner of the telegraph and was an intimate personal friend of Professor Morse.

Mr. Melville E. Stone, general manager of The Associated Press, made the address of the evening before the New York Electrical Society, on April 25. His topic was "News, Newspapers and the Telegraphic Art." He gave a lucid exposition of the development of news gathering and of the extraordinary achievements in this regard which telegraphy now renders possible.

Mrs. E. Howard, the wife of Emmet Howard, of Memphis, former manager of the Western Union Telegraph Company in that city, a lady possessing considerable literary ability, consented lately to take part in an amateur dramatic entertainment at Archer, Fla., where Mr. and Mrs. Howard have been spending a number of weeks this spring, and who, it is said, bore off the honors of the occasion.

Mr. Edward Rosewater, proprietor of the Omaha, Neb., "Bee," an old time telegrapher, one of the delegates to the International Postal Congress, at Rome, Italy, where he dined with the King, April 6, has announced himself as a candidate for the United States Senate.

## Western Union Telegraph Company.

### EXECUTIVE OFFICES.

Col. R. C. Clowry, president and general manager, with the other members of his party, traveling with him abroad, together with Mr. Tom W. Goulding, general superintendent of the company at London, Eng., have reached Paris, one of the objective points of their itinerary, where they will remain several days.

Mr. C. B. Horton, superintendent at Omaha, Neb., has been sojourning at Excelsior Springs, Mo., for the benefit of his health, which has not been good for several months.

Mr. F. J. Scherrer, private secretary to Colonel R. C. Clowry, a few days since accompanied the company's private car "Morse" to the Pullman shops at Pullman, Ill., where it will undergo an overhauling.

A motor-generator system is being installed by this company at Savannah, Ga., displacing a storage battery plant. There are sixteen motor generators used at this point.

The main office of this company at Montgomery, Ala., was damaged by fire on May 3.

Mr. Harry W. Dealy, son of William J. Dealy, superintendent of the commercial news department, was married in Pittsburg, Pa., April 30, to Miss Harriet M. Boughton.

Jay Gould, second son of George J. Gould, vice-president of the company, was defeated at the Queen's Club, London, May 10, by Eustace H. Miles, by three sets to one for the court-tennis championship of the world. Although young Gould is only seventeen years old, Miles had all he could do to beat him.

Mr. P. G. Kern, superintendent of the American District Telegraph Company, Atlanta, Ga., has removed his headquarters from that city to Louisville, Ky., effective May 16.

Mr. A. G. Saylor, chief clerk in the office of General Superintendent Brooks, accompanied by his wife, has returned from a visit to his brother, E. B. Saylor, who is superintendent at Pittsburg, Pa.

Mr. George Roehm, of the general superintendent's office, received his third degree in Masonry, conferred upon him on May 11. A number of his telegraph associates were present at the ceremony.

## Postal Telegraph-Cable Company.

### EXECUTIVE OFFICES.

Mr. Charles P. Bruch, the assistant general manager of the company, was a Boston visitor last week.

Mr. Perry Chamberlain, city solicitor, has resigned to engage in other business.

Mr. D. C. Donohue, Jr., son of D. C. Donohue, a well-known New York telegrapher, has been appointed stenographer to Mr. John Doran, superintendent of the complaint and claim department.

### Resignations and Appointments.

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

Mr. E. Waldron, who has been appointed chief operator of the Atlanta, Ga., office, vice W. S. Calhoun, resigned, is a native of Painesville, O., where he was born April 14, 1860. He entered the telegraph service in the old Cotton Exchange in New York, 1880, going to Atlanta in 1888, where he has subsequently served in the various capacities of night traffic chief, repeater chief, day traffic chief, wire chief, and night chief operator.

Mr. F. E. Howell, for eighteen years manager of the Utica, N. Y., office, has resigned to enter the brokerage business. Mr. J. B. Wooster, manager at Auburn, N. Y., succeeds him. Mr. C. M. Ellis has been transferred from Cortlandt to Auburn, to fill the vacancy there, and F. L. Lovell has been appointed manager at Cortlandt.

Mr. Harry H. White, wire chief of the office at Portland, Me., with which he has been connected for twenty-one years, has been appointed manager, vice John R. Kearns, acting manager since December last, who goes to Boston to become the assistant superintendent of the American District Telegraph Company in that city.

Mr. Allan Woodle, who was made acting manager of the office at Boston following the death of Manager W. A. Rudd, has been confirmed as manager.

Mr. E. A. Patterson, manager of the office at Flint, Mich., has been transferred to a similar position at Bay City, Mich., the vacancy thus caused being filled by the appointment of Miss Clara Le Bar, of Lapeer, Mich.

Mr. H. L. Clark, manager at Shelbyville, Ind., has been transferred to the Marietta, Ohio, office in the same capacity.

Mr. George Sallaway, formerly chief operator of the Buffalo, N. Y., office, is now in charge of the repeater department.

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

Miss M. F. Cowley has been appointed manager of the Augusta, Me., office, vice Ralph W. Morang, transferred to the Lewiston, Me., office.

Mr. Mona S. Harris has resigned as manager at Charleston, S. C., on account of ill health, and Mr. M. J. Hanley, of that office, has been appointed acting manager.

Miss Mary Grubbs has been appointed manager at Hampton, Va., vice Miss Lillian Phillips, who has been transferred to the Philadelphia office.

### Recent Telegraph Patents.

A patent, No. 818,802, for telegraphy, has been awarded to Sterns E. Jones, of New York. It relates to that form of telegraphy in which short and rapid alterations of current are divided into groups of varying length under the control of a key or circuit changer. The patentee aims to

strengthen the transmitted impulses and strengthen the received impulses without changing the electromotive force or the strength of current of the alternating-current generator. For this purpose special local circuits are arranged, including transformers and condensers.

A patent, No. 818,477, for a printing telegraph, has been issued to Robert J. Sheehy, of New York. In a printing telegraph there are the combination of the type wheel and shaft, a main line battery and a circuit interrupter included in the main line, and actuated by the shift to change the condition of the line circuit at each step or movement of the type wheel. There is also a main line relay, two local circuits controlled at the front and back stops of its armature lever, a local battery for the circuits, a double wound print magnet having a coil in each local circuit, a magnet in each local circuit for effecting a movement of the type wheel each time the condition of the circuit of the line is changed.

A patent, No. 818,145, for a telegraph system, has been obtained by Myron J. Carpenter, of La Grange, Ill. The system includes a telegraph key, a telephone transmitter, a support common to both adapted and arranged to communicate mechanically, vibrations due to the manipulation of the telegraph key to the telephone transmitter, a source of electric current, and a circuit including the source of current, the key, and the transmitter in series, whereby the transmitter is responsive to the sound vibrations and to the current variations produced by the manipulation of the key.

A patent, No. 817,827, for a system of charging storage batteries, has been granted to Asbury G. Wilson, of Wilkinsburg, Pa., assignor to the Union Switch and Signal Company, Swissvale, Pa. A railway signaling system having a primary source of alternating-current supply is provided with means for changing the alternating current into unidirectional current. Storage batteries are charged by the unidirectional current, and feed wires extend from the storage batteries to the signaling system.

The following patent has expired:  
No. 401,334, telegraphy. P. B. Delany, New York.

### Obituary.

Frank B. Johnson, aged thirty-two years, telegraph operator, formerly employed in the New York office of The Publishers' Press, and more recently with the Nolan Commission Company of Newark, N. J., died May 6 in Brooklyn of pneumonia. He was with the United States Signal Corps under Gen. Shafter at Santiago during the Spanish-American War. The interment was at Lafayette, Ind.

Charles Williams, formerly Postal Telegraph-Cable operator, died at Buchanan, Mich., May 3, aged thirty-seven years.

### The Commercial Telegraphers Convention at Cincinnati.

The convention of the Commercial Telegraphers' Union of America met at the Burnet House, Cincinnati, on Monday, May 7, about one hundred delegates being present, many of whom were accompanied by their wives. Mayor Dempsey made an address of welcome, which was supplemented by one of like tenor by President William C. Dudley of the local union. Mr. S. J. Small, president of the Union, responded. The afternoon was devoted to a trolley ride to the Zoo, where luncheon was served. At the evening session reports of the various officers were read, which showed the organization to be in a flourishing condition.

At the Tuesday, May 8, session, a matter was proposed that is the first step toward the carrying out of a tremendous enterprise, but intended to be for the benefit of all classes of union labor in this country. The plan is a comprehensive one, and involves millions of money in the end, that will be used for the support, not only of widows and orphans of union men, but also for their aid in strikes or when out of work because of disabilities.

The scheme was evolved by Daniel L. Russell, of New York. Mr. Russell submitted his plan to President Gompers, of the Federation of Labor, and the latter thought so well of it that he asked Mr. Russell to present the matter to the Commercial Telegraphers' Union at its session in Cincinnati, and request them to take the first step toward carrying it into effect.

Basing his idea upon the fact that the recent exposures of insurance frauds had shown that capital of the great insurance companies is sometimes furnished to large concerns that employ workmen to tide them over difficulties when there has been a strike, thus aiding the employers against unions; that there is little for the workman in one of the large insurance companies, because they necessarily hold small policies and cannot get the benefits that the large policyholders do; that from the workmen comes, in the first instance, the money with which the large policyholders pay their huge premiums, and that because of these things it has become necessary for labor to fortify itself against capital, he evolved the plan of an insurance company to be conducted by the unions of all classes of labor.

His idea is that it is necessary for the unions to educate their members into the business gradually. To do this each branch of labor must form an insurance adjunct to its union. After they have all got to running nicely the funds of all are to be merged into one gigantic corporation, the combined funds to be invested in such manner as to bring an increase sufficient to carry out the objects intended. These are, that there shall be provided from the income a fund for sick benefits, one for death benefits, one for men out

of work, and, the chief one, to assist men when on strike. As the idea has been worked out, theoretically, it is the intention to have the last-mentioned fund so large that when there is a strike, there shall be paid to the strikers a certain proportion of the wages they received while at work, say one half, and thus assist the men to carry out their fight, without entailing hardships on them and their families. It is not the intention, however, to make the pay to the strikers of such an amount as to make it an inducement. The further purpose is to make the combined insurance company of the workmen of such proportions that there will be no question but that it can carry out the ideas intended, and thus be able to strike a blow at capital when necessary that will be felt, and, at the same time, have a weapon that capital will be apt to respect and think about before it refuses to at least hear and consider the demands that may be made by union men when these demands are reasonable.

Another matter of interest to the members all over the country was the suggestion that a Home should be established for disabled union telegraphers, probably at Colorado Springs. No definite action was taken, however. The remainder of the morning session was taken up with reports of committees. In the afternoon a trolley ride was taken to Ft. Thomas and a lunch at the Wiedemann Brewery.

The evening session was devoted to the discussion of telegraph schools.

Rates of insurance in connection with the plan advocated by Mr. Russell, were adopted at Wednesday's meeting, as follows: For a \$300 policy, twenty cents a month; for a \$500 policy, forty cents a month, and for a \$1,000 policy, eighty cents a month.

At the session held on Thursday, May 10, Milwaukee was selected as the next place of meeting. The question of insurance again came up. The details of putting the plan into execution were left with the officers of the national organization. They are to correct any technical matters to suit the laws of the state in which the headquarters of the insurance branch are located.

In the evening an excursion on the river was had. On Friday, May 11, the ladies were entertained by William J. O'Dell, who conducted them on an automobile ride, afterwards tendering them a reception at his residence. Considerable time was given up to the discussion and adoption of amendments to the constitution at both Thursday's and Friday's meeting.

A banquet was given at the Burnet House in honor of the delegates on the evening of Friday, May 11. The delegates present were: S. J. Small, Wesley Russell, Will C. Long, J. R. Sullivan, S. S. Ulerich, C. T. Lincoln, Chicago; E. B. Duffy, W. J. Cary, Milwaukee; L. W. Quick, A. L. Boyer, H. W. Lynch, O. F. Hocker, St. Louis; M. J. Reidy, Boston; R. S. Chilcott, Cleveland; S. J. Konec

kamp, E. W. Rattigan, Pittsburg; M. C. Gough, Minneapolis; W. D. Crenshaw, C. H. McElreath, R. J. Fowler, Memphis; O. H. Sherlit, Detroit; Percy Thomas, D. L. Russell, J. M. Sullivan, New York; Cornelius Murphy, H. J. Horn, J. M. Scott, A. E. Rose, Cincinnati; C. E. Hill, Toronto; J. M. Carter, Louisville; W. F. Wright, Philadelphia; G. H. Imbrie, Kansas City; W. W. Beatty, W. M. Patton, Washington, D. C.; B. F. Shrimpton, Birmingham, Ala.; D. B. Jones, M. A. Marcy, Dallas, Texas; C. E. Johnson, R. C. Servat, G. N. Arnold, New Orleans; A. R. Lucas, Augusta, Ga.; J. F. Read, Richmond, Va.; J. W. Haygood, Montgomery, Ala.; E. J. McCarthy, Albany, N. Y.; F. M. Jones, Seattle, Wash.; M. R. Caffrey, Syracuse, N. Y.; H. P. Phillips, M. E. McKittrick, Orville A. Glenn, Winnipeg; R. E. Satterwhite, E. B. Gill, T. A. Pinson, E. B. Whittlesey, Atlanta, Ga.; G. A. McBain, Toronto; A. Watson, Columbia, S. C.

The election of officers occurred on Saturday, May 12, with the following result: S. J. Small was re-elected president over Daniel L. Russell, by eleven votes; W. W. Beatty, Washington, D. C., first vice-president; O. A. Glenn, Winnipeg, Man., second vice-president; H. J. Horn, Cincinnati, Ohio, third vice-president; Wesley Russell, Chicago, secretary and treasury; W. C. Long, editor and manager of the Telegraph Journal; executive committee, M. J. Reidy, Boston; R. J. Fowler, Memphis; S. J. Konenkamp, Pittsburg; J. M. Sullivan, New York; C. E. Hill, Toronto.

Daniel L. Russell was selected as delegate to the American Federation of Labor meeting at Washington, D. C., in November, and to all similar meetings for the next two years. The insurance feature was finally adopted, as were several amendments to the constitution.

The convention adjourned to meet in Milwaukee two years hence, on the second Sunday in June.

#### The Railroad.

Mr. C. L. Lathrop has been appointed superintendent of telegraph and signals of the Pittsburg, Shawmut and Northern Railroad Company, with headquarters at Angelica, N. Y.

The convention of Railway Telegraph Superintendents, which meets at Denver, Col., on Wednesday and Thursday, June 20 and 21, will mark the "silver" anniversary of this association, for the assemblage will be the twenty-fifth in the series. Headquarters will be established at the Adams House, that city, and that excellent hostelry, one of the best appointed hotels in the West, will extend a grateful hospitality during the three days of the convention, to delegates and all who attend in whatever capacity. Suitable room will be provided for the display of exhibits. The rates at the Adams House, which is con-

ducted on the American plan, are \$3 per day; room with bath, \$3.50; two persons in one room, with bath, \$6.50. Reservations for hotel accommodations should be made direct with the manager. Aside from the business programme, which will include the reading of a number of important papers, the entertainment committee, consisting of Messrs. C. A. Parker, E. E. McClintock, J. M. Walker and J. Munday, have planned a scheme of social entertainment to cover the hours of leisure. On Wednesday afternoon, June 20, the ladies of the party will be afforded a view of Denver by means of a trolley ride. On Thursday, June 21, the Georgetown Loop trip is planned for the ladies, leaving Denver about 8 a. m., and returning about 3.30 p. m., and the "Seeing Denver" car ride for the members of the association in the afternoon, if business will permit. An informal dance will be given in the evening by the management of the Adams Hotel. On Friday, June 22, it is hoped that all will visit the famous gold mining camp of Cripple Creek, leaving Denver about 8 a. m., and returning about 9 p. m. It is also hoped that all will remain and take the trip on Saturday, June 23, over the "Moffat Road," leaving Denver at 8 a. m., and returning at 5.30 p. m. This road, in crossing the Continental Divide, climbs to an altitude of 11,660 feet above sea-level, or about 700 feet above timber line. The snow at this elevation never entirely disappears, and at the time of the convention, in June, the summit will doubtless be clothed with several feet of same. The Denver and Rio Grande, Colorado and Southern, Denver, Northwestern and Pacific, Crystal River and Colorado and Wyoming railway companies tender free transportation to all members and families to any and all points on their lines, and it is hoped that many will visit the various resorts, and remain as long as possible.

Intending visitors will provide themselves with railway transportation through the usual channels.

The Pullman Company will provide half-rate orders for both going and returning trips under the following regulations: Members will make application to the secretary, P. W. Drew, of the Wisconsin Central Railway, Milwaukee, Wis., advising space required and between what points to be used. The secretary will approve same and send to Mr. W. I. Middler, general ticket agent, who will issue the orders and mail same direct to members. All requests should be made to the secretary prior to June 15.

#### Recent New York Visitors.

Mr. C. K. Hage, division operator of the Pennsylvania Railroad, Williamsport, Pa.

### To Fix Canadian Line by use of Telegraph.

The click of a telegraph key will establish the boundary between the United States and Canada. The treaty just ratified by the Senate directs that the boundary shall be defined by telegraph.

This means that the method adopted by United States astronomers in recording the instant at which fixed stars cross the meridian shall be used. The method is recognized the world over as the most exact. The United States and Great Britain will each designate a Commissioner, who, with assistants, will definitely establish the location of the 141st meridian of west longitude. This done the rest will be a mere matter of surveying and establishing objects to mark the dividing line.

The commissioner for this country will be O. H. Tittman, superintendent of the Coast and Geodetic Survey. As a difference in longitude is a difference in time the commissioners will compute the difference between two points and Greenwich.

Mr. Tittman has already computed the longitude of Sitka as compared with that of Seattle; that of Valdez with that of Sitka, and that of Fort Egbert with that of Valdez.

Canadian observers have fixed the longitude of corresponding points and are gradually approaching the approximate location of the boundary. The dividing line is located on the 141st meridian by the treaty made by Russia with Great Britain in 1825. Fort Egbert is within twelve miles of the estimated location of the boundary. It will be one of the stations used in the final observations.

The other stations will be established at points as near as possible to the boundary. Scientists of both governments will be at each station when the computation is made. The stations will be connected by telegraph. Each party will have what is known as a transit. A small telescope equipped for recording the exact instant at which a star crosses its face will be used. Twenty stars will have been agreed upon as those to be observed. At each station the scientists, aided by the transit, will record with chronometers the time down to the fraction of a second that each star passes the meridian.

The telegraph will be used to communicate at each observation the time registered by the chronometer so that there shall be no error due to difference in the instruments. These observations will be repeated in exactly the same way for six nights. Then the observers can compute the exact time of the one station with respect to the other. This is the time required for the star's rays after passing the eastern station to reach the other.

The scientists know by computations the time at which any one of the stars crosses the 141st meridian. They then must compute the time ascertained for the station nearest the boundary with that of the meridian. The difference they reduce to distance, and by measurement they

then fix a point on the meridian which is the boundary.

### Deep Sea Research.

A very interesting paper by Dr. James M. Flint has recently been published as Bulletin No. 55 of the United States National Museum, which deals with the large number of 2,074 soundings taken in the Pacific Ocean for the survey of the route for the telegraph cables between the Sandwich Islands and the Philippines and Japan by the way of Midway Island and Guam, the line between San Francisco and Honolulu having been sounded with satisfactory results previously. In the earlier part of 1899, the United States steamer *Nero*, a steam collier of about 5,000 tons, was fitted out for the work and sailed from San Francisco under command of the veteran Captain Belknap, who so far back as 1874 had already greatly distinguished himself in this work. Unfortunately on the ship reaching Manila, Captain Belknap was seized with illness and had to resign his command to Lieut.-Commander H. M. Hodges.

The total length of the line surveyed was 6,000 miles, and the soundings were zigzagged over a belt fourteen miles wide, while complete surface and bottom temperatures were also taken. One of the most interesting results obtained was the discovery of a submerged range of mountains about half way between the Marianne or Ladrone Islands and Midway Island, which rise from a fairly level plain 3,000 fathoms below the surface to within 700 fathoms in places, and extend over some 200 miles of longitude. To the eastward of Guam very irregular bottom was found, the depths varying from 5,000 and upwards to 700 fathoms. An abyss, subsequently called "Nero Deep," was struck about 75 miles E. S. E. of Guam, in which soundings of 5,070, 5,101, 5,160 and 5,269 fathoms were taken. The last-named is claimed as the greatest depth ever discovered. Its exact position is given as lat. 12° 43' 3" N., long. 145° 49' E. Between the Marianne or Ladrone Islands and Japan, a continuous line of mountains was found connecting these islands with the Bonin group.

The Commercial Pacific Cable Company, who own the important cables subsequently laid over this well explored ground, are to be congratulated on the valuable help given them by the United States Government, and on the fact that it was entrusted to the skilled hands of Captain Belknap. It is difficult to overestimate the importance of placing at the head of such investigations an officer of special merit, whose knowledge of the work makes its execution a matter of absorbing interest, instead of a dull monotonous performance as it is too likely to be in the hands of the ordinary sailor, with, it is needless to say, a loss of efficiency.

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### Marconi on Transmitting Wireless Messages.

William Marconi recently presented a paper before the Royal Society, of London, dealing with methods of transmitting wireless telegraph messages in certain desired directions and also describing receiving apparatus for taking up the waves emanating from a given direction. The information which he presented related to the use of a straight horizontal conductor placed a short distance above the earth instead of the usual vertical one. When an insulated horizontal wire is connected at one end to a sphere of a spark gap, the other sphere of which is earthed, and sparks are caused to pass between the spheres, it will be noticed on investigating the space around such an oscillator that the radiations emitted reach a maximum in the vertical plane of the horizontal wire, and proceed principally from the end which is connected to the spark gap, while the radiation is nil, or reaches a minimum, in directions which are approximately 100 degrees from the direction in which the maximum effect occurs. He had also noticed that any horizontal conductor of sufficient length, placed upon or at a short distance above the surface of the ground, and connected at one end through a suitable detector to earth, would receive with maximum efficiency only when the transmitter was situated in the vertical plane of the horizontal receiving conductors, and in such a direction that the end connected to the detector and to the ground was pointed toward the transmitting station. If, therefore, such a horizontal conductor was swiveled about its earthed end in a horizontal plane the bearing or direction of any transmitting station within range of the receiver would be ascertained. In his experiments Mr. Marconi had noticed that the most advantageous length of the receiving horizontal wires, in order to obtain results at maximum distances, was about one-fifth of the length of the transmitted wave, if the wires were placed at a distance above the ground; but the receiving wires should be shorter if placed on the ground. He thought it would be instructive to investigate more thoroughly the difference of the results and curves obtained by means of horizontal wires placed at different heights above the ground, and also the effect of varying the length of such wires. When using horizontal receiving wires, arranged as described, he had often noticed that the natural electrical perturbations of the atmosphere or stray electric waves, which were generally prevalent during the summer, appeared to proceed from certain definite directions, which varied from time to time. It would be exceedingly interesting, he thought, to investigate whether there existed any relation between the direction of origin of these waves and the known bearing or direction of distant terrestrial or celestial storms from whence these stray electric waves most probably originated. The experiments described were carried out during a period of many months. The tests over short distances

were conducted over practically flat country, while those over considerable distances took place over hilly country, and in some cases partly across sea and partly across land.

### Wireless Telegraphy on Seagoing Steamships.

BY DR. ALFRED GRADENWITZ.

The use of wireless telegraphy for the mutual communication of seagoing steamers and correspondence between the latter and the land has been making rapid advances of late. The first practical utilization of wave telegraphy on German coasts was made by the North German Lloyd, which, in May, 1900, established the first German wireless-telegraph station on the Borkum Island and another at Bremerhaven, while equipping its rapid steamers with wireless apparatus. The German Navy followed this example, and the Hamburg-American line, as well as all the leading steamship companies of other countries, adopted this system of telegraphy for their large steamers; about fifty steamships of the mercantile navy of different nations being at present provided with wireless outfits. At the same time numerous stations for wireless telegraphy were erected at the most important coasts throughout the world, especially on the Northern Atlantic, either by the respective governments or by private companies.

With the increasing number of these installations, their advantages became more numerous, owing to the growing possibilities afforded for such ships as were provided with wireless telegraph apparatus to communicate with either a land station or a passing steamer. It may be said that the rapid steamers sailing for New York from Bremen or Hamburg are at present, generally speaking, every day in telegraphic communication with some land station or another steamer. While being seldom without communication in the North Sea and the Channel, steamers are frequently in a position to exchange telegrams on the Atlantic Ocean.

This adoption of wireless telegraphy in steamship service will be in constantly increasing degree, a benefit to passengers, especially business men, while having an extraordinary bearing on the safety of steamship service as well as on the correspondence between the steamers and the company or their agencies. In fact, a steamer supplied with wireless telegraph apparatus will be able several hours before coming to anchor in the harbor to indicate the actual time of its arrival, the number of passengers, etc., so that any arrangements can be made before its arrival for dealing with the passengers and baggage, and providing for special traveling facilities. Information on the atmospheric conditions, fog, storm, ice, etc., can be transmitted from land stations or passing ships. Some steamers, it will be remembered, have been recently printing a special newspaper, daily recording on the high sea any information transmitted by wireless telegraphy.

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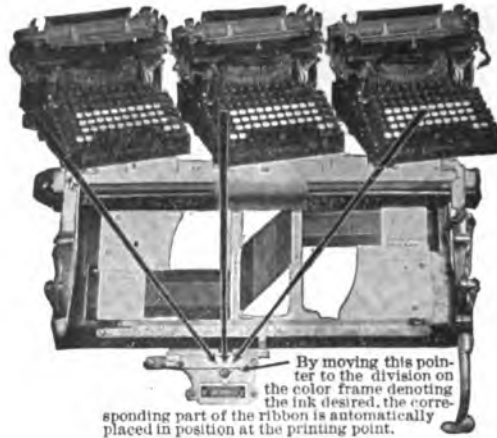
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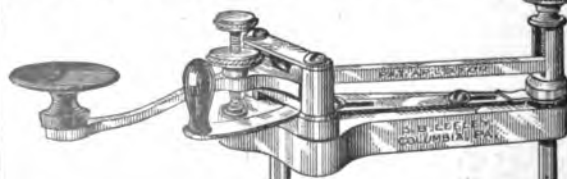
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NEW YORK, MAY 16, 1906.

The Book Department of TELEGRAPH AGE, always a prominent and carefully conducted feature of this journal, has, in obedience to continually growing demands made upon it, materially increased its facilities of late. The desire is to furnish our readers and buyers everywhere the readiest means possible of securing such technical books as they may require. Aiding buyers in their selection with advance information, which at all times is cheerfully furnished, promptness in sending books, filling all orders on the same day of their receipt, has brought to this department a generous clientage. Catalogues fully covering the range of books treating on the telegraph, wireless telegraphy, the telephone, as well as those on the general subject of electricity, together with the principal cable codes, will be sent to any one asking for the same. These will be of especial aid to buyers inasmuch as they contain brief descriptive references of each volume listed, frequently with full chapter titles.

The recent arrest in Philadelphia of wire tappers make it appear that the bucketshop people, driven to an extremity in their desire to obtain quotations, were willing to secure the same from exceedingly shady sources. Certain it is the wire tappers in this instance were engaged in a new dodge, for in tapping genuine wires over which stock, grain and other quotations are transmitted, they sold the information thus obtained to the bucket shops, even those located as far away as Cincinnati and other Western cities. It is possible that the action of the New York Stock Exchange in its endeavor to prevent bucketshops from receiving quotations is responsible in great measure for this new feature in wire tapping.

Subscriptions in behalf of those members of the fraternity who suffered in the San Francisco dis-

aster, made in numerous telegraph offices throughout the country, have reached large aggregate proportions, and ought to afford a distinct and generous measure of relief for the purpose intended. Each office, however, has acted independently in the matter and the distribution of the different sums so raised has been conducted in accordance with the wishes of the contributors. As the movement, most commendable in purpose, is wholly local in character, lacking in co-operative telegraphic direction, it is proper to state that TELEGRAPH AGE will be unable to acknowledge the receipt in separate detail of the various sums that have been raised as sufficient space for the purposes is unavailable.

The San Francisco disaster was not lacking in elements enabling the swindler to get in his fine work. This time the collection of money was successfully made in New York and elsewhere, ostensibly for the benefit of telegraph operators in the stricken city who, it was represented, had lost their homes. It was an easy game to work upon aroused human sympathies at such a time, and when a New York banker was called up by telephone, presumably by the manager of a telegraph company, and asked for a contribution for so worthy a cause, what was more natural than to pay the amount shortly afterwards to the uniformed messenger who called to collect the same. This was the plan worked by a couple of confidence men whose detection, arrest and punishment subsequently followed.

The point raised by Mr. Gardner Irving in his speech on the occasion of his retirement from the presidency of the New York Telegraphers' Aid Society, to the effect that a man who is still young, and who is confined in an insane asylum, was receiving a regular stipend from the society, and that as he was strong and robust these payments seemed likely to be continued for many years, has been the means of bringing this phase of the aid question forcibly before the members of this and other societies of a like class. The injustice of continuing such payments indefinitely under the conditions cited, is clear.

It appears that cases of this character are by no means rare, for it is said that the New York Telegraphers' Aid Society had no less than seven such cases to deal with at one time last summer. It is evident, therefore, that specific measures calculated to adjust properly such conditions are needed.

The folly, not to say wrong and injustice, of arbitrarily removing and retiring on pension employees in the public service who are still capable of rendering efficient labor, to make way for political or other favorites, is abundantly illustrated in the cases of

James Keenan and Thomas Williams, whose reinstatement as members of the staff of the police telegraph in Brooklyn, in answer to their demand by suit, was recently ordered by the court. The story that these men were deposed because they had deteriorated in capacity, were classed as "has beens," was refuted in the court's decision. Such a judgment and others of like character rendered elsewhere, should be accepted as a severe rebuke to a system which traces its origin to political servitude, and which is becoming altogether too common in every part of the country, and whose pernicious influence is exercising a tendency to lower the standard of the public service.

The complaint is abroad in the land of the existence of a famine in messenger boys. Here certainly is a condition of things. Whether there is an actual scarcity of boys considered as a distinctive product, or whether the thinning of the ranks is due, as has been hinted, to the existence of spring fever, an indefinite form of disease, which so often exercises a mystic influence on the minds and actions not alone of boys, but frequently also of men, may be a debatable question. Yet it would appear that the boy per se is in evidence on every hand, although it must be admitted that the messenger service for some occult cause, feels a crippling influence in these lengthening spring days. Whatever may be the reason it is clear that the supply of boys has fallen below the normal. It may be that with the coming of summer and a consequent closing of the schools the number of boys thus liberated, who wish to take advantage of vacation time to add to their fund of pocket money, may be augmented, and thus lead to a refilling of the depleted messenger ranks. Possibly when the visible yield of boys becomes greater the demand for their services will be lessened.

#### **The House and the Military Telegraphers.**

It is to be deplored that the passage of the bill whose purport it is to afford relief to needy members of the Society of United States Military Telegraph Corps should hang fire in the House. The bill is numbered 3,178, and has been in the keeping of the Committee on Invalid Pensions for a long time. A similar bill was passed unanimously by the Senate on February 8, more than three months ago, and it was confidently expected at the time that favorable action in the matter by the House would also speedily follow. The bill is based upon equity and righteousness. Its passage would be but a recognition of value received, for the army record of the men whom the measure is designed to serve was fully on a par with that of the brave men with whom they acted in close conjunction and whose service as soldiers in the ranks the country has so generously recognized. The Civil War closed forty years ago, and the

military telegraphers, never, comparatively speaking, a large body of men, are becoming well advanced in years, are dwindling in numbers, and if ever recognition and aid is to be accorded them, justice demands that it should not longer be deferred.

When the bill is reported by the Committee, as it is hoped it soon will be, Congressmen should be prepared to rally to its support and promptly record their vote favoring the relief sought. In the meantime we advise all who are interested in this matter to write to their respective Congressmen and urge upon them the necessity of speedy action being taken in the premises. The present session should not close without the passage of this meritorious bill.

#### **Mr. Maynard and the Telegraphic Historical Society of North America.**

It has been a source of profound regret to many that the Telegraphic Historical Society of North America did not maintain a longer career as an independent association. Organized at Washington, D. C., many years ago, under the direction of George C. Maynard, it served a most useful purpose in the annals of telegraphy and in the preservation of telegraphic relics. For a number of years Mr. Maynard acted as the secretary of the society, until, in fact, about a year prior to its consolidation, in 1901, with the Old Time Telegraphers' Association, in connection with which its name is preserved, but with identity and usefulness hopelessly gone. Mr. Maynard is one of the most competent living historians of the telegraph, and the future history of that service has suffered a distinct loss because of his retirement and dissociation therewith. He is the assistant curator of technology of the Smithsonian Institution, a man of scholarly attainments, a forty-niner of the telegraph, and consequently unusually well equipped for the secretarial duties he once performed. The society was never adequately supported; its maintenance apparently awakened no enthusiasm, and possibly under such circumstances its passing was inevitable, for no one man could properly be expected to give time, thought and labor, even in so worthy a cause, without the encouragement due to sentiment at least, of those in whose service he really was unremitting in effort.

One cannot look over the records of the Telegraphic Historical Society of North America, as maintained by Mr. Maynard, without being impressed with the careful methods and business-like management followed by its painstaking secretary. If he had been supported properly in his laudable undertaking and his services consequently prolonged, he would have furnished for future generations valuable historical data which are now perhaps forever lost. Mr. Maynard, in addition to enthusiasm and love displayed for his work, possessed a trained mind, and this enabled him to

cull out and preserve from the vast amount of material which came under his observation only that which was likely to prove valuable.

### The Making of a Telegraph Newspaper.

While the possibility of error is ever present in the making of a newspaper, because the element of haste in thought and action cannot be eliminated therefrom, nevertheless the importance of an absolutely correct published statement cannot be overestimated. The reader of a trade paper, of a journal such as TELEGRAPH AGE, is inclined to accept, and very properly so, what appears in its printed pages, especially that which is of a technical character, to be free from misstatement. If instead error is sometimes detected, even though the same may be due to carelessness in expression, or perhaps to typographical blunder, the latter one of the most difficult of faults to overcome, reliance in the offending sheet is to a certain extent apt to become impaired. If on the other hand accurate expression dominates the paper, the fact bespeaks confidence in its utterances. Hence it is that in order to guard effectually against mistakes unceasing vigilance on the part of the editorial department is of the utmost importance. A close scrutiny of all that is published must be carefully observed. Verification of statement becomes constantly necessary, frequently even in the contributions submitted by trained writers, those who are presumed to be familiar with the subject with which they are dealing; for errors, more often perhaps due to carelessness, possibly laziness in neglecting properly to consult authorities, lurk where least expected. The Editor must scan, and, if need be, edit, not only every accepted article or reprint matter, in advance of use, but later in the galley and page proofs, and in the final make-up must he be also keenly alert to see that all indicated corrections have been made by the printer.

It has been a matter of conscientious pride with the editorial staff of TELEGRAPH AGE to keep the paper free from erroneous statements. Apparently our efforts in this direction have been appreciated on the part of our readers, for we frequently are in receipt of communications congratulating the paper because of immunity in this respect. The inexorable rule, long since adopted, is to investigate every statement about which any doubt exists, before it is printed. In other words: "Be sure you are right and then go ahead."

We have no patience with that type of journalism that accepts or hurriedly puts together "stuff" without strict regard to its correctness. Such slovenly work, to use no harsher term, should be sternly rebuked and should find no recognition in any self-respecting newspaper office. To print an acknowledgment of error growing out of careless writing, is a tacit admission of incompetency that should prompt truthful and painstaking original utterance.

Of course the production of a newspaper is a human undertaking, and it is written that "to err is human," especially, it may be said, when the poor printer is a factor in the transaction: therefore it may be that in spite of the exercise of all due diligence, errors may occasionally creep into these columns, but we think it will be found in every instance that they are of a minor character, of a typographical nature, certainly not those due to careless or slipshod methods.

### Mr. Coffin and the Telegraph.

In his generally admirable address made before the Magnetic Club the other evening, on the occasion of their dinner, at which he was a guest, Mr. Charles A. Coffin, president of the General Electric Company, said that while in Egypt he was enabled to cable his company in New York at a cost of but \$1.75 per message. On the other hand, and by way of contrast, he complained that it cost him over \$3 to send a wireless message from his steamer when off Nantucket to his family in New York, conveying the brief information that he would arrive at a certain time. Of course, in order to secure the low cable rate named cipher code was made use of and the number of words employed were reduced to a minimum. Mr. Coffin's statement was a specious one, the weight of which apparently was not lost on some of his hearers, those unacquainted with the true facts in the case.

The unavoidable inference drawn from the speaker's remarks, the occasion being a gathering mainly of telegraphers, was that the large cost of the wireless message was due, perhaps, because of the high tolls exacted by the American telegraph companies for the performance of their part in the transmission. As a matter of fact, this interpretation of the circumstance is an error. It is the Marconi Wireless Telegraph Company, an English concern, that exacts these high tolls, and not the American companies, for the land line which transmitted Mr. Coffin's message really received but seventy-five cents for its share of the transaction in forwarding the message to its destination, a sum to be divided between two companies.

No unfair criticism, however, should be directed against the wireless company, for it must be understood that wireless telegraph equipments are costly, and are maintained on steamers only at a large cash outlay. The installation of apparatus on a first-class liner costs about \$25,000. The tariffs demanded are therefore necessarily high, but it is doubtful whether they are exorbitant commensurate with the service rendered. And it is not out of place to remark in this connection that the income of the Marconi company derived from this source is not yet sufficiently liberal in amount as to indicate generous dividends for the shareholders, hence a reduction in the tariff would hardly improve matters, and cannot be expected at the present time.

The land telegraphs, however, should not be permitted to rest under any unjust suspicion, and it is hoped that Mr. Coffin will recognize the force of the argument.

### Locating Grounds in Cables.

In using the Varley or Murray loop test for locating grounds in cables, writes Gabriele D'Eustachio, in the *Electrical World*, the results are not satisfactory, due to faulty resistances in the conductors and to the difficulty of making perfect connections for the test. In lead-covered cable a ground or grounds between conductor and lead or conductors and lead can be located exactly, in the following manner:

Connect the lead sheath to one side through an adjustable resistance (lamps can be used) and the copper to the other side of any direct-current circuit and regulate the resistance so that two or three amperes will flow through the lead, the short-circuit and the grounded conductor. Use a galvanometer with leads having sharp metallic points for contact terminals and place the contacts a few feet apart on the lead sheath.

When there is a deflection on the galvanometer the testing connection is at some point between the connections to source of current and fault. When the fault is passed, there will be no deflection on the galvanometer. This may be done in different manholes until the nearest two points which can be reached, between which the fault is located, are found.

If the fault should be located at a point in a duct between manholes or where the cable cannot be reached, the section between the two manholes or points where the fault has been located must be pulled out and the same galvanometer test made every few feet, as the cable is being placed on reel, until the exact point of the fault is located.

In case of a foreign current flowing in the lead sheath due to defective return conductors of street railway systems, etc., there may always be a deflection on the galvanometer. In such cases the test current may be cut in and out during each test, and if the galvanometer needle swings, the testing connection is at some point between the source of the test current and the fault, if the deflection of the galvanometer is constant, the fault has been passed.

The Gerard method, using an induction coil and a telephone receiver, gives good results when the distance between the surface of the short-circuited conductors is not less than 5-16 of one inch. This method is not very satisfactory in places where the cable is located near an external and variable magnetic field, which will induce currents in the coil connected to the telephone receiver.

### The Cornerstone of the United Engineers' Building Laid.

The cornerstone of the United Engineers' Building, at No. 25 West Thirty-ninth street, New York, was laid on the afternoon of May 8, the act being performed by Mrs. Carnegie, the wife of Andrew Carnegie, who donated \$1,500,000 for the erection of the building. Most cornerstones are laid first and the buildings erected afterward. In this case the order was reversed; the sky-scraping home of the electrical and kindred engineers is nearing com-

pletion, and the cornerstone was pushed into a hole reserved for it.

Mr. Carnegie made a speech, in which he expressed the hope that the building would be a great success in bringing together the members of all the branches of engineering. "Union is necessary in science nowadays as in politics," he said.

In the zinc box which was put in the cornerstone was a golden plate inscribed with the iron-master's original letter:

"To the American Society of Mechanical Engineers, the American Institute of Mining Engineers, the American Institute of Electrical Engineers and the Engineers' Club: It will give me great pleasure to devote, say, a million and a half of dollars to erect a union building for you all in New York City. With best wishes, very truly yours,

"ANDREW CARNEGIE."

"March 11, 1904."

The box contained new coins struck May 7 at the Philadelphia Mint, from \$20 down to a cent. Mrs. Carnegie looked at them delightedly and exclaimed: "I hate to shut them up!" Some one answered: "The mining engineers will probably dig them out."

Copies of newspapers and various reports and documents concerning the societies, including Mr. Carnegie's certificate of honorary membership, made a bulky boxful.

### Plans of the Wellman Polar Expedition.

Walter Wellman left America to go to Paris on April 24 to prepare for his proposed trip to the North Pole by an airship. Maxwell J. Smith, who will be in charge of the wireless telegraph system of the expedition, sailed on May 5. Major Hersey will represent the United States Weather Bureau and the National Geographical Society, and will act as navigator and observer for the expedition. Dr. W. M. Fowler, of Bluffton, Ind., will accompany the party as physician and surgeon. Felix Riesen-berg, of Chicago, because of his familiarity with navigation and nautical astronomy, has been selected to act as assistant navigator and observer. Francis H. Buzzacott, famous in the Far West as guide, sportsman and camp expert, will accompany the expedition as chief of the commissary department and head sportsman.

Mr. Wellman will spend most of May in Paris, and a series of ascensions will be made in ordinary balloons to familiarize the explorers with the conditions and problems of air navigation. Mr. Wellman expects to reach Tromsøe with his entire party early in June. Cable messages from Paris report work on the airship progressing as planned, and Mr. Godard, the builder, expects to have it finished by the end of May. In fact, all of Mr. Wellman's plans are being worked out on schedule time, and he sees only the brightest prospects before him. During his progress toward the North Pole he will send reports daily by wireless telegraphy.—Western Electrician.

### Legal.

A decision of far-reaching consequence has just been handed down by the eighth circuit of the United States Circuit Court of Appeals bearing upon the rights of bucket shops to the use of stock market quotations. The court holds that a bucket shop has no right to the quotations of the Chicago Board of Trade.

It is the first decision on the bucket shop question in the United States courts. The case was based on the Board of Trade's contention that the Cella Commission Company had no right to its quotations surreptitiously obtained. The bill submitted by the Board of Trade to enjoin the Cella gamblers from using the board's continuous market quotations had been dismissed by the lower court upon the ground that the quotations were the result of gambling transactions upon the floor of the exchange and did not constitute a species of property which appealed to the conscience of a court of equity for protection. The Court of Appeals reversed this decision, thereby establishing an invaluable precedent in the prosecution of bucket shops.

The opinion was delivered by Justice Hook, in the course of which he says: "The proof here is conclusive that the Cella Commission Company was conducting a bucket shop within the accepted meaning of that term."

Justice Hook goes on to say: "In a suit to enjoin a threatened or continued commission of certain acts the amount of value involved is the value of the right which the complainant seeks to protect from invasion, or of the object to be gained by the bill.

"In the case before us the Board of Trade claims a right of property in the market quotations gathered upon the floor of its exchange, and also the right to control their distribution and use. Upon the faith of the validity of these claims it entered into a contract with two telegraph companies for the distribution of the quotations to those approved by it, which yields it an annual revenue of \$30,000. The contract obligates the Board of Trade to use all reasonable endeavors to protect its property right in the quotations against purloiners thereof. The contentions of the defendants and their acts are wholly at variance with the existence of any such right of property or control. They assert somewhat inconsistently that the quotations are the right of gambling transactions, and therefore not the subject of property, and also that they are affected with a public interest and the right to the general use by all desiring them cannot be prohibited or restrained by the Board of Trade.

"It is obvious that if the position of the defendants be sustained the rights of the Board of Trade would either cease to exist or become of merely nominal value. The real value of the property claimed arises from the right of selection and exclusion of those desiring the use thereof and to prescribe terms and conditions; and it is

this property and the accompanying right, which, denied by the defendants but yielding the revenue indicated, are sought to be protected by the bill of complaint. This is a sufficient showing of a jurisdictional amount of value in controversy."

Counsel for the Cella Commission Company contended that when the quotations were taken off the wire and posted on the defendant's blackboard, these quotations had been superseded by later ones and had, therefore, become in a sense surrendered and dedicated to the public so that any one might use them without let or hindrance.

This bit of sophistry was thus disposed of by Justice Hook: "We cannot believe that they (the Cella Commission Company) would entertain wagering contracts upon the basis of a quotation of the market price of a commodity which was known to have been superseded by a later one. To do so would be betting upon the happening of an event that either had already transpired, or was to some extent at least foreshadowed by the later evidence of the trend of the market.

"The right of property in the quotations endured for a sufficient length of time to enable the Board of Trade to avail itself of the benefits thereof; and if those who are in the position of the defendants are permitted to operate so closely in point of time that they have practically the same uses as one who is authorized to receive them the right would be of doubtful value.

"The decree of the circuit court is reversed and the cause is remanded with direction to enter a decree in favor of the complainant."

The decision of the court also stops bucket shops from prosecuting a mandamus proceeding against telegraph companies to compel them to furnish quotations.

### A Telegraph Company That Paid a Big Dividend.

The Connecticut Telegraph Company, a small local concern capitalized at \$35,000, has for some years been paying 8 per cent. in dividends, but in April it paid a dividend of 100 per cent., thus returning to its stockholders all the capital put into the company. The circular accompanying the checks says that the business is uncertain and that as this surplus has been accumulated the management thought it would be well to make the shareholders good as to their investment. Future dividends, it is significantly said, will be less regular or certain.

The Connecticut River Telegraph Company was organized in June, 1867, and for a long time operated a telegraph line extending from Hartford to Saybrook, connecting at Hartford with the Western Union lines. In September, 1887, the name was changed to The Connecticut Telegraph Company, and about the same time the franchise was purchased by the Southern New England Telephone Company, who appear to be the present owners, all the officers of the telegraph company being officers of the telephone company, namely: Morris F. Tyler, vice-president; E. N. Clark, treasurer, and V. M. Tyler, assistant secretary.

### The San Francisco Telegraph Office in 1880.

BY J. W. HAYES.

[To write respecting the telegraph in San Francisco, even though it be of events long since transpired, and in the reminiscent vein that has characterized my contributions of late, seems almost a travesty at this time, in view of the recent disaster that has so completely overwhelmed that city in which the telegraph suffered equally with all other interests. Yet, true to its traditions, and to its everlasting honor, in which every telegrapher, be he active or retired, feels a thrill of pride, the telegraph refused to acknowledge defeat; and although baffled and driven from its offices continued to maintain communication with the outside world in the midst of difficulties occasioned by calamities calculated to appall the stoutest hearts. But my sketch was prepared before the earthquake shock and the fire wrecked the city at the Golden Gate, and as it fits into the series I am furnishing to TELEGRAPH AGE, it is submitted herewith.]

An itinerant operator, who had traveled far and wide, used to say: "It is harder to get a position in the San Francisco office than it is to enter the kingdom of Heaven." He was not far wrong in expressing this opinion either, for those who had positions there seldom died and never resigned—only increasing business and facilities for handling the same made room for additional operators.

The operating force in the year 1880, as nearly as I remember, was the following: Flemon Drake, day chief operator; his brother, Charles Drake, night chief, and W. J. Hamilton, assistant day chief. The operators were John Leatch, Eugene H. Sherwood, James S. Urquhart, E. Somerville, Charles Pierson, Horace Jones, B. A. Worthington, E. H. Fleming, J. W. Hayes, W. E. Williamson, J. V. O'Brien, George Bowker, George Brown, better known as "Blower" Brown; H. A. Dusouchet, Samuel B. Rankin, W. J. Martin, Edward Folger, the Misses Byrn, the Misses Laura and Florence Coates, Mrs. Dozier, Miss Bell Nicols, Miss Cole, and, biggest of all, John H. Powers.

A spirit of the greatest harmony existed in this office, each individual taking an active but quiet interest in each other's welfare, making, so to speak, a large family of the whole. The late John I. Sabin, who was president of the Pacific States Telephone Company, was proud to be known as having once been an operator in the San Francisco office, and never hesitated to so proclaim himself.

"Time and tide waits for no man," and it is passing strange to note what has become of these friends of twenty-five years ago in that happy circle. John Leatch, who was distinguished for his varied abilities and who was the prince of good fellows, died in Arizona a few years ago. George Bowker, well known in Buf-

falo and the East, and a star operator, also died in Arizona a dozen years ago. "Ed." Fleming, too, passed away about the year 1890, and I just learn that W. J. Hamilton, whom we all called "Bob," died recently in Los Angeles. The rest of the force of those days are scattered to the four winds. Charles Drake is with the Oregon Railroad and Navigation Company in Portland, Ore.; Flemon Drake, his brother, holds a responsible position with the telephone company in his adopted city; B. A. Worthington has acquired a national fame as a railroad manager, and is now first vice-president and general manager of the Wheeling and Lake Erie Railroad, and other of the Gould interests, Pittsburg, Pa. He was always an energetic, level-headed fellow, early indicating his ability to be a leader. H. A. Dusouchet, of New York, is well known as an author and playwright, and has produced a number of standard plays, among them "My Friend from India." Horace Jones, one of the crack operators of his time, is with the Southern Pacific Railroad. Charles Pierson is in Mexico, presumably because of his partiality for warm climates. E. Somerville (we never knew him by any other name than "E") is in business in Los Angeles and doing well. John Powers, whom every one knows from Maine to Mexico, is with a private corporation in Southern California, and his old friends will rejoice to know that he is doing well. I have seen John Powers draw \$20 from the cashier and pass the same all out to ten or more operators "on the block," and then go over to Paupers' Alley and fill up on a free lunch.

James S. Urquhart was once manager of the San Francisco office, leaving the same to accept the position as superintendent of the fire alarm telegraph. He made and lost a fortune in stock speculation, but took his reverses gracefully, and now is filling the position as manager of one of the Postal Telegraph's main branch offices in Portland, Ore. "Ed." Folger is manager for the Western Union Telegraph Company at Oakland, Cal., and is as young, apparently, as he was twenty-five years ago. The Coates sisters and the Byrn sisters are married and have not left me their addresses. W. E. Williamson is an all-around operator, and is swinging around the circle somewhere in the East. I think the only person on the operating force of 1880 in San Francisco that is left to tell the story is Mrs. Charles Dozier. She has raised a family under many difficulties, being left a widow in 1879. Some day, perhaps, she will write the history of the San Francisco office, and it could not be done by more competent hands.

I forgot to mention one of the best known operators in the country who was a member of the force in 1880, and that was William Grier. Who ever worked the overland wires and did not know "Billy" Grier? He was the most finished sender that ever worked a long wire, and he could take more stuff that "didn't come" than

any operator in the business. He is now ranching in Sonora county, Cal., and is deservedly prosperous.

At the time of which I write, James Gamble was general superintendent, Frank Jaynes was assistant general superintendent, and Frank H. Lamb was superintendent. Mr. Gamble died at Santa Barbara, Cal., June 20, 1905. The telegraph of California owes much to the pluck and dominating spirit of Mr. Gamble, who successfully overcame what were considered in those days insurmountable obstacles. Frank Jaynes, as is well known, is now the general superintendent of the Western Union Telegraph Company, at San Francisco, and F. H. Lamb, who was superintendent at Portland, Ore., for a number of years, has been for some years past district superintendent at San Francisco.

In the auditing department, back in 1880, A. P. DuBois was the chief clerk. He was a good man. His death occurred recently. Alexander F. Urquhart was Mr. DuBois's assistant. He quit the business years ago and now holds an important position with Wells Fargo and Company. L. W. Storrer was cashier and John H. Barry, delivery clerk. "Barry, S. F.," was once as familiar as "Clark, N. Y." Mr. Barry, too, is numbered with the dead. Mr. Storrer has met with preferment in the telegraph service, and no one needs to be told that he is now the general superintendent of the Postal Telegraph-Cable Company at San Francisco.

One of the unique figures that would come and go frequently in the old days was Thomas Stanley Cunningham. Cunningham was a man of strong personality. Irish by birth, he inherited the impetuosity and rollicking disposition of that race. He was a poet, a writer, a comedian, a soldier, and possessed other commendable qualifications too numerous to mention. He still lives in San Francisco, where he is engaged in local politics.

William J. Martin came to San Francisco from Salinas, Cal., where he had been manager. He worked on the night force, and rapidly became night chief, chief operator, and finally manager. It was during his administration as manager that he attracted the attention of Claus Spreckels, who made him business manager of the San Francisco Call, a position which he has since filled with much credit to himself and corresponding profit to his employers.

J. R. Bailey was manager at San Jose, Cal., and was one of the best fellows in the world. W. H. Wallis was manager at Yreka.

There was but a small force of operators in Los Angeles at that period. R. R. Haines was superintendent. He was a pioneer telegraph builder, who had won his position by hard work and good service. G. Q. Stewart was manager and Richard Decatur, Edward Keubel and George Lewis were some of the operators. Mr. Stewart is with the Pacific States Telephone in San Fran-

cisco, but I have lost the whereabouts of the others.

In Sacramento, John Allen was manager, and he was assisted by his brothers, David and Edward, as operators. William Cohen, one of the flowers of the profession, was press operator.

### French West African Telegraphs.

The British Consul-General at Dakar, says the *Electrical Review*, of London, in a recent report to the foreign office, states that the system of land telegraph lines in French West Africa is very complete, every post of any importance throughout the whole of the vast territories being in telegraphic communication with headquarters and with Europe, and improvements are constantly being made. The West African system is to be connected with that of Algeria across the desert north of Timbuktou, for which purpose a sum of £4,000 has been set aside in 1906. Experiments will at the same time be made with wireless telegraphy in that region. By a recent ordinance the price of telegrams throughout French West Africa has been reduced to ten centimes per word, with a minimum charge of one franc. In February, 1905, the new submarine cable between Brest and Dakar was successfully laid, so that there is now direct cable communication between France and her West African colonies by an all-French route.

With special reference to the Ivory Coast, the consul states that the expenses of the post and telegraph service of that colony will amount to £17,189 for 1904-5, and the receipts are expected to reach £5,200, leaving a deficit of £11,898; thirty-nine post and telegraph offices are in operation throughout the colony, with a staff of one inspector, fifty-four European and native post and telegraph clerks, sixteen postmen, three European and two native chief line superintendents, and eighty-seven linemen.

The large number of electrical and telegraph inventions made by the late Robert J. Sheehy, whose death was announced in our previous issue, illustrates to what an extent the latent genius of the man developed under the stimulus of constant application. Mr. Sheehy, who was without education, began life as a telegraph lineman, yet the inventions he gave to the world, unfortunately without much pecuniary benefit to himself, were many, embracing among others: Automatic signal systems for both steam and electric railways; automatic signal system for third rail electric railways (the only third rail automatic signal system placing signals on the trains); multiple unit control system; power rails automatic sectionalizing system; automatic electric-magnetic graduated brake system; automatic point locking and unlocking system; "station selector" telegraph system, and a typewriting telegraph system.

### Dr. L. M. Rheem Indulges in Reminiscence.

(Continued from issue of May 1.)

[Dr. L. M. Rheem, of Minneapolis, Minn., contributes another one of his interesting sketches relating to the telegraph fraternity as it existed at Omaha thirty years ago, and of which he was then a member. The doctor frequently exhibits a keen sense of the humorous in what he relates, a narrative not unmixed with a certain pathos refreshing in its good nature and originality of expression, recalling incidents well calculated to draw a smile from many who were participants in the scenes depicted.]

"In the spring of 1876, Mr. J. J. Dickey, our superintendent, sent me to Denver to take charge of the office there. I think I was relieved at Omaha by Earl Rudd, but am not sure; whoever it was that relieved me was succeeded by Mortimer A. McCoy, who will be remembered by many old Buffalo men. He was a fine operator and a good manager but his health was poor, and after the Centennial Exposition, which I attended, I was recalled to Omaha to relieve him. The Atlantic and Pacific Telegraphic Company had become a decided proposition by this time and we had quite an office in the Grand Central Hotel. We had four wires, one to Chicago, it being the Atlantic and Pacific proper; an old wire of the Great Western Telegraph Company, which ran south and over which on strictly clear days, we worked to Kansas City. Then we had the two Union Pacific wires west.

"The operating force consisted at various times of the following well-known artists: William A. McElroy, at present with the Western Union, Omaha; J. Wesley Ellsworth, Aaron B. Hilliker, Fannie Wheeler, Julia Wirt, John McNevin, John L. Morris, Charles Paxton, William Wallace, Henry Bogardus, "Ed." Schermerhorn, John Hanchett and, I think, A. A. Honey.

"They were all fine operators some of them being stars of the first magnitude. Each and every one of them had an enormous capacity for work, although some of them might be called 'erratic' in connection with the matter of the hours chosen, which were not always those designated by the card. McElroy was one of the most accommodating and best men it has ever been my pleasure to be associated with, always being right on the spot when there was anything doing requiring hard continuous work. Ellsworth was of the old school of operators and gentlemen always being ready to go further and work harder to help any one in distress, than any man I have ever known; he was a humorist and many of his clean incisive witticisms were worthy of a place in literature.

"Hilliker, as has been previously stated, was everything—poet, philosopher, author, comedian, counsellor, comforter, humorist, stage manager and general pooh-bah of the aggregation. He was a finished artist in the making of explanations and

excuses; no matter how apparently glaring the breach of discipline was in which he was involved, his euphonious and sequentially perfect explanation seldom failed to convince the manager that he was the recipient of a favor from Aaron and had no just cause for complaint. When an excuse was necessary, he was certainly 'there with the goods'; his style of delivery was unique and ornate. As an illustration, one morning when he was working in Mr. L. H. Korty's office he came in about three hours late. He walked over to Mr. Korty's desk saying: 'Good morning, Mr. Korty, did you get my note this morning?' 'Yes,' replied Mr. Korty with gravity, 'I got it.' 'Well' said Aaron, 'that's a mighty strange thing; I sent it by a boy before eight o'clock as I wanted you to know that I could not get here on time.' 'I got it, Aaron,' again replied Mr. Korty. 'Well, now,' said Aaron, 'I'd like mighty well to know what that boy did with that note. I told you that I had been sick nearly all night, and I was suffering so that I just could not get here.' 'Why, Aaron,' said Mr. Korty, 'what's the matter with you any way, haven't I told you that I got your note? What are you driving at?' Aaron saw the twinkle in Mr. Korty's eye and took refuge in his own inimitable way in a burst of laughter, closing the incident by saying: 'Well, I sent it anyway, and you bet I'll make that boy cough up the ten cents I paid him when I see him again.'

"Jeff Hayes says, in his article published April 1, that there was very little amusement for the boys in Omaha at the time he speaks of. While this may be true, I want to say that there were some of the funniest things any one ever saw happened right there. This brings me to the story of 'Hilliker's Goose.'

"One Christmas eve there was to be a live goose raffle at Kennedy's on Harney street. Aaron attended the raffle in company with William Shull, the Burlington ticket agent, who had his agency in a corner of our office. William was a character in his way, and will be remembered by the old boys. It happened that fortune smiled on Aaron, who won a big white gander weighing in the neighborhood of thirty pounds. The raffle closed a little after midnight, when William and Aaron started for home. Thirty pounds of live goose was a big proposition to handle. Owing to the amount of 'festivity' which had accompanied the festivities of the evening, Aaron was in no condition to assume the duties of a common or uncommon carrier. As the gander seemed to be in good health and fine training, William proposed that they make him work his passage home. He procured a stout cord one end of which he tied to the bird's leg, tying the other end around Aaron's waist. The theory of this arrangement was, that the gander would march sedately at the head of the procession after the manner of a drum major in a St. Patrick's Day parade. In practice it was different; the gander had never acted as a drum major, nor had he ever been driven single or double, or been taught to pull a



load. He sat down and listened to the 'shoos,' 'gid aps' and other instructions of his drivers; then either misunderstanding their directions, or remembering the axiom of one of his wild forbears, 'In case of the least doubt, fly,' he flew. Aaron forgetting the cord connection, started after him on a run. The gander started to cut a circle, a telegraph pole intervened, to which, in just a minute, he had Aaron sewed good and tight. After some trouble William got the team straightened out, and with one or two minor mishaps the outfit arrived at the office.

"It happened that I had dropped into the office on my way home that night to see how Hanchett and his 'force' were getting along. I was standing at the counter on the inside thinking about Christmas Past and Christmas to Come, when the front door opened very softly admitting a big white goose, and then just as softly closed again. The goose sat down just inside of the threshold and took a general survey of the office.

"The whole thing was such an unusual occurrence, that I rather excitedly called to Hanchett to 'come here quick,' and I must say that I was very much relieved when I heard him say, 'It's a goose.' The light in that part of the office was too dim to show the cord attached to the goose's leg, so we both started around the counter to investigate the phenomenon. Before we got to the front of the office William and Aaron had stepped inside, Aaron with the cord tied about his waist, standing in front of the goose, evidently to conceal it. He gave us a cheery 'Merry Christmas!' which we countered with the question, 'Oh, where did you get that goose?' Aaron assumed a puzzled expression, and replied: 'A goose!' then looking behind himself he went on: 'A goose! Oh, yes, a goose. Why, Mr. Rheem, I won that goose at Kennedy's.' He then in his comical way, told us of the difficulty he had had in getting the goose to the office. In response to our interrogatory as to what he intended to do with the goose, he said he was going to take him home and have him cooked for dinner the next day, that he always had adored goose meat, the nutritious properties of which he carefully explained to us, but that he did not know how he was going to get him to his boarding house. He said it would be all right if it was a straight road home which it was not, and that every time he came to a corner he was greatly embarrassed as he could not talk 'goose' well enough to tell the bird which way to turn. William, however, was willing to assist him and the two finally got the goose to the boarding house where they took him into the parlor and tied him to the leg of the piano.

"Coming to the office the next morning, I found Aaron very busy, but he had a sort of a troubled look on his face. In a few moments he came over to my desk, saying: 'Well, sir, somebody played a mighty mean trick at our house last night. They brought a live goose home, took him into the parlor and tied him to the leg of the piano; he got to jumping round about daylight, and just

naturally wrecked the whole business. I don't believe they ever will get the goose and bric-a-brac sorted out again in that room. I'd like to know why a goose can't stand still and stay where you put him.'

"I said: 'Why, Aaron, you took that goose home; you and William Shall were in here with it at one o'clock this morning, and took it away with you.' 'No,' Aaron replied, 'this goose is not my goose;' then, in a reminiscent voice: 'I had a goose, but on my way home last night I met a poor woman who told me a pitiful story of six starving children at home, with no turkey for Christmas and no money to buy one. Her sad tale brought tears to my eyes and I presented the goose to her. She thanked me with sobs of joy and bore the bird triumphantly home to her offspring. No, this goose in the parlor is not my goose; in fact, I would not take a goose home anyway, for I never did like goose meat.'

"Hilliker remained with the Atlantic and Pacific Telegraph Company until its consolidation with the Western Union, after which he went west. We used to hear from him at various points, but he suddenly dropped completely out of sight, and I have no doubt but that he fills an unknown grave somewhere in the great western empire where he had made his home for so many years. He deserves a monument alone for the kindly spirit of helpfulness to his fellows while he lived. If any one reading these lines can give me information of him I will be truly grateful."

(To be Continued.)

#### Telegraph Notes From Unknown Europe.

Primitive as we are accustomed to supposing the east coast of the Adriatic to be, the network of telegraph is fairly complete, and in Istria, at every railway station, as in America, the operator is installed, writes Felix J. Koch, in "Sound Waves." There, and in Montenegro, like the post office, the telegraph is a government institution. Even little Montenegro has its wireless telegraph system, owned by the Prince himself, at Antivarri, where the grand cordon of Montenegro was conferred upon Signor Marconi.

At Budapest, in Hungary, the newspapers, one and all, publish the same telegrams from outside, and such a thing as a "scoop," or "beat," is unknown. Hence, much of the necessity for haste in journalistic telegraphing, that is so apparent with us, is there obviated.

Even the higher Carpathians, in the vicinity of Schmecks, have now been connected by telegraph with the greater centers. In Roumania the telegraph and the post office are conceded by the poverty-stricken people to be about the only exemplary institutions of the government.

From Belgrade, Serbia, the frequent regicides make cable tolls to the press agencies an important factor in the telegraph offices, though strict censorship obtains.

### How Pool Rooms Are Beaten.

With the opening of the spring racing season the wire tappers, those arch enemies of the poolrooms are beginning their yearly operations. Their first effort of the year occurred recently when they fleeced the New York poolrooms out of more than \$50,000, it is said, on a single New Orleans race.

The scheme of tapping race wires and returning a false winner is not by any means the most up-to-date method of affecting the poolrooms. In fact, it is regarded nowadays as crude, risky and uncertain. There are other methods more elaborate, but less dangerous, by which, it is said, eight or ten men have cleared between \$75,000 and \$100,000 a year out of the poolrooms for the past few years. It is a game upon which even the law would find some difficulty in laying its hands.

At this season of the year certain men meet in New York, the leader of whom is known as "Big Al," to formulate plans for the season. A week later these men will have scattered over the country, North and South. They begin by spotting poolrooms and "clocking" them to ascertain the exact time between the start of a race and the cessation of betting. They also take note of the windows of the poolrooms, and the availability of securing rooms on the opposite side of the street.

It is an imperative rule that no one poolroom shall be done out of more than \$2,000 at a time. It is also the rule to guess on little bets which are straight and to win on big bets which are crooked. Every one of the gang is trained to the game and knows just what to do. With the exception of the leaders, they look like college boys, and it is seldom that they are suspected by the poolroom keepers.

An important essential to the plan is the establishment of a central telephone office. This central office is connected with a telephone in the same house or at some point overlooking the race track, from where a view of the finish can be obtained. Now suppose that the conspirators have planned to fleece half a dozen poolrooms in New York on a certain race. Each one of these poolrooms has a window opening on the street, on the opposite side of which "Big Al's" contingent has hired a flat or a room or a "real estate office," or whatever they may choose to call it. These rooms or offices are fitted with telephones.

On the race programme each horse is given a certain number. Previous to the race to be beaten "Long Jack," who next to "Big Al," is the most prominent in the gang, takes up a known position in the infield from which he can command a clear view of the race. At a window of the house outside the track where the telephone is worked stands one of the men with a powerful field glass watching "Long Jack." Another man sits at the telephone connecting with the "central office." At the "central office" there

are two telephone men, one at the race track wire and the other at the wires connecting with perhaps three "real estate" offices opposite the poolrooms to be fleeced.

In the real estate offices men are at the 'phones and also at the windows. In the poolroom about the time the race is to be run a harmless looking young man takes his stand near the window, where he can be seen from the street. Thus the entire gang is "set" and ready for business.

The horses get away from the post. "Long Jack" never moves his eyes from them, and the man outside the ground never takes his eyes from "Long Jack." Half a furlong from the finish "Long Jack," with his wonderful gift of race reading, knows just how the race is going to finish. He looks over at the telephone house and raises his left hand with his glasses high in the air. The man at the window without losing an instant, says, "Left hand up." "Left hand up" runs along the wire from the track to the gang's "central office." "Left hand up" races along the wires to the "real estate" offices.

There the operators call out the signal to the man on watch, who raises his left hand in the air. The man at the poolroom window rushes over to the poolroom man and bets all that he can get down on the horse which by this time has won. Only an instant is required to make the bet. A few seconds later by the telegraph route comes the customary "They're off!" followed by the usual calling of the race to the finish.

When the poolrooms have been thus beaten to the extent of \$2,000 each in one day the swindlers close their "offices" and turn their attention to some other city.

The race track owners, it is said, make no special effort to checkmate the conspirators or put an end to the swindle. As a matter of fact they would like to see every poolroom in the country ruined in order that their gate receipts might be increased.

### Wonders of the Forests.

Old and worn-out steel rails are used for telegraph poles in Mexico, with a couple of holes drilled at the top so that cross-bars can be fastened on, writes Wm. E. Curtis in the Chicago Record-Herald. This is a measure of economy and also of necessity, because, according to Mr. Morris, the assistant general manager of the Tehuantepec Railway, it is impracticable to use wooden poles because the soil is so rich that they would take root and grow. Mr. Morris declares that if they should set up an ordinary pole of seasoned wood in almost any place on the Isthmus of Tehuantepec it would begin to sprout as soon as the rainy season commenced. Within six months it would be a flowering tree and the branches would get tangled up in the wires. That is the reason why iron is used for telegraph poles.

### S. E. Leonard, Assistant Superintendent at Denver.

Stark Edward Leonard, whose promotion from the managership of the office of the Western Union Telegraph Company, at El Paso, Texas, to be assistant superintendent of the same interests at Denver, Col., as was announced in these columns May 1, was born at Milton, Fla., February 8, 1875. From the position of a messenger boy at Inverness, that state, he became at the age of eighteen an agent and operator at Martel. Failing health induced him to seek another climate as a means of restoration and he went to Mexico, where he found employment as joint despatcher for the Mexican Central and the Mexican Northern Railway, at Escalon. During a portion of 1896 he held a clerkship at El Paso, Tex., for the Mexican Central Railway, but this occupation proved but a temporary one, for in December of



STARK EDWARD LEONARD.  
Assistant Superintendent Western Union Telegraph Company, Denver,  
Colorado.

that year he accepted the position of superintendent of telegraph and train master of the Rio Grande, Sierra Madre and Pacific Railroad. Here he remained for nearly six years, finally resigning to enter the employ of the Western Union Telegraph Company as its manager at El Paso, on November 21, 1902. The call to the assistant superintendency after a managerial service of four years may be accepted as a potent recognition of the worth and executive capacity of the appointee.

#### Billiards by Telegraph.

Chess by cable has long been an attraction, and perhaps the popularity of this game was responsible for the telegraphic billiard match recently played by two men some three hundred miles apart. The table was marked into squares small enough to accurately place the balls. At the end of each play the exact position of the three balls would be telegraphed the other and the balls on the second table placed in precisely the same position as they were left on the first.

#### Alaska Cables.

Alaskan cable and telegraph tolls paid to the United States government in March aggregated \$14,500, and exceeded the receipts for any previous month. In the fiscal year, which ended last June, the government collected more than \$100,000 in tolls, and the war department expects that the amount taken in for the current year will be at least fifty per cent. greater, as the cable from Seattle to Valdez was not in operation all of the last fiscal year. Receipts have increased rapidly since the completion of the cable, which is a feeder for the government telegraph lines connecting with all the principal towns in the territory.

In addition to its large submarine cable systems in Alaska and the Philippines, it is now stated, in Washington, that the United States Government is in favor of operating telegraph and cable lines to Panama and favors the purchase, installation, operation and maintenance of a submarine cable between Key West, Fla., Guantanamo, Cuba, and the Panama Canal Zone, costing \$927,000. Secretary Taft says on the subject: "Experience has demonstrated the dangers of such cable communications being in the power of foreign governments to withdraw the rights of the companies in question, as was particularly emphasized in connection with the cable concessions at Panama. The opinions of these military experts as to the urgency and importance of the situation are strongly re-inforced by the following facts: "First—That the direct cable from Jamaica to Colon has been interrupted for fourteen months. Second—Complications in connection with the French Cable Company in Venezuela, and violent earthquakes, caused such an interruption of the lines that within the past month no cablegram could reach the northern part of South America from Buenaventura to Para, Brazil, save through Europe. The war department was also informed, under date of February 9, by the Central and South American Telegraph Company, that the West Indies cable system, although duplicated, had been interrupted." This argument is backed up by calling attention to the success that has attended the construction and operation of telegraph lines and cables to Alaska: "The signal corps lines north of Seattle, known as the Alaskan system, would as an investment have been considered as exceedingly unpromising by commercial companies. The chief signal officer of the army was confident, before it was laid, of its great promise from a commercial point of view in addition to its acknowledged administrative value to the United States in general and to the army in particular. His views were considered somewhat visionary in 1901, but events have abundantly justified them by bringing in gross receipts from commercial sources alone at the rate of \$180,000 for the current year, besides doing an unpaid official business of about \$100,000 for the United States."

### Telegraphers Mutual Benefit Association.

The Telegraphers' Mutual Benefit Association has this interesting story to tell printed on the back of its assessment notice for May, headed "Insurance at Less Than Cost." A large part of the usual cost of life insurance is the amounts paid for salaries of officers, commissions to agents, rent of offices, etc. From all these expenses the Telegraphers' Mutual Benefit Association is free. Its officers and over 120 agents serve without pay, and its rent, light and heat are furnished without charge by the two great telegraph companies and others. Its only expenses are for clerical service, postage and stationery, aggregating about \$6,000 per year. These are paid twice over by the interest received from investments.

Under such circumstances it may be expected that the rates charged by the association would be less than those charged by the standard companies. A look at the following table will show whether this expectation is justified:

Age	YEARLY COST PER \$1,000 INSURANCE			
	T. M. B. A.	N. Y. Life.	Penn. Mutual.	North Western.
18 to 30	\$14.00	\$23.00	\$21.50	\$23.00
30 to 35	17.50	28.00	25.00	27.50
35 to 40	21.00	32.00	31.00	30.00
40 to 45	28.00	38.00	37.50	38.00

There is no excuse for any telegrapher to go outside of the fraternity for insurance unless he wants more than the association can furnish, which is, full grade, \$1,000; half grade \$500.

(The compiler of this statement might have added that out of the charges made by the Telegraphers' Mutual Benefit Association and from the unexpended balances received from the interest on reserve fund of \$250,000, and other sources, a sum aggregating from \$10,000 to \$20,000 per year is added to the reserve surplus, thus making the association a bulwark of financial strength.)

### Wireless Telegraphy.

An extension of the wireless telegraphy system of Lower California is reported by Consul Kaiser, at Mazatlan, Mexico. The machinery installation will be made at San Jose del Cabo, at the end of the peninsula, and at the port of La Paz, in Sinaloa, by a German company, which secured the contract, and will install benzine motors with cooling machinery, continuous-current dynamos, storage batteries, etc.

The United States Government has extended its weather bureau service and storm warnings to all ships equipped with the American DeForest wireless system. News of impending changes in the weather will be flashed to all such ships whose captains will be able to shape their course so as to avoid storms and other meteorological dangers. Under the auspices of the Canadian Government, the steamship Arctic, with which her commander, Captain Joseph E. Bernier, will attempt to reach the North Pole from the Atlantic side, is to be equipped like Walter Wellman's ship the Frithjof, with the American DeForest Wireless Telegraph Company's system.

Transatlantic wireless telegraph communication was recently accomplished by the De Forest Wireless Telegraph Company between its high power station at Manhattan Beach, Long Island, and Glengarriff, County Cork, Ireland. Dr. De Forest, the inventor, was himself stationed at the latter point and received the messages by means of temporary antennae hung from a tetrahedral kite invented by Alexander Graham Bell, of Bell telephone fame. Preparations were being made for a demonstration of this work for the benefit of the press, but before the plans could be carried out the British Post Office department prohibited further experimentation. It is expected, however, that these tests will be resumed later on.

Much has been published recently regarding alleged litigation affecting the DeForest Wireless Telegraph Company. The New York Mercantile and Financial Times of April 8 makes a complete denial of the advertised statements in the following terms: "The statement, so industriously circulated, to the effect that the United States Supreme Court had rendered a decision adverse to the De Forest Wireless Telegraph Company was a lie, pure and simple, made out of 'whole cloth.' There has been no suit against the De Forest Company, pending before that court, consequently there could be no decision, adverse or otherwise. The motive which led to the creation and circulation of this lie is so manifest that comment upon the same is unnecessary."

An item is going the rounds of the press to the effect that in remote parts of Norway bears have a fondness for climbing telegraph poles and finding a perch on the cross arms, sway backward and forward, enjoying the rocking motion thus produced, until the poles finally fall under this playful treatment.

In our previous issue we recorded the fact that one of the troubles telegraph managers have to deal with in Africa was due to the rubbering habits of giraffes who get their long necks inextricably entangled in the wires and in their efforts to free themselves pull down not only wires but frequently poles as well.

In the United States the depredations of that human animal, the wire thief, who climbs the poles and strips them of their valuable copper threads, constitute one of the principal sources of worry and annoyance to telegraph officials. Of the three forms of evil mentioned clearly the one which curses this country is the greatest. It is refreshing, however, to note that thus far over fifty of these thieving scoundrels have been convicted, sentenced and sent to prison for their offenses, while a number of others are now awaiting trial and are in a fair way to receive like punishment.

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

**LETTERS FROM OUR CORRESPONDENTS.**

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

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

**ST. LOUIS, WESTERN UNION.**

Miss Rose Matthews, of this office, was married recently to Mr. F. Schluetter. The force presented the couple with a handsome gift.

A call for help was asked by the Salt Lake City, Utah, office, at the time of the San Francisco disaster, and the following named operators were sent in response thereto: C. A. Clark, Charles Rapp, George Goehringer and Roswell Tucker.

Mr. James Campion and J. Rowan, combination men of this office, were sent to Oakland, Cal., to assist in the Wheatstone department at that point.

**ST. LOUIS, AM. TEL. AND TEL. CO.**

The office of Mr. Earle Harlan, wire chief, has been removed to the district headquarters of the company in the Star Building, 12th and Olive streets.

The force in the testing and repeater station at Beaumont and Locust streets is now as follows: H. D. Roach, assistant wire chief, in charge; assistants—D. B. Grandy, at the test board; F. L. Mounce and B. S. Rounds, on leases and repeaters; F. C. Nitche, early night trick; Lee E. Whitmore, all night trick; W. L. Raby, inspector.

**PHILADELPHIA, WESTERN UNION.**

I sell and rent all makes of typewriters at rock bottom prices. Cash or time payments; latter made easy. Also agent for celebrated Vibroplex Sending Machine, Smith Visible Mill, and Hudson Word Counter. D. Good, Western Union office, 15th and Chestnut streets, Philadelphia.

Miss Ada Hussey, one of the finest operators in her day and who had been ill for several months, died recently. She was well and favorably known among the older employees. As a mark of esteem and respect, a floral emblem was sent to the house of mourning, and quite a representative body of employees attended the funeral.

Assistant Traffic Chief Mahlan G. Moyer, who was absent about five weeks on account of a general breakdown in health, has again returned to duty.

Several hundred dollars was quickly collected and cheerfully given by the employees here for their destitute brethren in San Francisco.

After several months spent in the South, Harry Standifere has again returned to this office.

Mrs. Powers, Mr. Lynn from the Postal Company; Mr. Gerow from Buffalo, N. Y.; H. Carr, from Richmond, Va., and N. K. Ramson from Langhorne, Pa., are new arrivals.

Rodney Smith, a highly esteemed employee of this office, who came to us from Denver, Col., about two years ago, died suddenly May 9 after performing his day's work. Neuralgia of the heart was the cause of his death.

**PHILADELPHIA, POSTAL.**

The marriage of Mr. J. Howard Baker, who holds down the cable wire, was the theme of interest and congratulations from all his friends. Mr. and Mrs. Baker spent their honeymoon at Cape May, N. J.

Miss Mary V. and Mr. James Hagan were hurriedly called to Williamsport, Pa., recently on account of the illness of their brother Edward, reaching his bedside before he died.

The mere removal of his mustache caused such an altered appearance that Robert Mcreedy, of the Commercial Exchange office, passed through quite an experience before his acquaintances became accustomed to the change.

Having returned from his trip to the Pacific Coast, Mr. H. H. Hill, of the West Philadelphia office, is full of interesting reminiscences. He escaped the San Francisco disaster by a couple of days.

After several weeks' hospital treatment, Mrs. H. T. Polhemus has resumed her place on the Jersey ways.

**CHICAGO, WESTERN UNION.**

Charles White, for some years chief of the St. Paul division, days, has resigned and gone to Nashville, Tenn.

R. W. Kean, manager of the Sioux City, Ia., office, was a visitor here a few days ago.

Robert Watson has returned from Dallas, Tex., where he has been working a report circuit for a year.

The sudden death of Walter Finley, eldest son of Assistant Chief Operator C. H. Finley, occurred recently.

**NEW YORK, POSTAL.**

Mr. P. F. Dowd, manager of the 70 West 58th street office, has been transferred to 956 Eighth avenue, vice F. Cohen, resigned, and Mr. O. P. Coleman has been appointed to the vacancy.

Mr. J. E. Wilson, manager of the 1281 Broadway office, has resigned.

Mrs. G. A. Kennedy, manager at the Hotel Astor, has resigned.

Harold Dobbs has been appointed western traffic chief. The advancement of Mr. Dobbs has been rapid, owing to the fact that he devoted himself closely to business; he served as check clerk only a few years ago.

W. J. Kavanaugh has been appointed assistant wire chief.

Thomas Brooks has been appointed annunciator chief.

George Fink, formerly southern traffic chief, this office, died at his home in Buffalo, May 6. He had been in ill health several years and was a victim of neurosis.

T. Bracken, aged forty years, an expert cable splicer, of the Postal Telegraph-Cable Company, New York, died on May 5.

S. A. Coleman, for years a chief operator in this office, and one of the best known of telegraphers, has resigned to accept a position with a broker. The best wishes of the force follow him.

The arrivals here lately include: Mrs. K. Merrit, William Tucker, Albert Hannon, John W. Hodges, S. A. Grover, W. A. Howden, B. H. Dykes, J. H. Shrader, Bernard Brady, Frank J. Reidel, A. M. Levenson, J. L. Gilbert, C. W. Smith, James A. Galumbeck, A. B. Fiske, W. J. Brannan, Charles W. Brooks, A. V. Schermerhorn, George Kern and J. P. Judge.

The departures are: E. W. Applegate, H. R. Waterbury, H. A. Yoell, the latter to the Postal at Oakland, Cal.; J. A. McDermott, E. B. Haggerty, to the Hoffman House as night operator, and Miss Fitzgerald, to Bath Beach, Brooklyn, as operator.

#### NEW YORK, WESTERN UNION.

Mr. Lawrence Keating, who recently met with a serious accident, remains in about the same condition as previously reported.

Mr. John Dorley, formerly a clerk in this department, died in St. Peter's Hospital, Brooklyn, on May 4.

E. J. Hart of this office, formerly secretary to General Manager Merrill of the East Coast Hotel System, has accepted a position as private secretary to Mr. Fred. Sterry, one of the most prominent hotel managers in the country.

Mr. Lysaght, from Portland, Me., was a recent arrival.

Mr. W. J. Keegan has resigned to accept a position with the Atlas-Portland Cement Co., of this city.

#### My Motto—Honorable Dealing.

My Specialty—Factory rebuilt Remingtons and Smith typewriters. A \$1 copy of latest Phillips' Code, given with each Cash order for the new Model No. 3 Mecograph. Correspondence invited. D. A. Mahoney, 253 Broadway, New York.

The New York Telegraphers' Aid Society having forwarded \$500 as a measure of relief to their sister society in San Francisco, the following telegram, dated at Oakland, Cal., May 8, in acknowledgment, has been received:

"To J. C. Watts, President New York Telegraphers' Aid Society, New York City:

"Have received from Supt. F. H. Lamb re-

mittance of five hundred dollars referred to in your message of to-day. On behalf of the San Francisco Telegraphers' Aid Society I beg to express sincere appreciation of your action in making this generous contribution, which will do much to relieve the wants of your co-workers at San Francisco.

"I. N. Miller, Jr., Treasurer."

#### OTHER NEW YORK ITEMS.

Mr. B. P. Hancock, the well-known telegrapher, at one time city superintendent of the Postal Telegraph-Cable Company at Chicago, Ill., and who for the past year has been identified with the United Electrical Manufacturing Company of New York, has severed his connection with that concern and has accepted a position with a New York broker.

Mr. S. H. Flagler, manager of the telegraph department of the Standard Oil Company, New York, who recently was called to Toronto, on account of the death of his mother, was shortly after followed on a similar errand by Mr. M. O. Hoffman, an old time telegrapher, but now secretary to one of the general superintendents of the same company, who went to Berlin, Ont., his native place, to attend the funeral of his mother, who died at that point on May 1.

Mr. Frank C. Mason, superintendent of police telegraph, Borough of Brooklyn, New York, who is suffering from an attack of asthma, has gone to his country home, "Glen Alex Farm," at Washington Mills, N. Y., on a sixty-days' leave of absence. Sergeant Julius Zeidler is in temporary charge of the office.

The International Telegraphers' Association, so-called, the alleged purpose of which is to establish a home for aged telegraphers at Nyack, N. Y., and of which one F. A. Thomas represents himself to be the general secretary and treasurer of the enterprise, is the latest scheme promulgated to swindle those who feel charitably disposed toward old and indigent telegraphers. It appears that Thomas has called industriously upon many persons in New York soliciting money in behalf of this undertaking. His mode of procedure is to quote such well-known names as George J. Gould, the principal owner and vice-president of the Western Union Telegraph Company, and Clarence H. Mackay, president of the Postal Telegraph-Cable Company, both of whom he avers hold the enterprise in high esteem and have subscribed to the fund, one to the extent of \$250, and the other of \$1,000. It is almost needless to say that such statements are utterly false. The project of a telegraphers' home, as presented by this man Thomas, who has a bad record in like matters, is a fraud through and through, and whoever is approached by him would be justified in calling in the police.

Orders for books on telegraphy, wireless telegraphy, telephony, all electrical subjects, and for cable codes, will be filled by TELEGRAPH AGE on the day of receipt.

## International Telegraph Tournament at Boston.

BY S. F. SHIRLEY.

The earthquake catastrophe and the unusual amount of work that it brought to telegraphers caused a sort of lull in the arrangement for the international tournament of the Boston operators, but it did not diminish their determination in the least. After a conference between the executive committee and the leading officials of the companies in Boston, it was decided to set the date forward, and the affair was postponed from Friday, June 8, until Friday, June 29. This will give the committee three weeks more in which to work out the success of the contests.

There is really little that can be added to what was published in the April 16 issue of TELEGRAPH AGE. The classes have all been decided upon, but the full list of prizes cannot be announced as yet. This, however, is of no great moment, as the committee has already decided and pledged itself that besides the trophies offered in the way of "plate," that there shall be seconds of proportionate value and cash added. The classes as arranged are as follows:

### RAILROAD OPERATORS.

Sending and receiving contest; open to operators who have been in actual railroad work for two years or more; each entry must be endorsed by the division operator or superintendent of telegraph under whom the entrant was employed.

Class A.—Sending 20 ordinary railroad messages.

Class B.—Receiving 20 ordinary railroad messages on a typewriter.

### BROKER OPERATORS.

Class A.—Sending 20 regular broker messages, quotations or orders.

### TEAM MATCH—FOR MACKAY TROPHIES.

Open event for teams of two men; sending and receiving messages "bonus" style; Postal Telegraph-Cable Company rule to govern. Sample messages of Postal "style" furnished each entrant.

### PRESS OPERATORS.

Class A.—Sending 350 words straight press matter.

Class B.—Receiving 350 words straight press matter.

Class C.—Receiving 500 words "code" matter from unknown sender.

Besides the above there are two classes that may possibly be added—a message class, open event:

Class A.—Sending 20 messages; Class B.—Receiving 20 messages; Western Union rules as to transmission and receiving to govern the contest.

At the present time the officials announce that the prizes will be: For receiving in the railroad class, a typewriter valued at \$100; in the broker class, a trophy valued at \$150, contributed by Clarence W. Barron, of the Boston News Bureau. For the "press operators" the Boston Herald, Globe and American will give handsome trophies as first prizes.

The "team match" will undoubtedly prove the greatest feature of the tournament, as it is some-

thing never before attempted. For this contest Mr. Clarence H. Mackay has given four beautiful cups, two firsts and two seconds. The Postal rules will govern this contest, but there is in reality little difference between the style of the two large companies, except that the Postal omits the word "paid."

In the May 1 issue of TELEGRAPH AGE the published interview headed "International Telegraph Tournament in Boston" was intensely interesting to those who are managing the coming contest. It was, indeed, more than this, it was instructive. But there were a few things that the speaker had either lost sight of or was in ignorance of. In the first place the tournament of June 29 is not a private or corporate enterprise, it is designed for charity. Every cent above actual expenses derived from this tournament is pledged to go toward the endowment of a free hospital bed for telegraphers. The Boston operators now own a \$2,100 equity in a bed at the Carney hospital. It is their hope that they will be able to raise the additional \$2,900 necessary in order that they may control it outright. This bed is not held by any class or creed; it is everything that its name implies, a free hospital bed, where any telegrapher, should misfortune overtake him, will receive the very best of care. This, in itself, explains why cups and other merchandise are offered as prizes. These articles are contributed by generous friends, thereby allowing the gentlemen handling the affair to devote every cent possible to the charity fund.

With the exception of the Mackay cups, and the Carnegie cup, which is to be given to the winner of the greatest number of points in all classes—except the railroad—all the other prizes are "useful rather than ornamental." For instance, the first prize in Class B, for press operators, receiving 350 words straight press, is given by Gen. Charles H. Taylor, editor of the Boston Globe, and consists of a chest of silver valued at \$150. Any operator who will take the trouble to inquire as to what this means will be most agreeably satisfied. The Herald and American prizes are of equal value and usefulness.

In regard to the judges, the Boston gentlemen so serving have the advantage of former tournaments both through advice and participation, and there is no doubt they will readily correct any errors that have previously been made.

But there is one fact that must not be lost sight of, and that is that this is not a personal or corporate affair; it is for charity pure and simple.

Boston, May 12.

There has been a considerable increase in the postal and telegraph services of Argentina; 1,928 offices are open, being an increase of fifty over 1904. The national government owns and works 15,400 miles of telegraph lines, in addition to the system maintained by the provinces and the railways. The revenue of this service for 1905 was \$343,500, some \$27,500 more than was anticipated.

### Telegraph Conditions in San Francisco.

The telegraphic situation at San Francisco is rapidly recovering under the energetic measures adopted by the two companies in their efforts looking toward re-establishment. When it is remembered that the utter annihilation of all telegraph offices, together with their equipment, occurred within the stricken city, and that all wire connections were broken, the magnitude of the task which confronted the telegraph officials, first to establish permanent outside communication, and then to build and organize temporary offices, was an undertaking which in perplexing magnitude under existing chaotic conditions, taxed ingenuity to an extent never before experienced. No delay was tolerated, and the inherent recuperative power and resources of the telegraph companies became at once manifest. The results achieved and the service rendered has redounded to the immeasurable credit of the telegraph in America.

To show the activities that were immediately put in operation, orders were issued to at once rush necessary men and material to San Francisco. This was done, and immense quantities of apparatus were soon made available.

The day following the earthquake, the Western Union Telegraph Company arranged to have a building erected at West Oakland, 100 by 50 feet in size, with an iron roof. In this building dynamos, gas engines, switchboards, quadruplex, duplex and Wheatstone machinery, a three-car-load lot brought by Mr. L. McKisick, the electrician of the Western division, from Chicago, were installed and made an exact duplicate of the main office which had been destroyed in San Francisco. The current to operate the dynamos was secured from the Southern Pacific Railroad Company. Aerial cables were erected from this office to the city office at Oakland, where direct connection with all of the principal cities, and the wires in the cables leading over to San Francisco and through the underground system were used as legs to connect the branch offices in the ruined city direct with all important outside points. When it is considered that this office was not only established but built, and in full working operation within a week after the fire had destroyed the main office, it will be understood why the Western Union company resumed the prompt handling of all business to San Francisco and outside points.

A building was also rented in Oakland to accommodate General Superintendent Frank Jaynes, and Superintendent F. H. Lamb, and other officers of the company. This building will continue to be occupied until a suitable office structure can be erected in San Francisco, presumably on the same site as was occupied by the company before the earthquake.

The Postal Telegraph-Cable Company also lost no time in establishing a main office at Oakland. This is fully equipped, and at this point

the headquarters of the company will doubtless remain until such time as a building can be prepared in San Francisco. In the meantime numerous branch offices, temporary in character, have been and will continue to be opened up in the burned city, from which points traffic is being promptly handled.

Mr. E. C. Bradley, vice-president of the company, who went to California from New York immediately following the disaster, is still at San Francisco, where he remains in supervision of the affairs of his company. Mr. J. D. Blake, superintendent at Seattle, who hurried down to the stricken city immediately the news of the earthquake was received, and who was enabled to render efficient service at the outset of the trouble, has returned to his home at Seattle.

Recalling the day of the earthquake, here is a copy of the original dispatch received at the New York office, dated April 18, announcing the shock:

"We had a terrific earthquake here at 5.13 a.m. There is an immense amount of damage in the city and our office is about wrecked. Roof fallen in. It's a seven-story building. Our power is gone. None of us hurt, but they are carting the dead from fallen buildings. Many fires in all directions. No water to fight them. Probably heavy loss of life in town. Please tell G. S. am going to get out of office, as we have a little shake every few minutes and it's me for the simple life."

General Superintendent L. W. Storrer pays this tribute to the faithfulness of an employee: "A real heroine was our receiving clerk, Miss Brady, who rushed to the main office, nearly three miles from her home, and was taking in business a little after six."

New Haven, Conn., is rapidly developing as an important railroad, telegraph and telephone center. The general offices of both the New York, New Haven and Hartford Railroad and the Southern New England Telephone Company are located in that city, while the headquarters of the seventh district of the Western Union Telegraph Company, F. E. Clary, superintendent, were on May 1 established at this point, being removed thereto from Hartford.

The automobilists are now clamoring for the removal of telegraph poles along the highway. They claim that when their machines become unmanageable they invariably collide with telegraph poles and are consequently smashed and sometimes the occupants are severely injured and in some instances killed. Some of the automobilists believe that if it were not for the telegraph poles their machines would have a clear way into fields, thus doing no particular harm except to knock down fences and occasionally run over someone.



### The Cable.

The Central and South American Telegraph Company of Valparaiso, Chile, has been authorized to erect cable stations at ports north of Valparaiso, or in their neighborhood.

A combined paying-out and picking-up machine has just been completed in London for the new cable-ship "Burnside," belonging to the United States Government. The machine is driven by two independent high-pressure engines, which may be employed singly or in pair to drive either or both of the drums. The drums are five feet eight and one-half inches in diameter, and the maximum pull obtainable is twenty-five tons at 1 knot per hour. The different gears give speed ranges up to 4 knots per hour, at which speed a pull of about six and one-quarter tons can be exerted. The holding-back and hauling-off gears are mounted on the bridge behind the main drums, and are provided with an automatic free-wheel arrangement so that the machine can be reversed to pay out after picking up without putting clutches in and out of gear.

At a special meeting held May 8, stockholders of the Mexican Telegraph Company voted to capitalize the earnings expended for the third Mexican Gulf cable and other betterments by increasing the capital stock from \$2,000,000 to \$3,000,000. The new stock will be distributed to stockholders as of record.

Both of the Eastern Telegraph Company's cables between New Zealand and Australia suddenly broke on April 23, the supposed result of submarine disturbances. Both cables belong to the Eastern Extension Company, and run from Sydney, New South Wales, to Nelson, New Zealand. Another cable runs from Auckland to Brisbane, Australia, and belongs to the British Pacific Company.

Cables interrupted May 11, 1906:  
Tangier, "via Cadiz" Feb 18, 1906  
Venezuela Jan. 12, 1906

Messages may be mailed from  
Curacao or Trinidad  
French Guiana (Paramaribo-Cayenne cable) Apr. 20, 1906  
Mail from Paramaribo  
Pinheiro, "via Cayenne" Aug. 13, 1902  
Interrupted to Manaos May 8, 1906

The cable between Cadiz and Teneriffe has been temporarily repaired. Communication is restored, but is not considered entirely reliable. The Spanish administration does not invite traffic, but would admit traffic under precarious conditions, that is, in case route "via France-Dakar" be interrupted.

The cable between Jamaica and Colon interrupted on January 9, 1905, was repaired by the cable steamer "Cambria" on May 4, 1906.

The Anglo-American Telegraph Company will, the St. John, N.F., papers state, at an early date lift the cables at Placentia and "re-lay them to Come-by-Chance, at the head of Placentia Bay,

whence they will be connected with the cables at Bull Arm, Trinity Bay, the repeating instruments at Placentia being located at St. Pierre in the future. Electrician Scotland removed these instruments and proceeded to St. Pierre, and the Placentia cable office, after having been open day and night for almost forty years, is now reduced to the status of a local telegraph office, open from 9 to 9 only. The five operators working there will be removed to Heart's Content and St. Pierre."

### Publishers' Press Annual Meeting.

The annual meeting of The Publishers' Press was held May 8 at its New York offices in the Park Row Building. President J. B. Shale's report showed the organization to be in a gratifying condition.

Frank A. Munsey, publisher of the Washington Times and the Boston Journal, and Lynn R. Meekins, general manager of the Baltimore Herald, were elected directors.

The other directors are W. J. Connors, Thomas P. Peters, J. B. Shale, James Rascovar, Andrew McLean, T. J. Keenan, S. Hershman, R. S. Lowry, Charles J. Bellamy and H. D. Burrill.

The directors re-elected all the old officers of the association, as follows: J. B. Shale, president and general manager; Andrew McLean, vice-president and treasurer, and T. J. Keenan, secretary.

John F. Tremain was reappointed assistant general manager and W. W. Campbell assistant treasurer. George Noeder remains day news manager, and John Nevin night news manager. There will be no change in the management or policy of the association.

President Shale said that much new business was in sight and that several large contracts were about to be signed with leading newspapers.

### General Mention.

The Canadian Pacific Railroad Telegraph Department has equipped its Montreal-North Bay line with a phantoplex circuit.

The House committee on coinage, weights and measures by a vote of seven to four on April 27, declined to recommend the bill providing for the introduction of the metric system of weights and measures in the United States.

Prof. Pierre Curie, who with his wife, Mme. Marie Curie, discovered radium, and did such important work in radio activity, was killed in Paris on April 19 by being run over by a wagon.

Mr. J. E. Palmer, of Reno, Nev., in a recent letter writes: "Your articles on Storage Batteries running in recent issues of TELEGRAPH AGE are very much appreciated by myself and others."

Mr. F. O. Nourse, general inspector, Southern division, Western Union Telegraph Company, Atlanta, Ga., in a letter renewing his subscription states: "This dollar and a half is invested at one hundred per cent."

A young lady who had an offer of marriage from an absentee and who was requested to make known her decision by telegraph, on going to the telegraph office and learning that she could send ten words for twenty-five cents, wrote a message in which the word "yes" was repeated ten times.

The German government has fixed June 28 as the date for an international wireless telegraph convention, to be held at Berlin. The United States has been asked to participate in this convention, the purpose of which is to make regulations for the control of wireless telegraph systems.

Mr. C. D. Livermore, chief operator of the Western Union Telegraph Company, Portland, Me., recently was compelled to submit to the amputation of his leg, the primary cause being lack of blood circulation in his foot. Although Mr. Livermore is over seventy years of age the prospects of his complete recovery are good.

Mr. W. A. Houghtaling, a well-known New York telegrapher, now representing the Rowland Printing Telegraph Company, of Baltimore, Md., at Berlin, Germany, in a recent letter states: "I am enclosing remittance to cover my subscription and thank you for keeping the links together. It's like receiving a long letter from home to re-

ceive TELEGRAPH AGE regularly. It has kept me in close touch with the telegraph events at home during my stay in Germany."

Mr. D. B. Grandy, of the American Telephone and Telegraph Company, St. Louis, an old telegrapher, expresses his appreciation of TELEGRAPH AGE in the following note: "I learn through your current issue that three old friends of mine, William S. Logue, Percy K. Jones and Robert J. Sheehy, all acquaintances of thirty-five years ago, have gone over to the silent majority. I do not see how any telegrapher whose services date back a few years and who takes any interest in old friends and acquaintances, can get along without TELEGRAPH AGE. Scarcely an issue reaches me that does not contain information of former friends, many of whom I have not met for years, but in whose welfare I shall be interested while memory lasts."

**For Sale.**—Yetman transmitting typewriter; almost new, \$65. T. F. McLaughlin, 616 Olive street, St. Louis.

**Wanted.**—The names and present addresses of any operators employed by the Atlantic and Pacific Telegraph Company from 1874 to 1878 in New York, Boston, Washington or Buffalo. Address "Wanted," care TELEGRAPH AGE, New York.

**For Sale.**—Yetman transmitting typewriter used one month, \$75 dollars cash. Reason for selling, am quitting the work. C. E. Clayton, Galva, Ill.

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Price fifteen cents, reduced from twenty-five cents. No operator who has to use a hard key knob continuously should fail to possess one of these flexible rubber key caps, which fits snugly over the hard rubber key knob, forming an air cushion. This renders the touch smooth and the manipulation of the key much easier. Remit in one or two-cent stamps and address

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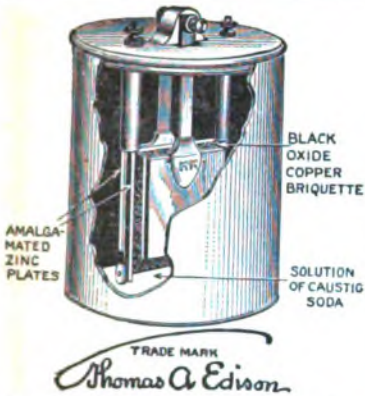
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Dealers sell batteries for profit. If they are to take the time to explain to a customer, for instance, that an Edison Cell delivers 150 ampere-hours for 82 cents while a dry battery costing 25 cents delivers only 20 ampere-hours, they must see some return for their trouble.

A satisfied customer, however, is a profitable investment for an electrical dealer, as for anyone else. A man who has bought an Edison Cell will tell his friends how it sparked his motor boat all one season and a part of the next; how it never "fagged," dried out, exploded or needed resting. He will come back to the dealer when he needs renewals and he will direct his friends who want batteries to that dealer.

Would he be so apt to do this had he bought a dry battery? We shall reply by quoting Cooper's Primary Batteries: "No cell can furnish more than a minute current if it is dry, and, in fact, one of the difficulties experienced in making a successful dry cell is the difficulty of keeping it sufficiently wet."

Certain defects are frequently observed. Deterioration takes place if the cells are kept in stock, even if no current is taken from them, and is shown chiefly by loss of electro-motive force and increase of internal resistance. Another defect is that known as bursting. This bursting generally takes place in cells which are on circuit, but it is also liable to occur in cells which have never been used. A dry cell has the disadvantage that when it is exhausted it is of no further use and must be thrown away.

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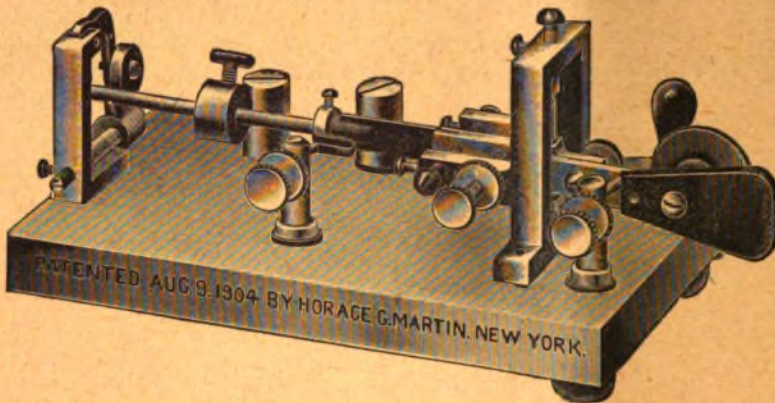
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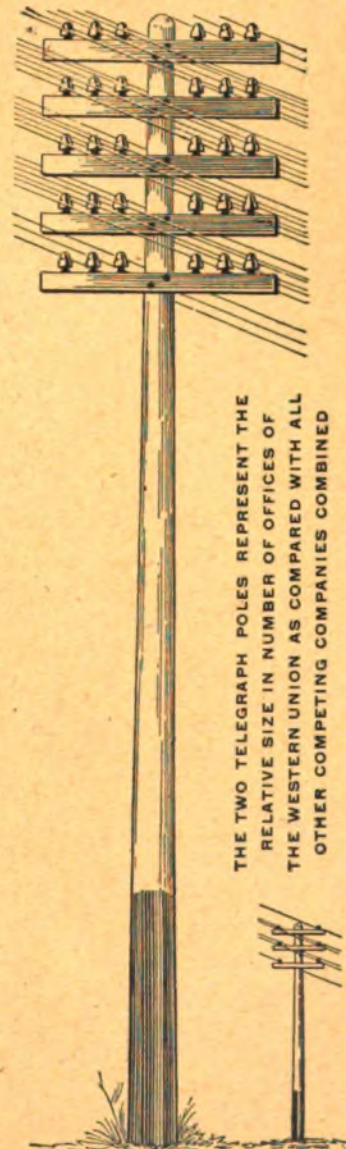
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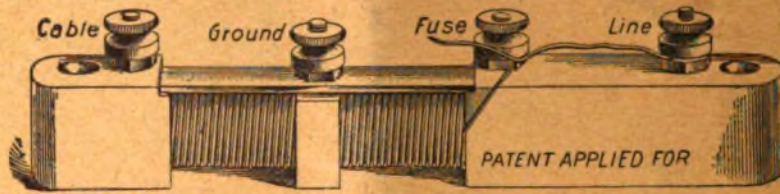
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